

List of Periodicals Indexed

- A I Ch E J**—Journal of the American Institute of Chemical Engineers
A M A Archives Ind Health—A.M.A. Archives of Industrial Health
A S M E Trans—Transactions of the American Society of Mechanical Engineers
A S T M Bul—Bulletin of the American Society for Testing Materials
Aero/Space Eng—Aero/Space Engineering
Aeronautical Eng R—Aeronautical Engineering Review
 Name changed to Aero/Space Engineering May, 1958
Air Cond Heat & Ven—Air Conditioning Heating and Ventilating
Aircraft Eng—Aircraft Engineering
Am Assn Pet Geologists Bul—Bulletin of the American Association of Petroleum Geologists
Am Cer Soc Bul—Bulletin of the American Ceramic Society
Am Cer Soc J—Journal of the American Ceramic Society
Am Chem Soc J—Journal of the American Chemical Society
Am Concrete Inst J—Journal of the American Concrete Institute
Am Dyestuff Rep—American Dyestuff Reporter
Am Gas Assn Mo—American Gas Association Monthly
Am Inst Chem Eng J. See **A I Ch E J**
Am J Clinical Nutrition—American Journal of Clinical Nutrition
Am J Phys—American Journal of Physics
Am J Pub Health—American Journal of Public Health and the Nation's Health
Am Mach—American Machinist
Am Medical Assn Archives Ind Health. See **A M A Archives Ind Health**
Am Mineralogist—American Mineralogist
Am Oil Chem Soc J—Journal of the American Oil Chemists' Society
Am Perfumer & Aromatics—American Perfumer and Aromatics
Am Scientist—American Scientist
Am Soc C E Proc—Proceedings of the American Society of Civil Engineers
Am Soc Mech Eng Trans. See **A S M E Trans**
Am Soc Naval Eng J—Journal of the American Society of Naval Engineers
Am Soc T M Bul. See **A S T M Bul**
Am Water Works Assn J—Journal of the American Water Works Association
Anal Chem—Analytical Chemistry
Ap Hydraulics—Applied Hydraulics
Applications & Ind—Applications and Industry
Arch Forum—Architectural Forum. The Magazine of Building
Arch Rec—Architectural Record
Assn for Computing Mach J—Journal of the Association for Computing Machinery
Audio—Audio
Audio Eng Soc J—Journal of the Audio Engineering Society
Automation—Automation: the Magazine of Automatic Operations
Automobile Eng—Automobile Engineer
Automotive Ind—Automotive Industries
Aviation Age—Aviation Age
 Name changed to Space/Aeronautics October, 1958
Bell Lab Rec—Bell Laboratories Record
Bell System Tech J—Bell System Technical Journal
Brit Inst Radio Eng J—Journal of the British Institution of Radio Engineers
Brit Plastics—British Plastics
Can Chem Process—Canadian Chemical Processing
Can J Chem Eng—Canadian Journal of Chemical Engineering
Can Min & Met Bul—Canadian Mining and Metallurgical Bulletin
Cer Ind—Ceramic Industry
Chem & Eng N—Chemical and Engineering News
Chem & Ind—Chemistry and Industry
Chem Eng—Chemical Engineering
Chem Eng Prog—Chemical Engineering Progress
Civil Eng—Civil Engineering
Coal Age—Coal Age
Com & Electronics—Communication and Electronics
Combustion—Combustion
Comp Air Mag—Compressed Air Magazine
Concrete—Concrete
Control Eng—Control Engineering
Corrosion—Corrosion
Diesel Power—Diesel Power
Dom Eng—Domestic Engineering
Drug & Cosmetic Ind—Drug and Cosmetic Industry
Econ Geol—Economic Geology
Elec Com—Electrical Communication
Elec Constr & Maint—Electrical Construction and Maintenance
Elec Eng—Electrical Engineering
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Elec World—Electrical World
Electrochem Soc J—Journal of the Electrochemical Society
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Electronic Eng—Electronic Engineering
Electronic Ind—Electronic Industries
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Franklin Inst J—Journal of the Franklin Institute
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Geol Soc Bul—Bulletin of the Geological Society of America
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Heating-Piping—Heating, Piping and Air Conditioning
I S A J—ISA Journal
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 Ind Chem—Industrial Chemist
 Ind Finishing—Industrial Finishing
 Ind Lab—Industrial Laboratories, The Magazine of Research and Development
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 Ind Phot—Industrial Photography
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 Inst E E Proc—Proceedings of the Institution of Electrical Engineers
 Inst Mech Eng Proc—Proceedings of the Institution of Mechanical Engineers
 Inst Metals J—Journal of the Institute of Metals
 Inst Pet J—Journal of the Institute of Petroleum
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 Iron & Steel Inst J—Journal of the Iron and Steel Institute

J Aero/Space Sci—Journal of the Aero/Space Sciences
 J Aeronautical Sci—Journal of the Aeronautical Sciences
 Name changed to Journal of the Aero/Space Sciences July, 1958
 J Agri & Food Chem—Journal of Agricultural and Food Chemistry
 J Ap Chem—Journal of Applied Chemistry
 J Ap Mech—Journal of Applied Mechanics
 J Ap Phys—Journal of Applied Physics
 J Colloid Sci—Journal of Colloid Science
 J Geol—Journal of Geology
 J Metals—Journal of Metals
 J Nutrition—Journal of Nutrition
 J Pet Tech—Journal of Petroleum Technology
 J Res Nat Bur Stand—Journal of Research of the National Bureau of Standards
 J Sci Instr—Journal of Scientific Instruments
 Jet Propulsion—Jet Propulsion

Light Metal Age—Light Metal Age
 Lub Eng—Lubrication Engineering

Mach—Machinery
 Machine Design—Machine Design
 Mag of Stand—Magazine of Standards
 Manuf Chem—Manufacturing Chemist
 Marine Eng/Log—Marine Engineering/Log
 Materials in Design Eng—Materials in Design Engineering
 Mech Eng—Mechanical Engineering
 Metal Finishing—Metal Finishing
 Metal Prog—Metal Progress
 Metallurgia—Metallurgia, the British Journal of Metals
 Mill & Factory—Mill & Factory
 Min Cong J—Mining Congress Journal
 Min Eng—Mining Engineering
 Mod Materials Handling—Modern Materials Handling
 Mod Metals—Modern Metals
 Mod Phot—Modern Photography
 Mod Plastics—Modern Plastics
 Mod Textiles Mag—Modern Textiles Magazine

Noise Control—Noise Control
 Nucleonics—Nucleonics

Oil & Gas J—Oil and Gas Journal
 Op Res—Operations Research

Paint Oil & Chem R—Paint, Oil and Chemical Review
 Paper Ind—Paper Industry
 Pet Eng—Petroleum Engineer; Management Edition
 Pet Refiner—Petroleum Refiner
 Phys Today—Physics Today
 Pit & Quarry—Pit and Quarry
 Plant—Plant
 Plant Eng—Plant Engineering
 Plastics Tech—Plastics Technology
 Plastics World—Plastics World
 Plating—Plating
 Power—Power
 Power Apparatus & Systems—Power Apparatus and Systems
 Power Eng—Power Engineering
 Power Ind—Power Industry, Including Industrial Power and Industry Power
 Product Eng—Product Engineering
 Prog Arch—Progressive Architecture
 Pub Roads—Public Roads
 Pub Works—Public Works

Q S T—QST

RCA R—RCA Review
 R Sci Instr—Review of Scientific Instruments
 Radio Corp Am R. See RCA R
 Radio-Electronics—Radio-Electronics
 Refrig Eng—Refrigerating Engineering Including Air Conditioning
 Research—Research, Applied in Industry
 Roads & Sts—Roads and Streets
 Rock Prod—Rock Products
 Roy Aeronautical Soc J—Journal of the Royal Aeronautical Society
 Rubber Age—Rubber Age
 Rubber Chem & Tech—Rubber Chemistry and Technology
 Rubber World—Rubber World

S A E J—SAE Journal
 SMPTE J—Journal of the Society of Motion Picture and Television Engineers
 Safety Maint—Safety Maintenance
 Sci Am—Scientific American
 Sewage & Ind Wastes—Sewage and Industrial Wastes
 Soap & Chem Spec—Soap and Chemical Specialties
 Soc Automotive Eng J. See S A E J
 Soc Dyers & Col J—Journal of the Society of Dyers and Colourists
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 Space/Aeronautics—Space/Aeronautics
 Formerly Aviation Age; changed October, 1958
 Steel—Steel

Tappi—Tappi
 Tech Assn Pulp & Paper Ind. See Tappi
 Textile Ind—Textile Industries
 Textile Res J—Textile Research Journal
 Textile World—Textile World
 Tool Eng—Tool Engineer
 Traffic Q—Traffic Quarterly

Water & Sewage Works—Water & Sewage Works
 Water Works Eng—Water Works Engineering
 Welding Eng—Welding Engineer
 Welding J—Welding Journal
 Westinghouse Eng—Westinghouse Engineer
 Wire & Wire Prod—Wire and Wire Products
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TECHNOLOGY INDEX

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APPLIED SCIENCE & TECHNOLOGY INDEX

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1958

EDITED BY
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INDEXER
ELSA TOOM

MANAGING EDITOR
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Acknowledgments

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R. P.

List of Periodicals Indexed

- A I Ch E J**—Journal of the American Institute of Chemical Engineers, \$9 q American Institute of Chemical Engineers, 25 W 45th St, New York 36
- A M A Archives Ind Health**—A.M.A. Archives of Industrial Health, \$10 m American Medical Association, 535 N Dearborn St, Chicago 10
- A S M E Trans**—Transactions of the American Society of Mechanical Engineers, \$12 m (except Mr. Je, S. D) American Society of Mechanical Engineers, 29 W 39th St, New York 18
\$6 to members and affiliates
- A S T M Bul**—Bulletin of the American Society for Testing Materials, \$3.50 8 times a yr American Society for Testing Materials, 1916 Race St, Philadelphia 3
- Aero/Space Eng**—Aero/Space Engineering, \$5 m Institute of the Aeronautical Sciences, Inc, 2 E 64th St, New York 21
- Aeronautical Eng R**—Aeronautical Engineering Review, \$5 m Institute of the Aeronautical Sciences, Inc, 2 E 64th St, New York 21
Name changed to Aero/Space Engineering May, 1958
- Air Cond Heat & Ven**—Air Conditioning Heating and Ventilating, \$3 m Industrial Press, 93 Worth St, New York 13
- Aircraft Eng**—Aircraft Engineering, 40s: U.S. \$6.50; Canada \$6.50 m Bunhill Publications, Ltd, 12 Bloomsbury Square, London, W.C. 1
- Am Assn Pet Geologists Bul**—Bulletin of the American Association of Petroleum Geologists, \$18 m American Association of Petroleum Geologists, Inc, Box 979, Tulsa, 1, Okla.
- Am Cer Soc Bul**—Bulletin of the American Ceramic Society, \$6 m American Ceramic Society, 4055 N High St, Columbus 14, Ohio
- Am Cer Soc J**—Journal of the American Ceramic Society; Ceramic Abstracts, \$14 m American Ceramic Society, 4055 N High St, Columbus 14, Ohio
- Am Chem Soc J**—Journal of the American Chemical Society, \$30 s-m American Chemical Society, 1155 16th St, N.W., Washington 6, D.C.
- Am Concrete Inst J**—Journal of the American Concrete Institute, \$18 m American Concrete Institute, P.O. Box 4754 Redford Station, Detroit 19, Mich.
- Am Dyestuff Rep**—American Dyestuff Reporter, \$7.50 bi-w Howes Pub. Co, 44 E 23d St, New York 10
- Am Gas Assn Mo**—American Gas Association Monthly, \$3 m (bi-m JI-As) American Gas Assn, Inc, 420 Lexington Av, New York 17
- Am Inst Chem Eng J** See A I Ch E J
- Am J Clinical Nutrition**—American Journal of Clinical Nutrition, \$8 bi-m The American Journal of Clinical Nutrition, Inc, 11 E 36th St, New York 16
- Am J Phys**—American Journal of Physics, \$7.50 m (except Je, JI and Ag) American Institute of Physics, Inc, 335 E 45th St, New York 17
- Am J Pub Health**—American Journal of Public Health and the Nation's Health, \$12 m American Public Health Association, Inc, 1790 Broadway, New York 19
- Am Mach**—American Machinist, \$5 bi-w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36
Extra number published in Mid-September
- Am Medical Assn Archives Ind Health** See A M A Archives Ind Health
- Am Mineralogist**—American Mineralogist, \$6 bi-m U.S. Geological Survey, Washington 25, D.C.
- Am Oil Chem Soc J**—Journal of the American Oil Chemists' Society, \$3 m American Oil Chemists' Society, 35 E Wacker Drive, Chicago 1
- Am Perfumer & Aromatics**—American Perfumer and Aromatics, \$5 m Moore Pub. Co, Inc, 48 W 35th St, New York 18
- Am Scientist**—American Scientist, \$2 q Sigma Xi, 56 Hillhouse Av, New Haven 11, Conn.
- Am Soc C E Proc**—Proceedings of the American Society of Civil Engineers, \$40 m American Society of Civil Engineers, 33 W 39th St, New York 18
- Am Soc Mech Eng Trans** See A S M E Trans
- Ap Sci Ann**/58
- Am Soc Naval Eng J**—Journal of the American Society of Naval Engineers, \$12 q American Society of Naval Engineers, Inc, 1012 14th St, N.W., Washington 5, D.C.
- Am Soc T M Bul** See A S T M Bul
- Am Water Works Assn J**—Journal of the American Water Works Association, \$10 m American Water Works Assn, 2 Park Av, New York 16
- Anal Chem**—Analytical Chemistry, \$5 m American Chemical Society, 1155 16th St, N.W., Washington 6, D.C.
- Ap Hydraulics**—Applied Hydraulics, \$7 m Industrial Pub. Corp, 812 Huron Rd, Cleveland 15
- Applications & Ind**—Applications and Industry, \$8 bi-m American Institute of Electrical Engineers, 33 W 39th St, New York 18
- Arch Forum**—Architectural Forum, The Magazine of Building, \$6.50 m Time, Inc, 9 Rockefeller Plaza, New York 20
- Arch Rec**—Architectural Record, \$5.50 m F. W. Dodge Corp, 119 W 40th St, New York 18
- Assn for Computing Mach J**—Journal of the Association for Computing Machinery, \$10 q Association for Computing Machinery, 2 E 63d St, New York 21
- Audio**—Audio, \$4 m Radio Magazines, Inc, 204 Front St, Mineola, New York
- Audio Eng Soc J**—Journal of the Audio Engineering Society, \$8 q Audio Engineering Society, P.O. Box 12, Old Chelsea Station, New York 11
- Automation**—Automation; the Magazine of Automatic Operations, \$10 m Penton Pub. Co, Penton Bldg, Cleveland 13
- Automobile Eng**—The Automobile Engineer, £3; U.S. \$8.50; Canada \$8.50 m Iliffe & sons, Ltd, Dorset House, Stamford St, London, S.E. 1
- Automotive Ind**—Automotive Industries, \$10 s-m Chilton Co, Chestnut & 56th Sts, Philadelphia 39
- Aviation Age**—Aviation Age, \$10 m Conover-Mast Publications, Inc, 205 E. 42d St, New York 17
Name changed to Space/Aeronautics October, 1953
- Bell Lab Rec**—Bell Laboratories Record, \$2 m Bell Telephone Laboratories, Inc, 463 West St, New York 14
- Bell System Tech J**—Bell System Technical Journal, \$5 bi-m American Telephone and Telegraph Co, 195 Broadway, New York 7
- Brit Inst Radio Eng J**—Journal of the British Institution of Radio Engineers, 80s m British Institution of Radio Engineers, 9 Bedford Square, London, W.C. 1
- Brit Plastics**—British Plastics, £2 12s; U.S. \$7.50; Canada \$7.50 m Iliffe & Sons, Ltd, Dorset House, Stamford St, London, S.E. 1
- Can Chem Process**—Canadian Chemical Processing, \$6; U.S. \$10 m Hugh C. Maclean Publications, Ltd, 1450 Don Mills Rd, Don Mills, Ontario, Canada
- Can J Chem Eng**—Canadian Journal of Chemical Engineering, \$3; U.S. \$4 bi-m Chemical Institute of Canada, 18 Rideau St, Ottawa 2, Ont.
- Can Min & Met Bul**—Canadian Mining and Metallurgical Bulletin, \$10 m Canadian Institute of Mining and Metallurgy, 906 Drummond Bldg, Montreal, Que.
- Cer Ind**—Ceramic Industry, \$4 m Industrial Publications, Inc, 5 So. Wabash Av, Chicago 3
- Chem & Eng N**—Chemical and Engineering News, \$6 w American Chemical Society, 1155 16th St, N.W., Washington 6, D.C.
- Chem & Ind**—Chemistry and Industry, £5 w Society of Chemical Industry, 14 Belgrave Square, London, S.W. 1
- Chem Eng**—Chemical Engineering, \$3 bi-w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36
- Chem Eng Prog**—Chemical Engineering Progress, \$6 m American Institute of Chemical Engineers, 25 W 45th St, New York 36

Civil Eng—Civil Engineering, the Magazine of Engineered Construction. \$5 m American Society of Civil Engineers, 33 W 39th St, New York 18

Coal Age—Coal Age. \$3 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36

Extra number published in Mid-July

Com & Electronics—Communication and Electronics. \$8 bi-m American Institute of Electrical Engineers, 33 W 39th St, New York 18

Combustion—Combustion. \$4 m Combustion Pub. Co, Inc, 200 Madison Av, New York 16

Comp. Air Mag—Compressed Air Magazine. \$5 m Compressed Air Magazine Co, 942 Memorial Parkway, Phillipsburg, N.J.

Concrete—Concrete. \$6 m Concrete Pub. Corp, Daily News Plaza, 400 W Madison St, Chicago 6

Control Eng—Control Engineering. \$5 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36

Corrosion—Corrosion. \$11 m National Association of Corrosion Engineers, Inc, 1 Main St, Houston 2, Tex.

Diesel Power—Diesel Power. \$4 m Diesel Publications, Inc, 80 Lincoln Av, Stamford, Conn.

Dom Eng—Domestic Engineering. \$5 m Domestic Engineering Co, 1801 Prairie Av, Chicago 16

Drug & Cosmetic Ind—Drug and Cosmetic Industry. \$3 m Drug Markets, Inc, 101 W 31st St, New York 1

Econ Geol—Economic Geology and the Bulletin of the Society of Economic Geologists. \$6.50 s-q Economic Geology Pub. Co, M. M. Leighton, Business Mgr, Urbana, Ill.

Elec Com—Electrical Communication. \$2 q International Telephone and Telegraph Corp, 67 Broad St, New York 4

Elec Constr & Maint—Electrical Construction and Maintenance. \$3 m McGraw-Hill Pub. Co, 330 W 42d St, New York 36

Extra number published in Mid-September

Elec Eng—Electrical Engineering. \$12 m American Institute of Electrical Engineers, 33 W 39th St, New York 18

Elec Manuf—Electrical Manufacturing. \$15 m The Gage Pub. Co, 1250 6th Av, New York 20

Elec World—Electrical World. \$6 w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36

Electrochem Soc J—Journal of the Electrochemical Society. \$18 m Electrochemical Society, 1860 Broadway, New York 23

Electronic & Radio Eng—Electronic and Radio Engineer. \$2 9s, U.S. and Canada \$7.50 m Hiffe & Sons, Ltd, Dorset House, Stamford St, London, S.E. 1

Electronic Eng—Electronic Engineering. £1 16s; U.S. \$5; Canada \$5 m Morgan Brothers, Ltd, 28, Essex St, Strand, London, W.C. 2

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Electronics—Electronics. \$6 w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36

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Eng & Min J—Engineering and Mining Journal. \$4 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36

Extra number published in Mid-June

Eng J—Engineering Journal. \$6 m Engineering Institute of Canada, 2050 Mansfield St, Montreal 2, Que.

Eng N—Engineering News-Record. \$6 w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36

Engineer—Engineer. £5 10s; Canadian subs £5 5s w Morgan Brothers, Ltd, 28, Essex St, Strand, London, W.C. 2

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Food Eng—Food Engineering. \$2 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36

Food Tech—Food Technology. \$11 m Institute of Food Technologists, 11606 S. Bell Av, Chicago 43

Foundry—Foundry. \$10 m Penton Pub. Co, Penton Bldg, Cleveland 13

Ap Sci Ann/58

Franklin Inst J—Journal of the Franklin Institute. \$10 m Franklin Institute of the State of Pennsylvania, Benjamin Franklin Parkway at 20th St, Philadelphia 3

Gas—Gas. \$2 m Chilton Co, 56th and Chestnut Sts, Philadelphia 39

Gas Age—Gas Age combining Natural Gas, Gas Age, Gas Record. \$5 bi-w Moore Pub. Co, Inc, 48 W 38th St, New York 18

Gen Elec R—General Electric Review. bi-m General Electric Co, 1 River Road, Schenectady 5, N.Y.

Geol Soc Bul—Bulletin of the Geological Society of America. \$15 m Geological Society of America, H. R. Aldrich, sec, 419 W 117th St, New York 27

Geophysics—Geophysics. \$10 5 times a yr Society of Exploration Geophysicists, Colin Campbell, Business Manager, Box 1536, Tulsa 1, Okla.

Glass Ind—Glass Industry. \$4 m Ogden Pub. Co, 55 W 42d St, New York 36

Heating-Piping—Heating, Piping and Air Conditioning. \$3 m Keeney Pub. Co, 6 N Michigan Av, Chicago 2

Includes American Society of Heating and Air Conditioning Engineers Journal section

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Illum Eng—Illuminating Engineering, The Journal of the Illuminating Engineering Society. \$18 m Illuminating Engineering Society, 1860 Broadway, New York 23

Ind & Eng Chem—Industrial and Engineering Chemistry. \$5 m American Chemical Society, 1555 16th St, N.W., Washington 6, D.C.

Ind Chem—Industrial Chemistry. 40s m Tothill Press Ltd, 33 Tothill St, Westminster, London, S.W. 1

Ind Finishing—Industrial Finishing. \$3 m Practical Publications, Inc, 1142 N. Meridian St, Indianapolis 4

Ind Lab—Industrial Laboratories, The Magazine of Research and Development. \$10 m Relyea Pub. Corp, 201 N. Wells St, Chicago 6

Ind Med—Industrial Medicine and Surgery. \$6 m Industrial Medicine Pub. Co, 400 S.W. 69th Av, Miami 44, Fla.

Ind Phot—Industrial Photography. \$6 m Photography in Business, Inc, 10 E 40th St, New York 36

Ind Quality Control—Industrial Quality Control. \$10 m American Society for Quality Control, Inc, 161 W Wisconsin Av, Milwaukee 3

Inland Ptr—Inland Printer. \$5 m Maclean-Hunter Pub. Corp, 79 W Monroe St, Chicago 3

Merged with American Printer and Lithographer November, 1953

Inst E E Proc—Proceedings of the Institution of Electrical Engineers. The Institution, Savoy Place, Victoria Embankment, London, W.C. 2

Published in 2 parts: pt A, Power Engineering, bi-m (F); pt B, Radio and Electronic Engineering (including Communication Engineering) bi-m (Ja)

Inst Mech Eng Proc—Proceedings of the Institution of Mechanical Engineers. separate papers Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W. 1

Inst Metals J—Journal of the Institute of Metals. 180s m Institute of Metals, 4 Grosvenor Gardens, London, S.W. 1

Inst Pet J—Journal of the Institute of Petroleum. £4 14s 6d m Institute of Petroleum, 61 New Cavendish St, London, W. 1

Inst Radio Eng Proc—Proceedings of the Institute of Radio Engineers. \$18 m Institute of Radio Engineers, Inc, 1 E 79th St, New York 21

Instrument Soc Am J. See I S A J

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Iron Age—Iron Age. \$15 w Chilton Co, Inc, Chestnut & 56th Sts, Philadelphia 39

Iron & Steel Eng—Iron and Steel Engineer. \$7.50 m Association of Iron and Steel Engineers, 1010 Empire Bldg, Pittsburgh 22

Iron & Steel Inst J—Journal of the Iron and Steel Institute. £10 m Iron and Steel Institute, 4, Grosvenor Gardens, London, S.W. 1

- J Aero/Space Sci**—Journal of the Aero/Space Sciences. \$15 m Institute of the Aeronautical Sciences, Inc. 2 E 64th St, New York 21
- J Aeronautical Sci**—Journal of the Aeronautical Sciences. \$15 m Institute of the Aeronautical Sciences, Inc. 2 E 64th St, New York 21
Name changed to Journal of the Aero/Space Sciences July, 1958.
- J Agri & Food Chem**—Journal of Agricultural and Food Chemistry. \$6 m American Chemical Society, 1155 16th St, N.W., Washington 6, D.C.
- J Ap Chem**—Journal of Applied Chemistry. £12 m Society of Chemical Industry, 14 Belgrave Square, London, S.W. 1
- J Ap Mech**—Journal of Applied Mechanics. \$5 q American Society of Mechanical Engineers, 29 W 39th St, New York 18
- J Ap Phys**—Journal of Applied Physics. \$14 m American Institute of Physics, 335 E 45th St, New York 17
\$12 to members and associate members of the American Institute of Physics
- J Colloid Sci**—Journal of Colloid Science. \$16 bi-m Academic Press Inc, Mt Royal & Guilford Aves, Baltimore
- J Geol**—Journal of Geology. \$8 bi-m University of Chicago Press, 5760 Ellis Av, Chicago 37
- J Metals**—Journal of Metals. \$10 m American Institute of Mining, Metallurgical and Petroleum Engineers, Inc, 29 W 39th St, New York 18
- J Nutrition**—Journal of Nutrition. \$22.50 m Wistar Institute of Anatomy and Biology, 36th St at Spruce, Philadelphia 4
- J Pet Tech**—Journal of Petroleum Technology. \$8 m Society of Petroleum Engineers of AIME, 800 Fidelity Union Bldg, Dallas 1
- J Res Nat Bur Stand**—Journal of Research of the National Bureau of Standards. \$5 m Superintendent of Documents, Washington 25, D.C.
- J Sci Instr**—Journal of Scientific Instruments. £6; U.S. \$17 m Institute of Physics. 47 Belgrave Square, London, S.W. 1
- Jet Propulsion**—Jet Propulsion. \$12.50 m American Rocket Society, 500 5th Av, New York 36
- Light Metal Age**—Light Metal Age. \$3 bi-m Roy Fellom, Jr, 549 W Randolph St, Chicago 6
- Lub Eng**—Lubrication Engineering. \$6 m American Society of Lubrication Engineers, 84 E Randolph St, Chicago 1
- Mach**—Machinery. \$4 m Industrial Press, 93 Worth St, New York 13
- Machine Design**—Machine Design. \$10 bi-w Penton Pub. Co, Penton Bldg, Cleveland 13
- Mag of Stand**—Magazine of Standards. \$7 m American Standards Association, Inc, 70 E 45th St, New York 17
- Manuf Chem**—Manufacturing Chemist. £2; U.S. \$12 m Leonard Hill, Ltd, Eden St, London, N.W. 1
- Marine Eng/Log**—Marine Engineering/Log. \$4 m (s-m in May) Simmons-Boardman Pub. Corp, 30 Church St, New York 7
- Materials in Design Eng**—Materials in Design Engineering. \$3 m Reinhold Pub. Corp, 430 Park Av, New York 22
Extra number published in Mid-October
- Mech Eng**—Mechanical Engineering. \$7 m American Society of Mechanical Engineers, 29 W 39th St, New York 18
- Metal Finishing**—Metal Finishing. \$5 m Metals and Plastics Publications, Inc, 381 Broadway, Westwood, N.J.
- Metal Prog**—Metal Progress. \$9 m American Society for Metals, 7301 Euclid Av, Cleveland 3
- Metallurgia**—Metallurgia, the British Journal of Metals. 30s m Kennedy Press, Ltd, 31 King St, W, Manchester 3
- Mill & Factory**—Mill & Factory. m Conover-Mast Publications, Inc, 205 E 42d St, New York 17
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- Min Cong J**—Mining Congress Journal. \$3 m American Mining Congress, 1102 Ring Bldg, Washington 6, D.C.
- Ap Sci Ann/58**
- Min Eng**—Mining Engineering. \$8 m American Institute of Mining, Metallurgical and Petroleum Engineers, Inc, 29 W 39th St, New York 18
- Mod Materials Handling**—Modern Materials Handling. \$8 m Materials Handling Laboratories, Inc, 221 Columbus Av, Boston 16
- Mod Metals**—Modern Metals. \$3 m Modern Metals Pub. Co, 435 N. Michigan Av, Chicago 11
- Mod Phot**—Modern Photography. \$4 m Photography Pub. Corp, 33 W 60th St, New York 23
- Mod Plastics**—Modern Plastics. \$7 m Modern Plastics, Inc, 575 Madison Av, New York 22
- Mod Textiles Mag**—Modern Textiles Magazine. \$5 m Rayon Pub. Corp, 303 Fifth Av, New York 16
- Noise Control**—Noise Control. \$8 bi-m Noise Control, 335 E 45th St, New York 17
- Nucleonics**—Nucleonics. \$8 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36
- Oil & Gas J**—Oil and Gas Journal. \$5 w Petroleum Pub. Co, 211 South Cheyenne Av, Tulsa, Okla.
- Op Res**—Operations Research. \$9 bi-m Operations Research Society of America, Mt Royal and Guilford Aves, Baltimore 2
- Paint Oil & Chem R**—Paint, Oil and Chemical Review. \$3 bi-w Trade Review Co, 332 W Harrison St, Oak Park, Ill.
- Paper Ind**—Paper Industry. \$3 m Fritz Publications, Inc, 431 S Dearborn St, Chicago 5
- Pet Eng**—Petroleum Engineer; Management Edition. \$5 m Petroleum Engineer Pub. Co, 800 Davis Bldg, Dallas 2
- Pet Refiner**—Petroleum Refiner. \$2 m Gulf Pub. Co, Box 2608, Houston 1, Tex.
- Phys Today**—Physics Today. \$4 m American Institute of Physics, 335 E 45th St, New York 17
- Pit & Quarry**—Pit and Quarry. \$3 m Pit and Quarry Publications, Inc, 431 S Dearborn St, Chicago 5
- Plant**—Plant. \$8 m Plant Pub. Co, St Joseph, Mich.
- Plant Eng**—Plant Engineering. \$10 m Technical Pub. Co, 308 E. James St, Barrington, Ill.
- Plastics Tech**—Plastics Technology, The Magazine of Applied Engineering. \$7 m Bill Brothers Pub. Corp, 630 Third Av, New York 17
- Plastics World**—Plastics World. \$5 m Cleworth Pub. Co, Inc, 1 River Road, Cos Cob, Conn.
- Plating**—Plating. \$5 m American Electroplaters' Society, Inc, 5500 N. Marine St, Philadelphia 41
- Power**—Power. \$5 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36
- Power Apparatus & Systems**—Power Apparatus and Systems. \$8 bi-m American Institute of Electrical Engineers, 33 W 39th St, New York 18
- Power Eng**—Power Engineering. \$10 m Power Engineering, 308 E. James St, Barrington, Ill.
- Power Ind**—Power Industry. Including Industrial Power and Industry Power. \$10 m Putman Pub. Co, 111 E Delaware Place, Chicago 11
- Product Eng**—Product Engineering. \$5 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36
Extra number published in Mid-September
- Prog Arch**—Progressive Architecture. \$5 m Reinhold Pub. Corp, 430 Park Av, New York 22
- Pub Roads**—Public Roads. \$1 bi-m Superintendent of Documents, Washington 25, D.C.
- Pub Works**—Public Works. \$5 m Public Works Journal Corp, 200 S Broad St, Ridgewood, N.J.
- Q S T**—QST. \$4 m American Radio Relay League, Inc, 38 La Salle Rd, West Hartford 7, Conn.
- RCA R**—RCA Review. \$2 q Radio Corporation of America, RCA Laboratories Division, Princeton, N.J.

- R Sci Instr**—Review of Scientific Instruments. \$11 m American Institute of Physics, 335 E 45th St, New York 17
- \$9 to members of scientific societies
- Radio Corp Am R.** See RCA R
- Radio-Electronics**—Radio-Electronics. \$4 m Gernsback Publications, Inc, 154 W 14th St, New York 11
- Refrig Eng**—Refrigerating Engineering Including Air Conditioning. \$5 m American Society of Refrigerating Engineers, 234 Fifth Av, New York 1
- Research**—Research, Applied in Industry. £3 5s; U.S. \$10.75 m Butterworths Publications, Inc, 88 Kingsway, London, W.C. 2
- Roads & Sts**—Roads and Streets. \$6 m Gillette Pub. Co, 22 West Maple St, Chicago 10
- Rock Prod**—Rock Products. \$3 m Maclean-Hunter Pub. Corp, 79 W Monroe St, Chicago 3
- Roy Aeronautical Soc J**—Journal of the Royal Aeronautical Society. £7 10s m Royal Aeronautical Society, 4 Hamilton Place, London, W. 1
- Rubber Age**—Rubber Age. \$5 m Palmerton Pub. Co, Inc, 101 W 31st St, New York 1
- Rubber Chem & Tech**—Rubber Chemistry and Technology. \$7.50 q American Chemical Society, Division of Rubber Chemistry, Prince and Lemon Sts, Lancaster Pa.
- Rubber World**—Rubber World. \$5 m Bill Brothers Pub. Corp, 630 3d Av, New York 17
- S A E J**—SAE Journal. \$12 m Society of Automotive Engineers, Inc, 485 Lexington Av, New York 17
- SMPE J**—Journal of the Society of Motion Picture and Television Engineers. \$12.50 m Society of Motion Picture and Television Engineers, 55 W 42d St, New York 36
- Safety Maint**—Safety Maintenance. \$4 m Alfred M. Best Co, Inc, 75 Fulton St, New York 38
- Sci Am**—Scientific American. \$5 m Scientific American, Inc, 415 Madison Av, New York 17
- Sewage & Ind Wastes**—Sewage and Industrial Wastes. \$7.50 m Federation of Sewage and Industrial Wastes Associations, 4435 Wisconsin Av, N.W., Washington 16, D.C.
- Soap & Chem Spec**—Soap and Chemical Specialties. \$4 m MacNair-Dorland Co, Inc, 254 W 31st St, New York 1
- Soc Automotive Eng J.** See S A E J
- Soc Dyers & Col J**—Journal of the Society of Dyers and Colourists. £5 5s m Society of Dyers and Colourists, Dean House, 19 Piccadilly, Bradford 1, Yorkshire, England
- Soc Motion Picture & Television Eng J.** See SMPE J
- Space/Aeronautics**—Space/Aeronautics. \$10 m Conover-Mast Publications, Inc, 205 E 42d St, New York 17
- Formerly Aviation Age; changed October, 1958
- Steel**—Steel. \$10 w Penton Pub. Co, Penton Bldg, Cleveland 13
- Tappl**—Tappl. \$10 m Technical Association of the Pulp and Paper Industry, 155 E 44th St, New York 16
- Tech Assn Pulp & Paper Ind.** See Tappl
- Textile Ind**—Textile Industries. \$2 m W. R. C. Smith Pub. Co, 806 Peachtree St, N.E. Atlanta 8
- Extra number published in Mid-November
- Textile Res J**—Textile Research Journal. \$25 m Textile Research Institute, Inc, Publications Department, P.O. Box 625, Princeton, N.J.
- Textile World**—Textile World. \$2 m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York 36
- Extra number published in Mid-July
- Tool Eng**—Tool Engineer. \$6 m American Society of Tool Engineers, 10700 Puritan Av, Detroit 38
- Traffic Q**—Traffic Quarterly. q Eno Foundation for Highway Traffic Control, Inc, Saugatuck, Conn.
- Price on request
- Water & Sewage Works**—Water & Sewage Works. \$5 m Scranton Pub. Co, 185 N Wabash Av, Chicago 1
- Two numbers published in September, included in annual subscription
- Water Works Eng**—Water Works Engineering. \$3 m R. H. Donnelley Corp, Business Papers Division, 305 E 45th St, New York 17
- Welding Eng**—Welding Engineer. \$3 m Welding Engineer Publications, Inc, P.O. Box 28, Morton Grove, Ill.
- Extra number published in Mid-June
- Welding J**—Welding Journal. \$8 m American Welding Society, 33 W 39th St, New York 18
- Westinghouse Eng**—Westinghouse Engineer. \$2.50 bi-m Westinghouse Engineer, P.O. Box 2278, 3 Gateway Center, Pittsburgh 30
- Wire & Wire Prod**—Wire and Wire Products. \$8 m Quinn-Brown Pub. Corp, 453 Main St, Stamford, Conn.
- Wireless World**—Wireless World. £1 15s; U.S. \$5; Canada \$5 m Iliffe and Sons, Ltd, Dorset House, Stamford St, London, S.E. 1

Key to General Abbreviations

+	continued on later	Jl	July
abr	pages of the issue	Mr	March
ag	abridged	My	May
Ag	August	N	November
Ap	April	n s	new series
arch	architect	no	number
bibliog	bibliography	O	October
comp	compiled or compiler	p	page
cond	condensed	pl	plate
cont	continued	por	portrait
D	December	pseud	pseudonym
diag	diagram	pt	part
ed	edited or edition or	rev	revised
	editor	S	September
F	February	sup	supplement
i	index	tr	translated or translation or translator
il	illustrations	v	volume
inc	incorporated	yrbk	yearbook
Ja	January		
Je	June		

Sample entry: **CALCULATING** machines
 Load-sharing matrix witch, G. Constantine,
 Jr, il diag Electronics 31:118+ S 12 '58

Explanation: An illustrated article, with diagrams, on the subject **CALCULATING** machines entitled "Load-sharing matrix witch," by G. Constantine, Jr., will be found in volume 31 of Electronics, page 118 (continued on later pages of the same issue) the September 12, 1958 number.

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(formerly INDUSTRIAL ARTS INDEX)

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Studies on polypeptides; the synthesis of a pentapeptide corresponding to an amino acid sequence present in corticotropin and in the melanocyte stimulating hormones. K. Hofmann and others. *bibliog Am Chem Soc J* 80:1486-9 Mr 20 '58

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ABBOTT laboratories

Career opportunities. *il Chem & Eng N* 36: 13 pt 2 Ja 27 '58

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Mass spectrometer image displacements due to second-order aberrations. C. F. Robinson. *bibliog diags R Sci Instr* 29:622-4 JI '58

Use of the optical path concept in the study of spherical surfaces. D. G. Douglas. *Am J Phys* 26:14-16 Ja '58

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Molder's touch. C. W. Ammen. *Foundry* 86: 170-2 Ag '58

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Potential machine designer. J. F. D. Smith. *Mech Eng* 80:76-7 F '58

Schools seeking psych measure. *Electronics* 30:35-6 D 20 '57

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Incidence of abortion among Jewish women in Israel. H. S. Halevi and A. Brzezinski. *bibliog Am J Pub Health* 48:615-21 My '58

Progesterone. A. Csapo. *il diags Sci Am* 198: 40-6 Ap '58

ABRASION

Correlation between laboratory abrasion and road testing. C. Prat. *il diag Rubber Chem & Tech* 31:387-92 Ap '58

Du Pont constant load method of measuring abrasion resistance of vulcanized natural and synthetic rubbers. *Rubber Chem & Tech* 31:sup 14-17 Ja '58

Effect of alternate corrosion and abrasion on some ferrous metals. J. Dearden and J. D. Swindale. *bibliog Iron & Steel Inst J* 185: 227-34 F '57; *Abstract, Metal Prog* 73:144+ Ap '58

Effect of carbon on the resistance of hard facing deposits to abrasive wear; abstract. E. I. Leynachuck. *Metal Prog* 74:150+ Ag '58

Glass scratch effect. J. Bourdillon. *bibliog il J Colloid Sci* 13:407-9 Ag '58

High-chromium-molybdenum white iron for abrasion-resistant castings. T. E. Norman. *il Foundry* 86:128+ Je '58

Measuring the abrasion resistance of plastic lenses for sunglasses. P. M. Kamath and H. O. Buzzell. *il diags Plastics Tech* 4:132-6+ F '58

One plastic solves two problems: Western Electric finds polyvinyl chloride the answer to problems of corrosion and abrasion. D. Hartley. *il Power Ind* 74:22-3 F '58

Picking the plastic for abrasion resistance. J. P. Abbat. *il Product Eng* 29:105-7 Mr 31 '58

Tire abrasion at different temperatures. G. J. van Amerongen and others. *Rubber Chem & Tech* 31:650-4 JI '58

ABRASIVE belts

Abrasive belts cut roll grinding costs. *il Steel* 142:92+ Mr 31 '58

Abrasive belts for the removal of metal. J. K. McLaughlin. *il diags Product Eng* 28:D8a-8f Mid-O '57

Abrasive belts grind finishing costs to new lows. *il Iron Age* 182:104-6 JI 10 '58

Adams copy grinding with abrasive belts. *il Engineer* 206:301-2 Ag 22 '58

Automatic grinding with coated abrasives finds widespread use for roughing, finishing, and polishing. J. K. McLaughlin. *il diags Mach* 64:121-36 Ag '58

Belt grinders are rediscovered. E. J. Egan, Jr. *Iron Age* 181:57 My 15 '58

Belt grinders woo sheet mills. T. M. Rohan. *il Iron Age* 181:84 F 13 '58

Choose the right contact wheel for better belt grinding. *il Iron Age* 182:64-6 JI 3 '58

Economics of grinding with abrasive belts. J. H. Quirk. *il Mill & Factory* 61:116-18 N '57

National coated abrasive machinery show, 3d, Troy, June 10-13. *Automotive Ind* 119:62-3+ JI 15 '58; *Am Mach* 102:80 Je 30 '58; *Foundry* 86:93 Ag '58

New jobs for belt grinders. *il Steel* 143:132-3 JI 21 '58

Taking the guesswork out of grinding and polishing with abrasive belts. W. K. Seward. *il diags Plating* 45:39-44 Ja '58

What to look for in abrasive belt machines. J. K. McLaughlin. *il diags Tool Eng* 40: 85-90 Je '58

Which cutting fluid for abrasive belt grinding? H. N. Dyer. *il Am Mach* 102:76-8 JI 28 '58

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Abrasive cleaning saves us \$40,000 a year; *Towmotor corp.* *il Steel* 143:66-7 JI 7 '58

Abrasive solves finishing problem. G. C. Madigan. *il Steel* 142:98-9 Je 30 '58

Abrasive wet blasting for cleaning and finishing metals. A. R. Burman. *il diags Plating* 45:45-8 Ja '58

Coated abrasives advance. *Steel* 142:92 Je 30 '58

Coated abrasives grind all types of castings. G. G. Willson. *il diags Foundry* 85:196-200 D '57

Industrial know-how handbook. *il Mill & Factory* 62:MW 14-15 My '58

Know your coated abrasives. P. R. LaFalce. *il diags Mill & Factory* 63:100-2 JI '58

Lewis automatic finishing machine uses liquid abrasive process. *il Am Mach* 101: 124 D 30 '57

Magnetic wheel holds abrasive disc in automatic pencil pointer; illustrations with text. *Machine Design* 30:111 F 6 '58

Problems caused by dimensional instability of paper in the manufacture of glue bonded coated abrasives. A. J. Kirsch. *bibliog diags Tappi* 41:18-19 Ja '58

Shave plastics with soft razors. *il Mill & Factory* 61:99 D '57

Take care when using coated abrasives. *Iron Age* 180:159-60 N 7 '57

Technical aspects of vitrified grinding wheel manufacture; materials and compositions. M. W. Gormly. *bibliog il Am Cer Soc Bul* 37:144-7 Mr 15 '58

Which abrasive cut-off wheel is right? E. J. De Witt. *il Mach* 64:123-7 My '58

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Anorectal abscess and fistula. C. E. Pope. *bibliog il Ind Med* 27:448-55 S '58

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Most powerful electromagnet allows closer approach to absolute zero. *Il Chem & Eng N* 36:26 J1 28 '58

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Separation of miscible liquids by polymeric absorbents. J. C. H. Hwa and others. *bibliog Ind & Eng Chem* 49:1828-34 N '57

ABSORPTOMETRIC analysis

Absorptometric determination of traces of chromium in nickel and vanadium, of vanadium in chromium, and of nickel in chromium and vanadium. J. T. McAlaren and G. F. Reynolds. *bibliog Metallurgia* 57:52-6 Ja '58

Gamma absorptometer for solutions of heavy metal salts. D. H. Thurnau. *bibliog il diags Anal Chem* 29:1772-4 D '57

Indirect absorptometric determination of cyanide. O. A. L. Schwieler and J. O. Meditsch. *Anal Chem* 30:450-1 Mr '58

ABSORPTION

Absorption of polyvalent cations on ion exchangers through ion-pair or complex formation. C. B. Amphlett and J. Kennedy. *Chem & Ind p* 1200-2 S 13 '58

Absorption of sulfur dioxide from air; oxidation in drops containing dissolved catalysts. H. P. Johnstone and D. R. Coughanowr. *bibliog diags Ind & Eng Chem* 50:1169-72 Ag '58

Apparatus for measuring the rate of absorption of a bubble in glass; abstract. C. H. Greene. *Cer Ind* 69:88 D '57

Physical factors affecting the absorption of oxygen by thin films of bituminous road binders. E. J. Dickinson and others. *bibliog diag J Ap Chem* 8:673-87 O '58

Selective absorption of hydrogen sulphide in carbonate solutions. F. H. Garner and others. *bibliog diags J Ap Chem* 8:325-36 My '58

Unit operations in chemical engineering; absorption and humidification. M. Leva and C. Y. Wen. *bibliog(53 ref) Ind & Eng Chem* 50:421-3 pt 2 Mr '58

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ABSORPTION (physiology)

Absorption by immature and adult rats of amino acids from raw and autoclaved fresh pork. P. Wheeler and A. F. Morgan. *bibliog J Nutrition* 64:137-50 Ja '58

Absorption of radiolysine by the chick as affected by penicillin administration. H. H. Draper and N. Lowe. *bibliog J Nutrition* 64:33-42 Ja '58

Effect of intrinsic factor on absorption of vitamin B₁₂ in healthy individuals. L. Ellenbogen and others. *bibliog Am J Clinical Nutrition* 8:26-9 Ja '58

Effects of the esterification of supplemental cholesterol and sitosterol in the diet. M. M. Best and C. H. Duncan. *bibliog J Nutrition* 65:169-81 Je '58

Factors affecting the absorption of vitamin B₁₂. B. F. Chow and others. *bibliog Am J Clinical Nutrition* 6:386-93 J1 '58

For better absorption; Smith, Kline & French is bringing out a new vitamin supplement and hematonic combined with D-sorbitol. *Chem & Eng N* 36:59-60 F 24 '58

Iron absorption and metabolism. J. F. Hernando and others. *bibliog J Nutrition* 64:815-23 Ap '58

Percutaneous absorption; abstract. F. D. Malkinson. *Drug & Cosmetic Ind* 83:365-6 S '58

Protein digestion in vivo. J. D. Gupta and others. *bibliog J Nutrition* 64:447-56 Mr '58

Skin absorption of carbon disulfide vapor in rabbits. A. E. Cohen and others. *bibliog diag A M A Archives Ind Health* 17:164-9 F '58

Vitamin B₁₂ absorption; editorial. R. F. Schilling. *Am J Clinical Nutrition* 6:332-3 My '58; Discussion. V. Herbert. 6:547 S '58

ABSORPTION apparatus

Absorption processes in rotary absorbers; abstract. S. N. Ganz. *Ind Chem* 34:350+ J1 '58

Continental oil co.'s new Short Junction plant. J. C. Reidel. *il diags Oil & Gas J* 55:113+ O 28 '57

Improvement in the technique of frontal analysis of mixtures by the use of divided columns. F. P. Pillay and others. *bibliog diag Chem & Ind* 25:3-9 Mr 1 '58

Liquid phase mass transfer rates and effective interfacial area in packed absorption columns. F. Yoshida and T. Koyanagi. *bibliog diags Ind & Eng Chem* 50:365-74 Mr '58

New agitator absorber for CO₂. A. S. Moore and S. Katell. *flow diag diag Pet Refiner* 37:163-8 Mr '58

Nomogram for tower packing height. L. T. Fan. *Pet Refiner* 37:346 S '58

Packed column performance of carbon dioxide-monoethanolamine system. A. J. Teller and H. B. Ford. *bibliog il Ind & Eng Chem* 50:1201-6 Ag '58

Spivey gasoline plant. J. C. Reidel. *il diags Oil & Gas J* 55:102-3+ N 25 '57

Welding a 93-ton-stainless-steel column. *il Engineering* 185:478 Ap 11 '58

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Natural gasoline; computer designs plants. H. C. Mith and A. C. Moore. *Pet Refiner* 37:140 Ap '58

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Gamma-radiation absorption coefficients of air in the energy range 0.01 to 100 mev. J. W. Allison. *J Ap Phys* 29:1175-8 Ag '58

Measurements of the total absorptivity for solar radiation of several engineering materials. R. C. Birkenhead and J. P. Hartnett. *il diags A S M E Trans* 80:373-8 F '58

New family of light absorbers. Franklin Inst J 265:78-9 Ja '58

Optical study of the hydrates of molecular oxygen in water. L. J. Heidt and A. M. Johnson. *bibliog diag Am Chem Soc J* 79:5587-93 N 5 '57

Radiation absorbers; flexible urethane foam loaded with conductive material. *il Mod Plastics* 35:200 Ap '58

Small-volume five-centimeter absorption cell for Beckman spectrophotometers. G. Goldberg and others. *diags Anal Chem* 30:1163-4 Je '58

Ultraviolet absorbers. R. A. Coleman and W. H. Peacock. *Textile Res J* 28:784-91 S '58

Ultraviolet absorbers mean new life for plastics. J. A. Weicksel. *il Plastics World* 16:8-9 Ag '58

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ABSTRACTS

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Abstracts and patents in U.S.S.R. *Chem & Eng N* 36:26 S 22 '58

Auto-Abstract, electronic machine; abstract. H. P. Luhn. *Franklin Inst J* 265:522 Je '58

Computer abstracts. *Control Eng* 5:32 Mr '58

Computer system automatically abstracts technical articles. *Machine Design* 30:38-9 F 20 '58

Machine abstracts. *Mech Eng* 80:93 Je '58

Machines do speedy abstracts. *Product Eng* 29:28 Ap 7 '58

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- Canada gets accelerator. *Il Electronics* 31:38 My 2 '58
- Cockcroft-Waltons, good neutron producers. *Il diags Nucleonics* 16:106+ Ja '58
- Focusing procedures for electrostatic accelerators. C. H. Johnson and others. *bibliog diags R Sci Instr* 28:942-3 N '57
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- High-voltage rheostat for electrostatic accelerator focusing. B. D. Kern and others. *Il diag R Sci Instr* 28:969 N '57
- Irradiation sources for industry. M. R. Jeppson. *Il diags Instruments & Automation* 31: 639-43 Ap '58
- Liquid-target holder for use with separated isotopes. B. G. Goldring and R. P. Scharenberg. *diags R Sci Instr* 29:532 Je '58
- Oak Ridge's DCX (direct current experiment); abstract. A. Simon. *Nucleonics* 16:123 My '58
- Operation of a spiral sector fixed field alternating gradient accelerator. D. W. Kerst and others. *Il R Sci Instr* 28:970-1 N '57
- Particle accelerators. R. B. Wilson. *Il diags Sci Am* 198:64-74+ Mr '58
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- Production of millimicrosecond pulses by radio-frequency sweeping of the ion beam in the terminal of an electrostatic accelerator. C. M. Turner and S. D. Bloom. *bibliog Il diags R Sci Instr* 27:480-7 Je '58
- Propagation of slow waves; applied to particle accelerators and microwave electron tubes. J. Dain. *bibliog diags Electronic Eng* 30:388-93 Je '58
- Resonator as a 200-mc power amplifier; used to power the Minnesota linear proton accelerator. E. B. Tucker and others. *bibliog Il diags Inst Radio Eng Proc* 46:1483-92 Ag '58
- Series triode stabilizes million-volt generator. G. Dome and H. D'Hoop. *Il diags Electronics* 31:76-9 Je 20 '58
- Two-beam fixed field alternating gradient accelerator. T. Ohkawa. *bibliog diags R Sci Instr* 29:108-17 F '58
- U.S. particle accelerators; illustrations with text. *Engineer* 205:pl 15 Ja 3 '58
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- Technique finds tube resonances; accelerometer as sensing device. R. B. Tatge. *diag Electronics* 31:90+ My 9 '58
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- Problem of industrial safety; analysis of 403 consecutive lost-time accidents during a six year-six month period at a naval industrial activity. C. C. Shaw. *Ind Med* 27:480-2 S '58
- Safety is no free lunch. S. F. Spence. *Safety Maint* 115:11-13 Mr '58
- Show injury costs; 2d quarter of fiscal year 1957. Naval aviation supply depot, Philadelphia. J. J. Dougherty. *Safety Maint* 115:27 F '58
- Surgery of urological injuries. G. Carroll. *Ind Med* 27:169-71 Ap '58
- Tetanus as a concomitant of work accidents in tropical countries. M. J. Takos. *Ind Med* 27:518-19 O '58
- Tragedy occurs in a tank. P. C. Ziemke. *Air Cond Heat & Ven* 55:99 Ap '58
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- Longevity and accidents. J. E. Simon. *Engineering* 184:556 N 1 '57
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Depletion
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Highway accounting
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Automatic accounting slashes water billing time. C. Emans. *Il Pub Works* 88:91-2 N '57

ACCOUNTING—Mechanical aids—Continued

Calculating measurement charts; El Paso natural gas co. applied punched-card accounting machines and methods, W. R. McDowell, *diags Am Gas Assn Mo* 40:31-8 F '58

Centralized machine accounting furnishes important operating controls; Virginia department of highways, R. E. Price, *il Pub Works* 89:132-3 S '58

Computer, a valuable tool for the power engineer, G. F. Trexler, *il Power Eng* 62:92-4 O '58

Computers on railways, *Engineering* 184: 617 N 15 '57

Converting to electronic billing at Hamilton, Ohio, C. T. Rupert, *Am Water Works Assn J* 50:449-52 Mr '58

Electronic accounting in public utilities, F. Twohy, *Am Water Works Assn J* 50:537-43 Ap '58

How a city cut water billing costs, P. Hirsch, *il Pub Works* 88:103-4 D '57

Machines in home office make payrolls and keep costs for remote jobs; F. H. McGraw & co., F. J. McClean, *il Civil Eng* 28:327-9 My '58

Mechanized utility accounting brings simplified, accurate results, E. B. Talcott, *il Pub Works* 89:116-17 Je '58

New cost-control methods are now practical for refining operations, J. W. Davie and P. P. Entrikin, *diags Oil & Gas J* 56:140-4 Ja 20 '58

Seven pay 2,000; payroll office of Ayondale mills, *il Textile Ind* 122:90-3 Mr '58

Use of electronic machines increasing; electronics seminar, Detroit, Dec. 2-4, *Am Gas Assn Mo* 40:142-144 Ja '58

Water works billing department, F. G. Ince, *il Water & Sewage Works* 105:273 JI '58

See also

Calculating machines

ACCOUNTING departments

Human relations; key to success, J. F. Daly, *Am Gas Assn Mo* 39:26-8 D '57

ACCOUNTING manuals

New cost guide for drillers, W. K. Powell, *Oil & Gas J* 55:104-6 D 9 '57

ACCUMULATORS, Hydraulic. See Hydraulic accumulators**ACENAPHTHENE**

Solvent effects in the reactions on N-bromo-succinimide with toluene, fluorene and acenaphthene; evidence for a polar mechanism in propylene carbonate, S. D. Ross and others, *bibliog Am Chem Soc J* 80:4327-30 Ag 20 '58

ACENES

Energy transfer in molecular complexes of *sym*-trinitrobenzene with polyacenes; general considerations, S. P. McGlynn and J. D. Boggs, *bibliog Am Chem Soc J* 80:5096-101 O 5 '58

ACEPHENANTHRYLENE

Polynuclear hydrocarbon derivatives; some derivatives of 4,5-dihydroacenaphthanthrylene, R. C. Petterson and M. C. Kloetzel, *bibliog Am Chem Soc J* 80:1416-21 Mr 20 '58

ACEPLEADIYLENE

Dipole moment and dielectric relaxation time of acepleadiylene, D. A. Pitt and others, *bibliog Am Chem Soc J* 79:5633-4 N 5 '57

Proton magnetic resonance spectra of azulene and acepleadiylene, W. G. Schneider and others, *bibliog Am Chem Soc J* 80:3497-502 JI 20 '58

ACETALDEHYDE

Deuterium isotope effects in the bromine oxidation of ethanol and of acetaldehyde, L. Kaplan, *bibliog Am Chem Soc J* 80:2639-42 Je 5 '58

Peracetic acid from acetaldehyde; Union carbide chemicals co. flow diag *Pet Refiner* 36:270 N '57

Analysis

Iodometric estimation of small quantities of acetaldehyde, S. Bose, *bibliog Anal Chem* 30:1526-7 S '58

Polarographic determination of hydrogen peroxide, formaldehyde, and acetaldehyde in mixtures, S. Sandler and Y. H. Chung, *bibliog Anal Chem* 30:1252-5 JI '58

Manufacture

Acetaldehyde; Montecatini process, flow diag *Pet Refiner* 36:206 N '57

Formaldehyde and acetaldehyde, flow diag *Pet Refiner* 36:249 N '57

ACETALS

Acetal cellulose reactants, J. B. Irvine and B. H. Kress, *Textile Res J* 28:148-58 F '58

Acetal reactants produce wrinkle-resistant finishes; abstract, J. B. Irvine and B. H. Kress, *Textile World* 107:122 D '57

Cyanocarbon chemistry; dicyanoketene acetals, W. J. Middleton and V. A. Engelhardt, *bibliog Am Chem Soc J* 80:2188-95 Je 5 '58

Cyanocarbon chemistry; heterocyclic compounds from dicyanoketene acetals, W. J. Middleton and V. A. Engelhardt, *Am Chem Soc J* 80:2829-32 Je 5 '58

Cyclic acetals of D-galactose, J. G. Buchanan and K. J. Miller, *bibliog Chem & Ind* p625 My 24 '58

Cyclic 16 α ,17 α -ketals and acetals of 9 α -fluoro-16 α -hydroxy-cortisol and -prednisolone, J. Fried and others, *Am Chem Soc J* 80:2338-9 My 5 '58

Durable calendar effects; nonvolatile acetals applied; patent, *Am Dyestuff Rep* 47:23 Ja 13 '58

Epoxyethers; ketals from secondary monohydric alcohols, C. L. Stevens and others, *bibliog Am Chem Soc J* 80:2276-9 My 5 '58

Properties of materials; acetal, polycarbonate and polypropylene, *Materials in Design Eng* 48:166 Mid-C '58

Synthesis of acetylenic acetals, ketals and orthoesters, B. W. Howk and J. C. Sauer, *bibliog Am Chem Soc J* 80:4607-9 S 5 '58

ACETAMIDINE

Isolation of acetamidine, M. Davies and A. E. Parsons, *Chem & Ind* p628-9 My 24 '58

ACETANILIDE

Akylation and cyclization of benzoylacetanilides, A. L. Searles and D. Ressler, *bibliog Am Chem Soc J* 80:3656-63 JI 20 '58

ACETATE fibers. See Cellulose acetate fibers**ACETATE yarn. See Cellulose acetate yarn****ACETATES**

Action of diazomethane on the pentaacetates of aldehyde-D-glucose and aldehyde-D-galactose, M. L. Wolfrom and others, *bibliog Am Chem Soc J* 79:8454-7 D 20 '57

Reaction of keto-acetates with diazomethane, M. L. Wolfrom and others, *bibliog Am Chem Soc J* 79:8299-303 S 5 '57

Reduction of diazomethyl-keto acetates; a new route to osone derivatives, M. L. Wolfrom and J. B. Miller, *bibliog Am Chem Soc J* 80:1678-80 Ap 5 '58

See also

Barium acetate
Boron acetates
Copper acetate
Lead acetate
Silver acetate
Trifluoroacetates

ACETIC acid

Acid-base equilibria in glacial acetic acid; the effect of water on potentiometric and indicator end-points in acid-base titrations in acetic acid, S. Bruckenstein and I. M. Kolthoff, *bibliog Am Chem Soc J* 79:5915-21 N 20 '57

Acid dissociation constants of diethylenetriaminepentaacetic acid and the stability constants of some of its metal chelates, J. Durban and J. P. Edwards, *bibliog Am Chem Soc J* 80:4312-17 S 20 '58

Acidity function, H_0 , and ion-pair association constants in acetic acid-water mixtures, K. B. Wiberg and R. J. Evans, *Am Chem Soc J* 80:3019-22 Je 20 '58

Chain length breakdown of cellulose by acetic acid solutions of water and sulfuric acid, C. J. Malm and others, *bibliog Ind & Eng Chem* 50:103-6 Ja '58

Chelating tendencies of aminomethylene-phosphonic-N,N-diacetic acid, N. Ockerbloom and A. E. Martell, *bibliog Am Chem Soc J* 80:2351-4 My 20 '58

Chemicals recovery from pulping liquors, D. F. Othmer, *bibliog flow sheet diag Ind & Eng Chem* 50:sup60A-2A Mr '58

cis-hydroxylation of a synthetic steroid intermediate with iodine, silver acetate and wet acetic acid, R. B. Woodward and F. V. Brutcher, jr, *bibliog Am Chem Soc J* 80:209-11 Ja 5 '58

Determining disulfides in petroleum naphtha; modification of the acetic acid-zinc reflux method, J. H. Karchmer and M. T. Walker, *bibliog diag Anal Chem* 30:85-90 Ja '58

Kinetics of dissociation of derivatives of iodobenzene dichloride in acetic acid, R. M. Keefer and J. J. Andrews, *bibliog Am Chem Soc J* 80:277-81 Ja 20 '58

ACETIC acid—Continued

- 6-Methylbicyclo[5.3.0]dec-7-en-9-one-8-acetic acid and related compounds. A. M. Islam and M. T. Zemaitis. *bibliog Am Chem Soc J* 79:6023-4 N 20 '57
- Properties of bovine serum albumin in concentrated acetic acid. L. K. Steinrauf and W. B. Dandliker. *Am Chem Soc J* 80:3831-2 Ag 5 '58
- Separation of halogenated acetic and propionic acids by paper chromatography. J. W. Chittum and others. *bibliog Anal Chem* 30:1213-14 JI '58
- System amyl alcohol (from fusel oil)-acetic acid-water at 20°. P. Piha and others. *bibliog diag J Ap Chem* 8:576-80 S '58
- Vapor-phase catalytic esterification of ethyl alcohol with acetic acid. C. Venkateswarlu and others. *bibliog diag Ind & Eng Chem* 50:973-8 Je '58
- See also*
- Peracetic acid
- Trichloroacetic acid

Manufacture

- Acetic acid recovery methods. D. F. Othmer. *bibliog flow sheet diags Chem Eng Prog* 54:48-52 JI '58
- ACETIC anhydride**
- Basic behavior of molecules and ions in acetic anhydride. C. A. Streuli. *bibliog Anal Chem* 30:997-1000 My '58
- Calculation of association constants for complex formation from spectral data; infrared measurements of hydrogen bonding between ethanol and ethyl acetate, and ethanol and acetic anhydride. E. Grunwald and W. C. Coburn, Jr. *bibliog Am Chem Soc J* 80:1322-5 Mr 20 '58
- Determination of steroid alcohols with acetic anhydride—C-14. V. F. Hollander and J. Vincour. *bibliog Anal Chem* 30:1429-31 Ag '58

Analysis

- Potentiometric determination of amides in acetic anhydride. D. C. Wimer. *bibliog (43 ref) Anal Chem* 30:77-80 Ja '58
- ACETOGLYCERIDES.** *See* Glycerides

ACETOLYSIS

- Kinetic isotope effects in the acetolyses of deuterated cyclopentyl tosylates. A. Streitwieser, Jr. and others. *bibliog diags Am Chem Soc J* 80:2326-32 My 5 '58
- Many-membered carbon rings: acetolysis of 5,5-dimethylcyclohexanone tosylate. A. T. Blomquist and Y. C. Meinwald. *bibliog Am Chem Soc J* 80:630-2 F 5 '58
- Stereochemistry of the primary carbon: acetolysis of optically active 1-butyl-1-d p-nitrobenzenesulfonate. A. Streitwieser, Jr. and W. D. Schaeffer. *bibliog Am Chem Soc J* 79:6233-8 D 5 '57

ACETONE

- Flour lipids; a note on the acetone-soluble fraction. H. Zentner. *Chem & Ind p* 129-30 F 1 '58
- High intensity photolysis of acetone. J. L. Roebber and others. *bibliog Am Chem Soc J* 80:255-61 Ja 20 '58
- Making butadiene; feed preparation and finishing by acetone or acetonitrile and cuprous ammonium acetate. J. C. Reidel. *flow sheet II Oil & Gas J* 55:110-4 D 16 '57
- Preparation of a crystalline high explosive of controlled particle size by precipitation with water from acetone solution. A. M. Pennie. *flow sheet diags Can J Chem Eng* 36:78-81 Ap '58
- Relative volatility and enthalpy data for the systems C₄ hydrocarbons-acetone-water developed from vapor-liquid equilibria. J. E. Ewanchyna and C. Ambridge. *bibliog diags Can J Chem Eng* 36:19-36 F '58
- Solubilities of fatty acids and derivatives in acetone. S. S. Frivert and others. *bibliog diag Am Oil Chem Soc J* 35:366-70 JI '58
- Ternary vapour-liquid equilibria system: acetone-ethyl methyl ketone-cyclohexane. K. V. Kurmanadha Rao and others. *bibliog (26 ref) J Ap Chem* 7:535-43 O '57

Analysis

- Estimation of trace and major quantities of lower alcohols, ethers, and acetone in aqueous solutions by gas liquid partition chromatography. S. J. Bodnar and S. J. Mayeux. *diags Anal Chem* 30:1384-7 Ag '58

Manufacture

- Acetone: tonnage by-product. J. M. Weiss. *II Chem & Eng N* 36:79-82 Je 9 '58
- Methyl ethyl ketone and acetone. *flow diag Pet Refiner* 36:264 N '57

Phenol and acetone via cumene hydroperoxide. P. W. Sherwood. *bibliog Pet Eng* 30: C32-4 Je '58 (to be cont)

ACETONITRILE

- Making butadiene; feed preparation and finishing by acetone or acetonitrile and cuprous ammonium acetate. J. C. Reidel. *flow sheet II Oil & Gas J* 55:110-4 D 16 '57
- Polarography in acetonitrile; Brønsted acids; amperometric titration of amines with perchloric acid; oxygen. J. F. Coetzee and I. M. Kolthoff. *bibliog Am Chem Soc J* 79: 6110-15 D 5 '57
- Studies on the chemistry of halogens and of polyhalides; iodine halide complexes with acetonitrile. A. I. Popov and W. A. Deskin. *bibliog Am Chem Soc J* 80:2976-9 Je 20 '58
- Studies on the chemistry of halogen and of polyhalides; voltammetry of iodine species in acetonitrile. A. I. Popov and D. H. Geske. *bibliog Am Chem Soc J* 80:1340-52 Mr 20 '58

ACETOPHENONE

- Hydrogen bromide cleavage of hindered 2-methoxyacetophenones. W. J. Horton and J. S. Spence. *bibliog Am Chem Soc J* 80: 2453-6 My 20 '58
- α -Ket ethers; the reaction of α -phenoxyacetophenone with sodium and with sodium amide. P. Yates and others. *bibliog Am Chem Soc J* 80:196-201 Ja 5 '58
- One-step transformation of acetophenone into benzaldehyde. J. H. Boyer and L. E. Morgan, Jr. *bibliog Am Chem Soc J* 80: 2020-1 Ap 20 '58
- ACETOXY compounds**
- Copolymerizability of ethyl α -acetoxyacrylate. C. C. Unruh and T. M. Laakso. *Ind & Eng Chem* 50:1124 Ag '58
- Epoxidation of 1-acetoxycyclohexene and the rearrangement of 1-acetoxyl-1,2-epoxycyclohexane. H. J. Shine and G. E. Hunt. *bibliog Am Chem Soc J* 80:2434-5 My 20 '58

ACETOXY group

- Role of neighboring groups in replacement reactions; the acetoxy group; preparation and reactions of the ketone acetal of α -1,2-cyclohexanediol (2-methylene- α -4,5-tetramethylenedioxolane). R. M. Roberts and others. *bibliog Am Chem Soc J* 80:1247-54 Mr 5 '58

ACETYLACETONE

- Analytical solvent extraction of vanadium using acetylacetone. J. P. McKaveney and H. Freiser. *Anal Chem* 30:526-9 Ap '58
- Reaction of titanium tetrachloride with acetyl acetone. K. C. Pande and I. R. C. Mehrotra. *bibliog Chem & Ind p* 1198-9 S 13 '58
- Silicon and organosilicon derivatives of acetylacetone. R. West. *bibliog Am Chem Soc J* 80:3236-9 JI 5 '58

ACETYL chloride

- Crystal violet as a reversible indicator in acetyl chloride. R. C. Paul and others. *bibliog Chem & Ind p* 622-3 My 24 '58
- Kinetics of the exchange of chlorine between hydrogen chloride and acetyl chloride in the vapor phase. W. J. Neill and M. Kahn. *bibliog Am Chem Soc J* 80:2111-12 My 5 '58
- Novel elimination of acetyl chloride. R. K. Summerbell and H. E. Lunk. *bibliog Am Chem Soc J* 80:604-6 F 5 '58
- Reactions of silyllithium compounds with derivatives of carboxylic acids; triphenylsilyllithium and acetyl chloride. D. Wittenberg and H. Gilman. *bibliog Am Chem Soc J* 80:4529-31 S 5 '58

ACETYLCHOLINESTERASE

- Colorimetric determination of acetylcholinesterase activity. D. N. Kramer and R. M. Gamson. *bibliog Anal Chem* 30:251-4 F '58

ACETYL group

- Kinetic study of the thermodynamic properties of the acetyl free radical. J. G. Calvert and J. T. Gruver. *bibliog Am Chem Soc J* 80:1313-17 Mr 20 '58

ACETYSALICYLATE

- Evidence for general base catalysis in an ester hydrolysis: hydrolysis of an amino-alkyl acetylsalicylate. E. R. Garrett. *Am Chem Soc J* 80:4049-56 Ag 5 '58

ACETYLATION

- Acetylation of inclusion celluloses. C. A. Julander and I. Julander. *bibliog (18 ref) Tappi* 40:926-30 N '57
- Determining suitability of pulps for acetylation; abstract. G. L. Borgen. *diags Paper Ind* 40:251 F '58
- Heat evolution during the acetylation of cotton. L. H. Greathouse and others. *bibliog Ind & Eng Chem* 50:97-102 Ja '58

ACETYLATION—Continued

- New method for determination of acetylation rates. H. W. Kircher. bibliog diag Anal Chem 30:154-3 S '58
- Physical properties of fibers and yarns of partially acetylated cottons. R. S. Orr and others. bibliog(26 refs) Textile Res J 27: 966-75 D '57
- Schiff bases and related substances; acetylation of a Schiff base-thiol adduct. G. W. Stacy and others. bibliog Am Chem Soc J 80:3475-8 J1 '58
- Simplified control analyses of solutions used in partial acetylation of cotton. E. M. Buras, Jr. and others. bibliog diag Anal Chem 30:104-7 Ja '58
- Some practical aspects of the fibrous acetylation of cotton yarn. F. Bryant. bibliog Textile Res J 28:180-1 F '58

ACETYLENE

- Acetylene-allene isomerization of nonadiynes. I. A. W. J. Gensler and J. Casella, Jr. bibliog Am Chem Soc J 80:1376-80 Mr 20 '58
- Acetylene and carbide have held jobs in almost every field; abstract. W. B. Browning. Welding Eng 43:33 Mr '58
- Acetylene's 66-year success forecasts a popular future. J. Fairlie. il diags Welding Eng 43:29-33 Mr '58
- Bulls and bears on acetylene. il Chem & Eng N 36:112-16, cover Mr 3 '58
- Formation of benzene in the pyrolysis of acetylene. W. W. Robertson and others. bibliog J Ap Chem 8:401-2 J1 '58
- Reaction of dinitrogen tetroxide and iodine with olefins and acetylenes. T. E. Stevens and W. D. Emmons. bibliog Am Chem Soc J 80:338-41 Ja 20 '58
- Recent developments in acetylene-allene chemistry; abstract and discussion. E. R. H. Jones. Chem & Ind p 1532 N 23 '57
- Unsaturated macrocyclic compounds; the oxidation of terminal diacetylenes to macrocyclic tetraacetylenes. F. Sondheimer and others. bibliog diags Am Chem Soc J 79: 6263-7 D 5 '57
- Vinyl chloride from acetylene; Naugatuck Chemical. flow diag Pet Refiner 36:289 N '57

See also

- Oxyacetylene apparatus
Oxyacetylene flame
Oxyacetylene welding

Manufacture

- Acetylene (BASF); Chemical construction corp. flow diag Pet Refiner 36:207 N '57
- Acetylene process; the Ediger process; abstract. L. Andrussov. Ind Chem 34:459 Ag '58
- Acetylene producer cuts costs; Air Reduction's National carbide co. il diags Chem & Eng N 36:49-51 F 10 '58
- Acetylene (Wulff); Lummus co. flow diag Pet Refiner 36:208 N '57
- BASF process for acetylene production. flow diag Pet Eng 30:C 10a-10b J1 '58
- Eastman process for cracking light hydrocarbons to acetylene and ethylene. G. A. Akin and others. bibliog flow diag il diags Chem Eng Prog 54:41-8 Ja '58; Abstract. Oil & Gas J 56:78-80 Ja 13 '58
- More on SBA acetylene. diags Oil & Gas J 56:125-4 Je 2 '58
- New way to acetylene; Eastman process. diags Chem & Eng N 36:32 D 23 '57
- Newest acetylene process from Japan. S. Tsutsumi. Pet Refiner 37:169-71 Mr '58

- ACETYLENE association, International.** See International acetylene association

ACETYLENE compounds

- Acetylene chemicals move up; Airco production of methyl butynol and pentynol at new plant this week. il Chem & Eng N 36:24 My 5 '58
- Acetylenic π -complexes of chromium in organic synthesis. H. H. Zeiss and W. Herwig. Am Chem Soc J 80:2913 Je 5 '58
- Enzymatic utilization of an acetylenic compound. E. W. Yamada and W. B. Jakoby. Am Chem Soc J 80:2343-4 My 5 '58
- Hypotensive agents; acetylenic diamines. J. H. Biel and F. DiPierro. bibliog Am Chem Soc J 80:4609-18 S 5 '58
- Some reactions between metal carbonyls and acetylenic compounds; abstract. M. C. Whiting. Chem & Ind p248-9 Mr 1 '58
- Stereochemistry of the addition of silicochloroform to acetylenes. R. A. Benkeser and R. A. Hickey. bibliog Am Chem Soc J 80:5298-300 O 5 '58

- Stereospecific reactions of nucleophilic agents with acetylenes and vinyl-type halides; the mechanism of the base-catalyzed reaction of trichloroethylene with thiols. W. E. Truce and R. Kassinger. bibliog Am Chem Soc J 80:1916-19 Ap 20 '58
- Synthesis of acetylenic acetals, ketals and orthoesters. B. W. Howk and J. C. Sauer. bibliog Am Chem Soc J 80:4607-9 S 5 '58
- ACETYLENEDICARBOXYLIC acid**
Reaction of N-benzoylpyrrole with acetylenedicarboxylic acid; a Diels-Alder addition to a pyrrole. L. Mandell and W. A. Blanchard. bibliog Am Chem Soc J 79:6198-201 D 5 '57

ACETYLENE Journal (periodical)

- International acetylene association and the Acetylene Journal. F. T. Tancula. il Welding Eng 43:44-4 Mr '58

ACHESON medal

- Kroll receives medal. Chem & Eng N 36:108 O 20 '58
- William J. Kroll chosen Acheson medalist. Electrochem Soc J 105:sup 174C Ag '58

ACID chlorides. See Chlorides**ACID resisting materials**

- Plastic-coated tubing resists acid fumes. il Materials in Design Eng 46:230-4 O '57
- Potentiostat technique for studying the acid resistance of alloy steels. C. Edeleanu. bibliog diags Iron & Steel Inst J 183:123-32 F '58
- Thermal insulation resists acids; Foamsil. il Materials in Design Eng 48:129-30 S '58
- See also
Steel, Stainless

ACID waste

- Dollars and sense of pickle-liquor treatment. J. S. Joseph and E. T. Culver. bibliog il diags Iron & Steel Eng 35:112-20; Discussion. 120-2 Mr '58
- Treatment of water-borne wastes from steel plants; with cost data. R. Nebolsine. Iron & Steel Eng 34:139-41 D '57
- Waste pickle liquor disposal. G. A. Howell. Sewage & Ind Wastes 29:1278-81 N '57

ACIDATION of oil wells. See Petroleum—Acidation of wells**ACIDIMETRY**

- Review of fundamental developments in analysis; acid-base titrations in nonaqueous solvents. J. A. Riddick. Anal Chem 30:793-805 bibliog(p803-5) pt 2 Ap '58

ACIDITY

- Acidity function, H_0 , and ion-pair association constants in acetic acid-water mixtures. K. B. Wiberg and E. J. Evans. Am Chem Soc J 80:3019-22 Je 20 '58
- Aggregation of bovine serum albumin in acid solutions. P. Bro and others. bibliog il Am Chem Soc J 80:389-93 Ja 20 '58
- Carbonyl reactions; acidity and temperature dependence in the condensation of anisaldehyde and methyl ethyl ketone. D. S. Noyce and L. R. Snyder. bibliog Am Chem Soc J 80:4324-7 Ag 20 '58
- Effect of binding of ions and other small molecules on protein structure; two theoretically distinguishable types of interaction of bovine serum albumin with acidic media. J. R. Cann. bibliog Am Chem Soc J 80:4263-4 Ag 20 '58
- Effect of temperature, pressure, acidity and solvent on an aquo ion exchange reaction. H. R. Hunt and H. Taube. bibliog Am Chem Soc J 80:2642-6 Je 5 '58
- Influence of an acidic environment on the spectra of benzene and some methylbenzenes. M. Kilpatrick and H. H. Hyman. bibliog Am Chem Soc J 80:77-83 Ja 5 '58
- Kinetics of the ferrous iron-oxygen reaction in the acidic phosphate-pyrophosphate solutions. J. King and N. Davidson. bibliog Am Chem Soc J 80:1542-5 Ap 5 '58

ACIDS

- Acid cleavage of methylmercuric iodide. M. M. Kreovy. bibliog Am Chem Soc J 79: 5927-30 N 20 '57
- Adsorption at organic surfaces; some observations on the constitution of chitin and on its adsorption of inorganic and organic acids from aqueous solution. C. H. Giles and others. bibliog Soc Dyers & Col J 74:647-54 S '58
- Alternating current electrolysis of concentrated acids. R. Bentley and T. R. Prentice. bibliog il J Ap Chem 7:619-26 N '57
- Aqueous-amine acid-removal process needn't be corrosive. J. S. Connors. bibliog flow diag diags Oil & Gas J 56:100-2-4 Mr 3 '58

ACIDS—Continued

- Chemical evidence for the structure of the diammoniate of diborane; the reaction of sodium with Lewis acids in liquid ammonia. R. W. Parry and S. G. Shore. *bibliog Am Chem Soc J* 80:15-20 Ja 5 '58
- Chemisorption of oxygen on activated charcoal and sorption of acids and bases. B. R. Puri and others. *bibliog Ind & Eng Chem* 50:1071-4 J1 '58
- Chemistry of fumagillin; transformation products derived from alcohol 1 by action of acids. A. D. Cross and S. Tarbell. *Am Chem Soc J* 80:3682-6 J1 20 '58
- Corrosion of stainless steels in boiling acids and its suppression by ferric salts. M. A. Streicher. *bibliog diags Corrosion* 14:19-30 F '58
- Dissolution of metals in aqueous acid solutions; depolarized dissolution of mild steel. A. C. Makrides and N. Hackerman. *bibliog Electrochem Soc J* 105:156-62 Mr '58
- Effect of structure on the stereochemistry of electrode reactions; unsaturated C-dibasic acids and esters; stereospecific reduction of the double bond. I. Rosenthal and others. *bibliog Am Chem Soc J* 80:3050-5 Je 20 '58
- Formation of α -imino acids in the enzymatic oxidation of amino acids. B. M. Pitt. *bibliog Am Chem Soc J* 80:3799-800 J1 20 '58
- General vs. specific acid-base catalysis in strong mineral acid solution; aromatic decarboxylation. W. M. Schubert and P. C. Myhre. *bibliog Am Chem Soc J* 80:1755-61 Ap 5 '58
- Mechanism of disulfide interchange in acid solution; role of sulfenium ions. R. E. Benesh and R. Benesh. *bibliog Am Chem Soc J* 80:1866-9 Ap 5 '58
- Oxidation of *tert*-butylcyclohexane to dibasic acids with nitrogen dioxide. W. H. Clingman, Jr. and F. T. Wadsworth. *bibliog diags Ind & Eng Chem* 50:777-80 My '58
- Oxidation of *tert*-butylcyclohexane to dibasic acids with ozone. W. H. Clingman, Jr. and F. T. Wadsworth. *bibliog Ind & Eng Chem* 50:1257-8 S '58
- Polyesters of dimer acids as intermediates for urethane foams. R. D. Aylesworth and others. *bibliog Mod Plastics* 35:146-6+ My '58
- Prediction of semiconductor surface response to ambients by use of Lewis acid-base theory. C. G. Peattie and J. R. Macdonald. *bibliog Inst Radio Eng Proc* 45:1292 S '57
- Reaction of Lewis acids of boron with sodium hydride and borohydride. H. C. Brown and P. A. Tierny. *bibliog Am Chem Soc J* 80:1552-3 Ap 5 '58
- Reactions of hindered α -substituted acids; the effect of a β -methyl group on the acid-catalyzed rearrangement. W. R. Vaughan and A. C. Schoenthaler. *bibliog Am Chem Soc J* 79:5777-80 N 5 '57
- Reactions of the *p*-nitrobenzenediazonium and diazotate ions with acid and base. E. S. Lewis and H. Suhr. *bibliog Am Chem Soc J* 80:1367-71 Mr '58
- Reactions of triethylsilane and diethylsilane with inorganic halides and acids. H. H. Anderson. *bibliog Am Chem Soc J* 80:5083-5 O 5 '58
- Stereochemistry of the conversion of organic chlorides to acids by carbonylation of the Grignard reagents. H. L. Goering and F. H. McCarron. *bibliog Am Chem Soc J* 80:2287-91 My 5 '58
- Sterically blocked ketones, alcohols and acids. H. A. Bruson and others. *bibliog Am Chem Soc J* 80:3633-6 J1 20 '58
- See also
- Acidity**
Benzeneboronic acid
Chloric acid
Chromic acid
Hydrochloric acid
Neutralization
Phosphorus acid
Picolinic acid
Sulfuric acid
- Analysis**
Analysis of the nonvolatile acids in cigarette smoke by gas chromatography of their methyl esters. L. D. Quin and M. E. Hobbs. *bibliog Anal Chem* 30:1400-5 Ag '58
- Determination of acids and basic nitrogen compounds in petroleum products. L. Kuklin. *bibliog J Anal Chem* 30:1114-17 Je '58
- Determination of free acid in the presence of hydrolyzable ions. G. L. Booman and others. *bibliog Anal Chem* 30:284-7 F '58
- Determination of oxygenated materials as group types by infrared absorption. E. L. Saier and R. H. Hughes. *bibliog Anal Chem* 30:513-17 Ap '58
- Determination of polyunsaturated acids in lipides of plasma and tissues. R. T. Holman and H. Hayes. *bibliog diags Anal Chem* 30:1422-5 Ag '58
- Potentiometric titration of very weak acids; influence of titrant solvent. G. A. Harlow and G. E. A. Wyld. *Anal Chem* 30:73 Ja '58
- Resolution of acid mixtures in nonaqueous solvents; potentiometric titration of dibasic acids with quaternary ammonium titrants. G. A. Harlow and G. E. A. Wyld. *bibliog Anal Chem* 30:69-72 Ja '58
- Titration of acids in nonaqueous solutions; an improved quaternary ammonium hydroxide titrant for strong acids. R. H. Cundiff and P. C. Markunas. *Anal Chem* 30:1450-2 S '58
- Titration of acids in nonaqueous solutions with tetrabutylammonium hydroxide; reaction of solvents with strong acids. R. H. Cundiff and P. C. Markunas. *Anal Chem* 30:1447-9 S '58
- ACIDS, Fatty**
Crystallization of Indian beef tallow fatty acids from aqueous ethanols. V. V. R. Subrahmanyam and K. T. Acharya. *bibliog Am Oil Chem Soc J* 35:467-9 S '58
- Defoaming of synthetic detergent solutions by soaps and fatty acids. H. Peper. *bibliog J Colloid Sci* 13:199-207 Je '58
- Deposition in tissues and fecal of *trans* fatty acids in the rat. P. V. Johnston and others. *bibliog J Nutrition* 65:13-23 My '58
- Disgibility of individual fatty acids in the rat. K. K. Carroll. *bibliog J Nutrition* 64:399-410 Mr '58
- Distribution of fatty acids between *n*-heptane and aqueous phosphate buffer. D. S. Goodman. *bibliog Am Chem Soc J* 80:3887-92 Ag 5 '58
- Effect of diet on the fatty acid composition of several species of fresh water fish. P. B. Kelly and others. *bibliog Am Oil Chem Soc J* 35:503-5 O '58
- Effect of dietary fat on the fatty acid composition of cholesterol esters in rat liver. S. Mukherjee and others. *bibliog J Nutrition* 65:469-79 J1 '58
- Effect of mono-enoic fatty acid esters on the growth and fecal lipides of rats. T. K. Murray and others. *bibliog Am Oil Chem Soc J* 35:156-8 Ap '58
- Essential fatty acid deficiency. E. Aaes-Jorgensen and R. T. Holman. *bibliog J Nutrition* 65:633-41 Ag '58
- Essential fatty acids retention during certain oxidative flour and dough treatments and in bread-baking. N. Fisher and others. *Chem & Ind* p720-2 Je 14 '58
- Factors affecting digestibility of fatty acids in the rat. K. K. Carroll and J. F. Richardson. *J Nutrition* 64:411-24 bibliog(p422-4) Mr '58
- Fatty acids and their relationship to cholesterolemia. D. M. Rathmann. *Am A Archives Ind Health* 17:402-7 My '58
- Fatty acids of blood; abstract and discussion. G. A. Garton. *Chem & Ind p* 1433-4 N 2 '57
- Further studies on the isomerization of polyunsaturated fatty acids by potassium tertiary butoxide. B. S. Sreenivasan and J. B. Brown. *Am Oil Chem Soc J* 35:89-93 F '58
- Interaction of human serum albumin with long-chain fatty acid anions. D. S. Goodman. *bibliog Am Chem Soc J* 80:3892-8 Ag 5 '58
- Labelling of fatty acids by exposure to tritium gas. H. J. Dutton and others. *Chem & Ind p* 1176-7 S 6 '58
- New products from fatty acids; abstract and discussion. M. R. Mills. *Chem & Ind* p347-8 Mr 22 '58
- Nutritional properties of the triglycerides of saturated fatty acids of medium chain-length. H. Kaunitz and others. *bibliog Am Oil Chem Soc J* 35:10-13 Ja '58
- Origin and metabolism of marine fatty acids; the effect of diet on the depot fats of muller cephalus (the common mullet). P. B. Kelly and others. *bibliog Am Oil Chem Soc J* 35:189-92 My '58
- Oxidized fatty acid-protein complexes. K. A. Narayan and F. A. Kummerow. *bibliog Am Oil Chem Soc J* 35:52-6 Ja '58
- Oxygen demand of the lower fatty acids. P. E. Gaffney and H. Heukelekian. *Sewage & Ind Wastes* 30:673-9 My '58
- Periodate-permanganate oxidations for determining location and amount of unsaturation in monounsaturated fatty acids. E. P. Jones and J. A. Stolp. *bibliog Am Oil Chem Soc J* 35:71-6 F '58

ACIDS, Fatty—Continued

- Phosphorus derivatives of fatty acids; trialkyl α -phosphonates. B. Ackerman and others. *bibliog Am Chem Soc J* 79:6524-6 D 20 '57
- Preparation of esters and anhydrides from long chain fatty acid chlorides. C. G. Youngs. *Am Oil Chem Soc J* 35:416-17 Ag '58
- Reactions of conjugated fatty acids; dibasic acids by hydrogenation and oxidative cleavage. C. R. Scholfield and others. *bibliog Am Oil Chem Soc J* 35:405-9 Ag '58
- Reactions of conjugated fatty acids; selenium catalysis; a method for preparing Diels-Alder adducts from *cis,trans*-octadecadienoic acid. H. M. Teeter and others. *bibliog Am Oil Chem Soc J* 35:238-40 My '58
- Relation of saturated, medium- and long-chain triglycerides to growth, appetite, thirst and weight maintenance requirements. H. Kaunitz and others. *bibliog J Nutrition* 64:513-24 Ap '58
- Requirement for bicarbonate in fatty acid synthesis. D. M. Gibson and others. *Am Chem Soc J* 80:2908 Je 5 '58
- Solubilities of fatty acids and derivatives in acetone. C. S. Frivetti and others. *bibliog diags Am Oil Chem Soc J* 35:366-70 Ji '58
- Some *N*-disubstituted amides of long-chain fatty acids as vinyl plasticizers. F. C. Magne and others. *Ind & Eng Chem* 50: 617-18 Ap '58
- Studies on the alkaline fission of fatty acids, and related topics; abstract and discussion. B. C. L. Weedon. *Chem & Ind* p402 Ap '58
- Synthesis of unsaturated fatty acids; di-ricinoleic acid. W. J. Gensler and C. B. Abrahams. *bibliog Am Chem Soc J* 80:4593-6 S 5 '58
- Transformation of some lipids in anaerobic sludge digestion. H. Heukelejian and P. Mueller. *Chemical Sewage & Ind Wastes* 30:1108-20 S '58
- See also
- Linoleic acid
- Oleic acid
- Palmitic acid
- Stearic acid

Analysis

- Analytical separation of the methyl esters of the C_8 - C_{24} straight-chain fatty acids and the detection of odd-carbon-number acids in commercial mixtures of fatty acids by gas chromatography. M. A. Khan and B. T. Whitham. *bibliog J Ap Chem* 8:549-52 S '58
- Atherosclerosis breakthrough; gas chromatography advances lead to quick separation of key fatty acids from complex lipids. *Chem & Eng N* 36:48 F 3 '58
- Cholesteryl esters of long-chain fatty acids; infrared spectra and separation by paper chromatography. J. A. Labarriere and others. *bibliog Anal Chem* 30:1466-70 S '58
- Direct determination of saturated fatty acids in fats, oils, and methyl esters. D. E. Kuemmel. *diags Am Oil Chem Soc J* 35:41-5 Ja '58
- Infrared identification of some sulfur derivatives of long-chain fatty acids. H. Susi and others. *bibliog Anal Chem* 30:443-6 Mr '58
- Quantitative determination of traces of free gossypol in fats, oils, and fatty acids by paper chromatography. G. Schramm and J. H. Benedict. *bibliog Am Oil Chem Soc J* 35:371-3 Ji '58
- Separation of polyunsaturated fatty acid methyl esters by gas chromatography. C. H. Orr and J. E. Callen. *Am Chem Soc J* 80: 249 Ja 5 '58

ACIDS, Organic

- Acid content of cherries and strawberries. A. C. Hilline and L. S. C. Wooltorton. *Chem & Ind* p659 My 31 '58
- Adsorption at organic surfaces; some observations on the constitution of chitin and on its adsorption of inorganic and organic acids from aqueous solution. C. H. Giles and others. *bibliog Soc Dyers & Col J* 74:647-54 S '58
- Alkylation of organic acids with pyridotriazole. J. E. Borer and L. T. Wolford. *bibliog Am Chem Soc J* 80:2741-3 Je 5 '58
- Analysis for industry; separation and determination of thorium using organic acids. W. I. Stephen. *bibliog Ind Chem* 34:254-6, 393-5 My, Ji '58
- Complex ions of chromium; mechanism of reaction of organic acid anions with chromium(III). R. E. Hamm and others. *bibliog Am Chem Soc J* 80:4469-71 S 5 '58

- Corrosion of lead by dilute aqueous organic acids. L. L. Coles and others. *Il J Ap Chem* 8:34-8 My '58
- Dibasic acids; routes to a mixture of undecanedioic and dodecanedioic acids. T. R. Steadman and J. O. H. Peterson. *bibliog Ind & Eng Chem* 50:59-62 Ja '58
- Influence of solvents on the bacteriostatic and bactericidal action of organic acids. E. A. Cooper and A. E. Goddard. *bibliog J Ap Chem* 7:613-19 N '57
- Ion-exchange and solvent-extraction studies on Co(II) and Zn(II) complexes of some organic acids. J. Schubert and others. *bibliog Am Chem Soc J* 80:4799-802 S 20 '58
- Manganese-54, uranium-233 and cobalt-60 complexes of some organic acids. N. C. Li and others. *bibliog Am Chem Soc J* 79:584-7 N 20 '57
- Microdiffusion of C_1 through C_8 organic acids. L. M. Marshall and F. T. Fox. *Anal Chem* 30:140-3 Ja '58
- New in cigarettes; gas chromatographic method finds new acids in cigarette smoke. L. D. Quinn. *Chem & Eng N* 35:46 D 16 '57
- New synthesis of unsaturated acids. L. A. Carpino. *bibliog Am Chem Soc J* 80:599-604 F 5 '58
- Organic acids produced in farmyard manure and their influence on the solubility of soil phosphate; abstract. I. J. Cooke. *Chem & Ind* p 1535; Discussion. 1535-6 N 23 '57
- Science for electroplaters; organic acids. L. Sercia. *Il Metal Finishing* 56:73-5+ Ag '58
- See also
- Acrylic acid
- Adipic acid
- Benzoic acid
- Cyanoxylic acid
- Cinnamic acid
- Citric acid
- Cyanocarbon acids
- Fumaric acid
- Phthalic acid
- Pinelic acid
- Resin acids
- Sebacic acid
- Terephthalic acid

Analysis

- Chromatographic identification and determination of organic acids in water. H. F. Mueller and others. *bibliog Anal Chem* 30:41-4 Ja '58
- Organic acids and esters produced in preferences. J. A. Johnson and others. *bibliog J Agri & Food Chem* 6:384-7 My '58
- ACKERMANN, Rudolph
R. Ackermann. 1764-1834. A. K. Bruce. *Engl-ner* 206:128 Ji 25 '58
- ACME school of die design engineering
Acme die design school expands. *Il Am Mach* 102:77 Je 30 '58
- ACONITIC acid
Oxidation of gallic acid and gallic acid esters to aconitic acid. E. A. H. Roberts and G. R. Russell. *bibliog Chem & Ind* p 1598-9 D 7 '57
- ACONITUM
Conversion of atidine to dihydroatisine and dihydroaconine. S. W. Pelletier. *bibliog Chem & Ind* p 1670-1 D 28 '57
- ACOUSTIC laboratories. See Sound laboratories
- ACOUSTIC patents
Improvements in and relating to sound-transmission, sound-recording and sound-reproducing systems; British patent specification 394,325. A. D. Blumlein. *diags Audio Eng Soc J* 6:91-8+ Ap '58
- ACOUSTICS. See Sound
- ACOUSTICS, Architectural
Acoustic considerations in the film board studios. R. W. Curtis. *Il plan SMPTE J* 66: 731-4 D '57
- Planning for noise control in church buildings. R. N. Lane. *plan diags Noise Control* 4:60-1+ Ja '58
- Room shapes and materials determine church acoustics. R. N. Lane. *plans diags Arch Rec* 122:190-2 D '57
- See also
Sound absorbent materials
- ACRIDINE
Polyphosphoric acid as a reagent in organic chemistry; cyclization to diamino-acridines. H. R. Snyder and M. S. Konecky. *bibliog Am Chem Soc J* 80:4388-90 Ar 20 '58
- ACRIDIZINIUM compounds. See Quinolizinium compounds
- ACROLEIN
Derivatives of acrolein and peracetic acid. H. J. Sanders and others. *bibliog flow sheets Il Ind & Eng Chem* 50:854-60 Je '58

ACRYLAMIDE

Acrylamide; its preparation and properties. E. L. Carpenter and H. S. Davis, bibliog (33 ref) J Ap Chem 7:671-6 D '57
 New polyacrylamide-type flocculant for improved filler retention. J. F. Reynolds and R. F. Ryan, il Tappi 40:918-20 N '57
 Studies of graft copolymers; methyl methacrylate and acrylamide on polybutadiene: evaluation as elastomeric materials. N. Nikolov and L. A. McLeod, bibliog Rubber Age 83:987-92 S '58

ACRYLATES

Acrylonitrile-acrylate copolymers for wire insulation. J. Rosenberg and H. L. Greenberg, bibliog Mod Plastics 35:173-4+ D '57
 Alkaline hydrolysis of polyacrylates. W. Cooper, Chem & Ind p263-4 Mr 1 '58
 Celanese introduces new petrochem process. il Oil & Gas J 55:71 N 25 '57
 Copolymerizability of ethyl alpha-acetoxyacrylate. C. C. Unruh and T. M. Laakso, bibliog Ind & Eng Chem 50:1124 Ag '58
 Cross linking of butadiene-acrylate polymers by alkaline earth hydroxides. W. Cooper and T. B. Bird, bibliog Ind & Eng Chem 50:771-6 My '58
 Crystalline poly-(*t*-butyl acrylate). M. L. Miller and C. E. Rauhut, Am Chem Soc J 80:4115-16 Ag 5 '58
 Preparation, homopolymerization, and copolymerization of alpha-acetoxyacrylic esters. T. M. Laakso and C. C. Unruh, bibliog Ind & Eng Chem 50:1119-23 Ag '58
 Stretched acrylic, a transparent glazing material for high-speed aircraft. J. G. Stansbury, bibliog il Aeronautical Eng R 17:42-6+ Ja '58
 Vulcanizable saturated acrylate elastomers. F. Leonard and others, bibliog diags Ind & Eng Chem 50:1053-8 JI '58; Correction. 50:1580 O '58
See also
 Plastics, Transparent

ACRYLIC acid

Some reactivity ratios of esters of acrylic acid. C. S. Marvel and R. Schwen, bibliog Am Chem Soc J 79:6003-5 N 20 '57

ACRYLIC fibers. See Dynel; Orlon**ACRYLIC plastics.** See Plastics, Transparent**ACRYLONITRILE**

Acrylonitrile-acrylate copolymers for wire insulation. J. Rosenberg and H. L. Greenberg, bibliog Mod Plastics 35:173-4+ D '57
 Behavior of kojic acid toward acrylonitrile, halo acids and hydrogen cyanide. C. D. Hurd and S. Trofimenko, Am Chem Soc J 80:2526-7 My 20 '58
 Developments in polyurethanes, unsaturated polyesters, polyvinyl chloride, and acrylonitrile copolymer blends, 1957. W. Cummings and R. L. Knapp, Plastics Tech 4: 241-4 bibliog(p243-4) Mr '58
 Improvements in the direct synthesis process for acrylonitrile. P. W. Sherwood, bibliog Ind Chem 34:361-4 JI '58
 Vapor phase method for preparation of polyacrylonitrile coated cotton yarn and physical properties of the product. C. H. Haydel and others, bibliog il diag Textile Res J 27:975-82 D '57

Manufacture

Acrylonitrile, flow diag Pet Refiner 36:209 N '57

ACTIONONE. See Glutarimide**ACTION photography.** See Photography of moving objects**ACTIVATED carbon.** See Carbon, Activated**ACTIVATED charcoal.** See Carbon, Activated**ACTIVATED sludge method.** See Sewage disposal-Activated sludge method; Trade waste disposal-Activated sludge method**ACTIVATION**

Activation analysis with an antimony-beryllium neutron source. A. K. De and W. W. Meinke, bibliog il diag Anal Chem 30:1474-82 S '58

Carbon-14 kinetic isotope effects; the effect of activation energy on some carbon-14 kinetic isotope effects. G. J. Bulst and M. L. Bender, bibliog Am Chem Soc J 80:4308-11 Ag 20 '58

Relative activation energies of removal of primary, secondary and tertiary hydrogen atoms by methyl radicals. F. O. Rice and T. A. Vanderslice, bibliog Am Chem Soc J 80:291-3 Ja 20 '58

ACTIVITY coefficients

Activity coefficients of alkali metal nitrates and perchlorates in dilute aqueous solutions at 25° from diffusion coefficients. H. S. Harned and J. A. Shropshire, Am Chem Soc J 80:2967-8 Je 20 '58

Activity coefficients of strong electrolytes; the halide salts. R. M. Diamond, bibliog Am Chem Soc J 80:4808-12 S 20 '58

Anion-exchange studies; activity coefficients of some electrolytes in the resin phase. F. Nelson and K. A. Kraus, bibliog Am Chem Soc J 80:4154-61 Ag 20 '58

Diffusion and activity coefficient of sodium nitrate in dilute aqueous solutions at 25°. H. S. Harned and J. A. Shropshire, Am Chem Soc J 80:2618-19 Je 5 '58

ACTOMYOSIN

Effects of dehydration on actomyosin in fish and beef muscle. S. M. V. Hunt and N. A. Matheson, bibliog il Food Tech 12:410-16 Ag '58

ACYL compounds

Concerted displacement reactions; the reaction of catechol with acyl halides. J. W. Churchill and others, bibliog Am Chem Soc J 80:1944-6 Ap 20 '58

Production and applications of acyl anhydrides. G. Machell, bibliog il Ind Chem 34: 550-4 O '58

Reaction of acyl peroxides with phenols. C. Walling and R. B. Hodgdon, jr, bibliog Am Chem Soc J 80:228-33 Ja 5 '58

ACYL group

Reaction of hydroxylamine with activated acyl groups. W. F. Jencks, bibliog Am Chem Soc J 80:4581-3 S 5 '58

Synthesis and stability of acyl radicals; some reactions of diacyl dimides. R. Cramer, bibliog Am Chem Soc J 79:6215-19 D 5 '57

ACYL halides. See Halides**ACYLALS**

Preparation and reactions of acylals of disubstituted malonic acids. P. J. Scheuer and S. G. Cohen, bibliog Am Chem Soc J 80:4933-8 S 20 '58

ACYLATION

Acylation of amides. D. Davidson and H. Skovronek, bibliog Am Chem Soc J 80:3776-9 Ja 20 '58

Acylation of salts of secondary nitroparaffins. E. H. White and W. J. Considine, bibliog Am Chem Soc J 80:626-30 F 5 '58

Chemical engineering unit processes; Friedel-Crafts acylations. K. L. Nelson, Ind & Eng Chem 50:1414-25 bibliog(p 1423-5) pt 2 S '58

ACYLOINS

Formation of five- and six-membered rings by the acyloin condensation; cyclization of the cholesterol α ring via a 2,3-secoester. J. C. Sheehan and W. F. Erman, bibliog Am Chem Soc J 79:6050-5 N 20 '57

ADAMS, Comfort Avery

Obituary, por Welding J 37:378-9 Ap '58

Resolution, por Welding J 37:711 JI '58

ADAMS, William Clyde

Memorial. R. A. Brant, por Am Assn Pet Geologists Bul 42:221-2 Ja '58

ADDITION compounds

Addition compounds of metal halides with POX₃ compounds. J. C. Sheldon and S. Y. Tyree, bibliog Am Chem Soc J 80:4776-8 S 20 '58

Addition of silicon hydrides to olefinic double bonds; the addition to non-terminal olefins in the presence of chloroplatinic acid. J. C. Saam and J. L. Speier, Am Chem Soc J 80: 4104-6 Ag 5 '58

Addition of silylmetallic compounds to the azo and azomethine linkage. D. Wittenberg and others, bibliog Am Chem Soc J 80:4532-4 S 5 '58

Addition reaction of phosphorus trifluoride with chlorine. J. N. Wilson, Am Chem Soc J 80:1333 Mr 20 '58

Cyanocarbon chemistry; addition reactions of tetracyanoethylene. W. J. Middleton and others, bibliog Am Chem Soc J 80:2783-8 Je 5 '58

Ethylene oxide addition to long-chain alcohols. H. F. Drew and J. R. Schaeffer, bibliog Ind & Eng Chem 50:1253-4 S '58

Free radical addition reactions involving possible rearrangement. J. Weinstock and S. N. Lewis, bibliog Am Chem Soc J 79:6243-7 D 5 '57

Mechanism of addition reactions of olefins: criteria for mechanism in mixed aqueous solvents. H. Kwart and L. B. Weisfeld, bibliog Am Chem Soc J 80:4670-6 S 5 '58

ADDITION compounds—Continued

- Meerwein reactions on isolated olefinic bonds; free radical addition reactions on vinylsilanes, R. A. Benkeser and others, *bibliog* *Am Chem Soc J* 79:6253-6 D 5 '57
- Neighboring groups in addition; the benzamido group in 3-benzamidocyclohexene; stereospecific synthesis of trisubstituted cyclohexane derivatives, L. Goodman and others, *bibliog* *Am Chem Soc J* 80:4312-17 Ag 20 '58
- Proton resonance spectra and structures of mercury(II)-olefin addition compounds, F. A. Cotton and J. R. Leto, *bibliog* *Am Chem Soc J* 80:4823-6 S 20 '58
- Some addition compounds of bis-salicylaldehyde-ethylenedimine-copper, T. Tanaka, *bibliog* *Am Chem Soc J* 80:4108-10 Ag 5 '58
- Stereochemistry of conjugate additions; a study of the addition of amines to (2-nitropropenyl)-benzene, P. L. Southwick and J. E. Anderson, *bibliog* *Am Chem Soc J* 79:6222-9 D 5 '57
- Stereochemistry of the addition of silicochloroform to acetylenes, R. A. Benkeser and R. A. Hickner, *bibliog* *Am Chem Soc J* 80:5298-300 O 5 '58

Spectra

- Infrared absorption by the C≡N bond in addition compounds of nitriles with some inorganic halides, H. J. Coerver and C. Curran, *bibliog* *Am Chem Soc J* 80:3522-3 JI 20 '58

ADENINE

- Adenine-metal complexes, T. R. Harkins and H. Freiser, *bibliog* *Am Chem Soc J* 80:1132-5 M 5 '58
- Incorporation of the C⁴ of adenine into a pteridine derivative by eremethium, ashbyl, W. S. McNutt and H. S. Forrest, *bibliog* *Am Chem Soc J* 80:351-2 F 20 '58
- Purine N-oxides; the structure of adenine N-oxide, M. A. Stevens and G. B. Brown, *Am Chem Soc J* 80:2759-62 Je 5 '58
- Synthesis of 9-c-D-ribofuranosyladenine, R. S. Wright and others, *bibliog* *Am Chem Soc J* 80:2004-6 Ap 20 '58

ADENOSINE

- New adenosine dinucleotide isolated from muscle extracts, W. H. Mosley and R. Caputto, *Am Chem Soc J* 80:4746-7 S 5 '58
- Synthesis of adenosine-5' and uridine-5' phosphoramidates, R. W. Chambers and J. G. Moffatt, *bibliog* *Am Chem Soc J* 80:3752-6 JI 20 '58

ADENOSINE phosphates**Spectra**

- Infrared studies on complexes of Mg⁺⁺ with adenosine phosphates, A. Epp and others, *Am Chem Soc J* 80:724-7 F 5 '58

ADENYLIC acid

- Enzymatic synthesis and reactions of tryptophan-adenylic acid anhydride, M. Karasek and others, *Am Chem Soc J* 80:2335-6 My 5 '58
- Incorporation of the amino acid moieties of amino acid-adenylic acid anhydrides into proteins, P. Castelfranco and others, *bibliog* *Am Chem Soc J* 80:2335 My 5 '58
- Infrared spectra and tautomeric structure in D₂O solution of polyadenylic and polyuridylic acids, H. T. Miles, *bibliog* *Chem & Ind* p591-3 My 17 '58

ADHERENCE of enamel. See Enamel and enameling—Adherence**ADHESION**

- Adhesion of polyester resin to treated glass surfaces, N. M. Trivisonno and others, *bibliog* *il diag Ind & Eng Chem* 50:912-17 Je '58
- Adhesion of solids; principles and applications; abstract, O. L. Anderson, *diags Machine Design* 30:148 F 6 '58
- Advancing adhesion, development and test of a chemical formulation to condition the running surface of rail for improved wheel-to-rail adhesion, F. G. Fisher and others, *il A S M E Trans* 80:1037-49; Discussion, 1049-52; Reply, 1052-3 JI '58
- Cleaning and preparation of metals prior to electroplating; effect of oxide films; effect of oxides on the adhesion of electroplates, H. B. Linford and A. Venkateswarlu, *il diag Plating* 45:728-33 JI '58
- Is adhesion the missing link? B. G. Brand, *Ind Lab* 9:10-11 Ja '58
- Rubber-to-metal adhesion; symposium, *Rubber Age* 82:478-86, 672-7 D '57; Ja '58; Abstract, *Rubber World* 137:416-17 D '57

- Southern rubber group panel on adhesion, *Rubber World* 137:718-24, 883-4+ F-Mr '58
- Tacky adhesion, H. Strasburger, *bibliog* *diags J Colloid Sci* 13:218-31 Je '58
- Test method for adhesion of paraffin wax to milk carton stock, R. H. Salvesen and M. K. Eosefow, *il Tappi* 41:sup 17A-7A Mr '58
- Wetting angle determinations; a tool for evaluation of coating adhesion, S. Orchon, *bibliog* *il diag Tappi* 41:53-7 Ja '58

Testing

- Adhesion of high polymers; a method for determination of the mutual adhesion of high polymers, A. I. Shapovalova and others, *bibliog* *diags Rubber Chem & Tech* 31:89-97 Ja '58
- Determination of the adhesion of vulcanized natural or synthetic rubbers to textile fabrics, *Rubber Chem & Tech* 31:sup1-3 Ja '58
- Molecular structure as a basis for adhesion; ultracentrifugal measurement of the adhesion of epoxy polymer, H. Alter and W. Soler, *bibliog* *diags Ind & Eng Chem* 50:922-7 Je '58

ADHESIVE tape

- Clear packaging tape is easy to apply; Scotch brand Pack no. 881, *il Materials in Design Eng* 47:154+ My '58
- Heat resistant tape impregnants, W. C. Collins, *il Tappi* 41:sup 229A-32A Je '58
- How the mills are using pressure-sensitive tapes to save time and money, M. D. Schantzen, *il Textile Ind* 122:115-17 Mr '58
- Molded styrene dispensers for cellophane tape, *il Mod Plastics* 35:166-7 Ag '58
- Silicone rubber tape holds well at 450 F, *il Materials in Design Eng* 46:176+ D '57
- Tape labels cut inventory costs; Mogen David wine corp., *il Food Eng* 30:81 Mr '58
- Tape markers speed marking system, *il Elec World* 149:56 Je 30 '58

ADHESIVE tape, Plastic

- Adhesive plastic tape has high strength, *il Iron Age* 180:162-3 N 7 '57
- Development of metal-bonding adhesive with improved heat resistance; abstract, J. M. Black and R. F. Blomquist, *Machine Design* 29:13-14 O 31 '57
- Plastic tape pays off for A-L on large-diameter pipe laying, N. E. Miley, *Gas Age* 120:48-51 N 14 '67

ADHESIVES

- Adhesive-bond future challenged by 1000 F uses, K. Buchele, *S A E J* 66:46-7 Mr '58
- Adhesive bonding of magnesium, incorporating a corrosion resistant hot alkaline chromate treatment as the surface preparation, R. J. E. Hunter, *il Metal Prog* 73:130+ My '58
- Adhesive bonding of the newer plastics, M. J. Bodnar and W. J. Powers, *Plastics Tech* 4:721-5 Ag '58
- Adhesive films make strong honeycomb panels, *diag Mod Metals* 14:36 F '58
- Adhesive for metals; abstract, A. E. Williams, *Metal Prog* 74:154+ Ag '58
- Adhesive joins cured silicone rubber parts, *il Materials in Design Eng* 47:174+ Mr '58
- Adhesive markets multiply, *il Steel* 141:122-3 O 28 '57
- Adhesive-mounted medallions, *il diag Mod Plastics* 35:158 JI '58
- Adhesives aim for new uses, *il Iron Age* 181:130 Ap 10 '58
- Adhesives applications in the shoe, flooring, and automotive industries, L. L. Blyler, *Rubber World* 137:883-4+ Mr '58
- Adhesives for transparent plastic films, M. E. Stern, *Plastics World* 16:4 Ag '58
- Bonding has major role in construction of the F-27, D. A. Partridge, *il diags Automotive Ind* 119:55-6+ JI '58
- Bonding plastic to rubber and metals, *il Mech Eng* 79:1050-1 N '57
- Butyl latex tire-cord adhesives, A. L. Miller and S. B. Robison, *il Rubber World* 137:397-403+ D '57
- Compositive adhesive films used in honeycomb sandwich construction, *Mach* 64:147-8 Ap '58
- Development of a modified silicate adhesive for corrugator use, J. L. Foster and others, *bibliog* *Tappi* 41:sup 143A-6A Ja '58
- Don't abuse adhesives, F. J. Wehmer, *il S A E J* 66:46-7 Je '58
- Engineering with adhesives; panel discussion, *Eng N* 159:24 D 12 '57
- Functional coatings and adhesives, L. J. Wood, jr, *il Paper Ind* 39:853-5 Ja '58
- Goodrich develops rubber-like adhesives, *Chem & Eng N* 36:72-8 '58

ADHESIVES—Continued

- How to calculate stresses in adhesive joints. H. A. Perry. *diags Product Eng* 29:64-7 J1 7 '58
- Inventory of new chemicals and materials; bonding agents. *Chem Eng* 64:172 Mid-N '57
- Joining and fastening of materials. *diags Materials in Design Eng* 48:386-8 Mid-O '58
- Joining and fastening plastics. M. W. Riley. *diags Materials in Design Eng* 47:134-8 Ja '58
- Latex tire-cord adhesives. E. L. Borg. *Rubber World* 137:723-4 F '58
- Liquid adhesive bonds steel. *il Iron Age* 180: 136 N 7 '57
- Metalworking, 1962. T. E. Piper. *diag Am Mach* 101:145 N 13 '57
- Modern silicate adhesive developments. R. L. Kreyling. *Tappi J* 41:6A-9A Ja '58
- New adhesive appears. Maraset 532. *Chem & Eng N* 36:53 Ag 25 '58
- Nonmetallic bonding of tubing. F. Crotser. *il Refrig Eng* 66:48-9 Mr '58
- Production man's guide to adhesive bonding methods. J. P. Wright. *il Am Mach* 102:85-92 Je 30 '58 (reprints 25c)
- Research on elevated temperature resistant ceramic structural adhesives; abstract. H. G. Lefort and others. *Machine Design* 29: 114 O 31 '57
- Research on elevated temperature resistant inorganic polymer structural adhesives; abstract. *Machine Design* 29:114-15 O 31 '57
- Research probes adhesion; molecular models offer way to pick out best adhesive for a given job. D. Taylor, Jr. and J. Rutzler, Jr. *il Chem & Eng N* 36:43 Je 2 '58
- Rubber adhesion with emphasis on rosin and derivatives in pressure-sensitive adhesives. F. H. Wetzel. *il Rubber World* 137:718-23 F '58; Same cond. *bibliog Rubber Age* 82: 291-6 N '57
- Rubber-like adhesive joins polyethylene to rubber, brass. *il Materials in Design Eng* 46:177 N '57
- Selection guide for sandwich panel adhesives. R. K. Humke. *il Product Eng* 29:56-60 My 26 '58
- Theory of peeling through a Hookean solid. J. J. Bikerman. *bibliog J Ap Phys* 28:1484-5 D '57
- Three adhesive types meet auto requirements; abstract. C. J. Rawson. *S A E J* 66:100 Je '58
- Three new adhesives for bonding plastics. *il Materials in Design Eng* 48:142+ J1 '58
- Which adhesive for what? R. W. James and R. W. Gormly. *il diags Product Eng* 29:79-81 Mr 17 '58
- See also
Cements
Resinous products—Adhesives
- Manufacture**
- Manufacture of adhesives and latex; Dunlop rubber co. *il Ind Chem* 34:433-4 Ag '58
- Testing**
- Effect of loading rate on adhesive strength. F. Moser and S. S. Kneell. *A S T M Bul* p60-3 Ja '58
- Improved impact epoxy adhesives. S. S. Stivala and W. J. Powers. *diag Ind & Eng Chem* 50:935-8 Je '58
- ADIPIC acid**
Adipic acid by ozonolysis of cyclohexene. P. S. Bailey. *bibliog il Ind & Eng Chem* 50:993-6 J1 '58
- ADJUSTMENT, Social**
See also
Maladjustment
- ADLER electronics, inc.**
Adler marks tenth year. *Electronics* 31:53 Ap 4 '58
- ADMINISTRATION, Public**
See also
Water departments
- ADOBE**
Adobe shields congenial house. *il plans diags Arch Rec* 123:110-15 Mid-My '58
- ADOLESCENCE.** See Youth
- ADRENALIN**
Analysis
Fluorometric determination of adrenalin and noradrenalin in aqueous solution. S. Roston. *Anal Chem* 30:1363-6 Ag '58
- ADRENOSTERONE.** See Androstentriene
- ADSORBENTS**
Adsorbent material with locked in chemicals; molecular sieves. *il Plastics World* 16:8 J1 '58

- Caged accelerators; chemical-loaded molecular sieves inactivate curing agents during processing, storage, aging. *il Chem & Eng N* 36: 62-7 My 26 '58
- Catalyst caged. *Chem & Eng N* 36:46 Mr 10 '58
- Chemical-loaded molecular sieves as curing aids. *Rubber World* 138:424-6 Je '58
- Chemical-loaded molecular sieves in rubber compounding. *il Rubber Age* 83:482-7 Je '58
- Chromatography of esters on florisl; detection as ferric hydroxamates. F. B. O'Neal and J. Carlton. *Anal Chem* 30:1051-3 Je '58
- Fractionation of certain aromatic hydrocarbons with molecular sieve adsorbents. B. J. Mair and M. Shamaingar. *bibliog diags Anal Chem* 30:276-8 F '58
- Gas-treating tool pays off; molecular sieves. E. L. Clark. *diag Oil & Gas J* 56:83 Mr 17 '58
- Granular processes; adsorption. L. Lapidus. *il diags Chem Eng Prog* 53:517-19 N '57
- Molecular sieves cage catalysts. *Chem Eng Prog* 54:171 My '58
- Molecular sieves enable scientists to cage volatile liquid catalyst. *Ind Lab* 9:96 My '58
- Molecular sieves find use in vulcanization. *il Rubber Age* 83:124 Ap '58
- Molecular sieves; these versatile zeolites are now chemical loaded. flow sheet *il Can Chem Process* 42:55-8+ J1 '58
- Molecules switch from sieving to containing; carriers of catalytic materials. *il Chem Eng* 65:72 Ap 7 '58
- Reaction of chlorodifluoromethane with Linde molecular sieve 5A. P. Cannon. *Am Chem Soc J* 80:1766-7 Ap 5 '58
- Rubber, plastics parts cured faster with aids called chemical-loaded molecular sieves. *il Materials in Design Eng* 48:136+ S '58
- Separation of molecular mixtures using crystal sieves; abstract and discussion. R. M. Barrer. *Chem & Ind* p252 Mr 1 '58; Same. *Manuf Chem* 29:102+ Mr '58
- Sharp, selective adsorption pays off; molecular sieves make big splash in material separation. *il diags Chem Eng* 65:66+ O 20 '58
- Use of molecular sieves to maintain clean surfaces on liquid sodium and liquid bismuth. C. C. Addison and others. *Chem & Ind* p96 Ja 25 '58

Bibliography

- Adsorbent clays, earths, and catalysts. W. L. Nelson. *Oil & Gas J* 56:109 J1 21 '58
- ADSORPTION**
Activated charcoal for air purification. H. L. Barnebey. *il diag Heating-Piping* 30:153-60 Mr '58
- Adsorption and retention of an organic material by montmorillonite in the presence of water. G. W. Brindley and M. Rustom. *bibliog Am Mineralogist* 43:627-40 J1 '58
- Adsorption at inorganic surfaces; adsorption of dyes and related compounds by silica. M. M. Allingham and others. *bibliog (32 ref) J Ap Chem* 8:108-16 F '58
- Adsorption at inorganic surfaces; the mechanism of adsorption of organic solutes, including dyes, by graphite. J. W. Galbraith and others. *bibliog J Ap Chem* 8:416-24 J1 '58
- Adsorption at organic surfaces. C. H. Giles and others. *bibliog Soc Dyers & Col J* 74: 647-54, 652-3 S-O '58
- Adsorption isotherms from double layer capacity measurements. H. A. Laitinen and B. Mosier. *bibliog Am Chem Soc J* 80:2363-6 My 20 '58
- Adsorption kinetics and electrode processes. P. Delahay and I. Trachtenberg. *bibliog Am Chem Soc J* 80:2094-100 My 5 '58
- Adsorption kinetics with diffusion control; the plane and the expanding sphere. P. Delahay and C. T. Fike. *Am Chem Soc J* 80:2628-30 Je '58
- Adsorption of activated gases by electron bombardment. D. G. Bills and N. P. Carleton. *bibliog J Ap Phys* 29:692-7 Ap '58
- Adsorption of aldehydes and ketones on anion exchangers in cyanide form. G. Gabrielson. *bibliog J Ap Chem* 7:533-5 O '57
- Adsorption of oxygen and carbon monoxide on tungsten. R. E. Schlier. *diag J Ap Phys* 29:1162-7 Ak '58
- Apparatus for the direct measurement of adsorption on solid surfaces from liquids. J. A. Kafalas and H. C. Gatos. *il diags R Sci Instr* 29:47-50 Ja '58
- Chemisorption of oxygen on activated charcoal and sorption of acids and bases. B. R. Puri and others. *bibliog Ind & Eng Chem* 50:1071-4 J1 '58

ADSORPTION—Continued

- Correlation of contact angles, adsorption density, zeta potentials and flotation rate. D. W. Fuerstenau, *bibliog Min Eng* 9:Trans 1365-7 D '57
- Determination of surface area: adsorption measurements by a continuous flow method. F. M. Nelsen and F. T. Eggertsen, *diag Anal Chem* 30:1387-90 Apr '58
- Effect of adsorption in barrier separation. K. Kammermeyer and D. D. Wyrick, *bibliog Ind & Eng Chem* 50:1309-10 S '58
- Enhanced surface reactions. M. J. D. Low and others, *bibliog Electrochem Soc J* 104:439-42; 105:103-5 J1 '57, F '58
- Mechanism of chemisorption: hydrogen on nickel at elevated pressures. L. Vaska and P. W. Selwood, *diags Am Chem Soc J* 80:1331-5 Mr 20 '58
- Mechanism of chemisorption: nitrogen on nickel. P. W. Selwood, *bibliog Am Chem Soc J* 80:4198-201 Apr 20 '58
- Physical adsorption: adsorbed monolayers of argon and nitrogen on boron nitride and on a graded series of partially graphitized carbon blacks. S. Ross and W. W. Pultz, *bibliog J Colloid Sci* 13:397-406 Apr '58
- Precise evaluation of surface area with indirectly calculated dead space. W. V. Loebenstein, *J Res Nat Bur Stand* 60:105-3 F '58
- Separation of orthohydrogen from parahydrogen and of paradeuterium from orthodeuterium by preferential adsorption. C. M. Cunningham and others, *bibliog diag Am Chem Soc J* 80:2382-4 My 20 '58
- Some factors affecting the surface area of hydrated Portland cement as determined by water-vapor and nitrogen adsorption. L. A. Tomes and others, *bibliog (37 ref) diags J Res Nat Bur Stand* 59:357-64 D '57
- Sorption processes. G. P. Monet and others, *bibliog flow diag il diags Chem Eng Prog* 53:513-19, 601-12 N-D '57
- Studies on the sorption of moisture by polymers; the cellulose-cellulose acetate system. D. K. Beever and L. Valentine, *J Ap Chem* 83:103-7 F '58
- Unit operations in chemical engineering. B. L. Harris, *Ind Eng Chem* 50:424-7 *bibliog (p426-7) pt 2 Mr '58*
- Using contact resistance to measure adsorption of gases on metals. P. Kisiuk, *bibliog diags Bell System Tech J* 37:925-49 J1 '58
- Work function and sorption properties of silicon crystals. J. A. Dillon, Jr. and H. E. Farnsworth, *bibliog il diags J Ap Phys* 29:1195-202 Apr '58
- See also*
- Absorption
- Absorbents
- Chromatographic analysis
- Desorption

ADSORPTION apparatus**Design**

- How to design static adsorption beds. W. A. Johnston and C. D. Laughlin, *Pet Refiner* 37:131-4 F '58
- ADVANCED research projects agency. *See* United States—Defense Department of—Advanced research projects agency

ADVERTISEMENTS**Books and booklets**

- Office brochures. *il Prog Arch* 39:11+ S '58
- Soap association announces its new book on building maintenance and sanitation. *il Soap & Chem Spec* 33:41-2; Discussion. 42-3+ N '57

ADVERTISEMENTS, Pictorial**Photographs**

- Tempting tastes through creative photography: cookie house ad; Photo services General mills, Inc. H. P. Nasvick, *il Ind Phot* 7:40 Je '58

*See also***Photography, Commercial****ADVERTISING**

- Packaging and selling: good advertising. A. Shilling, *Drug & Cosmetic Ind* 82:188 F '58

See also

- Moving pictures in advertising
- Television advertising
- also* subdivision Advertising under special subjects, e.g.
- Architects
- Beer
- Cigarette industry and trade
- Dentifrices

- Electric apparatus industry
- Electric utilities
- Fertilizer industry
- Food, Frozen
- Food industry and trade
- Gas industry
- Infants foods
- Tire industry and trade
- Tires, Automobile

Government investigation

- ADA blasts dentifrice advertising. *Soap & Chem Spec* 34:51-2 Apr '58

Laws and regulations

- FTC issues tire advertising guide. *Rubber Age* 83:682 J1 '58
- FTC tire advertising guides start Aug. 27. *Rubber World* 138:598 J1 '58
- Internal revenue service ruling, a plain device to curtail freedom of speech. C. J. Proud, *Gas Age* 122:14-15+ J1 24 '58
- Toiletries advertising claims: the F.T.C. view. E. W. Kintner, *Soap & Chem Spec* 34:48-50+ Apr '58
- Wisconsin public service commission order misinterpreted and maligned: order governing the manner of accounting for the costs of advertising and other items of expense relating to public ownership of electric power facilities. A. L. Padrutt, *Gas Age* 122:14-16 J1 24 '58

Psychology*See also*

- Advertising, Subliminal
- ADVERTISING, Cooperative
- Co-op advertising. *Drug & Cosmetic Ind* 82:334 Mr '58
- ADVERTISING, Industrial
- Examine the efficiency of industrial advertising. B. Lester, *Mach* 64:153 Je '58
- ADVERTISING, Institutional
- Where does the private enterprise ad belong? A. L. Padrutt; C. J. Proud, *il Gas Age* 122:13-17+ J1 24 '58
- ADVERTISING, Mail
- Direct brand promotion is Gerber's strategy in mail program, *il Food Eng* 30:54 Je '58
- Moving paint by direct mail. R. W. Bogenberger, *il Paint Oil & Chem R* 121:30-2+ S 18 '58
- ADVERTISING, Outdoor
- Pipelining, utilities team up to promote use of gas. *il Gas* 34:131-3 Apr '58
- See also*
- Billboards
- ADVERTISING, Pictorial
- Photographs
- Spectrum of human emotions captured in one photo: advertising montage illustration used by Pfizer laboratories div., Chas. Pfizer & co. D. Conrad, *il Ind Phot* 7:18-19+ Apr '58
- ADVERTISING, Subliminal
- Invisible sell. *Sci Am* 199:52+ Apr '58
- ADVERTISING campaigns
- Special weeks and days
- Electrical week gets set for third go-round, best, yet. *il Elec World* 149:40-1 F 10 '58
- ADVERTISING characters
- New Jersey utility introduces its newest employee, the Gas Genie; oldest stove contest. *il Gas Age* 120:24+ N 14 '57
- ADVERTISING ethics
- Ethics of food advertising. E. Godbold, *Chem & Ind p* 120-1 F 1 '58
- ADVERTISING literature
- Bibliography
- Application and equipment; new literature. Published in monthly numbers of Metal progress
- Books and booklets. Published in monthly numbers of Modern plastics
- Catalogs and literature. Published in monthly numbers of Automation
- Helpful booklets free! Published in monthly numbers of Textile industries
- Inventory of new chemicals and raw materials; technical literature. *Chem Eng* 64:215-21+ Mid-N '57
- Inventory of new equipment and accessories; electrical equipment; technical literature. *Chem Eng* 64:242-4+ Mid-N '57
- Inventory of new equipment and accessories; feeders and mixers; technical literature. *Chem Eng* 64:252-4+ Mid-N '57

ADVERTISING literature—Bibliography—Cont.

- Inventory of new equipment and accessories; filters and dust collectors; technical literature. *Chem Eng* 64:261+ Mid-N '57
- Inventory of new equipment and accessories; heaters and coolers; technical literature. *Chem Eng* 64:274+ Mid-N '57
- Inventory of new equipment and accessories; instruments and controls; technical literature. *Chem Eng* 64:300-13 Mid-N '57
- Inventory of new equipment and accessories; maintenance tools and supplies; technical literature. *Chem Eng* 64:316+ Mid-N '57
- Inventory of new equipment and accessories; materials of construction; technical literature. *Chem Eng* 64:324+ Mid-N '57
- Inventory of new equipment and accessories; mechanical equipment; technical literature. *Chem Eng* 64:343-8 Mid-N '57
- Inventory of new equipment and accessories; packaging and handling equipment; technical literature. *Chem Eng* 64:354+ Mid-N '57
- Inventory of new equipment and accessories; pipe, fittings and valves; technical literature. *Chem Eng* 64:375-6+ Mid-N '57
- Inventory of new equipment and accessories; process equipment; technical literature. *Chem Eng* 64:408+ Mid-N '57
- Inventory of new equipment and accessories; pumps, blowers and compressors; technical literature. *Chem Eng* 64:456+ Mid-N '57
- Inventory of new equipment and accessories; safety equipment; technical literature. *Chem Eng* 64:475 Mid-N '57
- Inventory of new plants and facilities; technical literature. *Chem Eng* 64:162+, Mid-N '57
- Just off the press. Published in monthly numbers of Food engineering
- Manufacturers' literature. Published in monthly numbers of Analytical chemistry
- Manufacturers' literature. Published in monthly numbers of Progressive architecture
- Manufacturers' publications. Published in monthly numbers of Industrial chemist and chemical manufacturer
- New catalogs and bulletins. Published in monthly numbers of Modern materials handling
- New literature. Published in monthly numbers of Industrial laboratories
- New literature for ideas to improve your methods. Published in monthly numbers of Mill and factory
- Technical literature. Published in bi-weekly numbers of Chemical engineering
- Technical literature. Published in monthly numbers of Radio-electronics
- Technical literature, suppliers' literature, books, reports. Published in monthly numbers of Materials in design engineering
- Useful literature. Published in monthly numbers of Applied hydraulics

AERATION

- Aeration of natural rubber latex. B. C. Sekhar. bibliog *Rubber Chem & Tech* 31:425-35 J1 '58
- Aeration permits water work at -30 F. *Il Eng N* 160:52 Ap 3 '58
- Corrosion of zinc by differential aeration. G. Bianchi. *Il diags Corrosion* 14:55-8 My '58
- Improved method for measuring aeration in flotation cells. J. E. Gayle. *diag Min Eng* 10:4-Trans 706 J1 '58
- Studies on fermentation aeration. R. E. Carpani and J. M. Roxburgh. bibliog (28 ref) *Can J Chem Eng* 36:73-7 Ap '58

See also

- Sewage disposal—Aeration
- Trade waste disposal—Aeration
- Water—Aeration
- AERIAL cables.** See Electric lines—Overhead construction
- AERIAL mapping.** See Mapping, Aerial
- AERIAL photography.** See Photography, Aerial
- AERIAL surveying.** See Surveying, Aerial
- AERIAL warfare.** See Aeronautics, Military
- AERIALS.** See Radio antennas
- AEROBACTER**
- Inhibition of guanosine diphosphate fucose from aerobacter aerogenes. V. Chabburg and H. N. Kirkman. bibliog *Ami Chem Soc J* 80:3481 J1 5 '58
- AERODYNAMIC laboratories**
- See also
- Wind tunnels

AERODYNAMICS

- Aerodynamic advances since 1946. T. von Kármán. *Engineering* 136:413-14 S 26 '58
- Aerodynamic drag; analysis of the factors that affect passenger car design. R. M. Orkiewicz. *diags Automobile Eng* 48:397-9 O '58
- Aerodynamic drag of perforated plates at zero incidence. P. Minton and J. R. D. Francis. *diag Roy Aeronautical Soc J* 62:301-3 Ap '58
- Aerodynamics in space travel. F. W. Ross. *diags Am Soc Naval Eng J* 70:439-42 Ag '58
- Aerodynamics of nonuniform flows as related to an airfoil extending through a circular jet. S. Rethorst. bibliog *diags J Aeronautical Sci* 25:11-28 Ja '58
- Aerodynamics of the airplane, by I. V. Ostoslavski; review. *Aeronautical Eng R* 17:17 F '58
- Compressibility rule for drag of airfoil noses. R. T. Jones and M. D. Van Dyke. bibliog *diags J Aeronautical Sci* 25:171-2+ Mr '58
- Effect of air drag on elliptic satellite orbits. R. E. Roberson. *diag Jet Propulsion* 28:90-6 F '58
- Effect of quasi-steady air forces on incompressible bending-torsion flutter. J. Dugundji. *J Aeronautical Sci* 25:119-21 F '58
- Engine-airframe integration. L. F. Nicholson. *diags Roy Aeronautical Soc J* 61:711-20 Discussion. 720-6 N '57
- Establishment of lift on an aerofoil with a jet flap. R. Hirsch. *diags Aircraft Eng* 30:11-19 Ja '58
- Estimation of turbulent heat transfer* at the sonic point of a blunt-nosed body. M. Sibulkin. bibliog *diag Jet Propulsion* 28:548-54 Ag '58
- Experimental investigation of the aerodynamics of a wing in a slipstream. M. E. Brenckmann. bibliog *il diags J Aeronautical Sci* 25:324-8 My '58
- Flight trajectories in the neighborhood of a known trajectory. R. M. Rosenberg. *diag Franklin Inst J* 266:109-28 Ag '58
- Flow visualization; two-dimensional smoke tunnel teaching aid for aerodynamics. A. M. Lippisch. *il diags Aeronautical Eng R* 17:24-32+ F '58
- Fluid dynamics; annual review. A. K. Oppenheim and others. *il Ind & Eng Chem* 50:525-42 bibliog (p539-42) pt 2 Mr '58
- How to design radome structures for high speed aircraft and missiles. R. M. Kubow and M. J. Linardos. *diags Aviation Age* 28:24-9 F '58
- Jet drag of wings with jet flaps. P. R. Payne. *diags Aircraft Eng* 30:73-81 Mr '58
- Lanchester's contributions to the theory of flight and operational research. T. von Kármán. *il diags Roy Aeronautical Soc J* 62:8-91; Discussion. 93-3 F '58
- Losses in flow normal to plane screens. W. G. Cornell. bibliog *diag A S M E Trans* 80:791-7; Discussion. 797-9 My '58
- Mach number at the diffuser throat of an ejector according to the hydraulic analogy. S. Matsunaga. *diags J Aeronautical Sci* 24:918-19 D '57
- Numerical solution of characteristic equations in flutter analysis. J. N. Franklin. *Assn for Computing Mach J* 5:45-51 Ja '58
- Optimum rocket trajectories with aerodynamic drag. A. E. Bryson, Jr. and S. E. Ross. bibliog *Jet Propulsion* 28:465-9 J1 '58
- Philosophy of air-data measurement. N. Y. Andersen and L. Edgar. bibliog *il diags Aeronautical Eng R* 17:56-60 Mr '58
- Reiner-Taylor-Saffman dilemma. M. Z. v. Krzywoblocki. *J Aeronautical Sci* 24:915-16 D '57
- Some recent advances in the mechanics of terrestrial flight. A. Miele. bibliog *Jet Propulsion* 28:581-7 S '58
- Stall propagation in a cascade of airfoils. A. H. Stenning and A. R. Kriebel. bibliog *il diags A S M E Trans* 80:777-89; Discussion. 789-90 My '58
- Test of the uniqueness of solutions for problems of nonsteady flow under given boundary conditions. J. Altenhoff. *diag J Aeronautical Sci* 25:210-12 Mr '58
- Theory of thin airfoils, isolated and in cascade, yielding finite pressures at smooth leading edges. R. A. Fanti and others. bibliog *diags J Aero/Space Sci* 25:409-24 J1 '58
- Three-dimensional theory of axial compressor blade rows: application in subsonic and supersonic flows. J. E. McCune. bibliog *diags J Aero/Space Sci* 25:544-60 S '58
- Trajectory programming for maximum range. G. Leitmann. *Franklin Inst J* 264:443-52 D '57

AERODYNAMICS—Continued

- Transition from laminar to turbulent shear flow; a review of some recent advances in its understanding. M. V. Morkovin, bibliog il diags A S M E Trans 80:1121-8 JI '58
- Transonic flow with a detached bow wave past a wedge between two parallel plane walls. S. Morioka, diags J Aeronautical Sci 24:831-7 N '57
- Ultrahigh-altitude aerodynamics. S. A. Schaaf and others, il diags Sci Am 198:38-42 Ja '58
- Wave drag of exposed rectangular wings. L. M. Sheppard, bibliog diags Roy Aeronautical Soc J 62:306-7 Ap '58
- Wind tunnel for aerodynamic testing of section models of suspension bridges, il diag Pub Roads 30:51-2 Je '58
- See also
- Aeronautical laboratories
- Aeronautics
- Air flow
- Airplane stability and stabilizers
- Airplanes—Design
- Balistics
- Boundary layer
- Shock waves
- Turbulence
- Vortex motion
- Wind tunnels
- Winds
- Hydraulic analogies
- Incompressible potential flow about axially symmetric bodies in ducts. P. Levine, bibliog diags J Aeronautical Sci 25:53-6 Ja '58
- Mach reflections in two-dimensional diffusers from hydraulic analogy experiments. E. V. Laitone and J. E. Stout, il Jet Propulsion 28:257-9 Ap '58
- Use of the hydraulic analogy for inside problems. R. A. A. Bryant, J Aero/Space Sci 25:536 Ar '58
- AERODYNAMICS, Supersonic**
- About supersonic transports. F. R. Banks, S A E J 35:30-1 D '57
- Aerodynamic force coefficients of yawed slender configurations at high Mach numbers. L. Trilling and J. W. Clark, diags J Aeronautical Sci 24:913-15 D '57
- Aeroelastic instability at high Mach number. J. P. Chawla, bibliog diags J Aeronautical Sci 25:246-58 Ap '58
- Approximate method of determining axisymmetric inviscid supersonic flow over a solid body and its wake. S. I. Cheng, bibliog diags J Aeronautical Sci 25:185-93 Mr '58
- Approximate solution for slightly yawed η -power bodies at hypersonic speeds. R. W. Truitt, J Aeronautical Sci 25:206-7 Mr '58
- Asymmetric starting for hypersonic wind tunnels. R. H. Johnson, il diags J Aeronautical Sci 25:341-2 My '58
- Axisymmetric supersonic flow near the nose of a pointed body of revolution. L. E. Napolitano and A. Ferri, bibliog diags J Aeronautical Sci 24:900-4 D '57
- Blunt body separation at supersonic speeds. P. F. Brinich, il J Aeronautical Sci 25:336-7 My '58
- Calculation of axisymmetric isentropic spike surfaces. E. C. Kennedy, J Aero/Space Sci 25:463-4 JI '58
- Calculation of supersonic flow past an axially symmetric cylinder. M. W. Evans and F. H. Harlow, diag J Aeronautical Sci 25:269-70 Ap '58
- Calculations by the method of characteristics. R. D. Linnell, bibliog diags Aeronautical Eng R 17:39-44 Mr '58
- Characteristics of two-dimensional sails in hypersonic flow. W. Daskin and L. Feldman, diag J Aeronautical Sci 25:53-5 Ja '58
- Diffraction of disturbances around a convex right corner with applications in acoustics and wing-body interference. L. Ting, bibliog diags J Aeronautical Sci 24:821-30+ N '57
- Dissociation effects in hypersonic viscous flows. D. J. Zigrang, J Aeronautical Sci 24:916-17 D '57
- Drag due to lift for delta wings at supersonic speeds. S. Lampert, J Aeronautical Sci 24:919-20 D '57
- Drag of a sphere at extremely high speeds. V. C. Liu, diag J Ap Phys 29:194-5 F '58
- Effects of afterbody length and Mach number on the normal force and center of pressure of conical and ogival nose bodies. W. E. Buford, il diags J Aeronautical Sci 25:103-8 F '58
- Efficiency of supersonic nozzles for rockets and some unusual designs. R. P. Fraser and others, bibliog il diags Inst Mech Eng Proc 171 no 16:553-69, pl 1-4; Discussion, 570-6; Reply, 577-80 '57
- Empirical equations for the thrust generated by an ideal supersonic nozzle. F. N. Rowe, Roy Aeronautical Soc J 61:330-1 D '57
- Estimating aerodynamic characteristic times in hypersonic flow. S. M. Scala, J Aeronautical Sci 25:131-2 F '58
- Experimental investigation of the flow over simple two-dimensional and axial symmetric bodies at hypersonic speeds. I. E. Vas and others, bibliog il Jet Propulsion 28:97-104 F '58
- Experimental investigation of the stability of the hypersonic laminar boundary layer. A. Demetriades, bibliog il diag J Aero/Space Sci 25:599-600 S '58
- Experiments on effects of yaw on boundary-layer development in supersonic cone flow. D. G. DeCoursin and W. S. Bradfield, bibliog J Aero/Space Sci 25:562-4 O '58
- Favorable interference in lifting systems in supersonic flow. A. Ferri and others, bibliog diags J Aeronautical Sci 24:791-804 N '57
- Flow of a supersonic jet in a supersonic stream at an angle of attack. F. E. Ehlers and T. Strand, bibliog diags J Aero/Space Sci 25:497-506 Ar '58
- Flutter of a thin membrane in hypersonic flow. P. D. Hains, diags J Aero/Space Sci 25:595-6 S '58
- Foundations of piston theory and supersonic-hypersonic similarity. G. A. Bird, diags J Aeronautical Sci 25:138-9 F '58
- Helium tunnel tests high-speed models, flow chart il Gen Elec E 81:16-17 JI '58
- Helium wind tunnel. G. Suits and R. H. Johnson, Franklin Inst J 266:78-9 JI '58
- High speed flight, rockets and satellites; aerodynamic aspects of high speed flight. L. F. Nicholson, il Engineering 186:279-81 Ar 29 '58
- Hypersonic aerodynamic factors in performance, guidance, and control. W. H. Dorrance, bibliog Aero/Space Eng 17:30-3+ My '58
- Hypersonic flight and the re-entry problem. H. J. Allen, bibliog J Aeronautical Sci 25:217-27; Discussion, 228-9+ Ap '58
- Hypersonic flow around a sphere. R. D. Linnell, J Aeronautical Sci 25:65-6 Ja '58
- Hypersonic gas run tests two ways, diags Product Eng 29:14 Ar 25 '58
- Injection of air into the dissociated hypersonic laminar boundary layer. S. M. Scala, J Aero/Space Sci 25:461-2 JI '58
- Investigation of two-dimensional supersonic base pressures. A. F. Charwat and J. K. Yakura, bibliog il J Aeronautical Sci 25:122-8 F '58
- Inviscid hypersonic flow near the stagnation point of oblate ellipsoidal noses. M. Vinokur, J Aero/Space Sci 25:469-70 JI '58
- Jones' criterion for optimum lifting wings. H. Yoshihara and T. Strand, J Aero/Space Sci 25:600 S '58
- Lateral control at supersonic speeds by means of control surfaces on nacelles or on the fuselage. D. W. Holder and R. C. Lock, diags Roy Aeronautical Soc J 62:446-9 Je '58
- Lift and rolling moment on a slender wing-body combination with a deflected tip control. J. F. Clarke, bibliog diags J Aeronautical Sci 25:203-5 Mr '58
- Lift of slender nose shapes according to Newtonian theory. J. D. Cole, J Aeronautical Sci 25:339 Je '58
- Magnetogasdynamics of hypersonic Couette flow. Z. O. Bleviss, bibliog diags J Aero/Space Sci 25:601-15 O '58
- Manned aircraft for manned satellites. K. E. Van Every, S A E J 66:64-7 JI '58
- Method for providing warning of the onset of buffeting, stalling and other undesirable effects of flow separation. D. W. Holder and H. H. Pearcey, diags Roy Aeronautical Soc J 62:674-6 S '58
- New method for computing drag coefficients from ballistic range data. A. Seiff, J Aeronautical Sci 25:133-4 F '58
- Numerical calculation of detached bow shock waves in hypersonic flow. P. R. Garabedian and H. M. Lieberstein, bibliog diag J Aeronautical Sci 25:109-18 F '58
- Numerical data on blunt bodies. H. M. Lieberstein, J Aero/Space Sci 25:660-1 O '58
- Optimum thin lifting surfaces at supersonic speeds. H. Yoshihara and others, bibliog il diags J Aero/Space Sci 25:473-9+ Ar '58

AERODYNAMICS, Supersonic—Continued

- Plasma physics and hypersonic flight. J. W. Bond, jr. bibliog *il* *diags* *Jet Propulsion* 28:228-35 Ap '58
- Recent advances in real gas effects in hypersonic flow. W. C. Griffith, bibliog *Jet Propulsion* 28:167-9 Mr '58
- Reciprocity condition for supersonic flutter. J. W. Miles, *J Aeronautical Sci* 24:920 D '57
- Rotational field behind a curved shock wave calculated by the method of flux analysis. S. Uchida and M. Yasuhara, bibliog *il* *diags* *J Aeronautical Sci* 28:830-5 S '56; Discussion, E. S. Love, 28:199-200 Jr '58
- Selecting structural materials for supersonic flight. D. D. Cox, *Aeronautical Eng R* 17: 28-31 Ja '58
- Semi-empirical methods of estimating forces on bodies at supersonic speeds. J. E. Phythian and L. L. Dommett, bibliog *Roy Aeronautical Soc* 62:520-4 JI '58
- Simplified universal rule for subcritical drag of a supersonic diffuser. C. L. Dailey, bibliog flow *diag* *J Aero/Space Sci* 25:470-1 JI '58
- Solutions to Stoolman's external diffusion equation for gust moving at a normal shock inlet diffuser. C. C. Chang and C. T. Hsu, bibliog *diag* *Jet Propulsion* 28:457-60 JI '58
- Some experiments with a resonance tube in a supersonic wind tunnel. M. Sibulkin and T. Vrebalovich, *il* *J Aero/Space Sci* 25:465-6 JI '58
- Spreading of supersonic jets from axially symmetric nozzles. C. J. Wang and J. E. Peterson, *diag* *Jet Propulsion* 28:321-8 My '58
- Subsonic lift response to penetration of a sharp-edged gust moving at supersonic speed. E. Krasnoff, bibliog *diag* *J Aeronautical Sci* 25:214-15 Mr '58
- Supersonic blunt-body problem; review and extension. M. D. Van Dyke, bibliog *il* *diags* *J Aero/Space Sci* 25:485-96 Ag '58
- Supersonic flow around blunt bodies. H. Serbin, *il* *J Aeronautical Sci* 25:58-9 Ja '58
- Supersonic flow near the junction of two wedges. F. D. Hains, *diags* *J Aero/Space Sci* 25:530-1 Ag '58
- Supersonic flutter of a cylindrical shell. J. W. Miles, *J Aeronautical Sci* 25:312-16 My '58
- Supersonic jet deflection. R. P. Raper and P. N. Rowe, bibliog *il* *diags* *Roy Aeronautical Soc* 62:43-59 Ja '58
- Temperature transients in a supersonic blow-down wind tunnel. L. E. Leavy, *Roy Aeronautical Soc* 62:598-9 Ag '58
- Theoretical considerations of flutter at high Mach numbers. H. G. Morgan and others, bibliog *diag* *J Aeronautical Sci* 25:371-81 Je '58
- Three-dimensional theory of axial compressor blade rows; application in subsonic and supersonic flows. J. E. McCune, bibliog *diags* *J Aero/Space Sci* 25:544-60 S '58
- Utilization of experimental results in flutter analysis. E. Mollé-Christensen, bibliog *J Aero/Space Sci* 25:635-43 O '58
- Validity of continuum theory for satellite and hypersonic flight problems at high altitudes. M. C. Adams and R. F. Probstein, bibliog *diag* *Jet Propulsion* 28:86-9 F '58
- Vaporization into a hypersonic laminar boundary layer. S. M. Scala, *diag* *J Aero/Space Sci* 25:655-6 O '58
- Vectorial representation of aerodynamic forces acting on a thin rectangular wing oscillating harmonically in supersonic potential flow. J. P. Chawla, *J Aeronautical Sci* 25:329-30 My '58
- See also
Boundary layer
- Heating effect**
- Aerodynamic heating simulator for transducer development. J. I. Masters and M. S. Cohen, *il* *R Sci Instr* 28:1056-8 D '57
- Aero-thermodynamic aspects of high speed flight; abstracts. W. F. Radcliffe, *Aircraft Eng* 30:237 Ag '58; S A E J 66:86-7 JI '58
- Aerothermoelasticity. M. Rogers, bibliog *diags* *Aero/Space Eng* 17:34-43+ O '58
- Analysis of a transpiration-cooled hemisphere-cylinder. C. J. Scott, *J Aeronautical Sci* 25:397 Je '58
- Approximate formulas for thermal-stress analysis. D. J. Johns, *diag* *J Aero/Space Sci* 25:524-5 Ag '58
- Boundary conditions for the flow of a multi-component gas. D. E. Rosner, bibliog *Jet Propulsion* 28:555-6 Ag '58
- Buckling of simply supported plates under arbitrary symmetrical temperature distributions. J. M. Klosner and M. J. Forray, *diag* *J Aeronautical Sci* 25:181-4 Mr '58
- Characteristics and sound speed in nonisotropic gas flows with nonequilibrium thermodynamic states. E. L. Resler, jr, bibliog *J Aeronautical Sci* 24:785-90 N '57; Discussion, *J Aero/Space Sci* 25:460-1 JI '58
- Combined effects of unsteady flight velocity and surface temperature on heat transfer. E. M. Sparrow, *diag* *Jet Propulsion* 28:405-5 Je '58
- Convective heat transfer with mass addition and chemical reactions; abstract. L. Lees, *Aircraft Eng* 30:235 Ag '58
- Effect of externally generated vorticity on laminar heat transfer. R. M. Mark, *J Aeronautical Sci* 24:323-4 D '57
- Effect of surface properties on the heat transfer in stagnation flows. I. E. Beckwith, *J Aero/Space Sci* 25:533-4 Ag '58
- Effects of kinetic heating on aircraft structures. A. W. Kitchenside, bibliog (30 titles) *Roy Aeronautical Soc* 62:105-17 F '58
- Flows in partly dissociated gases. B. Heil, bibliog *J Aero/Space Sci* 25:459-60 JI '58
- Fundamental solutions for heat transfer from nonisothermal flat plates. D. C. Baxter and W. C. Reynolds, *diag* *J Aeronautical Sci* 25:403-4 Je '58
- Heat transfer in slip flow. S. H. Maslen, *J Aeronautical Sci* 25:400-1 Je '58
- High temperature environments associated with jet propulsion. F. L. Bagby and others, bibliog *diags* *Chem Eng Prog* 54:58-62 S '58
- Hydrodynamics and heat conduction of a melting surface. G. W. Sutton, bibliog *diag* *J Aeronautical Sci* 25:29-32+ Ja '58
- Hydrodynamic effects on stagnation-point heat transfer. J. L. Neuringer and W. McIlroy, *J Aeronautical Sci* 25:332-4 My '58
- Hypersonic heat transfer to catalytic surfaces. S. M. Scala, *diag* *J Aeronautical Sci* 25:473-5 JI '58
- Hypersonic stagnation-point flow with a magnetic field. N. H. Kemp, *diag* *J Aeronautical Sci* 25:405-7 Je '58
- Incompressible two-dimensional stagnation-point flow of an electrically conducting viscous fluid in the presence of a magnetic field. J. L. Neuringer and W. McIlroy, *diag* *J Aeronautical Sci* 25:194-8 Mr '58
- Ions make trouble at Mach 10, *il* *diag* *Electronics* 31:13-14 Mr '58
- Laminar free-convective heat transfer from the outer surface of a vertical circular cylinder. K. Millsaps and K. Pohlhausen, *diag* *J Aeronautical Sci* 25:357-60 Je '58
- Magnetohydrodynamic analysis of heat transfer near a stagnation point. V. J. Rossow, *J Aeronautical Sci* 25:334-5 My '58
- Measurement of turbulent heat transfer rates on the aft portion and blunt base of a hemisphere cylinder in the shock tube. J. Rabinowicz, bibliog *il* *diags* *Jet Propulsion* 28:615-20 S '58
- Minimum-drag cone frustum at hypersonic speeds. R. W. Truitt, *diag* *J Aero/Space Sci* 25:529-30 Ag '58
- New methods in heat flow analysis with application to flight structures. M. A. Biot, bibliog *diags* *J Aeronautical Sci* 24:857-73 D '57
- New test facility simulates flight through the thermal barrier. *Automotive Ind* 117:148-1 O 15 '57
- One-dimensional temperature distribution in two-layered slabs with contact resistance at the plane of contact. P. Seide, *J Aero/Space Sci* 25:523-4 Ag '58
- Plasma jet; research at 25,000°F. J. W. Reid, *il* *diags* *Machine Design* 30:22-4 F 6 '58
- Propagation of weak waves in a dissociated gas. F. K. Moore, bibliog *J Aeronautical Sci* 25:279-80 Ap '58
- Radiation heat transfer to hypersonic vehicles; abstract. R. E. Meyercoff, *Aircraft Eng* 30:235 Ag '58
- Reducing aerodynamic heat-transfer rates by magnetohydrodynamic techniques. R. C. Meyer, bibliog *diag* *J Aero/Space Sci* 25: 561-6+ S '58
- Refrigeration requirements for future air force weapons. J. S. Bleymaier, *il* *diags* *Refriger Eng* 66:36+ Je '58
- Simulating the thermal barrier. *il* *diag* *Mech Eng* 79:1048-9 N '57
- Stagnation point heat-transfer measurements in dissociated air. P. H. Rose and W. J. Stark, bibliog *il* *diags* *J Aeronautical Sci* 25: 86-97 F '58

AERODYNAMICS, Supersonic—Heating effect

- Cont.*
 Supersonic aerodynamic experiments using very high temperature air wind tunnels. D. E. Bloxsum, jr. bibliog il diag Jet Propulsion 28:603-9 S '58
 Surface combustion in dissociated air. S. M. Scala. diags Jet Propulsion 28:340-1 My '58
 Temperature distributions in aircraft structures and the influence of mechanical and physical material properties. K. L. C. Legg and G. Stevens. il diags Roy Aeronautical Soc J 62:174-86 Mr '58
 Temperature history in a thick skin subjected to laminar heating during entry into the atmosphere. C. W. Sutton. bibliog Jet Propulsion 28:40-5 Ja '58
 Test facility simulates flight through the thermal barrier. il Elec Eng 76:1105-6 D '57
 Theory of stagnation point heat transfer in dissociated air. J. A. Fay and E. R. Riddell. bibliog J Aeronautical Sci 25:73-85+ F '58
 Thermal buckling of solid wings of arbitrary aspect ratio. J. Singer. bibliog diags J Aero/Space Sci 25:573-80+ S '58
 Thermal creep design criteria. R. Goldin. bibliog Aeronautical Eng R 16:35-41 D '57
 Transonic flow field of an axial compressor blade row. J. E. McGuire. bibliog diag J Aero/Space Sci 25:616-26 O '58
 Wall temperature instability for convective heating with surface radical recombination. D. E. Rosner. bibliog diags Jet Propulsion 28:402-3 Je '58

AEROELASTICITY

- Aeroelastic instability at high Mach number. J. P. Chawla. bibliog diags J Aeronautical Sci 25:246-58 Ap '58

AEROJET-GENERAL Corporation

- Aerojets bet on rockets pays off. R. M. Loeblson. il Aviation Age 30:16-17+ S '58

AERONAUTIC engineering

- Achieving product reliability. A. C. Rohde. S A E J 65:76-7 N '57
 Aviation Age research and development technical handbook, 1953-1959. Published by Conover-Mast publications. 205 E. 42d st. New York 17 '58 (\$2)
 SAE National aeronautic meeting, Los Angeles, Sept. 30-Oct. 5. S A E J 65:84-91 N '57; Automotive Ind 117:68-9+ N 15 '57
 S.A.E. national aeronautic meeting, Los Angeles, Sept. 30-Oct. 5; abstracts of papers. Aircraft Eng 30:48-54 F '58
 SAE National aeronautic meeting, New York, April 8-11; abstracts of papers. Aircraft Eng 30:236-42 Ag '58; Automotive Ind 118:49+ My 1 '58
 SAE national aeronautic meeting, New York, April 8-11. S A E J 66:89-91 My '58

See also

- Aerodynamics, Supersonic
 Aeronautic research
 Aeronautics
 Airplanes—Design
 Calculating machines—Aeronautic uses

Bibliography

- Aeronautical reviews; periodicals, reports, international aeronautical abstracts, books. Published in monthly numbers of Aeronautical engineering review
 Books. Published in monthly numbers of Aviation age
 Library shelf. Published in monthly numbers of Aircraft engineering

Study and teaching

- Advanced education and academic research in aeronautics; Wilbur Wright memorial lecture. C. B. Millikan. il diags Roy Aeronautical Soc J 61:793-810 D '57
 Engineering education and training by industry. W. H. Arata, jr. bibliog il maps diag Aeronautical Eng R 17:25-7+ Ja '58
 Flow visualization; two-dimensional smoke tunnel teaching aid for aerodynamics. A. M. Lipschich. il diags Aeronautical Eng R 17:24-32+ F '58

Tables, calculations, etc.

- Application of Görtler's series method to the boundary-layer energy equation. E. M. Sparrow. J Aeronautical Sci 25:71-2 Ja '58
 Application of the Witte rearranging method to a typical structural matrix. E. Klein. J Aeronautical Sci 25:342-3 My '58
 Application of Van Driest's method to a highly cooled partially dissociated turbulent boundary layer. H. Hidalgo. Jet Propulsion 28:487-8 J '58

- Approximate method for determining the wave drag of axisymmetric conical cowls. J. W. Brook. J Aeronautical Sci 25:401-2 Je '58
 Approximate method of determining axisymmetric inviscid supersonic flow over a solid body and its wake. S. I. Cheng. bibliog diags J Aeronautical Sci 25:185-93 Mr '58
 Calculating spring constants for hydraulic cylinders. R. Lay. diags Ap Hydraulics 11:104+ J '58
 Calculation of torsional natural frequencies of branch systems. A. C. Gilbert. bibliog diag Roy Aeronautical Soc J 62:599-603 Ag '58
 Calculations by the method of characteristics. R. D. Linnell. bibliog diags Aeronautical Eng R 17:39-44 Mr '58
 Determination of distribution of twist of a straight wing to correspond to the aerodynamic-load distribution on a swept-back wing. S. N. Chaudhuri and K. S. Nagaraja. J Aero/Space Sci 25:593-4 S '58
 Establishment of life on an aerofoil with a jet flap. R. Hirsch. diags Aircraft Eng 30:11-19 Ja '58
 Estimating aerodynamic characteristic times in hypersonic flow. S. M. Scala. J Aeronautical Sci 25:131-2 F '58
 Flight mechanics and variational problems of a linear type. A. Miele. bibliog diags J Aero/Space Sci 25:581-90 S '58
 Flight trajectories in the neighborhood of a known trajectory. R. M. Rosenberg. diag Franklin Inst J 266:109-23 Ag '58
 Ground performance at take-off and landing; chart for estimation of either unstuck or landing roll distance. D. J. Kettle. Aircraft Eng 30:2-4 Ja '58
 Iteration method for solving linear problems in the theory of shallow shells. W. A. Nash and P. L. Shenz. J Aeronautical Sci 25:267 Ap '58
 Matrix formulation of linearly coupled vibration problems. L. L. Cox. diags Aircraft Eng 30:202-3 J '58
 Method for calculating the energy available in the exhaust gas at the inlet end of an exhaust pipe of a two- or four-stroke cycle engine. R. S. Benson. Roy Aeronautical Soc J 62:132-5 F '58
 Methods of calculating natural modes and frequencies of vibration. S. Silverberg. diag J Aeronautical Sci 25:275 Ap '58
 Minimum-drag cone frustum at hypersonic speeds. R. W. Truitt. diag J Aero/Space Sci 25:529-30 Ag '58
 New method for computing drag coefficients from ballistic range data. A. Seiff. J Aeronautical Sci 25:133-4 F '58
 New methods in heat flow analysis with application to flight structures. M. A. Biot. bibliog diags J Aeronautical Sci 24:857-73 D '57
 New system for handling flight test data. H. W. Royce. il S A E J 65:54-5 D '57
 Numerical calculation of detached bow shock waves in hypersonic flow. P. R. Garabedian and H. M. Lieberstein. bibliog diag J Aeronautical Sci 25:109-18 F '58
 Numerical data on blunt bodies. H. M. Lieberstein. J Aero/Space Sci 26:660-1 O '58
 Numerical method for solving boundary-layer equations. S. W. Liu. J Aero/Space Sci 25:598-9 S '58
 One-term approximate solutions for non-linear vibration problems. S. Mahalingam. Roy Aeronautical Soc J 62:450-1 Je '58
 Reduction of Ikenberry-Truesdell equations to Burnett equations for slip flow. H. T. Yang. J Aeronautical Sci 25:404-5 Je '58
 Roll coupling problem, a mathematical approach. R. Westerwick. diags Aeronautical Eng R 16:48-51 D '57
 Semi-empirical methods of estimating forces on bodies at supersonic speeds. J. E. Pethian and E. L. Donnet. bibliog Roy Aeronautical Sci 25:520-4 J '58
 Series-expansion method for computing random gust responses. K. A. Foss. J Aeronautical Sci 24:850-2 N '57
 Simple graphical method for constructing two-dimensional supersonic flows by means of a drafting machine. F. E. Ehlers. diag J Aeronautical Sci 25:69-70 Ja '58
 Simple method of matrix structural analysis. E. E. Ekin. diags J Aeronautical Sci 24:39-46 bibliog(p45-6), 313-20; 25:385-94 Ja. N '57, Je '58
 Simplified form of the auxiliary equation for use in the calculation of turbulent boundary layers. T. J. Black. bibliog Roy Aeronautical Soc J 62:215-19 Mr '58

AERONAUTIC engineering—Tables, calculations, etc.—*Cont.*

- Solution of non-linear simultaneous equations by successive approximations. W. J. Goodey. Roy Aeronautical Soc J 62:603-4 Ag '58
- Standardised method of representing fatigue test results. M. Fine. Roy Aeronautical Soc J 62:456-7 Je '58; Discussion. 62:680-1 S '58
- Standardised polynomials for curve fitting. M. Fine. Roy Aeronautical Soc J 62:212-16 Mr '58
- Supersonic blunt-body problem; review and extension. M. D. Van Dyke. bibliog il diags J Aero/Space Sci 25:485-96 Ag '58
- Tensor analysis of finite rotations. E. H. Bateman. diags Aircraft Eng 30:126-30, 167-9, 199-201 My-Jl '58
- Test of the uniqueness of solutions for problems of nonsteady flow under given boundary conditions. J. Altenhoff. diags J Aeronautical Sci 25:210-12 Mr '58
- Theoretical analysis of the airborne path during take-off. W. R. Buckingham. Aircraft Eng 30:5-8 Ja '58
- Transformation of the compressible turbulent boundary layer. A. Mager. bibliog J Aeronautical Sci 25:305-11 My '58
- Transient temperature distribution in aircraft structures. I. Frank. bibliog diags J Aeronautical Sci 25:265-7 Ap '58

See also

- Aerodynamics**
Airplane stability and stabilizers
Airplanes—Stresses
- AERONAUTIC engineers**
Balanced man. R. E. Gross. Aero/Space Eng 17:34-5 S '58
- Engineer, the physicist, and gravitation. L. Witten. Aero/Space Eng 17:45-8 Je '58
- How to evaluate engineers. F. L. Ryder. Aero/Space Eng 17:46-51 Jl '58
- Management control posers; how to control research and development work, how to measure the work of engineers. W. B. Graddy. il Aviation Age 30:18-19+ Jl '58

See also

- Locke, Frederick W. S. jr.
Warner, Edward P.
- AERONAUTIC instruments**
Astro now major market. diags Electronics 31:13-14 My 2 '58
- Closed loop instrument systems boost performance. V. A. Orlando and others. il Aviation Age 29:44-7 Ap '58
- Gyroscopes for inertial navigators. J. M. Slater. diags Mech Eng 79:832-5+ S '57; Discussion. 80:115-16 Je '58
- How precise are inertial components? J. M. Slater and D. E. Wilcox. bibliog diags Control Eng 5:86-90 Jl '58
- How to beat instrument blindness; reflections from glass of instrument covers. G. A. LeFevre and J. R. Adrds. il diags Space/Aeronautics 30:64-9 O '58
- Instrument pictures fight for jet pilot; abstract. M. V. Fiore. il S A E J 66:103 Je '58
- ISA national flight test instrumentation symposium. 4th. New York, May 5-7. I S A J 5:76-7 Je '58
- New instrument indicates take-off progress; abstract. J. Andresen and E. H. Schroeder. diags S A E J 66:72-3 Ar '58
- New stable platform for today's aircraft today. J. F. Schoepfel. il diags Aeronautical Eng R 17:50-6 Ja '58
- Preliminary considerations on the instrumentation of a photographic reconnaissance of Mars. J. H. Laning, jr. and others. il diags Mech Eng 80:74-6 O '58
- Selecting flight test instrumentation. C. H. Nelson. diags Mech Eng 80:52-5 Jl '58
- Simplicity features ground speed indicator; abstract. J. R. Iverson. S A E J 66:117-18 Jl '58

See also

- Accelerometers**
Altimeters
Radio aids to aviation
Radio apparatus on aircraft
Radio beacons (for aircraft)
Television apparatus on aircraft
- Manufacture**
Missile guidance requires machining to millionths; gyroscopes in inertial-guidance systems. F. A. Cuthbertson. il diags Mach 64:128-35 Jl '58

AERONAUTIC laboratories

- Aeronautical research laboratory probes space flight for the future; U.S. air force's aeronautical research laboratory at Wright-Patterson air force base. L. H. Young. il Control Eng 5:22-3 Jl '58

Testing Conway pods; British power for Boeing 707; Rolls-Royce new test-house at Hucknall flight test establishment. il Engineering 135:789 Je 20 '58

Testing laboratories—Vacuum chambers**Equipment**

- Aero-engine test beds; Heenan and Froude; illustrations with text. Engineer 204:828 D 6 '57
- Aerothermodynamic test plant; Bristol aeroplanes, ltd. il diags Engineer 205:502, 543-4 Ap 4-11 '58
- Bristol's high-altitude test plant for ram-jet engines. il diags Engineering 135:436-8, 468-70 Ap 4-11 '58
- Dynamic rig for vtol development. il Engineering 136:86 Jl 13 '58
- How the CANEL project test chamber was made. il Iron Age 181:106-7 F 27 '58
- Research and test apparatus. il Aircraft Eng 30:59, 121, 186 F. Ap, Je '58
- Test facility simulates flight through the thermal barrier. il Elec Eng 76:1105-6 D '57

AERONAUTIC meteorology. *See* Meteorology, Aeronautic**AERONAUTIC research**

- Advanced education and academic research in aeronautics; Wilbur Wright memorial lecture. C. B. Millikan. il diags Roy Aeronautical Soc J 61:793-810 D '57
- Advances in aeronautics. W. H. Stephens. il diags Engineering 184:465-8, 494-6 O 11-13 '57
- ASME, ARS tussle with problems of flight design. Product Eng 29:22 Ap 14 '58
- Aviation Age research and development technical handbook, 1958-1959. Published by Conover-Mast publications, 205 E. 42d st, New York 17 '58 (82)
- Beyond the air age. J. B. Medaris. Franklin inst J 265:363-70 My '58
- Blueprint for space research. H. E. Newell, jr. and K. R. Stehling. il Aviation Age 28:28-9+ Mr '58
- Challenge is here now; editorial. L. V. Berkner. Aero/Space Eng 17:28-9 My '58
- Cook Electric; how to make money on research and development. R. M. Loebelson. il Aviation Age 29:16-17+ Je '58
- Disclose test equipment for tomorrow's space craft; GE space tools include plasma jet, shock tunnel. il Machine Design 30:14-15 Jl 24 '58
- Extension of the theory of the optimum burning program for the level flight of a rocket-powered aircraft. A. Miele. bibliog diags J Aeronautical Sci 24:874-84 D '57
- Future of aeronautical research. W. J. Duncan. Roy Aeronautical Soc J 62:355-62 My '58
- Management control posers; how to control research and development work, how to measure the work of engineers. W. B. Graddy. il Aviation Age 30:18-19+ Jl '58
- Optigraph system makes in-flight study of airplane flexibility. il Ind Phot 7:22-3+ Mr '58
- Pfystock's contribution to propulsion. H. Constant. bibliog il diags Roy Aeronautical Soc J 62:257-67 Ap '58
- Realm of the alman, unbounded; editorial. H. F. Gregory. Aero/Space Eng 17:32-3 Je '58
- Research and engineering progress, 1957; aeronautics and missiles. il Gen Elec R 61:48-51 Ja '58
- Research in magnetohydrodynamics. W. McIlroy. diags S A E J 66:90-3 Ap '58; Abstract. Aircraft Eng 30:237 Ag '58
- Spending on space; millions of dollars for years to come. A. N. Weckler. Aviation Age 29:14 Je '58

See also

- Aeronautic laboratories**
Airplanes, Experimental
United States—Air force—Air research and development command
United States—National advisory committee for aeronautics
United States—National aeronautics and space administration
Wind tunnels

Bibliography

Research reports and memoranda. Published in monthly numbers of Aircraft engineering

Australia

- Australian aeronautical research. il diags Engineer 206:455-6 S 19 '58

AERONAUTICAL conference, International.
See International aeronautical conference
AERONAUTICAL sciences, Institute of the.
See Institute of the aeronautical sciences
AERONAUTICAL society, Royal. See Royal aeronautical society

AERONAUTICS

Advances in aeronautics. W. H. Stephens. *Il diags Engineering* 184:465-8, 494-6 O 11-13 '57
Aeronautics in 1957. *Il Engineer* 205:25-7 Ja 3 '58
ASME-ARS aviation conference, Dallas, March 16-20. *Mech Eng* 80:136-9 My '58
Anglo-American aeronautical conference, 6th, London, Sept. 1-12. *Roy Aeronautical Soc J* 61:836-8 D '57
Aviation's golden age; evaluation of the fabulous period from 1940 to 1960. J. E. Forry. *Il diags Mech Eng* 80:54-6 Ap '58
From aviation to astronautics. J. E. Allen. *Il map diags Roy Aeronautical Soc J* 62:615-32 bibliog(p630-2) S '58

See also

Aerodynamics

Airfoils

Airplane stability and stabilizers

Airports

Electronics in aeronautics

Helicopters

Meteorology, Aeronautic

Seaplanes

Space flight

Surveying, Aerial

United States—National advisory committee for aeronautics

Bibliography

Aeronautical reviews; periodicals, reports, international aeronautical abstracts, books. Published in monthly numbers of *Aeronautical engineering review*

Library; reviews, additions to the library, reports. Published in monthly numbers of the *Journal of the Royal aeronautical society*

Exhibitions

SAE looks overseas; Impressions of SBAC exposition at Farnborough and Anglo-American aeronautical conference. W. Littlewood. *S A E J* 66:61-3 Ja '58

S.B.A.C. display and exhibition, Farnborough. *Il Engineer* 206:362-6, 401-7, 439-42 S 5-19 '58; *Engineering* 136:340-3 S 12 '58; *Brit Inst Radio Eng J* 13:539-40 S '58; *Electronic Eng* 30:618-21 O '58; *Wireless World* 64:491-4 O '58

Society of British aircraft constructors' exhibition, Farnborough. *Il diags Electronic & Radio Eng* 34:407-12 N '57

History

Sir George Cayley (1773-1857); inventor of the modern aeroplane. C. H. Gibbs-Smith. *diags Research* 11:211-13 Je '58

See also

Wright brothers

Patents

German patent abridgements. *diags Aircraft Eng* 30:62, 292 F, S '58

Month in the patent office. Published in monthly numbers of *Aircraft engineering*

New patents. Published in monthly numbers of *Jet propulsion*

Patent briefs. K. A. Posch. Published in monthly numbers of *Aviation age*

U.S. patent specifications. Published in monthly numbers of *Aircraft engineering*

Standards

Standardization from an air line viewpoint. R. D. Kelly. *A S T M Bul* p25-7 F '58

Tables, calculations, etc.

Systematizing the calculations of the natural modes of a free structure. R. Kappus and D. Clerc. *diag J Aeronautical Sci* 25:276-8 Ap '58

AERONAUTICS, Bureau of (navy). See United States—Aeronautics, Bureau of (navy)

AERONAUTICS, Commercial

Lighting the modern commercial aircraft. P. E. Massie. *bibliog Applications & Ind* p277-83 S '58

See also

Airlines

Airports

Canada

Civil aviation. *Il Eng J* 41:78-80 Ap '58

AERONAUTICS, Military

Digital simulation of an air war; abstract. D. E. Wendland. *Instruments & Automation* 31:1389 Ag '58
Military defense topics highlight Texas aircraft production meeting. *S A E J* 66:92-3 Je '58

New age of flight. *Il map diag Westinghouse Eng* 17:162-5 N '57

Refrigeration requirements for future air force weapons. J. S. Bleymaier. *Il diags Refrig Eng* 66:36-9+ Je '58

Tactical air-warfare model of Mengel; computational solution of dynamic-programming processes. R. Bellman and S. Dreyfus. *flow chart Op Res* 6:65-78 Ja '58

See also

Air raids—Protective measures

Airplane carriers

Airplanes, Military

Helicopters—Military use

Semi-automatic ground environment system

Weapons systems

Great Britain

Guided flight trials. R. W. M. Boswell. *Il maps diags Roy Aeronautical Soc J* 62:408-22 Je '58

Guided weapons and aeronautics. R. Cockburn. *Roy Aeronautical Soc J* 62:562-7; *Discussion.* 567-70 Ag '58

Russia

Questions and answers on red air power. A. N. Weeksler. *Space/Aeronautics* 30:14 O '58

Red missile arsenal packs long range punch. *Il diags Aviation Age* 29:20-1+, cover Ap '58

United States

Flight operations center aids army tactical aircraft. *Il Elec Eng* 77:365 S '58

See also

Airplanes, Military—United States

United States—Air force

United States—Air service, Army

United States—Air service, Navy

AEROSOL lubrication. See Oil mists

AEROSOL products. See Containers, Dispensing—Pressurized containers

AEROSOLS

Deceleration probe for measuring stagnation pressure and velocity of a particle-laden gas stream. J. L. Dussourd and A. H. Shapiro. *bibliog Il diags Jet Propulsion* 28:24-34 Ja '58

Particle-sizing method for aerosols and fine powders. R. L. Dimmick and others. *bibliog diag A M A Archives Ind Health* 18:23-9 J1 '58

Size reduction of dried pellets containing serrata marcescens; high-speed centrifugal mill pulverizes dried microorganisms used in aerosol production and testing. V. F. Pfeifer and others. *bibliog Il diags Ind & Eng Chem* 50:627-32 Ap '58

Theory of aerosol filtration. S. K. Friedlander. *bibliog Ind & Eng Chem* 50:1161-4 Ag '58

Thermal precipitator for continuous aerosol sampling. C. Orr and R. A. Martin. *Il diags R Sci Instr* 29:129-30 F '58

AEROTHERMOELASTICITY. See Elasticity

AFGHANISTAN

See also
Geology—Afghanistan
Irrigation—Afghanistan

AFRICA

See also subdivision Africa under special subjects, e.g.

Engineering

Gas, Natural

Nutrition problems

Oil industries

Paleontology

Petroleum industry and trade

Petroleum pipe lines

AFRICA, French West

See also

Petroleum—Africa, French West

Native races

Matakam story; from prehistoric iron to modern sintered steel; abstract. *Metal Prog* 73:152-3 Mr '58

AFRICA, North

See also

Petroleum industry and trade—Africa, North

AFRICA, Southwest

See also

Mines and mineral resources—Africa, South-west

AFTER burners. See Gas turbines, Aircraft—
After burners

AGAVE

Hecogenin from agave sisalana by microbiological hydrolysis. C. H. Hassall and E. S. W. Smith. *bibliog Chem & Ind* p 1570 N 30 '57

AGE

See also
Longevity
Old age

AGE, Geological. See Geological time

AGE and employment

Bus workers in their later lives. *Ind Med* 26:516-17 N '57
Geriatrics and retirement. A. Salamone. *Ind Med* 27:417-20 Ar '58
Production clinic; employment of older people. E. G. Thomssen. *Soap & Chem Spec* 33: 225-6+ D '57

See also
Retirement

AGE, determination by radioactivity. See Geological time

AGE of rocks. See Rocks—Age

AGGLOMERATION

Four iron ore agglomerating techniques. D. C. Violetta and others. *flow diag il diags Min Eng* 10:354-64 Mr '58

AGGLOMERATION flotation. See Flotation process

AGGREGATES

Aggregate industries; review and forecast. B. C. Herod. *il map Pit & Quarry* 50:122-9 Ja '58

Empire state sand, gravel and ready mix association fall meeting, Lake Placid, Oct. 17-19. *Rock Prod* 60:100+ D '57

Indiana mineral aggregates assn. annual meeting, Indianapolis, March 31-April 1. *Pit & Quarry* 50:160+ My '58; *Rock Prod* 61:103+ Je '58

Mechanism of lightweight aggregate formation. E. G. Ehlers. *bibliog il diag Am Cer Soc Bul* 37:95-9 F 15 '58

Practical gradation limits for natural aggregate bituminous concrete. S. B. Hudson. *bibliog il Roads & Sts* 101:115-16+ My; 131-2+ Je '58

Selecting hard aggregates for road building by elastic fractionation. *il Pub Works* 88:158 D '57

Slag production plant at Teesport. *il diags Engineer* 205:577-82 Ap 18 '58

Texas sized aggregate run. *il Roads & Sts* 101:109 Ja '58

These jigs pay their own way; Yuba consolidated gold fields. *il Rock Prod* 61:114+ Mr '58

Water and aggregate supply; reconstruction problems and procedures of one of Wyoming's largest road contracts. H. K. Glidden. *il plans Roads & Sts* 101:55-62 Ap '58

See also

Concrete—Aggregate

Gravel

Sand

Sand and gravel plants

Cleaning

Why wash aggregates? W. A. Rundquist. *il Rock Prod* 61:74-5+ Ar '58

Drying

Drying must be engineered. H. G. Nevitt. *Roads & Sts* 101:115+ Ja '58

Testing

Lightweight-aggregate concrete for structural use. J. J. Shideler. *bibliog il Am Concrete Inst J* 29:299-328 O '57; Discussion. E. W. Bauman. 29:1165-7 Je '58

AGING of metals. See Metals—Aging

AGITATION

Air agitation and pachuca tanks. A. G. W. Lamont. *bibliog diags Can J Chem Eng* 36:153-60 Ar '58

Air agitation helps keep a uniform phosphate mix. *diag Oil & Gas J* 56:39 Mr 31 '58

AGITATORS

New agitator absorber for CO₂. A. S. Moore and S. Katell. *flow diag diag Pet Refiner* 37:163-8 Mr '58

Selecting a drive for low speed agitators; fluid motors. W. Spencer. *il diag Ap Hydraulics* 11:65-6 Je '58

See also

Mixers

Shaking apparatus

Stirrers

AGRICOLA, Georg

Georgius Agricola, 1494-1555. *Ind Med* 27: 292-4 Je '58

AGRICULTURAL administration

Congress on farming. *J Agri & Food Chem* 6:505-6 J1 '58

Rural development. *map J Agri & Food Chem* 6:419+ Je '58

AGRICULTURAL chemicals

Corporate profile; Hercules has found the agricultural chemistry market a sales boon. *J Agri & Food Chem* 6:402-3 My '58

Design and construction of three new laboratories; Plant Protection's new laboratories. *il Manuf Chem* 29:142-3 Ap '58

Farm chemicals probed. *Chem & Eng N* 35:30 D 2 '57

Fifty years of development in agricultural pesticidal chemicals. L. R. Gardner. *il Ind & Eng Chem* 50:sup48A-51A My '58

Inventory of new chemicals and materials; agricultural chemicals. *Chem Eng* 64:171 Mid-N '57

Trend to integrated farming will affect chemical industry from research to marketing. *J Agri & Food Chem* 6:263 Ap '58

Wetting agents for agricultural sprays. J. S. Stanley. *bibliog Manuf Chem* 29:334-6+, 385-8 Ag-S '58

Wilson & Geo. Meyer, a distributor of important raw materials for agriculture and industry. *J Agri & Food Chem* 6:74-5 Ja '58

See also

Pesticides

AGRICULTURAL chemistry

See also

Feeding and feeding stuffs

Insecticides

Soil analysis

AGRICULTURAL clubs

See also

4-H clubs

AGRICULTURAL colleges

Seale-Hayne agricultural college. *il Chem & Ind* p811-12 Je 28 '58

See also

Ontario agricultural college

AGRICULTURAL engineering

See also

Agricultural machinery

Agriculturists

Drainage

Electricity on the farm

Irrigation

AGRICULTURAL engineering, National institute of. See National institute of agricultural engineering

AGRICULTURAL experiment stations

Central experimental farm; 1200 acres in Ottawa's city area. *il Chem & Ind* p 1041-2 Ar 16 '58

AGRICULTURAL laboratories

Agriculture's pioneering labs. *J Agri & Food Chem* 6:12-14 Ja '58

Canada Department of agriculture opens new research center at Winnipeg, Manitoba. C. H. Kenny. *il Food Tech* 12:sup 8+ Ap '58

Pioneering basic research; USDA sets up labs. *il Chem & Eng N* 35:29-30 D 30 '57

See also

Soil laboratories

AGRICULTURAL limestone. See Lime as fertilizer

AGRICULTURAL limestone association. National See National agricultural limestone institute

AGRICULTURAL machinery

Application equipment for fertilizers. *il J Agri & Food Chem* 6:14-16 Ja '58

Farm machinery production at Leigh. *il Engineer* 204:676-8 N 8 '57

Farm organisation; influence of machinery developments. R. Paterson. *Engineering* 185: 563-4 My 2 '58

Hood spreads fertilizer evenly. *il diag Product Eng* 29:68 F 3 '58

Institution of British agricultural engineers; presidential address. J. M. Chambers. *Engineer* 204:558 O 18 '57

Silage machinery. *il Engineer* 205:821 My 30 '58

Today's plowshares; bigger, more versatile. *il Product Eng* 29:19-20 Ar 11 '58

Two new Perkins Diesel engines for agricultural applications. *il diags Automobile Eng* 47:541-4 D '57

See also

Corn harvesting machinery

Harvesting machinery

Plows

Tractors, Farm

AGRICULTURAL machinery—Continued

Exhibitions

- Royal show at Bristol, *il diag Engineer* 206: 14-17 J1 4 '58
 Smithfield show and agricultural machinery exhibition, London, *il Engineer* 204:832-4 D 6 '57

AGRICULTURAL machinery industry

Great Britain

- Engineering industries: agricultural machinery, *Engineering* 185:50-1 Ja 10 '58

AGRICULTURAL products

- Determination of endrin in agricultural products and animal tissues, J. M. Bann and others, *bibliog diags J Agri & Food Chem* 6:196-202 Mr '58

See also

- Crops
 Rubber
 Straw

Storage

- Pests of stored products; symposium abstracts and discussion, *Chem & Ind* p577-82 My 17 '58

AGRICULTURAL research

See also

- Agricultural experiment stations
 Agricultural laboratories
 Soil laboratories

AGRICULTURE

See also

- Agricultural machinery
 Airplanes in agriculture
 Alfalfa
 Farmers
 Feeding and feeding stuffs
 Fertilizers
 Irrigation
 Tillage

Study and teaching

See also

- Agricultural colleges

Federation of Rhodesia and Nyasaland

- Southern Rhodesia; its food economy in review, W. R. Carr, *il Food Tech* 12:sup 10-12+ My '58

United States

- Technological change and resource requirements in American agriculture, V. W. Euttan, *il J Agri & Food Chem* 6:652-6 S '58

AGRICULTURISTS

- Shortage of agriculturists, *il J Agri & Food Chem* 6:11-12 Ja '58

AGSTONE. See Lime as fertilizer

AILERONS

- Loose pulley endangers flight control, *diags Aviation Age* 28:90 F '58

AIR

- Air agitation and pachuca tanks, A. G. W. Lamont, *bibliog diags Can J Chem Eng* 36: 153-60 Ag '58
 Air binding in large pipelines flowing under vacuum, R. T. Richards, *diags Am Soc C E Proc* 83 [HY 6 no 1454]:1-10 D '57; Discussion, R. E. Templeton and T. E. Stelson, 84 [HY 3 no 1690]: 31-2 Je '58
 Air density determination by observation of a satellite, R. E. Roberson, *Jet Propulsion* 28:330-1 My '58
 Changes in the properties of an asphalt during the blowing operation, L. R. Kleinschmidt and H. R. Snoko, *J Res Nat Bur Stand* 60:169-72 Mr '58
 Cutting carrying capacity of air at pressures above atmospheric, K. E. Gray, *bibliog diags J Pet Tech* 10:Trans 180-5 Ag '58
 Design engineering of B-47 air cycle air conditioning, G. E. Gregg, *il diags Refrig Eng* 65:35-9 N '57
 Effect of air pressure on vortex-shedding frequency of cylinders, R. F. Rimoldi and others, *J Aero/Space Sci* 25:532 Ag '58
 Effects of unipolar air ions on microorganisms and on evaporation, A. P. Krueger and others, *bibliog diags Franklin Inst J* 266: 9-19 J1 '58
 Experiments in liquid atomization by air streams, H. F. Hrubecky, *bibliog flow diag diags J Ap Phys* 29:572-3 My '58
 Gamma-radiation absorption coefficients of air in the energy range 0.01 to 100 mev, J. W. Allison, *J Ap Phys* 29:1175-8 Ag '58
 General Aniline & Film backs air-oxidation for ethylene oxide; process flowsheet, *il Chem Eng* 65:100-3 J1 28 '58

- How to convert free air volumes to compressed air equivalents; nomograph; data sheet, J. F. Waters, *Heating-Piping* 30:131-2 Ap '58

- Infrared continuum radiation from high-temperature air, T. Wentink, Jr., and others, *bibliog J Ap Phys* 29:742-3 Ap '58

- Injection of air into the dissociated hypersonic laminar boundary layer, S. M. Scala, *J Aero/Space Sci* 25:461-2 J1 '58

- Lubricating with air, N. Chironis and others, *il diags Product Eng* 28:99-106 N 25 '57

- Moving air absorbs sound, *Arch Rec* 124:228 Ag '58

- Oscillation and air assemble small parts, *il diags Electronics* 31:121-3 Ag 1 '58

- Polynomial expressions for the specific heat and Prandtl number of air, D. W. Boekemeier, *J Aero/Space Sci* 25:658-9 O '58

- Producing cold air; simplicity of the vortex tube method, E. H. Otten, *il diags Engineering* 186:154-6 Ag 1 '58

- Reaction rate of solid sodium with air, W. H. Howland and L. F. Epstein, *diag Ind & Eng Chem* 49:1931-2 N '57; Correction, 50:68 Ja '58

- Refractive index of air and sulphur dioxide, W. P. Julius, *diags Research* 11:sup 16-18 J1 '58

- Rhodium-plated katala thermometer for measuring true air velocity, W. Koch and D. Kaplan, *bibliog J Sci Instr* 35:8-11 Ja '58

- Upward vertical flow of air-water mixtures, G. W. Govier and W. L. Short, *flow diag Can J Chem Eng* 36:195-202 O '58

- Use of capacitor discharges to produce high temperature, high pressure air, D. E. Bloxson, Jr., *bibliog il diag Pet Propulsion* 28:609-14 S '58

- Viscosity of five gases; a re-evaluation, J. Kestin and H. E. Wang, *bibliog A S M E Trans* 80:11-17 Ja '58

See also

- Aerodynamics
 Atmosphere, Upper
 Compressed air
 Humidity
 Meteorology
 Analysis

- Application of instrumentation to pulp mill atmospheric discharges, D. F. Adams and R. K. Koppe, *bibliog Tappi* 41:366-72 J1 '58

- Alarms and analyzers for nerve gas vapors, R. H. Cherry and others, *bibliog il diags Anal Chem* 30:1239-47 J1 '58

- Chromatographic analyzer for determining trace hydrocarbons in air separation plants, C. A. Gaulin and others, *bibliog flow diag il diags Chem Eng Prog* 54:49-53 S '58

- Continuous sampling and ultramicrodetermination of nitrogen dioxide in air, M. B. Jacobs and S. Hochheiser, *bibliog diag Anal Chem* 30:426-8 Mr '58

- Determination of aromatic hydrocarbons in polluted air, J. F. Thomas and others, *bibliog il diags Anal Chem* 29:1835-40 D '57

- Determination of trace quantities of hydrocarbons in the atmosphere, E. R. Quiram and W. F. Biller, *diags Anal Chem* 30:1166-71 J1 '58

- Dyes trace air pollution, *il Chem & Eng N* 36:49 F 3 '58

- Evolve new technique in air trajectory studies, *il Ind Lab* 9:94 Ap '58

- Fixation of atmospheric carbonyl compounds by sodium bisulfite, K. W. Wilson, *bibliog Anal Chem* 30:1127-9 Je '58

- Gas chromatographic analysis of engine exhaust and atmosphere; determination of C₂ to C₆ hydrocarbons, F. T. Eggersen and F. M. Nelsen, *diag Anal Chem* 30:1040-3 Je '58

- Measurement of concentrations of gaseous halide tracers in air by positive ion emission techniques, H. A. Schultz, *bibliog diag Anal Chem* 29:1840-2 D '57

- More pollutant detectors, *il Chem & Eng N* 36:81 S 22 '58

- New techniques for evaluating environmental exposures, N. A. Talvite, *bibliog A M A Archives Ind Health* 17:563-70 My '58

- Portable, automatic alarm for detection of toxic agents in atmosphere, J. C. Young and others, *il Anal Chem* 30:1236-9 J1 '58

- Testing atmospheres in enclosed spaces, H. Allen, *bibliog Engineering* 185:690 My 30 '58

- See also
 Air pollution—Testing
 Air sampling

Bacteriology

- Proper hospital ventilation will save many lives; abstract, R. T. Ravenholt and O. H. Ravenholt, *Air Cond Heat & Ven* 55:77 F '58

AIR—Continued

Moisture content

Icing studies lead to evaluating accuracy of rotating cylinder method of measuring water content in air stream; abstract. C. H. Fish and J. B. Werner. S A E J 66:80-1 JI '58

AIR bases, Military

Air force expansion will be a big market. il map Eng N 159:21-2 D 13 '57
Are you interested in working overseas? architect-engineer firm building airbases in England. Eng N 161:45-6+ JI 3 '58
Bonding thin concrete to old pavements; parking aprons at three air bases. W. G. Westall. il Civil Eng 28:406-9 Je '58
How chlorination helps water conditioning at Alaska bases. E. W. Lingel. Pub Works 89: 119-20 Ag '58

Midway island becomes warning base. il Eng N 160:46-7 Mr 27 '58

One cent shift nets \$13 million job; Richard I. Bong air force base, Wisconsin. Eng N 160:25 Je 19 '58

Tar rubber concrete apron and its surface treatment by new slurry method. W. O. Harrell. il Roads & Ssts 101:147-50 F '58

See also

Guided missile bases

Buildings

AF barracks to get a new look; Mather air force base near Sacramento. il Eng N 160: 117 Mr 13 '58

Army vies with nature to heat Arctic air base. N. E. Pearsall and W. O. McClune. il diags Heating-Piping 29:77-81, cover D '57

Building below zero; Thule air base. il diags Arch Forum 108:116-21 F '58

Costs

\$1.8 million for air base utilities; Glasgow, Mont.; unit prices. Eng N 161:88+ S 18 '58

Equipment

Edwards air force base flight testing grows up. L. H. Young. il map Control Eng 5: 22-4+ F '58

Maintenance and repair

Preventive maintenance, Alaska style; Alaskan air command. M. E. Weissman. il Plant Eng 12:98-101 S; 99-102 O '58

Power

Power facilities at U.S. air force base on island of Bermuda. R. F. McCaw. il diag Power Eng 62:68-71 O '58

Runways

Concrete paving at Griffiss air base. il diag Roads & Ssts 101:57-63 Mr '58

Effects of jet blast and fuel spillage on bituminous pavements. W. J. Turnbull and C. R. Foster. il Am Soc C E Proc 83 [AT 2 no 1479]:1-13 D '57

Heavy duty pavement design. H. G. Nevitt. Roads & Ssts 101:140-1+ Je '58

Lesson in how to make good use of poor materials; Dow air force base, Bangor, Me. il Eng N 159:40-2+ N 14 '57; Discussion. 160: 12 Ap 3 '58

USAF airfield pavement problems in the jet age. G. W. Leslie. il plan diags Am Soc C E Proc 83 [AT 2 no 1480]:1-23; Discussion. [AT 2 no 1485]:3-6 D '57

Vibratory rollers compact eight million yards of sand; Griffiss air force base. H. J. McKeever. il Roads & Ssts 101:57-61 Ja '58

Safety measures

Aircraft overrun barriers. J. E. Snow. il diags Aeronautical Eng R 17:37-40 F '58

Surveying

Surveying for Richard I. Bong air force base. P. A. Machinis. plans Am Soc C E Proc 84 [SU 2 no 1699]:1-10 JI '58

AIR blast

Some of the engineering aspects of air blast. R. S. Burpo, jr. diags Am Soc Naval Eng J 70:515-17 Ag '58

AIR-blast circuit breakers. See Electric circuit breakers—Oilless

AIR bubbles. See Bubbles

AIR carriers

See also

Airlines

AIR cleaners

Cooling-system maintenance pays off. D. Haack. Oil & Gas J 55:123-4+ D 2 '57

Evaluation of air cleaners for air conditioning and ventilation. K. T. Whitby and others. il diags Heating-Piping 30:171-8 My '58

See also

Air filters

Manufacture

New equipment installed at AC Spark Plug plant. il plan Automotive Ind 117:54-7+ F 1 '58

Welded air-cleaner assembly makes for big savings. W. E. Meagher. il Iron Age 181: 110-11 F 27 '58

AIR compressors

Air compression; power requirement and cost. W. L. Nelson. Oil & Gas J 56:120 S 8 '58

Air compressor selection. il diags Ap Hydraulics 11:85-8 Ap '58

Air compressors in welding operations. plan diag Welding Eng 43:42-3 F '58

Air compressors; their selection and application. B. W. Mantle. il diag Plant 17:35-7 My '58

Airborne compressors. il Ap Hydraulics 11: 130+ Ap '58

Compressed-air systems. B. G. A. Skrotzki. il diags Power 102:92-5+ Ja; 94-7+ F '58

Compressors in the refinery. diags Oil & Gas J 56:153 Ja 20; 109 F 3; 123 F 10; 135 F 17; 143 F 24; 179 Mr 17 '58

Fifty-two years on the line: Rand drill co. compressor. T. Henshaw. il Comp Air Mag 62:377-8 D '57

Hookup for air compressors; detail sheet. diag Air Cond Heat & Ven 55:88 Ap '58

Industrial know-how handbook; compressed air systems. il Mill & Factory 62:18-19 My '58

Recovery ratio, a measure of the loss recovery potential of compressor stages. L. H. Smith, jr. diags A S M E Trans 80:517-23; Discussion. G. C. Ashby, jr. 623-4 Ap '58

Rotary air compressor. il Engineering 185: 260 F 23 '58

Selection and application of heavy-duty air compressors. R. Schaefer. Product Eng 29: J 12-14 Mid-S '58

Stall propagation in a cascade of airfoils. A. H. Stenning and A. R. Kriebel. bibliog il diags A S M E Trans 80:777-89; Discussion. 789-90 My '58

Tips on selecting the proper air compressor. E. C. Powers. diags Plant 18:37-9 O '58

Unique use of water separator snubber saves on equipment cost. il Power Eng 62:68 Mr '58

What every plant engineer should know about air compressors and the use of compressed air. B. W. Mantle. bibliog il Plant 17:46-8 F '58

See also

Compressed air

Superchargers—Design

Bearings

What can we do about hot bearings on our air compressors? answers. il Power 102: 124-5 S '58

Design

Computer used to survey surge line. D. W. Petersen. S A E J 66:33-5 Ja '58

Positive displacement compressor. il Power Ind 74:20 Ag '58

Lubrication

Proper lubrication—longer compressor life. H. P. Henderson. il Pet Eng 30:D26-8 Ap '58

Regulated air and lube oil flow proves key to smooth air-compressor operation. S. Jester. Power 102:123+ Ja '58

Maintenance and repair

Testimonial for preventive maintenance; 84,000 troublefree compressor hours. D. R. Lohse and G. Mills. il Plant Eng 12:100-2 Ag '58

What can we do about hot bearings on our air compressors? answers. il Power 102: 124-5 S '58

Testing

Effects of stage characteristics and matching on axial-flow-compressor performance. A. Stone. diags A S M E Trans 80:1273-83; Discussion. 1290-2; Reply. 1292-3 Ag '58

AIR compressors, Portable

King-size rotary compressor. il Eng N 160: 145 Je 19 '58

AIR condensers (steam). See Condensers (steam)

AIR conditioning

Air conditioning; principles, systems, and applications. J. K. M. Pryke. il diags Prog Arch 39:162-77 Mr '58

AIR conditioning—Continued

- Air conditioning; specialized needs. *il* plans diag Prog Arch 39:154-61 Mr '58
- Case histories from a consulting engineer's files; modern air conditioning systems must be correctly designed. C. T. Baker, diag Heating-Piping 30:97-8 J1 '58
- Check lists for the planning of air conditioning. W. J. McGuinness. Prog Arch 39:7 Mr '58
- Evaluation of air cleaners for air conditioning and ventilation. K. T. Whitby and others. *il* diags Heating-Piping 30:171-8 My '58
- How to buy air conditioning; with cost data. W. L. Fleisher, jr. diags Power Eng 62:56-8 My '58
- Indoor climate design conference, Los Angeles, Sept. 12-13; abstracts of papers. Air Cond Heat & Ven 54:128-4 N '57
- Ions' role in air conditioning takes on new importance. J. Beckett, diag Heating-Piping 30:165-7 Ja '58
- Man-made climate. *il* diag Prog Arch 39:111-14 Mr '58
- 1957 annual report of committee on research. Heating-Piping 30:215-22 Ja '58
- Outlook for air conditioning. E. J. Benesch. Prog Arch 39:115 Mr '58
- Refrigeration hook-up for air conditioning; detail sheet, diag Air Cond Heat & Ven 55:99 My '58
- Research proposal; improving and proving building values. C. F. Neergaard. Prog Arch 39:11-4 Je '58
- Spacecraft air conditioning. F. H. Green. *il* Aviation Age 29:174-9 My '58
- Thermal behavior of metal curtain walls. *il* diags Air Cond Heat & Ven 55:85-8 F '58
- What causes oily soot problem in high velocity air conditioning? answers. Heating-Piping 30:88-4 Ap '58
- What's just around the corner? M. Baker. Refrig Eng 66:56-8 J1 '58
- See also*
- Air cleaners
 - Air conditioning from central stations
 - Air purification
 - Cold storage
 - Cooling
 - Cooling from central stations
 - Deodorization
 - Electricity in air conditioning
 - Exhaust systems
 - Gas in air conditioning
 - Ventilation
 - also* subdivision Air conditioning under special subjects, e.g.
 - Airplane factories
 - Airplanes
 - Airport buildings
 - Animal buildings
 - Apartment houses
 - Atomic research laboratories
 - Auditoriums
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 - Courthouses
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 - Greenhouses
 - Hospitals
 - Hotels
 - Industrial buildings
 - Motels
 - Motor trucks
 - Municipal centers
 - Newspaper offices
 - Office buildings
 - Office buildings, Industrial
 - Printing offices
 - Public buildings
 - Rolling mills
 - School buildings
 - Store buildings
 - Telephone exchanges
 - Textile mills
 - Underground structures
 - Warehouses

Bibliography

- Book reviews. Published in monthly numbers of Air conditioning, heating and ventilating
- New books and reports. Published in monthly numbers of Heating, piping, and air conditioning
- Recent trade literature. Published in monthly numbers of Heating, piping, and air conditioning

Costs

- Evaluating air conditioning costs. A. I. McFarlan. diags Plant 17:42-5 Mr '58

Hygienic aspects

- Air conditioning raises performance levels. L. L. Lewis. *il* Refrig Eng 66:35-9-4 Ap '58
- Employee turnover down in air conditioned plants. Heating-Piping 30:91 Mr '58

Tables, calculations, etc.

- HPAC data file; reprints of tables, charts and graphs. Heating-Piping 30:179-83 Ja '58
- How to make the most effective use of psychrometric charts. M. A. Ramsey, diags Refrig Eng 66:31-4-4 Ap '58

AIR conditioning, industrial

- Air conditioning cuts rust in a dehumidified metalworking plant. *il* Eng N 161:66 J1 17 '58
- Air conditioning, hidden tool in modern aircraft design; air conditioning for computer installation. E. W. Winchester. *il* Heating-Piping 30:110-13 Mr '58
- Conditioning engine inlet air. O. H. Moore. Gas Age 122:32 J1 10 '58
- Electronic machine operation and accuracy fortified by air conditioning. Air Cond Heat & Ven 54:113 D '57
- Heat pumps assure plastic product quality; Campro co. *il* Elec World 149:96 Ap 14 '58
- Ingenious refrigeration ups output and quality; Peerless co. T. Miller, *il* diag Food Eng 30:108-10 My '58
- Licking the rust problem; humidity control in steel stock storage. *il* Mill & Factory 63:146 Apr '58
- Unusual air conditioning system meets exacting tolerances; General electric co. Aircraft gas turbine div. plant. C. F. Mowrey, diag Heating-Piping 30:130-1 My '58
- Water vapor, third dimension in atmosphere control. E. R. Queer and E. R. McLaughlin, flow diag diag Power Eng 62:75-6 My '58
- See also*

Machine shops—Air conditioning**AIR conditioning equipment**

- Air conditioning floor cuts space, power needs; H. H. Robertson co. Q-Air Floor. *il* Plant Eng 12:113 Mr '58
- Air conditioning; principles, systems, and applications. J. K. M. Pryke. *il* diags Prog Arch 39:162-77 Mr '58
- Air conditioning; residential. *il* plans Prog Arch 39:142-53 Mr '58
- Air-source heat pumps prove practical and economical. J. R. Harnish and R. C. Nless. *il* diags Power Eng 62:72-4 Je; 58-60 J1 '58
- Applying mixed-flow units in commercial air-moving systems. A. A. Atalla, diags Air Cond Heat & Ven 55:64-7 Ap '58
- Better air conditioning, a guide to plant and equipment. *il* diag Manuf Chem 29: 423-7 O '58
- Check lists for the planning of air conditioning. W. J. McGuinness. Prog Arch 39:7 Mr '58
- Chemicals air-condition research labs; Kathabar system. G. A. Kelly, *il* diag Ind Lab 9:26-8 Ap '58; Abstract. Food Eng 30:101-2 J1 '58
- Equipment developments. Published in monthly numbers of Heating, piping, and air conditioning
- HPAC services; the workhorses of automation. *il* Heating-Piping 29:92-4 D '57
- Here are latest machines for updating your plant; air conditioning. Food Eng 30:50 O '58
- Lower-cost comfort in plentiful supply because of aluminum. Light Metal Age 15: 23-4 O '57
- Mechanical integration produces the product of one variable and the difference between two other variables Btu meter developed by Air conditioning equipment corp. *il* diag Machine Design 29:121 N 14 '57
- Musts in designing air systems. S. R. Lewis. Heating-Piping 29:162 N '57
- News of equipment and materials. Published in monthly numbers of Air conditioning, heating and ventilating
- Office building assigned triple role; H. H. Robertson co. *il* Eng N 160:26 Ja 30 '58
- Product applications; new, unusual, or ingenious uses of equipment and materials. Published in monthly numbers of Air conditioning, heating and ventilating
- Research and engineering progress, 1957; air conditioning. *il* Gen Elec R 61:37 Ja '58
- Selection of air conditioning plant. D. Hackett, *il* Manuf Chem 29:420-2 O '58
- Six keys to good flow control in hot-water coils for air conditioning. W. G. Young. diags Air Cond Heat & Ven 55:78-82 F '58

AIR conditioning equipment—Continued

What to watch for when insulating air conditioning systems. C. F. Gilbo. *Il Heating-Piping* 30:110-14 Ag '58; Discussion. J. H. Shaw. 30:102-3 S '58

World's first completely air-conditioned men's clothing plant uses package units; H. Daroff & sons, inc. D. Hartley. *Il Power Ind* 74: 20-1 Ja '58

See also

Air filters

Air pipes

Cooling equipment

Dehumidifiers

Electricity in air conditioning

Gas in air conditioning

Heat pump

Cleaning

How to clean air conditioning units. Plant 17:30 Je '58

Control

Automatic control of primary air units for induction air-conditioning systems. N. J. Janisse and R. G. Weeks. flow diagms *diag Air Cond Heat & Ven* 55:69-76 My '58

Big building air conditioning demands modern control. J. E. Haines. *Heating-Piping* 30:147-8 My '58

Control conference held by the committee on research of the American society of heating and air-conditioning engineers, Cleveland, May 14. *Air Cond Heat & Ven* 55:95 Je '58

Heating, air conditioning industry asks for new look at automatic controls. *Arch Rec* 124:199 J1 '58

Individual zone control panels serve new \$4 million hospital. J. M. Paquet. *Il Heating-Piping* 29:128-31 N; 112-13 D '57

Design

Architect-engineer collaboration in air-conditioning design. R. D'Agrosa. *Il plans Prog Arch* 39:9-11+ Mr '58

Compact room air conditioners; a challenge to design engineers. G. E. LaPorte. *diag Refrig Eng* 65:47-50 N '57

Four steps to air conditioning design. F. W. Hutchinson. *Heating-Piping* 30:176-8 Ja; 92-3 F '58

Exhibitions

Air-conditioning and refrigeration industry 1958 exposition, Chicago, Nov. 18-21; floor plan and list of exhibitors. *Heat & Air Cond Contr* 49:52-9 N '57; *Heating-Piping* 29:150-8 N '57; *Refrig Eng* 65:52-9+ N '57

Fires and fire protection

Pilot light warns of fire hazard. *diag Air Cond Heat & Ven* 55:73 Je '58

Installation

Boilers, compressors go top side in newest newspaper plant. *Il Heating-Piping* 30:84-6 F '58

High velocity dual duct systems for multi-zone installations. N. S. Shataloff. *Il plans diagms Air Cond Heat & Ven* 55:75-85 Ap; 85-98 My '58

How many manhours required for HPAC installation work? answer. H. B. Wayne. *Heating-Piping* 30:100+ Mr '58

Ways to cut installation costs of heating, air conditioning equipment. S. Lewis. *Heating-Piping* 30:127 Mr '58

Where to put a 1000 ton air conditioning system. C. E. Clain. *Il Heating-Piping* 29:120-3 N '57

Maintenance and repair

Important to control slime and algae in the maintenance of air conditioning systems; abstract. S. Sussman. *Air Cond Heat & Ven* 55:56 J1 '58

To keep air conditioning systems operating; combat tower water dirt buildup through good housekeeping. H. L. Shuldener, Jr. *Heating-Piping* 30:86-7 J1 '58

Noise

Laboratory sound study program. W. F. Kerka. *Heating-Piping* 29:146 D '57

New method simplifies predicting noise levels. R. A. Gerlitz. *Heating-Piping* 30:122-6 Ap; 150-3 My '58; Same. *Noise Control* 4:21-5+ My '58

Noise-measuring and sound-control. E. E. Gross, Jr. *Il diagms Refrig Eng* 66:49-53+ My '58

Painting and finishing

Multiple facilities speed appliance painting; Carrier corp. T. A. Bottigri. *Il Ind Finish-ing* 34:20-2+ Ap '58

Specifications

Electrical specifications: air conditioning, heating, plans diagms *Elec Constr & Maint* 57:122-7 My '58

Testing

Design of air flow test chambers. K. A. Merz. *diag Refrig Eng* 66:49-50+ Ja; 55, 65 Mr '58 Soldered joints are shake-tested. *Il Plant Eng* 12:14 J1 '58

Test room for central air conditioning systems; Carrier corp. C. V. Fenn. *Franklin Inst J* 266:206 S '58

Water requirements

Cooling tower for shopping center served by stored run-off water. F. H. Kluckhohn. flow diag *Il Air Cond Heat & Ven* 54:61-4 N '57

High rates of water use. G. R. Scott. *Am Water Works Assn J* 50:369-74 Mr '58

Relationships of temperature and air-conditioning water use. H. F. Seidel and J. M. Carpenter. *Am Water Works Assn J* 50: 226-32 F '58

Stop your cooling-water troubles. W. A. Martin. *diag Power* 102:112-13 S '58

Trends in air-conditioning use and regulation. *Am Water Works Assn J* 50:75-96 Ja '58

Winter operation

Freezing in towers, condensers poses serious problem during winter operation. S. Sussman. *Heating-Piping* 30:93 F '58

AIR conditioning from central stations

Central plants condition three mills. *Il Heating-Piping* 29:118 D '57

AIR conditioning industries

Air conditioning manufacturer sees sales holding at '57 levels. D. C. Minard. *Gas Age* 121:22+ F 6 '58

Case histories from a consulting engineer's files. C. T. Baker. *Heating-Piping* 29:136-7 N '57

Du Pont study sees increase in number of commercial-industrial cooling systems within next twelve months. *Il Air Cond Heat & Ven* 55:132-3 Je '58

Large building equipment sales potentials favorable for 1958. P. B. Andrews. *Air Cond Heat & Ven* 55:41-4 Ja '58

Law and your profits (cont.). W. H. Hillver. *Heating-Piping* 29:145 N; 96 D '57; 30:104 F 142 Mr; 130 Ap; 154 My; 109+ Je; 105 J1; 126 Ag; 149-50 S; 100 O; 129 N '58

1958, will it be a good year? *Heating-Piping* 30:156-9+ Ja '58

Servel A.C. purchase. J. C. Hamilton. *Elec World* 148:116 N 25 '57

See also

Gas in air conditioning

Directories

1958 directory; heating, piping, and air conditioning equipment for industrial, commercial, institutional and public buildings; classified by products, trade names, manufacturers' addresses. *Heating-Piping* 30: sup 1d-159d Ja '58

Hawaiian Islands

Why and when we use air-cooled condensers in Hawaii. F. H. Kohloss. *Air Cond Heat & Ven* 55:89-90 F '58

AIR conditions

Direct solar radiation available on clear days. J. L. Threlkeld and R. C. Jordan. *bibliog maps diag Heating-Piping* 29:135-45 D '57

See also

Air pollution

Temperature—Physiological effect

AIR diffusers

Careful selection of diffuser materials improves wind tunnel performance; receives citation in *Materials* in design engineering competition. *Il Materials in Design Eng* 47: 150-2 Ap '58

AIR ducts. See Air pipes**AIR engines**

Air motor for high temperatures, *Il diagms Engineering* 185:572 My 2 '58

Air motors in safety valve production. *Il Comp Air Mag* 63:36 F '58

AIR entrainment. See Concrete—Air entrainment

AIR filters

- Air cleaning; Rotonamic filter. *Il Engineer* 205:258 F 14 '58
 Air cleaning with low maintenance. *Il Engineering* 185:326 Mr 14 '58
 Continuously scour air in new atom fuel plant. *Il Heating-Piping* 29:146-8 N '57
 Dry cleaning saves control-air filters. *J. Haley, Elec World* 143:59 D 23 '57
 Highlights of research in sanitary engineering; Union carbide nuclear co.; experimental sand filters for airborne radioactive particulates. R. E. Yoder and F. M. Empson. *Il diag Pub Works* 38:94-5 D '57
 Practical air filtration for Diesel locomotives. M. E. Adams. *Applications & Ind* 209:12 S '58
 Products for fluid maintenance; air filters and lubricators. *Il diags Ap Hydraulics* 11:70-2 Ag '58
 Secondary filtration protects locomotive Diesels. *Il Diesel Power* 36:18-19 My '58

Testing

- Factors influencing the air permeability of felt and felt-like structures. N. C. Davis. *bibliog Textile Res J* 28:318-24 Ap '58
 Method for determining removal of pollen from air. *Il Air Cond Heat & Ven* 54:66 N '57

AIR flow

- Analysis of incompressible, nonviscous blade-to-blade flow in rotating blade rows. J. J. Kramer. *bibliog diags A S M E Trans* 80: 263-72; Discussion. 272-5 F '58
 Application of Görtler's series method to the boundary-layer energy equation. E. M. Sparrow. *J. Aeronautical Sci* 25:71-2 Ja '58
 Compression-spring valve. *Il diags Machine Design* 30:139 Mr 20 '58
 Concurrent flow of air, gas-oil, and water in a horizontal pipe. D. P. Sobocinski and R. L. Huntington. *bibliog diags A S M E Trans* 80:252-3; Discussion. 255-6 Ja '58
 Controls help shatter production records; controls of air-flow distribution. *Il I S A J* 5:50-1 Ag '58
 Convection heat transfer and pressure drop of air flowing across in-line tube banks. C. E. Jones and others. *bibliog diags A S M E Trans* 80:18-34; Discussion. 34-5 Ja '58
 Design data for flat air bearings under steady load conditions. H. L. Wunsch. *Il diag Engineer* 206:411-15 S 12 '58
 Design of air flow test chambers. K. A. Merz. *diag Refrig Eng* 66:49-50+ Ja; 55, 65 Mr '58
 Experimental velocity and temperature profiles for air in turbulent pipe flow. C. A. Sleicher, Jr. *diag (52 titles) flow diag Il diags A S M E Trans* 80:693-702; Discussion. 702-4 Ap '58
 Flow measurement by square-edged orifice plates; pipe roughness effects. W. J. Clark and R. C. Stephens. *Il Inst Mech Eng Proc* 171 no 3395-304; Discussion. 905-8; Reply. 908-10 '57
 Isentropic compressible flow of air with variable specific heats. K. E. Tempelmeyer and L. Self. *J. Aeronautical Sci* 25:278-9 Ap '58
 Losses in flow normal to plane screens. W. G. Cornell. *bibliog diag A S M E Trans* 80:791-7; Discussion. 797-9 My '58
 Modes of adiabatic and diabatic fluid flow in an annulus with an inner rotating cylinder. J. Kaye and E. C. Elgar. *bibliog Il diags A S M E Trans* 80:753-63; Discussion. R. C. Dean, Jr. 763-5 Ap '58
 Reduction of Ikenberry-Truesdell equations to Burnett equations for slip flow. H. T. Yang. *J. Aeronautical Sci* 25:404-5 Je '58
 Simple graphical method for constructing two-dimensional supersonic flows by means of a drafting machine. F. E. Ehlers. *diag J Aeronautical Sci* 25:69-70 Ja '58
 Sublimation from disks to air streams flowing normal to their surfaces. H. H. Sogin. *bibliog diags A S M E Trans* 80:61-7; Discussion. 68-9 Ja '58
 Validity of continuum theory for satellite and hypersonic flight problems at high altitudes. M. C. Adams and R. F. Probstein. *bibliog diag Jet Propulsion* 28:86-9 F '58
 See also
 Anemometers
 Compressed air lines
 Couette flow
 Fans, Mechanical
 Turbulence

AIR force academy. See United States—Air force academy

AIR freight service

- Air freight can cost you less! G. C. Thomas. *Il Mod Materials Handling* 13:103-10 O '58
 How to airlift heavy equipment. *Il Iron Age* 180:117 N 14 '57
 Sending machines and spares by air. A. J. Weight. *Engineering* 185:242 F 21 '58
 Shipping by air freight can save more than time; special report. T. M. Rohan. *Il Iron Age* 181:83-5 Ap 24 '58

AIR jets

- Air-jet wire colling; Temco aircraft corp. R. Townsend. *Il Plant Eng* 12:124+ F '58
 Air jets improve die action with thin stock. L. G. Pangburn. *Il Am Mach* 102:101 Ap 7 '58
 Experiments on interaction between a traveling shock wave and a turbulent jet. D. S. Dosanjh. *bibliog Il diags J Aeronautical Sci* 24:838-44 N '57
 Flame-stabilizing effects of inclined air jets. D. P. Duclos and others. *bibliog Il diag Ind & Eng Chem* 49:2003-6 D '57
 Hot air jet tests individual components. L. Ware and J. Fallon. *Il Electronics* 30:226+ D 1 '57

AIR materiel command. See United States—Air force—Air materiel command

AIR motors. See Air engines

AIR navigation

- Advanced Doppler navigation for the U.S. army. J. R. Iverson. *Il diag Aero/Space Eng* 17:81-5 My '58
 Aids to inertial navigation. F. Stevens and F. W. Lynch. *diags Aeronautical Eng R* 16: 43-7 N '57
 Analysis of an inertial guidance system. D. B. Duncan. *bibliog diags Jet Propulsion* 28:111-16 F '58
 Aviation communications and navigation; today and tomorrow. F. B. Gunter and N. B. Tharp. *Il Westinghouse Eng* 17:178-80 N '57
 Bombers shun radiation; stellar-inertial guidance. *Il Electronics* 31:15-17, cover F 21 '58
 Cross coupling in inertial navigation systems. R. E. Wilson and J. B. Lewis. *diags Aero/Space Eng* 17:60-5+ My '58
 Directly double-integrating accelerometer looks good for inertial guidance. K. E. Pope. *Il diags Aviation Age* 28:50-5 Ja '58
 Guidance and control. P. A. Castruccio. *Il Aviation Age* 28:64-8 Mr '58
 Guidance for the space age. C. J. Mundo and E. W. Toother. *Il Aero/Space Eng* 17:30-3 S '58
 Improving inertial-guidance systems. *Il Electronics* 31:8 F 23 '58
 Inertial system bridges missile-space-flight; illustrations and drawings with text. B. Kovit. *Aviation Age* 30:194-5 S '58
 Inertial system to guide X-15. *Electronics* 31: 16 Ja 20 '58
 Interplanetary communication and navigation. P. A. Castruccio. *diags Westinghouse Eng* 18:88-92 My '58
 Multipurpose automatic navigator. B. J. Baron and R. W. Unold. *Il diags Aero/Space Eng* 17:55-9 My '58
 Rhumb line computer automates dead reckoning. *Il diags Aviation Age* 28:100-1 F '58
 Seven jobs for the airborne computer in aircraft navigation and control. E. L. Braun and G. Post. *diags S A E J* 66:63-6 F '58
 Star sensors for automatic navigation. R. B. Horsfall. *diags Aviation Age* 29:150-2+ Ap '58
 Transistorized Doppler has pulse and cw features. J. Holahan. *Il diags Aviation Age* 29: 142-5, 147-+ My '58

See also

Aeronautic instruments
 Radio aids to aviation

AIR pilots**Clothing****See also**

Helmets, Air pilots

Emergency equipment

Emergency rescue container. Franklin Inst J 265:472 Je '58

Food

Feeding men during space flights; symposium. *bibliog Il Food Tech* 12:429-63 S '58

Preventive medicine aspects of flight feeding. A. A. Taylor and B. Finkelstein. *bibliog Il Am J Pub Health* 48:604-9 My '58

Space feeding challenges food engineers. R. G. Tischer. *Food Eng* 30:49-60 S '58

AIR pilots—Food—Continued

Bibliography

Space feeding problems; a bibliography. J. G. Hodgson and R. G. Tischer. *Food Tech* 12:459-63 S '58

Training

See also

Air pilots, Military—Training
Flight simulators

AIR pilots, Military

Space age needs manned aircraft. *Electronics* 31:12 Mr 14 '58

Training

Preventive medicine in naval aviation training. P. B. Phillips and J. T. Bair. *A M A Archives Ind Health* 17:53-7 Ja '58
Technique developed to look over pilot's shoulder. *Franklin Inst* J 264:378 N '57

See also

Flight simulators

AIR pilots helmets. See Helmets, Air pilots

AIR pipes

Cells in steel floor become ducts for air conditioning; H. H. Robertson co.'s Ambridge plant. *il Civil Eng* 28:220 Mr '58

Corridor duct supplies evaporatively cooled air through office transoms in old building. *diag Heating-Piping* 30:99 F '58

Duct system built into arches to air condition new church; Church of tomorrow in Oklahoma City. *il Heating-Piping* 30:131 Mr '58

High velocity dual duct systems for multi-zone installations. N. S. Shataloff. *il plans diags Air Cond Heat & Ven* 55:75-85 Ap; 85-98 My '58

How to determine stock requirements for tubing. *Rubber Age* 82:1023 Mr '58

In-floor duct system saves space, cuts cost. *il plans diag Arch Rec* 123:228-30 Mr '58

Losses in tap-off fittings in high velocity duct systems. N. S. Shataloff. *diags Air Cond Heat & Ven* 55:63-4 Ag '58

Novel method of manufacturing high pressure air ducts. *Franklin Inst* J 265:77 Ja '58

Pilot light warns of fire hazard. *diag Air Cond Heat & Ven* 55:73 Je '58

Silencing air channels; attenuation in rock-wool-lined ducts. A. J. King. *Engineering* 185:29 Ja 3 '58

You can make your own air ducts. *il diags Mill & Factory* 61:109-11 N '57

See also

Compressed air lines

Manufacture

Machine cuts duct costs. *il Steel* 142:125 F 3 '58

Tables, calculations, etc.

How to find equivalent lengths of elbows in rectangular ducts; chart; data sheet. J. T. Eubanks. *diag Heating-Piping* 29:119-20 D '57; 30:97 Mr '58

AIR pipes, Plastic

Plastic ducts for mine ventilation. J. J. Daly. *il Min Cong J* 44:92-3 Ag '58

AIR pollution

Absorption of sulfur dioxide from air; oxidation in drops containing dissolved catalysts. H. F. Johnstone and D. E. Coughanour. *bibliog diags Ind & Eng Chem* 50:1169-72 Ag '58

Air and water pollution in the iron and steel industry. A. Parker. *Iron & Steel Inst J* 139:297-302 Ag '58

Air pollution and its control. C. A. Bishop. *Chem Eng Prog* 53:sup 146-3-+ N '57

Air pollution and the gas industry. F. R. Rehm. *Gas Age* 122:15-19 Ag 7 '58

Air pollution control at a nylon intermediates plant. H. R. L. Streight. *bibliog map plan diags Eng J* 41:69-78; Discussion. 79 Ja '58

Air pollution control; with cost data. *il diag Oil & Gas* J 56:87-102 F 17 '58

Air pollution review 1956-57. K. Kay. *Ind & Eng Chem* 50:1175-80 *bibliog(p 1178-80)* Ag '58

ASHAE air-borne dust survey. K. T. Whitby and others. *bibliog il Heating-Piping* 29:185-92 N '57

Auto exhaust control. *Safety Maint* 115:43 My '58

Auto exhaust may be reduced in nitrogen oxide content by application of new carburetion data. *Air Cond Heat & Ven* 55:106 Ja '58

Characteristics of the organic particulate matter in the atmosphere of certain American cities. E. C. Tabor and others. *map diag A M A Archives Ind Health* 17:58-63 Ja '58
Collection of integrated samples of gaseous effluents. R. S. Brief and P. A. Drinker. *bibliog diag A M A Archives Ind Health* 17:65-8 Je '58

Controlling air pollution. *il Plant Eng* 12:110-12 My '58

Critical evaluation of a filter-strip smoke sampler used in domestic premises. R. J. Shephard and others. *bibliog il A M A Archives Ind Health* 17:236-58 Mr '58

Crops get smog protection; Ozoban from Pfizer. *Chem & Eng N* 36:46 Ag 18 '58

Distribution of certain metals in the atmosphere of some American cities. E. C. Tabor and W. V. Warren. *bibliog A M A Archives Ind Health* 17:145-51 F '58

Effect of local weather on air-pollution problems. A. L. Danis. *il diags Am Soc C E Proc* 83 [SA 6 no 1463] 1-10 D '57; Discussion. J. F. Dias. 84 [SA 3 no 1688] 13-20 Je '58

Effects of air pollution on airport visibility; New York metropolitan area. W. T. Ingram and L. C. McCabe. *bibliog Am Soc C E Proc* 84 [SA 1 no 1543] 1-18 F '58

Engineers joint council policy statement on air pollution and its control; special report. *Am Soc C E Proc* 84 [SA 1 no 1541] 1-3 F '58; Same abstr. *Heating-Piping* 30:167-70 My '58

Evaluation of air-borne particulates in atmospheric pollution studies. M. Katz and others. *bibliog Anal Chem* 30:1172-80 Jl '58

Evaluation of conjugated nitro-olefins as eye irritants in air pollution. K. P. Lampe and others. *Ind Med* 27:375-7 Ag '58

Field tests for toxic substances in industrial atmospheres; abstract. B. E. Dixon. *J Sci Instr* 34:430-1 N '57

For cleaner scrapyards; Smokatron car burner uses electrostatic precipitation. *il Steel* 141:30 D 30 '57

Gas-liquid chromatographic analysis applied to air pollution; sampling. P. W. West and others. *bibliog diags Anal Chem* 30:1390-7 Ag '58

Gas tagging technique exposes guilty plant. *Heating-Piping* 30:92 Mr '58

Health effects of air pollution. L. Breslow and J. Goldsmith. *bibliog Am J Pub Health* 48:913-17 Jl '58; Abstract. *Air Cond Heat & Ven* 55:66 Ja '58

Highlights of research in sanitary engineering; University of California; studies of detergent break-down and air pollution by inefficient combustion. P. H. McGauhey. *il diag Pub Works* 88:88 D '57

Hydrocarbon synthesis in combustion. B. D. Tebbens and others. *bibliog il diags A M A Archives Ind Health* 13:567-73; 17:152-60 Je '58, F '58

Influence of physical activity on the toxicity of aerosols and vapors. C. L. Punte and others. *bibliog A M A Archives Ind Health* 17:34-7 Ja '58

Kinetic studies of formation of atmospheric oxidants. B. E. Saltzman. *bibliog(35 titles) diag Ind & Eng Chem* 50:677-82 Ap '58

Large-volume electrostatic air sampler. S. C. Stern and others. *bibliog diags A M A Archives Ind Health* 18:30-3 Jl '58

New facts on smog. W. L. Faith. *Safety Maint* 115:40 F '58

New Jersey uses smoke index. *Chem & Eng N* 36:30-+ Je 16 '58

New techniques for evaluating environmental exposures. N. A. Talvite. *bibliog A M A Archives Ind Health* 17:563-70 My '58

Photochemical formation of air contaminants from automobile exhaust vapors; effects of different motor fuels. P. P. Mader and others. *bibliog Ind & Eng Chem* 50:1173-4 Ag '58

Product design, key to smog control. *diags Product Eng* 28:106-8 D 9 '57

Prolonged exposure of guinea pigs to sulfuric acid aerosol. M. D. Thomas and others. *bibliog A M A Archives Ind Health* 17:70-30 Je '58

Proving a point; photograph of California's steel alley when the Kaiser plant was shut down. *Ind Phot* 7:48 Jl '58

Radioactive tracer tags air pollution gases; abstract. W. C. L. Hemeon and others. *Safety Maint* 115:39 Ap '58

Report new method for studying air pollution. H. G. Bourne, Jr. *il plan Heating-Piping* 30:139-41 Mr '58

AIR pollution—Continued

- Simplified techniques in air pollution measurement. E. R. Hendrickson. *bibliog* Am Soc C E Proc 84 [SA 6 no 1768]:1-8 S '58
 Smog still a problem. *Chem & Eng N* 36:39 O 27 '58
 Soda ash air pollution; Mead corp. Tappi 40:sup 135A-6A N '57
 Some analytical and clinical methods in the study of atmospheric pollution; abstract. P. J. Lawther. *J Sci Instr* 34:426-7 N '57
 Study of exposure to parathion in a greenhouse. D. Culver and others. *bibliog* J A M A Archives Ind Health 18:235-47 S '58
 Sulfuric acid in the air. *map* Steel 143:34 S 1 '58
 Techniques for air pollution analysis and control. *Air Cond Heat & Ven* 55:14 Mr '58
 Threshold limit values for 1958. A. M. A Archives Ind Health 18:178-82 Ag '58

See also

Dust collectors

Fumes

Gases, Asphyxiating and poisonous

Laws and regulations

- Air pollution laws come to Lehgh valley. J. N. Bell. *Rock Prod* 61:80-3 My '58
 How lawmakers view the problem. *Oil & Gas J* 56:101-2 F 17 '58
 New York, New Jersey get together. *il Chem & Eng N* 36:26-7 E 10 '58
 Societal aspects of pollution control. R. D. Hoak. A. M. A Archives Ind Health 17:446-52 My '58

Research

- Air pollution lab reports from Los Angeles. E. R. Stephens and R. C. Doerr. *bibliog* Franklin Inst J 285:148-52 F '58
 Effect of air contaminants on reproduction and offspring survival in mice. P. Kotin and M. Thomas. *bibliog* A M A Archives Ind Health 16:411-13 N '57
 Interpretation of mass spectra of condensates from urban atmospheres. E. R. Weaver and others. *J Res Nat Bur Stand* 59:383-404 D '57
 Mass spectra of aromatic hydrocarbons filtered from smoky air. F. L. Mohler and others. *bibliog* J Res Nat Bur Stand 60:615-18 Je '58
 Possible contributions by sanitary engineers to air pollution research; research report. Am Soc C E Proc 84 [SA 1 no 1540]:1-6 F '58
 We're learning about air chemistry. *il Oil & Gas J* 56:98-100 F 17 '58

AIR pollution control association

- Annual meeting, 50th, St Louis, June 2-6; with abstracts of papers. *Combustion* 29:61-4 Ag '57

AIR power*See also*

United States—Air service, Army

United States—Air service, Navy

AIR preheaters

- Effect of temperature variation on composition, fouling tendency, and corrosiveness of combustion gas from a pulverized-fuel-fired steam generator. J. D. Piper and H. Van Vliet. *bibliog* il diags A S M E Trans 80:1251-61; Discussion. 1261-3 Ag '58

Cleaning

- High-pressure jetting of regenerative air preheaters. B. L. Canaday. *il Combustion* 29:55-8 F '58
 In-service washing of Ljungström air preheaters on pulverized-coal-fired steam generators. H. J. Hupfer and others. *il diags A S M E Trans* 80:217-22; Discussion. 222-3; Reply. 223-4 Ja '58

Maintenance and repair

- Better repair for tubular air heaters. R. J. Stanley. *il diags Power Eng* 62:88 J '58

AIR pressure support

- Air-supported bubble houses tank farm. *il Plant* 18:32 Ar '58
 Continuous construction now possible, despite extreme cold, heavy snow or rain. *il Plant* 18:32 S '58
 Plastic bubble inflates for use as storage shed. *il Eng N* 160:70 My 22 '58
 They cover a lot of ground; combinations of plastics and synthetic fabrics are replacing canvas as tarpaulin and shelter material. *il Mod Plastics* 36:105-8, 207 O '58

AIR purification

- Activated charcoal for air purification. H. L. Barnebey. *il diag Heating-Piping* 30:158-60 Mr '58

- Operators report on safety in air and ammonia plants; panel discussion. *il diags Chem Eng Prog* 54:52-64 Ag '58

See also

Air conditioning

Air filters

Dust removal

AIR raid shelters

- Bomb shelter controversy revived by two reports. *Arch Forum* 108:11 F '58
 Deep underground shelters studied with Manhattan as prototype. *Arch Rec* 123:288+ Je '58
 Effect of population mobility on the location of communal shelters. M. N. Alexander and others. *bibliog* maps *diag Op Res* 6:207-31 Mr '58
 Fallout shelters. *il diags Arch Forum* 108:130-4 Ap '58
 Low-cost blast-protective construction. C. Curione. *il diags Civil Eng* 28:658-60 S '58
 Sample calculations of gamma-ray penetration into shelters; contributions of sky shine and roof contamination. M. J. Berger and J. C. Lamkin. *diags J Res Nat Bur Stand* 60:109-16 F '58
 Shelters for defense: U.S. calls on architects as focus shifts to fallout. E. Mickel. *diag Arch Rec* 124:40+ JI '58
 U.S. proposes do-it-yourself shelters. L. A. Hoeh. *Eng N* 161:27 Ar 7 '58

AIR raids**Protective measures**

- New age of flight. *il map diag Westinghouse Eng* 17:162-5 N '57

See also

Airplanes—Detection

Radar—Military use

Semi-automatic ground environment system

AIR raids and building*See also*

Atomic bombs and building

AIR research and development command. See United States—Air force—Air research and development command**AIR sampling**

- Characteristics of the organic particulate matter in the atmosphere of certain American cities. E. C. Tabor and others. *bibliog* A M A Archives Ind Health 17:58-63 Ja '58
 Critical evaluation of a filter-strip smoke sampler used in domestic premises. R. J. Shogard and others. *bibliog* il A M A Archives Ind Health 17:236-52 Mr '58
 Determination and measurement of particles in city atmospheres. M. B. Jacobs and others. *bibliog* Am J Pub Health 47:1430-3 N '57
 Distribution of certain metals in the atmosphere of some American cities. E. C. Tabor and W. V. Warren. *bibliog* A M A Archives Ind Health 17:145-51 F '58
 Evaluation of air-borne particulates in atmospheric pollution studies. M. Katz and others. *bibliog* Anal Chem 30:1172-80 JI '58
 Gas-liquid chromatographic analysis applied to air pollution; sampling. F. W. West and others. *bibliog* diags Anal Chem 30:1390-7 Ag '58
 Large-volume electrostatic air sampler. S. C. Stern and others. *bibliog* diags A M A Archives Ind Health 18:30-3 JI '58
 Portable radon detector for continuous air monitoring. W. B. Hartz and others. *bibliog* il diag A M A Archives Ind Health 16:493-8 D '57
 Report new method for studying air pollution. H. G. Bourne, jr. *il plan Heating-Piping* 30:139-41 Mr '58
 Smog chamber studies of unleaded vs. leaded fuels. F. V. Morris and others. *bibliog* Ind & Eng Chem 50:673-6 Ap '58

AIR showers. See Cosmic rays—Showers**AIR springs. See Automobiles—Springs and suspension; Motor trucks—Springs and suspension****AIR traffic. See Airports—Traffic control; Airways—Traffic control****AIR travel**

- Traffic estimates and airport economics. K. A. Osterberg. *Am Soc C E Proc* 83 [AT 2 no 1473]:1-5 D '57

AIR turbines

- Air turbine drives brushes in high-speed rotary polisher; illustrations with text. *Machine Design* 30:159 F 20 '58
 Safety when a turbine fails. *il diag Product Eng* 29:111 Mr 31 '58

AIR turbines—Continued

Control

Electro-hydraulic speed and load division control for constant-speed air-turbine drives, P. Dantowitz and L. G. Norris, diags Applications & Ind p99-106 My '58

AIRCRAFT

See also

Guided missiles

Helicopters

Seaplanes

Television apparatus on aircraft

AIRCRAFT accidents. See Aviation—Accidents

AIRCRAFT arresting gear. See Airplane carriers—Aircraft arresting gear

AIRCRAFT gas turbines. See Gas turbines, Aircraft

AIRCRAFT guns. See Guns, Aircraft

AIRCRAFT steel. See Steel, Aircraft

AIRFOILS

Aerodynamics of nonuniform flows as related to an airfoil extending through a circular jet, S. Rethorst, bibliog diags J Aeronautical Sci 25:11-28 Ja '58

Compressibility rule for drag of airfoil noses, E. T. Jones and M. D. Van Dyke, bibliog diags J Aeronautical Sci 25:171-2+ Mr '58

Determination of the shear center for a special solid symmetrical airfoil, A. J. Sistino, J Aeronautical Sci 25:402-3 Je '58

Establishment of lift on an airfoil with a jet flap, B. Hirsch, diags Aircraft Eng 30: 11-19 Ja '58

Heat transfer in a laminar boundary layer with constant fluid properties and constant wall temperature, A. G. Smith and D. B. Spalding, bibliog diags Roy Aeronautical Soc J 62:60-4 Ja '58

Laminar separation bubbles, K. R. Cramer, diags J Aeronautical Sci 25:143-4 F '58

Prediction of transition in the boundary layer on an airfoil, L. F. Crabtree, bibliog Roy Aeronautical Soc J 62:525-8 Jl '58; Discussion, E. J. Preston, 62:901 D '58

Rotating stall in axial flow compressors, J. Fabri and R. Siestrunck, bibliog diags J Aeronautical Sci 24:805-12+ N '57

Stall propagation in a cascade of airfoils, A. H. Stenning and A. R. Kriebel, bibliog diags A S M E Trans 80:777-89; Discussion, 789-90 My '58

Static bending of pre-twisted cantilever blades, W. Carnegie, diags Inst Mech Eng Proc 171 no 32:873-86, pl 1-2; Discussion, 887-90; Reply, 891, 4 '57

Subsonic lift response to penetration of a sharp edged gust moving at supersonic speed, E. Krasnoff, bibliog diags J Aeronautical Sci 25:214-15 Mr '58

Theory of thin airfoils, isolated and in cascade, yielding finite pressures at smooth leading edges, R. Fanti and others, bibliog diags J Aero/Space Sci 25:409-24 Jl '58

AIRLIFT TCC process. See Gasoline—Manufacture

AIRLINES

Why airlines are hard to please, B. S. Shennstone, Roy Aeronautical Soc J 62:319-35; Discussion, 335-6 My '58

See also

Airports

Employees

Preventive aspects of aviation medicine in a commercial airline operation, O. B. Schreuder, A M A Archives Ind Health 17:170-3 F '58

Equipment

Airlines can use computer techniques; abstract, L. Rosenfeld, S A E J 66:101 Je '58

Management

Air-line technical requirements planning, R. D. Kelly, Aeronautical Eng R 16:59-63 D '57

Application of operations research and computer techniques in airline operations; abstract, L. Rosenfeld, Aircraft Eng 30: 242 Ag '58

Reservation systems

Selling seats by wire line, il Electronics 31: 16 Mr 14 '58

Telegregister's biggest; United air lines' reservation system, Control Eng 5:242+ S '58

Terminals

Jet transports need ground service to match their superior flight service, M. Whitlock, il S A E J 66:39-41 F '58

London air terminal built in record time.

il Arch Rec 123:246-7 F '58

New international air terminal opens, il Eng N 159:29 D 5 '57

See also

Airport buildings

Ticket offices

Interior design data; airlines ticket offices.

L. Sloane, il Prog Arch 39:157-63 F '58

AIRPLANE brakes. See Brakes, Airplane

AIRPLANE carriers

Aircraft carrier H.M.S. Victorious, il Engi-

neer 205:64-5 Ja 10 '58

All-electronic landing system makes good but buyers not ready, il Product Eng 28:90 O 28 '57

H.M.S. Victorious up-to-date, il Engineering 185:94 Ja 17 '58

Navy planes can land in all weather with the new three zone control system, A. B. Winick and J. L. Loeb, diags S A E J 66: 78-9 Ag '58

Aircraft arresting gear

Dynamic analysis and response of aircraft arresting systems, R. S. Ayre and J. I. Abrams, bibliog diags Am Soc C E Proc 84 [EM 2 no 1580]:1-42 Ap '58

Hydraulic fluid in arresting gear for carriers, Engineer 205:322-3 My 30 '58

Orifices control speed in aircraft arresting gear, R. G. Hoare, il diags Ap Hydraulics 11:92+ F '58

Electric equipment

Special power and lighting systems on aircraft carriers, J. R. Cole and M. L. Garbacz, diags Applications & Ind p241-5 S '58

Equipment

Fabrication and service factors involved in failure of welded steam receivers, A. J. Babicki and P. P. Fuzak, il diags Welding J 37:sup320-5 Jl '58

AIRPLANE detectors. See Airplanes—Detection

AIRPLANE engines

Advisory group on aeronautical research and development to N.A.T.O. 3d combustion and propulsion colloquium meeting, Palermo, March 17-21; abstracts of papers, Aircraft Eng 30:233-5 Ag '58

Aero-engine performance measurement, il diags Engineer 204:329-30 D 6 '57

Aero-engines; past, present and future, A. D. Baxter, diags Inst Mech Eng Proc 171 no 1:83-92, pl 1-2 '57

Aircraft propulsion; symposium, il diags Roy Aeronautical Soc J 62:633-62 S '58

Calculation of torsional natural frequencies of branch systems, A. C. Gilbert, bibliog diags Roy Aeronautical Soc J 62:599-603 Ag '58

Engine developments; illustrations with text, Engineer 205:364 S 5 '58

Modern aerodynamic propulsion systems, A. H. Redding, diags Westinghouse Eng 17:166-8 N '57

Thinking about aircraft engines, A. A. Lombard, diags Roy Aeronautical Soc J 62:337-45; Discussion, 345-7 My '58

Transportable training facilities; Rolls-Royce aero-engine school, il Engineering 185:517 Ap 25 '58

Turbojet, turboprop, and reciprocating compound powered airplane transport systems; comparison of the aerodynamic and economic characteristics, R. W. Allen, Aero/Space Eng 17:40-3+ S '58

See also

Gas turbines, Aircraft

Air supply

Variable-geometry inlet; abstract, J. H. Maravel and J. Lyttle, diags S A E J 66:32 Ag '58

Control

Controls are self-locking; throttle controls on the multi-engined Lockheed Electra, il diags Product Eng 28:94 N 25 '57

Experimental investigation of turbojet-engine multiple-loop controls for nonafterburning and afterburning modes of engine operation; abstract, D. B. Kirsch and others, diags Control Eng 5:163 Ap '58

See also

Airplanes—Control

Exhaust

Effect of variation in cylinder length on the exhaust port timing of a two-stroke cycle engine, R. S. Benson, Roy Aeronautical Soc J 62:332-4 My '58

AIRPLANE engines—Exhaust—Continued

Method for calculating the energy available in the exhaust gas at the inlet end of an exhaust pipe of a two- or four-stroke cycle engine. R. S. Benson. Roy Aeronautical Soc J 62:132-5 F '58

Fuel

- Alkylate scarcity squeezes refiners. Oil & Gas J 56:49-50 Ag 4 '58
 Better avgas: AK-38X additive; methyl-cyclopenta-dienyl-manganese-tricarbonyl; abstract. R. P. Glazier. S. A. E J 66:84-5 Je '58
 Boron fuels. Mech Eng 79:1047 N '57
 Estimating combustion heats of aviation gasoline. Oil & Gas J 56:118 Ap 28 '58
 Exotic fuels, now commercial scale. Il Chem & Eng N 36:15-16 My 19 '58
 Future of aircraft fuels; abstracts. R. J. Heaston. S. A. E J 66:39 Je '58; Aircraft Engr 30:239 Ag '58
 Gather safety know-how in boron handling; Calvery chemical co. W. H. Schechter. Ind Lab 9:6-8 Ja '58; Same abstr. A. M. A Archives Ind Health 17:362-6 Je '58; Same cond. Safety Maint 11:5-10-3 Ja '58
 High-energy fuels for aviation. R. A. Wells. bibliog Il Mech Eng 80:55-9 S '58; Abstract. Machine Design 30:10-4 Ap 3 '58
 High energy hydrocarbon fuels. J. Happel and C. J. Marsel. bibliog Il diags Chem Eng Prog 54:60-4 Je '58
 Jet-age fuel estimates are trimmed. Il Oil & Gas J 56:101-3 S 15 '58
 Nuclear fuels for hydromagnetic shock engine. C. F. Johnson. Aviation Age 30:118-20-1 S '58
 Our part in exotic fuels; editorial. Pet Refiner 37:129-4 Ap '58
 Possibilities and problems of some high energy fuels for aircraft. W. T. Olson. Il S. A. E J 66:76-7 Je '58; Abstract. Aircraft Engr 30:239 Ag '58
 Pyrophorics hold future promise; organometallics that ignite spontaneously in air have fuel potential for aircraft, missiles. Chem & Eng N 36:58 Ap 7 '58
 Survey of the radiation stability of hydrocarbon fuels. J. G. Carroll and others. bibliog diags Aeronautical Engr F 17:61-6; Discussion. 65; Reply. 65-6 Mr '58
See also
 Airplanes, Military—Refueling
 Gas turbines, Aircraft—Fuel

Fuel feeding

- Continental's fuel injection for business aircraft. W. A. Wiseman. Il diags Automotive Ind 118:58-60-4 Ap 15 '58
 Convoir test stand provides actual flying conditions for testing fuel system of prototype. A. L. Minella and R. E. Morris. Il S. A. E J 66:96 Mr '58
 Simmonds fuel injection system features simplified design. Il diags Automotive Ind 117:70-4 N 15 '57
 Simple tests give fuel-injection data. W. C. Suttle and C. C. Mock. Il diags S. A. E J 66:64-8 Mr '58
See also
 Gas turbines, Aircraft—Fuel feeding

Jet engines

- Aerothermodynamic test plant: Bristol aeroplanes, ltd. Il diag Engineer 205:543-4 Ap 11 '58
 Analogue for high-intensity steady-flow combustion phenomena. D. B. Spalding. bibliog diags Inst Mech Eng Proc 171 no 10: 383-96; Discussion. Il 396-407; Reply. 408-11 '57
 Bristol's high-altitude test plant for ram-jet engines. Il diag Engineering 185:436-8, 468-70 Ap 4-11 '58
 British rocket and ramjet engines: survey of work to date. A. D. Baxter and S. W. Greenwood. bibliog Il diags Aircraft Engr 30:252-68 S '58
 Comparison of turbojets and ramjets for high speed flight. M. Arens. Jet Propulsion 28: 620-1 S '58
 Experimental investigation of turbojet-engine multiple-loop controls for nonafterburning and afterburning modes of engine operation; abstract. D. B. Kirsch and others. diags Control Eng 5:168 Ap '58
 Flow of a supersonic jet in a supersonic stream at an angle of attack. F. E. Ehlers and T. Strand. bibliog diags J Aero/Space Sci 25:497-506 Ag '58
 Heat expansion licked by cylindrical roller bearings. D. E. Batesole. diags Aviation Age 28:80-5 F '58

Ideal performance of valved-combustors and applicability to several engine types. A. W. Goldstein and others. bibliog diags A S M E Trans 80:1027-36 J1 '58

- Integrated system flight tests DC-8 jets. Il Control Eng 5:42-3 S '58
 Jet-age fuel estimates are trimmed. Il Oil & Gas J 56:101-3 S 15 '58
 Jet engine developments. H. F. Faught and R. A. Neal. Il diags Westinghouse Eng 17: 169-72 N '57
 Jet engine falls its test as snow-removal device. Jet Age N 10:64-5 Je 12 '58
 Jet engine test flight in ARDC propulsion wind tunnel. Elec Eng 77:467-8 My '58
 Marquardt has high hopes for novel ramjets. R. M. Loebelson. Il Space/Aeronautics 30: 16-17 O '58
 Preliminary study of the application of steady-state detonative combustion to a reaction engine. R. Dunlap and others. diags Jet Propulsion 28:451-6 J1 '58
 Propulsion by air breathing engines; abstract. A. Lombard. Aircraft Engr 30:233 Ag '58
 Ramjet supersonic flight tests. Franklin Inst J 265:164-5 F '58
 Ramjet test facility planning. R. O. Dietz, Jr. and A. H. Hinners, Jr. Il Jet Propulsion 28:315-21 My '58
 Ram-jets. R. P. Probert. Il diags Roy Aeronautical Soc J 62:151-63 Mr '58; Excerpts. Engineer 204:367-8 D 13 '57; Abstract. Engineering 185:24-5 Ja 3 '58; Discussion. Roy Aeronautical Soc J 62:169-73 Mr '58
 Some fundamental aspects of ramjet propulsion. A. N. Thomas, Jr. diag Product Eng 28:H26-7 Mid-O '57
 Some recent advances in the mechanics of terrestrial flight. A. Miele. bibliog Jet Propulsion 28:581-7 S '58
 Supersonic jet deflection. R. P. Fraser and P. N. Rowe. bibliog Il diags Roy Aeronautical Soc J 62:43-9 Ja '58
 Techniques of flight simulation for ramjet engines. R. Greenberg. Il diags Jet Propulsion 28:308-14 My '58
 Testing air-breathing supersonic powerplants. G. A. Sears and J. J. Bajek. bibliog diags Jet Propulsion 28:303-3 My '58
 Use of the hydraulic analogy for inside problems. R. A. A. Bryant. J Aero/Space Sci 25:536 Ag '58
 X-7 tests speeded Bomarc ramjet development. L. Stambler. Il Aviation Age 30:88-9-4 S '58
See also
 Gas turbines, Aircraft
 Helicopters—Jet propulsion

Lubrication

- Jet-pump theory and performance with fluids of high viscosity. R. G. Cunningham. bibliog diags A S M E Trans 79:1807-19; Discussion. R. G. Folsom. 1819-20 N '57

Maintenance and repair

- Maintenance development of prop-jet engines; abstract. F. H. Steuber. Aircraft Engr 30: 238 Ag '58
 Tools, ideas, and people perform aircraft engine overhaul and maintenance; abstract. S. P. Youngblutt. Il Mech Eng 79: 1123-5 D '57; Discussion. 80:88-9 J1 '58
See also
 Gas turbines, Aircraft—Maintenance and repair
Manufacture
 Flash-butt weld procedures for extruded titanium parts. R. N. Foster. Il Welding Eng 43:29-30 F '58
 Tooling with plastics. V. L. Fulchino. Il Mach 64:142-6 Ap '58

Specifications

- 1958 U.S. aircraft engines specifications; tables. Automotive Ind 118:252-3 Mr 15 '58

Testing

- Aero-engine test beds; Heenan and Froude; illustrations with text. Engineer 204:823 D 6 '57
 Aerothermodynamic test plant: Bristol aeroplanes, ltd. Il diag Engineer 205:502, 543-4 Ap 4-11 '58
 Aerothermodynamic test plant; Bristol aeroplanes, ltd.; abstract. Eng J 41:85-6 J1 '58
 Bristol's high-altitude test plant for ram-jet engines. Il diag Engineering 185:436-8, 468-70 Ap 4-11 '58
 Convoir test stand provides actual flying conditions for testing fuel system of prototype. A. L. Minella and R. E. Morris. Il S. A. E J 66:96 Mr '58

AIRPLANE engines—Testing—Continued

- Integrated systems flight tests DC-8 jets. *il* Control Eng 5:42+ S '58
 Jet engine test flight in ARDC propulsion wind tunnel. Elec Eng 77:467-8 My '58
 Measuring installed aero-engine thrust. *il* Engineering 185:30 Ja '58
 Ramjet supersonic flight tests. Franklin Inst J 265:154-5 F '58
 Ramjet test facility planning. R. O. Dietz, jr. and A. H. Hinners, jr. *il* Jet Propulsion 28:315-21 My '58
 Techniques of flight simulation for ramjet engines. E. Greenberg. *il* diags Jet Propulsion 28:308-14 My '58
 Testing air-breathing supersonic powerplants. G. A. Sears and J. J. Bajek, bibliog diags Jet Propulsion 28:303-8 My '58
 Testing tomorrow's aircraft. R. K. Collins and W. J. Walker. *il* diags Westinghouse Eng 17: 189-93 N '57

AIRPLANE factories

- Building a factory fast with steel and concrete: Boeing development center, Seattle. *il* Eng N 160:48-50 Ja 23 '58
 Company profile. R. M. Loebelson. *il* Aviation Age 29:16-17+ My; 16-17+ Je; 30:16-17+ Ji; 16-17+ Ag; 16-17+ S '58 (cont as)
 Space/Aeronautics 30:16-17 O; 16-17+ N '58
 Open H&B American's 112,000 sq-ft aircraft parts plant this week. *il* Am Mach 102:148-9 Ja 13 '58

See also

Guided missile factories**Air conditioning**

- Air conditioning, hidden tool in modern aircraft design: air conditioning for computer installation. E. W. Winchester. *il* Heating-Piping 30:110-13 Mr '58

Costs

- Cost reduction program saves \$9,300,000 in 2½ years: Republic aviation corp. N. W. Andrews and others. flow chart *il* plan diags Am Mach 102:113-22 F 24 '58

Electric equipment

- Evolution of a modernized power distribution system: Aircraft accessory turbine dept., General electric co. I. G. Block. *il* Plant 13:57-60 O '58
 Jet liner plant wiring: Douglas plant in Long Beach, Calif. H. P. Scott. *il* diags Elec Constr & Maint 57:65-71 Ag '58

Equipment

- All-electronic devices run series of machine tools: Hughes aircraft co. *il* Machine Design 30:14-15 Ap 8 '58
 Automatic machine control in the aircraft industry. Automobile Eng 48:58 F '58
 Automation news report: production, vehicles, aircraft (cont). S. Cummings. *il* Automotive Ind 17:12+ S 1; 72 D '57; 118:113+ Je 1; 102 F 1; 57+ Mr 1; 58-9+ Ap 1; 70-1 My 1; 72+ Je 1; 119:57 Ji 1; 50 Ag 1; 134+ S 1; 66+ O 1 '58
 Convair methods modern as their jet transports. C. O. Herb. *il* Mach 64:102-11 Ji '58
 Cutting production costs and time with epoxy resin press dies: Grumman aircraft corp. J. J. Mele. *il* Plastics Tech 4:232-4 Mr '58
 Drilling for dollars: punched tape machine pays off in eight months: Hughes aircraft co. J. W. Moffett. *il* Plant Eng 12:94-5 O '58
 Equipment use governs cost: Pastushin aviation corp. *il* Plant Eng 12:120-1+ My '58
 Four ideas for sheet and tube storage: Marquardt aircraft co. W. D. Roch. *il* diags Mod Materials Handling 13:110-11 N '58
 Future machine tool needs of the aircraft industry. J. N. Gosche. Mach 64:159 Ji '58
 Industrial trucks play key role in automotive and aircraft plants. A. W. Shearer. *il* Automotive Ind 118:48-50 Je 1 '58
 Introduction of numerical control at Martin. L. E. Laux. *il* Automation 6:142+ Ap '58
 Line that made headlines: Hughes Aircraft tape-controlled production line. W. Wagenseil. *il* plan Am Mach 102:106-9 My 5 '58
 Magnesium in aircraft tooling. K. F. Melde. *il* Tool Eng 40:103-5 Je '58
 New production and plant equipment. Published in semi-monthly numbers of Automotive industries
 Numerical control cuts cost 48 per cent: Lockheed aircraft corp. *il* Steel 142:66-7 Je 2 '58
 Numerical miller pays dividends: Lockheed aircraft co. E. J. Egan, jr. *il* Iron Age 181:85 F 27 '58

- Plastics tooling cuts lead time: Douglas aircraft co. B. Newburger and H. B. Pawasarat. *il* diags Tool Eng 41:80-1 Ag '58
 Precision forgings minimize machining. A. G. Jones. *il* Tool Eng 41:95-7 S '58
 Production machining with die-making equipment. G. H. De Groat. *il* Am Mach 101:110-12 D 2 '57
 Six areas for saving dollars through numerical control; abstract. A. F. Eskelin. S A E J 66:78-9 Ap '58
 Special machine handles 36 varieties: Cessna Aircraft's industrial products div. E. E. Newman. *il* Steel 143:102 Ag 18 '58
 Special machines at Chance Vought. *il* Automotive Ind 119:48-9 Ag 1 '58
 Stretching the wings of a DC-8. O. L. Rumble. *il* Mach 64:121-4 Ja '58
 Tool engineering for the space age. T. W. Black. *il* Tool Eng 41:73-82 S '58
 Tooling and technique build 880 jets: Convair div. General dynamics corp. G. H. De Groat. *il* diags Am Mach 102:7-7 Ag '58
 Tools at work in the aircraft industry. *il* Tool Eng 41:118-22 S '58
 Variable-angle head contours Douglas airframe members. R. R. Parker. *il* diags Mach 64:150-3 Ji '58

Heating and ventilation

- High temperature hot water cuts big-plant heating costs: Douglas aircraft co. *il* diags Plant Eng 12:114-16 Ap '58

Lighting

- Four times as much light with no re-circuiting from high power fluorescents: Convair's plant no. two. *il* Plant Eng 12:94-6 F '58
 22 acres of 50 footcandle lighting with mercury vapor lamps: Douglas aircraft co. J. Fisher. *il* diags Mill & Factory 63:83-6 Ag '58

Management

- Conservin' Mervin works free, saves Beech \$150,000 first year. *il* Plant Eng 12:122-3 Ja '58
 Cook Electric: how to make money on research and development. R. M. Loebelson. *il* Aviation Age 29:16-17+ F '58
 Cost reduction program saves \$9,300,000 in 2½ years: Republic aviation corp. N. W. Andrews and others. flow chart *il* plan diags Am Mach 102:113-22 F 24 '58
 Long-range planning: panel discussion. Aero/Space Eng 17:63-4+ Je '58
 Management control poses: how to control research and development work, how to measure the work of engineers. W. B. Graddy. *il* Aviation Age 30:18-19+ Ji '58
 What does it take to get into the space flight business? interview with J. R. Dempsey. *il* Aviation Age 28:26-7+ Mr '58

Power

- Ingenious construction scheme hoists steam lines skyward: Convair div., General dynamics corp. E. W. Winchester. *il* Heating-Piping 30:153-5 Ja '58

Quality control

- New concept in quality control: Republic aviation corp. *il* Mill & Factory 62:136-7 F '58

Stores systems

- Four ideas for sheet and tube storage: Marquardt aircraft co. W. D. Roch. *il* diags Mod Materials Handling 13:110-11 N '58

AIRPLANE industry and trade

- Airframe managements face shrinking markets and tough competition. E. Stone. S A E J 66:38-8 My '58
 Aviation industry, present and future. O. R. Cook. Aviation Age 29:16-17+ Ap '58
 Business implications of future space flight systems. W. H. Dorrance, bibliog *il* Aeronautical Eng R 17:20-3 F '58
 How to really help small companies. T. C. Coleman. Space/Aeronautics 30:15 O '58
 Newcomers threaten the airframe producers. C. S. Gross. Aviation Age 30:15 S '58
 Prototypes and other production delays blasted by air force material chief: interview with C. T. Irvine. Product Eng 29:21-2 Ag 4 '58
 Renegotiation policies are unfair and stifling. W. M. Allen. Aviation Age 29:15 Ap '58
 What does it take to get into the space flight business? interview with J. R. Dempsey. Aviation Age 28:26-7+ Mr '58

See also

Boeing airplane company**Canada**

- Avro aircraft Ltd. *il* Chem & Ind p 1045-6 Ag 16 '58

AIRPLANE industry and trade—Canada—Cont.
Canadian aviation industry review; abstract.
E. Hamphill, Eng J 41:78 F '58
Transport equipment; aircraft. II Eng J 41:
105-6 Ap '58

Great Britain

British slash weight, size of aviation equipment.
Product Eng 29:21-2 S 22 '58
Candidates for Farnborough; Britain's transport aircraft. II Engineering 186:266-7 Ag 29 '58
Engineering industries; aircraft. Engineering 185:86-7 A 17 '58
National policy for the aircraft industry. F. Beswick, Engineering 186:269-70 Ag 29 '58
Report of engineering inquiry into the British aircraft industry. II Engineering 185:593-604 My 9 '58
S.B.A.C. display and exhibition, Farnborough. II Engineer 206:362-6, 401-7, 439-42 S 5-13 '58; Engineering 186:340-3 S 12 '58

Russia

Three Russian aircraft designers and their six Soviet transport airplanes. S. D. Browne S A E J 66:53-6 Ap; 26-8 My; 61 Je '58

AIRPLANE models

One-piece plastic plane has automatic starter. II Machine Design 29:118-19 N 28 '57

AIRPLANE parts

Aircraft and missile castings; Pacific alloy engineering corp. W. G. Gude, II Foundry 85:102-5 N '57
Castings for aircraft. J. H. Garrett, Tool Eng 40:211-12 Ja '58
Optimum lot sizes for parts used in aircraft production. J. C. Chambers and others. Diag Op Res 5:385-98 My '58
Three new forging and extrusion methods. J. F. Murphy, II diag S A E J 66:40-2 Je '58
See also
Allerons

Manufacture

Computer produces aircraft parts; Digitape system; illustrations with text. Electronic Ind 17:106-8 Ap '58
Fairley Aviation electronically controlled milling machine for aircraft components. II Engineer 205:695-7 My 9 '58
Forming high-strength materials. W. W. Wood, II diag Tool Eng 41:63-9 Ag '58
Infra-red heat cures bend troubles. E. E. Lankman, II Am Mach 102:108-9 S 22 '58
Measuring scratches accurately reduces rejects on aircraft tubing. E. Siebel and F. R. Miller, II diag Tool Eng 41:55-7 Ag '58
Mill handles big plane parts; Martin co. II Steel 142:123 Ap 7 '58
Missiles manufactured by automated machine tool line; illustrations with text. Elec Eng 77:430 My '58
Precision pays off in cast magnesium airframe parts. L. H. McCreery, II Mod Metals 14:66-4 Ap '58
Use underwater explosions to form aircraft parts; Dynaforming, II Machine Design 30:30-4 J1 24 '58

Testing

Electronics checks aircraft vendor specs. Product Eng 28:22-3 D 16 '57
Test cell simulates altitude. II Iron Age 180:183 N 14 '57

AIRPLANE propellers

Subsonic compressibility correction for propellers and rotors. S. Pivko, J Aeronautical Sci 25:395-7 Je '58

Design

Means of improving the static performance of cruise-designed shrouded propellers. A. E. Johnson, diag J Aero/Space Sci 25:522-3 Ar '58

AIRPLANE stability and stabilizers

Application of the theory of stability in structural design. H. L. Cox, diag Roy Aeronautical Soc J 62:497-515; Discussion. 516-18; Reply. 518-19 J1 '58
Bending stability of thin-walled unstiffened circular cylinders including the effects of internal pressure. H. S. Suer and others. II diag J Aeronautical Sci 25:281-7 My '58
Definitions of damping in aircraft response. T. Czaykowski, Aircraft Eng 30:227-32 Ag '58

Flaps. J. Wolkovitch, diag Roy Aeronautical Soc J 61:815-18 D '57
Hypersonic aerodynamic factors in performance, guidance, and control. W. H. Dornance, bibliog Aero/Space Eng 17:30-3+ My '58

Pilot analog for airplane pitch control. N. D. Diamantides, bibliog diag J Aeronautical Sci 25:361-70-4 Je '58
Response of a bisymmetric aircraft to small combined pitch, yaw, and roll control actions. R. A. Davis, bibliog diag J Aeronautical Sci 24:905-10 D '57
Roll coupling problem, a mathematical approach. R. Westwick, diag Aeronautical Eng R 16:48-61 D '57
Rotary stability derivatives from distorted models. Y. Y. Chan and J. R. Ward, Roy Aeronautical Soc J 62:307-8 Ap '58
Stability equations. E. Sponder, diag J Aeronautical Sci 25:129-30 F '58
Stabilizing effect of centrifugal forces on the laminar boundary layer over convex surfaces. L. Lees, diag J Aeronautical Sci 25:407-8 Je '58
See also
Airplane wings—Flutter
Airplanes—Spinning
Gyroscope

AIRPLANE struts

Effect of dissolution on oleopneumatic shock-strut performance. C. W. Bert, J Aeronautical Sci 25:135-6 F '58

Testing

Tensile strut testing machine. H. Fessler, diag Roy Aeronautical Soc J 62:528 J1 '58

AIRPLANE tails. See Airplanes—Tail surfaces

AIRPLANE tires. See Tires, Airplane

AIRPLANE wings

B-53 wing panels. T. G. Pownall, diag S A E J 66:36 J1 '58
Buckling phenomena of stiffened panels. S. Yusuf, bibliog diag J Aero/Space Sci 25:507-15 Ar '58
Determination of distribution of twist of a straight wing to correspond to the aerodynamic load distribution on a sweptback wing. S. N. Chaudhuri and K. S. Nagaraja, J Aero/Space Sci 25:593-4 S '58
Drag due to lift for delta wings at supersonic speeds. S. Lampert, J Aeronautical Sci 24:919-20 D '57
Effect of rib flexibility on the vibration modes of a delta-wing aircraft. W. D. Kroll, diag J Res Nat Bur Stand 60:335-41 Ap '58
Estimating structural box weight. L. D. Green and J. Mudar, bibliog Aeronautical Eng R 17:48-50 F '58
Experimental investigation of the aerodynamics of a wing in a slipstream. M. E. Brenckmann, bibliog II diag J Aeronautical Sci 25:324-8 My '58
Favorable interference in lifting systems in a supersonic flow. Ferrit and others, bibliog diag J Aeronautical Sci 24:791-804 N '57
Finite vortex method for slender wing-body combinations. G. S. Campbell, diag J Aeronautical Sci 25:60-2 Ja '58
Flight development of the Avro CF-100 Mark 5 aircraft. D. Whitley, bibliog II diag Roy Aeronautical Soc J 62:118-22 F '58
Jet drag of wings with jet flaps. P. R. Payne, diag Aircraft Eng 30:73-81 Mr '58
Jet transport flap considerations. W. T. Hamilton, II Aeronautical Eng R 16:52-5 D '57
Jones' criterion for optimum lifting wings. H. Yoshihara and T. Strand, J Aero/Space Sci 25:600 S '58
Lift and rolling moment on a slender wing-body combination with a deflected tip control. J. F. Clarke, bibliog diag J Aeronautical Sci 25:203-5 Mr '58
Method for providing warning of the onset of buffeting, stalling and other undesirable effects of flow separation. D. W. Holder and H. H. Pearcey, diag Roy Aeronautical Soc J 62:674-6 S '58
One-dimensional temperature distribution in two-layered slabs with contact resistance at the plane of contact. P. Seide, J Aero/Space Sci 25:623-4 Ar '58
Optimum thin lifting surfaces at supersonic speeds. H. Yoshihara and others, bibliog II diag J Aero/Space Sci 25:473-9+ Ag '58
Propulsive wing may be answer to stol problem. R. J. Spinks, bibliog II diag Aviation Age 28:38-43 F '58
Some effects of kinetic heating on the stiffness of thin wings. S. L. Kochanski and J. H. Argyris, diag Aircraft Eng 30:32-40, 82-5, 114-17 F-Ap '58
Some methods for the structural design of wings for application either at ambient or elevated temperatures. J. W. Semanion and R. F. Crawford, bibliog diag A S M E Trans 80:419-26 F '58

AIRPLANE wings—Continued

- Structural response characteristics of a large flexible swept-wing airplane in rough air. T. L. Coleman and others. *bibliog diag J Aero/Space Sci* 25:515-21+ Ag '58
- Thermal buckling of solid wings of arbitrary aspect ratio. J. Singer. *bibliog diags J Aero/Space Sci* 25:573-80+ S '58
- Torsional rigidity of thermally stressed wings. R. L. Bisplinghoff. *bibliog diag J Aero/Space Sci* 25:657-8 O '58
- Vectorial representation of aerodynamic forces acting on a thin rectangular wing oscillating harmonically in supersonic potential flow. J. P. Chawla. *J Aeronautical Sci* 25:329-30 My '58
- Wage drag of exposed rectangular wings. L. M. Sheppard. *bibliog diags Roy Aeronautical Soc J* 62:306-7 Ag '58
- Wind-tunnel photography aids aircraft design. James Forrester research center. S. Hight. *il Ind Phot* 7:20-1+ Ap '58
- See also*

Airfoils**Flutter**

- Analytical results of certain nonlinear flutter problems. S. F. Shen and C. C. Hsu. *J Aeronautical Sci* 25:136-7 F '58
- Effect of quasi-steady air forces on incompressible bending-torsion flutter. J. Dugundji. *J Aeronautical Sci* 25:119-21 F '58
- Effects of a time-varying test environment on the evaluation of dynamic stability with application to flutter testing. W. H. Reed. *3d bibliog J Aero/Space Sci* 25:435-43 JI '58
- Flutter of a thin membrane in hypersonic flow. F. D. Hains. *diags J Aero/Space Sci* 25:595-6 S '58
- Flutter of wings with localised masses. W. G. Molyneux. *bibliog Roy Aeronautical Soc J* 61:667-78 O '57
- Loss of torsional stiffness under load. L. E. Hackman. *diags Aero/Space Eng* 17:53-7+ O '58
- Numerical solution of characteristic equations in flutter analysis. J. N. Franklin. *Assn for Computing Mach J* 5:45-51 Ja '58
- Reciprocity condition for supersonic flutter. J. W. Miles. *J Aeronautical Sci* 24:320 D '57
- Theoretical considerations of flutter at high Mach numbers. H. G. Morgan and others. *bibliog diag J Aeronautical Sci* 25:371-81 Je '58
- Two-dimensional panel flutter. Y. C. Fung. *bibliog il diags J Aeronautical Sci* 25:145-60 Mr '58
- Utilization of experimental results in flutter analysis. B. Mollé-Christensen. *bibliog J Aero/Space Sci* 25:635-43 O '58
- Vibration: a survey of industrial applications. J. P. den Hartog. *diags Engineer* 204:740-1 N 22 '57

Manufacture

- Polyvinyl-alcohol sheet simplifies autoclave bonding. *il Am Mach* 102:112 Ja 13 '58
- Steel shot blasts panel contour. Boeing airplane co. *il diags Steel* 143:68-70 JI 7 '58
- Stretching the wings of a DC-8. O. L. Rumble. *il Mach* 64:121-4 Ja '58
- Surface conditioning to create form; shaping Vanguard wing planks. *il Engineering* 186:379 S 19 '58

AIRPLANES

- Aeronautics in 1957. *il Engineer* 205:25-7 Ja 3 '58
- Candidates for Farnborough; Britain's transport aircraft. *il Engineering* 186:266-8 Ag 29 '58
- Detailed data disclosed on U.S.S.R.'s IL-18 turboprop transport. *Aero/Space Eng* 17:27 My '58
- Soviet airliners; illustrations with text. *Englneer* 205:pl 14 Ja 3 '58
- Soviet Little Bee makes maiden flight. *Aero/Space Eng* 17:31 O '58
- Three Russian aircraft designers and their six Soviet airplanes. S. D. Browne. *S A E J* 66:26-8 My; 61 Je '58
- See also*
- Allerons
- Airfoils
- Helicopters
- Seaplanes

Air conditioning

- Actuator adjusts cooling system. *il Product Eng* 29:112 Mr 31 '58
- Air conditioning in aircraft. E. W. Still. *il diags Roy Aeronautical Soc J* 61:727-55 N '57
- Cooling jet aircraft. *Comp Air Mag* 63:32 F '58

- Cooling the Lockheed Electra. B. L. Messenger. *diags S A E J* 66:46-8 F '58
- Design engineering of B-47 air cycle air conditioning. G. E. Gregg. *il diags Refrig Eng* 65:35-9 N '57
- Open cycle refrigeration. E. J. Gabbay. *diags Aircraft Eng* 30:64-71 Mr '58

Cabins**Supercharging**

- Fail-safe aircraft pressure cabins. D. Williams. *Engineering* 184:727 D 6 '57
- Leakage rates from a pressurised aircraft at altitude. L. R. Jenkins. *Roy Aeronautical Soc J* 61:776-9 N '57
- Pressure-cabin design. P. B. Walker. *diags Aircraft Eng* 30:272-6 S '58
- Pressure cabin design. D. Williams. *diags Research* 11:40-50 F '58

Cleaning

- Wrap-around dock; movable scaffolding simplifies cleaning of airliners. *il Plant Eng* 12:107 JI '58

Cockpits

- Cockpit for Mach-5 aircraft marks new world for pilots. *il diag Machine Design* 30:34+ Ag 21 '58
- Pictorial cockpit display cuts down pilot error. G. W. Hoover. *il diags Aviation Age* 29:32-9 Je '58
- Stretched acrylic, a transparent glazing material for high-speed aircraft. J. G. Stansbury. *bibliog il Aeronautical Eng R* 17:42-6+ Ja '58

Control

- Aids to inertial navigation. F. Stevens and F. W. Lynch. *diags Aeronautical Eng R* 16:43-7 N '57
- Automatic flight, the British story; 46th Wilbur Wright memorial lecture. G. W. H. Gardner. *il map diags Roy Aeronautical Soc J* 62:477-95 JI '58
- Abstract. *Engineering* 185:664 My 23 '58; Discussion. *Roy Aeronautical Soc J* 62:495-6 JI '58
- Flapper valve design counters hydraulic servo failures. K. G. Hart. *diags Aviation Age* 28:60-3 F '58
- Flight-control linkages. R. L. Roemer. *il diags Mech Eng* 80:56-60 Je '58
- Hot gas servos will meet future high performance needs. V. DeBiasi. *diags Space/Aeronautics* 30:78-80+ O '58
- Infrared application to guidance and control. R. W. Powell and W. M. Kauffman. *diags Aero/Space Eng* 17:66-7 My '58
- Liquid cools inertial components. *Electronics* 31:24 S 19 '58
- Practical aspects of boundary layer control; abstract. H. C. Higgins. *Aircraft Eng* 30:239 Ag '58
- Redesign adapts accelerometers to high speed use. D. T. Gundersen. *diags Aviation Age* 29:132-6+ My '58
- Seven jobs for the airborne computer in aircraft navigation and control. E. L. Braun and G. Post. *diags S A E J* 66:63-6 F '58
- Sperry SP-30 autopilot proved out in check flight. *Aviation Age* 29:145-7 Ap '58
- Stable platforms for high-performance aircraft. R. H. Cannon and D. P. Chandler. *diags Aeronautical Eng R* 16:42-7 D '57

See also

- Airplane stability and stabilizers
- Airplanes—Landing
- Airplanes—Spinning

Conversion

- Replacement of piston engines by gas turbines in air liners. H. Sammons. *il diags Roy Aeronautical Soc J* 62:94-104 F '58

Cost of operation

- See also*
- Airplanes, Jet propelled—Cost of operation

Design

- Aerodynamic advances since 1946. T. von Kármán. *Engineering* 186:413-14 S 26 '58
- Aerothermoelasticity. M. E. Rogers. *bibliog diags Aero/Space Eng* 17:34-43+ O '58
- Application of the theory of stability in structural design. H. L. Cox. *diag Roy Aeronautical Soc J* 62:497-515; Discussion. 516-18; Reply. 518-19 JI '58
- Approximate deflections in cantilevers curved in plan. P. B. Mellor and W. Johnson. *diags Roy Aeronautical Soc J* 62:64-6 Ja '58
- Approximate method for determining the wave drag of axisymmetric conical cowls. J. W. Brook. *J Aeronautical Sci* 25:401-2 Je '58
- Approximate solution for slightly yawed n-power bodies at hypersonic speeds. R. W. Truitt. *J Aeronautical Sci* 25:206-7 Mr '58

AIRPLANES—Design—Continued

- Are tool steels the answer to high-speed flight? design data. *il Am Mach* 102:106-10 Mr '58
- Bending stability of thin-walled unstiffened circular crossers including the effects of internal pressure. H. S. Suer and others. *bibliog il diag J Aeronautical Sci* 25:281-7 My '58
- Boundary-layer equation for axially symmetric flow past a body of revolution; motion of a sphere. D. Meksyn. *bibliog J Aero/Space Sci* 25:631-4+ O '58
- Buckling phenomena of stiffened panels. S. Yusuf. *bibliog diags J Aero/Space Sci* 25:507-14 Ag '58
- Compressive buckling of a long simply supported plate on elastic foundation. P. Seide. *diags J Aeronautical Sci* 25:382-4+ Je '58
- Design considerations for boundary layer control stol airplanes. F. G. Wagner. *bibliog diags Aero/Space Eng* 17:58-64 O '58
- Design for production. E. D. Keen. *il diags Roy Aeronautical Soc J* 61:679-87 O '57
- Design of air frames for nuclear power. C. L. Johnson and F. A. Cleveland. *il diags Aeronautical Eng* R 16:48-57 Je '57; Same. *Am Soc Naval Eng J* 70:110-20 E '58
- Designing for aircraft reliability. G. S. Schairer and H. S. Clayman. *S A E J* 66:76-7 Ja '58
- Differential equations for cylindrical shells with arbitrary temperature distribution. P. P. Bijlaard. *J Aero/Space Sci* 25:594-5 S '58
- Diffraction of disturbances around a convex right corner with applications in acoustics and wing-body interference. L. Ting. *bibliog diags J Aeronautical Sci* 24:821-30+ N '57
- Displacement is key in designing for damage. J. T. Muller. *S A E J* 66:35 Ap '58
- Duration of a constant-mass aircraft with a given airframe weight and arbitrary energy-source weight. H. R. Jex. *J Aero/Space Sci* 25:525-6 Ag '58
- Effect of air pressure on vortex-shedding frequency of cylinders. R. E. Rimoldi and others. *J Aero/Space Sci* 25:532 Ag '58
- Effect of internal pressure on the buckling stress of thin-walled circular cylinders under combined axial compression and torsion. L. A. Harris and others. *il J Aeronautical Sci* 25:142-3 F '58
- Effects of a time-varying test environment on the evaluation of dynamic stability with application to flutter testing. W. H. Reed. *3d. bibliog J Aero/Space Sci* 25:435-43 JI '58
- Effects of kinetic heating on aircraft structures. A. W. Kitchenside. *bibliog (30 titles) Roy Aeronautical Soc J* 62:105-17 F '58
- Engine-airframe integration. L. F. Nicholson. *diags Roy Aeronautical Soc J* 61:711-20; Discussion. 720-6 N '57
- Evaluation of spar matrices for stiffness analyses. R. J. Melosh and E. C. Merritt. *diags J Aero/Space Sci* 25:537-43 S '58
- Fail-safe structural design. N. F. Harpur. *bibliog il diags Roy Aeronautical Soc J* 62:363-76 My '58
- Fins. J. Wolkovitch. *diags Roy Aeronautical Soc J* 61:815-18 D '57
- Guided weapons and aircraft: some differences in design and development. J. E. Serby. *il diags Roy Aeronautical Soc J* 62:187-200 Mr '58; Abstract. *Engineering* 184: 822 D 27 '57; Discussion. *Roy Aeronautical Soc J* 62:200-2
- High temperature environments associated with jet propulsion. F. L. Bagby and others. *bibliog diags Chem Eng Prog* 54:58-62 S '58
- Inelastic design steps up performance. G. H. Sprague and P. C. Huang. *diags S A E J* 66:46-9 Ja '58
- Influence of a local cross-section change on the two-dimensional wave by linearized theory. I. Teipel. *diags J Aero/Space Sci* 25:532-3 Ag '58
- Iteration method for solving linear problems in the theory of shallow shells. W. A. Nash and P. L. Shenk. *J Aeronautical Sci* 25:267 Ap '58
- Minimum weight design problem for cylindrical sandwich shells. W. F. Freiberger. *bibliog J Aeronautical Sci* 24:847-8 N '57
- Optimum design of round tubing. W. L. Poesch. *J Aeronautical Sci* 25:215-16 Mr '58
- Optimum distribution of material in a beam for stiffness. B. Saelman. *diag J Aeronautical Sci* 25:268 Ap '58
- Optimum thin lifting surfaces at supersonic speeds. H. Yoshihara and others. *bibliog il diags J Aero/Space Sci* 25:473-9+ Ag '58

- Paper-thin steel sheet cuts weight of aircraft; Ryan aeronautical co. award winner in Materials in design engineering competition. *il diags Materials in Design Eng* 47:128-33 Ap '58
- Pressure-cabin design. P. B. Walker. *diags Aircraft Eng* 30:272-6 S '58
- Pressure cabin design. D. Williams. *diags Research* 11:46-50 F '58
- Primary creep in aircraft design; abstract. B. E. Mundi and C. J. Giernza. *Aircraft Eng* 30:237-8 Ag '58
- Simple method of matrix structural analysis. B. Klein. *diags J Aeronautical Sci* 24:39-46 *bibliog (p45-6)*, 813-20; 25:385-94 Ja, N '57, Je '58
- Tap the reserve strength in metal parts. D. Graziano. *diags Product Eng* 29:44-7 S 29 '58
- Temperature distributions in aircraft structures and the influence of mechanical and physical material properties. K. L. C. Legg and G. Stevens. *il diags Roy Aeronautical Soc J* 62:174-86 Mr '58
- To beat the complexity barrier; evaluating equipment by reliability analysis. J. D. Coutinho. *diags Mech Eng* 80:54-6 Ag '58
- Transient temperature distribution in aircraft structures. I. Frank. *bibliog diag J Aeronautical Sci* 25:265-7 Ap '58
- Transonic flow with a detached bow wave past a wedge between two parallel plane walls. S. Morioka. *diags J Aeronautical Sci* 24:831-7 N '57
- Utilization of experimental results in flutter analysis. E. Mollisch. *bibliog J Aero/Space Sci* 25:635-43 O '58
- Why airlines are hard to please. B. S. Shennstone. *Roy Aeronautical Soc J* 62:319-35; Discussion. 335-6 My '58
- See also
Airplane struts
Airplane wings
Airplanes—Radomes
Airplanes—Stresses
Airplanes, Light
Seaplanes—Design

Convertiplanes

- Convertiplanes occupy much of vtol spectrum. R. L. Lichten. *diags S A E J* 66:30-2 Ja '58
- Shrouded rotor convertiplane design bridges helicopter-airplane gap; Illustrations with text; abstract. R. S. Ross and R. S. Johnson, jr. *S A E J* 66:45 Ag '58

Detection

- Aircraft detection systems. K. M. Mack and C. E. McClellan. *il Westinghouse Eng* 17: 173-7 N '57

Doors

- Upward-sliding doors found best for 880. C. Kerr. *jr. diags Aviation Age* 28:120-5 Ja '58

Electric equipment

- Advantages of a pneumatic electric power system for high Mach number aircraft. M. A. Slavin. *Applications & Ind* p283-8 S '58
- Airborne recorder and computer speed flight-test data processing. A. T. Snyder. *I S A J* 5:44-8 JI '58
- Aircraft electronics laboratories. *il Engineering* 184:665 N 22 '57
- Ac generators for missiles and APUs. P. W. Franklin. *diag Aviation Age* 28:64-9 F '58
- Brushless alternator fills high frequency need. *il Elec Manuf* 61:154 F '58
- Design factors in selecting lightweight electric generators. C. H. Grace and J. N. Hibbard. *il diags Machine Design* 30:117-24 My 29 '58
- Developments in electronics and instruments. *il Engineering* 186:297 S 5 '58
- Dynamic representation of a hydraulic constant-speed drive for air-borne electric systems. P. E. Smith. *jr. diags Applications & Ind* p283-4 Mr '58
- Electrical generating equipment for aircraft. *il diag Engineer* 204:868-9 D 13 '57
- Electro-hydraulic speed and load division control for constant-speed air-turbine drives. F. Dantowitz and L. G. Norris. *diags Applications & Ind* p99-106 My '58
- Engineering product review. Published in monthly numbers of *Aviation age*
- Equipment cooling techniques for supersonic aircraft. G. L. Roth. *bibliog diags Aero/Space Eng* 17:46-48 Ag '58
- False fire warning from chafed wires. *diags Aviation Age* 30:53 Ag '58
- 400-cycle inverter is transient-proof. G. M. Ford. *diags Aviation Age* 29:150-2 My '58
- Future aircraft electrical systems predicted. K. Martinez. *diags S A E J* 66:68-70 Ja '58

AIRPLANES—Electric equipment—Continued

Heat transfer studies lead to light electric motors, E. Ward, *il* diags Aviation Age 30: 70-4 J1 '58

High-temperature bearings will roll with advances in lubricants, materials, design; aircraft electric motors, *il* diag S A E J 66: 23-33 Ap '58

How to specify parallel operation of unregulated transformer-rectifiers, J. R. Topper, *il* diags Aviation Age 28:54-9 F '58

Man-machine systems call for displaying integrated instrumentation, D. G. Aid, *il* C Siskind, *il* diags Electronic Ind 17:68-71 J1 '58

Marine and aviation, *il* Westinghouse Eng 18:21-3 Ja '58

Moisture shorts out electric circuits, diags Aviation Age 28:133 Mr '58

Motors operate in high-octane fuel, Elec Eng 77:376 Ap '58

Simplified aircraft electrical diagrams, H. L. Yarbrough, diags Elec Manuf 62:95-9+ S '58

Size reduction of air-borne transformers, R. E. Lee, *il* Applications & Ind p372-6 Ja '58

S.B.A.C. display and exhibition, Farnborough, *il* Engineer 206:440-2 S 19 '58

Some applications of magnetic amplifiers in aircraft generator protective systems, D. L. Plette and J. W. Butler, *il* diags Applications & Ind p427-3 Ja '58

Static exciter for aircraft a-c generators, H. H. Britten and D. L. Plette, *il* diags Applications & Ind p271-6; Discussion, 276-7 S '58

See also
Airplanes—Control

Electronic equipment

Airborne computer programs flight path, H. Bristol, *il* diags Aviation Age 30:126-31 J1 '58

Airborne correlator to aid data reduction, H. B. Meyer, diags Control Eng 6:127+ Ap '58

Airborne teletypewriter AN/AGC-1, R. A. Michals, *il* diags Com & Electronics p234-9 My '58; Abstract, Elec Eng 77:597 J1 '58

British slash weight, size of aviation equipment, Product Eng 29:21-2 S 22 '58

Can airborne electronics prevent midair collisions? J. Holahan, diags Aviation Age 29: 130-4 Je '58

Component failures in acoustic environment, diags Elec Manuf 61:10-11 Ap '58

Components for severe environmental conditions; abstract, J. S. Lambert, Brit Inst Radio Eng J 13:253 Ap '58

Controls under scrutiny; army-navy instrumentation program, *il* Electronics 31:20 My 2 '58

Cooling unit is part of electronic package, *il* Electronics 31:96-7 F 28 '58

Cur for flight-test data indigestion; project DATUM, E. O. Lindfors, *il* diags I S A J 5:90-3 S '58

Designing for the nuclear environment, J. W. Clarke, Aviation Age 28:95-9 F '58

Developments in electronics and instruments, *il* Engineering 186:297 S 5 '58

Digital and pictorial photographic electronic recorder, R. G. McPherson and I. A. Sonderby, *il* diags Com & Electronics p 194-6 My '58; Same, Elec Eng 77:616-19 J1 '58

Elastomeric mountings for high temperatures, R. P. Thorn, Aviation Age 30:66-9 J1 '58

Electrical insulation properties at ultrahigh temperatures, G. I. Duncan and M. M. Felger, *il* diag Elec Eng 77:318-22 Ap '58

Equipment brief; electronics, *il* diag Aviation Age 29:150-1 Je '58

Equipment cooling techniques for supersonic aircraft, G. L. Roth, bibliog diags Aero/Space Eng 17:40-4 Ag '58

Exec-plane business booms; expanding market for electronic instruments, *il* Electronics Bsns ed 30:28-9 N 10 '57

Experimental study of magnetic materials for use in ultrahigh-temperature electronic transformers, H. B. Harms, *il* diags Com & Electronics p 181-4 My '58; Same, Elec Eng 77:408-12 My '58

Foamed plastics for structural functions in electronic equipment, R. Thielman, *il* Elec Manuf 61:67-73 Ja '58

Fuel gage sales hit \$20 million, Electronics 31:16 Ja 3 '58

Heat resistant laminate for supersonic airborne equipment, F. W. Jahns, jr, *il* Elec Manuf 61:84-5 Ja '58

Instruments find crash causes, Electronics 31: 26-7 Ap 4 '58

Ionic altimeter measures up to 250,000 ft, R. F. Redemske, *il* diag Aviation Age 28: 50-3 F '58

Magnavox develops film data recorder and reader, *il* diag Ind Lab 9:53-5 O '58

Man-machine balance holds key to system reliability, W. F. Chase, Aviation Age 29: 72-4+ My '58

Microelectronics; small circuits set for big role in future systems, J. Holahan, *il* diags Space/Aeronautics 30:20-1+ O '58

New business is born; tv-like flight data display system, *il* Electronics Bsns ed 30:17 N 20 '57

Now producing plane computer, Electronics 31:47 Ja 10 '58

Random vibration testing for evaluation of electronic components for aircraft and missile environments, J. P. Monroe, *il* diags Aero/Space Eng 17:78-80 My '58

Silicon cartridge rectifiers save space in airborne units, J. D. Vickrey, *il* Aviation Age 28:84-9 Ja '58

Transistorized passenger-address system adjusts to aircraft noise, J. M. Tewksbury, *il* diags Electronics 31:106-7 F 14 '58

Translunite ruggedize airborne telemetry keyer, D. A. Williams, bibliog *il* diags Electronics 31:81-3 S 12 '58

Testing

Cruise autopilot tester, L. S. Klivans, diags Control Eng 6:88-9 Ag '58

Equipment

Airborne infra-red solar spectrometer, J. 'T. Houghton and others, bibliog diags J Sci Instr 35:329-33 S '58

Better turbopump design ups aircraft range, J. Bendersky, *il* diag Aviation Age 29:72-5+ Je '58

Cameras record vital flight data, *il* Ind Lab 9: 79 J1 '58

Design notes, Published in monthly numbers of Aviation age

Electromechanical modules through in-line packaging, E. D. Swirsky, *il* diags Aviation Age 29:136-9 Je '58

Engineering product review, Published in monthly numbers of Aviation age

Environment-functional tests; key to systems reliability, C. Clemminshaw, *il* Ind Lab 9:34-5 Ag '58

Equipment briefs; engineering, *il* diag Aviation Age 29:96-7 Je '58

Fatigue of a nut and bolt, P. B. Walker, diags Roy Aeronautical Soc J 62:395-407 Je '58

New products; automotive, aviation, Published in semi-monthly numbers of Automotive industries

Paper studies pay off for float valves, F. W. Cowdrey, diags Aviation Age 29:34-8 My '58

See also
Aeronautical instruments

Airplanes, Military—Equipment

Radio apparatus on aircraft

Radio telephone on aircraft

Television apparatus on aircraft

Fires and fire protection

False fire warning from chafed wires, diags Aviation Age 30:53 Ag '58

Fire retardant paint for aircraft studied, Materials in Design Eng 47:185-6+ Ap '58

Fuel tanks

Plastics for leakproof fuel tanks, J. R. Spurgeon, *il* Aircraft Eng 30:112-13 Ap '58

Fuselage

Analysis of elliptical rings for monocoque fuselages, S. Kaufman, bibliog diags J Aeronautical Sci 25:93-102 F '58

Effect of internal pressure on the buckling stress of thin-walled circular cylinders under combined axial compression and torsion, L. A. Harris and others, *il* J Aeronautical Sci 25:142-3 F '58

Lateral control at supersonic speeds by means of control surfaces on nacelles or on the fuselage, D. W. Holder and R. C. Lock, diags Roy Aeronautical Soc J 62:446-9 Je '58

Lift and rolling moment on a slender wing-body combination with a deflected tip control, J. F. Clarke, bibliog diags J Aeronautical Sci 25:203-5 Mr '58

Simplified fuselage-structure stress distributions, W. R. Jensen, diags J Aero/Space Sci 25:656-7 O '58

Vickers Vanguard features double-bubble fuselage, I. Stambler, *il* diags Aviation Age 29:40-5 My '58

See also
Airplanes, Military—Fuselage

AIRPLANES—Continued

Heating and ventilation

Lockheed Electra takes the drafts out of heating. *il* Control Eng 5:20-1 Ap '58

Hydraulic equipment

Aircraft hydraulic pumps. *il* diags Ap Hydraulics 11:126-8 Ap '58
Aircraft hydraulics conference, 7th, Detroit. Automotive Ind 117:69+ D 1 '57
Aviation products. *il* Ap Hydraulics 11:242+ Ja '58
Bearings for aircraft hydraulic pumps. W. S. Bobier, jr. and C. R. Potter. *il* diag Ap Hydraulics 11:108-10 My '58
Bracket corner punctures fluid line. diag Aviation Age 30:32-31 '58
Calculating spring constants for hydraulic cylinders. G. R. Lay. diags Ap Hydraulics 11:104+ J1 '58
Characteristics of depth and edge type filters for hydraulic systems. H. H. Howard. *il* diags Ap Hydraulics 11:90-4 Ag '58
Circuit ideas from French jet transport. R. Blanchet. *il* diags Ap Hydraulics 11:100-2 J1 '58
Compounds for high temperature fuel seals. E. J. Fujiwara and others. *il* diag Rubber Age 32:1018-20 Mr '58
Contamination control for cleaner, more reliable pumps. J. H. Ballantoni and A. B. Billet. *il* diag Aviation Age 28:134-8 Ja '58
Electro-hydraulic speed and load division control for constant-speed air-turbine drives. P. Dantowitz and L. G. Norris. diags Applications & Ind p39-106 My '58
Flapper valve design counters hydraulic servo failures. K. G. Hart. diags Aviation Age 28:60-3 F '58
Lockheed Electra's hydraulic system designed for safety, fast service. H. Asquith. *il* plan Ap Hydraulics 11:118-19 Mr '58
Manifolded boosters improve hydraulic system dependability. C. H. Cannon. *il* diags Ap Hydraulics 11:102-4 Je '58
Metals for high temperature hydraulics. A. Mars and N. M. Lazar. Aviation Age 30:82-3+ Ag '58
New products and systems for aircraft; 7th annual Vickers conference. Ap Hydraulics 11:256+ Ja '58
New silicone fluids developed. Automotive Ind 117:96 D 1 '57
Pressure losses in flexible metal tubing. C. M. Daniels. *il* diag Product Eng 28:J 13-15 Mid-O '57
SAE aircraft meetings on hydraulics and pneumatics. Oct. 21-25. Ap Hydraulics 11:96+ F '58
SAE highlights new fluid power systems; spring meeting of committees on the development of standards for aircraft and missile hydraulic and pneumatic systems and equipment. Ft Worth, May 6-9. Ap Hydraulics 11:96+ Ag '58
Testing electro-hydraulic servo valves. K. S. Knappin, jr. *il* diag Ap Hydraulics 11:106+ J1 '58
There's a place for high-pressure pneumatics as well as hydraulics. H. E. Wright. diags S A E J 66:90-4 Mr '58
See also

Airplanes, Military—Hydraulic equipment

Ice protection

Aircraft ice protection. E. O. Robertson. diags Engineer 205:928-31 Je 20 '58
Ice on the wings causes airfoil drag coefficient changes; abstract. V. H. Gray. S A E J 65:41 N '57
Icing studies lead to evaluating accuracy of rotating cylinder method of measuring water content in air stream; abstract. C. H. Fish and J. B. Werner. S A E J 66:30-1 J1 '58
Lost wax builds de-iceable radomes; illustrations with text. Am Mach 101:106-8 D 2 '57
Protecting aircraft from ice. *il* diags Engineering 186:61-2 J1 11 '58

Instrument boards

Cockpit screen shows plane's position. Elec Eng 77:860-1 S '58
Controls under scrutiny; army-navy instrumentation program. *il* Electronics 31:20 My 2 '58
Man-machine systems call for displaying integrated instrumentation. D. G. Aid and C. Stusskind. *il* diags Electronic Ind 17:68-71 J1 '58
Naturalness and selectivity are keys to better cockpit display. L. J. Fogel. *il* diags Aviation Age 30:32-7 J1 '58

New business is born; tv-like flight data display system. *il* Electronics Bsns ed 30:17 N 20 '57

New instrument panel has tv-type display. *il* Electronic Ind 16:12 D '57
Pictorial cockpit display cuts down pilot error. G. W. Hoover. *il* diags Aviation Age 29:32-9 Je '58

Tv display lets pilot see ground position. B. E. Chittenden. *il* diag Aircraft Eng 29:148-9 Ap '58
Ultra-violet and white lighting for aircraft instruments; cockpit lighting system using four-watt six-inch fluorescent lamps. P. Chittenden. *il* diag Aircraft Eng 30:9-10 Ja '58

Jet propulsion

See Airplanes, Jet propelled

Landing

All-electronic landing system makes good but buyers not ready. *il* Product Eng 28:90 O 28 '57
Automatic landing system successfully lands Navaho X-10. *il* Elec Eng 77:115 Ja '58
Design notes; drag chute cables snag. diags Aviation Age 28:84 My '58
Ground performance at take-off and landing; chart for estimation of either unstuck or landing roll distance. D. J. Kettle. Aircraft Eng 30:2-4 Ja '58
How we can improve landing and take-off performance of transport aircraft. J. G. Lowry. S A E J 66:80-1 Je '58
New tire for stol-type aircraft may permit rough field landings. V. Frisby. *il* diags S A E J 65:74-6 N '57
Propulsive wing may be answer to stol problem. R. J. Spindler. bibliog *il* diags Aviation Age 28:38-43 F '58
Stol aircraft coming to the fore in many countries. R. Bannack. S A E J 65:56-7 N '57
Structural and impact loads for the flexible airplane during water landings. E. Widmayer, jr. and R. H. Schwab. bibliog diags J Aeronautical Sci 25:161-70+ Mr '58
Take-off and landing distance and power requirements of propeller-driven stol airplanes. R. E. Kuhn. bibliog diags Aeronautical Eng R 16:38-42 N '57
See also

Airplanes, Military—Landing

Airplanes, Vertical take-off

Landing gear

Airsprings and their application to automotive, aircraft, and industrial uses. H. H. Deist. *il* diags Rubber World 138:563-70+ J1 '58
Development of multiple-wheel CBR design criteria. C. R. Foster and R. G. Ahlvin. bibliog Am Soc C E Proc 84 [SM 2 no 16471-12 Mr '58
Dissimilar materials causes corrosion; landing gear of amphibian aircraft. diags Aviation Age 28:102 Ap '58
Effect of dissolution on pneumatic shock-strut performance. C. W. Bert. J Aeronautical Sci 25:135-6 F '58
Electra landing gear touchdowns a year designed for 12,000. J. B. Beach. *il* diags Aviation Age 29:40-5 Je '58
Ground loads on aircraft undercarriages at touch-down; assessment of loads for the purpose of undercarriage design. J. W. Blinkhorn. diags Aircraft Eng 30:277-9 S '58
Jammed slide causes landing accident. diags Aviation Age 29:98 Je '58
Two ways available to stop aircraft skids; abstract. G. H. Collier. S A E J 66:134+ Ap '58
Ultra high strength steel looks good for landing gears. *il* Aviation Age 28:110-13 Ja '58

Lighting

Aviation lighting committee fall technical conference papers available. Illum Eng 53:59 16A Ja '58
Lamps for aircraft lighting. Illum Eng 53:211-12 Ap '58
Lighting the modern commercial aircraft. P. E. Massie. bibliog Applications & Ind p277-83 S '58
Ultra-violet and white lighting for aircraft instruments; cockpit lighting system using four-watt six-inch fluorescent lamps. P. Chittenden. *il* diag Aircraft Eng 30:9-10 Ja '58

Load

Analysis of elliptical rings for monocoque fuselages. S. Kaufman. bibliog diags J Aeronautical Sci 25:98-102 F '58

AIRPLANES—Load—Continued

- Buckling problem of shallow spherical shells under external pressure. H. J. Weitschke, bibliog J Aeronautical Sci 25: 134-5 F '58
- Conservativeness of various distributed force systems. S. E. Bodner, J Aeronautical Sci 25:132-3 F '58
- Determination of distribution of twist of a straight wing to correspond to the aerodynamic-load distribution on a sweptback wing. S. N. Chaudhuri and K. S. Nagaraja. J Aero/Space Sci 25:593-4 S '58
- Effect of axial loads on lateral vibrations of a slender member with any degree of end restraint. G. M. Smith and L. E. Youngs, diag J Aero/Space Sci 25:596-7 S '58
- Ground loads on aircraft undercarriages at touch-down; assessment of loads for the purpose of undercarriage design. J. W. Blunkhorn, diag Aircraft Eng 30:277-9 S '58
- Loss of torsional stiffness under load. L. E. Hackman, diag Aero/Space Eng 17:53-7+ O '58
- Measurement and analysis of gust structure. P. H. Hooke, Roy Aeronautical Soc J 62: 304-5 Ap '58
- Optimization of multiweb beams under combined bending and torsional loading. G. Strasser, diag J Aero/Space Sci 25:529 Ag '58
- Plastic bending of heavily curved beams. W. Johnson and B. W. Senior, diag Roy Aeronautical Soc J 61:824-30 D '57
- Power-spectrum equation for stationary random gusts, including a sample problem. K. D. Saunders, bibliog diag J Aeronautical Sci 25:295-300 My '58
- Reduction of maximum loads in nonlinear viscoelastic columns. H. H. Hilton, bibliog J Aeronautical Sci 25:399-400 Je '58
- Structural and impact loads for the flexible airplane during water landings. E. Widmayer, jr, and R. H. Schwab, bibliog diag J Aeronautical Sci 25:161-70+ Mr '58

Manufacture

- Adhesive-bond future challenged by 1000F uses. K. Buchele, S A E J 66:46-7 Mr '58
- After-sales brains trust; non-destructive testing shown to Viscount operators. II Engineering 185:782-3 Je 20 '58
- Aircraft and missile production number, 18th. II diag Mach 64:101-63 JI '58
- Aircraft's headcases. Steel 142:116 Ap 7 '58
- Attaching sandwich components. Mech Eng 79:1154-5 D '57
- Bellwether with wings; 26 new areas of development in fabrication, materials and processes by the aircraft industry. E. J. Fangerman, II Product Eng 29:52-7 JI 7 '58
- Bonding has major role in construction of the F-27. D. A. Partridge, II diag Automotive Ind 119:54-6+ JI 1 '58
- Building-block gages cut jig fabrication costs. J. Less and L. Willick, II diag Tool Eng 40:97-9 F '58
- Convincer 830 in production. II diag Automotive Ind 118:48-9 Ap 15 '58
- Design for production. E. D. Keen, II diag Roy Aeronautical Soc J 61:679-87 O '57
- Experience helps forecast future program scheduling; abstract. J. Sanford, S A E J 66:86 F '58
- Fine grind cuts tool costs; Anocut electrolytic grinding system; Ryan aeronautical co. II Steel 142:72 Je 2 '58
- Formability index determines minimum bend radius. W. W. Wood, diag Am Mach 101: 121-5 F 25 '57; Excerpts. Product Eng 28: F23-5 Mid-O '57
- Heavy press forgings for aircraft. E. C. Wright, II diag Metal Prog 72:105-10 D '57
- Hot-sizing titanium shapes at Ryan aeronautical co. C. O. Herb, II Mach 65:122-4 O '58
- Improving aerodynamic smoothness requires concerted effort. R. J. Nicholson, S A E J 66:70-1 Mr '58
- Latest in production practice. Engineering 185:95 Ja 17 '58
- Learn to work sheet metal the low-cost way. II Iron Age 181:104-5 Ap 10 '58
- Let's tolerate the tolerance. G. D. Simmons, diag S A E J 64:85-9 My '56; Same cond. Product Eng 28:A20-1 Mid-O '57
- Line that made headlines: Hughes Aircraft tape-controlled production line. W. Warren, II plan Am Mach 102:106-9 My 5 '58
- Manufacturing in the aeronautic age. B. K. Bucey, Engineer 205:89-92 Ja 17 '58

- Method for fastening honeycomb structures. R. J. Schwab, diag Materials in Design Eng 47:168+ Mr '58
- Motor makers discuss aircraft construction. J. L. McCloud, II Metal Prog 72:77-81 D '57
- New methods meet the challenge of honeycombs; Boeing airplane co. II Steel 143:60-1 S 1 '58
- Production conference, 6th, Southampton, Jan. 2-3; abstracts of papers. Aircraft Eng 30:41-3+ F '58
- Production short cuts. Published in monthly numbers of Aviation age
- Sheet metal fabrication in the aircraft industry. A. Viece, jr, II Tool Eng 40:205-8 My '58
- Sub-contracted routing; illustrations with text. Aircraft Eng 30:243 Ag '58
- Survey hot-work tool steels for aircraft and missiles. R. J. Nekervis and others. Iron Age 181:99-102 F 27; 120-1 Mr 6 '58
- Ultrasonics cuts gaging time. C. P. Albertson, II Aviation Age 29:46-50 Je '58
- See also
- Airplane factories
- Airplanes—Welding operations
- Airplanes, Military—Manufacture

Materials

- Applications for ceramic materials and processes in present and future aircraft. W. M. Sterry, Cer Ind 70:155-8 Ap '58
- Automotive and aircraft uses of tin. A. W. Shearer, II Automotive Ind 119:54-8 JI 15 '58
- Beryllium for weapon systems. Mach 64:149 Mr '58
- Crippling strength of compression elements. G. Gerard, bibliog diag J Aeronautical Sci 25:337-52 Ja '58
- Developments in steel and titanium. II Aircraft Eng 30:72 Mr '58
- Effects of temperature-time histories on the tensile properties of airframe structural aluminum alloys; abstracts. R. E. Fortney and C. H. Avery, Metal Prog 72:270+ O '57; Steel 141:136+ N 4 '57
- Elastomeric mountings for high temperatures. R. P. Thorn, Aviation Age 30:66-9 JI '58
- Evaluation of new titanium-base sheet alloy, Ti-4Al-3Mo-IV; abstract. E. S. Richards and others. Steel 141:138+ N 4 '57
- High speeds need new alloys. Iron Age 181: 80-1 F 13 '58
- High temperatures spur use of nickel-base alloys. T. E. Kihlgren, Aviation Age 28: 30-5 F 130-4+ Mr '58
- How can we hurdle the materials roadblock? I. Stambler, II Aviation Age 30:18-19+ Ag '58
- How to find airframe material emissivity. G. V. Thompson, II diag Aviation Age 29: 63-71 My '58
- How to simplify tests for primary creep data. B. B. Muvdi and C. J. Gienza, S A E J 66:46-8 Ag '58
- Lithia agents boost heat resistance of ceramic coatings. P. A. Huppert, Aviation Age 29: 58-8 My '58
- Materials for a space traveller. R. A. Jones, Metal Prog 74:78-82 JI '58
- Materials for aircraft structures subjected to kinetic heating. A. J. Murphy, bibliog Roy Aeronautical Soc J 61:653-66 O '57
- Materials progress; metals. I. Stambler, Aviation Age 30:54-61 Ag '58
- Materials progress; non-metals. I. Stambler, diag Aviation Age 30:62-4+ Ag '58
- Materials progress; reference tables. Aviation Age 30:90-2 Ag '58
- Mechanical behavior after creep. G. Gerard, J Aeronautical Sci 25:397-8 Je '58
- Mechanical factors involved in bearing design for aircraft electric motors; abstract. T. W. Bakewell, Machine Design 30:100 Mr 6 '58
- Metals for high temperature hydraulics. A. Mars and N. M. Lazar, Aviation Age 30:82-3+ Ag '58
- Molybdenum for aircraft applications; abstract. R. T. Begley, Tool Eng 39:212-13 N '57
- Motor makers discuss aircraft construction. J. L. McCloud, II Metal Prog 72:77-81 D '57
- Needed; facts on space age metals; symposium. Steel 142:102-4 Je 16 '58
- New aluminum forging alloy. W. Bomhardt, II Product Eng 28:62-3 D 23 '57
- New extrusion; fabrication process reduces jet engine parts costs. N. J. Feola, II diag S A E J 66:32-6 F '58; Same, Iron Age 181:96-8 Mr 27 '58

AIRPLANES—Materials—Continued

New test facility simulates flight through the thermal barrier. *Automotive Ind* 117:148+ O 15 '57

Outline of things to come. J. N. Dick and P. L. Hill. *diags Aeronautical Eng R* 16: 26-9+ D '57

Outlook for 500 deg F silicone rubbers. J. F. Dellaria. *Aviation Age* 29:60-4 Je '58

Paper, plastics, and weight-saving construction in aircraft. G. May. *il diags Aero/Space Eng* 17:34-9 J1 '58

Preview of space age metals. *il Steel* 142: 56-7 M '58

Productibility aspects of advanced aircraft. A. H. Petersen. *il Tool Eng* 40:207-8 F '58

Radiation-tolerant electronic materials. V. DeBlasi. *Aviation Age* 30:72-4+ Ag '58

Selecting structural materials for supersonic flight. D. C. Cox. *Aeronautical Eng R* 17: 23-31 Ja '58

Sheet steels for high-speed aircraft and missiles. A. L. Feild and M. E. Carruthers. *il Aero/Space Eng* 17:41-4 Je '58

Theories of strength for combined stresses and monostropic materials. J. Marin. *bibliog diags J Aeronautical Sci* 24:265-8+ Ap '57; Discussion. 25:59-60, 408 Ja, Je '58

Thermal creep design criteria. R. Goldin. *bibliog Aeronautical Eng R* 16:36-41 D '57

301 stainless modified for 800 deg F and up; MicroMach. D. B. Roach and others. *il Space/Aeronautics* 30:58-63 O '58

Titanium aircraft parts extruded from ingots; abstract. N. J. Feola. *Materials in Design Eng* 47:156+ Je '58

Titanium alloys developed for aircraft-missile applications. *Automotive Ind* 119:65 Ag 15 '58

Titanium alloys for air and spacecraft. W. L. Finlay and others. *diag Metal Prog* 74:134+ S '58

Titanium-sheet-rolling program. N. E. Promisel and W. J. Harris. *jr. Mech Eng* 79: 112-16 D '57

Tough alloys; Ryan boosts efficiency in machining them. J. N. Willits. *il Mach* 64: 146-9 J1 '58

2000 F structures are possible now; abstract. H. A. Pearl. *S A E J* 66:70-1 Ag '58

Use of magnesium in future aircraft and missile structures. J. H. Bazley and R. E. Mihalco. *il Light Metal Age* 15:24-7 D '57; *Modern Metals* 14:32-4 F '58; *Automotive Ind* 117:72+ N 15 '57

Variational theorem for creep. T. H. H. Pian. *J Aeronautical Sci* 24:846-7 N '57

What we need in high temperature materials. A. J. Carah. *il Iron Age* 181:76-7 Ja 23; 102-4 Ja 30 '58

Why jets are going stainless. T. M. Rohan. *Iron Age* 182:46-7 Ag '58

X-15 has stainless skin. *il Steel* 142:51 Mr 31 '58

See also

Steel, Aircraft

Plastics

Bladder molding forms smooth plastic laminates. J. A. Bagley and F. M. Partridge. *il diags Am Mach* 102:102-3 Ap 7 '58

Curon's properties and applications. *Automotive Ind* 117:94 O 15 '57

Foamed plastics for structural functions in electronic equipment. R. Thielman. *il diag Elec Manuf* 61:67-73 Ja '58

Herald laminated plastic use in planes. *il Product Eng* 29:25 F 24 '58

Huge canopy gives SeaMaster all-around visibility. J. A. Cascio. *il Mach* 64:154-8 J1 '58

Modified polyesters are strong at 500 F. R. G. Nelb. *Materials in Design Eng* 47: 204+ Ap '58

New epoxy-glass molding compound. H. J. Doyle and G. R. Molby. *il Materials in Design Eng* 47:106-9 My '58

Operation dust-free: reinforced plastics are produced in new pressurized plant; Douglas Aircraft, Torrance, Calif. *il Mod Plastics* 35:102-3 F '58

Phenolic laminates hold up at 500 F. *il Materials in Design Eng* 47:156+ My '58

Plastics in the aircraft industry; abstract and discussion. E. W. Russell. *Chem & Ind p* 1590-1 D 7 '57

Plastics in the Britannia. *il diags Brit Plastics* 31:132-9 Ap '58

Polyester/glass in the Twin Pioneer aircraft. *il plan Brit Plastics* 31:25-7 Ja '58

Prepreg, epoxy molding cut weight and cost of aircraft structure; receives citation in Materials in design engineering competition. *il Materials in Design Eng* 47:149 Ap '58

Stretched acrylic, a transparent glazing material for high-speed aircraft. J. G. Stansbury. *bibliog il Aeronautical Eng R* 17:42-6+ Ja '58

Model testing

Accurate hydraulic positioning system uses air-actuated transducers for sensing. *il diags Machine Design* 29:88-90 D 26 '57

Assessment of results obtained in transonic wind tunnels. F. O'Hara. *bibliog il diags Roy Aeronautical Soc J* 62:21-6; Discussion. 26-31 Ja '58

Blocking in the supersonic wind tunnel. B. Dayman, Jr. *il J Aeronautical Sci* 25:264-5 Ap '58

Duration of a constant-mass aircraft with a given airframe weight and arbitrary energy-source weight. H. R. Jex. *J Aero/Space Sci* 25:525-6 Ag '58

Effect of loads on the spring constant of a particular type of flexure. F. G. Blottner. *diags J Aeronautical Sci* 25:272-3 Ap '58

Hypersonic gas gun tests two ways. *diags Product Eng* 28:14 Ag 25 '58

Polyester/glass for the construction of model research aircraft. W. C. G. Messam. *il Brit Plastics* 31:351 Ag '58

Rotary stability derivatives from distorted models. Y. Y. Chan and J. R. Ward. *Roy Aeronautical Soc J* 62:307-8 Ap '58

Some aspects of transonic tunnel operation in industry. F. E. Roe. *il Roy Aeronautical Soc J* 62:16-20; Discussion. 26-31 Ja '58

Models

See Airplane models

Noise

Transistorized passenger-address system adjusts to aircraft noise. J. M. Tewksbury. *il diags Electronics* 31:106-7 F 15 '58

Painting

Fire retardant paint for aircraft studied. *Materials in Design Eng* 47:185-6+ Ap '58

Hot lines keep paint fluid; Douglas aircraft co. *diag Steel* 143:117 J1 21 '58

Paint thickness; a critical airplane dimension. N. R. Keegan. *il Mach* 64:161 N '57

Painting big airplanes; Boeing airplane co. T. A. Dickinson. *il Ind Finishing* 34:60+ Ja '58

Painting operations at Rohr Aircraft. M. Larsen. *il Ind Finishing* 34:20-2+ N '57

Wash primers; use them correctly; aircraft production. C. Conway. *Ind Finishing* 34: 48-9 Ja '58

Pneumatic equipment

Advantages of a pneumatic electric power system for high Mach number aircraft. M. A. Slavin. *Applications & Ind* p283-8 S '58

Airborne compressors. *il Ap Hydraulics* 11: 130+ Ap '58

Case for pneumatics; examination of the possibilities of high and low pressure systems. J. Wotton. *diags Aircraft Eng* 30: 190-3 J1 '58

1000 F pneumatic servo system. C. H. Cannon. *S A E J* 66:70-1 Ap '58

Pneumatic actuator best for 600 deg F; for jet engine exhaust nozzles and thrust reversers. R. C. Schimmel. *il diags Aviation Age* 30:112-16 S '58

Pneumatic system design. J. V. Dymkowski. *il diags Aeronautical Eng R* 17:50-5+ Mr '58

Safety when a turbine fails. *il diag Product Eng* 29:111 Mr 31 '58

Sealed flexible air duct joint; patent. *diags Aviation Age* 28:36-7 F '58

SAE aircraft meetings on hydraulics and pneumatics. Oct. 21-25. *Ap Hydraulics* 11: 96+ F '58

SAE highlights new fluid power systems; spring meeting of committees on the development of standards for aircraft and missile hydraulic and pneumatic systems and equipment. Ft Worth, May 6-9. *Ap Hydraulics* 11:96+ Ag '58

There's a place for high-pressure pneumatics as well as hydraulics. H. E. Wright. *diags S A E J* 66:90-4 Mr '58

Use standard functions to test pneumatic systems. R. Reid. *il diags Control Eng* 5: 117-4 Ja '58

See also

Airplanes, Military—Pneumatic equipment

Private ownership

See also

Airplanes in business

Radio equipment

See Radio apparatus on aircraft

AIRPLANES—Continued

Radomes

Ceramic radome wall thickness tolerance requirements and their interpretation. M. J. Kofoid. *il* diag Am Cer Soc Bul 37:4-8 Ja 15 '58

Epoxy radomes made by unique lost wax process. G. Mooring and C. R. Lemons. *il* Plastics World 16:8-9 Ap '58

How to design radome structures for high speed aircraft and missiles. R. M. Kubow and N. J. Linardos. *diags* Aviation ARE 28:7-9 F '58

Lost wax built de-iceable radomes; illustrations with text. *Am Mach* 101:106-8 D 2 '57

Over-size caliper measures radome thickness. A. Wittenberg. *il* Am Mach 101:164 N 18 '57; Discussion. L. Polk, Jr. *diag* 102:113 F 10 '58

Plastic radomes take 500-2,500F. *Electronics* 31:33 Mr 7 '58

Some missile design requirements for ceramic radomes. G. D. Robertson. *bibliog diag* Am Cer Soc Bul 37:1-3 Ja 15 '58

Strong, light radome is foam polystyrene. H. L. Loucks. *il* Electronics 31:101-3 F 28 '58

Refueling

Refuelling Valiants in flight. *il* Engineering 185:477 Ap 11 '58

Safety measures

See also
Parachutes

Seats

Close-packed comfort; lightweight economy aircraft seats. *il* Engineering 185:646 My 23 '58

Energy absorption applied to seat design: Aerotherm seat. R. Hawthorne. *il* diags Space/Aeronautics 30:70-4+ O '58

Seats load passengers into surprise package. *il* diags Product Eng 29:88-9 S 15 '58

Specifications

1958 U.S. and foreign civil aircraft specifications; tables. *Automotive Ind* 118:248-50 Mr 15 '58

Speed

Transport speeds. G. Edwards. *Engineer* 205:358-9 Mr 7 '58; Abstract. *Engineering* 185:380 Mr 21 '58

See also
Airplanes, Jet propelled

Spinning

Autorotation of fuselages. M. H. Clarkson. *diags* Aeronautical Eng R 17:33-6 F '58

Development of satisfactory spin characteristics for the T-37. H. R. Clements. *il* Aeronautical Eng R 17:38-41 Ap '58

Vertical tail aids spin characteristics; abstract. J. K. Wykes. *S A E J* 66:87 F '58

Stalling

Rotating stall in axial flow compressors. J. Fabri and R. Siestrunk. *bibliog diags* J Aeronautical Sci 24:805-12+ N '57

Take-off and landing distance and power requirements of propeller-driven stol airplanes. R. E. Kuhn. *bibliog diags* Aeronautical Eng R 16:38-42 N '57

Vibration; a survey of industrial applications. J. P. den Hartog. *il* diags Engineer 204:741-2 N 22 '57

Stresses

Approximate formulas for thermal-stress analysis. D. J. Johns. *diag* J Aero-Space Sci 25:524-5 Ag '58

Axisymmetric thermal stresses in thin shells of revolution. G. D. Gallely. *J Aeronautical Sci* 25:201-2 Mr '58

Buckling at high temperature. N. J. Hoff. *bibliog* (47 titles) *il* diags Roy Aeronautical Soc J 61:756-74 N '57

Buckling of a simply supported rectangular plate under compression reacted by shear. V. I. Weingarten. *J Aeronautical Sci* 25:207-8 Mr '58; Discussion. P. Seide. *J Aero/Space Sci* 25:472 J '58

Buckling of simply supported plates under arbitrary symmetrical temperature distributions. J. M. Klosner and M. J. Forray. *diag* J Aeronautical Sci 25:181-4 Mr '58

Buckling phenomena of stiffened panels. S. Yusuf. *il* diags J Aero/Space Sci 25:507-15 Ag '58

Complementary energy principle in linear thermoelasticity. G. Herrmann. *J Aero/Space Sci* 25:660 O '58

Concerning the rigidity of elastic structures. M. Zaid. *diags* J Aeronautical Sci 25:141-2 F '58

Crippling strength of compression elements. G. Gerard. *bibliog diags* J Aeronautical Sci 25:37-52 Ja '58

Critical strain approach to creep buckling of plates and shells. G. Gerard and A. C. Gilbert. *bibliog il* J Aero/Space Sci 25:429-34+ J '58

How airlines use X-rays; diffraction and conventional X-ray photographs to detect stresses and cracks in airplanes. A. D. Edwards. *il* S A E J 65:53 D '57

Inelastic combined thermal and applied stresses in skin-stringer aircraft structure. B. E. Gatewood. *J Aeronautical Sci* 25:212 Mr '58

Inelastic design steps up performance. G. H. Sprague and P. C. Huang. *diags S A E J* 66:46-9 Ja '58

Photoelastic determination of stress concentration factors caused by a single U-notch on one side of a plate in tension. A. G. Cole and A. F. C. Brown. *diag Roy Aeronautical Soc J* 62:587-8 Ag '58

Poisson's ratio for honeycomb sandwich cores. G. A. Hoffman. *J Aero/Space Sci* 25:534-5 Ag '58

Proof of Duhamel's analogy for thermal stresses. A. J. A. Morgan. *J Aero/Space Sci* 25:466-7 J '58

Reinforced elliptical holes in stressed plates. R. Hicks. *diags Roy Aeronautical Soc J* 61:688-93 O '57

Shear moduli for flat panels and the effect of flange flexibility. J. C. Simmons. *diags Roy Aeronautical Soc J* 61:696-700 O '57

Simplified fuselage-structure stress distributions. W. R. Jensen. *diags J Aero/Space Sci* 25:656-7 O '58

Stability equations for conical shells. J. Kemper. *J Aeronautical Sci* 25:137-8 F '58; Discussion. P. Seide. *25:342 My '58*

Standardised method of representing fatigue test results. M. Fine. *Roy Aeronautical Soc J* 62:456-7 Je '58; Discussion. 62:680-1 S '58

Structural response characteristics of a large flexible swept-wing airplane in rough air. T. L. Coleman and others. *bibliog diag* J Aero/Space Sci 25:515-21+ Ag '58

Theories of strength for combined stresses and nonisotropic materials. J. Marin. *bibliog diags* J Aeronautical Sci 24:265-8+ Ap '57; Discussion. 25:59-60, 408 Ja. Je '58

Thermal creep design criteria. R. Goldin. *bibliog Aeronautical Eng R* 16:36-41 D '57

Thermal stress in curved beams. B. A. Boley and E. S. Barrekette. *diags J Aero/Space Sci* 25:627-30+ O '58

Thermal stresses in a circular bulkhead subjected to a radial temperature distribution. M. Forray and M. Zaid. *diag J Aeronautical Sci* 25:63-4 Ja '58

Torsional rigidity of thermally stressed wings. R. L. Bisplinghoff. *bibliog diag* J Aero/Space Sci 25:657-8 O '58

Struts

See Airplane struts

Tail surfaces

Vertical tail aids spin characteristics; abstract. J. K. Wykes. *S A E J* 66:87 F '58

Take-off

Ground performance at take-off and landing; chart for estimation of either unstuck or landing roll distance. D. J. Kettle. *Aircraft Eng* 30:2-4 Ja '58

How we can improve landing and take-off performance of transport aircraft. J. G. Lowry. *S A E J* 66:80-2 Je '58

Propulsive wing may be answer to stol problem. R. J. Spindler. *bibliog il* diags Aviation Age 28:38-43 F '58

Stol aircraft coming to the fore in many countries. R. Bannack. *S A E J* 65:66-7 N '57

Short take-offs for supersonic aircraft; abstract. H. C. Higgins. *S A E J* 66:61 My '58

Take-off and landing distance and power requirements of propeller-driven stol airplanes. R. E. Kuhn. *bibliog diags Aeronautical Eng R* 16:38-42 N '57

Take-off progress indicator; abstracts. J. Andresen and E. H. Schroeder. *Aircraft Eng* 30:241 Ag '58; diags S A E J 66:72-3 Ag '58

Theoretical analysis of the airborne path during take-off. W. R. Buckingham. *Aircraft Eng* 30:5-8 Ja '58

See also
Airplanes, Vertical take-off

AIRPLANES—Continued

Testing

- Airborne correlator to aid data reduction. H. B. Meyer. *diags Control Eng* 5:127-4 Ap '58
- Airborne recorder and computer speed flight-test data processing. A. T. Snyder. *I S A J* 5:44-8 Jl '58
- British overseas aircraft corp. thrust platforms measure up. *Product Eng* 29:37 Ja 6 '58
- Flexible fatigue test setup for full-scale structures. V. DeBlasi. *il diag Aviation Age* 30:46-7-7 J '58
- Hydraulic cylinders simulate air loading of KC-135. *il diags Ap Hydraulics* 11:112-13 My '58
- Recording oscillographs in aircraft and missile testing. W. F. Johnson. *il Instruments & Automation* 31:846-7 My '58
- Selecting flight test instrumentation. C. H. Nelson. *diags Mech Eng* 80:52-5 Jl '58
- Strain gage oscillator for flight testing. W. H. Roster. *il diags Electronics* 31:40-2 Ja 31 '58
- Strain gages, their use in airplane stress analysis. C. R. Smith. *il diags Ind Lab* 9:104-7 S '58
- Structural response characteristics of a large flexible swept-wing airplane in rough air. T. L. Coleman and others. *bibliog diag J Aero/Space Sci* 25:515-21-4 Ag '58
- Support of an aircraft for ground resonance tests. W. G. Molyneux. *bibliog diags Aircraft Eng* 30:160-6 Je '58
- Temperature chamber tests armament systems. *il Elec Eng* 77:475 My '58

See also

Airplanes—Model testing

Towing

- Turbo-tug. *il Mech Eng* 80:87 Je '58

Vertical take-off and landing

See Airplanes, Vertical take-off

Vibration

- Definitions of damping in aircraft response. T. Czaykowski. *Aircraft Eng* 30:227-32 Ag '58
- Displacement is key in designing for damage. J. T. Muller. *S A E J* 66:35 Ap '58
- Effect of an internal compressible fluid column on the breathing vibrations of a thin pressurized cylindrical shell. J. G. Berry and E. Reissner. *J Aeronautical Sci* 25:283-94 My '58
- Effect of axial loads on lateral vibrations of a slender member with any degree of end restraint. G. M. Smith and L. E. Young. *diag J Aero/Space Sci* 25:596-7 S '58
- Effect of rib flexibility on the vibration modes of a delta-wing aircraft. W. D. Kroll. *diags J Res Nat Bur Stand* 60:335-41 Ap '58
- Impedance sharpens vibration protection. W. W. Harter. *S A E J* 66:39 Mr '58
- Matrix formulation of linearly coupled vibration problems. H. L. Cox. *diags Aircraft Eng* 30:202-9 Jl '58
- Methods of calculating natural modes and frequencies of vibration. S. Silverberg. *diag J Aeronautical Sci* 25:275 Ap '58
- Natural frequencies of rectangular plates with edges elastically restrained against rotation. C. V. Joga Rao and C. Lakshmi Kantam. *J Aeronautical Sci* 24:855-6 N '57
- One-term approximate solutions for non-linear vibration problems. S. Mahalingam. *Roy Aeronautical Soc J* 62:450-1 Je '58
- Selection of shock and vibration isolators: abstract. S. Rubin. *Machine Design* 29:116 D 26 '57
- Support of an aircraft for ground resonance tests. W. G. Molyneux. *bibliog diags Aircraft Eng* 30:160-6 Je '58
- Systematizing the calculations of the natural modes of a free structure. R. Kappus and D. Clerc. *diag J Aeronautical Sci* 25:276-8 Ap '58
- Torsional vibrations of a multi-rotor system having a non-linear flexible coupling. S. Mahalingam. *diags Roy Aeronautical Soc J* 61:779-81 N '57
- Vibration isolators for missiles and aircraft. S. Rubin. *diag S A E J* 66:67-8 F '58
- Vibrations of conical shells. G. Herrmann and I. Mirsky. *bibliog diags J Aero/Space Sci* 25:451-8 Jl '58

See also

Airplane wings—Flutter

Weight

- Estimating structural box weight. L. D. Green and J. Mudar. *bibliog Aeronautical Eng R* 17:48-50 F '58
- How to lighten the load; abstract. E. E. Sechler. *Product Eng* 29:10 My 19 '58

Welding operations

- Automatic spotwelding of double-curvature panels; Ryan aeronautical co. *il Aircraft Eng* 30:46-7 F '58
- Design and technique requirements for arc welding titanium in aircraft applications. R. Meredith and B. L. Baird. *il diags Welding J* 36:371-7 Ap '57; Excerpts. *Product Eng* 28:328-31 Mid-O '57
- High-strength weldments for aircraft. B. R. Alsobrook. *Tool Eng* 39:196-8 D '57
- Honeycomb gets new brazing method: Convair div. of General dynamics corp. R. B. Stanton. *il Welding Eng* 43:62-4 Ag '58
- Rocket plane depends on welding; North American Aviation X-15. *il Welding Eng* 43:37 My '58
- Spot welding aids in solving aircraft weight problems. B. Mitchell. *il Welding Eng* 43:40 Ap '58
- Spotwelding titanium is practical; Boeing airplane Co. W. R. Gain and D. E. Waite. *il diags Am Mach* 102:125-7 Mr 10 '58
- Tungsten-arc welding of 0.002-in. and 0.005-in. stainless steel and titanium. J. C. Collins and S. P. Jenkins. *il Welding J* 37:342-7 Ap '58
- Welded steel sandwiches offer a further solution to the aircraft industry. *il Welding Eng* 43:41 Ap '58

Windshields

- Seek high-temperature aircraft windshields. *Product Eng* 29:24-5 Je 16 '58
- Stretched acrylic, a transparent glazing material for high-speed aircraft. J. G. Stansbury. *bibliog il Aeronautical Eng R* 17:42-6+ Ja '58

AIRPLANES, Amphibious

See also

Seaplanes

AIRPLANES, Atomic powered

- Airborne nuclear propulsion system; design considerations. R. E. Ormsby, Jr. *Aeronautical Eng R* 17:20-3 Ja '58
- Aircraft shield test reactor. J. C. Nance and L. W. Perry. *il Nucleonics* 16:58-61 Ja '58
- A-plane awaits engines; electronics industry watches. *diag Electronics* 31:18 S '58
- Atomic planes in 1965? *il Electronics* 30:15-18 D 10 '57
- Atomic powerplants are out. for highway vehicles, locomotives or transport planes until problems are solved. E. D. Reeves. *S A E J* 66:69 Mr '58
- Design of air frames for nuclear power. C. L. Johnson and F. A. Cleveland. *il diags Aeronautical Eng R* 16:48-57 Je '57; Same. *Am Soc Naval Eng J* 70:110-20 F '58
- Designing for the nuclear environment. J. W. Clarke. *Aviation Age* 28:95-9 F '58
- Direct cycle nuclear turbojet power plants. E. L. Semple and W. C. Cooley. *diag Aero/Space Eng* 17:30-6 Ag '58
- Ground run. *il diags Engineering* 184:604-5 N 8 '57
- Hydromagnetic shocks used in nuclear fusion engine. C. R. Johnson. *bibliog diags Aviation Age* 30:30-6 Ag '58
- Interplanetary travel will require nuclear propulsion. T. F. Nagey. *S A E J* 66:79-80 My '58
- Nuclear-powered unlimited-range air transport. R. B. Ormsby, Jr. *il Elec Eng* 76:1113 D '57
- Nuclear propulsion; prospects for ships, aircraft, and on land. J. Edwards. *bibliog il diags Engineering* 186:304-12 S 5 '58
- Radiation-resistant motors for nuclear aircraft controls. R. C. Fries. *Nucleonics* 16:103-4 Jl '58
- Reactors in flight. *diags Engineering* 185:268-70 F 23 '58
- Remote-handling tools help service aircraft nuclear power plants. D. R. Shoultz. *il S A E J* 66:26-7 Ap '58
- Shares and prices; atomic plane developers. *Electronics* 31:7 Ja 24 '58
- Testing aircraft nuclear power plants. A. R. Crocker. *il Aeronautical Eng R* 16:30-5 D '57
- Toward a nuclear-powered seaplane. L. D. Struble. *Am Soc Naval Eng J* 70:105-9 F '58

AIRPLANES, Convertible. See Airplanes—Design—Convertiplanes

AIRPLANES, Experimental

- Breguet 940 bi-twin aircraft. *il* diags Engineer 206:351-2 Ag 29 '58
- D558-III study helped pave way for X-15. *I* Stambler. *il* diags Aviation Age 29:20-1+ My '58
- Experimental radar research plane designed. Elec Eng 77:662 JI '58
- First manned U.S. spacecraft; X-15 design details. *I* Stambler. *il* diags Aviation Age 30:22-3+. cover JI '58
- Inertial system to guide X-15. Electronics 31:16 Je 20 '58
- Manned craft to probe outer space. *H* Storms. Elec Eng 77:661-2 JI '58
- Research airplane; past, present, and future. *W. C. Williams and H. M. Drake. il* diags Aeronautical Eng R 17:36-41 Ja '58
- Rocket plane depends on welding; North American Aviation X-15. *il* Welding Eng 43:37 My '58
- X-15 has stainless skin. *il* Steel 142:51 Mr 31 '58
- X-15's skin and wings are made of new stainless steel alloys. Automotive Ind 118: 38-9 Ap 15 '58

AIRPLANES, Freight

- Three Russian aircraft designers and their six Soviet transport airplanes. *S. D. Browne. S A E J* 66:53-6 Ap '58

AIRPLANES, Industrial

See also

- Airplanes in mining
- Airplanes in the petroleum industry

AIRPLANES, Jet propelled

- About supersonic transports. *F. R. Banks. S A E J* 65:30-1 D '57
- Air-line technical requirements planning. *R. D. Kelly. Aeronautical Eng R* 16:59-63 D '57
- Airport handling of passenger jets. *C. E. Wise. il* Machine Design 30:26-8+ JI 24 '58
- Airports for tomorrow. *il* plan diags Arch Forum 108:122-9 Ja '58
- B-58 flexes hydraulic muscles. *il* diag Control Eng 5:29-30 My '58
- B.O.A.C.'s future jet-liner. *il* Engineering 185:103 Ja 24 '58
- Circuit ideas from French jet transport. *R. Blanchet. il* diags Ap Hydraulics 11:100-2 JI '58
- Clamshell gives jets powerful braking action. *il* Product Eng 28:23 D 30 '57
- Comet's intensive development. *il* diags Engineering 185:554-7 My 2 '58
- Commercial jet transport piloting techniques. *D. P. Germeraad. il* map diag S A E J 66:86-9 Je '58; Abstract. Aircraft Eng 30:241 Ag '58
- Convair 880 airport operations. *A. D. Riedler. diags Am Soc C E Proc* 83 [AT 2 no 1471]: 1-17 D '57; Abstract. *il* S A E J 65:52-4 N '57
- Digital computer guides jets. *J. H. Rubel. il* (cover) Radio-Electronics 29:58 Ap '58
- Engine-airframe integration. *L. F. Nicholson. diags Roy Aeronautical Soc J* 61:711-20; Discussion. 720-6 N '57
- Factors for building runways for jets. Eng N 160:49-50 Ja 30 '58
- First American commercial jets to enter airline service in '59. *il* Machine Design 30:10-4 F 20 '58
- First U.S. commercial propjet soon to enter airline service. *il* Machine Design 30:10 Ja 23 '58
- High temperature environments associated with jet propulsion. *F. L. Bagby and others. biblog diags Chem Eng Prog* 54:58-62 S '58
- Instrument pictures flight for jet pilot; abstract. *M. V. Fiore. il* S A E J 66:103 JI '58
- Integrated instruments for jet transports; abstract. *G. W. Hoover. Aircraft Eng* 30: 240-1 Ag '58
- Jet age planning. *J. T. Pyle. Am Soc C E Proc* 83 [AT 2 no 1472]:1-5 D '57
- Jet-deflection devices provide directional control or lift for jet-operated vtol and stol aircraft. *U. H. von Glahn and J. H. Povolny. diags S A E J* 66:64-5 Ja '58
- Jet trainer doubles as transport. *I. Stambler. il* diags Aviation Age 29:30-1 Je '58
- Jet transport flap considerations. *W. T. Hamiliton. il* Aeronautical Eng R 16:52-5 D '57
- Jet transport ground handling. *D. B. Talmage. Am Soc C E Proc* 83 [AT 2 no 1475]:1-9 D '57
- Jet transport project with boundary layer control. *il* diag Engineering 186:296 S 5 '58

Jet transport projects. Engineer 206:306 Ag 22 '58

- Jet transports need ground service to match their superior flight service. *M. Whitlock. il* S A E J 66:39-41 F '58
- Jets and airport design; airline officials report on studies of new requirements. *M. Whitlock; W. E. Rhoades. Arch Rec* 123: 32-4 Mr '58
- Making the jet transport pay; abstract. *J. T. Dyment. S A E J* 66:63 Ag '58
- Military jet system piloting techniques; abstract. *W. M. Stout and R. E. Silney. Aircraft Eng* 30:240 Ag '58
- Mixed powerplants boost interceptor's altitude performance. *M. J. Brenner. il* diag Aviation Age 28:126-30 Ja '58
- Modulator reverser control tames jet thrust. *J. Burnette and D. Moses. diags S A E J* 66:38-9 JI '58
- New instrument indicates take-off progress; abstract. *J. Andresen and E. H. Schroeder. diags S A E J* 66:72-3 Ag '58
- 1975 supersonic jet transport. *il* will fly at 65,000 ft. *L. C. Rapp. S A E J* 66:74-6 JI '58
- One DC-8 jet transport is the equivalent of 3.5 DC-7's in producing passenger miles per hour of transportation; abstract. *R. D. Kelly. S A E J* 66:57 My '58
- Operational characteristics of the Douglas DC-8. *J. E. Edwards. il* diags Am Soc C E Proc 83 [AT 2 no 1470]:1-12 JI '57
- Optimum mileage for a jet transport; abstract. *W. M. Stout and R. E. Silney, jr. S A E J* 66:84 JI '58
- Propulsive wing may be answer to stol problem. *R. J. Spindler. biblog il* diags Aviation Age 28:38-43 F '58
- Reengineered air lines. *A. W. J. Smith. diags Roy Aeronautical Soc J* 62:308 Ap '58
- Reds' MIG-21 can do Mach 2. diags Aviation Age 28:44-9 F '58
- Research airplane; past, present, and future. *W. C. Williams and H. M. Drake. il* diags Aeronautical Eng R 17:36-41 Ja '58
- Rotating-thrust vtol proves feasible. *J. A. O'Malley, jr. il* diags S A E J 66:41-6 Mr '58
- Small 40-kva turbomotor runs cool; for aircraft or missiles. *V. DeBlasi. il* diag Aviation Age 29:30-1 Ap '58
- Strain gages in supersonic aircraft. *R. J. Stewart. il* Electronic Ind 17:60-1 Mr '58
- Supersonic fighters; illustrations with text. Engineer 205:pl 12 Ja 3 '58
- Supersonic transports take delta shape. *D. Desoutter. diags Aviation Age* 30:42-6 Ag '58
- 300 days to jet time. *C. M. Christenson. Aero/Space Eng* 17:52-5 JI '58
- Three Russian aircraft designers and their six Soviet transport airplanes. *S. D. Browne. S A E J* 66:53-6 Ap '58
- Time and fuel required to fly the DC-8 between two airports is being figured on digital computers; abstract. *A. Butterworth and G. E. Hull. il* S A E J 66:43 Ap '58
- Today's airports are a jet-age bottleneck. *il* Eng N 160:23-4, cover Mr 20 '58
- USAF airfield pavement problems in the jet age. *G. W. Leslie. il* plan diags Am Soc C E Proc 83 [AT 2 no 1480]:1-23; Discussion. [AT 2 no 1485]:3-6 D '57
- Vanguard designed for flexibility; illustrations with text. Aviation Age 28:36-7 F '58
- Vertical take-off and landing. *L. J. Hull. il* diags Metal Prog 73:68-71, cover F '58

See also

- Airplane engines—Jet engines
- Gas turbines, Aircraft
- Helicopters—Jet propulsion
- Rocket propulsion

Control

- Boundary layer control will be used by tomorrow's Mach 1-3 planes. *I. Stambler. diags Aviation Age* 28:118-20+ Mr '58
- Control system for B-58 supersonic reconnaissance bomber. *il* Elec Eng 77:464-5 My '58
- Cruise control instrumentation for turbojet aircraft; abstract. *H. W. Kidder. S A E J* 66:60-1 Je '58
- Lateral control at supersonic speeds by means of control surfaces on nacelles or on the fuselage. *D. W. Holder and R. C. Lock. diags Roy Aeronautical Soc J* 62:446-9 Je '58
- Cost of operation
- \$677 per hour just to fly faster! *J. D. Donaldson. S A E J* 66:64-5 Je '58

AIRPLANES, Jet propelled—Continued

Design

Boundary layer control will be used by tomorrow's Mach 1-3 planes. I. Stambler. *diags Aviation Age* 28:118-20+ Mr '58

Fuel tanks

Sealing integral jet fuel tanks. J. Spurgeon. *il diags Aviation Age* 30:48-51 Ag '58

Noise

Civil jet transport noise. D. A. Buck. *il diags Am Soc C E Proc* 83 [AT 2 no 1469] 1:29 D '57

Jet age airport and its neighbors. C. E. Rosendahl. *Am Soc C E Proc* 83 [AT 2 no 1481]: 1-5 D '57

Jet noise. H. R. Mull. *il diags Machine Design* 30:22-4 S 18 '58

KC-135 noise study. V. H. Marchbanks, Jr. and R. L. Slack. *il diags Noise Control* 4:17-20+ Mr '58

Noise characteristics of the Caravelle jet airliner; discussion. *bibliog map Noise Control* 4:46-50 My '58

Noise exposure in communities near jet air bases. A. C. Pietrasanta and K. N. Stevens. *maps plan Noise Control* 4:29-36+ Mr '58

Review of information on jet noise. P. A. Franken. *bibliog il diags Noise Control* 4:8-16 My '58

Testing

Cameras pave way for F-101 Voodoo speed records. *il Elec Eng* 77:566 Je '58

Flight tests of a meteor aeroplane fitted with jet deflection. P. F. Ashwood and D. Lean. *il diags Roy Aeronautical Soc J* 62:539-58; Discussion. 559-61 Ag '58

Jet vibration tester is mobile. *il Electronics* 31:21 Jl 11 '58

Loudspeaker checks jets. *il Electronics* 31:14 Jl 4 '58

Vibration

Jet vibration tester is mobile. *il Electronics* 31:21 Jl 11 '58

Weight

Penalties of existing operational and instrument tolerances on jet transport operators; abstract. J. T. Dymet. *Aircraft Eng* 30: 240 Ag '58

AIRPLANES, Light

Business aircraft for the future; report of panel discussion. *il Aeronautical Eng R* 16:69-72 N '57

Design for business aircraft. *il Product Eng* 29:21-3 F 10 '58

Exec-plane business booms; expanding market for electronic instruments. *il Electronics Bsns ed* 30:28-9 N 10 '57

Goodyear's Inflatoplane. G. N. Kennedy. *il S A E J* 66:32-3 Je '58

Low-cost aircraft; Fairley aviation co. *il Engineer* 205:674 My 2 '58

N.A.T.O. light fighters; illustrations with text. *Engineer* 205:pl 13 Ja 3 '58

Steel can be used to produce lighter aircraft. B. Mitchell. *diags S A E J* 65:56-8 D '57

AIRPLANES, Military

Bombers; present and future. *il Electronics* 31:13-14 F 7 '58

F-104 intake ducts save weight and complexity; Lockheed F-104 fighter. A. F. Watts. *il diags Aviation Age* 29:60-7 My '58

Fueling U.S. air force aircraft. G. B. Seeley. *il diags Am Soc C E Proc* 83 [AT 2 no 1482]: 1-18 D '57

Future developments in aircraft. D. H. Baker. *Tool Eng* 40:210-11 Ja '58

Integration of navigational flight information for jet interceptor aircraft; abstract. M. V. Fiore. *Aircraft Eng* 30:241-2 Ag '58

Launch castings-for-aircraft research. *Am Mach* 101:159 D 16 '57

Many reasons, one fact: Germans shun UK plane. *Product Eng* 29:23 Ja 20 '58

Mating the P&W J57 turbojet to the F-102. R. J. Chillo. *il diags S A E J* 65:33-6 D '57

Military aircraft at Farnborough. *il Engineering* 186:340-3 S 12 '58

Military aircraft; illustrations with text. *Engineer* 205:pl 10 Ja 10 '58

Military jet transport piloting techniques; abstract. W. M. Stout and R. E. Sliney. *Aircraft Eng* 30:240 Ag '58

New age of flight. *il map diag Westinghouse Eng* 17:162-5 N '57

Tanker plane market grows. *Electronics* 31: 12-14 Ap 11 '58

See also

Guns, Aircraft

Helicopters—Military use

Control

B-58 brain thinks at Mach 2. *il Aviation Age* 29:155 Ap '58

B-58 control system unveiled. *Electronics* 31: 30 Ap 4 '58

Control system for B-58 supersonic reconnaissance bomber. *il Elec Eng* 77:464-5 My '58

Fighter-sized stable platform is Schuler-tuned. B. Kovit. *il diags Space/Aeronautics* 30:134-5 O '58

Design

Analog vibration data reduction. C. E. Crede. *diags S A E J* 66:33 Mr '58

Design testability into weapon systems! J. M. Pomykata. *S A E J* 66:48-50 Mr '58

Development of satisfactory spin characteristics for the T-37. H. R. Clements. *il Aeronautical Eng R* 17:38-41+ Ap '58

Flight development of the Avro CP-100 Mark 3 aircraft. D. G. Whitley. *bibliog il diags Roy Aeronautical Soc J* 62:118-22 F '58

Power-spectrum equation for stationary random gusts, including a sample problem. K. D. Saunders. *bibliog diags J Aeronautical Sci* 25:295-300 My '58

Roll coupling problem, a mathematical approach. R. Westerwick. *diags Aeronautical Eng R* 16:48-51 D '57

Simulation, key to systems development; based on papers by A. H. Noll and others. *diags S A E J* 65:30-7 N '57

Ejection devices

Safe pilot ejection level drops to 500 ft; abstract. J. H. Dressel. *S A E J* 66:119 Jl '58

Electric equipment

Testing firing circuits. *il Engineering* 184:585 N '57

Weapons systems philosophy dictates aircraft electric systems. J. D. Miner. *il Westinghouse Eng* 17:181-4 N '57

Electronic equipment

Environmental testing failures in missile and aircraft equipment. H. J. Shapiro and L. Permut. *Instruments & Automation* 31:1198-9 Jl '58

Fighter market, \$1 billion. *il Electronics* 31:13-14, cover Jl 11 '58

Firing circuits trigger airborne machine guns. M. Halio. *il diags Electronics* 31:86-9 Ag 1 '58

First digital computer for U.S. air force. *il Electronic Ind* 17:5 Ja '58

Major scientific H-bomb defense advance; Digital computer. *il Elec Eng* 77:272-3 Mr '58

Equipment

Don't overlook merits of liquid oxygen systems. P. L. Catron. *diags S A E J* 66:78-80 Ja '58

Integrated instruments for jet transports; abstract. G. W. Hoover. *Aircraft Eng* 30: 240-1 Ag '58

To beat the complexity barrier; evaluating equipment by reliability analysis. J. D. Coutinho. *diags Mech Eng* 80:54-6 Ag '58

Fuselage

Autrotation of fuselages. M. H. Clarkson. *diags Aeronautical Eng R* 17:33-6 F '58

Hydraulic equipment

B-58 flexes hydraulic muscles. *il diag Control Eng* 5:29-30 My '58

Design and operation of a hydraulic systems functional test rig. J. M. Lewendon. *il diags Roy Aeronautical Soc J* 61:819-24 D '57

Environmental testing failures in missile and aircraft equipment. H. J. Shapiro and L. Permut. *Instruments & Automation* 31:1198-9 Jl '58

Landing

Automatic system lands jet aboard carrier. *Elec Eng* 76:1117-18 D '57

Navy planes can land in all weather with the new three zone control system. A. B. Whinck and J. L. Loeb. *diags S A E J* 66:78-9 Ag '58

Maintenance and repair

Spares for weapons systems. L. P. Stannard. *Aero/Space Eng* 17:53-6 Ag '58

AIRPLANES, Military—Continued**Manufacture**

- F-105 production line stresses colony system; Republic aviation corp. I. Stambler. *il diags Aviation Age* 29:54-7+ Ap '58
- Large forgings for aircraft; abstract. C. R. Cramer and A. Kastelowitz. *Tool Eng* 40: 326-8 Ap '58
- Lockheed tries the unusual, to build super-sonic F-104A Starfighter. *Steel* 141:100 D 2 '57
- New concept in quality control; Republic aviation corp. *il Mill & Factory* 62:136-7 F '58
- Outline of things to come. J. N. Dick and P. L. Hill. *diags Aeronautical Eng R* 16:26-9+ D '57
- Precision keeps pace with crash production. G. H. De Groat. *il diag Am Mach* 102:105-12 My '58
- Slices and electrogrid honeycomb for B-52 panels. W. G. Koehler. *il diags Am Mach* 102:93-5 Je 16 '58
- Special machines at Chance Vought. *il Automotive Ind* 119:48-9 Ag 1 '58
- Where stainless is lighter than aluminum; anti-ice nozzles for F-100 fighter planes. J. E. Teeter and R. Rohrborg. *il diag Am Mach* 102:132-3 Mr 10 '58

Noise

- Noise exposure in communities near jet air bases. A. C. Pietrasanta and K. N. Stevens. *maps plan Noise Control* 4:29-36+ Mr '58

Pneumatic equipment

- Environmental testing failures in missile and aircraft equipment. H. J. Shapiro and L. Permut. *Instruments & Automation* 31:1198-9 J '58

Refueling

- Fueling U.S. air force aircraft. G. B. Seeley. *il diags Am Soc C E Proc* 83 [AT 2 no 1482]: 1-18 D '57

Specifications

- 1958 U.S. and foreign military aircraft specifications; tables. *Automotive Ind* 118:244-7 Mr 15 '58

Testing

- Edwards air force base flight testing grows up. L. H. Young. *il map Control Eng* 5:22-4+ F '58
- Optigraph system makes in-flight study of airplane flexibility. *il Ind Phot* 7:22-3+ Mr '58
- Testing tomorrow's aircraft. R. K. Collins and W. J. Walker. *il diags Westinghouse Eng* 17:189-93 N '57

Great Britain

- Flight development of the Avro CF-100 Mark 5 aircraft. D. C. Whittley. *bibliog il diags Roy Aeronautical Soc J* 62:118-22 F '58
- Mixed-power naval interceptor. *il Engineering* 184:537 O 25 '57
- Mixed powerplants boost interceptor's altitude performance. M. J. Brenner. *il diag Aviation Age* 28:126-30 Ja '58
- Supersonic naval interceptor. *il Engineer* 204:574 O 18 '57

Russia

- Reds' MiG-21 can do Mach 2. *diags Aviation Age* 28:44-9 F '58
- Reds' Yak-42 bomber. *diags Space/Aeronautics* 30:40-6 O '58

United States

- Contemplated development requirements of the air force. P. F. Nay. *S A E J* 66:85 Ja '58
- Prototypes and other production delays blasted by air force materiel chief; interview with C. T. Irvine. *Product Eng* 23:21-2 Ag 4 '58
- SeaMaster; its development and some considerations from the accidents. J. L. Decker. *il diag Aeronautical Eng R* 16:58-62 N '57
- AIRPLANES, Military transport**
- Jet transport project with boundary layer control. *il diag Engineering* 186:296 S 5 '58
- Jet transport projects. *Engineer* 206:306 Ag 22 '58

AIRPLANES, Pilotless

- Automatic flight, the British story; 46th Wilbur Wright memorial lecture. G. W. H. Gardner. *il map diags Roy Aeronautical Soc J* 64:477-95; Discussion. 495-6 J '58

Drone guidance system to test air defense.

- Electronic Ind 17:152 My '58
- Drone market expanding fast. *il Electronics* 31:13-14 My 30 '58
- Liquid rockets best for low cost drone propulsion. D. W. Childs. *il diags Space/Aeronautics* 30:48-54+ O '58

See also

Airplanes, Target

AIRPLANES, Target

- Herald laminated plastic use in planes. *il Product Eng* 29:25 F 24 '58

AIRPLANES, Training

- Changeable jet solves flight riddles. *Product Eng* 29:26 F 24 '58
- Evolution follows design of jet trainer; illustrations with text. *Product Eng* 29:75 Ja 6 '58
- Japanese jet trainer makes first test flight. *Aero/Space Eng* 17:29 Je '58
- Jet trainer doubles as transport. I. Stambler. *il diags Aviation Age* 29:30-1 Je '58

AIRPLANES, Vertical take-off

- Advancing Rotodyne. *il Engineering* 185:750-1 Je 13 '58
- Convertiplanes occupy much of vtol spectrum. R. L. Lichten. *diags S A E J* 66:30-2 Ja '58
- Dynamic rig for vtol development. *il Engineering* 186:86 J '58
- Future aircraft; Rotodyne. *il Research* 11: 408-9 O '58
- Ground tests of Piasecki 59K vtol. F. N. Piasecki. *Franklin Inst J* 265:434 My '58
- Jet-driven lifting rotor is a logical method of giving an airplane vtol capability. K. H. Hohenemser. *S A E J* 66:59 J '58
- Means of improving the static performance of cruise-designed shrouded propellers. A. E. Johnson. *diag J Aero/Space Sci* 25: 522-3 Ag '58
- Rotating-thrust vtol proves feasible. J. A. O'Malley, jr. *il diags S A E J* 66:41-6 Mr '58
- Rotodyne transition to autogyro flight; illustrations with text. *Engineer* 205:851 Je 6 '58
- Ryan Vertiplane. B. Winslow. *il S A E J* 66:85-6 Ap '58
- Vertical take-off and landing. L. J. Hull. *il diags Metal Prog* 73:68-71, cover F '58
- Vertical take-off investigations; illustrations with text. *Engineer* 206:362 S 5 '58
- Vtols are being neglected. T. C. Ryan. *Aviation Age* 30:15 J '58

AIRPLANES in agriculture

- Ag flying progress. *il J Agri & Food Chem* 6:342-3 My '58
- Aircraft in agriculture. E. A. Gibson. *il diags Roy Aeronautical Soc J* 62:423-36 Je '58
- New British crop-spraying aeroplane. *il Engineering* 185:357 Mr 21 '58

See also

Helicopters—Agricultural use

AIRPLANES in business

- Business aircraft for the future; report of panel discussion. *il Aeronautical Eng R* 16:69-72 N '57
- Design for business aircraft. *il Product Eng* 29:21-3 F 10 '58

AIRPLANES in mining

- How aeroplanes speed mining progress; application of the aeroplane to exploration and mining. *il maps Eng & Min J* 159:77-83 Ja '58

AIRPLANES in the petroleum industry

- Air fleet is saving money for Sunray. *il Oil & Gas J* 56:62-3 Ap 28 '58
- Commuters fly to work in Aneth area; Four corners pipe line co. C. Hoot. *il Oil & Gas J* 56:52-3 Je 30 '58
- Oil men want their planes improved. *il Oil & Gas J* 55:68-9 O 28 '57

AIRPORT buildings

- Aerial gateway; Idlewild International arrival building. *il plan Mech Eng* 80:68 Ja '58
- Circular terminal building consolidates facilities, eliminates long walks. *il Eng N* 160:52 Je 5 '58
- Jets and airport design; airline officials report on studies of new requirements. M. Whitlock, W. E. Rhoades. *Arch Rec* 123: 32+ Mr '58
- London terminal serves air, road and rail traffic. *il Civil Eng* 23:224 Mr '58
- New aerial gateway to America; report on Idlewild. *il plans Arch Forum* 108:79-87 F '58
- New York International airport opens major buildings of its Terminal City. *il plan Arch Rec* 123:10-11 Ja '58

AIRPORT buildings—Continued

Obsolete air terminal gives way to tower and new three-level replacement; New Orleans Moisant international airport. *Il Eng N 160:27 Ap 3 '58*

TWA's graceful new terminal; New York International airport. *Il plans diag Arch Forum 108:78-85 Ja '58*

See also

Hangers

Air conditioning

Heating and air conditioning a civilian airport. C. Broder. *plans diag Heating-Piping 30:147-61 Mr '58*

Huge hthw system supplies unique heating-cooling operation at New York International airport. W. T. O'Reilly. *Il plan(cover) Heating-Piping 30:76-8 F; 132-3 Mr '58*

Year-round fair conditioning achieved with hthw; New York International airport (Idlewild). *Air Cond Heat & Ven 55:76 Je '58*

Lighting

Harmony of architecture and lighting at St. Louis air terminal building. *Il Illum Eng 52:552-5 N '57*

Illumination and power plan for 2300-foot Arrival building at international air terminal. C. E. Sanford. *Il diag Elec Constr & Maint 57:67-74 F '58*

AIRPORTS

Major transportation projects. *Il map Eng N 150:168-7 F 13 '58*

Municipal airports are slated for expansion. *Eng N 160:25 Ja 9 '58*

Protection of airport approaches. C. G. Bowers. *Am Soc C E Proc 83 [AT 2 no 1474]:1-6 D '57*

Requirements for the airport of the future. M. A. Warskow. *S A E J 65:70-1 N '57*

Traffic estimates and airport economics. K. A. Osterberg. *Am Soc C E Proc 83 [AT 2 no 1473]:1-5 D '57*

See also

Heliports

Bibliography

Highway and airport digest. F. Force. Published in monthly numbers of Public Works

Buildings

See Airport buildings

Costs

Escanaba, Michigan grades, paves and turfs airport; unit prices. *Eng N 160:83 Mr 13 '58*

Los Angeles improves airport; unit prices. *Eng N 160:54-7 Mr 20 '58*

Massachusetts municipal airport; unit prices. *Eng N 161:82 Ag 14 '58*

Parking lot, St. Louis municipal airport, Mo.; unit prices. *Eng N 160:87 Ja 23 '58*

Design

Airport configuration. W. E. Cullinan, jr. maps diag *Am Soc C E Proc 83 [AT 2 no 1478]:1-23 D '57*

Airport master planning for the jet age. H. H. Howell. maps *Am Soc C E Proc 83 [AT 2 no 1483]:1-34 D '57*

Airports for tomorrow. *Il plan diag Arch Forum 108:122-9 Ja '58*

Airports, planes and people. W. L. Pereira. *Il Am Soc C E Proc 83 [AT 2 no 1476]:1-8 D '57*

Jet age planning. J. T. Pyle. *Am Soc C E Proc 83 [AT 2 no 1472]:1-5 D '57*

Jets and airport design; airline officials report on studies of new requirements. M. Whitlock; W. E. Rhoades. *Arch Rec 123: 32-4 Mr '58*

Drainage

Drainage facilities for airfield runway extension. G. A. Brown. *Il Pub Works 89:156 F '58*

Equipment

Airport handling of passenger jets. C. E. Wise. *Il Machine Design 30:26-8-7 J1 24 '58*

Elevated maintenance is facilitated by mobile aerial tower; floodlighting equipment at New York's International airport. *Il Elec Constr & Maint 57:113-15 Ja '58*

Jet transport ground handling. D. B. Talmage. *Am Soc C E Proc 83 [AT 2 no 1475]:1-9 D '57*

New system speeds fueling; Miami's International airport. *Il diag Oil & Gas J 56: 81 S 8 '58*

Federal aid

U.S. gives airports \$63 million; tables. *Eng N 160:23 Mr 27 '58*

Finance

Municipal financing of airports. R. F. Agard. *Am Soc C E Proc 84 [AT 1 no 1659]:1-7 Je '58*

Lighting

Airport approach, runway and taxiway lighting systems. C. E. Walter and V. J. Roggeveen. *diag Am Soc C E Proc 84 [AT 1 no 1659]:1-38 bibliog(p34-8) Je '58*

All-aluminum lighting towers at Port Elizabeth airport. *Il Engineer 206:462 S 19 '58*

Approach and runway lighting for jet-age aircraft. H. J. Fry. *Il Am Soc C E Proc 83 [AT 2 no 1484]:1-10 D '57*

Elevated maintenance is facilitated by mobile aerial tower; floodlighting equipment at New York's International airport. *Il Elec Constr & Maint 57:113-15 Ja '58*

Fluorescent strip system spreads carpet of light for landings. *Il Elec Eng 77:652-3 J1 '58*

New approach lighting system for Cleveland airport. *Roads & Sts 101:57 F '58*

New lamp and luminaire design to floodlight seven-million plaza at International airport. *Il diag Elec Constr & Maint 57: 96-8-+ Ad '58*

Outdoor light; New York's new International airport. *Il Arch Forum 107:149 D '57*

Outdoor lighting design for New York. International airport. A. H. Feder. *Il plan diag Illum Eng 53:142-9; Discussion, 143-50; Reply, 150-1 Mr '58*

Turn-offs and flush center lights speed up landings. *Il Eng N 160:50-1 Ja 2 '58*

Location

Jet age airport and its neighbors. C. E. Rosendahl. *Am Soc C E Proc 83 [AT 2 no 1481]:1-5 D '57*

Runways

Australian airport gets added runway. *Il Eng N 159:52 D 26 '57*

Connecticut airport work will provide jet runway; Windsor Locks. *Eng N 160:54 My 22 '58*

Development of multiple-wheel CBR design criteria. C. R. Foster and R. G. Ahlvin. *Am Soc C E Proc 84 [SM 2 no 1647]:1-12 My '58*

Factors for building runways for jets. *Eng N 160:49-50 Ja 30 '58*

Indianapolis runway has first banked high speed plane turn-off. D. R. Parsons. *Il plan diag Roads & Sts 100:43-6-+ D '57*

Stage construction keeps Akron airport runways up to date. *Il Pub Works 88:96 N '57*

Statistical approach to runway length. R. T. Glasston. *Am Soc C E Proc 83 [AT 2 no 1477]:1-10 D '57*

Today's airports are a jet-age bottleneck. *Il Eng N 160:23-4, cover Mr 20 '58*

Water-borne runway. D. Williams. *Il diag Am Soc C E Proc 84 [AT 1 no 1658]:1-32 Ju '58*

See also

Air bases, Military—Runways

Cleaning

Unusual cleaner from usual parts; aircraft runway cleaner; U.S. Hoffman machinery corp. *Il diag Product Eng 28:92 N 25 '57*

Traffic control

Air plan means more business. *Electronics 31:8 Ja 17 '58*

It projects as it photographs as it develops; Kelvin and Hughes Limited. *Engineering 185:310 Mr '58*

Modified cathode ray tube may aid air traffic. *Il Electronics 31:32 F 21 '58*

New equipment converts radar to tv. *Il diag Ind Lab 9:40-1 Mr '58*

Nonstationary queuing probabilities for landing congestion of aircraft. H. P. Gallaher and R. C. Wheeler. *Op Res 6:264-75 Mr '58*

Operation of AN/URN-6 data-link surface equipment. J. F. Sullivan. *Il diag Elec Com 34:198-208 S '57*

Radar for airways; air terminal at Stockholm and the airport at Gothenburg. *Engineer 206:30 J1 4 '58*

Radar video rides microwave link to indicator display; airport surface detection equipment. P. C. Holcombe. *Il diag Aviation Age 28:78-83 Ja '58*

Standardization of circuits for data-link surface equipment. H. J. Mills and F. L. Van Steen. *diag Elec Com 34:219-27 S '57*

AIRPORTS—Continued

Transportation problem

Ground transportation at New York International airport; roadway system and parking facilities. R. I. Strickland. *il maps Am Soc C E Proc* 84 [HW 2 no 1623]:1-19 My '58

Chicago

Chicago makes big plans for the jet age; O'Hare field. *il diags Eng N* 161:40-2 J1 3 '58

Hong Kong

Hong Kong readies for the jet age. *il Eng. N* 160:73 Ja 23 '58

London

Gatwick airport. *il diags Engineer* 205:895-8 Je 13 '58

London alternate seen in new airport. *il Eng N* 160:84-+ Ap 17 '58

New Gatwick airport; where road, rail and air services meet. *il plans Engineering* 185:652-5 My 23 '58

Unusual doors for BOAC maintenance hangar. *il Engineering* 185:665 My 23 '58

Nairobi, Kenya

Embakasi airport, Nairobi. *Engineer* 205:368-9 Mr 7 '58

New York (city)

Aerial gateway; Idlewild International arrival building. *il plan Mech Eng* 80:68 Ja 15 '58

Colors and numbers help steer cars to planes; New York International airport. *il Eng N* 160:50-2 Mr 6 '58

Effects of air pollution on airport visibility. W. T. Ingram and L. C. McCabe. *bibliog Am Soc C E Proc* 84 [SA 1 no 1543]:1-18 F '58

Ground transportation at New York International airport; roadway system and parking facilities. R. I. Strickland. *il maps Am Soc C E Proc* 84 [HW 2 no 1623]:1-19 My '58

Illumination and power plan for 2300-foot Arrival building at International airport terminal. C. E. Sanford. *il diags Elec Constr & Maint* 57:67-74 F '58

New aerial gateway to America; report on Idlewild. *il plans Arch Forum* 108:79-87 F '58

Newark, New Jersey

Effects of air pollution on airport visibility; New York metropolitan area. W. T. Ingram and L. C. McCabe. *bibliog Am Soc C E Proc* 84 [SA 1 no 1543]:1-18 F '58

Sweden

Radar for airways; air terminal at Stockholm and the airport at Gothenburg. *Engineer* 206:30 J1 4 '58

Toronto

Canada's first jetport set for Nov. start; Toronto's Malton airport. *Eng N* 160:65-6 My 22 '58

Island airport expansion, Toronto. *Eng J* 41: 90-1 F '58

Washington, D.C.

Washington's jet airport site selected. *map Arch Forum* 108:8-9 Mr '58

AIRSHIPS

Models

Automated extrusion-thermoforming is used to produce large and intricate formed sheet pieces at high speeds in the manufacture of a scale model of the Great Zeppelin. *il Mod Plastics* 35:104-7-+ F '58

AIRSTEEL X-200. See Steel. Aircraft

AIRWAYS

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Airports

Traffic control

Air traffic keyboard will translate flight data. *Machine Design* 30:38 J1 10 '58

Airways blueprint for 1962. *Electronics* 31: 13-14 J1 25 '58

Computer-controlled air traffic. *il diag Mech Eng* 80:83-9 Ap '58

Dual Tacan-ATC antenna. *diag Electronic Ind* 17:84-+ F '58

Electronic system in air-traffic control; Tacan system. P. C. Sandretto. *il diag Elec Com* 34:153-9 S '57

Monitor for jet age traffic. *il Elec Eng* 77: 473-4 My '58

Tacan data link for common-system air-traffic control. M. Block. *il diag Elec Com* 34:186-91 S '57

Time division data link automates communications. J. Holahan. *diags Aviation Age* 30:162-7 S '58

Visual decoder for air traffic. *Electronic Ind* 17:12 S '58

What's coming in air control. *Electronics* 31: 17-18 My 16 '58

See also

United States—Airways modernization board
AIRWAYS modernization board. See United States—Airways modernization board

AKRON university

Nuclear reactor project. *Elec Eng* 77:328 Ap '58

Rubber science hall of fame

Akron university plans rubber Hall of fame. *Rubber Age* 83:851 Ag '58

ALABAMA

See also subdivision Alabama under special subjects; e.g.

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ALANINE

α -Chymotrypsin-catalyzed hydrolysis of α -N-benzoyl- β -(4-pyridyl-1-oxide)-L-alanine methyl ester and of α -N-(nicotinyl-1-oxide)-L-phenylalanine methyl ester. R. L. Elixer and C. Niemann. *bibliog Am Chem Soc J* 80:2716-19 Je 5 '58

Measurement of very slow reaction rates; decarboxylation of alanine. D. Conway and W. F. Libby. *bibliog diag Am Chem Soc J* 80:1077-84 Mr 5 '58

Raman spectra of amino acids and related compounds; ionization and deuterium substitution in glycine, alanine and β -alanine. M. Takeda and others. *bibliog Am Chem Soc J* 80:3813-18 Ag 5 '58

ALANTOLACTONE. See Lactones

ALARMS

Alarms and analyzers for nerve gas vapors. R. H. Cherry and others. *bibliog il diags Anal Chem* 30:1239-47 J1 '58

How PG&E protects its Super-Inch line; monitor system for line rupture control. J. H. Stannard, Jr. and T. Morcott. *diags Gas Age* 121:38-42 Je 26 '58

Portable, automatic alarm for detection of toxic agents in atmosphere. J. C. Young and others. *il Anal Chem* 30:1236-9 J1 '58

Seven schools in one city protected by vandal alarm system. J. F. McPartland. *il diags Elec Constr & Maint* 47:98-100 Mr '58

See also

Burglar alarms

Electric alarms

ALASKA

See also subdivision Alaska under special subjects; e.g.

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Alaska, the 49th state. *il map Chem & Eng N* 36:19-22 J1 7 '58

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Electric plants (central stations)

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Gas industry

Geology

Petroleum

Petroleum industry and trade

Petroleum laws and regulations

Petroleum pipe lines

Economic conditions

Economic effects of gas export on Alberta. H. Harries. *Can Min & Met Bul* 51:427-30 J1 '58

Industries and resources

Only the morning for Alberta. *il Can Chem Process* 42:24-30-+ F '58

ALBITE

- Albite porphyries as a guide to gold ore. H. J. Ward. *bibliog Econ Geol* 53:754-6 S '58
 Effect of temperature, structural state and composition on the albite, periclase and calcite twins of plagioclase feldspars. J. V. Smith. *bibliog Am Mineralogist* 43:546-51 My '58

ALBUMIN

- Aggregation of bovine serum albumin in acid solutions. P. Bro and others. *bibliog Il Am Chem Soc J* 80:339-33 Ja 20 '58
 Countercurrent distribution of serum albumin. W. Hausmann and L. C. Craig. *bibliog Am Chem Soc J* 80:2703-10 Je 5 '58
 Decrease in sulfhydryl titer of serum albumin. R. E. Simpson and H. A. Saroff. *bibliog Am Chem Soc J* 80:2123-31 My 5 '58
 Dielectric properties of albumins. S. Takashima. *Am Chem Soc J* 80:4478-80 S 5 '58
 Effect of binding of ions and other small molecules on protein structure; two electrophoretically distinguishable types of interaction of bovine serum albumin with acidic media. J. R. Cann. *bibliog Am Chem Soc J* 80:4263-4 Ag 20 '58
 Electrophoresis and ultracentrifuge studies of milk proteins; α -lactalbumin. H. Klostergaard and R. A. Pasternak. *bibliog diags Am Chem Soc J* 79:5674-6 N 5 '57
 Further studies of the isomerization of bovine plasma albumin; the effect of detergent ions at low pH and preliminary observations at high pH. J. F. Foster and K. Aoki. *bibliog Am Chem Soc J* 80:5215-19 O 5 '58
 Heat content of bovine serum albumin in acid solution. P. Bro and J. M. Sturtevant. *bibliog Am Chem Soc J* 80:1789-93 Ap 20 '58
 Interaction of human serum albumin with long-chain fatty acid anions. D. S. Goodman. *bibliog Am Chem Soc J* 80:3392-8 Ag 5 '58
 Interactions of horse serum albumin with anionic and cationic detergents. K. Aoki. *bibliog diags Am Chem Soc J* 80:4904-9 S 20 '58
 Isolation of serum albumin from specific precipitates of serum albumin and its rabbit antibodies. T. Peters, Jr. *bibliog Am Chem Soc J* 80:2700-2 Je 5 '58
 Isomerization equilibrium of bovine plasma albumin in the presence of urea. J. F. Foster and K. Aoki. *bibliog Am Chem Soc J* 80:1117-23 Mr 5 '58
 Metabolism of serum albumin in man during brief starvation. N. S. Gimbel and C. Riegel. *bibliog Am J Clinical Nutrition* 6:142-5 Mr '58
 Metal protein interactions in buffer solutions; a polarographic study of the interaction of ZnII and CdII with bovine serum albumin. M. S. N. Rao and H. Lal. *bibliog Am Chem Soc J* 80:3222-6 Jl 5 '58
 Methods for depleting glucose from egg albumen before drying. J. C. Ayres. *bibliog Food Tech* 12:186-9 Ap '58
 Properties of bovine serum albumin in concentrated acetic acid. L. K. Steinrauf and W. B. Dandliker. *Am Chem Soc J* 80:3831-2 Ag 5 '58
 Reactivity of sulfhydryl and disulfide in proteins; oxidation with ferricyanide of sulfhydryl in native and denatured bovine serum albumin. I. M. Kolthoff and A. Anastasi. *bibliog Am Chem Soc J* 80:4248-50 Ag 20 '58
 Size and shape of bovine serum albumin as a function of pH, determined by small-angle scattering of X-rays. M. Champagne and others. *Am Chem Soc J* 80:1002-3 F 20 '58
 Structural effects of anionic azo dyes on serum albumin. G. Markus and E. Karush. *bibliog Am Chem Soc J* 80:89-94 Ja 5 '58
 Study of the reaction of the disulfide groups of bovine serum albumin during heat denaturation. L. K. Steinrauf and W. B. Dandliker. *bibliog Am Chem Soc J* 80:3833-5 Ag 5 '58

ALBUQUERQUE, New Mexico**Sanitary affairs**

- Refuse collection and disposal in Albuquerque. G. R. Robertson. *Il Pub Works* 89:110-11 Je '58

ALCOHOL

- Alcohol and alcoholometry. *Manuf Chem* 29:347-8 Ag '58

- Alcoholic extraction of vegetable oils; pilot plant extraction of cottonseed by aqueous ethanol. R. K. Rao and L. K. Arnold. *bibliog flow diag Am Oil Chem Soc J* 35:277-81 Je '58
 Automatic alcohol-injection system prevents wet-gas line plugging. *diag Oil & Gas J* 55:189-9 N 11 '57
 Calculation of association constants for complex formation from spectral data; infrared measurements of hydrogen bonding between ethanol and ethyl acetate and ethanol and acetic anhydride. E. Grunwald and W. C. Coburn, Jr. *bibliog Am Chem Soc J* 80:1322-6 Mr 20 '58
 Deuterium isotope effects in the bromine oxidation of ethanol and of acetaldehyde. L. Kaplan. *bibliog Am Chem Soc J* 80:2639-42 Je 5 '58
 Infrared measurements of the association of ethanol in carbon tetrachloride. W. C. Coburn, Jr. and E. Grunwald. *bibliog Am Chem Soc J* 80:1318-22 Mr 20 '58
 Liquid feed with alcohol; available hydrogen promotes livestock's effective use of urea and low-cost feeds. *Il J Agri & Food Chem* 6:261-3 Ap '58
 Rates of solvolysis of substituted phenyldimethylcarbinyl chlorides in methyl, ethyl and isopropyl alcohols; influence of the solvent on the value of the electrophilic substituent constant. Y. Okamoto and others. *bibliog Am Chem Soc J* 80:4972-6 S 20 '58
 Rates of products and salt effects in the reactions of 2,4-dinitrochlorobenzene with amines in chloroform and in ethanol. S. D. Ross and M. Finkelstein. *bibliog Am Chem Soc J* 79:6547-54 D 20 '57
 Solvolysis of *cis*- and *trans*-2-chlorocycloalkyl aryl sulfides in 80 per cent aqueous ethanol. H. L. Goering and K. L. Howe. *bibliog Am Chem Soc J* 79:6542-6 D 20 '57
 Toxicity of ozone: silicone aerosols and alcohol vapor therapy in ozone poisoning. S. Mittler. *bibliog Ind Med* 27:43-5 Ja '58
 Vapor-phase catalytic esterification of ethyl alcohol with acetic acid. C. Venkateswarlu and others. *bibliog diag Ind & Eng Chem* 50:973-3 Je '58

Analysis

- Determination of blood alcohol; improvements in chemical and enzymatic procedures. P. L. Kirk and others. *bibliog diags Anal Chem* 30:1418-22 Ag '58

Manufacture

- Ethanol; Shell development co. flow diag *Pet Refiner* 36:234 N '57
 Ethyl alcohol and ethyl ether. flow diag *Pet Refiner* 36:235 N '57
 Molasses; vanishing raw material. *Chem & Eng N* 35:34 N 25 '57

ALCOHOL, Industrial

- Alcohol headache; rising costs. *Chem & Eng N* 36:44 O 6 '58

ALCOHOLATES

- Alkoxides of silicon containing silicon-hydrogen bonds. W. S. Miller and others. *bibliog Am Chem Soc J* 79:5604-6 N 5 '57

ALCOHOLISM

- Alcohol and the driver; a Glasgow point of view; abstract and discussion. M. Herd. *Chem & Ind* p251-2 Mr 1 '58
 Labor's viewpoint of alcoholism in industry. L. Perlis. *Ind Med* 27:535-6 O '58
 Low serum vitamin B₁₂ concentrations in alcoholics; improvement by vitamin B₁₂ therapy. H. Gounelle and J. Richard. *bibliog Am J Clinical Nutrition* 6:422-3 Jl '58
 See also

Employment management—Alcohol problem

ALCOHOLS

- Absolute configuration of costol (sesquibenzylol and alantolactone). V. Benesová and others. *bibliog Chem & Ind* p363-4 Mr 22 '58
 Acetylene chemicals move up; Airco production of methyl butynol and pentynol at new plant this week. *Il Chem & Eng N* 36:24 My 5 '58
 Allylic rearrangements; the reaction of thionyl chloride with steroid allylic alcohols. R. E. Ireland and others. *bibliog Am Chem Soc J* 80:4604-6 S 5 '58
 Castor polyols for urethane coatings. H. M. Metz and others. *bibliog diags Paint Oil & Chem R* 121:6-12 Ap 17 '58
 Chemistry of fumagillin; the action of aqueous base on alcohol I. D. D. Chapman and D. S. Tarbell. *Am Chem Soc J* 80:3679-82 Jl 20 '58

ALCOHOLS—Continued

- Chemistry of fumaagin; transformation products derived from alcohol I by action of acids. A. D. Cross and D. S. Tarbell. *Am Chem Soc J* 80:3682-6 J1 20 '58
- Determination of glycerine in polyol mixtures by paper chromatography. C. F. Smullin and others. *bibliog* *Il Am Oil Chem Soc J* 35:179-82 Ap '58
- Dyeing hydrophobic fibres in solutions of solvents. M. K. Gokhale and others. *Soc Dyers & Col J* 74:236-40; Discussion. 240-1 Ap '58
- Epoxyethers; ketals from secondary monohydric alcohols. C. L. Stevens and others. *bibliog* *Am Chem Soc J* 80:2278-9 My 5 '58
- Ethylene oxide addition to long-chain alcohols. H. F. Drew and J. R. Schaeffer. *bibliog* *Ind & Eng Chem* 50:1253-4 S '58
- Extractive distillation of alcohols; Stone & Webster engineering corp. flow diag. *Pet Refiner* 36:298 N '57
- Fatty acid alkylolamides. H. L. Sanders. *bibliog* *Am Oil Chem Soc J* 35:548-51 O '58
- Fatty alcohols. V. C. Meunier. *bibliog* *Am Oil Chem Soc J* 35:525-7 O '58
- Fatty alcohols at work. A. J. Vlitos. *Chem & Eng N* 36:54 S 29 '58
- Fluoroalcohols arrive. *Chem & Eng N* 36:67 Ap 21 '58
- Formylation of alcohols with iodine pentafluoride and dimethylformamide. T. E. Stevens. *Chem & Ind* p 1090 Ag 16 '58
- Kinetic studies of the reaction of phenyl isocyanate with alcohols in various solvents. S. Ephraim and others. *bibliog* *Am Chem Soc J* 80:1326-8 Mr 20 '58
- Mechanism of the electrochemical reduction of phenyl ketones to alcohols. L. Mandell and others. *bibliog* *Am Chem Soc J* 80:5284-5 O 5 '58
- Methylation of alcohols with diazomethane. M. C. Caserio and others. *Am Chem Soc J* 80:2584-5 My 20 '58
- Nitrosation and nitration of amines and alcohols with nitrogen tetroxide. E. H. White and W. R. Feldman. *Am Chem Soc J* 79:5832-3 N 5 '57
- Oxidation of secondary alcohols by chromium(VI) oxide. J. Rocke and J. Krupicka. *bibliog* *Chem & Ind* p 1688-9 D 28 '57
- Peroxides boost Grignards; new path to alcohols, phenols, and ethers. *Chem & Eng N* 36:50 S 22 '58
- Polyoxyethylation of alcohol. W. B. Satkowski and C. G. Hsu. *bibliog* *Ind & Eng Chem* 49:1875-8 N '57
- Reaction of decaborane with substituted alcohols. H. C. Beachell and W. C. Schar. *bibliog* *Am Chem Soc J* 80:2943-5 Je 20 '58
- Reactions of unsaturated fatty alcohols; preparation and properties of some copolymers of unsaturated fatty vinyl ethers with lower alkyl vinyl ethers. L. E. Gast and others. *bibliog* *Am Oil Chem Soc J* 35:347-50 J1 '58
- Reduction of organic compounds by mixed hydrides; hydrogenolysis of ketones and alcohols. R. E. Nyström and C. R. A. Berger. *Am Chem Soc J* 80:2896-8 Je 5 '58
- Science for electrolaters. L. Serota. *Metal Finishing* 56:70-3 J1 '58
- Sterically blocked ketones, alcohols and acids. H. A. Bruson and others. *bibliog* *Am Chem Soc J* 80:3633-6 J1 20 '58
- Water reservoir evaporation control. R. G. Dressler and A. G. Johanson. *bibliog* *Il map Chem Eng Prog* 54:66-9 Ja '58

See also

Amly alcohol
Hexadecanol
Isobutyl alcohol
Isopropyl alcohol
Methanol
Sorbitol
Vinyl alcohol

Analysis

- Determination of oxygenated materials as group types by infrared absorption. E. L. Saler and R. H. Hughes. *bibliog* *Anal Chem* 30:513-17 Ap '58
- Estimation of trace and major quantities of lower alcohols, ethers, and acetone in aqueous solutions by gas liquid partition chromatography. S. J. Bodnar and S. J. Mayeux. *diags* *Anal Chem* 30:1384-7 Ag '58
- New mass spectrometric method for determining alcohols and water in complex mixtures. S. H. Langer and others. *bibliog* *Anal Chem* 30:1353-6 Ag '58

Manufacture

- Sodium out, hydrogen in; Procter & Gamble changes over to catalytic hydrogenation to get fatty alcohols. *Il diag Chem & Eng N* 36:46-7 Ja 27 '58

ALDEHYDES

- Adsorption of aldehydes and ketones on anion exchangers in cyanide form. G. Gabrielson. *bibliog* *J Ap Chem* 7:533-5 O '57
- Alcohol-binding capacity and mutarotation of the so-called dialdehydes obtained by periodate oxidation of sugar glycosides. I. J. Goldstein and others. *bibliog* *Chem & Ind* p595-6 My 17 '58
- Chemistry of α,β -unsaturated ethers; condensation with aldehydes. R. I. Hoslin and others. *bibliog* *Am Chem Soc J* 80:3069-73 Je 20 '58
- Condensation of aldehydes and ketones with Reissert compounds. L. R. Walters and others. *bibliog* *Am Chem Soc J* 80:1177-81 Mr 5 '58
- Decarboxylative condensation: α -alkylcinnamic acids from aromatic aldehydes and alkylmalonic acids. W. J. Gensler and E. Berman. *bibliog* *Am Chem Soc J* 80:4949-54 S '58
- Dialdehydes as cotton cellulose cross-linkers. M. D. Hurwitz and L. E. Conlon. *bibliog* *Textile Res J* 28:257-62 Mr '58; Abstract *Textile World* 107:124 D '57
- Effect of surfaces on the McFadyen-Stevens aldehyde synthesis; an improved procedure. M. S. Newman and E. G. Caflich. *jr. bibliog* *Am Chem Soc J* 80:862-4 F 20 '58
- Formation of styrenes by pyrolysis of aromatic or heterocyclic aldehyde- α -halophenyl acid anhydride mixtures over Morden bentonite. L. Levi and R. V. V. Nicholls. *bibliog* *Ind & Eng Chem* 50:1005-8 J1 '58
- Mechanism of carbonyl-methylene condensations. S. Patal and others. *Chem & Ind* p 1671-2 D 28 '57
- Micro-method for differentiating between conjugated aldehydes and ketones. J. P. Critchley and others. *bibliog* *Chem & Ind* p596-7 My 17 '58
- Molecular rearrangements; additional evidence for the mechanism of the aldehyde-ketone rearrangement. L. W. Kendrick, jr. and others. *bibliog* *Am Chem Soc J* 80:4057-65 Ag 5 '58
- Polarographic reduction of some aromatic aldehydes. R. M. Powers and R. A. Day, jr. *bibliog* *Am Chem Soc J* 80:808-11 F 20 '58
- Preparation of aromatic aldehydes. K. Kulka. *bibliog* *Il Am Perfumer & Aromatics* 71:51-3 Ja; 31-5 F '58
- Preparation of some aldehydes and ketones from lithium aryls. E. A. Evans. *bibliog* *Chem & Ind* p 1596-7 D 7 '57
- Reaction of aromatic aldehydes with *n*-butylamine; acid catalysis and substituent effects. G. M. Santerre and others. *bibliog* *Am Chem Soc J* 80:1254-7 Mr 5 '58
- Reduction of the products of periodate oxidation of carbohydrates; methylation studies on the monoaldehyde formed by catalytic reduction of *D*-methoxy-*D*-hydroxymethyl-diglycolic aldehyde. I. J. Goldstein and F. Smith. *bibliog* *Am Chem Soc J* 80:4681-2 S 5 '58
- Structure of the dialdehyde formed by periodate oxidation of methyl α -L-rhamnopyranoside. I. J. Goldstein and others. *bibliog* *Am Chem Soc J* 80:939-41 F 20 '58
- Studies in the Iridomyrmecin series; abnormal ring closure of a 1,6-keto aldehyde. N. L. Wendler and H. L. Slates. *bibliog* *Am Chem Soc J* 80:3937-9 Ag 5 '58
- Synthesis of furan derivatives; 5-nitrofuryl polyene aldehydes. H. Saikachi and H. Ogawa. *bibliog* *Am Chem Soc J* 80:3642-5 J1 20 '58

See also

Anisaldehyde
Anthralsdehyde
Benzaldehyde
Crotonaldehyde
Formaldehyde
Heptyl aldehyde

Analysis

- Colorimetric method for determining dialdehyde content of periodate-oxidized starch. C. S. Wise and C. L. Mehlretter. *Anal Chem* 30:174-5 F '58
- Determination of oxygenated materials as group types by infrared absorption. E. L. Saler and R. H. Hughes. *bibliog* *Anal Chem* 30:513-17 Ap '58

ALDEHYDES—Analysis—Continued

- Microdetermination of volatile aldehydes. I. R. Hunter and E. F. Potter, bibliog diag Anal Chem 30:293-5 F '58
 Paper chromatography of 2,4-dinitrophenylhydrazones of saturated aliphatic aldehydes. E. Ellis and others, bibliog Anal Chem 30:475-9 Ap '58

ALDOBIOURONIC acid

- Structure of acacia sundra gum; nature of the sugars present and structure of the aldobouronic acid. S. Mukherjee and A. N. Shrivastava, bibliog Am Chem Soc J 80:2536-8 My 20 '58
 Structure of tukhmalanga (salvia aegyptica) mucilage; nature of sugars present and the structure of the aldobouronic acid. A. K. Chatterjee and S. Mukherjee, bibliog Am Chem Soc J 80:2538-40 My 20 '58

ALDONAMIDES

- Hydrolytic instability of the aldonamides. M. L. Wolfrom and others, bibliog Am Chem Soc J 80:344-6 F 20 '58

ALDOPENTOSEs

- Condensation of 2-nitroethanol with the d-aldopentoses. J. C. Sowden and D. Strobach, bibliog Am Chem Soc J 80:2532-3 My 20 '58

ALDOSTERONE, See Hormones**ALEUTS**

- Aleuts. T. P. Bank, 11 maps Sci Am 199:112-20 N '58

ALFALFA

- Borosilicate glass as a continuing source of boron for alfalfa. E. R. Holden and A. J. Engel, J Agri & Food Chem 6:303-6 Ap '58
 Effect of composition and reactivity of borosilicate glass on boron status of alfalfa. E. R. Holden and W. L. Hill, bibliog J Agri & Food Chem 6:531-6 Jl '58
 How Ohio is solving the alfalfa dust problem. R. D. Schafer, diag A M A Archives Ind Health 17:67-9 Ja '58
 Stabilization of alfalfa carotenoids with N,N'-diaryl-alpha-omega-diaminoalkanes. L. A. Gugliemelli and H. L. Mitchell, bibliog J Agri & Food Chem 6:126-8 F '58
 Unidentified factor in alfalfa which counteracts mineral oil toxicity in the rat and mouse. B. H. Ershoff and E. J. Hernandez, bibliog 11 J Nutrition 55:575-83 Ag '58

ALFALFA meal

- Availability to the chick of the carotene of stabilized alfalfa meal. D. B. Parrish and H. L. Mitchell, bibliog J Agri & Food Chem 6:621-2 Ag '58

ALGAE

- Algae and other organisms in waters of the Chesapeake area. C. M. Palmer, Am Water Works Assn J 50:338-50 bibliog(p349-50) Jl '58
 Algae and their effects on dissolved oxygen and b.o.d. T. F. Wisniewski, Water & Sewage Works 105:235-41, 300-5 Je-Jl '58; Discussion. A. F. Bartsch, 105:339-41 Ag '58
 Algal disintegration of Bahamian limestone coasts. E. G. Purdy and L. S. Kornicker, bibliog J Geol 66:97-9, pl 1 Ja '58
 Control of algae with chlorophenyl dimethyl urea. T. E. Maloney, bibliog 11 Am Water Works Assn J 50:417-22 Mr '58
 Cyanide effects on carbon dioxide fixation in chlorella. B. R. Rabin and others, bibliog 2pls diag Am Chem Soc J 80:2528-32 My 20 '58
 Important to control slime and algae in the maintenance of air conditioning systems; abstract. S. Sussman, Air Cond Heat & Ven 55:56 Jl '58
 Let algae do it; converting salt water to fresh water. G. V. Levin, Chem & Eng N 35:142 D 9 '57
 Light conversion efficiency in photo synthetic oxygenation; abstract. W. J. Orwald, Water & Sewage Works 105:305 Jl '58
 Taste and odor problems at Valparaiso, Ind. R. Coots, Water & Sewage Works 105:232-4 Je '58
 Use of chlorine for control of odors caused by algae. R. Harlock and R. Dowlin, Am Water Works Assn J 50:29-32 Ja '58

ALGAE as food

- Nutrition in space operations. J. G. Gaume, bibliog Food Tech 12:433-4+ S '58

ALGEBRA

- See also
 Equations
 Equations, Linear
 Equations, Nonlinear
 Equations, Roots of
 Interpolation
 Matrices

ALGEBRAIC equations, See Equations, Algebraic**ALGERIA**

- See also subdivision Algeria under special subjects, e.g.
 Gas, Natural
 Petroleum industry and trade
 Petroleum pipe lines

ALGINATES

- See also
 Sodium alginate

ALGINIC acid

- Presence of L-guluronic acid residues in alginic acid. D. W. Drummond and others, Chem & Ind p 1088-9 Ag 16 '58

ALIGNMENT charts, See Nomographs**ALIGNMENT of machinery**

- Alignment methods hold precision over distance; alignment of a rocket-sled test track. 11 Iron Age 181:108-10 Ap 17 '58
 Optical tooling; short cut to accurate alignment. W. Czysan, 11 diag Iron Age 180:63-5 O 31 '57
 Shaft alignment and what it means. W. T. Saveland, jr, diag Iron & Steel Eng 35:103-6 S '53
 Sleeve-bearing alignment; reference book sheet. R. J. Sollohuh, diag Am Mach 100:151 D 17 '56; Same, Product Eng 28:F41 Mid-O '57
 When checking shaft alignment. E. L. Fauth, diag Power Eng 62:112 Ap '58

ALIGNMENT telescope, See Measuring instruments, Optical**ALIPHATIC compounds**

- Acid-base equilibrium constants for 2,4-dinitrophenol and some aliphatic amines in non-aqueous solvents. R. G. Pearson and D. C. Vogelsong, bibliog Am Chem Soc J 80:1038-43 Mr 5 '58
 Effect of solvent on the catalytic activity of aliphatic amines in elimination reactions. R. G. Pearson and D. C. Vogelsong, Am Chem Soc J 80:1048-50 Mr 5 '58
 Fatty alcohols. V. C. Meunier, bibliog Am Oil Chem Soc J 35:526-7 O '58
 Oxidation of unsaturated compounds; the oxidation of aliphatic unsaturated compounds. F. R. Mayo, bibliog Am Chem Soc J 80:2497-500 My 20 '58

Analysis

- Determination of simple aliphatic nitriles by reaction with alkaline hydrogen peroxide. D. H. Whitehurst and J. B. Johnson, Anal Chem 30:1332-3 Ag '58
 Mass spectrometric analysis; aliphatic ethers. F. W. McLafferty, bibliog Anal Chem 29:1782-9 D '57

Spectra

- Aliphatic diazo compounds; infrared spectra. P. Yates and others, bibliog Am Chem Soc J 79:5756-60 N 5 '57

ALIZARIN red S, See Alizarin sulfonic acid**ALIZARIN sulfonic acid**

- Cellulose supported thorium-alizarin red S reagent for fluoride ion determination. S. K. Yasuda and J. L. Lambert, bibliog Anal Chem 30:1485-9 S '58

ALKALI metal carbonates

- Reactions of the group VB pentoxides with alkali oxides and carbonates; DTA study of alkali metal carbonates. A. Reisman, Am Chem Soc J 80:3558-61 Jl 20 '58

See also**Sodium carbonates****ALKALI metal chlorides**

- Investigations into the electrodeposition of titanium metal from titanium tetrachloride in fused alkali metal chloride systems. J. Burgess and others, bibliog diag J Ap Chem 8:6-13 Ja '58

ALKALI metal compounds**Analysis**

- Extraction of chromium with trioctylphosphine oxide from acidic solutions of alkali metal salts; determination in situ as chromiuridiphenylcarbazide complex. C. K. Mann and J. C. White, Anal Chem 30:989-92 My '58

ALKALI metal halides

- Electrical conductivity of solutions of alkali metals in their molten halides. H. R. Bronstein and M. A. Bredig, bibliog diag Am Chem Soc J 80:2077-81 My 5 '58

See also**Lithium chloride****Potassium chloride****ALKALI metal nitrates**

- Activity coefficients of alkali metal nitrates and perchlorates in dilute aqueous solutions at 25° from diffusion coefficients. H. S. Harned and J. A. Shropshire, Am Chem Soc J 80:2967-8 Je 20 '58

ALKALI metal oxides

Reactions of the group VB pentoxides with alkali oxides and carbonates; DTA study of alkali metal carbonates. A. Reisman. *Am Chem Soc J* 80:3558-61 J1 20 '58

See also

Sodium oxide

ALKALI metal perchlorates

Activity coefficients of alkali metal nitrates and perchlorates in dilute aqueous solutions at 25° from diffusion coefficients. H. S. Harned and J. L. Shropshire. *Am Chem Soc J* 80:2367-3 Je 20 '58

ALKALI metals

Electrical conductivity of solutions of alkali metals in their molten halides. H. R. Bronstein and M. A. Bredig. *bibliog diag Am Chem Soc J* 80:2077-81 My 5 '58

Filtration and vacuum distillation unit for the purification of alkali metals. G. W. Horsley. *bibliog diags J Ap Chem* 8:13-18 Ja '58

Method for weighing pure alkali metals accurately. F. A. Lewis. *diag Chem & Ind* p 1504-5 N 16 '57

Phase separation in metal-ammonia solutions. K. S. Fitzer. *bibliog Am Chem Soc J* 80:5046-7 O 5 '58

Polarography in N,N'-dimethylformamide; alkali metal ions, alkaline earth metal ions and certain transition metal ions. G. H. Brown and R. Al-Urfali. *bibliog Am Chem Soc J* 80:2113-15 My 5 '58

See also

Lithium

Rubidium

ALKALIES

Alkaline electrolytic de-scaling of ferrous metals and alloys. *Wire & Wire Prod* 33: 633-4 My '58

Alkaline hydrolysis of representative hardwoods. L. A. Pearl and others. *Tappi* 41: 255-6 My '58

Cathodic protection of lead cable sheath in the presence of alkali from deicing salts. W. H. Bruckner and W. W. Lichtenberger. *diag Corrosion* 1:19-24 Ap '58

Control of the properties of glasses by the aid of eutectics; alkali-alumina-silica and lead-alumina-silica systems separately and in combinations. A. S. Watts. *diags Am Cer Soc J* 41:249-53 J1 1 '58

Corrosion of aluminum by alkaline sequestering solutions. H. W. McCune. *bibliog Ind & Eng Chem* 50:67-70 Ja '58

Effects of alkali cooking on the yields of crude and neutral oil from cottonseed meats. P. H. Eaves and others. *bibliog Am Oil Chem Soc J* 35:33-6 Ja '58

Influence of alkali on the oxidation of lubricating oils. K. L. Ingold and I. E. Puddington. *bibliog J Inst Pet J* 44:168-77 Je '58

Inhibition of alkaline attack on soda-lime glass. G. A. Hudson and F. R. Bacon. *bibliog Am Cer Soc Bul* 37:185-8 Ap 15 '58; *Excerptis. Glass Ind* 39:389-90 J1 '58

Maximum alkali-combining capacity of wool. J. R. McPhee. *bibliog Textile Res J* 28:714-16 Ag '58

New method for regeneration of alkaline solutions used in extracting mercaptans from petroleum distillates. B. C. Phenix, Jr. *Oil & Gas J* 56:89-91 S 22 '58

Pilot-plant development of the alkali-cooking process for cottonseed meats; quantitative effect of cooking variables on solubility of meal nitrogen. W. H. King and others. *bibliog Am Oil Chem Soc J* 35:46-9 Ja '58

Reaction of D-glycerose-3-CH₂ with alkali. J. C. Sowden and E. K. Cohn. *bibliog Am Chem Soc J* 80:242-4 Ja 5 '58

Relationship between pulp quality and alkali concentration. C. B. Christiansen and G. W. Legg. *bibliog diag Tappi* 41:216-23 My '58

Report of the chlor-alkali committee of the industrial electrolytic division for the year 1957. *Electrochem Soc J* 105:550-2 S '58

Some experiments in comparing the resistance of enamels to corrosion by alkaline solutions. H. B. Kirkpatrick and others. *bibliog J diag Am Cer Soc J* 40:389-95 N 1 '57

Structural interpretation of immiscibility in oxide systems; effect of alkalis and alumina in ternary systems. E. M. Levin and S. Block. *bibliog diags Am Cer Soc J* 41: 49-54 F 1 '58

Studies on the alkaline fission of fatty acids, and related topics; abstract and discussion. B. C. L. Weedon. *Chem & Ind* p402 Ap 5 '58

See also

Concrete, Effect of alkalis on

Enamel, and enameling—Alkali resistance

ALKALIMETRY

Review of fundamental developments in analysis; acid-base titrations in nonaqueous solvents. J. A. Riddick. *Anal Chem* 30:793-805 bibliog (808-5) pt 2 Ap '58

ALKALINE earth borates

Viscosity, density, and electrical resistivity of molten alkaline-earth borate glasses with three mole per cent of potassium oxide. L. W. Coughanour and others. *bibliog Am Cer Soc J* 41:324-9 Ag 1 '58

ALKALINE earth carbonates

High molecular weight polymers of ethylene oxide; polymerization with alkaline earth conductometric catalysts. F. N. Hill and others. *bibliog J diag Ind & Eng Chem* 50:5-7 Ja '58

Relationship between thermal decomposition in vacuum and the macrostructure of alkaline earth carbonates. B. Wolk. *bibliog J diag Electrochem Soc J* 105:89-93 F '58

Analysis

Ultraviolet spectrophotometric determination of nitrate; application to analysis of alkaline earth carbonates. R. Bastian and others. *Anal Chem* 29:1795-7 D '57

ALKALINE earth compounds

Solvents having high dielectric constants; conductometric behavior of some alkaline earth salts in N-methylacetamide at 40°. L. R. Dawson and others. *bibliog Am Chem Soc J* 80:4233-5 Ag 20 '58

ALKALINE earth hydroxides

Cross linking of butadiene-acrylate polymers by alkaline earth hydroxides. W. Cooper and T. B. Bird. *bibliog Ind & Eng Chem* 50:771-6 My '58

ALKALINE earth metals

Fluoroplatinates; preparation, density and solubility of the fluoroplatinates of magnesium and the alkaline earth metals. M. K. Norr and others. *Am Chem Soc J* 80:5035-6 O 5 '58

Polarography in N,N'-dimethylformamide; alkali metal ions, alkaline earth metal ions and certain transition metal ions. G. H. Brown and R. Al-Urfali. *bibliog Am Chem Soc J* 80:2113-15 My 5 '58

Properties and infrared spectra of ethylenediaminetetraacetic acid complexes; alkaline earth chelates. D. T. Sawyer and F. J. Paulsen. *bibliog Am Chem Soc J* 80:1597-600 Ap 5 '58

See also

Barium

Calcium

Strontium

ALKALINITY

Determination of the alkalinity and borate concentration of seawater. J. A. Gast and T. G. Thompson. *bibliog Anal Chem* 30:1549-51 S '58

Diesel engine lubricants; their selection and utilization with particular reference to oil alkalinity. A. Dyson and others. *bibliog J diag Inst Mech Engrs Proc* 171 no 23:717-30; *Discussion* 731-7; *Reply* 737-40 '57

Spectrophotometric investigation of vanadium (V) species in alkaline solutions. L. Newman and others. *bibliog Am Chem Soc J* 80:4491-5 S 5 '58

Uronic acid fragments from slash pine (pinus elliotii) and their behavior in alkaline solution. E. L. Whistler and G. N. Richards. *bibliog Am Chem Soc J* 80:4888-91 S 20 '58

See also

Water—Alkalinity

ALKALOIDS

Absolute configuration of conhydrine. J. Sicher and M. Tichy. *bibliog Chem & Ind* p 16 Ja 4 '58

Absolute configuration of some indole alkaloids. E. Wenkert and N. V. Brinzi. *bibliog Am Chem Soc J* 80:3484 J1 5 '58

Absolute configurations of the nectins. N. J. Leonard. *bibliog Chem & Ind* p 1455-6 N 2 '57

Alkaloids of *geissospermum vellosii*. H. Rapoport and others. *Am Chem Soc J* 80: 1601-4 Ap 8 '58

Alkaloids of *ormosia panamensis* Benth. and related species. H. A. Lloyd and E. C. Horning. *Am Chem Soc J* 80:1506-10 Mr 20 '58

Alkaloids of *tabernanthe iboga*. D. F. Dickel and others. *bibliog Am Chem Soc J* 80:123-36 Ja 5 '58

Alkaloids of *tabernanthe iboga*; derivatives of isouquinclidine. L. H. Werner and S. Roca, Jr. *bibliog Am Chem Soc J* 80: 2733-6 Je 5 '58

ALKALOIDS—Continued

Alkaloids of *tabernaemontana* iboga; the synthesis of the selenium dehydrogenation products from ibogamine. H. B. MacPhillamy and others. *bibliog Am Chem Soc J* 80:2172-8 My 5 '58

Alkaloids of the amaryllidaceae; the structures of alkaloids derived from 5,10b-ethanophenanthridine. W. C. Wildman. *bibliog Am Chem Soc J* 80:2567-75 My 20 '58

Anodic polarography with a rotating platinum microelectrode; oxidation of various indole alkaloids. M. J. Allen and V. J. Powell. *Electrochem Soc J* 105:541-4 S '58

Biogenesis of the nicotiana alkaloids; the piperidine ring of anabasine. E. Leete. *bibliog Am Chem Soc J* 80:4393-4 Ag 20 '58

Constitution of dioscorine. J. B. Jones and A. R. Pinder. *bibliog Chem & Ind p* 1000-1 Ag 9 '58

Conversion of atidine to dihydroatidine and dihydroajacine. S. W. Pelletier. *bibliog Chem & Ind p* 1670-D 23 '57

Convulsant alkaloid of *dioscorea dumetorum*. C. W. L. Bevan and J. Hirst. *Chem & Ind p* 103 Ja 25 '58

Flavopereirine, an alkaloid from *Geissospermum vellosii*. N. A. Hughes and H. Rapoport. *Am Chem Soc J* 80:1604-9 Ap 6 '58

Hypertension. S. J. Hopkins. *Manuf Chem* 29:154-5 Ap '58

Interconversions of amaryllidaceae alkaloids by sodium and amyl alcohol. H. M. Fales and W. C. Wildman. *bibliog Am Chem Soc J* 80:4395-404 Ag 20 '58

Interrelation of delcosine and desoline. V. Skaric and L. Marion. *Am Chem Soc J* 80:4434 Ag 20 '58

Microbiological transformation of *rauwolfia* alkaloids. S. C. Pan and F. L. Weisenborn. *Am Chem Soc J* 80:4749 S 5 '58

Oxidation-reduction studies in the realm of indole alkaloids. E. Wenkert and D. K. Roychaudhuri. *bibliog Am Chem Soc J* 80:1613-19 Ap 5 '58

Stereochemical interrelationship of the yohimbine-type alkaloids. E. Wenkert and others. *bibliog Am Chem Soc J* 79:6570-1 D 20 '57

Stereochemistry of the hemlock alkaloids. R. K. Hill. *bibliog Am Chem Soc J* 80:1609-13 Ap 5 '58

Structure of haemanthamine. H. M. Fales and W. C. Wildman. *bibliog Chem & Ind p* 561-2 My 10 '58

Structure of tylophorine. T. R. Govindachari and others. *Chem & Ind p* 1484-5 N 9 '57

Study of oxazolidine ring isomerization in models of the diterpenoid alkaloids. N. J. Leonard and others. *bibliog Am Chem Soc J* 80:5185-95 O 5 '58

See also

Aspidospermine

Atisine

Cevine

Chaksine

Codaine

Colchicine

Conessine

Corynantheine

Cryptoleurine

Delpheine

Deltaine

Diosgenin

Emetine

Hapiophytine

Hemanthidine

Integerrimine

Lycoctonine

Morphine

Nicotine

Plants—Alkaloid content

Reserpine

Ricine

Thebaine

Yohimbine

Analysis

Alkaloids. W. I. Stephen. *Manuf Chem* 29: 160 Ap '58

ALKOXIDES. See Alcoholates**ALKOXY compounds**

Diuretics; alkoxymercuration by mixed anion salts of mercury. C. W. Whitehead and J. J. Traverso. *bibliog Am Chem Soc J* 80:2182-5 My 5 '58

Local anesthetics; monoalkylamino-4-alkoxy-3-aminobenzoates and 3-alkoxy-4-aminobenzoates. M. Freifelder and others. *Am Chem Soc J* 80:4320-3 Ag 20 '58

ALKOXY group

Aromatic cyclodehydration; alkoxy derivatives of the acridizinium ion. C. K. Bradsher and J. H. Jones. *bibliog Am Chem Soc J* 79:6033-4 N 20 '57

Reactions of alkoxy radicals; photolysis of ethyl propionate. M. H. J. Wijnen. *bibliog Am Chem Soc J* 80:2394-400 My 20 '58

ALKYL borates. See Boric acid**ALKYL compounds**

Alkyl and diethylaminoethyl esters of N-substituted aminoacylamino benzoic acids. E. Epstein and D. Kaminsky. *bibliog Am Chem Soc J* 79:5814-17 N 5 '57

Effect of solvents on the liquid phase photolysis of alkyl esters. P. Ausloos. *Am Chem Soc J* 80:1310-13 Mr 20 '58

Intermolecular-intramolecular polymerization of α -diolefins by metal alkyl coördination catalysts. C. S. Marvel and J. K. Stille. *Am Chem Soc J* 80:1740-4 Ap 5 '58

Synthesis of potential anticancer agents; 9-alkyl-6-substituted-purines. J. A. Montgomery and C. Temple, jr. *bibliog Am Chem Soc J* 80:499-11 Ja 20 '58

Synthesis of potential anticancer agents; N²,6-alkyl derivatives of 2,6-diaminopurine. J. A. Montgomery and L. B. Holm. *bibliog Am Chem Soc J* 80:404-8 Ja 20 '58

ALKYL group

Dealkylation of alkyl aromatic hydrocarbons. W. D. Betts and F. Popper. *J Ap Chem* 8: 509-13 Ag '58

Electrical effects in the biphenyl and naphthalene systems; the influence of alkyl groups attached to silicon on desilylation reactions. R. A. Benkeser and others. *bibliog Am Chem Soc J* 80:2283-7 My 5 '58

Fat emulsions; emulsions of polyoxyethylene and alkyl content of emulsifiers on stability to sterilization. W. S. Singleton and others. *bibliog Am Oil Chem Soc J* 35:265-70 Je '58

Inductive effects of alkyl groups as determined by desilylation reactions. R. A. Benkeser and others. *bibliog Am Chem Soc J* 80:2279-82 My 5 '58

Optical rotatory dispersion studies; detection of conformational alterations; effects of alkyl groups and double bonds in polycyclic systems. C. Djerassi and others. *bibliog Am Chem Soc J* 80:4001-15 Ag 5 '58

Production of aromatics by hydrodealkylation. S. R. Bethea and others. *bibliog flow diag* Ind & Eng Chem 50:1245-52 S '58

Solvent and substituent effects; the neopentyl and other 3-branched alkyl groups and their effect on the principal ultraviolet transition. W. M. Schubert and J. Robins. *bibliog Am Chem Soc J* 80:559-63 F 5 '58

Strong or isovalent hyperconjugation in some alkyl radicals and their positive ions. N. Muller and R. S. Mulliken. *bibliog Am Chem Soc J* 80:3489-97 J 20 '58

ALKYL halides

See also

Butyl chloride

ALKYLATE. See Alkylation**ALKYLATION**

Alkylate scarcity squeezes refiners. *Oil & Gas J* 56:49-50 Ag 4 '58

Alkylation. *Pet Refiner* 37:251 S '58

Alkylation and cyclization of benzoylacetanilides. A. L. Searles and D. Ressler. *bibliog Am Chem Soc J* 80:3556-63 J 20 '58

Alkylation is swinging to motor fuel. C. A. Umbach, jr. *Pet Refiner* 37:233-4 Ja '58

Alkylation of flavonol acetates. L. Jurd. *bibliog Chem & Ind p* 1452-3 N 2 '57

Alkylation of organic acids with pyridotriazole. J. H. Boyer and L. T. Wolford. *bibliog Am Chem Soc J* 80:2741-3 Je 5 '58

Alkylation of phenols; abstract. R. Stroth and others. *Ind Chem* 34:206-7 Ap '58

Alkylation spree to hit peak in '64. *Oil & Gas J* 56:70-1 S 8 '58

Alkylation; what you should know about this process. R. E. Payne. *bibliog flow diag* *Pet Refiner* 37:316-29 S '58

Aluminum chloride alkylation; Phillips petroleum co. flow diag *Pet Refiner* 37:253 S '58

Cascade sulfuric acid alkylation; M. W. Kellogg co. flow diag *Pet Refiner* 37:254 S '58

Chemical engineering unit processes. L. F. Albright and R. N. Shreve. *Ind & Eng Chem* 50:1313-27 bibliog(p 1324-7) pt 2 S '58

Effluent refrigeration alkylation; Stratford engineering corp. flow diag *Pet Refiner* 37:255 S '58

ALKYLATION—Continued

Factors controlling position of alkylation of alkali metal salts of phenols, benzyl and allyl halides. D. Y. Curtin and others. *bibliog Am Chem Soc J* 80:1391-7 Mr 20 '58

From natural to super-premium gasoline; combining alkylation with isomerization and reforming. R. E. Sutherland and D. H. Belden. *flow diag Pet Refiner* 37:119-23 Jl '58

HF alkylation. Perco; Phillips petroleum co. *flow diag Pet Refiner* 37:257 S '58

HF alkylation; Universal oil products co. *flow diag Pet Refiner* 37:256 S '58

Low-cost alky-system depropanizer. W. O. Webber. *flow diag Oil & Gas J* 56:139+ F 24 '58

Manufacture of detergent alkylate. G. C. Feighner. *flow diag il diag Am Oil Chem Soc J* 35:520-4 O '58

O-alkylation accompanying the direct formation of diazonium salts from phenols in alcoholic solution. J. M. Tedder and G. Theaker. *Chem & Ind p* 1485 N 9 '57

Studies of stereospecificity in the α -phenylethylation of phenylacetonitrile and phenylacetic acid and of epimerization of the alkylation products. C. R. Hauser and others. *bibliog Am Chem Soc J* 80:4345-8 Ag 20 '58

ALKYLENE carbonates

Preparation and properties of the alkylene carbonates. W. J. Peppel. *bibliog diag Ind & Eng Chem* 50:767-70 My '58

ALKYLOLAMIDES. See Alcohols**ALLEN, H. Julian**

Missile scientist to deliver Wright lecture. *por Aeronautical Eng R* 16:21 N '57

ALLEN, William Stephen

Recent work of Hushen & Allen. *il plans Arch Rec* 124:165-80 S '58

ALLENE

Acetylene-allene isomerization of nonadiyne-1,4. W. J. Gensler and J. Casella, Jr. *bibliog Am Chem Soc J* 80:1376-80 Mr 20 '58

Ionization and dissociation of allene, propyne, 1-butyne, and 1,2- and 1,3-butadienes by electron impact; the C_2H^+ ion. J. Collin and F. P. Lossing. *Am Chem Soc J* 79:5348-53 N 20 '57

Recent developments in acetylene-allene chemistry; abstract and discussion. E. R. H. Jones. *Chem & Ind p* 1532 N 23 '57

ALLERGY

Zirconium allergy; abstract. W. B. Shelley and H. J. Hurley. *Drug & Cosmetic Ind* 82: 670 Mr '58

ALLETHRIN**Analysis**

Determination of allethrin residues in milk and meats. D. E. McClellan and J. B. Moore. *J Agri & Food Chem* 6:463-5 Je '58

ALLOY casting institute

Annual meeting, 18th, Hot Springs, June 23-24. *Foundry* 86:88 Ag '58

ALLOY pigs. See Pig iron**ALLOY X-8001. See Aluminum alloys****ALLOYS**

Alloy junctions in semi-conducting devices. D. F. Taylor. *il diag Research* 11:335-8 S '58

Alloys; compositions and uses; tables. *Product Eng* 28:B 10-11 Mid-O '57

Alloys for precious metal jewelry. R. H. Atkinson. *il Metal Prog* 72:107-1 N '57

Alloys from oxides; abstract. N. Martini. *Chem & Eng N* 36:59-60 Ap 21 '58

Casting properties of ferrous and nonferrous alloys; tables. *Product Eng* 28:D6-7 Mid-O '57

Corrosion resistant materials; metals and alloys. L. F. Spencer. *bibliog Metal Finishing* 55:62-8 N '57

Design digest issue; metals and alloys. *diags Product Eng* 28:B 1-58 Mid-O '57

Design digest issue; metals and alloys. *Product Eng* 29:B 1-36 Mid-S '58

Diffusion in metals; annual review. P. Shewmon. *bibliog Ind & Eng Chem* 50:492-5 pt 2 Mr '58

Direct study of eutectic alloys by means of electron microscopy. N. Takahashi and K. Ashinuma. *bibliog il diags Inst Metals J* 87:19-23 '58-59

Industrial know-how handbook; non-ferrous metals and their alloys. *Mill & Factory* 62: MW36-7 My '58

Influence of surface roughness on the fatigue strength of steels and nonferrous alloys; abstract. E. Siebel and M. Gaier. *Metal Prog* 73:174+ Ja '58

Magnetic properties of dilute magnetic alloys and of the rare earth metals. G. W. Pratt, Jr. *bibliog J Ap Phys* 29:520-1 Mr '58

Metal selection puts plus in profits; with 1957 metal selector. *il Steel* 141:162-78 O 28 '57

New alloy for reactor control. *Chem & Eng N* 36:56 Ja 6 '58

Safety tools are one important use of high strength nonmagnetic alloys. H. Bernstein. *il Materials in Design Eng* 48:104-6 Ag '58

Suggestion concerning the role of wavefunction symmetry in transition metals and their alloys. J. B. Goodenough. *bibliog diags J Ap Phys* 29:513-15 Mr '58

Super-strong light-alloy castings. M. C. Fleming and H. F. Taylor. *bibliog il Machine Design* 30:22-4 Je 12 '58

Tough alloys stump the experts. E. J. Egan, Jr. *Iron Age* 180:41 D 26 '57

Vacuum melted alloys; data sheet. *Metal Prog* 74:96B-96D Ag '58

See also**Aluminum alloys****Bearing metals****Beryllium alloys****Bismuth alloys****Brass****Bronze****Cadmium alloys****Copper alloys****Germanium alloys****Gold alloys****Hafnium alloys****Indium alloys****Invar****Iron alloys****Lead alloys****Lithium alloys****Magnesium alloys****Molybdenum alloys****Monel metal****Nickel alloys****Niobium alloys****Permalloy****Platinum alloys****Rhodium alloys****Silicon alloys****Silver alloys****Steel alloys****Tantalum alloys****Thorium alloys****Tin alloys****Titanium alloys****Tungsten alloys****Uranium alloys****Zinc alloys****Zirconium alloys****Testing**

Creep under changing complex stress systems. A. E. Johnson and others. *Engineer* 206:209-16, 251-7, 287-91 Ag 8-22 '58

ALLOYS, Hard facing

Effect of carbon on the resistance of hard facing deposits to abrasive wear; abstract. E. I. Leynachuk. *Metal Prog* 74:150+ Ag '58

How to choose hardfacing materials. D. B. Rankin. *Roads & Sts* 101:78-9+ Je '58

Steel mills look to E3N12's for high strength in high heat. *il diags Welding Eng* 43:32-3 Jl '58

ALLOYS, Heat resisting

Alloy exhibits strength at white-hot operating heat; *Nicrotung*. *Iron Age* 181:153 Je 5 '58

Alloy extends fixture life; Ross gear & tool co. *il Steel* 143:71-2 Jl 7 '58

Alloy resists jet heat; *Nicrotung*. *Chem & Eng N* 36:48-50 My 19 '58

Analysis of residual stress in ground surfaces of high-temperature alloys. R. D. Halverstadt. *bibliog diags A S M E Trans* 80:929-39; Discussion. 939-40 My '58

Brazing alloys for guided missiles. A. T. Cape. *il Metal Prog* 74:99-104 S '58

Brazing alloys tackle heat barrier. *il Steel* 142:140-2 My 19 '58

Brazing-filler metals meet high-temperature needs; abstracts. A. M. Setapen. *il Iron Age* 181:110-11 My 8 '58; *Tool Eng* 40:119-20 Je '58

Cast alloy fixture has long life in thermal shock service. E. A. Schoefer. *il Metal Prog* 73:106-8 Je '58

Casting magnesium-thorium alloys. T. A. Dickinson. *il Foundry* 86:156+ F '58

Ceramic coatings raise heat resistance of super-alloys. P. A. Huppert. *Iron Age* 180: 157-9 N 14 '57

ALLOYS, Heat resisting—Continued

- Cleanliness of vacuum-melted alloys. D. E. Nulck. *il Metal Prog* 74:103-9 Ag '58
- Columbium-base alloys for high temperature use. *Materials in Design Eng* 47:144+ Je '58
- Coming; better Thermanol alloys. W. J. Buehler and C. G. Dalrymple. *bibliog il Metal Prog* 73:78-81 My '58
- Cupro-nickels offer corrosion resistance and hot strength. J. L. Everhart. *bibliog il Materials in Design Eng* 47:114-20 My '58
- Fatigue characteristics of single-lap joints of AISI 347 brazed with a Ni-Cr-Si-B-C alloy. R. G. Aspden and W. Feduska. *bibliog il diag Welding J* 37:sup 125-8 Mr '58
- Heat resistant alloys for jet turbine engines. *Materials in Design Eng* 48:134+ J1 '58
- High speeds need new alloys. *Iron Age* 181: 80-1 F 13 '58
- High-temperature alloys: 1900-1958. F. S. Badger. *J Metals* 10:512-16 Ag '58
- High-temperature casting alloys; Nimcast. *Metalurgia* 56:301-2 D '57
- High-temperature titanium alloy. *Product Eng* 29:12 F 24 '58
- High-temperature vacuum brazing of jet-engine materials. D. G. Huschke, Jr. and G. S. Hoppin, 3d. *il Welding J* 37:sup233-40 My '58
- How can we hurdle the materials roadblock? I. Stambler. *il Aviation Age* 30:18-19+ Ag '58
- Improvement in high-temperature alloys by boron and zirconium. W. J. Pennington. *Metal Prog* 73:82-6 Mr '58
- Materials for aircraft structures subjected to kinetic heating. A. J. Murphy. *bibliog Roy Aeronautical Soc* J 61:653-66 O '57
- Materials progress; metals. I. Stambler. *Aviation Age* 30:57-61 Ag '58
- Metal problems considered at A.S.T.M. meeting. *Metal Prog* 74:118-19 Ag '58
- Metallurgical factors in the design of hydraulic equipment for elevated temperature application; abstracts. A. Mars and N. M. Lazar. *Machine Design* 30:136-8+ My '58; *Aviation Age* 30:32-3+ Ag '58
- Metallurgy makes the difference. F. G. Seifing. *il Diesel Power* 35:35-9 N '57
- Molybdenum-base alloys; abstract. A. J. Herzog. *Tool Eng* 40:212-13 F '58
- Molybdenum for aircraft applications; abstract. R. T. Begley. *Tool Eng* 39:212-13 N '57
- Molybdenum is here to stay. J. L. McCloud. *il Metal Prog* 74:75-8 Ag '58
- Needed; facts on space age metals; symposium. *Steel* 142:102-4 Je 16 '58
- New high temperature alloy; Carpenter Lapelloy C. *Franklin Inst* J 265:523-4 Je '58
- New high-temperature alloy developed by Westinghouse; Nicrotung. *Automotive Ind* 118:38 Je 1 '58
- New tubing material is strong and workable; Croloy 15-15N. *Materials in Design Eng* 47: 154-5 F '58
- Niobium, a prospect for aviation gas turbines; abstracts. W. S. Hazelton. *il S A E J* 66:87-9 My '58; *Machine Design* 30:150+ My 15 '58; *Discussion*. R. I. Jaffee. *S A E J* 66:69 My '58
- Notch and smooth bar stress-rupture characteristics of several heat resistant alloys in the temperature range between 600 and 1000° F; abstract. J. G. Sessler and W. F. Brown, Jr. *Metal Prog* 73:128+ Mr '58
- Pre-designed super alloy; Nicrotung. *Westinghouse Eng* 18:127-8 J1 '58
- Processing high-temperature alloys; vacuum melting improves investment casting. J. A. Miller. *bibliog il J Metals* 10:522-4 Ag '58
- Researchers develop better metals. *Steel* 141: 52 D 30 '57
- Structure of oxides formed on high-temperature alloys at 1500° F; abstract. J. F. Radavich. *Metal Prog* 73:158+ F '58
- Ti-7Al-3Mo alloy stays strong at high heat. F. A. Crossley. *il Iron Age* 181:76-8 Ja 16 '58
- Tough alloys call for tougher machining. J. H. Kauffman and E. F. Allred. *il Am Mach* 102:132-6 Ap 21 '58
- Tough alloys; Ryan boosts efficiency in machining them. J. N. Willits. *il Mach* 64:146-9 J1 '58
- W-545, a better turbine disk alloy. J. T. Brown. *il diag Metal Prog* 74:87-90 Ag '58
- What we need in high temperature materials. A. J. Carah. *il Iron Age* 181:75-7 Ja 23, 102-4 Ja 30 '58

What's new in refractory ceramic coatings for super metal alloys. *il Cer ind* 70:62-4 Mr '58

See also

Chromium alloys
Nickel alloys

Testing

Nature of high-temperature brazing alloy; base metal interface reactions. W. Feduska. *bibliog il Welding J* 37:sup62-73 F '58

ALLUVIUM

Alluvial chronology of the Tesuque valley, N.Mex. F. Miller and W. Wendorf. *bibliog maps diag J Geol* 66:177-94, pl 1 Mr '58

Geological geomorphology. R. J. Russell. *maps Geol Soc Bul* 69:1-21 *bibliog* (p 19-21) Ja '58

Systematic changes in the beds of alluvial rivers. W. C. Carey and M. D. Keller. *diag Am Soc C E Proc* 83 [HY 4 no 1331]:1-24 Ag '57; *Discussion*. *bibliog* 84 [HY 1 no 1558]:47-8 F; [HY 2 no 1616]:9-15 Ap '58; *Reply*. 84 [HY 5 no 1832]:49-50 O '58

ALLYL compounds

Allylic rearrangements: the reaction of α,α -dimethylallyl chloride and γ,γ -dimethylallyl chloride with thiourea and substituted thioureas. J. M. Rule and others. *Am Chem Soc J* 79:6529-30 D 20 '57

Allylic rearrangements; the reaction of thionyl chloride with steroid allylic alcohols. R. B. Ireland and others. *bibliog Am Chem Soc J* 80:4604-6 S 5 '58

ALLYLIC bromides. See Bromopropene

ALMONDS

Nutritive value of fresh and roasted, California-grown nonpareil almonds. A. P. Hall and others. *bibliog J Agri & Food Chem* 6:377-82 My '58

ALNICO

Casting of Alnico VII with improved physical properties. D. H. Wenny and K. M. Olsen. *il J Ap Phys* 29:504-5 Mr '58

Phase analysis of Alnico V based on temperature effects. R. K. Tenzer and K. J. Kronenberg. *bibliog diag J Ap Phys* 29: 302-3 Mr '58

Relation between colloid pattern and permanent magnet precipitate during the magnetization reversal in Alnico V. K. J. Kronenberg and R. K. Tenzer. *bibliog il J Ap Phys* 29:299-301 Mr '58

Some results of an electron microscopical study of the metallographic structure of two alloys for permanent magnets (Ticonal G and Ticonal X). J. J. de Jong and others. *bibliog il J Ap Phys* 29:297-8 Mr '58

ALOPECIA. See Baldness

ALPHA rays

Isotope dilution, α -spectrometer for U and Th determination. L. E. Howard. *bibliog Nucleonics* 16:112+ F '58

Three-channel alpha-fission counter. F. A. White and J. C. Sheffield. *il diag Nucleonics* 16:86+ Ap '58

ALTERNATING current electric motors. See Electric motors, Alternating current

ALTERNATING electric currents. See Electric currents, Alternating

ALTERATIONS, Hydrothermal. See Metamorphism

ALTERNATORS. See Electric generators, Alternating current

ALTIMETERS

Ionic altimeter measures up to 250,000 ft. R. F. Redensko. *il diag Aviation Age* 28: 50-3 F '58

ALTITUDE

Altitude test facility at Orenda engines, Ltd. P. K. Peterson. *flow diag plans diag Eng J* 41:48-59+ My '58

Consider altitude factor in designing hot water heating. J. J. Blank. *diag Heating-Piping* 30:14-15 Mr '58

Effect of altitude and diet on hematopoiesis and serum cholesterol. I. R. Payne. *bibliog J Nutrition* 64:433-46 Mr '58

Effect of high altitude conditions on atomization phenomena. C. C. Miesse. *bibliog Jet Propulsion* 28:335-7 Mr '58

Test cell simulates altitude. *il Iron Age* 180: 183 N 14 '57

Ultrahigh-altitude aerodynamics. S. A. Schaaf and others. *il diag Sci Am* 198:36-42 Ja '58

ALUM. See Alums

ALUMINA

Activated alumina. M. R. Harris and K. S. W. Sing. *Chem & Ind* p 1573-4 N 30 '57

Alumina puts hot work in harness. *il Iron Age* 180:138 D 12 '57

Aluminum oxide film for electronic devices. *il Materials in Design Eng* 47:166+ Je '58

ALUMINA—Continued

- Beta-alumina-type structure in the system lanthana-alumina. R. S. Roth and S. Hasko. *bibliog Am Cer Soc J* 41:146 Ap 1 '58
- Characteristics of refractory oxide coatings produced by flame-spraying. N. M. Ault. *bibliog J Am Cer Soc J* 40:69-74 Mr 1 '57; *Abstract. Metal Prog* 73:141-2+ Mr '58
- Control of the properties of glazes by the aid of eutectics; alkali-alumina-silica and lead-alumina-silica systems separately and in combinations. A. S. Watts. *diags Am Cer Soc J* 41:249-53 Jl '58
- Crystal habit of alpha alumina in alumina ceramics. H. N. Baumann, jr. *bibliog J Am Cer Soc Bul* 37:179-84 Ap 15 '58
- Defluorination of water with activated alumina. E. A. Savinelli and A. P. Black. *diag Am Water Works Assn J* 50:33-44 *bibliog* (56 ref, p42-4) Ja '58
- Detection of screw dislocations in α -Al₂O₃ whiskers. R. D. Dragsdorf and W. W. Webb. *bibliog J Am Cer Soc J* 41:19-19 Mr '58
- Differential thermal analysis above 1200°C. T. F. Newkirk. *bibliog diags Am Cer Soc J* 41:409-14 O 1 '58
- Drying of gases with activated alumina. A. W. Miller and C. W. Roberts. *bibliog diag Ind Chem* 34:141-5 Mr '58
- Easily mounted aluminum oxide foils for windows and backings. U. Hauser and W. Kerler. *bibliog J Am Cer Soc J* 41:380-2 Mr '58
- Effect of conditions of preparation on the form of alumina. J. A. Lewis and C. A. Taylor. *bibliog J Ap Chem* 8:223-8 Ap '58
- Formation of metastable aluminates at high temperatures. M. Plummer. *bibliog J diag J Ap Chem* 8:35-44 Ja '58
- High-temperature glazing of alumina bodies. E. Fisher and R. Twells. *bibliog Am Cer Soc J* 40:385-8 N 1 '57
- How AC turns out top grade spark plugs. *J Am Cer Ind* 69:84-7 N '57
- How Gladding develops processes to meet needs of production new techniques put ceramics in new fields. *J Am Cer Ind* 71:100-1 O '58
- Imperfection dependence of the catalytic decomposition of H₂O on Al₂O₃. R. N. Tucker and P. Gibbs. *diags J Ap Phys* 29:1374-6 S '58
- Impurity penetration along dislocation lines in α -Al₂O₃. R. N. Tucker and P. Gibbs. *bibliog diags J Ap Phys* 29:1375-6 S '58
- Increased activity of silica-alumina catalysts. H. G. Weiss and I. Shapiro. *bibliog Am Cer Soc J* 40:3195-8 Jl '58
- Initial sintering of alumina and hematite. R. L. Coble. *bibliog J Am Cer Soc J* 41:55-62 F 1 '58
- Make Al₂O₃ films one millionth of an inch thick. *J Am Cer Ind* 71:96-7 Ag '58
- New alumina-type cermets. T. F. Franzos. *J Materials in Design Eng* 47:112-15 F '58
- Now, ceramics that bounce; sintered alumina can provide elastic action at high temperatures. R. H. Rudolph. *J Product Eng* 29:76 F 3 '58
- Phase equilibrium relationships at liquidus temperatures in the system FeO-Fe₂O₃-Al₂O₃-SiO₂. A. Muan. *bibliog diags Am Cer Soc J* 40:420-31 D 1 '57
- Physical properties and bond type in Mg-Al oxides and silicates. J. Verhoogen. *Am Mineralogist* 43:562-79 *bibliog* (p578-9) My '58
- Physical structure of silica-alumina catalysts. J. H. Ramser and R. B. Hill. *bibliog diag Ind & Eng Chem* 50:117-24 Ja '58
- Pneumatics load alumina economically. *J Am Cer Soc J* 44:62 My '58
- Preparation of crystalline δ -alumina. H. P. Roobsky. *bibliog J Ap Chem* 8:44-9 Ja '58
- Promoted molybdena-alumina catalysts in ethylene polymerization. E. Field and M. Feller. *Ind & Eng Chem* 49:1883-4 N '57
- Pure alumina ceramic has high strength. *J Materials in Design Eng* 47:194-4 Ap '58
- Raw materials for electronic and new ceramics. *Cer Ind* 70:72-3 Ja '58
- Reaction of steroidal tosylates on alumina. F. C. Chang and R. B. Bickenstaff. *bibliog Chem & Ind* p590-1 My 17 '58
- Reactions between iron oxides and alumina-silica refractories. A. Muan. *Am Cer Soc J* 41:275-86 Ag 1 '58
- Reactions in silica-alumina mixtures. R. R. West and T. J. Gray. *bibliog* (23 ref) *Am Cer Soc J* 41:132-6 Ap 1 '58
- Reforming studies with molybdena-alumina catalyst. J. L. Wilson and M. J. Den Herder. *bibliog Ind & Eng Chem* 50:306-8 Mr '58

- Role of grain boundaries in sintering. J. E. Burke. *bibliog J Am Cer Soc J* 40:80-5 Mr 1 '57; *Abstract. Metal Prog* 73:202 My '58
- Role of structural defects in the sintering of alumina and magnesite. J. T. Jones and others. *bibliog Am Cer Soc J* 41:353-7 S 1 '58
- Selective oxidation of Al from an Al-Fe alloy. R. E. Grace and A. U. Seybolt. *bibliog diag Electrochem Soc J* 105:582-5 O '58
- Some parameters affecting ceramic-to-metal seal strength of a high-alumina body. S. S. Cole, jr. and F. J. Hynes, jr. *bibliog J Am Cer Soc Bul* 37:135-8 Mr 15 '58
- Structural interpretation of immiscibility in oxide systems; effect of alkalis and alumina in ternary systems. E. M. Levin and S. E. Fickel. *bibliog diags Am Cer Soc J* 41:49-54 F 1 '58
- Studies in lithium oxide systems; Li₂O-Al₂O₃-Al₂O₃. F. A. Hummel and others. *bibliog diags Am Cer Soc J* 41:88-92 Mr 1 '58
- Studies in the system CaO-Al₂O₃-SiO₂-H₂O; new data on the polymorphism of CaSiO₃ and its stability in the system CaO-SiO₂-H₂O. D. M. Roy. *bibliog Am Cer Soc J* 41:293-9 Ag 1 '58
- Surface catalysis of the ortho- to para-conversion in liquid hydrogen by paramagnetic oxides on alumina. C. M. Cunningham and H. L. Johnston. *bibliog Am Cer Soc J* 40:2377-82 My 20 '58
- Surface properties of precipitated alumina: samples prepared from aluminum iso-propoxide. M. R. Harris and K. S. W. Sing. *bibliog J Ap Chem* 8:586-9 S '58
- Waiting for Al₂O₃ by aluminum. R. D. Carnahan and others. *J Am Cer Soc J* 41:343-7 S 1 '58
- Zirconia and alumina coatings give short-time 3000 F steel protection; abstract. J. V. Long. *J S A E J* 66:74-5 Ag '58
- See also*
- Bauxite
- Corundum
- Manufacture
- Acid process makes high-grade alumina from low-grade wastes and ores. flow sheet *Chem Eng Prog* 54:118+ My '58
- Ottawa tests alumina process; prelude to Nova Scotia shale development. *J Can Chem Process* 42:43 Jl '58
- ALUMINA cement. *See Cement—Alumina cement*
- ALUMINATES
- Ferromagnetic resonance in polycrystalline nickel ferrite aluminate. E. Schlömann and J. R. Zeender. *bibliog J Ap Phys* 29:341-3 Mr '58
- See also*
- Barium aluminate
- Calcium aluminate
- ALUMINUM
- Aluminum and its alloys in 1957. E. Elliott. *Metallurgia* 57:79-92 *bibliog* (216 titles, p91-2) F '58
- Aluminum laminates for structural applications. J. J. Saunders and H. R. Merriman. *Product Eng* 28:B 14 Mid-O '57
- Aluminum nibbles at auto market. V. E. Flaherty. *Iron Age* 182:74-4 Ag 21 '58
- Anodized aluminum for molded plastics. *J Mod Plastics* 35:209 Je '58
- Crack-free alloyed junctions in silicon using pure aluminum. T. C. Taylor. *J Ap Phys* 29:865-6 My '58
- Differential annealing of aluminum. *J Engineering* 185:149 Ja 31 '58
- Growth of preferentially oriented aluminum single crystals. T. H. Orem. *J diags J Res Nat Bur Stand* 60:547-9 Je '58
- Honeycomb termed ideal absorber. *J Light Metal Age* 15:40 O '57
- How channeling between chunks raises neutron transmission through boron. W. R. Burrus. *bibliog Nucleonics* 16:91-4 Ja '58
- Internal friction in aluminum at low temperatures. A. J. Filmer and others. *bibliog J Ap Phys* 29:146-8 F '58
- Interpretation of the literature on the mechanism of the Hall process; electrolysis of aluminum from cryolite melts; abstract. J. J. Stokes, jr. *J Min Eng* 10:Trans 496 Ap '58
- Light metal go-power; 1958 Edsel incorporates more aluminum than the average 1957 auto. *J Light Metal Age* 15:22-3 O '57
- Long corrugated aluminum sheets. *J Engineering* 204:873 D 13 '57
- Motor coach and aluminum. L. C. Rowe. *J Corrosion* 14:17-18 Ap '58

ALUMINUM—Continued

- Multiple reflective aluminum insulation cuts over-all costs of air conditioning. *il* diag Plant 18:27-8 J1 '58
- New reflective surface improves efficiency of lighting system. *Elec Manuf* 62:130-4 Ag '58
- Porcelain-to-aluminum seal. *Elec Manuf* 62:9-10 Ag '58
- Properties of materials: aluminum and its alloys. *Materials in Design Eng* 48:84-91 Mid-O '58
- Protect pipes with an aluminum jacket; steam-carrying pipelines. *il* Oil & Gas J 56:131-4 F 10 '58
- Solidus, subsolidus, and subdissociation phase equilibria in the system Fe-Al-O. L. M. Atlas and W. K. Sumida. *bibliog Am Cer Soc J* 41:150-60 My 1 '58
- Vapor-proofs freezer unit with low-cost sheeting. *Alumiseal Zero Perm. il* Food Eng 30:119 Ja '58
- See also
Alumina
Steel—Aluminum content
Tariff—United States—Aluminum

Analysis

- Automatic Spectro-Lecturer; first, instantaneous, direct-reading spectrograph. *il* diag J Metals 10:44-5 Ja '58
- New reagent for the colorimetric determination of aluminium. H. Green. *Metallurgia* 57:157-8 Mr '58
- New titrimetric determinations of magnesium and aluminum oxinates. R. M. Powers and others. *bibliog Anal Chem* 30:254-6 F '58
- Volumetric determination of aluminum in presence of iron, titanium, calcium, silicon, and other impurities. H. L. Watts. *Anal Chem* 30:967-70 My '58

Coloring

- Anodizing and color decorating aluminum products. D. Saffel. *il* Ind Finishing 34:26-84+ Je '58
- Gold-dyed aluminum used in Russian watches. A. J. Steiger. *Metal Finishing* 56:54-4 F '58

Corrosion

- Action of lead pigments and lead soaps on aluminum. M. J. Pryor and others. *bibliog diag Electrochem Soc J* 105:9-17 Ja '58; Discussion. 105:754-6 D '58
- Corrosion behaviour of aluminum in the construction industry. J. F. Whiting and H. P. Godard. *bibliog il* Eng J 41:45-54 Je '58
- Corrosion of aluminum by alkaline sequestering solutions. H. W. McCune. *bibliog Ind & Eng Chem* 50:67-70 Ja '58
- Eddy current gauge for measuring aluminum corrosion. W. E. Ruther. *bibliog diag Corrosion* 14:51-2 Ag '58
- Effects of cold working on corrosion of high purity aluminum in water at high temperatures. M. J. Lavigne. *bibliog il* Corrosion 14:36-8 My '58
- Fuel ash attack on aluminum coated stainless steel. J. E. Srawley. *bibliog il* diag Corrosion 14:54-6 Ja '58
- Galvanic corrosion of aluminum. F. Pearlstein. *il* Metal Finishing 54:52-7 Ap '56; Abstract. *Metal Prog* 73:188-4 Mr '58
- Galvanic corrosion of aluminum-steel and aluminum-lead couples. M. J. Pryor. *Corrosion* 14:19 Ja '58
- Reaction of certain chlorinated hydrocarbons with aluminum. A. C. Hamstead and others. *il* Corrosion 14:43-4 Ap '58
- Structural features of corrosion of aluminum alloys in water at 300 C. K. M. Carlsen. *il* Corrosion 14:71-3; Discussion. 73-4 Ja '58

Defects

- Control of earing in aluminum and its alloys. R. T. Thorley and G. E. G. Tucker. *bibliog il* diag Inst Metals J 86:353-61 Ap '58

Electrotechnical uses

- Aluminum armor cables on ladder racks simplify plant feeder installation. *il* Elec Constr & Maint 57:118-4 Ja '58
- Aluminum busbars. H. B. Grainger and R. J. Watkins. *il* diag Engineering 164:744-8 D 13 '57
- Aluminum, butyl, alkyl combined in radically new electrical busway; award of merit in Materials in design engineering competition. *il* Materials in Design Eng 47:34-7 Ap '58
- Aluminum; central station heavyweight. *il* Power 102:81-3, cover S '68

- Aluminum-conductor aluminum-sheathed triplex-cable installation. J. F. Gillespie. *il* diag Power Apparatus & Systems p 123-7; Discussion. 127-8 Ap '58
- Aluminum in electrical engineering; symposium at the Institution of electrical engineers. *il* J Metals 10:46-8 Ja '58
- Aluminum welding cable. J. G. Stone. *il* diag Welding J 37:320-7 Ap '58; Same. *Am Soc Naval Eng J* 70:551-8 Ag '58
- Alumoweld wire ready for market. W. W. Ege. *Elec World* 149:82 My 12 '58
- Application of aluminum sheaths to electric cables by direct extrusion. *il* Engineer 204:579-81 O 13 '57
- Current-carrying capacity of aluminum cable, steel reinforced; abstract. H. E. House and P. D. Tuttle. *Elec Eng* 77:719 Ag '58
- New aluminum process welds on large power-feeder installation in industrial titanium plant. *il* Elec Constr & Maint 57:90-2 Ag '58
- New busway designed for aluminum conductor. *il* Mod Metals 14:78 F '58
- New magnet wire ready. *Product Eng* 29:12 My 19 '58
- New Ohio Valley aluminum complex puts ½ million kva on aluminum buses. L. Pavane. *il* diag Elec World 149:46-8 Je 2 '58
- Porcelain-to-aluminum seal is simple but powerful. *il* Product Eng 29:18 Je 30 '58
- Structural and electrical applications of aluminum in Europe. *il* Elec Manuf 61:76-85-4 My '58
- Swing to aluminum for service cable. C. L. Luccial and P. E. Pfister. *Elec World* 149:72 My 19 '58
- Test aluminum hardware in coastal air. *il* Elec World 149:72 My 19 '58
- Tests point to aluminum connector standards. F. E. Sanford and J. L. Fisher. *il* Elec World 149:38-40-4 Mr 31 '58
- Three steps lead to economical and reliable aluminum buses. D. H. Sandell. *il* Elec World 148:92-5 N 25 '57
- Welded aluminum conductors in isolated phase bus. N. Swerdlow and K. N. Smith. *il* diag Power Apparatus & Systems p337-41; Discussion. 341-2 Je '58

Failure

- Comparison of semi-empirical solutions for crack propagation with experiments. J. Frisch. *bibliog A S M E Trans* 80:921-6; Discussion. 926-8 My '58

Finishing

- Domestic refrigerator engineering conference; refrigerator evaporators studied to solve deterioration problems; symposium. *Refrig Eng* 66:54-9-4 F 47-9 Mr '58
- Electropolishing copper, brass and aluminum. K. F. Lorking. *bibliog Metal Finishing* 56:64-4 Mr '58
- Finishes for aluminum in architecture. R. F. Hafer. *flow sheet il* Mod Metals 14:64-4 Mr '58
- Finishing aluminum alloy fan castings. *il* Metallurgia 57:29-30 Ja '58
- Finishing spun aluminum lamp shades. *Ind Finishing* 34:84-4 Ja; 98 Mr '58
- Forecast four-fold growth for porcelain enameled aluminum in building uses. *il* Mod Metals 14:72-3 Mr '58
- How we finish tape recorders. M. Prosk. *il* Ind Finishing 34:50-2-4 D '57
- New coating simplifies and improves aluminum electrical chassis design; Hardas process. *Elec Manuf* 61:147-8 Ap '58
- New hard coat for aluminum; new electrochemical finishing method. *il* Steel 143:80-1 S 22 '58
- Organic finishing of aluminum and its alloys. L. F. Spencer. *bibliog Metal Finishing* 56:58-61-4 Ag '58
- Preparing aluminum for finishing. G. Norman. *il* Finishing 34:32-3 N '57
- Shops print aluminum finishes. *il* Iron Age 182:90-4 Ag 7 '58
- Special highlighted finish on aluminum. *Ind Finishing* 34:82-4 F '58

Gas content

- In-process chlorine fluxing improves billet properties; Kaiser's flux pay cleaning and degassing process. *il* Mod Metals 14:40 Je '58

Hydrogen content

- Hydrogen in the metal during acid-open-hearth melting; abstract. M. M. Karnaukhov and A. K. Urazgil' deyev. *Aeronautical Eng R* 16:29 N '57

ALUMINUM—Continued

Joining to steel, etc.

- Develop new method for bonding aluminum to iron. *Light Metal Age* 16:18 Ap '58
 How to get stronger Al-Fe bonds; hot pressure bonding. S. Storchheim. *Iron Age* 180:136-3 D 5 '57
 Join aluminum to copper reliably. W. E. Shafer. *Elec World* 149:78+ F 3 '58
 New process brazes aluminum to stainless steel. *diag Mod Metals* 14:36 Ap '58
 Stewart-Warner reveals new brazing process; Alcores process. *Ind Lab* 9:63 J1 '58

Metallography

- Current trends in metal science and future developments in aluminum metallurgy. G. J. Mills. *bibliog Light Metal Age* 16:11-14 Ap '58
 Pseudo-subgrain structures on aluminum surfaces; abstract. N. C. Welsh. *Metal Prog* 73:186+ Je '58
 Structural features of corrosion of aluminum alloys in water at 300 C. K. M. Carlsen. *II Corrosion* 14:71-3; Discussion. 73-4 Ja '58

Overheating and burning

- Overheating effects in high strength aluminum alloys. T. R. G. Williams. *II Metallurgia* 56:33-7 J1 '57; Abstract. *Metal Prog* 74:182+ J1 '58

Paint

- Production and uses of aluminum powder and paste. V. J. Hill. *II diag Metallurgia* 57:75-8 F '58
 Science for the coatings technologist; metallic pigments. E. S. Beck. *II Metal Finishing* 56:52-5+ Ap; 89-90 My '58

Prices

- Aluminum price cut. *Iron Age* 181:53 Ap 3 '58
 Aluminum takes two-count tumble. *Elec Ironics* 31:24-5 Ap '58
 Aluminum users voice their views on what the price cut will mean. F. L. Church. *Mod Metals* 14:30+ Ap '58
 Commodity price trends; steel, copper and aluminum. D. Williams. *Wire & Wire Prod* 33:277-83+ Mr '58

Protection

- Acid copper plating on aluminum. J. T. N. Atkinson. *bibliog Electrochem Soc J* 105: 24-7 Ja '58
 Anodic polarization behaviour of aluminum. P. J. Anderson and M. E. Hocking. *bibliog diag J Ap Chem* 8:352-3 Je '58
 Anodized aluminum wire. P. Smits. *II Mod Metals* 14:30+ Ag '58
 Anodizing aluminum strip and wire; continuous process; abstract. E. Herrmann. *Metal Finishing* 55:82-3 N '57
 Anodizing and color decorating aluminum products. D. Saffel. *II Ind Finishing* 34:26-8+ Je '58
 Beefing up aluminum parts. H. S. Ingram. *II Steel* 143:100 Ag 18 '58
 Bulk anodizing; abstract. C. Etienne. *Metal Finishing* 55:84-5 N '57
 Butyrate lacquer used to protect aluminum. *II Plating* 45:257+ Mr '58
 Clear coat preserves aluminum surface; butyrate lacquer. *II Iron Age* 181:114 Ja 30 '58
 Conveyor allows random choice of anodizing treatment. R. Nyquist. *II diag Iron Age* 182:51-3 J1 31 '58
 Extrudes rubber over aluminum. *II Light Metal Age* 16:32 Ap '58
 Firm adherent plating for aluminum. J. C. Withers and P. E. Ritt. *II Metal Finishing* 56:53-4+ Ja '58
 How high temp ceramic coatings protect aluminum. P. A. Huppert. *II Cer Ind* 69: 64-5+ N '57
 How to make an aluminum building look like new again. *II Mod Metals* 14:26-7 My '58
 How to turn aluminum to steel with non-metallic coatings. J. B. Franklin. *II Mill & Factory* 61:129-30 N '57
 Improved method for hard surfacing of aluminum. J. Starr. *II Light Metal Age* 16: 35-6 F '58
 New developments in anodizing aluminum. R. F. Hafer. *II Plating* 45:623-7 Je '58
 New hard coat for aluminum; new electrochemical finishing method. *II Steel* 143:80-1 S 22 '58
 Non-yellowing lacquer protects outside aluminum products; butyrate lacquer. *II Ind Finishing* 34:58-60 F '58

- One machine anodizes many colors; automotive grilles and body. *II plan Steel* 141:65-7 D 30 '57
 Opportunities abound in anodizing aluminum. G. A. Cummings. *flow chart II diag Mod Metals* 14:32+ My '58
 Plating and anodizing rack design. H. Kraus. *diag Metal Finishing* 56:62-9 Ag '58
 Priming paints for light alloys. J. G. Rigg and E. W. Skerrey. *II Inst Metals J* 86:421-4 My '58
 Special machine anodizes Chevrolet grille and headlamp bezel. *II Automotive Ind* 118:58-9+ F 1 '58
 Studies of the anodic behavior of aluminum. J. E. Lewis and R. C. Plumb. *bibliog diag Electrochem Soc J* 105:496-506 S '58
 Surface treating and protectively coating aluminum windows. R. J. Anen. *II Ind Finishing* 34:28-30+ Ja '58
 Titanium-tipped anodizing racks. *II Metal Finishing* 56:65 F '58

Strength

- High strength aluminum alloy. A. B. DeRoss. *Product Eng* 29:B6-7 Mid-S '58

Testing

- Mechanical behavior after creep. G. Gerard. *J Aeronautical Sci* 25:397-8 Je '58

Textile uses

- Aluminized suit to protect fire-fighters. *Franklin Inst J* 266:77-8 J1 '58
 Aluminum coated shell developed by AF may revolutionize fire fighting methods. *II Gas Age* 122:74+ O 2 '58
 Fabric-foil laminates; aluminum foil combined with cloth. R. C. Griffin, Jr. *Mod Textiles Mag* 39:30+ Ag '58

Uses

- Aluminum applications in the pulp and paper industry. H. W. Fritts and D. G. Vandenberg. *flow chart II Tappi* 41:sup54A+ Ap '58
 Aluminum conveyor covers speed installation, reduce maintenance. *II Plant* 18:47 Ag '58
 Aluminum covers boiler insulation. *II Elec World* 150:62 J1 14 '58
 Aluminum dumper. *II Engineering* 184:713 D 6 '57
 Aluminum engine comes closer. H. R. Neal. *Iron Age* 182:40+ J1 3 '58
 Aluminum hopes to gain weight in each US car; 260 lb more. *Product Eng* 28:24-5 D 30 '57
 Aluminum in rockets and missiles. D. Fabun. *II map diag Mod Metals* 14:20-2+ Ap '58
 Aluminum insulation protects boilers. *II Iron Age* 182:78 J1 3 '58
 Aluminum spreads its wings in chemical industry. *II Ind & Eng Chem* 50:sup67A-9A F '58
 Aluminum widens a new market. G. G. Carr. *Iron Age* 181:66-7 Ap 17 '58
 Aluminum's growing role; serving in highway design and helping contractors on the job. D. L. Cronk. *II Roads & Sts* 100:70+ D 5 '57
 Aluminum's making the grade; bridge and highway construction. D. L. Cronk. *II Mod Metals* 14:26+ Je '58
 Aluminum's role in Nation's missiles program. *Automotive Ind* 118:38-9 Je 1 '58
 Army studies switch to aluminum for unified jeep bodies. *Product Eng* 28:87 O 28 '57
 Average 1958 automobile uses 52.40 lb of aluminum; with tables. *Automotive Ind* 118:60-1 Ja 15 '58
 Building 'uses lead aluminum field. *Light Metal Age* 16:7 Je '58
 Chevy switching to aluminum engines? here are the clues. *Product Eng* 29:19 S 8 '58
 Edsel uses estimated 64.2 lb of aluminum. *Automotive Ind* 117:59 D 1 '57
 Forecast 50 per cent greater use of aluminum in '59 autos. *Mod Metals* 14:78 Ag '58
 General Motors testing V-8 aluminum engines. C. A. Chayne and L. R. Haistad. *II Mod Metals* 14:77 Je '58
 Heavy duty dump truck built of aluminum extrusions and plate. *II Mod Metals* 14:30 F '58
 Light-metal materials handling; aluminum Tote Bins and Tote Tilts. *II Light Metal Age* 15:24 O '57
 Lower-cost comfort in plentiful supply because of aluminum. *Light Metal Age* 15: 23-4 O '57
 Missile metal; aluminum gaining in this field. *Steel* 142:51 My 12 '58

ALUMINUM—Uses—Continued

1958 autos to use 13 per cent more aluminum; Chrysler and Kaiser estimates. *Light Metal Age* 15:37 D '57

1958 autos using 52.4 pounds aluminum. *il Light Metal Age* 16:12-13 F '58

Now they're using; various uses of aluminum. *il Light Metal Age* 16:19-22 Ap '58

1000-psi valve manifold uses bolted aluminum plates. *il diags Ap Hydraulics* 11:114 Mr '58

Sealed cabinets for radar. *il diags Engineering* 185:731-2 Je 6 '58

Servicing liners in aluminum GM blocks. *diags Diesel Power* 36:39 O '58

Small firms have aluminum engines, too. *il Steel* 142:63-4 Je 30 '58

Something new in aluminum furniture. M. J. Schmidt. *il diags Mod Metals* 14:46+ Ag '58

Today, aluminum jacketing protects your insulation. S. Elonka. *il Power* 101:134-5 D '57

Use of aluminum and its alloys in private cars. R. K. Bolton. *il Metallurgia* 57:59-63 F '58

Welding

All-welded aluminum alloy yawl. *il Welding J* 37:142 F '58

Aluminum curtain-wall clothes Manhattan building. *il Welding Eng* 43:52-3 Je '58

Aluminum diet reduces concrete mixer. *il Welding Eng* 43:58 Ap '58

Aluminum waveguide, weld or braze? L. Virgile and J. Difazio. *il Electronic Ind* 17:90-4 Ap '58

Aluminum welding easy with low temperature fluxless solder; abstract. S. Freedman. *Eng J* 41:78-9 F '58

Application aids for arc welding aluminum bus. *Welding Eng* 43:34-7 Ja '58

Automatic spotwelding of double-curvature panels; Ryan aeronautical co. *il Aircraft Eng* 30:46-7 F '58

Big coal trucks weigh ten tons less in aluminum. *il Mod Metals* 14:64 J '58

Cars will soon cross new aluminum bridge. *il Welding Eng* 43:54 Ag '58

Chlorine additions for high-quality inert-gas metal-arc welding of aluminum alloys. M. B. Kasen and A. R. Pfleger. *il diags Welding J* 37:sup269-76 Je '58; Excerpts. *Metal Prog* 74:145-6+ S '58

Effect of welding speed on strength of 6061-T4 aluminum joints. W. L. Burch. *il diags Welding J* 37:sup361-7 Ag '58

First aluminum tugboat features all-welded construction. *il Welding J* 37:803-4 Ag '58

Fusion welding of aluminum. T. B. Correy. *bibliog il diags Light Metal Age* 16:8-12 Je; 12-14+ Ag; 8-13 O '58

Improved automatic machine for welding aluminum demonstrated. *il Gas Age* 120:47, 62 D 12 '57

Kaiser upgrades aluminum welding. *il diags Steel* 142:128-9 Mr 24 '58

Kaiser's three new metal inert-gas techniques for welding aluminum. F. R. Baysinger. *diags Welding Eng* 43:36-8 Mr '58; Same cond. *Iron Age* 181:112-15 Mr 13 '58

Mig weld aluminum for prefab substations. *il Welding Eng* 43:44 J '58

New aluminum process welds on large power-feeder installation in industrial titanium plant. *il Elec Constr & Maint* 57:90-2 Ag '58

New forge welding of aluminum and magnesium alloys. L. A. Cook and D. G. Shafer. *bibliog(44 titles) il Welding J* 37:348-58 Ap '58

Performance of welds in some aluminum alloys. P. B. Dickerson. *bibliog il Welding J* 37:107-13 F '58

Porosity in aluminum-alloy welds. F. R. Collins. *il Welding J* 37:589-93 Je '58

Progress in the joining of aluminum. N. T. Burgess. *bibliog il Metallurgia* 57:117-21 Mr '58

Sound waves weld seams. *il Electronics* 31:14+ F 14 '58

Tungsten-arc welding raises output of aluminum window frames. *il Welding J* 37:596 Je '58

Ultrasonic welder. *il Mech Eng* 80:95 Mr '58

Ultrasonic welding comes of age. J. B. Jones and W. C. Potthoff. *il diags Tool Eng* 41:90-4 S '58

Ultrasonic welding joins foil to wires. *il Electronics* 30:216+ D 1 '57

Ultrasonic welding of structural aluminum alloys. J. B. Jones and F. R. Meyer. *il diags Welding J* 37:sup81-92 Mr '58

Weld aluminum conductors by new method; Cadweld process. *il Elec World* 149:66 Mr 31 '58

Welded studs facilitate fabrication of field-assembled insulated aluminum sandwich wall. *il Welding J* 37:141-2 F '58

Welded yawl cops cups. F. W. Foerste. *il Welding Eng* 43:42-4 Ap '58

Welding aluminum to iron can be easy, economical. E. J. Koop. *Welding Eng* 43:46 Ja '58

Your Lincoln Tunnel guides are metal inert-gas welded aluminum. *il Welding Eng* 43:66 Ja '58

ALUMINUM, Cellular

Aluminum foam may compete with wood. *il Materials in Design Eng* 46:200+ N '57

ALUMINUM, Clad

Development of aluminum-clad copper wire. C. L. Carlson. *diags Wire & Wire Prod* 33:770-1+ J '58

ALUMINUM, Cold treatment of

Cold treatment as age riddle cure. *il Light Metal Age* 15:20 O '57

Effects of cold working on corrosion of high purity aluminum in water at high temperatures. M. J. Lavigne. *bibliog il Corrosion* 14:38-8 My '58

Sub-zero quench tames formed aluminum. R. J. Delaney. *il Am Mach* 102:106-7 Je 16 '58

ALUMINUM, Heat treatment of

Adapting a core oven to aluminum heat treating. C. Mayer. *diags Foundry* 86:125 O '58

ALUMINUM, Molten

How molten aluminum affects plastic refractories. H. A. McDonald and others. *il J Metals* 10:35-7 Ja '58

Wetting of Alcoa by aluminum. R. D. Carnahan and others. *il diags Am Cer Soc J* 41:343-7 S 1 '58

ALUMINUM, Powdered

Atomized powder alloys of aluminum. R. J. Towner. *il Metal Prog* 73:70-6+ My '58

New deep-tank coating. *il Marine Eng/Log* 63:75 My '58

Production and uses of aluminum powder and paste. V. J. Hill. *il diags Metallurgia* 57:75-8 F '58

Therapeutic use

Dry aluminum powder therapy for thermal burns. M. D. Maxmer. A. M. A Archives Ind Health 16:414-15; Discussion. 435-6 N '57

ALUMINUM, Structural

Aluminum claddings of buildings. E. H. Leithwaite and E. W. Skerrey. *bibliog(29 titles) il J Ap Chem* 7:216-31 My '57; Discussion. *Chem & Ind p* 1435-7 N 2 '57

Aluminum in school construction. *il Mod Metals* 14:23+ Mr '58

Aluminum promises care-free living. *il Light Metal Age* 15:21-2 O '57

Aluminum substitution raised in six hours. *il Elec World* 149:51 Je 30 '58

Belgian transportation pavilion at Brussels receives \$25,000 AIA Reynolds memorial award. *il Civil Eng* 28:624 Ag '58

Compatibility of aluminum with alkaline building materials. C. J. Walton and others. *il Mod Metals* 14:42-5 Mr '58

Corrosion behaviour of aluminum in the construction industry. J. F. Whiting and H. P. Godard. *bibliog il Eng J* 41:45-54 Je '58

Finishes for aluminum in architecture. R. F. Hafer. *flow sheet il Mod Metals* 14:64+ Mr '58

How to make an aluminum building look like new again. *il Mod Metals* 14:26-7 My '58

Oil rig jackets lick offshore corrosion problem. *il Mod Metals* 14:52 J '58

Pennsylvania industrial plant first aluminum-clad building to receive new weather-resistant coating. *il Arch Rec* 123:260-1 Mr '58

Rectangular houses; Alcoa carefree house. *il plan Arch Rec* 122:154-5 N '57

Reynolds opens \$11.5 million building. *il Elec World* 150:60 S 15 '58

Reynolds wraps itself a package in aluminum. *il plan diags Arch Forum* 109:90-7 S '58

Structural and electrical applications of aluminum in Europe. *il Elec Manuf* 61:76-85+ My '58

Warren petroleum building; unique double skin functions well, looks good. *il plans diags Arch Rec* 124:161-8 Ag '58

See also
Bridges, Aluminum
Domes, Aluminum

ALUMINUM alloys
Aluminum alloy bearings. *Automobile Eng* 48:211-14 Je '68

ALUMINUM alloys—Continued

- Aluminum alloy castings. J. L. Everhart, bibliog *il* Materials in Design Eng 47:125-44 F '58 (reprints 35c)
- Aluminum alloy for mobile concrete mixer. *il* Engineering 136:159 Ag '58
- Aluminum and its alloys in 1957. E. Elliott. Metallurgia 57:79-92 bibliog (216 titles, p91-2) F '58
- Aluminum applications for highway bridges. J. M. Pickett. Am Soc C E Prog 83 (ST 4 no 1312):1-7 J '57; Discussion. S. K. Chaswala, bibliog 84 (ST 1 no 1522):47-9 Ja '58
- Aluminum casting alloy boasts high strength, light weight; Tens-50. *il* Iron Age 181:122+ Ap 3 '58
- Atomized powder alloys of aluminum. R. J. Townner. *il* Metal Prog 73:70-6+ My '58
- Castings of new aluminum alloy almost as strong as forgings; Tens-50. *il* Materials in Design Eng 47:142 My '58
- Chlorine additions for high-quality inert-gas metal-arc welding of aluminum alloys. M. E. Kasen and A. R. Plummer. *il* diag Welding J 37:sup269-76 Je '58
- Coats structural aluminum alloys. P. A. Huppert. Light Metal Age 16:30 F '58
- Compatibility of aluminum with alkaline building materials. C. J. Walton and others. *il* Mod Metals 14:42-5 Mr '58
- Contribution to the theory of stress corrosion in Al-4 per cent Cu alloys. W. H. Colner and H. T. Francis. bibliog *il* Electrochem Soc J 105:377-84 JI '58
- Control of earing in aluminum and its alloys. R. T. Thorley and G. E. G. Tucker. bibliog *il* diag Inst Metals J 86:353-61 My '58
- Effects of temperature-time histories on the tensile properties of airframe structural aluminum alloys; abstracts. R. E. Fortney and C. H. Avery. Metal Prog 72:270+ O '57; Steel 141:136+ N 4 '57
- High strength aluminum alloy. A. B. DeRoss. Product Eng 29:B6-7 Mid-S '58
- High strength aluminum casting alloy 40-E. D. D. 5008. J. F. Gardner and M. R. Hinchcliff. *il* diag Metallurgia 55:79-84 F '57; Abstract. Metal Prog 73:138+ Ap '58
- Identification of compounds in the system uranium-aluminum. R. F. Hills. *il* Inst Metals J 86:432-41 Je '58
- Influence of surface pretreatment on the atmospheric oxidation of 2S (U.S. alloy 1100) aluminum. P. M. Aziz and H. P. Godard. Electrochem Soc J 104:738-9 D '57; Discussion. 105:367 Je '58
- Integral light-alloy caravan. *il* diag Engineering 185:608 My '58
- Latest developments in impact extruded aluminum alloys; abstracts. R. A. Quadt. Automotive Ind 119:108 S 15 '58; *il* Steel 143:64-5 S 1 '58
- Lithium improves properties in aluminum alloy. *il* Materials in Design Eng 46:159 D '57
- Lithium type ceramic coatings resist prolonged heat at 1350 F. *il* Materials in Design Eng 46:161-2 D '57
- Martensite transformations of the beta phase in copper-aluminum-nickel alloys. D. Hull and R. D. Garwood. bibliog *il* diag Inst Metals J 86:485-92 JI '58
- Materials for aircraft structures subjected to kinetic heating. A. J. Murphy. bibliog Roy Aeronautical Soc J 61:653-66 O '57
- Materials of construction for chemical engineering. R. L. Horst bibliog *il* Ind & Eng Chem 50:1427-32 pt 2 S '58
- Mechanism of inhibiting effect of hydrofluoric acid in fuming nitric acid on liquid-phase corrosion of aluminum and steel alloys. D. M. Mason and J. B. Rittenhouse. Corrosion 14:59-61 JI '58
- Metal selector; aluminum casting alloys; properties and uses by casting type. Steel 141:175-6 O 28 '57
- Metal selector; aluminum wrought alloys; properties and applications. Steel 141:177 O 28 '57
- Method for the production of titanium-aluminum alloys by reduction of titanium oxide. L. F. Mondolfo and A. Roy. flow sheet *il* Light Metal Age 15:11-12+ O; 16-17 D '57
- Modification of aluminum-silicon alloys by sodium. R. C. Plumb and J. E. Lewis. bibliog *il* diag Inst Metals J 86:393-400 Ap '58
- New aluminum alloys. Electronics 31:19 Ag 22 '58
- New aluminum forging alloy. W. Bomhardt. *il* Product Eng 28:62-3 D 23 '57
- New metal for new jobs; Tens-50, tough aluminum alloy. *il* Mill & Factory 62:114 Ap '58
- Oxidation of an aluminum-three per cent magnesium alloy in the temperature range 200°-550°C. W. W. Smeltzer. bibliog *il* Electrochem Soc J 105:67-71 F '58
- Performance of welds in some aluminum alloys. P. B. Dickinson. bibliog *il* Welding J 37:107-13 F '58
- Properties of materials; aluminum and its alloys. Materials in Design Eng 48:84-91 Mid-O '58
- Raising the physicals of 6063 alloy extrusion billet. F. K. McLaughlin. *il* Mod Metals 14:56-7 JI '58
- Redetermination of the aluminum-gallium equilibrium diagram. J. W. H. Clare. *il* Inst Metals J 86:431-2 My '58
- Relation between constitution and ultimate grain size in aluminum-1.25 per cent manganese alloy 3003; abstract. P. R. Sperry. Steel 141:138 N 4 '57
- Relationship between magnesium content and stress-corrosion susceptibility of aluminum-magnesium alloys. W. J. Vance. bibliog J Ap Chem 8:18-23 Ja '58
- Relative formability and mechanical properties of aluminum alloys by temper groupings; tables; data sheet. Mach 64:234 N '57
- Review of diffusion in aluminum. J. W. H. Clare. bibliog Metallurgia 57:273-8 Je '58
- Semiconductor properties of recrystallized silicon in aluminum alloy junction diodes. R. A. Gudmundsen and J. Maserjian. *il* bibliog *il* diag J Ap Phys 28:1308-16 N '57
- Stronger aluminum casting alloys. F. H. Smith. bibliog *il* Metallurgia 57:64-70 F '58
- Structural features of corrosion of aluminum alloys in water at 300 C. K. M. Carlsen. *il* Corrosion 14:71-3; Discussion. 73-4 Ja '58
- Structure and mechanical properties of high-purity aluminum-zinc-magnesium alloys. P. C. Varley and others. bibliog *il* Inst Metals J 86:337-51 Ap '58
- Thermally precipitated phases and their distribution in an aluminum-silicon-cadmium alloy. R. E. Marburger and A. W. Schlachter. *il* J Ap Phys 29:184-8 F '58
- To cut nuclear power costs. Argonne's alloy X-8001. *il* Mod Metals 14:36-7 Ag '58
- Two new aluminum alloys; X250-T4 and 220-T4. Chem Eng 66:126 Je 30 '58
- Upper temperature limit of stability of G.P. zones in ternary aluminum-zinc-magnesium alloys. I. J. Polmear. bibliog diag Inst Metals J 87:24-5 '58-59
- Use of aluminum and its alloys in private cars. R. K. Bolton. *il* Metallurgia 57:59-63 F '58
- Use of nickel-aluminum alloy coatings for the protection of molybdenum from oxidation. D. E. Couch and others. Electrochem Soc J 105:485-6 Ag '58
- Wind loading tests on aluminum sign supports. J. F. O'Keefe and E. D. Gardner. *il* Civil Eng 28:437-8 Je '58
- Wrought aluminum alloys in order of increasing shearing strengths; tables; data sheet. Mach 64:233 N '57
- See also
- Alnico
- Aluminum, Structural
- Aluminum bronze
- Iron alloys—Aluminum alloys
- Testing
- Behavior of certain alloys subjected to dynamic loading. R. G. Crum and F. T. Mavis. bibliog *il* diag A S T M Bul p88-91 JI '58
- Deformation mechanisms in magnesium and some magnesium-aluminum alloys. R. D. Stacey. bibliog *il* Metallurgia 58:125-8 S '58
- Mechanical properties of permanent molded no. 13 alloy. D. Peckner. *il* diag Foundry 86:86-7 S '58
- Thermal effects upon some physical properties of 6063 aluminum alloy. J. K. McLaughlin. *il* Light Metal Age 16:15+ Je '58
- ALUMINUM alloys. Heat treatment of Heat treating affects aluminum extrusions. J. K. McLaughlin. *il* Metal Prog 74:105-7 JI '58
- Mechanical properties of permanent molded 355 alloy castings. D. Peckner. *il* Foundry 86:80-1 Je '58
- Overheating effects in high strength aluminum alloys. T. R. G. Williams. *il* Metallurgia 56:33-7 JI '57; Abstract. Metal Prog 74:182+ JI '58
- Relative formability and mechanical properties of aluminum alloys by temper groupings; tables; data sheet. Mach 64:234 N '57

ALUMINUM alloys, Heat treatment of—Cont.
 Sub-zero quench tames formed aluminum. R. J. Delaney. *il Am Mach* 102:106-7 Je 16 '58
 Thermal effects upon some physical properties of 6063 aluminum alloy. J. R. McLaughlin. *il Light Metal Age* 16:15-+ Je '58

ALUMINUM antimonide
 Preparation and properties of aluminum antimonide. A. Herczok and others. *bibliog* *il diags Electrochem Soc J* 105:53-40 S '58

Zone melting and crystal pulling experiments with AlSb. W. P. Allred and others. *il diag Electrochem Soc J* 105:93-6 F '58

ALUMINUM boats. See Boats, Aluminum

ALUMINUM borides
 Microhardness of aluminum boride monocrystals. F. G. Cotter. *il Am Mineralogist* 43:781-4 JI '58

ALUMINUM bridges. See Bridges, Aluminum

ALUMINUM bromide
 Isomerization of saturated hydrocarbons; the aluminum bromide catalyzed isomerization of ethyl- β -C¹⁴-cyclohexane. H. Pines and others. *bibliog diags Am Chem Soc J* 80:1930-3 Ap 20 '58
 Vapor pressures of aluminum chloride, aluminum bromide and the mixed halide phase Al₂Br₃Cl₃. T. G. Dunne and N. W. Gregory. *bibliog Am Chem Soc J* 80:1526-30 Ap 5 '58

ALUMINUM bronze
 Cupro-nickel welded with aluminum bronze. V. Abaravich. *il Welding J* 37:220-4 Mr '58
 Development of high-tensile aluminum-bronze alloys for marine propellers. F. Hudson. *il diags Am Soc Naval Eng J* 70:374-80 My '58
 Inert-gas-shielded arc welding of silicon and aluminum bronze. P. L. Hemmes. *il Welding J* 37:779-83 Ag '58
 Investment casting problems. C. W. Ammen. *diag Foundry* 86:183-+ S '58
 Properties of materials; cast aluminum bronzes. *Materials in Design Eng* 48:99 Mid-O '58
 Selecting materials to avoid cavitation damage. W. J. Rheingans. *il diags Materials in Design Eng* 48:102-+ S '58
 Stress corrosion failure checked in new aluminum bronze alloy. *il Materials in Design Eng* 48:123-4 Ag '58

ALUMINUM carbide
 Production of graphite single crystals by the thermal decomposition of aluminum carbide. L. M. Foster and others. *bibliog il Am Mineralogist* 43:285-96 Mr '58

ALUMINUM chloride
 Aluminum chloride alkylation; Phillips petroleum co. flow *diag Pet Refiner* 37:253 S '58
 Chemical evidence for the structure of the diammoniate of diborane; the reactions of borohydride salts with lithium halides and aluminum chloride. S. G. Shore and R. W. Parry. *bibliog Am Chem Soc J* 80:12-15 Ja 5 '58
 Disproportionation of alkylbenzenes; behavior of *n*-butyl- α -C¹⁴-benzene upon treatment with aluminum chloride; further results with ethyl- β -C¹⁴-benzene. R. M. Roberts and others. *Am Chem Soc J* 80:2507-9 My 20 '58
 Kinetics of the Friedel-Crafts benzoylation of benzene with aluminum chloride as catalyst and benzoyl chloride as solvent. H. C. Brown and F. R. Jensen. *bibliog diags Am Chem Soc J* 80:2291-6 My 5 '58
 Relative rates of the aluminum chloride-catalyzed benzoylation of representative benzene derivatives in benzoyl chloride solution; partial rate factors for the benzoylation of toluene. H. C. Brown and F. R. Jensen. *bibliog Am Chem Soc J* 80:2296-300 My 5 '58
 Vapor pressures of aluminum chloride, aluminum bromide and the mixed halide phase Al₂Br₃Cl₃. T. G. Dunne and N. W. Gregory. *bibliog Am Chem Soc J* 80:1526-30 Ap 5 '58

ALUMINUM coating
 Aluminum-coated steel flasks are expendable. W. E. McFee. *il Foundry* 86:196-+ S '58
 Fuel ash attack on aluminum coated stainless steel. J. E. Srawley. *bibliog il diags Corrosion* 14:54-6 Ja '58
 Hot-dipped aluminum coatings. H. L. Kee. *il Product Eng* 28:57-9 O 28 '57
 How to work aluminum-coated steel. W. E. McFee. *il diags Iron Age* 181:95-7 F 6 '58
 New concept solves aluminized pipe weld problems. K. R. Notvest. *il Pet Refiner* 37:100-2 JI '58
 U.S. Steel to make aluminized sheet. *il Iron Age* 181:81 Je 5 '58
 Vacuum metallizing with aluminum. *il Light Metal Age* 16:32-+ F '58

ALUMINUM compounds
 Crystal structure of the complex (C₆H₅)₃TiCl₂Al(C₂H₅)₂. G. Natta and others. *diags Am Chem Soc J* 80:755-6 F 5 '58
 Spontaneous magnetization of some garnet ferrites and the aluminum substituted garnet ferrites. R. Pauthenet. *bibliog J Ap Phys* 29:253-5 Mr '58
 Study of the penetration of aluminum salts into excised human skin. I. H. Blank and others. *diags Am Perfumer & Aromatics* 72:32-5 JI '58

ALUMINUM containers. See Containers, Aluminum

ALUMINUM cutting
 Mill has record capacity; duplex milling machine. *il Steel* 143:98 Ag 25 '58

ALUMINUM domes. See Domes, Aluminum

ALUMINUM dust
 How to get rid of dust; Black & Decker manufacturing co. *il Mill & Factory* 62:140 F '58

ALUMINUM extruders council
 Meeting, Detroit, Dec. 11-13. *Light Metal Age* 16:21-2 F '58
 Meeting, Williamsburg, with abstracts of papers. *Light Metal Age* 16:23-4+ Je '58

ALUMINUM fluoride
 High temperature heat contents of cryolite, anhydrous aluminum fluoride and sodium fluoride. C. J. O'Brien and K. K. Kelley. *Am Chem Soc J* 79:5616-18 N 5 '57

Analysis
 Titrimetric determination of fluorine particularly in aluminum fluoride. L. V. Haft and others. *bibliog diags Anal Chem* 30:984-9 My '58

ALUMINUM foam. See Aluminum, Cellular

ALUMINUM foil
 Accent on foil research at Alcoa. *il Mod Metals* 14:42-+ Je '58
 Aluminum foil printing requires careful handling. J. T. Trousdale. *inland Ptr* 141:82-3 S '58
 S aluminumhouse research laboratories. *il Ind Lab* 9:34 Je '58
 Automatic X-ray gage checks foil thickness. *Iron Age* 180:166 N 21 '57
 Easily mounted aluminum oxide foils for windows and backings. U. Hauser and W. Kerler. *bibliog il diags R Sci Instr* 29:380-2 My '58
 More aluminum for packaging. *Iron Age* 181:80-1 Je 5 '58
 New aluminum foil mill. *Light Metal Age* 16:33 Ap '58
 New division expands Alcoa Research; Foil and packaging div. *il Ind Lab* 9:16-17 Ag '58
 Oxide on catcher foils spoils power measurements. J. N. Renaker and others. *Nucleonics* 17:127 F '58
 Production and conversion of aluminum foil. J. R. Green. *il Metallurgia* 57:71-4 F '58
 Reflective surfaces for thermal insulation; an experiment. *il Refrig Eng* 66:40-1+ Ap '58
 Reinforced plastics-foil roofing panel. *il Mod Plastics* 36:194 S '58
 Rolling aluminum to 0.005 mm. *il Engineering* 184:502-3 O 18 '57
 Thermal insulation materials; reflective surfaces. R. J. Fabian. *Materials in Design Eng* 47:137-8 Mr '58

ALUMINUM founding
 Adapting core oven to aluminum heat treating. C. Mayer. *diags Foundry* 86:125 O '58
 Airliner's vibration problem solved; wire inserts make vibration-free connections in aluminum compressor castings for refrigeration systems. *il Mod Metals* 14:46-+ Je '58
 Aluminum alloy castings. J. L. Everhart. *bibliog il Materials in Design Eng* 47:125-44 F '58 (reprints 35c)
 Aluminum casting alloy boasts high strength, light weight. *Tens-50. il Iron Age* 181:122-+ Ap 3 '58
 Aluminum investment castings with guaranteed properties. *il Materials in Design Eng* 47:144 Mr '58
 Aluminum missile castings require strict production control. R. H. Herrmann. *il Foundry* 86:104-5-+ F '58
 Automatic system conditions aluminum molding sand. R. H. Herrmann. *il Foundry* 86:150-+ Ap '58
 Casting aluminum letters. *il Light Metal Age* 16:22-4 F '58

ALUMINUM founding—Continued

- Castings of new aluminum alloy almost as strong as forgings. *Tens.-50. il Materials in Design Eng 47:12 M '58*
- Cast aluminum knobs onto steel shanks in a permanent mold. H. J. Gerber. *il Foundry 86:103 Je '58*
- Direct chill casting of large aluminum ingots. A. T. Taylor and others. *il diag Metal Prog 72:70-4 N '57*
- Effect of nitrogen and vacuum degassing on properties of a cast aluminum-silicon-magnesium alloy (type 356); abstract. R. K. Owens and others. *Metal Prog 73:178+ My '58*
- High-integrity aluminum castings. A. R. Mead. *il Product ENR 29:69-71 F '58*
- High strength aluminum casting alloy 40-E: B. T. D. 5003. J. F. Gardner and M. R. Hinchcliffe. *il diag Metallurgia 55:79-84 F '57; Abstract. Metal Prog 73:138+ Ap '58*
- Manufacture and use of large aluminum die-castings. A. F. Bauer. *il diag Foundry 86:102-6 F '58*
- Mechanical properties of permanent molded 355 alloy castings. D. Peckner. *il Foundry 86:80-1 Je '58*
- Melting pot life. C. W. Ammen. *diags Foundry 86:210 O '58*
- Metal selector; aluminum casting alloys; properties and uses by casting type. Steel 141: 175-6 O 28 '58
- New aluminum alloy castings replace forgings on F-100, save \$335 per part. *il Am Mach 101:110-11 D 30 '57*
- New Chevrolet plant diecasts transmission parts. K. L. Mountain. *il Foundry 85:93-7 N '57*
- New coring method broadens uses of light metal castings. J. L. Everhart. *il Materials in Design Eng 46:102-5 J '57*
- New navy fluoroscope proves out in light metals inspection trial; aluminum and magnesium castings. *il Light Metal Age 16:24 F '58*
- Permanent mold casting of aluminum at the Maytag Co. C. B. Curtis. *il Foundry 86:98-102 Ja '58*
- Press forging strengthens light metals castings. W. Rostoker. *il Mod Metals 14:42+ F '58*
- Stronger aluminum casting alloys. F. H. Smith. *bibliog il Metallurgia 57:64-70 F '58*
- Third best year reported by 123 shop die casters. *Mod Metals 14:56+ My '58*
- Tips on aluminum die castings. J. G. Boehm. *S A E J 66:68-9 Mr '58*
- What to do about porosity in aluminum castings. J. Obrebski. *il diags Iron Age 181: 71-4 My 15 '58*
- ALUMINUM halides**
- Decomposition of S-benzyl-N-phthaloyl-L-cysteinyl chloride with aluminum halides; preparation of L- α -phthalimido- β -propiolactone. D. Flès and others. *bibliog Am Chem Soc J 80:4654-7 S 5 '58*
- Interaction on disiloxane with aluminum halides. W. A. Kriener and others. *bibliog Am Chem Soc J 80:1546-9 Ap 5 '58*
- Organooaluminum halides as hydrogenation catalysts. J. A. Ridgway, jr. *bibliog Ind & Eng Chem 50:1189-42 Ag '58*
- Vapor pressures of aluminum chloride, aluminum bromide and the mixed halide phase AlBrCl₂. T. G. Dunn and N. W. Gregory. *bibliog Am Chem Soc J 80:1526-30 Ap 5 '58*
- ALUMINUM houses.** See Aluminum, Structural
- ALUMINUM industry and trade**
- Aluminum, cold war casualty? *il Min Eng 10:350-1 Ag '58*
- Aluminum imports; how great is the threat? F. L. Church. *Mod Metals 14:65-6+ Ag '58*
- Aluminum imports touch off tariff tiff. *Mod Metals 14:72+ Je '58*
- Aluminum, is this the turning point? *il Chem & Eng N 36:19-22 Ji 14 '58*
- Aluminum, 1957. I. Lipkowitz. *Eng & Min J 159:116-18 F '58*
- Aluminum sees silver lining. *Chem & Eng N 35:23-4 N 25 '57*
- Competition in aluminum; Yates congressional committee hears. *Mod Metals 14: 60+ My 62-4+ Je; 31-2+ Ji '58*
- Forecast for '58; building's biggest year; increased consumption of aluminum building products. E. A. Farrell. *Mod Metals 14:78+ Mr '58*
- Job ahead for aluminum distributors. H. S. Reasor. *Mod Metals 14:40 F '58*
- Light metals industry, 1957. S. B. White. *il Min Cong J 44:121-2 F '58*
- More use of aluminum forecast. *il Chem & Eng N 36:50 O 13 '58*

Year ahead for light metals. K. Darby. *Mod Metals 14:66+ F '58*

Securities

What's wrong with the aluminum company stocks? F. L. Church. *Mod Metals 14:34+ Je '58*

Statistics

Building uses lead aluminum field. *Light Metal Age 16:7 Je '58*

Canada

Canadian British Aluminum's new smelter. *il Chem & Ind p90-1 Ja 25 '58*

France

Aluminum and France. F. W. Starratt. *il map J Metals 10:33-43 Ja '58*

French aluminum industry. G. A. Baudart. *il Metal Prog 73:72-5 Ja '58*

ALUMINUM ingots

Aluminum T-ingots save space. *il Iron Age 180:42 N 28 '57*

Direct chill casting of large aluminum ingots. A. T. Taylor and others. *il diag Metal Prog 72:70-4 N '57*

Handling aluminum ingots by the carload; Kawneer Co. *il Mod Metals 14:52+ Je '58*

ALUMINUM laurate

Preparation of aluminum soaps by a continuous process. D. E. Woods and A. J. Taylor. *bibliog J Ap Chem 8:237-46 Ap '58*

ALUMINUM metallurgy

Aluminum and France. F. W. Starratt. *il map J Metals 10:33-43 Ja '58*

Current trends in metal science and future developments in aluminum metallurgy. G. J. Mills. *bibliog Light Metal Age 16:11-14 Ap '58*

In-process chlorine fluxing improves billet properties; Kaiser's flux bay cleaning and degassing process. *il Mod Metals 14:40 Je '58*

New Canadian smelter pours first aluminum; Canadian British aluminum Co. *Mod Metals 14:70-1 F '58*

See also

Aluminum ingots

Electrometallurgy

Electromagnetic forces in large aluminum furnaces. O. C. Bockman and J. Wleügel. *diags Electrochem Soc J 105:417-20 Ji '58*

Mechanism of anode thermal reaction in aluminum reduction cells. H. Stern and G. T. Holmes. *bibliog diag Electrochem Soc J 105: 478-83 Ag '58*

Metallurgical problems affecting the economics of aluminum production. A. F. Johnson. *J Metals 10:31-4 Ja '58*

ALUMINUM nitrate

Light-scattering studies on aqueous aluminum nitrate solutions. J. K. Ruff and S. Y. Tyree. *bibliog Am Chem Soc J 80:1523-6 Ap 5 '58*

ALUMINUM nitride**Analysis**

Effect of nitrides in silicon iron on the determination of oxygen by chlorination, and the possible direct determination of aluminum nitride. F. J. Armson and H. L. Bennett. *bibliog Iron & Steel Inst J 188:132-7 F '58*

ALUMINUM nonanoate

Preparation of aluminum soaps by a continuous process. A. J. Taylor and D. E. Woods. *Ap Chem 8:247-51 Ap '58*

ALUMINUM ores

See also

Bauxite

ALUMINUM oxides

See also

Alumina

ALUMINUM paint. See Aluminum—Paint

ALUMINUM pipe fittings. See Pipe fittings, Aluminum

ALUMINUM pipes. See Pipes, Aluminum

ALUMINUM plates

Aluminum plate production; Northern aluminum Co. Ltd. *il plan diags Metallurgia 57:175-80 Ap '58*

Bigger and better aluminum plates. *il Engineering 185:410-12 Mr 28 '58*

Extra-wide aluminum plate. *il Engineering 185:281 F 28 '58*

Let's see your photo license! photographed onto aluminum plate. *il Ind Phot 7:43 Je '58*

Production of large plates at Rogerstone. *il Engineer 205:437-40 Mr 21 '58*

ALUMINUM screens. See Screens, Aluminum**ALUMINUM ships.** See Ships, Aluminum

ALUMINUM silicates

Argillation and direct bauxitization in terms of concentrations of hydrogen and metal cations at surface of hydrolyzing aluminum silicates. W. D. Keller. bibliog (26 titles) *Il Am Assn Pet Geologists* Bul 42:235-45 F '58; Discussion. C. P. Cravenor and G. J. Govett. 42:2523-5; Reply. 2525-6 O '58
Physical properties and bond type in Mg-Al oxides and silicates. J. Verhoogen. *Am Mineralogist* 43:562-79 bibliog (578-9) My '58
Thermal insulation materials. A. J. Fabian. *Materials in Design Eng* 47:130-1 Mr '58

See also

Albite
Bentonite
Kyanite
Mullite
Petalite
Pyrophyllite

ALUMINUM sulfite

Effect of conditions of preparation on the form of alumina; precipitation and subsequent calcination of products in the system aluminum sulphate-sodium aluminate-water. J. A. Lewis and C. A. Taylor. bibliog *J Ap Chem* 8:223-3 Ap '58
Liquid alum as a coagulant. R. W. Ocker-shausen. *Il map diags Water & Sewage Works* 105:61-6 F '58
Recovery and re-use of alum sludge. *Water Works Eng* 117:73-4 Ag '58
Removal of Coxsackie and bacterial viruses and the native bacteria in raw Ohio River water by flocculation with aluminum sulfate and ferric chloride. S. L. Chang and others. bibliog *Am J Pub Health* 48:159-69 F '58

ALUMINUM tanks. See Tanks, Aluminum

ALUMINUM towers. See Towers, Aluminum

ALUMINUM trailers. See Trailers, Aluminum

ALUMINUM tubes. See Tubes, Aluminum

ALUMINUM walls. See Walls, Aluminum

ALUMINUM waste

Saves \$10,250 on aluminum reclaiming. J. E. Chapman. *Il Elec World* 150:64 S 29 '58
Sturdy emergency beam trammel from aluminum scraps. M. A. Koleda. *diags Am Mach* 102:125 Ja 13 '58

ALUMINUM water tanks. See Water tanks, Aluminum

ALUMINUM window frames. See Window frames, Aluminum

ALUMINUM wire. See Wire, Aluminum

ALUMINUM work

All-aluminum V-type engine. J. M. Smith. and R. M. Smith. plans diags S A E J 66: 26-3 Ag '58
Aluminum and its alloys in 1957. E. Elliott. *Metallurgia* 57:79-92 bibliog (216 titles, p91-2) F '58
Aluminum extruders in a profit squeeze. F. J. Starin. *Iron Age* 181:58-9 F '58
Aluminum extrusion solves electrical design problem; portable radios. *Elec Manuf* 61: 156-4 My '58
Aluminum for engine parts? yes! E. Hundt. *diags S A E J* 66:66-7 Ag '58
Aluminum impact extrusions. N. Marchak. *Il diags Product Eng* 28:72-4 N 25 '57
Aluminum impacts open new areas for design. E. J. Egan, Jr. *Il diags Iron Age* 181:98-100 Ap 3 '58
Aluminum soldered ultrasonically. L. Walter. *Il Mach* 64:160 N '57
Aluminum soldering. *Mech Eng* 79:1155 D '57
Dip brazing aluminum with paste filler. A. M. Setapen. *Il Welding Eng* 43:30-2 Ja '58
Dip brazing of aluminum. J. W. Maston. *Il diags Light Metal Age* 16:8-11 F '58; Same cond. *Mod Metals* 14:26-4 F '58
Dip brazing of aluminum pays with accurate assemblies. Raytheon mfg. co. E. G. Slotta. *Il Iron Age* 182:92-3 S 25 '58
Domestic refrigerator engineering conference; refrigerator evaporators studied to solve deterioration problems; symposium. *Refriger Eng* 66:54-9-4 F '47-8 Mr '58
Dow heat treats giant extrusions. *Il Steel* 143: 104-5 S 29 '58
Extruded and die-cast aluminum parts effect economies at Chrysler. H. Chase. *Il diags Mach* 64:147-7 Ja '58
Fabricating the Redstone ballistic missile. M. C. Duke. *Il Mod Metals* 14:72-4-4 Ap '58
Fluxless process simplifies aluminum soldering. S. Freedman. *Il Aviation Age* 28: 126-9 Mr '58
Grinding wheels for aluminum. A. T. Dalton. *Il Welding Eng* 43:44 F '58
Grinds complex form in aluminum pistons. *Il Iron Age* 180:156 D 5 '57

Heavy press forgings for aircraft. E. C. Wright. *Il diags Metal Prog* 72:105-10 D '57
How to get more for your machining dollar; aluminum turns a profit. *diags Iron Age* 181: 114-17 Ap 24 '58

Huge billet-scaling machines built for aluminum industry. *Il Mach* 64:200-4 My '58
Ingenious aluminum extrusion is key to unusual lighting unit; receives citation in Materials in design engineering competition. *Il diags Materials in Design Eng* 47: 152-4 Ap '58

Large aluminum extrusions, diags *Engineering* 186:159 Ag 1 '58
Making Cadillac's grille; Doehler-Jarvis impact extrudes aluminum ornaments. *Il Steel* 142:37-3 F 17 '58

Method for soldering aluminum. G. M. Bouton and P. R. White. *Il Bell Lab Rec* 36: 157-60, cover My '58; Same cond. *Product Eng* 29:G 10-11 Mid-S '58

New process features close control of brazing heat for aluminum or magnesium. *diags Welding Eng* 43:38-9 Je '58

Precision compression forming. *diags Product Eng* 29:D 14-15 Mid-S '58

Press brake forms unique dome sheets. *Il Iron Age* 180:154-4 N 21 '57
Raising the physicals of 6063 alloy extrusion billet. J. K. McLaughlin. *Il Mod Metals* 14: 56-4 J1 '58

Recrystallized surfaces of aluminum extrusions. G. V. Bennett. *Il diags Metal Prog* 72:102-4 D 5 '57; Discussion. K. F. Thornton. 74:126-4 Ag '58

Semi-automatic coring of large extrusion billets. *Il Light Metal Age* 16:28 Ap '58
Simple setups for high speed mill cutting of extrusions. B. Eldridge. *Il Mod Metals* 14: 38-4 Mr '58

Solder aluminum without flux. *Il Iron Age* 180:133 N 7 '57
Soldering aluminum. *Il Steel* 141:119 D 2 '57

Soldering aluminum without fluxing; abstracts. G. M. Bouton and P. R. White. *Il Electronics* 30:222-4 D 1 '57; Franklin Inst J 264: 523 D '57

Special setups cut aluminum drilling costs. G. Grant. *Il Light Metal Age* 16:30-1 Je '58
Stress relief in aluminum forgings. R. E. Kleint and F. G. Janney. *Il diags Light Metal Age* 16:14-21 F '58

Surface grinding aluminum products. J. E. Hyler. *diags Light Metal Age* 15:38 O '57
To correct extrusion dies; fundamentals of extrusion flow, proper tools and techniques. H. D. Flicker. *diags Mod Metals* 14:38-40-4 Ag '58

Too big a bite; making plate wider and thinner; Kaiser aluminum & chemical corp. *Il Steel* 141:77 D 23 '57

Wider aluminum sheets emerge from specialty class; new Alcoa cold-finishing mill. *Il Iron Age* 180:96 D 5 '57

See also

Aluminum—Finishing
Aluminum—Welding
Aluminum founding
Cans, Aluminum—Manufacture

Standards

Survey of existing standards in the aluminum extrusion industry. *diags Light Metal Age* 16:17-20 Ag '58

ALUMINUM works

Aluminum reduction plant at Bale Comeau. Que. C. Miller and W. G. Street. *Il Eng J* 41:41-9 J1 '58

Built with 12,000 precast pieces; Reynolds metals co.'s aluminum reduction plant in Listerhill, Ala. *Il Iron Age* 181:84-4-4 J1 17 '58

Kaiser begins hot rolling; Ravenswood plant. *Il map Steel* 142:58-9 Je 9 '58
Kaiser starts hot rolling mills at Ravenswood. *Il Iron & Steel Eng* 35:139-40 J1 '58

New plant fattens aluminum supply; Ormet corp. *Il Steel* 142:62 Je 2 '58
Ormet aluminum plant readied for full operation. W. F. O'Connell. *Il Elec Word* 149:66 Je 2 '58

Ormet producing. *Il Light Metal Age* 16:27-8 J1 '58

Ravenswood rolling. *Il Light Metal Age* 16:13-14 Je '58

Equipment

Aluminum extrusion plant at Pietermaritzburg. *Il diags Engineer* 204:912-14 D 20 '57

Aluminum plate production; Northern aluminum co. Ltd. *Il plan diags Metallurgia* 57:175-80 Ap '58

Aluminum smelter plant at Bale Comeau, Canada. *Il Engineer* 205:219-20 F 7 '58

Bigger and better aluminum plates. *Il Engineering* 185:410-12 Mr 28 '58

ALUMINUM works—Equipment—Continued

- Billets scalped six times faster; Kaiser aluminum & chemical co. *il Steel* 142:152 Ap 14 '58
- Conveyor system saves \$144 a day; Kaiser aluminum & chemical corp. *il Steel* 143:111 Ag 18 '58
- Extrusion handling systems save money, time; Extruded metals div. of Detroit gasket & mfg. co. K. Darby. *il Mod Metals* 14:66-7 J1 '58
- New aluminum smelter; Canadian British aluminum co. *Ind Chem* 34:70 F '58
- New aluminum smelter in production at Baie Comeau. *il Metallurgia* 67:31-2 Ja '58
- Production of large plates at Rogerstone. *il Engineer* 205:437-40 Mr 21 '58
- Ravenswood works; Kaiser Aluminum. F. L. Church. *il plans Mod Metals* 14:68-73, cover J1 '58

Maintenance and repair

- Big ones can't neglect maintenance, can you? G. B. Arthur. *il Mill & Factory* 61:110-13 D '57

Power

- Aluminum builds power backlog. F. J. Starin. *il Iron Age* 182:50-1 S 25 '58
- Aluminum powers up; underground power-plant. *il Steel* 143:57 S 29 '58
- Brokopondo development. *Light Metal Age* 16: 25 F '58
- Installation and operating experiences with Kernano 2500 foot head impulse turbines. J. T. Madill and F. F. Gordon. *il Eng J* 41:50-6 F '58
- Manicouagan power development. J. M. Higgins and C. Miller. *il plan maps Eng J* 41: 60-9; Discussion. 84 J1 '58
- New Ohio Valley aluminum complex puts 1/2 million kva on aluminum buses. L. Pavane. *il diag Elec World* 149:46-8 Je 2 '58
- Power plant for Canadian aluminum smelter. *il Engineer* 206:310 Ag 22 '58

ALUMS

- Fluoride reduction at La Crosse. Kan. R. L. Culp and H. A. Stoltenberg. *bibliog Am Water Works Assn J* 50:423-31 Mr '58
- Use of alum-activated silica as a coagulant at V. W. Langworthy. *bibliog Am Water Works Assn J* 50:56-60 Ja '58

ALUMS, Liquid

- Conductometric control of coagulant dosage in treatment plants. M. L. Granstrom and S. D. Shearer. *il Am Water Works Assn J* 50:410-16 Mr '58
- Conversion from dry to liquid alum saves \$12,000 per year at Richmond. W. W. Anders. *il diag Water Works Eng* 111:46-74 Ja '58
- Use of liquid alum at Richmond. Va. H. E. Lordley. *il Am Water Works Assn J* 50:1259-60 S '58

AMADORI rearrangement. See Molecular rearrangements

AMALGAMS**Analysis**

- Indirect complexometric analysis with aid of liquid amalgams. W. G. Scribner and C. N. Reilly. *bibliog diag Anal Chem* 30:1452-62 S '58

AMARYLLIDACEAE

- Alkaloids of the amaryllidaceae; the structures of alkaloids derived from 5,10b-ethanophenanthridine. W. C. Wildman. *bibliog Am Chem Soc J* 80:256-75 Mr 20 '58
- Interconversions of amaryllidaceae alkaloids by sodium and amyl alcohol. H. M. Fales and W. C. Wildman. *bibliog Am Chem Soc J* 80:4395-404 Ag 20 '58

AMATEUR radio operators. See Radio operators, Amateur

AMATEUR scientists. See Scientists, Amateur

AMATOL**Testing**

- Microstructures of some amatols. W. O. Williamson. *il J Ap Chem* 8:665-70 O '58

AMBER glass. See Glass, Colored

AMBREINOLIDE

- Synthesis of DL-ambreinolate, and some bicyclic intermediates for terpene synthesis. D. B. Bigley and others. *bibliog Chem & Ind* p558-9 My 10 '58

AMEBICIDES

- Some new amebicidal diamines. O. E. Fancher and others. *bibliog Am Chem Soc J* 80: 1451-6 Mr 20 '58
- Synthetic amebicides: [(benzyl)acridin-7-ylamino]-alkylamino]-alkanols and their esters. E. F. Elslager and others. *bibliog Am Chem Soc J* 80:451-5 Ja 20 '58

- Synthetic amebicides: 7-(3-octylaminopropyl-amino)-benzylacridine (PAA-2056) and related 7-(alkyl- and aralkylaminoalkylamino)-benzylacridines. F. W. Short and others. *bibliog Am Chem Soc J* 80:223-8 Ja 5 '58

AMERICAN architecture. See Architecture, American

AMERICAN association for the advancement of science. Meetings. 1957. *Sci Am* 198:42+ F '58

AMERICAN association of cereal chemists. Meeting; abstracts of papers. *Food Eng* 30:47 Je '58

AMERICAN association of oilwell drilling contractors. Annual meeting, 17th, Tulsa, Oct. 13-15. *Pet Eng* 29:339-90+ N '57

AMERICAN association of petroleum geologists. Annual meeting, 43d, Los Angeles, March 10-13; reports. *Am Assn Pet Geologists Bul* 42:1450-505 Je '58

Membership directory. *Am Assn Pet Geologists Bul* 42:1-212 pt 2 Mr '58

Mid-Continent regional meeting. Tulsa, Oct. 31-Nov. 1; abstracts of papers. *Am Assn Pet Geologists Bul* 42:206-16 Ja '58

Pacific section meeting. Los Angeles, Nov. 7-8; abstracts of papers. *Am Assn Pet Geologists Bul* 42:216-20 Ja '58

AMERICAN association of physics teachers. Annual meeting, 27th, New York, Jan. 30-Feb. 1; abstracts of papers. *Am J Phys* 26:415-29 S '58

Summer meeting. Schenectady, June 20-22; abstracts of papers. *Am J Phys* 26:45-60 Ja '58

AMERICAN association of state highway officials. Annual meeting, Chicago, Nov. 18-22; abstracts of papers. *Roads & Sts* 101:63+ Ja; 78+ F; 93 Mr '58

Annual meeting. 43d, Chicago, Nov. 18-22. *Eng N* 159:26 N 28 '57; *Civil Eng* 28:61 Ja '58

AMERICAN association of textile chemists and colorists. Annual meeting, 36th, Boston, Nov. 14-16; list of exhibitors, floor plan. *Mod Textiles* 38:58-60 N '57

Annual meeting. 36th, Boston, Nov. 14-16; with list of exhibitors and abstracts of papers. *Am Dyestuff Rep* 46:793-810+ N 4; 953-61 D 16 '57

Annual meeting. 36th, Boston; abstracts of papers. *Textile World* 108:114-15+ Ja; 130-1+ F '58; *Textile Ind* 122:99-106 Ja; 135+ F '58

President's address. G. O. Linberg. *Am Dyestuff Rep* 46:999-1001 D 30 '57

Two new drycleaning test methods. *Am Dyestuff Rep* 46:859-60+ N 18 '57

AMERICAN astronomical society. Annual meeting, 4th, New York, Jan. 29-31. *Mech Eng* 80:134-5 Mr '58

AMERICAN bureau of shipping. Board of managers 96th annual meeting. *Marine Eng/Log* 63:82 Mr '58

AMERICAN cement corporation. American's unique merger; will it change the course of the cement industry? J. N. Bell. *il Rock Prod* 61:68-73+ Ag '58

AMERICAN ceramic society. Annual meeting, 60th, Pittsburgh, *Am Cer Soc Bul* 37:232-43 My 15 '58

Annual meeting. 60th, Pittsburgh, April 27-May 1; list of exhibitors. *Cer Ind* 70:97-9+ Ap '58

Annual meeting. 60th, Pittsburgh, April 27-May 1; with program and abstracts of papers. *Am Cer Soc Bul* 37:206, sup 1-75 Ap 15 '58

Audit report. 1957. *Am Cer Soc Bul* 37:341 J1 15 '58

Committee on research; reports on the year's activities. *Am Cer Soc Bul* 37:431-3 S 15 '58

Committee reports for 1957-58. *Am Cer Soc Bul* 37:387-9 Ag 15 '58

Historical statement of the origin of the American ceramic society. E. Orton, Jr. *Am Cer Soc Bul* 37:164-5 Mr 15 '58

Membership roster. *Am Cer Soc Bul* 37:sup 1-5+ O 15 '58

New society members, roster changes, and corporation members. *Am Cer Soc Bul* 37: 44-5, 53-75 Ja 15 '58

Organization chart. *Am Cer Soc Bul* 37:41 Ja 15 '58

Pacific Coast regional meeting. 10th, San Francisco, Oct. 17; with abstracts of papers of interest to glass industry. *Glass Ind* 38: 685-90 D '57

AMERICAN ceramic society—Continued

Pacific Coast regional meeting, 10th, San Francisco, Oct. 17-19; with abstracts of papers. Cer Ind 69:106-8 D '58
 Pacific Coast regional meeting, 11th, Los Angeles, Oct. 22-24; program with abstracts of papers. Am Cer Soc Bul 37:424-30 S 15 '58
 Pacific Coast regional meeting, 11th, Los Angeles, Oct. 22-24; with program. Cer Ind 71:65-7 O '58
 President's report to the board of trustees. J. F. McMahon. Am Cer Soc Bul 37:379 Ag 15 '58
 Sections organization map. Am Cer Soc Bul 37:114 F 15 '58
 Year of growth for the sections. Am Cer Soc Bul 37:115-28, 162-4 F 15-Mr 15 '58

Glass division

Annual meeting, 60th, Pittsburgh, April 27-May 1; program and abstracts of papers. Glass Ind 39:199-200, 321-4+ Ap, Je '58
 Fall meeting, Bedford, Pa.; with abstracts of papers. Cer Ind 69:386-8+ D '57; Glass Ind 38:675-8 D '57
 Fall meeting, Bedford Springs, Pa. Oct. 15-17; with program and abstracts of papers. Glass Ind 39:533+ O '58

AMERICAN chemical society

ACS bulge. A. H. Emery. Il Chem & Eng N 36:72-5 Ja 27; 86-8 F 3 '58
 Board of directors minutes, Chicago, Sept. 7. Chem & Eng N 36:59-64+ O 27 '58
 Board of directors minutes, June 3. Chem & Eng N 36:88-90 J 17 '58
 Board of directors minutes of meeting, Washington, Dec. 7-8. Chem & Eng N 36:84-96 Ja 20 '58
 Career opportunities. Il Chem & Eng N 36:14 pt 2 Ja 27 '58
 Council policy committee minutes and Council minutes, Chicago, Sept. 8-9. Chem & Eng N 36:70-5 O 27 '58
 Delaware Valley regional meeting, Philadelphia, Feb. 5; program. Chem & Eng N 36:70-2+ Ja 13 '58
 National meeting, 133d, San Francisco. Chem & Eng N 36:19-21 Ap 21; 23-7 Ap 28 '58
 National meeting, 133d, San Francisco, April 13-18; abstracts of papers of interest to the paper industry. Paper Ind 40:165-7, 171 Je '58
 National meeting, 133d, San Francisco, April 13-18; program. Chem & Eng N 36:76-127 Mr 10 '58
 National meeting, 134th, Chicago, Sept. 7-12; abstracts of papers. Soap & Chem Spec 34:103+ O '58
 National meeting, 134th, Chicago, Sept. 7-12; program. Chem & Eng N 36:71-128 Ag 4 '58
 National meeting, 134th, Chicago; with abstracts of papers. Chem & Eng N 36:27-30 S 15; 67-94 S 29 '58
 Officers, committees, and chapters of student affiliates. Chem & Eng N 36:97-104 Ag 25 '58

Official reports. Chem & Eng N 36:55-76 Je 9 '58

Official reports for 1957. Chem & Eng N 36:57-86 Mr 3 '58

Progress report number 31 of the committee on professional training. Chem & Eng N 36:99-107 Ap 7 '58

Projected divisional programs. Chem & Eng N 36:80-91 O 13 '58

Spring meeting, San Francisco, April 13-18; abstracts of papers. Chem & Ind p 131-3 Ag 30 '58

What do members think about ACS? Chem & Eng N 36:88-92 Ag 25 '58

Division of polymer chemistry

Annual meeting, 132d, New York; abstracts of papers of interest to rubber industry. Rubber Age 82:311 N '57

Division of rubber chemistry

Annual meeting, 73d, Cincinnati, May 14-16; program and abstracts of papers. Rubber Age 83:98-104 Ap '58; Rubber World 138:91-7 Ap '58

Meeting, 73d, Cincinnati, May 14-16. Rubber Age 83:498-500 Je '58; Rubber World 138:428-31 Je '58

Meeting, 74th, Chicago, Sept. 10-12; program and abstracts of papers. Rubber Age 83:656-62 J 1 '58; Rubber World 138:583-8+ J 1 '58

Meeting, 74th, Chicago, Sept. 10-12. Rubber Age 84:104-6 O '58; Rubber World 139:83-6 O '58

AMERICAN concrete institute

ACI headquarters presented a challenge in concrete. M. Yamazaki. Il Am Concrete Inst J 30:418-26 O '58

ACI's decade of progress. W. H. Price. Am Concrete Inst J 29:825-8 Ap '58

Annual meeting, 54th, Chicago, Feb. 24-27. Am Concrete Inst J 29:sup3-11+ Ap '58

Annual meeting, 54th, Chicago, Feb. 24-27. Eng N 160:30 Mr 6 '58; Civil Eng 28:292 Ap '58

Annual meeting, 54th, Chicago, Feb. 24-27; program. Am Concrete Inst J 29:sup3-10 Ja '58

Bylaws revised. Am Concrete Inst J 30:sup3-8 J 1 '58

Cantilevered folded plate roofs ACI headquarters. C. S. Whitney. Il diags Am Concrete Inst J 30:427-30 O '58

Construction for ACI. J. Strang. Il Am Concrete Inst J 30:431-3 O '58

Regional meeting, 10th, Seattle, Nov. 5-6; abstracts of papers. Am Concrete Inst J 29:sup 13-15+ Ja '58

Regional meeting, 11th, Detroit, Oct. 27-29; with program. Am Concrete Inst J 30:sup3-7 Ag; sup3-7 S '58

AMERICAN concrete pipe association
 Annual meeting, 50th, New Orleans, March 12-15. Eng N 160:26 Mr 27 '58

AMERICAN congress of surveying and mapping
 Annual meeting, Washington, D.C. Eng N 160:23 Ap 3 '58

AMERICAN cotton manufacturers institute
 ACMI's new president; Jones of Waverly mills. J. Campbell. Mod Textiles Mar 39:36-7+ Ap '58

Annual meeting, 9th, Hollywood, Fla. Textile Ind 122:95 My '58

AMERICAN cyanamid company
 Cyanamid relocates rubber group. Il Rubber World 138:761 Ag '58

Research center

New research center dedicated by American Cyanamid. Il Rubber Age 82:306 N '57; Rubber World 137:274 N '57

AMERICAN die casting institute
 Annual meeting, Chicago, Sept. 17-20. Foundry 85:184+ N '57

AMERICAN drug manufacturers association
 Annual meeting. Drug & Cosmetic Ind 82:736-7+ Je '58

AMERICAN dyestuff reporter (periodical)
 Reporter reaches fortieth birthday. Il Am Dyestuff Rep 46:789-92 N 4 '57

AMERICAN electroplaters society
 AES research program; progress report and summaries of research projects. Il Plating 45:345-8 Ap '58

Annual meeting, 45th, Cincinnati, May 19-22. Plating 45:746-53 J 1 '58

Annual meeting, 45th, Cincinnati, May 19-22; program. Plating 45:526-31 My '58

Annual meeting, 45th, Cincinnati, May 19-22; with program. Officers, chairmen, abstracts of papers. Metal Finishing 56:70-6 My; 60-4 J 1 '58

Annual report for the fiscal year ended, March 31. Plating 45:503-15 My '58

Branch delegates, boards and committees, branch directory, 1957-1958. Plating 45:516-24 My '58

Financial report for the fiscal year ended, March 31. Plating 45:553-6 Je '58

AMERICAN federation of labor and Congress of industrial organizations
 Uneasy unions watch for '58 signs and portents. Eng & Min J 159:129 Mr '58

AMERICAN foundrymens society
 AES annual awards. Foundry 85:174-6 My '58

Annual meeting, Cleveland, May 19-23; program. Foundry 86:164-71 My '58

Castings congress and foundry show, Cleveland, May 19-23; abstracts of papers. Foundry 86:72-81, 163-70+ J 1; 138+ Ag '58

Foundry show; list of exhibitors. Foundry 86:177-9 My '58

AMERICAN gas association
 A.G.A. accident prevention committee, 10th annual conference, Louisville, Sept. 15-17; with program. Am Gas Assn Mo 40:27-8 J 1-4; 5-7 O '58

A.G.A.-S.E.G.A. 2d annual textile symposium, Greensboro, N.C. Sept. 8-9. Am Gas Assn Mo 40:31-2+ O '58; Gas Age 122:18-19 O 16 '58

Annual meeting, 39th, St. Louis, Oct. 7-9. Am Gas Assn Mo 39:2-22+ N '57; Pub Util 60:757-60 N 7 '57; Gas Age 120:11-22 O 31 '57

Annual meeting, 40th, Atlantic City, Oct. 13-15; program. Am Gas Assn Mo 40:2-8+ J 1-4; 5-8 '58

AMERICAN gas association—Continued

Enthusiasm reigns at safety workshops. Am Gas Assn Mo 40:20-1 Mr '58
 General management section conference, Washington, March 31-April 2. Am Gas Assn Mo 40:29-31+ My '58
 Home service workshop, Minneapolis, Jan. 6-8. Il Am Gas Assn Mo 40:6-9+ F '58
 Managing and executive committees members. Am Gas Assn Mo 40:32-3 Ja '58
 Operating section. Distribution, production and transmission conference, New York, May 6-9; abstracts of papers. Gas Age 121: 13-20+ My 29 '58
 Operating section's distribution production and transmission conference, New York, May 6-9. Am Gas Assn Mo 40:27-31 Ja '58
 Organize management committees. Am Gas Assn Mo 40:20-1+ Ja '58
 Sales conference on industrial and commercial gas, Milwaukee, April 8-10. Am Gas Assn Mo 40:32-3 My '58

AMERICAN gear manufacturers association

Annual meeting, 42d, Hot Springs, Va. June 1-4. Iron Age 130:77 Je 12 '58; Automotive Ind 119:51+ J1 '58
 Annual meeting, 42d, Hot Springs, Va. June 1-4; with abstracts of papers. Mach 64:171-2 J1 '58
 Semi-annual meeting, Chicago, Oct. 27-30. Am Mach 101:180 N 18 '57; Mach 64:203 D '57

AMERICAN helicopter society

Annual forum, 14th, Washington, April 16-19. Aero/Space Eng 17:15 Ag '58; Aircraft Eng 30:180 Je '58

AMERICAN hospital association

American hospital association's report on prevention and control of staphylococcal infections in hospitals. Am J Pub Health 48: 1071-4 Ag '58

AMERICAN institute of architects

A.I.A. and preservation. Arch Rec 122:16 D '57
 A.I.A. gold medal to John Root. Arch Rec 123:25+ Je '58
 Annual meeting, Cleveland, July 7-11. Arch Forum 109:6-7 Ag '58; Arch Rec 124:9+ Ag '58; Eng N 161:26 J1 17 '58

AMERICAN institute of chemical engineers

Annual meeting, Chicago; discussion sessions. Chem Eng Prog 54:154+ F '58
 Golden jubilee meeting, Philadelphia, June 22-27. Control Eng 5:32+ S '58
 Golden jubilee meeting, Philadelphia, June 22-27; program. Chem Eng Prog 64:107-10+ My '58
 National meeting, Salt Lake City, Sept. 21-24; program. Chem Eng Prog 54:98-100+ J1; 100+ Ag '58
 Our professional heritage. Il Chem Eng Prog 54:49-76 My '58
 Roundup on anniversary meetings; jubilee report. Chem Eng Prog 54:121-4 J1; 123-6 Ag '58

AMERICAN institute of electrical engineers

AIEE fellows elected. Elec Eng 77:647-9, 757-61 J1-Ag '58
 Donald A. Quarles, honorary member presentation. W. J. Barrett. Elec Eng 77:787-8 S '58
 Fall general meeting, Chicago, Oct. 7-11; with abstracts of papers. Elec Eng 76:1082+ D '57
 Fall meeting, Chicago; abstracts of papers. Elec World 148:65-9 N 4 '57
 Functional plan; report clarifying AIEE plan. W. J. Barrett. Elec Eng 77:119-21 F '58; Same. Mech Eng 80:57-9 F '58
 Institute reorganization discussed at forum of technical committee chairmen, New York, Feb. 6. Elec Eng 77:349-52 Ap '58
 Officers, departments, and committees for 1958-59. Elec Eng 77:870-88 S '58
 Pacific general meeting, Sacramento, Aug. 19-22. Elec World 150:97+ S 22 '58
 Report of the board of directors, May 1, 1957-April 30, 1958. Elec Eng 77:740-3 Ag '58
 Summer general meeting and air transportation conference, Buffalo, June 22-27. Elec Eng 77:828-33, 839-43 S '58
 Summer general meeting, Buffalo, June 22-27. Elec World 150:37 J1; 54-5+ J1 28 '58
 Unity of the engineering profession. W. J. Barrett. Power Ind 74:15-16 Ja '58
 Winter general meeting, 46th, New York; with abstracts of papers. Elec World 149: 62-4 F 17; 71-82 Mr 3 '58
 Winter general meeting, New York, Feb. 2-7 program. Elec Eng 77:87-72+ Ja '58
 Winter general meeting, New York, Feb. 2-7; with abstracts of papers. Elec Eng 77:342-6 Ap '58

Winter meeting, New York. Power Eng 62: 96-7 Ap '58

Year of progress; presidential address. W. J. Barrett. Elec Eng 77:777-80 S '58

AMERICAN institute of mining, metallurgical and petroleum engineers

AIME awards and honors presented at annual banquet. J Metals 10:200-1 Mr '58
 Annual meeting, New York. J Metals 10:358-69 My '58
 Annual meeting, New York, Feb. 16-20; with abstracts of papers. Min Eng 10:601-3 My '58
 Annual meeting, New York, Feb. 16-20; with abstracts of papers on cement, lightweight aggregates, gravel. Pit & Quarry 50:130-2+ Ap '58
 Blast furnace, coke oven, and raw materials committee, National open hearth steel committee, members; annual conference programs; committee reports. J Metals 10:242-3+ Ap '58
 Map, location, and identification of local sections. Min Eng 10:312-13 J1 '58
 National open hearth blast furnace, coke oven, and raw materials conference, Cleveland, April 14-16. J Metals 10:425-7+ Je '58
 Pacific southwest mineral industry conference, San Francisco, March 27-29. Rock Prod 61:89+ Je '58

Coal division

Annual meeting, New York, Feb. 17-20; with abstracts of papers. Coal Age 63:63+ Mr '58

Industrial minerals division

Proposed bylaws. Min Eng 10:114+ Ja '58

Institute of metals division

Annual meeting, New York, Feb. 16-20; abstracts of papers. J Metals 10:92-104 F '58
 Institute of metals division presents purposes and programs; editorial. W. R. Hibbard, jr. J Metals 9:1423 N '57

Metallurgical society

Annual meeting, New York, Feb. 16-20; program. J Metals 10:60-7 Ja '58
 Annual report of the secretary. R. W. Shearman. J Metals 10:260-1 Ap '58
 Fall meeting, Cleveland, Oct. 26-30; program and abstracts of papers. J Metals 10:587-90 S '58
 Iron and steel division electric furnace steel committee 15th annual conference, Pittsburgh, Dec. 4-6; with abstracts of papers. Foundry 86:161-2 F '58
 New program for publications of the metallurgical society. W. J. Harris, jr. J Metals 10:15 Ja '58

Minerals beneficiation division

Proposed bylaws. Min Eng 10:115+ Ja '58

Mining and exploration division

Annual meeting, New York; with abstracts of papers. Eng & Min J 159:114-13 Mr '58

Society of mining engineers

Annual meeting, 1st, Tampa, Oct. 15-18; with abstracts of papers. Rock Prod 60:124+ D '57
 Annual meeting, New York, Feb. 16-20; abstracts of papers and program. Min Eng 10:41-64 Ja '58
 SME education committee and its future. M. E. Wadsworth. Min Eng 10:673-4 Je '58

Society of petroleum engineers

Annual fall meeting, Dallas, Oct. 6-9. J Pet Tech 10:35 Mr '58; Pet Eng 29:B 126 N '57
 Fall meeting, 33d, Houston, Oct. 5-8; program and abstracts of papers. J Pet Tech 10:45-8, 50-60 S '58
 Membership directory, 1958. J Pet Tech 10: sup 1-127 Je '58
 Participation of Society of petroleum engineers in new United engineering center. J. B. Alford. Il J Pet Tech 10:29-30 J1 '58

AMERICAN institute of physics

Annual report, 1957. Phys Today 11:15-21 Je '58

AMERICAN institute of plant engineers

Annual meeting, 4th, Chicago, Jan. 26. Plant Eng 12:144+ Mr '58

AMERICAN institute of steel construction

National engineering conference, 10th, St Louis. Eng N 160:23 Ap 24 '58

AMERICAN iron and steel institute

Function of the product manuals. W. C. Clements. Wire & Wire Prod 33:877-8+ Ag '58

AMERICAN Journal of physics (periodical)

Some characteristics of the literature used by American Journal of physics authors.
M. W. Colma and S. Adams. Am J Phys 26:397-8 S '58

AMERICAN machine tool distributors association

Annual meeting, 33d, Cleveland, Sept. 22-24. Am Mach 101:156 O 7 '57; Mach 64:178-9 N '57

Spring meeting, 34th, New Orleans, March 10-11. Am Mach 102:103-4 Mr 24 '58

AMERICAN medical association

American medical association study confirms 1951 fluoridation approval. Water Works Eng 111:135 F '58

AMERICAN mining congress

Annual business meeting, New York, Dec. 2. Min Cong J 44:38-40 Ja '58

Coal division annual conference, Pittsburgh, Nov. 15; with committee reports. Min Cong J 44:57-61 Ja '58

Coal division annual meeting, Cincinnati, May 4-7; abstracts of papers. Coal Age 63:124-9+ Je '58; Min Cong J 44:59-69 Je '58

Coal division annual meeting, Cincinnati, May 5-7; program, committee members. Min Cong J 44:59-63 Mr '58

Meeting, Salt Lake City, Sept. 9-12. Rock Prod 60:139 N '57

Metal mining and industrial minerals convention and exposition, San Francisco, Sept. 22-26; committees, program, exhibitors. Min Cong J 44:42-63 Ag '58; Eng & Min J 159:83-112+ Ag '58

AMERICAN oil chemists society

Annual meeting, 49th, Memphis, Tenn. April 21-23. Am Oil Chem Soc J 35:sup21-32 Je '58

Fall meeting, 31st, Cincinnati, Sept. 30-Oct. 2; with abstracts of papers. Soap & Chem Spec 33:48-50+ S '57

Fall meeting, 32d, Chicago, Oct. 20-22; program. Am Oil Chem Soc J 35:sup 18-20+ O '58

Report of the color committee, 1957-1958. Am Oil Chem Soc J 35:558-61 S '58

Report of the examination board, 1957-58. Am Oil Chem Soc J 35:287 Je '58

Report of the Journal advertising committee, 1957-58 and treasurer's report, 1957. Am Oil Chem Soc J 35:sup24+ Ji '58

Report of the Smalley committee, 1957-58. Am Oil Chem Soc J 35:270-1 Je '58

Report of the uniform methods committee, 1956-57. Am Oil Chem Soc J 35:138-9 Mr '58

Report of the uniform methods committee, 1957-58. Am Oil Chem Soc J 35:370-1 Ji '58

AMERICAN paper and pulp association

Annual meeting, 81st, New York, Feb. 16-21. Paper Ind 39:1007-8+ M '58

AMERICAN petroleum institute

API board tackles big job. Pet Eng 29:A30-2 N '57

A.P.I. honors Lewis. Oil & Gas J 55:70 O 28 '57

A.P.I. petroleum composition research; a soul searching. H. W. Field and C. E. Headington. Oil & Gas J 55:163-5 N 13 '57

Annual meeting, Chicago. Oil & Gas J 55:129-46, 159-66+ N 18 '57

Annual meeting, 37th, Chicago. Pet Eng 29:B 108-9 D '57

Division of refining 23d midyear meeting, Los Angeles, May 12-16; abstracts of papers. Pet Eng 30:C7-10+ Je '58

Geological research and the American petroleum institute. C. I. Alexander. Oil & Gas J 55:169-62 N 18 '57

AMERICAN pharmaceutical manufacturers association

Annual meeting, 51st, Boca Raton, Fla. Drug & Cosmetic Ind 82:600-1+ My '58

Mid-year meeting. Drug & Cosmetic Ind 82:38-9+ Ja '58

AMERICAN physical society

Division of fluid dynamics

Meeting, 10th, Bethlehem, Pa., Nov. 25-27. Phys Today 11:22-4 Fe '58

AMERICAN poultry industries, Institute of.

See Institute of American poultry industries

AMERICAN power conference

Annual meeting, Chicago, March 26-28; program; list of manufacturers' representatives available during conference. Power Eng 62:74-6 Mr '58

Annual meeting, 20th, Chicago, March 26-28; abstracts of papers. Combustion 29:51-4 Ap; 61-5 My '58; Plant 17:57-60 My '58

Conference, 20th, Chicago, March 26-28. Power Eng 62:78-9 My '58

AMERICAN public health association

Annual meeting, 85th, Cleveland; abstracts of papers. Am J Pub Health 48:785-94 Je '58

Annual meeting, 86th, St. Louis, Oct. 27-31; program, list of exhibitors, nominations for section offices. Am J Pub Health 48:1214-72 S '58

Committees, 1957-1958. Am J Pub Health 48:648-72 My '58

Report of the chairman of the executive board to the governing council 1956-1957. Am J Pub Health 48:235-46 F '58

AMERICAN public power association

Annual meeting, 15th, New Orleans. Elec World 149:44-5 Je 2 '58

Engineering and operation workshop, Chattanooga, Tenn.; abstracts of papers. Elec World 149:37 Mr 31 '58

AMERICAN public works association

Annual meeting, 63d, Philadelphia, Sept. 22-25. Pub Works 88:125-6+ N '57

Annual meeting, 64th, Kansas City, Sept. 28-Oct. 1; program. Pub Works 89:143-4+ S '58

News bulletins. Published in monthly numbers of Public works

AMERICAN pulp and paper mill superintendents association

Annual meeting, 39th, Boston. Paper Ind 40:235-7 Ji '58

AMERICAN radio relay league

Another peek at Propagation research project. M. P. Southworth, II. Q S T 42:42-4 Ag '58

AMERICAN railway engineering association

Annual meeting, 57th, Chicago. Eng N 160:22 Mr 20 '58

AMERICAN road builders association

Annual meeting, 56th, Washington. Eng N 160:21-2 Ja 30 '58; Civil Eng 23:218-19 Mr '58; Roads & Sts 101:87-90 Mr '58

Annual meeting, 56th, Washington, Jan. 20-23. Pit & Quarry 50:50 Mr '58

AMERICAN rocket society

Annual meeting, 12th, New York. Mech Eng 80:126-7 Ja '58

Meeting, Detroit. Product Eng 29:24-5 S 29 '58; Steel 143:39 S 22 '58

Meeting, Los Angeles. Iron Age 181:75 Je 26 '58

AMERICAN society for metals

ASM to start tech center. II Steel 142:80 Mr 10 '58

A.S.M.'s new headquarters. W. H. Eisenman. II diag Metal Prog 73:67-9 My '58

Annual meeting, 39th; abstracts of papers. Engineer 204:334-5 D 27 '57; Metal Prog 72:142+ N '57

New home. Product Eng 29:28+ Ap 7 '58

Southwestern metal exposition, 1st, Dallas, May 12-16; abstracts of papers. II Metal Prog 73:96E-96H Je '58

AMERICAN society for quality control

Annual meeting, 12th, Boston, May 26-28; with program and list of exhibitors. Ind Quality Control 14:19-25 Ap; 15:21-7 Ji '58

Textile division annual meeting, Cienfuegos, S.C.; abstracts of papers. Textile World 108:49-51+ Ap '58

AMERICAN society for testing materials

ASTM and the refining industry. H. W. Ferguson. A S T M Bul p24-6 My '58

ASTM and the steel industry; two case histories. N. P. Veeder. A S T M Bul p57-8 Ji '58

Annual meeting of committee D-12 on soaps and other detergents, New York, March 10-11. Soap & Chem Spec 34:143+ Ap '58

Annual meeting, 61st, Boston. Eng N 161:25 Ji 3 '58

Annual meeting, 61st, Boston, June 22-27; with program and abstracts of papers. ASTM Bul p 18-36 Ap; 5-37+ Ji '58

Annual meeting, 61st, Boston; with abstracts of papers of interest to rock products industry. Pit & Quarry 51:84-7 Ag '58

Committee B-9 semi-annual meeting, St. Louis, Feb. 12-18. Plating 45:340-1+ Ap '58

Committee D-11 on rubber and rubberlike materials annual meeting, Boston, June 25-27. Rubber Age 33:839-46 Ag '58; Rubber World 138:744-50 Ag '58

Continuing and vital challenge. R. T. Kropf. A S T M Bul p 12-13 Ji '58

Research + engineering know how = standards; ASTM in '57. A S T M Bul p5-14 Ja '58

AMERICAN society of body engineers

Annual meeting, 12th, Detroit; abstracts of papers. Automotive Ind 117:48-50+ N 15 '57

AMERICAN society of civil engineers

Annual meeting, Chicago, Feb. 24-28; with abstracts of papers. Civil Eng 28:273-9 Ap '58

AMERICAN society of civil engineers—Cont.

Annual meeting, New York, Oct. 14-18; with abstracts of papers. Civil Eng 27:806-16 N '58

Annual meeting, New York, Oct. 13-17; program. Civil Eng 28:673-82 S '58

Challenges of the future; presidential address. L. R. Howson. Civil Eng 27:755-6 N '57

Economic advancement objectives; final report of the Task committee on study of economic advancement objectives of the board of direction. Am Soc C E Proc 83 [BD 2 no 1490]:1-19 D '57

Meeting, Chicago. Eng N 160:28-9 Mr 6 '58

Meeting, Chicago, Feb. 24-28; program. Civil Eng 28:33-42 Ja '58

Meeting, Portland, June 23-27; program. Civil Eng 28:353-60 Mr '58

Meeting, Portland, Ore. Civil Eng 28:599-606 Ag '58; Eng N 161:21-3 Jl 3 '58

Report of Task committee on professional education. Civil Eng 28:111-23 F '58

AMERICAN society of heating and air conditioning engineers

ASHAE-ASRE merger. E. R. Queer. Heating-Piping 30:146 Mr; 134 Ap; 158 My; 138 Ja '58

ASHAE technical advisory committees; regulations. B. H. Jennings. Heating-Piping 30:142 Ap '58

Annual meeting, Pittsburgh. Eng N 160:25 Ja 30 '58

Annual meeting, 64th, Pittsburgh, Jan. 27-29. Heating-Piping 30:173-9 Mr; 161-6 Ap '58; Air Cond Heat & Ven 55:91-3 Mr '58

Honors and awards; present status of program. P. B. Gordon. Heating-Piping 29:122 D '57

Proposed merger with ASRE. C. F. Holske. Refrig Eng 66:64 Jl '58

Report to members on the proposed merger of ASRE and ASHAE. H. F. Spoehrer. Refrig Eng 66:51-2 Mr; 50-1 Je '58

Semiannual meeting, Minneapolis. Heating-Piping 30:158-63 Ag '58

Society and legislation. P. B. Gordon. Heating-Piping 29:184 N '57

Some questions and answers regarding the proposed ASRE-ASHAE merger. Refrig Eng 66:46-7 Ag '58

AMERICAN society of industrial designers

Annual meeting, Ojai Valley, Oct. 17-20. Product Eng 28:28 N 4 '57

AMERICAN society of lubrication engineers

Annual meeting, 13th, Cleveland, April 22-24; abstracts of papers. Lub Eng 14:168-79 Ap '58

Financial statement, year ended Dec. 31, 1957. Lub Eng 14:278-9 Je '58

Reorganization of committee structure; special report. Lub Eng 14:180+ Ap '58

AMERICAN society of mechanical engineers

ASME approves group-insurance program for members. Mech Eng 80:141-3 Ap '58

ASME elects to grade of Fellow member. Mech Eng 79:1205-7 D '57; 80:146-7 Mr; 140-1 Ap; 145-7 Je '58

ASME honors engineers; tribute to C. E. Davies, retiring secretary, biographies of recipients of the honorary membership, the awards, and medals at the 1957 annual meeting. Mech Eng 80:88-96 Ja '58

ASME to make available translation of Russian scientific literature. Mech Eng 80:133 Mr '58

Annual meeting, New York, Dec. 1-6. Power Eng 62:90-1 Ja '58

Annual meeting, New York, Dec. 1-6; abstracts of papers. Am Mach 101:156-7 D 16 '57; Combustion 29:47-52 D '57; 56-9 Ja '58; Mech Eng 80:96-116 Ja '58

Annual meeting, New York, Dec. 1-5; program. Mech Eng 80:115-24 O '58

Annual report fiscal year Oct. 1, 1956-Sept. 30, 1957. Il map Mech Eng 80:1-29 sec 2 Ja '58

Fall meeting, Hartford, Sept. 22-25. Mech Eng 79:1036-90 N '57

1957 annual meeting papers availability list. Mech Eng 80:119-23 Ja '58

Petroleum mechanical engineering conference, 12th, Tulsa, Sept. 22-25. Mech Eng 79:1094-9 N '57

Power conference, 1st, Allentown, Oct. 20-23. Mech Eng 79:1192-4 D '57

Semi-annual meeting, Detroit, June 15-19. Mech Eng 80:110-16 Ag '58

Semi-annual meeting, Detroit, June 15-19; program. Mech Eng 80:130-4 My '58

Technology executives conference seeks to improve services to members. Mech Eng 80:136-40 Mr '58

Woman's auxiliary 34th annual meeting. New York, Dec. 1-6. Mech Eng 80:138-41 Ja '58

Gas turbine power division

Annual meeting, Washington, March 2-6. Mech Eng 80:132-5 Ap '58

Maintenance and plant engineering division

Annual meeting, Pittsburgh, April 14-15; with abstracts of papers. Plant 17:61-3 Je '58

Oil and gas power division

Annual conference and exhibit, 30th, Philadelphia, May 12-15. Mech Eng 80:100-3 Jl '58

Rubber and plastics division

Annual meeting, New York, Dec. 4-5; with abstracts of papers. Rubber Age 82:694 Ja '58; Rubber World 137:569-70 Ja '58

Meeting, Detroit, June 17; abstracts of papers. Rubber Age 83:678-9 Jl '58; Rubber World 138:754 Ag '58

AMERICAN society of naval engineers

A.S.N.E. award. Am Soc Naval Eng J 70:7-8 F '58

AMERICAN society of perfumers

Annual symposium on perfumery, 4th, New York, March 20. Am Perfumer & Aromatics 71:38-9 Ap '58

AMERICAN society of photogrammetry

Annual meeting, Washington, D.C. Eng N 160:23 Ap 3 '58

AMERICAN society of planning officials

Annual National planning conference, 49th, Washington, D.C. Arch Rec 124:34+ Jl '58

AMERICAN society of refrigerating engineers

ASHAE-ASRE merger. E. R. Queer. Heating-Piping 30:146 Mr; 134 Ap; 158 My; 138 Ja '58

ASRE financial statements, Sept. 1, 1956, through Aug. 31, 1957. Refrig Eng 66:52 D '57

Annual meeting, 54th, Minneapolis, June 23-25; technical program, abstracts of papers. Refrig Eng 66:40-9 Je; 50-5 Jl '58

By-laws (adopted by vote of membership and council, Nov. 14, 1957). Refrig Eng 66:55-9 Ja '58

Program committee adopts new plan for national meetings. F. Y. Carter. Refrig Eng 66:46+ Ap '58

Proposed merger with ASHAE. C. F. Holske. Refrig Eng 66:64 Jl '58

Report to members on the proposed merger of ASRE and ASHAE. H. F. Spoehrer. Refrig Eng 66:51-2 Mr; 50-1 Je '58

Semiannual meeting, 44th, Chicago, Nov. 14-16; program and abstracts of papers. Refrig Eng 66:51-62 O; 51+ N; 45-9 D '57

Some questions and answers regarding the proposed ASRE-ASHAE merger. Refrig Eng 66:46-7 Ag '58

Technical committees pace engineering progress. T. J. Ammel. Refrig Eng 66:55+ My '58

AMERICAN society of tool engineers

Annual meeting, Philadelphia, May 1-8. Mag of Stand 29:232-3 Ag '58

Annual meeting, 26th, Philadelphia, May 1-8; program. Tool Eng 40:132-5 Mr; 140-59 Ap '58

Annual meeting, 26th, Philadelphia, May 1-8; with abstracts of papers. Tool Eng 40:122-44 Je '58

Annual meeting, 26th, and tool show, Philadelphia, May 1-8. Automotive Ind 118:53+ Je 15 '58

Annual meeting, 26th, and tool show, Philadelphia, May 1-8; with program. Steel 142:153-4+ Ap 21 '50 My 12 '58

Annual meeting and tool show, 26th, Philadelphia, May 1-8; program and list of exhibitors. Iron Age 181:166-8+ Ap 24 '58

Annual report, 1958. Tool Eng 40:137-45 My '58

Guide to the 1958 tool show. Il plans diag Am Mach 102:173-205+ Ap 21 '58

1958 honor awards announced. Tool Eng 40:127-9 My '58

Petitions add six to directors slate. Tool Eng 40:128 Mr '58

Western industrial exposition and semiannual meeting, Los Angeles, Sept. 29-Oct. 3; program, floor plan, list of exhibitors, products. Tool Eng 41:125-52 S '58

AMERICAN standards association

Annual meeting, 39th, San Francisco, Nov. 13-15. Mag of Stand 28:355-6, 373-4 D '57

- AMERICAN standards association—Continued**
 Company member conference, Detroit, April 29-30; with abstracts of papers. *Mag of Stand* 29:168-74 Je '58
 National conference on standards, 8th, San Francisco, Nov. 13-15. *Mech Eng* 79:1184 D '57
 New officers and directors. *Mag of Stand* 29:48-50 F '58
- AMERICAN telephone and telegraph company**
 Annual meeting, New York, April 16. *Bell Lab Rec* 36:182-3 My '58
 Annual report cites gains in 1957; tells of Bell Laboratories research. *Bell Lab Rec* 36:131-2 Ap '57
 Bell System growth in 1957. F. R. Kappel. *Bell Lab Rec* 36:75 F '58
 Present and future of the Bell system. F. R. Kappel. *Bell Lab Rec* 36:91-4 Mr '58
- AMERICAN water works association**
 Abstract of policy statement regarding recreational use of domestic water supply reservoir. *Water & Sewage Works* 105:167 Ap '58
 AWWA and the importance of water metering. F. C. Amsbary, jr. *Water & Sewage Works* 104:529-30 D '57
 AWWA directory, membership list, etc. *Am Water Works Assn J* 49:1-186 pt 2 N '57
 AWWA directory, 1958, membership list. *Am Water Works Assn J* 50:1-236 pt 2 O '58
 AWWA public information program; Ad hoc committee report. *Am Water Works Assn J* 50:453-62 Ap '58
 AWWA water works advancement program. J. H. Murdoch, jr. *Am Water Works Assn J* 50:126-6 O '58
 AWWA's public information program. F. Merryfield. *Am Water Works Assn J* 50:1261-2 O '58
 Annual directors meeting. *Water & Sewage Works* 105:164-7 Ap '58
 Annual meeting, 77th, Atlantic City, May 12-17; with list of awards and papers. *Am Water Works Assn J* 49:1595-604 D '57
 Annual meeting, 78th, Dallas. *Civil Eng* 28:458 Je '58
 Annual meeting, 78th, Dallas. *Eng N* 160:25-6 My '58
 Annual meeting, 78th, Dallas, April 20-24; with abstracts of papers. *Water & Sewage Works* 105:196, 245-8, 282-5, 319-30 My-Ag '58; *Water Works Eng* 111:476-8+, 574-5 666-7 My-Jl '58
 Committee reports, publications, auditor's report, etc. *Am Water Works Assn J* 50:544-78 Ap '58
 Papers scheduled at 1957 section meetings. *Am Water Works Assn J* 49:1605-16 D '57
- AMERICAN welding society**
 Annual meeting, 39th, St. Louis, April 14-18; abstracts of papers. *Automotive Ind* 118:61-+, My 15 '58; *Metal Prog* 73:110-13-Je '58
 Annual meeting, 39th, St. Louis, April 14-18. *Welding Eng* 43:42-4 Je '58; *Welding J* 37:598-608 Je '58
 Annual spring meeting, St. Louis, April 14-18; program, exhibitors. *Welding J* 37:366-77 Ap '58
 Hoglund elected president; other elections. *Welding J* 37:493-5 My '58
 Presidential address. C. P. Sander. *Welding J* 37:603-6 Je '58
- AMERICAN window glass company**
 Merger with Blue Ridge sanctioned by court; American-Saint Gobain. *Glass Ind* 39:211 Ap '58
- AMEROTRON corporation**
 He put Amerotron in the black; Edmon G. Luke, J. Campbell. *Mod Textiles Mag* 39:29-30+ Jl '58
- AMES, Iowa**
 Sewerage
 Variation of sewage flow in a college town. G. D. Hutchinson and E. R. Baumann. *Bibliog Sewage & Ind Wastes* 30:157-63 F '58
 Water supply
 Relationships of temperature and air-conditioning water use. H. F. Seidel and J. M. Carpenter. *Am Water Works Assn J* 50:228-32 F '58
- AMICETIN.** See Antibiotics
- AMIDES**
 Activation energies of the hydrolysis of esters and amides involving carbonyl oxygen exchange. M. L. Bender and others. *Bibliog Am Chem Soc J* 80:1044-8 Mr '58
 Acyl amides as epimerization reagents. F. C. Chang and R. T. Blickenstaff. *Bibliog Am Chem Soc J* 80:2906 Je '58
 Acylation of amides. D. Davidson and H. Skovronek. *Bibliog Am Chem Soc J* 80:376-9 Ja '58
 Intramolecular reactions of secondary carbamate nitrosoamides. E. H. White and C. A. Aufdermaur, jr. *Am Chem Soc J* 80:2567-8 My '58
 Pteridines; a synthesis of 2-aminopyrazine-3-carboxamides by reductive ring cleavage of 3-hydroxy-1-pyrazolobipyrazines. E. C. Taylor and others. *Bibliog Am Chem Soc J* 80:421-7 Ja '58
 Pyrolysis of polyamides. S. Straus and L. A. Wall. *Bibliog J Res Nat Bur Stand* 60:39-45 Ja '58
 Some *N*-disubstituted amides of long-chain fatty acids as vinyl plasticizers. F. C. Magne and others. *Ind & Eng Chem* 50:617-18 Ap '58
 See also
 Butyramide
 Carbutamide
 Formamide
 Sodium amide
- Analysis**
 Potentiometric determination of amides in acetic anhydride. D. C. Wimer. *Bibliog* (43 ref) *Anal Chem* 30:77-80 Ja '58
 Two tests for detecting nitriles and amides. S. Trofimenko and J. W. Sease. *Bibliog Anal Chem* 30:1432-4 Ag '58
- AMIDINES**
 Amidines of certain substituted triphenyl-ethylenes. R. E. Allen and others. *Bibliog Am Chem Soc J* 80:591-3 F '58
 Reaction of α -ethoxymethylencarboxylic esters with some cyclic amidines. H. Antaki. *Bibliog Am Chem Soc J* 80:3066-9 Je '58
- AMIDOXIMES**
 Antihypertensively active amidoximes. R. P. Mull and others. *Bibliog Am Chem Soc J* 80:3769-72 Jl '58
- AMINATION**
 Chemical engineering unit processes; amination by reduction. J. Werner. *Bibliog Ind & Eng Chem* 50:1328-9 pt 2 S '58
- AMINE oxidase**
 Effect of 1-phenyl-2-hydrazinopropane, a potent monoamine oxidase (MAO) inhibitor, on brain levels of norepinephrine and serotonin. J. H. Biel and others. *Bibliog Am Chem Soc J* 80:1519 Mr '58
- AMINE oxides**
 Amine oxides; cyclic quaternary salts and their decomposition. V. Boekelheide and W. Feely. *Bibliog Am Chem Soc J* 80:2217-20 My '58
 Amine oxides; olefins from *N,N*-dimethyl-menthylamine and *N,N*-dimethylneomenthylamine oxides. A. C. Cope and E. M. Acton. *Bibliog Am Chem Soc J* 80:355-9 Ja '58
- AMINES**
 Acid-base equilibrium constants for 2,4-dinitrophenol and some aliphatic amines in non-aqueous solvents. R. G. Pearson and D. C. Vogelsong. *Bibliog Am Chem Soc J* 80:1038-43 Mr '58
 Aeration of natural rubber latex; effect of polyamines on the hardness and aging characteristics of aerated latex rubber. B. C. Sekhar. *Bibliog Rubber Chem & Tech* 31:425-9 Jl '58
 Amine-thioglycolate-ammonia system for cold permanent waving. R. Heilengotter and R. Komarony. *Bibliog Am Perfumer & Aromatics* 71:31-2 My '58
 Amines may upset pregnancy; abstract. M. X. Sullivan and J. A. Rivera. *Chem & Eng N* 36:50 S '58
 Aqueous-amine acid-removal process needn't be corrosive. J. S. Connors. *Bibliog flow diag diag Oil & Gas J* 56:100-2+ Mr '58
 Aryl boronic acids; aryl boronic anhydrides and their amine complexes. H. R. Snyder and others. *Bibliog Am Chem Soc J* 80:3611-15 Jl '58
 Chemistry of derivatives of 2-benzaltralone; reaction of 2-bromo-4,4-dimethyltralonones with amines; endocyclic eliminations. A. Hassner and N. H. Cromwell. *Bibliog Am Chem Soc J* 80:901-5 F '58
 Colour formation with *para* phenylene diamine inhibitors. G. E. Mapstone and A. Hay. *Inst Pet J* 44:257-8 Ag '58
 Comparison of the reactions of some amines with nitrosoguanidines, cyanamide and 8-methylsulthiurea hydrochlorides. J. P. Horwitz and C. C. Rila. *Bibliog Am Chem Soc J* 80:431-7 Ja '58
 Corrosion in amine gas treating solutions. F. S. Lang and J. F. Mason, jr. *Bibliog Ind Corrosion* 14:65-8 F '58

AMINES—Continued

- Corrosion inhibition by organic amines. H. Kaesche and N. Hackerman. *bibliog diag Electrochem Soc J* 105:191-8 Ap '58
- Dibromamine; ultraviolet absorption spectra and polarographic studies. J. K. Johansson. *Chem & Ind* 197-3 Ja 25 '58
- Effect of amines on polarization of iron electrodes. A. F. Schram and L. R. Burns. *bibliog diag Electrochem Soc J* 105:241-5 My '58
- Effect of amines on the catalytic hydrogenation of chlorobenzene. E. R. A. Peeling and D. K. Shipley. *Chem & Ind* p362-3 Mr 22 '58
- Effect of solvent on the catalytic activity of aliphatic amines in elimination reactions. R. G. Pearson and D. C. Vogelsson. *Am Chem Soc J* 80:1048-50 Mr 5 '58
- Free radical addition of amines to olefins. W. H. Urry and O. O. Juveland. *bibliog Am Chem Soc J* 80:3322-8 Jl 5 '58
- Glycol-amine gas treating. flow sheet Pet Eng 30:C40a-40b Je '58
- Hypotensive agents; acetylenic diamines. J. H. Biel and E. Di Piero. *bibliog Am Chem Soc J* 80:4609-18 S 5 '58
- Inorganic complex compounds containing polydentate groups; reaction of complexes of cobalt(II) and quadridentate amines with hydroxide ions. H. B. Jonassen and G. T. Strickland. *bibliog Am Chem Soc J* 80:312-15 Ja 20 '58
- Interaction of metal ions with heterocyclic amines; silver(I) complexes. W. J. Peard and R. T. Pfaff. *bibliog Am Chem Soc J* 80:1593-6 Ap 5 '58
- Interaction of primary amines and boron trichloride. W. Gerard and E. F. Mooney. *Chem & Ind* p 1259 S 27 '58
- New Lone Star Gas treating plant will use hot potash-amine method. *diag Gas Age* 121:39-1 F 20 '58
- Nitrosation and nitration of amines and alcohols with nitrogen tetroxide. E. H. White and W. R. Feldman. *Am Chem Soc J* 79:5832-3 N 5 '57
- Optimum aromatic amine-hardened epoxy-glass laminates. H. Raech, Jr. and F. F. Harris. *bibliog II diag Plastics Tech* 4:448-5 My '58
- Organic sulfides and polysulfides; reactions with amines. Y. Minoura. *Rubber Chem & Tech* 31:615-17 Jl '58
- Oxidation of tertiary amines; abstract. H. B. Henbest. *Chem & Ind* p246-7; Discussion. 247 Mr 1 '58
- Polarography in acetonitrile; Brønsted acids; amperometric titration of amines with perchloric acid; oxygen. J. F. Coetzee and I. M. Kolthoff. *bibliog Am Chem Soc J* 79:6110-15 D 5 '57
- Quaternization kinetics; di-tertiary amines with butyl bromide in propylene carbonate. L. Y. Chow and R. M. Fuoss. *bibliog Am Chem Soc J* 80:1095-100 Mr 5 '58
- Rates, products and salt effects in the reactions of 2,4-dinitrochlorobenzene with amines in chloroform and in ethanol. S. D. Ross and M. Finkelstein. *bibliog Am Chem Soc J* 79:6547-54 D 20 '57
- Reaction of epichlorohydrin with secondary amines. D. L. Heywood and B. Phillips. *bibliog Am Chem Soc J* 80:1257-9 Mr 5 '58
- Reaction of 5-ethoxymethylenerhodanines with amines. C. P. Lo. *Am Chem Soc J* 80:3466-8 Jl 5 '58
- Reactions of amines; pyrolysis of N-alkylacetamides. H. E. Baumgarten and others. *bibliog Am Chem Soc J* 80:4588-93 S 5 '58
- Restricted rotation in aryl amines; effect of 3-substituents on the optical stability of some N-benzenesulfonyl-N-carboxymethylmesidines. R. Adams and J. S. Dix. *Am Chem Soc J* 80:4579-81 S 5 '58
- Restricted rotation in aryl amines; N-benzenesulfonyl-N-carboxymethyl-3-amino-2,4,6-trimethylpyridine and its N-oxide. R. Adams and J. S. Dunbar. *Am Chem Soc J* 80:3649-51 Jl 20 '58
- Solubility of long-chain amines in water. D. J. Brown. *J Colloid Sci* 13:286-7 Je '58
- Solvolysis of alkyl borates; catalysis by amines and phenols. C. L. Denson and T. I. Crowell. *bibliog Am Chem Soc J* 79:5656-8 N 5 '57
- Some new amebicidal diamines. O. E. Fancher and others. *bibliog Am Chem Soc J* 80:1461-6 Mr 20 '58
- Stereochemistry of conjugate additions; a study of the addition of amines to (2-nitropropenyl)-benzene. P. L. Southwick and J. E. Anderson. *bibliog Am Chem Soc J* 79:6222-9 D 5 '57
- Sulfonium analogs of pharmacologically active amines; the synthesis of α -(10-phenothiazinyl)-alkyl-dialkylsulfonium halides and 2'-(10-phenothiazinecarboxy)-ethyl-dialkylsulfonium halides. S. O. Winthrop and M. A. Davis. *bibliog Am Chem Soc J* 80:4331-3 Ag 20 '58
- Syntheses and infrared spectra of α,β -unsaturated β -ketoamines and their copper chelates. H. F. Holtzclaw, Jr. and others. *Am Chem Soc J* 80:1100-3 Mr 5 '58
- Synthesis of long chain fatty acid amines of sphingosine and dihydrospingosine. E. Weiss and P. Raizman. *bibliog Am Chem Soc J* 80:4657-8 S 5 '58
- Tertiary carbinols of the piperazine series; reaction of 1,1-diphenylethylene oxide with piperazines and other polyamines. H. E. Zaugg and R. J. Michaelis. *Am Chem Soc J* 80:2770-3 Je 5 '58
- Unsaturated amines; steric requirements of mercuric acetate oxidation of tertiary amines. N. J. Leonard and D. F. Morrow. *bibliog Am Chem Soc J* 80:371-5 Ja 20 '58
- Unsaturated amines; the course of formic acid reduction of enamines. N. J. Leonard and R. R. Sauer. *bibliog Am Chem Soc J* 79:6210-14 D 5 '57
- Unsaturated aromatic amines; a novel synthesis of indoles. J. E. Hyre and A. R. Bader. *bibliog Am Chem Soc J* 80:437-9 Ja 20 '58
- Urea sulfate complexes from tri-n-octyl-amine extraction equilibria. K. A. Allen. *bibliog Am Chem Soc J* 80:4133-7 Ag 20 '58
- See also
Ethylene diamine
Methylamine
Vinylamine
- Analysis
- Colorimetric estimation of tertiary and quaternary amines. S. Sass and others. *bibliog Anal Chem* 30:529-31 Ap '58
- Determination of bis-(beta-chloroethyl) amines and related compounds with 8-quinolinol. E. G. Trams. *bibliog Anal Chem* 30:256-9 F '58
- Potentiometric titration of free amine and amine carbonate in carbonated monoethanolamine solutions. Y. C. Chang. *bibliog Anal Chem* 30:1095-7 Je '58
- Tetraphenylborate spot test for detection of amines and their salts. F. E. Crane, Jr. *bibliog Anal Chem* 30:1426-9 Ag '58
- AMINO acid anhydrides. See Anhydrides
- AMINO acid oxidases
Use of amino acid oxidases for the small-scale preparation of the optical isomers of amino acids. J. R. Parikh and others. *bibliog Am Chem Soc J* 80:953-8 F 20 '58
- AMINO acids
Absorption by immature and adult rats of amino acids from raw and autoclaved fresh pork. P. Wheeler and A. F. Morgan. *bibliog J Nutrition* 64:137-50 Ja '58
- Acute reduction in plasma amino acids by carbohydrate infusion in diabetes and liver disease. M. E. Rubini and D. Seligson. *bibliog Am J Clinical Nutrition* 6:365-75 Jl '58
- Amino acid adequacy of milo (grain sorghum) for the growth of rats. W. G. Pond and others. *bibliog J Nutrition* 65:493-502 Ag '58
- Amino acid composition of keratins; comparison of the chemical composition of merino wools of differing crimp with that of other animal fibers. D. H. Simmonds. *bibliog Textile Res J* 28:314-17 Ap '58
- Amino acid requirements of adults. M. S. Reynolds. *bibliog Am J Clinical Nutrition* 6:439-42 Jl '58
- Amino acid sequence in the region of disopropyl phosphoryl binding in diisotrypsin. G. H. Dixon and others. *bibliog Am Chem Soc J* 80:1260-1 Mr 5 '58
- Amino acids. A. F. McKay and others. *bibliog Am Chem Soc J* 80:3335-42 Jl '58
- Amino acids; preparation and chemistry of α -carboxyalkyl isothiocyanates. D. L. Garmaise and others. *bibliog Am Chem Soc J* 80:332-4 Jl 5 '58
- Availability to man of amino acids from foods. H. Linkswiler and others. *bibliog J Nutrition* 65:441-68 Jl '58
- Calcium chloride and hydroxyl ion catalyzed hydrolysis of several acylated α -amino acid esters. R. B. Martin and C. Niemann. *Am Chem Soc J* 79:5828 N 5 '57
- Cystine, tyrosine, and essential amino acid content of selected foods of plant and animal origin. C. H. Edwards and C. H. Allen. *bibliog J Agri & Food Chem* 6:219-23 Mr '58

AMINO ACIDS—Continued

- Desalting amino acid solutions by displacement with piperidine, D. L. Buchanan, *bibliog Anal Chem* 29:1377-8 D '57
- Determination of end point in extraction of free amino acids from potatoes, E. A. Talley and others, *bibliog J Agri & Food Chem* 6:608-10 A '58
- Effect of variety, location, and years on the protein and amino acid content of dried beans, E. M. Lantz and others, *bibliog J Agri & Food Chem* 6:53-60 Ja '58
- Electrodialysis using ion-exchange membranes; demineralization of solutions containing amino-acids, A. M. Peers, *diags J Ap Chem* 8:59-67 Ja '58
- Exchange properties of the tetracyanonickelate ion with certain amino acid complexes of nickel(II), R. C. Calkins and N. F. Hall, *bibliog Am Chem Soc J* 80:5028-31 O 5 '58
- Formation of α -imino acids in the enzymatic oxidation of amino acids, E. M. Pitt, *bibliog Am Chem Soc J* 80:3798-800 J 20 '58
- Free amino acids of certain fruits; abstract, L. F. Burroughs, *Chem & Ind* p483; Discussion, 483-4 A 26 '58
- Incorporation of the amino acid moieties of amino acid-adenylic acid anhydrides into proteins, P. Castelfranco and others, *bibliog Am Chem Soc J* 80:2335 My 5 '58
- Interactions of amino acids with deoxyribonucleic acid (DNA), C. D. Jardeitzky, *bibliog Am Chem Soc J* 80:1125-7 Mr 5 '58
- Isolation, characterization and amino acid sequence of a melanocyte-stimulating hormone from bovine pituitary glands, I. I. Geschwind and others, *bibliog diag Am Chem Soc J* 79:6394-401 D 20 '57
- Nature of amino acids in solvents of low dielectric, G. M. Barrow, *Am Chem Soc J* 80:86-8 Ja 5 '58
- Polypeptides; a kinetic study of the polymerization of amino acid N-carboxyanhydrides initiated by strong bases, M. Idelson and E. R. Blout, *bibliog Am Chem Soc J* 80:2387-93 My 20 '58
- Reaction of acylamino acids with paraformaldehyde, D. Ben-Ishai, *Am Chem Soc J* 79:5736-8 N 5 '57
- Reversibility of amino acid incorporation into ribonucleic acid, E. Glassman and others, *bibliog Am Chem Soc J* 80:4427-8 Ag 20 '58
- Separation and amino acid composition of a pure phosphopeptide prepared from β -casein by the action of trypsin, R. F. Peterson and others, *bibliog Am Chem Soc J* 80:95-9 Ja 5 '58
- Significance of amino acid imbalance in nutrition, W. D. Salmon, *Am J Clinical Nutrition* 6:487-94 *bibliog* (p493-4) S '58
- Studies of amino acid diets for the chick, M. R. S. Fox and others, *bibliog J Nutrition* 64:475-82 Mr '58
- Studies on diastereomeric α -amino acids and corresponding α -hydroxy acids, configuration of the isomeric γ -hydroxyglutamic acids, L. Benoit and others, *bibliog Am Chem Soc J* 79:6192-8 D 5 '57
- Studies on polypeptides: the synthesis of a pentapeptide corresponding to an amino acid sequence present in corticotropin and in the melanocyte stimulating hormones, K. Hofmann and others, *bibliog Am Chem Soc J* 80:1486-9 Mr 20 '58
- Supplementation of diets with proteins and amino acids, N. W. Wood, *bibliog diag Am J Pub Health* 48:1315-22 O '58
- Synthesis of amino acids catalyzed by amino acid oxidases, A. N. Radhakrishnan and A. Meister, *bibliog Am Chem Soc J* 79:5828-9 N 5 '57
- t-butylloxycarbonylamino acids and their use in peptide synthesis, G. W. Anderson and A. C. McGregor, *bibliog Am Chem Soc J* 79:6180-3 D 5 '57
- Thermodynamics of ionization of amino acids; the first ionization constants of some glycine peptides, E. J. King, *bibliog Am Chem Soc J* 79:6151-6 D '57
- Three Schiff base types formed by amino acids, peptides and proteins with pyridoxal and pyridoxal-5-phosphate, H. N. Christensen, *bibliog Am Chem Soc J* 80:99-105 Ja 5 '58
- Use of amino acid oxidases for the small-scale preparation of the optical isomers of amino acids, J. R. Parikh and others, *Am Chem Soc J* 80:953-8 F 20 '58
- Use of N-formylamino acids in peptide synthesis, J. C. Sheehan and D. D. H. Yang, *bibliog Am Chem Soc J* 80:1154-8 Mr 5 '58
- See also
- Cystine
- Glutamic acid
- Isoleucine
- Lysine
- Methionine
- Serine
- Analysis
- Accuracy of quantitative paper chromatography in amino acid determination using direct photometry, H. R. Roberts and M. G. Kolor, *bibliog Anal Chem* 29:1800-2 D '57
- Amino acid analysis by reactor-gas chromatography, A. Zlatkis and J. F. Oro, *Anal Chem* 30:1156 Je '58
- Amino acid analyzer coming, *il Chem & Eng N* 36:60-2 My 5 '58
- Amino acid composition of fractionated cortical cells from wool, D. H. Simmonds and J. B. Batulovich, *bibliog Textile Res J* 28:378-81 My '58
- Amino acids in treated sewage in India, C. A. Sastry and others, *bibliog Sewage & Ind Wastes* 30:1241-7 O '58
- Automatic equipment for determination of amino acids separated on columns of ion exchange resins, D. H. Simmonds, *bibliog il diags Anal Chem* 30:1043-9 Je '58
- Automatic recording apparatus for use in the chromatography of amino acids, D. H. Spackman and others, *bibliog diags Anal Chem* 30:1190-206 J 1 '58
- Chromatography of amino acids on sulfonated polystyrene resins, S. Moore and others, *bibliog diag Anal Chem* 30:1185-90 J 1 '58
- Faster amino acid analysis; abstract, J. B. Himes and L. D. Metcalfe, *il Chem & Eng N* 36:80 S 22 '58
- Ion exchange chromatography of amino acids; effect of resin particle size on column performance, P. B. Hamilton, *bibliog Anal Chem* 30:914-19 My '58
- Spectra
- Raman spectra of amino acids and related compounds, D. Garfinkel and others, *bibliog Am Chem Soc J* 80:3807-31 A 5 '58
- AMINOANTHRAQUINONE
- Studies on aminoanthraquinone compounds, G. Egerton and A. G. Roach, *bibliog Soc Dyers & Col J* 74:401-20 My '58
- Spectra
- Studies on aminoanthraquinone compounds; absorption spectra in solution and in the solid state, G. S. Egerton and A. G. Roach, *bibliog Soc Dyers & Col J* 74:401-7 My '58
- AMINO BENZOIC ACID
- Interaction of DPN⁺ with *p*-aminobenzoic acid and analogous compounds, A. L. Guardiola and others, *bibliog Am Chem Soc J* 80:418-21 Ja 20 '58
- Local anesthetics; monoalkylamino-4-alkoxy-3-aminobenzoates and 3-alkoxy-4-aminobenzoates, M. Freifelder and others, *Am Chem Soc J* 80:4320-3 Ag 20 '58
- AMINO BIPHENYL. See Diphenylamine
- AMINO BUTYRIC ACID
- Synthesis of α -amino- γ -halogenobutyric acids; a new synthesis of DL-homoserine, M. Frankel and Y. Knobler, *bibliog Am Chem Soc J* 80:3147-7 Je 20 '58
- AMINO COMPOUNDS
- Amino-hexose-reductones as antioxidants, C. D. Evans and others, *bibliog Am Oil Chem Soc J* 35:84-8 F '58
- Development of color in fats stabilized with amino-hexose-reductones, E. M. Cooney and others, *bibliog diag Am Oil Chem Soc J* 35:167-71 Ap '58
- Electrolytic reduction of 2-amino-4-chloropyrimidine, 2-amino-4-chloro-6-methylpyrimidine, and 2-aminopyrimidine, K. Sugino and others, *diag Electrochem Soc J* 104:667-72 N '57
- Threshold and toxic limits of some amino and nitro compounds, I. Pascari and others, *bibliog A M A Archives Ind Health* 18:1-8 J 1 '58
- AMINOETHANOL. See Ethanolamine
- AMINOETHYLISOTHIUREA
- Ion exchange studies of transguanylation reactions; rearrangement of S,2-aminoethylisothiurea to 2-mercaptoethylguanidine and 2-aminothiazoline, J. K. Khym and others, *bibliog Am Chem Soc J* 79:5663-6 N 5 '57
- AMINOETHYLTHIOURONIUM. See Thiouronium compounds

AMINOHYDROXYBUTYRIC acid

Synthesis of α -amino- γ -halogenobutyric acids; a new synthesis of DL-homoserine. M. Frankel and Y. Knobler. *bibliog Am Chem Soc J* 80:3147-9 Je 20 '58

AMINOKETONES. See Ketones**AMINONICOTINAMIDE**

Behavioral changes in rats and guinea pigs induced by the administration of indole 3-acetic acid and 6-aminonicotinamide. W. T. Sullivan and L. M. Strong. *bibliog J Nu-trition* 66:199-209 Je '58

AMINONICOTINONITRILE

Dimerization of 2-aminonicotinonitrile. E. C. Taylor and others. *bibliog Am Chem Soc J* 80:427-31 Ja 20 '58

AMINOPHENOLS

Studies on oxidation-reduction mechanism; the anodic oxidation of p -aminophenol. W. K. Sneed and A. E. Remick. *bibliog diag Am Chem Soc J* 79:6121-7 D 5 '57

AMINOPHENYLBUTANE

Deamination of 2-amino-3-phenylbutane-1- C^{14} with nitrous acid. W. A. Bonner and D. D. Tanner. *Am Chem Soc J* 80:1447-51 Mr 20 '58

AMINOPROPANOL

3-Amino-1-propanol as a complexing agent in the determination of total gossypol. W. A. Pons, Jr. and others. *bibliog Am Oil Chem Soc J* 35:93-7 F '58

Molecular rearrangements of p -aminopropanol of 1,1-diphenyl-2-amino-1-propanol. B. M. Benjamin and others. *bibliog Am Chem Soc J* 79:6160-4 D 5 '57

AMINOPROPIONITRILE

Continuous high pressure synthesis of 3-aminopropionitrile. E. M. Smolin and L. C. Beagle. *bibliog flow diag Ind & Eng Chem* 50:1115-18 Apr '58

Identification of cyanoacetic acid as a metabolite of β -aminopropionitrile (BAPN) and other nitriles. S. H. Lipton and others. *Am Chem Soc J* 80:2022-3 Ap 20 '58

AMINOPURINE

Purine N-oxides; mono-oxides of aminopurines. M. A. Stevens and others. *bibliog Am Chem Soc J* 80:2755-8 Je 5 '58

Synthesis of 9-(3-amino-3-deoxy- β -D-xylofuranosyl)-6-dimethylaminopurine, an analog of the aminonucleoside derived from puromycin. R. E. Schaub and others. *bibliog Am Chem Soc J* 80:4632-7 S 5 '58

AMINOPYRIDINE

Reaction of 2-aminopyridine with α -halo ketones. R. Adams and J. S. Dix. *bibliog Am Chem Soc J* 80:4618-20 S 5 '58

AMINOQUINOLINE

Amino derivatives of nitrohalcones; a new synthetic method for 3-aminoquinolines. N. H. Cromwell and G. D. Mercer. *bibliog Am Chem Soc J* 79:6201-3 D 5 '57

AMINOTHIAZOLINE

Ion exchange studies of transquanylation reactions; rearrangement of S,2-aminoethylisothiourea to 2-mercaptopethylguanidine and 2-aminothiazoline. J. X. Khym and others. *bibliog Am Chem Soc J* 79:5663-6 N 5 '57

Ion exchange studies of transquanylation reactions; rearrangement of 3-aminopropylisothiourea and N-substituted aminoethyl- and aminopropylisothioureas to mercaptoalkylguanidines and 2-aminothiazolines or pen-thiazolines. J. X. Khym and others. *bibliog Am Chem Soc J* 80:3342-9 Jl 5 '58

AMINOTHIOPHENE. See Thiophene**AMINOTRIAZOLE**

Kinetics of the isomerization of substituted 5-amino-1,2,3-triazoles. E. Lieber and others. *bibliog Am Chem Soc J* 79:5962-7 N 20 '57

AMMANN, Othmar Hermann

Artist in steel design. L. A. Volse. *pers Eng N* 160:136+, cover My 15 '58

AMMETERS

Ammeter speeds test of street light circuit. G. R. Roberts. *il Elec World* 149:54 My 26 '58

Clamp-on microammeter measures a-c current. G. F. Montgomery and C. Stansbury. *il diags Electronics* 30:162-3 D 1 '57

Clamp-type ac microammeter. *il diag Elec-tronic Ind* 17:32-3 F '58

Electrical testing. S. Kalifon. *diags Wire & Wire Prod* 33:533-4 My '58

Microammeter covers wide frequency range. *diag Elec World* 149:104 Je 23 '58

Micromicroammeter for satellites. *il diag Electronics* 31:114-15 S 12 '58

Tips on connecting ammeters and voltmeters. N. Peach. *diags Power* 102:124-5 Je '58

Transistorized ac microammeter uses clamp-type pickup probe. *il diag Machine Design* 30:160-1 F 20 '58

Transistors in measuring instruments; clamp-type microammeter developed for high frequencies. E. J. Peterman. *il diag Elec Manuf* 61:142-3 F '58

AMMINES

Acid hydrolysis (aquation) of the trichloro-ammineplatinate(II) ion. T. S. Elleman and others. *Am Chem Soc J* 80:536-41 F 5 '58

Preparation and properties of hexamminecobalt(III) borohydride, hexamminechromium(III) borohydride, and ammonium borohydride. R. W. Parry and others. *bibliog diag Am Chem Soc J* 80:1-3 Ja 5 '58

Structure of some aquated dicyanoammine-nickel(II) clathrates. R. S. Drago and others. *bibliog Am Chem Soc J* 80:2667-70 Je 5 '58

Spectra

Infrared absorption studies of inorganic coordination complexes; hexamminecobalt(II) halides and diamminemercury(II) halides. E. P. Bertin and others. *bibliog Am Chem Soc J* 80:525-7 F 5 '58

AMMONIA

Amine-thioglycolate-ammonia system for cold permanent waving. R. Hellingotter and R. Komarony. *bibliog Am Perfumer & Aromatics* 71:31-2 My '58

Ammonia floods West. *Chem & Eng N* 36:34-5 O 6 '58

Boon to fertilizer makers; two ammoniating solutions by Spencer. *Chemical. Chem & Eng N* 36:65-4 S 29 '58

Case of the freezing cooler and ammonia in the brine. C. T. Baker. *Power Eng* 62:82 Jl '58

Chemical evidence for the structure of the diammoniate of diborane. D. R. Schultz and others. *bibliog Am Chem Soc J* 80:4-24 Ja 5 '58

Corrosion rates of mild steel in $\text{NH}_4\text{NO}_3\text{-NH}_3\text{-H}_2\text{O}$ solutions. N. Hackerman and others. *il Corrosion* 14:57-9 Ap '58

Determination of total chlorine in pesticides by reduction with a liquid anhydrous ammonia-sodium mixture. H. F. Beckman and others. *bibliog diag J Agri & Food Chem* 6:104-5 F '58

Goodbye to ammonia fumes in the print room. H. Johnson. *il diag Product Eng* 29:74-5 Jl 21 '58

Liquid ammonia recirculation application. W. C. Matthews. *Refrig Eng* 66:62-3 Ja '58

Lower hydrides of phosphorus; the decomposition of biphosphine in liquid ammonia. E. H. Street, Jr. and others. *bibliog Am Chem Soc J* 80:1819-22 Ap 20 '58

Measuring flow efficiencies by ammonia displacement. J. N. White. *diags Pet Eng* 30: D29-31 My '58

Molecular weight measurements in liquid ammonia; the molecular weights of the methylamine-boranes, the diammoniate of diborane, ammonia-boron trifluoride, and other substances. R. W. Parry and others. *bibliog Am Chem Soc J* 80:24-7 Ja 5 '58

Natural gasoline; Wellman plant uses ammonia cycle. J. A. Newsome, Jr. flow sheet. *Pet Refiner* 37:147-8 Ap '58

Organic sulfides and polysulfides; reactions with hydrazine, ethylenediamine and ammonia. Y. Minoura. *bibliog Rubber Chem & Tech* 31:612-14 Jl '58

Phase separation in metal-ammonia solutions. K. S. Pitzer. *bibliog Am Chem Soc J* 80:5046-7 O 5 '58

Raman spectroscopy in liquid ammonia solutions; the spectrum of the borohydride ion and evidence for the constitution of the diammoniate of diborane. R. C. Taylor and others. *Am Chem Soc J* 80:27-30 Ja 5 '58

Simultaneous distillation of ammonia and separation of copper from nickel-bearing solutions. V. N. Mackay and others. *bibliog flow diags il diag Chem Eng Prog* 54: 79-85 Mr '58

Some ionic free energies in liquid ammonia. K. Schug and H. L. Friedman. *bibliog Am Chem Soc J* 80:45-9 Ja 5 '58

They burn ammonia: Atlas Powder's nitric acid plant. *il Power Ind* 74:14-15 Apr '58

Twin cavity for NH_3 masers. J. Bonanomi and others. *R Sci Instr* 28:879-81 N '57

Analysis

Determination of ammonia with cupric carbonate. R. C. Blinn and F. A. Gunther. *Anal Chem* 29:1882-3 D '57

Evaluating concentrations of spectrally absorbing vapors in dynamic systems; spectrophotometric techniques and equipment. F. A. Gunther and others. *bibliog il diags Anal Chem* 30:1089-95 Je '58

AMMONIA—Continued

Manufacture

- Ammonia; Chemical construction corp. flow diag Pet Refiner 36:211 N '57
- Ammonia (Claude process); flow diag Pet Refiner 36:212 N '57
- Ammonia; Fluor corp. flow diag Pet Refiner 36:213 N '57
- Ammonia; Foster Wheeler corp. flow diag Pet Refiner 36:214 N '57
- Ammonia from fuel oil; Canadian industries limited, il Can Chem Process 42:64-7 Mr '58
- Ammonia; M. W. Kellogg co. flow diag Pet Refiner 36:215 N '57
- Ammonia (Ude); Arthur G. McKee & co. flow diag Pet Refiner 36:216 N '57
- Heavy water ammonia plant by-product, flow sheet Chem Eng Prog 54:130-4 S '58
- pH controls up output and lower cost in nitrate processing, C. G. Campbell and others, diags J S A J 5:52-6 J '58
- NH₃ and the steel industry, J Agri & Food Chem 6:13 Ja '58
- Now, ammonia by automation, S. Bresler, il Pet Refiner 37:235-7 My '58
- Operators report on safety in air and ammonia plants; panel discussion, diags Chem Eng Prog 54:35-44 J '58
- Synthesis gas from methane, W. Weinrich, il Pet Eng 29:C62 N '57
- Unhoused compressor plant, Standard oil co. of California's synthetic ammonia plant, D. H. Stormont, il Oil & Gas J 55:85 N 25 '57

AMMONIUM chloride

Analysis

- Spectrochemical determination of trace impurities in commercial grade ammonium chloride, K. W. Beyer and O. T. Aeppli, Anal Chem 29:1779-80 D '57

AMMONIUM compounds

- Behavior of ammonium aurintricarboxylate as a colloidal electrolyte, A. K. Mukherji and A. K. Dey, bibliog J Colloid Sci 13:39-102 F '58
- Metabolic fate of carbon-14-labeled trimethylalkyl ammonium stearate, M. S. Mameesh and others, J Agri & Food Chem 6:619-20 Ag '58
- Polarography at very negative potentials; improvement of polarograms by use of N,N-dimethylformamide and tetrabutylammonium iodide, F. L. Lambert, bibliog Anal Chem 30:1018 My '58
- Potentiation of liveweight gain in chicks by trimethylalkylammonium stearate, A. N. Worden, bibliog Chem & Ind p 1115-16 Ag 23 '58
- Preparation and properties of tetraalkylammonium hexacyanocobaltates (III) and hexacyanoferrates (III), B. Jaselskis and H. Diehl, Am Chem Soc J 80:4197-8 Ag 20 '58
- Resolution of acid mixtures in nonaqueous solvents; potentiometric titration of dibasic acids with quaternary ammonium titrants, G. A. Harlow and G. E. A. Wyld, bibliog Anal Chem 30:69-72 Ja '58
- Salts determined in nonaqueous solutions; use of quaternary ammonium hydroxide titrant; abstract, R. H. Cundiff and P. C. Markunas, Chem & Eng N 36:55 S 15 '58
- Substitution reactions of Reinecke's salt, A. W. Adamson, bibliog Am Chem Soc J 80:3183-9 J 15 '58
- Synthesis of quaternary fluorometallates in methanol, H. M. Haendler and others, bibliog Am Chem Soc J 80:2662-4 Je 5 '58
- Titration of acids in nonaqueous solutions; an improved quaternary ammonium hydroxide titrant for strong acids, R. H. Cundiff and P. C. Markunas, Anal Chem 30:1450-2 S '58
- Titration of acids in nonaqueous solutions with tetrabutylammonium hydroxide; reaction of solvents with strong acids, R. H. Cundiff and P. C. Markunas, Anal Chem 30:1447-9 S '58
- Triphenylammonium salts, D. W. A. Sharp, Chem & Ind p 1235-6 S 20 '58
- Versatile cationic surfactants, C. C. Campbell, il Soap & Chem Spec 34:59-60 S '58
- AMMONIUM fluoride**
- NH₄F, versatile reagent for zirconium fuels, A. T. McCord and D. R. Spink, il Nuclear 16:94-4 F '58
- AMMONIUM nitrate**
- Ambidextrous ammonium nitrate; primary ingredient in a blasting agent, il Ind & Eng Chem 50:sup36A F '58
- Ammonium-nitrate blasting agents; abstract, F. W. Parrott, Coal Age 62:166-4 D '57
- At Berkeley pit, blasting is an art, J. B. Hutt, il diags Eng & Min J 158:107-10 D '57
- Blasting with ammonium nitrate, D. Tikker, il Min Cong J 44:80-2 J '58
- Blasting with fertilizer helps build a pipeline in rough country, il Oil & Gas J 56:78-9 Ja 20 '58
- Corrosion rates of mild steel in NH₄NO₃-NH₃-H₂O solutions, N. Hackerman and others, il Corrosion 14:57-9 AP '58
- Explosive decomposition of ammonium nitrate; abstract, S. Pawlikowski and A. Kawinski, Ind Chem 34:150-1 Mr '58
- Hanna ammonium nitrate blasting system, J. Hyslop, il Min Cong J 44:39-41 Ag '58
- Here's how we do it; ammonium nitrate for use in blasting at the Utah Copper pit of Kennecott copper corp, J. E. Snow, il diags Min Cong J 44:82-4 J '58
- Overburden drilling and blasting with ammonium nitrate explosives; Peabody coal co, F. Horne, il Min Cong J 43:46-57 D '57
- Properties and recommended practices for use of ammonium nitrate in field compounded explosives; abstract, C. M. Cooley, Eng & Min J 159:107-8 Ja '58
- Use of fertilizer for blasting purposes, Roads & Sits 101:38 Mr '58
- Manufacture**
- Ammonium nitrate; Girdler co. flow diag Pet Refiner 36:217 N '57
- Ammonium nitrate (Stengel process); Commercial solvents corp. flow diag Pet Refiner 36:218 N '57
- Nitrate comes down to earth, il Chem & Eng N 36:50 Ag 25 '58
- AMMONIUM phosphates**
- Modulus of rupture of xrt 45 ADP crystals, B. J. Faraday and D. J. G. Grogan, bibliog diags J Ap Phys 29:1099-102 J '58
- AMMONIUM sulfate**
- New type of monogram; aqueous ammonium sulfate solutions, A. M. F. Tans, bibliog Ind & Eng Chem 50:971-2 Je '58
- Manufacture**
- Ammonium sulfate, flow diag Pet Refiner 36:219 N '57
- AMMONOLYSIS**
- Potential anticancer agents; synthesis and ammonolysis of methyl 2,3-anhydro-D-ribofuranoside, C. D. Anderson and others, bibliog Am Chem Soc J 80:5247-52 O 5 '58
- AMMUNITION**
- See also Projectiles
- Manufacture**
- Diecastings in ammunition design, L. G. Klinker and others, il Foundry 86:60-1 Je '58
- AMOCO chemicals corporation**
- Career opportunities, Chem & Eng N 36:15 p 2 Ja 27 '58
- AMORTIZATION**
- How soon would five-year writeoff boost spending? Am Mach 102:86 J 14 '58
- \$10,000-ceiling fast writeoff bill okayed just as Congress recesses, Am Mach 102:89 S '58
- AMPEROMETRIC titrations, See Volumetric analysis**
- AMPHETAMINE, See Benzadrine**
- AMPHIBIOUS motor vehicles, See Motor vehicles, Amphibious**
- AMPHIBIOLES**
- Holmquistite as a rhombic amphibole, T. Vogt and others, bibliog Am Mineralogist 43:981-2 S '58
- Significance of amphibole paragenesis in the Bidwell Bar region, Calif, R. R. Compton, bibliog Am Mineralogist 43:890-907 S '58
- AMPHITHEATERS**
- Amphitheaters, il plans diags Arch Rec 123: 207-12 My '58
- Light steel dome tops round coliseum in San Angelo, il Eng N 160:26 Ap 10 '58
- Truss roof will span elliptical coliseum in Los Angeles, il Eng N 160:26 Ap 10 '58
- Lighting**
- Architectural design answers lighting questions; W. A. Alexander memorial coliseum at Georgia Tech, C. F. Howe, il diags Illum Eng 53:72-4 F '58
- AMPHOTERES, See Amphoterics substances**
- AMPHOTERIC substances**
- Amphoteric surfactants, H. S. Mannheimer, Soc & Chem Spec 34:56-84 S '58
- Germicidal amphoteric surface-active agents, A. Schmitz and W. S. Harris, bibliog il Manuf Chem 29:51-4 F '58

AMPLIFIERS

- A-c controlled magnetic amplifiers, E. W. Lehtonen and E. A. Cronauer, *diags Com & Electronics* p476-80 S '58
- Amplification in an electrolyte, J. F. Dewald, *diags Engineering* 185:696 My 30 '58; Same, *Ind Lab* 9:72 Je '58
- Amplifier extends range of radio telescopes, *Elec Eng* 77:191-2 F '58
- Amplifying device uses semiconductor and electrolyte, *diags Machine Design* 30:10 My 1 '58
- Applications of nonlinear magnetics, H. F. Storm, *diags Com & Electronics* p380-8 bibliop(p387-8) JI '58
- Approach to the design of constant-resistance amplitude equalizer networks, J. S. Bell, *diags Inst E E Proc* 105 pt B:185-9 Mr '58
- Atomic amplifier demonstrates unilateral gain, *diags Elec Manuf* 62:11 Ag '58
- Atomic amplifier; gas maser, A. C. Munster, *Franklin Inst J* 266:153 Ag '58
- Bell Telephone field effect transistor amplifier, *diags Engineer* 20:331 My '58
- Block-diagram method of analysis applied to the saturable reactor, R. M. Hubbard, *diags Com & Electronics* p57-64; Discussion, 65 Mr '58
- British magnetic amplifier developments, D. A. Ramsay and E. W. Glover, *bibliog* *diags Elec Manuf* 62:56-62 JI '58
- Comparison of drive-regulator basic types, A. R. Sween, *Elec Manuf* 62:126-8 Ag '58
- Control of flux waveforms in iron testing by the application of feedback amplifier techniques, J. McFarlane and M. J. Harris, *bibliog diags Inst E E Proc* 105 pt A: 395-402; Discussion, 402-5 Ag '58
- Core-reset functions in magnetic-amplifier analysis, G. C. Feth, *bibliog diags Com & Electronics* p503-19 S '58
- Crystals for masers, *Wireless World* 64:330 JI '58
- Data reduction needs differential amplifiers, F. Offner, *diags Control Eng* 5:103-4 Ap '58
- Design considerations for circulator maser systems, F. R. Arams and G. Krayer, *diags Inst Radio Eng Proc* 46:912-13 My '58
- Design of magnetic amplifying circuits; abstract, B. W. Glover and D. A. Ramsay, *Brit Inst Radio Eng J* 18:136 F '58
- Develop portable maser stable to one part in 10^6 , *diags Machine Design* 30:34-5 My 1 '58
- Digital amplifiers use saturable transformers, *diags Electronics* 31:74-JI 4 '58
- Electromechanical power amplifiers; abstract, R. H. Eisengrein, *diags Elec Manuf* 62:71 JI '58
- Experimental characteristics of a microwave parametric amplifier using a semiconductor diode, H. Heffner and K. Kotzebue, *diags Inst Radio Eng Proc* 46:1307 Je '58
- Fast-response full-wave amplifier, G. B. Lynn, *bibliog diags Com & Electronics* p37-41 Mr '58
- Ferrite microwave amplifier developed, *Electronics* 31:32-3 F 21 '58
- Ferromagnetic microwave amplifier, H. Suhl, *bibliog diags Machine Design* 11:23-30 S '58
- Field effect amplifying device uses electrolyte/semiconductor interface, *diags Electrochem Soc J* 105:sup 105C Je '58
- Gain, band width, and noise characteristics of the variable-parameter amplifier, H. Heffner and G. Wade, *bibliog diags J Ap Phys* 29:1321-31 S '58
- Harmonic amplifier for X-band local oscillator, W. J. Danksher, *diags Electronics* 31:80-2 Je 20 '58
- High-efficiency push-pull magnetic amplifiers with transistors as switched rectifiers, A. C. Milnes, *bibliog diags Com & Electronics* p327-30; Discussion, 330-1 JI '58
- High power transistor audio amplifiers, M. B. Herscher, *diags Audio Eng Soc J* 6:42-8 Ja '58
- Improved operational amplifier, R. Nitzberg, *diags Inst Radio Eng Proc* 46:380 Je '57; Discussion, 45:1415-16 O '57; Reply, 46:614-15 Mr '58
- Introducing young engineers to the appreciation of magnetic amplifier problems, L. A. Finzi, *bibliog diags Com & Electronics* p 119-26 Mr '58
- Linear amplifier for negative pulses, A. S. Penfold, *diags R Sci Instr* 29:765-6 S '58
- Low-noise amplifier uses semiconductor diodes, *Franklin Inst J* 266:151-2 Ag '58
- Low-noise amplifier using semiconductor diodes, *Electronics & Radio Eng* 35:267 JI '58
- Magnetic amplifier detects open fuses, J. Maroz, *diags Electronics* 31:86-JI 18 '58
- Magnetic amplifier drives gyro indicator, C. C. Voice, *diags Electronics* 31:114-17 F 14 '58
- Magnetic-amplifier-operated ink recorders, W. A. Geyger, *bibliog* *diags Com & Electronics* p457-71 S '58
- Magnetic-amplifier relay for control systems, V. Hudson, *diags Elec Manuf* 61:146-7 Mr '58
- Magnetic amplifiers; basic principles and applications, L. W. Stammerjohn, *diags Bell Lab Rec* 36:16-20 Ja '58
- Magnetic amplifiers; bistate operation and application, D. Katz, *diags Bell Lab Rec* 36:294-7 Ag '58
- Magnetic amplifiers for digital computers, E. W. Togue, *diags Elec Manuf* 61:150-1 My '58
- Magnetic amplifiers regulate d-c supply, M. B. Meunier, *diags Electronics* 31:68-70 F 28 '58
- Malvern maser, *diags Engineering* 185:699 My 30 '58
- Maser amplifier brings Venus ten times closer, *Radio-Electronics* 29:6-Je '58
- Maser operates at two degrees K for radio telescope, *Electronics* 31:30 Ja 24 '58
- Maser oscillator with one beam through two cavities; geometrical representation of the Schrödinger equation, W. H. Wells, *diags J Ap Phys* 29:714-17 Ap '58
- Masers' abstract, C. H. Townes, *J Ap Phys* 29:233 Mr '58
- Masers and reactance amplifiers; basic power relations, B. Salzberg, *Inst Radio Eng Proc* 45:1544-5 N '57
- Masers probe outer space, J. O. Artman and others, *Electronics* 31:12-13 Ja 3 '58
- Master amplifier characteristics for transmission and reflection cavities, M. L. Stich, *bibliog diags J Ap Phys* 29:782-9 My '58
- Mavar; low-noise microwave amplifier, S. Weber, *bibliog* *diags Electronics* 31:65-71 S 26 '58
- Maximum efficiency of the solid-state maser, H. Heffner, *Inst Radio Eng Proc* 45:1289 S '57
- Microwave amplifier may improve radar, *Machine Design* 30:14 Je 12 '58
- New approaches to the amplification of microwaves; maser and the parametric amplifier, J. P. Wittke, *bibliog diags RCA* 18:141-57 D '57
- New atomic amplifier developed, *diags Westinghouse Eng* 18:146-7, cover S '58
- New breed of microwave tubes; solid state microwave amps promise milli-microwatt reception, J. Holahan, *diags Aviation Age* 29:140-9 Je '58
- New type of ferromagnetic amplifier, C. L. Hogan and others, *diags J Ap Phys* 29: 422-3 Mr '58
- 1kc/s transistor high-gain tuned amplifier with provision for transistor noise figure measurements, R. A. Hall, *diags Electronic Eng* 30:192-5 Ap '58
- Parametric amplification of space charge waves, W. H. Louisell and C. F. Quate, *bibliog diags Inst Radio Eng Proc* 46:707-16 Ap '58
- Parametric amplification using low-frequency pumping, S. Bloom and K. K. N. Chang, *bibliog diags J Ap Phys* 29:594 Mr '58
- Parametric amplifier using low-frequency pumping, K. K. N. Chang and S. Bloom, *bibliog diags Inst Radio Eng Proc* 46:1383-6 JI '58
- Parametric electron beam amplifier, T. J. Bridges, *diags Inst Radio Eng Proc* 46:494-5 F '58
- Performance calculations for d.c. chopper amplifiers, I. C. Hutcheon, *bibliog diags Electronic Eng* 30:467-80 Ag '58
- Phase detection of a ferromagnetic microwave amplifier, W. L. Wherry and F. B. Wang, *diags Inst Radio Eng Proc* 46:1657-8 S '58
- Preamp matches input impedance, *diags Electronics* 31:81 Mr 28 '58
- Prodigal property; semiconductors make laboratory-model miniature amplifiers, *diags Chem & Eng N* 36:51 Ap 7 '58
- Proposed method for tuning a maser cavity, F. O. Vonbun, *diags R Sci Instr* 29:792-3 S '58
- Proposed standards for core test methods for toroidal magnetic amplifier cores, *bibliog diags Com & Electronics* p524-31 S '58
- Range of radio telescopes extended by new amplifier; maser, T. Gold, *Franklin Inst J* 265:83-4 Ja '58
- Ruby maser for new telescope, *Electronics* 31:23 S 5 '58
- Solid state image amplifiers, G. F. J. Garlick, *bibliog* *diags J Sci Instr* 34:473-9 D '57
- Solid-state maser; a supercooled amplifier, J. W. Meyer, *bibliog* *diags Electronics* 31: 66-71, cover Ap 26 '58

AMPLIFIERS—Continued

- Solid-state microwave amplifier and oscillator using ferrite; abstract. M. T. Weiss. *J Ap Phys* 29:421 Mr '58
- Solid-state panel amplifies X-rays; contains photoconductive and electroluminescent phosphor materials. B. Kazan. *Il diags Electronics* 31:84-7 S 12 '58
- Some applications of magnetic amplifiers in aircraft generator protective systems. D. L. Flotte and J. W. Butler. *Il diags Applications & Ind* p427-33 Ja '58
- Some aspects of half-wave magnetic amplifiers. G. M. Ettinger. *bibliog diags Inst E Proc* 105 pt B:237-43; Discussion. 266-70 My '58
- Some general properties of nonlinear elements; small signal theory. H. E. Rowe. *bibliog diags Inst Radio Eng Proc* 46:850-60 My '58
- Souped-up energy at work: meet the maser. *Product Eng* 29:10 Ja 13 '58
- Superconducting rectifier and amplifier. J. L. Olsen. *diag R Sci Instr* 29:537-8 Je '58
- Theory of parametric amplification using nonlinear reactances. S. Bloom and K. K. N. Chang. *bibliog diag RCA R* 18:578-93 D '57
- Theory of the ferromagnetic microwave amplifier. H. Suhl. *bibliog diags J Ap Phys* 28:1225-36 N '57
- Thin-screen X-ray amplifier for medical use. B. Kazan. *Franklin Inst* 264:524-5 D '57
- Three-channel remote amplifier. A. Stratmoen. *Il diag Audio* 42:24-6 Je '58
- Three-level solid-state maser. H. E. D. Scovill. *Il diags Bell Lab Rec* 36:242-6 Jl '58
- Transistor circuits alter magnetic amplifier frequency response. J. C. Taylor and C. Wyman. *bibliog diags Elec Manuf* 62:90-3 Ag '58
- Transistor fifth. I. Queen. *Il diags Radio-Electronics* 29:45-6 My '58
- Transistor preamp. A. Ladd. *diag Radio-Electronics* 29:46 F '58
- Traveling-wave ferromagnetic amplifier. P. K. Tien and H. Suhl. *bibliog diags Inst Radio Eng Proc* 46:700-6 Ap '58
- Twin cavity for NH_3 masers. J. Bonanomi and others. *R Sci Instr* 28:879-81 N '57
- Two-cavity maser. *diags Electronics* 31:63-4 Ap 25 '58
- Uhf solid-state maser. R. H. Kingston. *Inst Radio Eng Proc* 46:916 My '58
- Unilateralized common collector transistor amplifier. L. M. Vallesse. *diag Inst Radio Eng Proc* 45:154 N '57
- Use of operational amplifiers in the measurement of transistor parameters. W. C. Hazel. *bibliog diags R Sci Instr* 29:235-7 Mr '58
- Variation of junction transistor current amplification factor with emitter current. A. W. Matz. *bibliog Inst Radio Eng Proc* 46:618-17 Mr '58
- Visual amplification; specialized application of closed-circuit tv. H. J. Schlafly. *SMPTTE J* 67:163-4 Mr '58
- Wide-band ultrahigh-frequency over-the-horizon equipment. R. A. Felsenfeld and others. *bibliog Il diags Com & Electronics* p86-93 Mr '58
- See also
Cryotron
Light amplifiers
Spacitors
Transistors
- Design**
- Designing transistor a-f power amplifiers. M. B. Herscher. *Il diags Electronics* 31:96-9 Ap 11 '58
- H-f amplifier design; reference sheet. A. E. Hayes, Jr. *diag Electronics* 31:165-6+ Mr 14 '58
- Magnetic-amplifier design; core and windings. R. E. Anderson. *bibliog diags Com & Electronics* p 160-75 My '58; Abstract. *Elec Eng* 77:394-5 My '58
- Unity-coupled shear orifice yields reliable servovalves. T. J. Thomas. *Il diags Control Eng* 5:90-3 Ag '58
- Noise**
- Gain bandwidth and noise in maser amplifiers. A. E. Siegman. *diags Inst Radio Eng Proc* 45:1737-8 D '67
- Internal noise of transistor amplifiers. J. J. Brophy and A. R. Reinberg. *R Sci Instr* 23:955-6 N '57
- Low-noise amplifier for high frequencies uses new semiconductor diodes. *Il Bell Lab Rec* 36:250-1 Jl '58
- Low-noise wide-band reactance amplifier. B. Salzberg and E. W. Sard. *diag Inst Radio Eng Proc* 46:1303 Je '58

- Minimum noise figure of a parametric amplifier. H. Heffner and G. Wade. *diags J Ap Phys* 29:1202 Ag '58
- Noise figure measurements on two types of variable reactance amplifiers using semiconductor diodes. G. F. Herrmann and others. *bibliog diags Inst Radio Eng Proc* 46:1301-3 Je '58
- Noise in maser amplifiers; theory and experiment. J. P. Gordon and L. D. White. *bibliog diags Inst Radio Eng Proc* 46:1588-94 S '58
- Superregenerative masers. P. F. Chester and D. I. Bolef. *bibliog diags Inst Radio Eng Proc* 45:1287-9 S '57
- System-noise measurement of a solid-state maser. A. L. McWhorter and F. R. Arams. *diag Inst Radio Eng Proc* 46:913-14 My '58

Terminology

- Proposed standard terms and definitions for magnetic amplifiers. *Com & Electronics* p429-31; Discussion. *diags* 431-2 S '58

Testing

- Ac-amplifier tester. L. S. Klivans. *diag Control Eng* 5:82-3 Ag '58
- Sensitive measurement of pulse-amplifier gain. K. A. McCollom and others. *diags Nucleonics* 16:74-6+ Ja '58
- Tape recorder test adapter; illustrations with text. L. B. Hoffman. *Radio-Electronics* 29:88 Ag '58

AMPLIFIERS, Vacuum tube

- Adaptation of the Beckman DU spectrophotometer for work involving large temperature changes of the samples. A. Halperin and A. Braner. *diag R Sci Instr* 28:959-60 N '57
- Advanced performance and stability in color tv film channel amplifiers. M. H. Diehl. *Il diags SMPTTE J* 66:750-4; Discussion. 754-5 D '57
- Advantages and disadvantages of direct or a.c. coupling for deflection amplifiers. H. L. Mansford. *diags Electronic Eng* 30:473-5 Ag '58
- All-purpose 813 amplifier. R. A. Thomason. *Il diag Q S T* 42:35-7 Ag '58
- Ampex KW-62 amplifier. E. P. Tilton. *Il Q S T* 42:31-3 Jl '58
- Amplifier delay charts; reference sheet. J. B. Harrington. *Electronics* 31:88-90 Ag 15 '58
- Amplifier low-frequency compensation. J. E. Flood and J. E. Halder. *bibliog diag Electronic & Radio Eng* 35:92-100 Mr '58; Discussion. V. Pauker. 35:237 Je '58
- Amplifier performance; specifications and evaluation. H. Burstein. *Audio* 42:24-5, 52-3 F '58
- Amplifier units. *Il Audio* 42:36+ Je '58
- Amplifier using new 6CZ5's. N. Grossman. *diag Audio* 42:23 Jl '58
- Amplifiers for radar. H. Burstein. *diags Radio-Electronics* 29:40-5 O '58
- Analysis of current pulses; application to rectifiers and class C amplifiers. F. G. Heymann. *diags Electronic & Radio Eng* 35:165-7 My '58
- Band-pass filter design technique. D. R. J. White. *diag Electronics* 31:79-81 Ja 3 '58
- Beam focusing in microwave amplifiers. P. P. Cioffi. *Il diags Bell Lab Rec* 36:172-5 My '58
- Bootstrapped circuit technique. A. W. Keen. *bibliog diags Electronic & Radio Eng* 35:345-54 S '58
- Bootstrapped differential amplifier with reduced common-mode effects. R. J. Blume. *diags R Sci Instr* 29:122-4 F '58
- Broad-band amplifier for radar and scatter. J. H. Phillips and E. Maxwell. *Il diags Electronics* 31:81-2 S 26 '58
- Cathode-ray wideband amplifier of improved rise time. L. G. White. *Il diags Wireless World* 64:312-13 Jl '58
- Compact two-channel amplifier for stereo systems. C. G. McProud. *Il diag Audio* 42:54+ Ag '58
- Custom preamp for your hi-fi system. E. J. Porto. *Il diags Radio-Electronics* 29:32-4 Jl '58
- Description and operating characteristics of the platinum, a new microwave tube device. W. C. Brown. *Il diags Inst Radio Eng Proc* 45:1209-22 S '57
- Design of video amplifiers with stringent electrical and mechanical requirements. J. A. Develet, Jr. *diag Inst Radio Eng Proc* 46:1541 Ag '58
- Designing a low-distortion 12-watt amplifier. E. M. Voss. *Il diag Radio-Electronics* 29:33-4 Ag '58
- Desk-top 650-watt amplifier. J. M. Lomasnev. *Il diags Q S T* 42:38-43 S '58

AMPLIFIERS, Vacuum tube—Continued

- Direct-coupled amplifiers; improved balancing factors by matching effects of heater-supply variations. D. J. R. Martin, bibliog diag Electronic & Radio Eng 34:438-41 D '57
- D.c. amplifier expands input voltage range. V. D. Schurr, il diags Electronics 31:87-9 Je 6 '58
- Divided output transformers; use of separate high- and low-frequency units. R. Guelke, diags Wireless World 54:384-5 Ag '58
- Economical audio amplifier. A. V. J. Martin, diag Radio-Electronics 29:140 O '58
- Effective feedback factor of self-balancing magnetic amplifiers. W. A. Geyger, bibliog diags Com & Electronics p66-9 Mr '58
- 88-50, a low-distortion 50-watt amplifier. W. L. Heath and G. R. Woodville, il diag Audio 42:19+ Ja '58
- Electrostatically focused traveling-wave-tube amplifier. K. K. N. Chang, bibliog il diags RCA R 19:86-97 Mr '58
- Etched i-f amplifier pares color tv cost. L. Ruth, il diag Electronics 31:135-7 Mr 14 '58
- Experimental 8-mm klystron power amplifiers. T. J. Bridges and H. J. Curnow, diags Inst Radio Eng Proc 46:430-2 F '58
- Feedback and distortion. G. F. Cooper, diags Audio 42:30+ F '58
- Feedback circuit equivalence. A. W. Keen, bibliog diags Electronic & Radio Eng 35:8-12 Ja '58
- Feedback controlled Pirani gauge. J. H. Leck, diag J Sci Instr 35:107-8 Mr '58
- Final touchup for your amplifier. H. Reed, diags Radio-Electronics 29:54-6 My '58
- Fixed-bias story. H. Ravenswood, diags Radio-Electronics 29:47-9 F '58
- Getting feedback straight. N. H. Crowhurst, diags Radio-Electronics 29:42-6 Mr '58
- Heathkit EA-2 amplified. il Audio 42:30+ Jl '58
- Heathkit W-6M amplifier. il diag Audio 42:42+ Ja '58
- High-dynamic-range differential amplifier. D. D. Davis, diag Electronics 31:64+ Ja 31 '58
- Hi-fi amplifier abroad. A. V. J. Martin, il diags Radio-Electronics 29:32-6 S '58
- High-fidelity amplifier design and performance. M. Horowitz, il diags Radio-Electronics 29:40-2 Ap '58
- High-power audio amplifiers. M. Horowitz, diags Audio 42:34+ Mr '58
- High power on 220 mc. with the 4CX300A. L. Clark, il diags Q S T 42:17-19+ Ap '58
- High-power performance with a low-power amplifier. C. Baldwin, il diag Radio-Electronics 29:43-6 F '58
- Hybrid feedbacks for power amplifiers. H. I. Keroes, il diags Audio 42:30+ S '58
- Improving radio and phono amplifiers. N. H. Crowhurst, diags Radio-Electronics 29:40-2 S '58
- Improving the deflection amplifier. C. Dropa, il diags Electronic Ind 17:76-9 My '58
- Improving the tape amplifier. H. Burstein and H. C. Pollak, diags Audio 42:17-20+ Jl '58
- Industrial servo amplifier. F. H. Frantz, il diags Radio-Electronics 29:120-1 Ap '58
- Inexpensive crystal-filter i.f. amplifier. H. L. Gottfried, diags Q S T 42:18-20 F '58
- Integrating voltage sources. G. F. Schrader, diag Electronic Ind 17:55+ F '58
- Integrator-amplifier for core measurements. C. E. Goodell, il diags Electronics 31:110-13 F 14 '58
- Is the output transformer out? H. Ravenswood, bibliog diags Radio-Electronics 29:80+ Ja '58; Discussion. 29:14+ Je '58
- Johnson Thunderbolt. B. Goodman, il Q S T 42:30-1 Jl '58
- Know your levels. N. H. Crowhurst, diags Radio-Electronics 29:39-42 Je '58
- Limited-gain operational amplifiers; equivalent networks for simplifying computation. A. W. Keen, diags Electronic & Radio Eng 35:141-3 Ap '58
- Line amplifiers with age. A. A. McGee, jr, il diags Electronic Ind & Tele-Tech 16:supO 7-8+ N '57
- Low-noise electron-beam parametric amplifier. R. Adler and others, diags Inst Radio Eng Proc 46:1756-7 O '58
- Low-noise nonlinear reactance traveling wave amplifier. R. S. Engelbrecht, Inst Radio Eng Proc 46:1655 S '58
- Madison Fielding series 320 stereo amplifier. Audio 42:42+ S '58
- Medium-power r.f. amplifier. D. H. Mix, il diag Q S T 42:11-14 F '58
- More transformerless amplifiers. bibliog diags Wireless World 64:145-6 Mr '58
- Multichannel audio mixer-preamplifier. H. Reed, il diags Audio 42:27-8+ Ja '58
- New amplifier with 1K188's. D. Hadler, il diag Radio-Electronics 29:58-9 Ja '58
- New microwave repeater system using a single traveling-wave tube as both amplifier and local oscillator. H. Kurokawa and others, bibliog il diags Inst Radio Eng Proc 45:1604-11 D '57
- New types of d.c. amplifier. D. J. R. Martin, bibliog diags Electronic & Radio Eng 35:2-7, 56-62 Ja-F '58
- Nonlinear low-frequency instability phenomenon in audio amplifiers. T. Usher, jr, diags Com & Electronics p698-701 Ja '58
- One-vive d.c. amplifier with high-impedance input. P. Belton, bibliog il diags Electronic Eng 30:454-6 Jl '58
- Paging preamplifier. M. Horowitz, il diags Audio 42:22-3+ Ap '58
- Parallel-T resistance coupled selective amplifiers. J. J. Ward and P. V. Landshoff, diags Electronic & Radio Eng 35:120-4 Ap '58; Discussion. 35:316 Ar '58
- Parametric amplification and frequency mixing in propagating circuits. P. K. Tien, bibliog diags J Ap Phys 29:1347-67 S '58
- Phase-shift curves for feedback amplifiers; reference sheet. R. E. Engelmann, diags Electronics 31:86 My 9 '58
- Play-back preamp for stereo tapes. A. C. Moller, jr, il diags Radio-Electronics 29:37 Ap '58
- Printed-circuit switches simplify kit construction; hi-fi preamplifier-amplifier. il diags Radio-Electronics 29:53-5, cover F '58
- Protective device for thermal converters; balanced amplifier. A. G. Mungall and I. Abella, diags J Sci Instr 35:185 My '58
- Push-pull amplifier design. R. G. Christian, diag Electronic & Radio Eng 35:72-3 F '58
- Push-pull amplifiers drive speaker directly. J. Rodrigues De Miranda, il diags Electronics 31:76-9 Jl 18 '58
- Resnatron as a 200-mc power amplifier; used to power the Minnesota linear proton accelerator. E. B. Tucker and others, bibliog il diags Inst Radio Eng Proc 46:1483-92 Ar '58
- Ringing amplifier; use in crystal-video transponder receivers. S. Rozenstein and E. Gross, diags Electronic & Radio Eng 35:327-32 S '58
- Simplex micro-wave amplification. il Engineering 186:86 Jl 18 '58
- Simplified control unit. R. G. Chaplick, il diags Audio 42:17-21+ S '58
- 6BE6 preamplifier for both hi- and lo-Z microphones. F. L. Mason, diag Q S T 42:52-3 Ja '58
- Special amplifier circuits. H. Ravenswood, diags Radio-Electronics 29:40-2 Ar '58
- Stereophonic recording and playback amplifier. W. B. Denny, il diags Audio 42:24-7+ S '58
- S.h.f. radio links using travelling-wave output amplifiers. G. Dawson and T. K. M. Korytko, bibliog il maps diags Electronic Eng 30:276-82 My '58
- Time behaviour of logarithmic amplifier input circuits. T. P. Flanagan, diag J Sci Instr 34:450-2 N '57
- Tone control through positive and negative feedback. A. V. J. Martin, diags Radio-Electronics 29:52 F '58
- Total differential feedback; device for squaring the effective possible feedback in a feedback amplifier. J. C. H. Davis, diags Electronic & Radio Eng 35:40-4 F '58
- Transients in feedback amplifiers. G. F. Cooper, diags Audio 42:31-3 Mr '58
- Transistor and hybrid dc amplifiers. B. J. Hill, il diags Radio-Electronics 29:86-7 Jl '58
- Travelling-wave tube amplifiers. D. H. O. Allen, bibliog il diag Electronic Eng 30:305-9 My '58
- Two line amplifiers; PL-172 in grounded cathode and grounded grid, il diags Q S T 42:22-5 Mr '58
- Understanding the traveling wave amplifier. D. A. Dunn, il diags Electronic Ind & Tele-Tech 16:67-9+ N '57
- Viking courier. D. H. Mix, il diag Q S T 42:45-6 Ar '58
- See also
Electrometers
Multivibrators
- Noise
- Low-noise 30-mc amplifier. J. K. D. Verma, bibliog diags R Sci Instr 29:371-4 My '58

AMPLIFIERS, Vacuum tube—Noise—Cont.

Low noise tunable preamplifiers for micro-wave receivers. M. R. Currie and D. C. Forster. bibliog *Inst Radio Eng Proc* 46:570-9 Mr '58

Optimum noise performance of linear amplifiers. H. A. Haus and R. B. Adler. bibliog *diags Inst Radio Eng Proc* 46:1517-33 As '58

S-band traveling-wave tube with noise figure below 4 db. M. Caution and G. E. St John. *Inst Radio Eng Proc* 46:911-12 My '58

Very low-noise traveling-wave amplifier. E. W. Kinaman and M. Magid. bibliog *il diag Inst Radio Eng Proc* 46:861-7 My '58

Testing

Measurement of amplifier internal impedance. W. H. Anderson. *diags Audio* 42:22-3+ S '58

Testing for transients. G. F. Cooper. *diags Audio* 42:26-7+ Ap '58

Tuning

Klystron amplifier uses capacitive tuning. R. G. Rockwell. *il diags Electronics* 31:56+ As 29 '58

Stagger-tuned band-pass amplifiers: design for prescribed overshoot. Y. Peles. *Electronic & Radio Eng* 35:175-8 My '58

AMPLITRON. See Vacuum tubes**AMUSEMENT parks**

See also

Disneyland

AMYL alcohol

Interconversions of amarylidiaceae alkaloids by sodium and amyl alcohol. H. M. Fales and W. C. Wildman. bibliog *Am Chem Soc J* 80:4395-404 Ag 20 '58

System amyl alcohol (from fusel oil)-acetic acid-water at 20°. P. Piha and others. bibliog *diag J Ap Chem* 8:576-80 S '58

Vapor phase photolysis of (-)-2-methylbutan-1-iodine mixtures at wave length 3130 Å. J. T. Gruver and J. G. Calvert. bibliog *Am Chem Soc J* 80:3524-7 J1 30 '58

Manufacture

Amyl alcohol; Pennsalt chemicals corp. flow diag *Pet Refiner* 36:220 N '57

AMYLOPECTINS

Dispersion of starch granules and the validity of light scattering results on amylopectin. S. R. Erlender and D. French. bibliog *il Am Chem Soc J* 80:4413-20 As 20 '58

Oxidation of amylopectin with hypochlorite at different hydrogen ion concentrations. R. L. Whistler and R. Schweiger. bibliog *Am Chem Soc J* 79:6460-4 D 20 '57

Starch process nudges genetics to sidelines; split apart the previously inseparable starch components, amylose and amylopectin. *il diag Chem Eng* 65:66+ Mr 24 '58

AMYLOSES

High amylose corn. *il J Agri & Food Chem* 6:641-2, cover S '58

Starch process nudges genetics to sidelines; split apart the previously inseparable starch components, amylose and amylopectin. *il diag Chem Eng* 65:66+ Mr 24 '58

Analysis

Varietal differences in amylose content of rice starch. V. R. Williams and others. bibliog *J Agri & Food Chem* 6:47-8 Ja '58

AMYRIN

Constitution of α -amyrin. G. G. Allan. *Chem & Ind* p529-30 My 3 '58

Proof of the structure and stereochemistry of α -amyrin by synthesis from a β -amyrin derivative, glycyrrhetic acid. E. J. Corey and E. W. Cantrall. bibliog *Am Chem Soc J* 80:499-500 Ja 20 '58

Syntheses in the terpene series; a synthesis of DL-1,1,6,10-tetramethyl-*trans*-decal-2 β -ol-5-one, the racemate of a degradation product of α -amyrin. R. Sondheimer and D. Elad. bibliog *Am Chem Soc J* 80:1967-71 Ap 20 '58

ANAEROBIC bacteria. See Bacteria, Anaerobic**ANALEPTICS**

Problems resulting from the use of habituating drugs in industry; effects of analeptic and depressant drugs upon psychologic behavior. G. T. Hauty and R. B. Payne. *Am J Pub Health* 48:571-7 My '58

ANALGESICS

Analgesics and sedatives. S. J. Hopkins. bibliog *Manuf Chem* 29:249 Je '58

Higher potency; activity of analgesics is increased by substituting cinnamyl for methyl group. *Chem & Eng N* 36:50 Ap 21 '58

New analogues of pethidine with analgesic action; abstract. E. S. Stern. *Chem & Ind* p613 My 24 '58

Pain: its nature and management. B. Idson. bibliog *diag Drug & Cosmetic Ind* 82:444-5+ Ap '58

Strong analgesics; the preparation of some 4-acyloxy-1-alkyl-4-phenylpiperidines. B. Elphern and others. bibliog *Am Chem Soc J* 80:4916-18 S 20 '58

Tic douloureux. S. J. Hopkins. *Manuf Chem* 29:156 Ap '58

See also

Aspirin

Bufferin

ANALOG computers. See Calculating machines

—Analog computers

ANALYSIS, Colorimetric. See Colorimetric analysis

ANALYSIS, Mineralogical. See Mineralogical analysis

ANALYSIS of variance. See Variance analysis

ANALYTIC chemistry. See Chemistry, Analytic

ANCHORAGE

No failures in nylon mooring lines of 17 ship-ping lines. *Marine Eng/Log* 63:106+ F '58

ANCHORAGES, Bridge. See Bridges, Suspension—Anchorages

ANCHORS

Franklin institute museum; anchors; exhibit. T. Coulson. *Franklin Inst J* 266:135-6 Ag '58

ANCHORS, Guy

Earth anchors may help you prevent pipe flotation at river crossings or in swamps. W. L. Hollander. *il diags Oil & Gas J* 56:98-101 My 26 '58

ANDES university

University of the Andes correlates studies with U.S. institutions. *il Pet Eng* 30:D 17 F '58

ANDROGENS, Analogs of

Anthrasteroid rearrangement; the preparation of an analog of the androgens and estrogens. W. R. Nes and others. bibliog *Am Chem Soc J* 80:5233-5 O 5 '58

ANDROSTADIENEDIONE

Dienol-benzene rearrangement; some chemistry of 1,4-androstadiene-3,17-dione. M. J. Gentles and others. *Am Chem Soc J* 80:3702-5 J1 20 '58

ANDROSTANE

6-Methyl steroids in the androstane series. J. A. Campbell and others. bibliog *Am J Chem Soc J* 80:4717-21 S 5 '58

ANDROSTENETRIONE

Ethynylated derivatives related to adrenosterone and a steroidal effect on experimental hyperlipaemia. L. Velhuz and others. bibliog *Am Chem Soc J* 80:2026 Ap 20 '58

ANEOCHIC laboratories. See Sound laboratories

ANEMIA

Development of vitamin B₁₂ deficiency by untreated patients with pernicious anemia. W. J. Darby and others. bibliog *Am J Clinical Nutrition* 6:513-22 S '58

Effect of dietary protein on blood regeneration of anemic patients suffering from parasitic infestation. M. Demarchi. bibliog *Am J Clinical Nutrition* 6:415-21 J1 '58

How do genes act? V. M. Ingram. *il diags Sci Am* 198:68-72+ Ja '58

Properties of the toxic factor in trichloroethylene-extracted soybean oil meal. T. A. Seto and others. bibliog *J Agri & Food Chem* 6:49-54 Ja '58

Severe nutritional macrocytic anemia in emotionally disturbed patients. R. W. Monto and others. *il Am J Clinical Nutrition* 6:105-10 Mr '58

ANEMOMETERS

Electronic anemometer. I. M. Gottlieb. *il diags Radio-Electronics* 29:82+ S '58

Linear, unidirectional anemometer of rapid response. R. J. Taylor. *diags J Sci Instr* 35:47-52 F '58

Omni-directional low-speed hot-wire anemometer. J. F. Kemp. *il diags Heating-Piping* 30:117-20 J1 '58

ANESTHESIA

Drug side reactions and anesthesia; abstract. J. W. Dundee. *Drug & Cosmetic Ind* 83:217-18 As '58

ANESTHETICS

Alkyl and diethylaminoethyl esters of N-substituted aminoacylamino benzoic acids. E. Epstein and D. Kaminsky. bibliog *Am Chem Soc J* 79:5814-17 N 5 '57

Non-depressant anesthetic; Sernyl; abstract. F. E. Greifenstein. *Franklin Inst J* 265:492 Je '58

ANESTHETICS—Continued

Pain; its nature and management. B. Idson. bibliog diag Drug & Cosmetic Ind 82:444-5+ Ap '58
See also
 Chloroform

ANESTHETICS, Local

Local anesthetics; monoalkylamino-4-alkoxy-3-aminobenzoates and 3-alkoxy-4-aminobenzoates. M. Freifelder and others. Am Chem Soc J 80:4320-3 Ag 20 '58
See also
 Nerves—Blocking

ANGLES

How air force is utilizing perforated steel angles. *il* Plant Eng 12:120 Je '58
 Quick solution of compound angles; tables; reference book sheet. D. E. Sweet. diags Am Mach 102:91 Ji 28 '58
 Slotted angles find many uses. *il* Iron Age 182:86-7 Ag 7 '58
 Three-dimensional model simplifies compound-angle setups. O. Skild. *il* diags Mach 64:143-6 Ja '58
See also
 Goniometers
 Sine bars

ANGLO-AMERICAN aeronautical conference.
See International aeronautical conference

ANGOLA

See also
 Mines and mineral resources—Angola

ANHYDRIDES

Kinetics and mechanisms of the polymerization of N-carboxy- α -amino acid anhydrides. H. Weingarten. bibliog Am Chem Soc J 80:352-5 Ja 20 '58
 Mixed anhydrides as synthetical reagents; abstract. G. W. Kenner. Chem & Ind p248 Mr 1 '58
 Peptide synthesis using amino acid-phosphoric acid anhydrides. F. D. Cramer and K. G. Gärtner. bibliog Chem & Ind p560 My 10 '58
 Polypeptides; a kinetic study of the polymerization of amino acid N-carboxyanhydrides initiated by strong bases. M. Idelson and E. R. Blout. bibliog Am Chem Soc J 80:2387-93 My 20 '58
 Production and applications of acyl anhydrides. G. Macchell. bibliog *il* Ind Chem 34:550-4 Q '58
 Reaction of alkaline hydrogen peroxide with certain acid halides and anhydrides in the presence of benzidine-type bases. D. J. Marsh and E. Neale. bibliog J Ap Chem 8:394-400 Je '58
 Reactivities of lower aliphatic anhydrides toward hydroxyl groups of cellulose. C. J. Malm and others. bibliog Ind & Eng Chem 50:1061-6 Ji '58
 Some reactions of amino acid N-carboxy anhydrides. K. D. Koppie. bibliog Am Chem Soc J 79:8442-6 D 20 '57
See also
 Acetic anhydride
 Boronic anhydrides
 Maleic anhydride
 Succinic anhydride

Analysis

See also
 Acetic anhydride—Analysis

ANHYDRITE

Anhydrite complex of the Morococha district, Peru. R. H. Nagell. bibliog *il* maps diags Econ Geol 52:632-44 S '57

ANILIDES

Reaction rates of polyelectrolyte derivatives; effect of neighboring carboxyl on the reactivity of *p*-nitroanilide groups. E. W. Westhead, Jr. and H. Morawetz. bibliog Am Chem Soc J 80:237-42 Ja 5 '58

ANILINE

Dinickel phosphide as a heterogeneous catalyst for the vapor phase reduction of nitrobenzene with hydrogen to aniline and water. N. E. Swenson and others. bibliog Am Chem Soc J 80:799-800 F 20 '58
 Kinetics of the condensation of anilines with nitrobenzenes to form azobenzenes. Y. Ogata and Y. Takagi. bibliog Am Chem Soc J 80:3591-5 Ji 20 '58
 N,N'-polymethylene-bis-anilines and related compounds. S. L. Shapiro and others. bibliog Am Chem Soc J 80:3734-8 Ji 20 '58
 Nucleophilic reactivity of aniline, hydrazine and phenoxide ion toward 2,4-dinitrochlorobenzene. J. F. Bunnett and G. T. Davis. bibliog Am Chem Soc J 80:4337-9 Ag 20 '58
 Pentafluoroaniline. E. J. Forbes and others. Chem & Ind p630-1 My 24 '58

Manufacture

Aniline from nitrobenzene. flow diag Pet Refiner 36:221 N '57

ANIMAL buildings**Air conditioning**

Building expansion, environmental needs demand unique system design for air conditioning animal research lab. R. V. Garner. diags Heating-Piping 29:86-7 D '57

ANIMAL experimentation

See also
 Laboratory animals
 Animal fat. *See* Fat

ANIMAL locomotion

Leap of the grasshopper. G. Hoyle. *il* diags Sci Am 198:30-5 Ja '58; Discussion. T. E. Sterne. 198:8+; Reply. 10 Mr '58

ANIMAL products

See also
 Hides and skins
 Packing houses—By-products
 ANIMAL shoes. *See* Shoes, Animal

ANIMALS**Orientation**

See Orientation

ANIMALS, Extinct

See also
 Mastodon

ANIMALS, Habits and behavior of

Behavioral changes in rats and guinea pigs induced by the administration of indole 3-acetic acid and 6-aminonicotinamide. W. T. Sullivan and L. M. Strong. bibliog *il* J Nutrition 65:193-203 Je '58
 Imprinting in animals. E. H. Hess. *il* diags Sci Am 198:81-2+ Mr '58

ANIMALS, Photography of. *See* Photography of animals

ANIMATED cartoons. *See* Moving pictures—Animated cartoons

ANIONS

Anions by spectrophotometry; abstract. A. L. Underwood. Chem & Eng N 36:54-5 S 29 '58
 Formation of negative ions in gases by secondary collision processes. E. E. Muschlitz, Jr. bibliog diag J Ap Phys 28:1414-18 D '57
 High-voltage paper electrophoresis of some inorganic anions. D. Gross. Chem & Ind p 1597 D 7 '57

ANISALDEHYDE

Carbonyl reactions; acidity and temperature dependence in the condensation of anisaldehyde and methyl ethyl ketone. D. S. Noyce and L. R. Snyder. bibliog Am Chem Soc J 80:4324-7 Ag 20 '58
 Carbonyl reactions; the kinetics of the acid-catalyzed reaction of anisaldehyde with methyl ethyl ketone. D. S. Noyce and L. R. Snyder. bibliog Am Chem Soc J 80:4033-7 Ag 5 '58

ANISOLE

Kinetics of aromatic halogenation; the iodination of 2,4-dichlorophenol and anisole with iodine monochloride. E. Berliner. bibliog Am Chem Soc J 80:856-61 F 20 '58

ANISOTROPY

Anisotropic effects in geometrically isotropic lattices. Z. A. Kaprielian. diag J Ap Phys 29:1052-63 Ji '58
 Anisotropy of boundary mobility. S. Kohara and others. bibliog *il* J Ap Phys 29:1125-6 Ji '58
 Modified Tresca's yield condition and associated flow rules for anisotropic materials and applications. L. W. Hu. bibliog diags Franklin Inst J 265:187-204 Mr '58
 Shape of soap micelles and other polyions as obtained from anisotropy of electrical conductivity. K. G. Götz and K. Heckmann. bibliog diags J Colloid Sci 13:266-72 Je '58

ANISOTROPY, Magnetic. *See* Magnetic properties

ANNEALING

Anneal stainless tubing for corrosive use. J. S. Adelson. *il* Iron Age 182:38-5 Ag 7 '58
 Annealing costs tumble; opened coil annealing just revealed by Lee Wilson engineering co. *il* diag Steel 142:104 Ap 28; 144 My 19 '58
 Annealing of steel sheet; symposium. Metal Prog 72:111-12+ D '57
 Differential annealing makes aluminum fish boxes stronger; often cheaper; Northern aluminum limited. *il* diags Mod Metals 14:44+ My '58
 Differential annealing of aluminum. *il* Engineering 185:149 Ja 31 '58

ANNEALING—Continued

- Effect of cation vacancies on the magnetic annealing of cobalt-substituted magnetite. L. R. Bickford, Jr. and others. *J Ap Phys* 29:441-2 Mr '58
- Effect of sample thickness on the field annealing of 6.5 per cent Si-Fe. F. A. Albert. *J Ap Phys* 29:361-2 Mr '58
- Fast annealing of sheet-strip coils with helium injection. J. D. Keller. *diags Iron & Steel Eng* 35:109-13; Discussion. 113-15 Ap '58
- J&L to install new continuous annealing line at Alliquippa. *diags Iron & Steel Eng* 35:211 S '58
- Magnetic anisotropy induced by magnetic annealing and by cold working of Ni_3Fe crystal. S. Chikazumi. *il diags J Ap Phys* 29:346-50 Mr '58
- Metallurgy of tempering and annealing in fractional minutes. R. K. Wuerfel. *il Metal Prog* 73:93-6 Ap '58
- Method of continuously annealing steel strip; patent. *Iron & Steel Eng* 35:29-30 S '58
- Open coil anneal system designed for steel plant operation. *il Iron & Steel Eng* 35:151-2+ Je '58
- Pack carburising and annealing of 4% per cent Ni-Cr-Mo case hardening steel. C. Dawes. *il Metallurgia* 53:3-9 Ji; 69-75 Ag '58
- Precipitation and magnetic annealing in a copper-cobalt alloy. J. J. Becker. *J Ap Phys* 29:317-18 Mr '58
- Spotlight on annealing; symposium abstracts. *Steel* 141:120-1 N 11 '57
- Uniaxial magnetic anisotropy induced in Fe-Ni alloys by magnetic anneal. E. T. Ferguson. *bibliog J Ap Phys* 29:262-3 Mr '58
- See also
Electric furnaces, Annealing
Furnaces, Annealing
- ANNUAL reports.** See Corporations—Reports and yearbooks
- ANNUNCIATORS**
Annunciator system uses plug-in elements. *il diag Elec World* 149:62-3 Ap 21 '58
- ANODES.** See Electrodes
- ANODIC oxidation.** See Oxidation
- ANODIZING of aluminum.** See Aluminum—Protection
- ANSHEN, S. Robert**
Recent work of Anshen & Allen. *il plans Arch Rec* 124:165-80 S '58
- ANSUL chemical company**
Career opportunities. *il Chem & Eng N* 36:16-17 pt 2 Ja 27 '58
- ANTACIDS**
Bismuth antacid; abstract. P. R. Bateson. *Drug & Cosmetic Ind* 82:512 Ap '58
- New antacid. *Drug & Cosmetic Ind* 82:376 Mr '58
- ANTARCTIC exploration**
Design of a crevasse detector for polar exploration. J. C. Cook. *bibliog il diags Franklin Inst J* 264:361-77 N '57
- Motoring to the South pole. G. Wilkins. *il Engineering* 185:372 Mr 21 '58
- Trans-Antarctic transport. V. Fuchs. *il Engineer* 205:356-7 Mr 7 '58
- ANTARCTIC regions**
Clues to climate. *Elec Eng* 77:375 Ap '58
- 1000 feet deep at the bottom of the world; deep drilling at the international geophysical year's Byrd station in Antarctica. *Comp Air Mag* 63:20 Mr '58
- Snow pit yields history of Antarctic. *Franklin Inst J* 264:527-3 D '57
- South Pole temperature observations. H. Hoinkes. *Elec Eng* 77:474-5 My '58
- Vast antarctic solar resources go to waste; abstract. H. C. Hoinkes. *Air Cond Heat & Ven* 55:95 Ap '58
- ANTENNAS.** See Radio antennas; Television antennas
- ANTHRACENE**
Furnace for the growth of naphthalene and anthracene crystals. F. R. Lipsett. *diag R Sci Instr* 29:423-4 My '58
- Meerwein arylation of anthracene, 9-phenylanthracene and 9-anthracic acid. S. C. Dickerman and others. *Chem & Ind* p360 Mr 22 '58
- Synthesis of 3'-methyl-1:2-cyclopentano-10-methyl anthracene. M. Nakazaki and S. Isoe. *bibliog Chem & Ind* p43-4 Ja 11 '58
- ANTHRACITE.** See Coal
- ANTHRALDEHYDE**
Acid-catalyzed dissociation of bis-9-anthraldehyde. F. D. Greene and others. *bibliog Am Chem Soc J* 79:5957-62 N 20 '57

ANTHRANILIC acid

Stability of metal chelates of compounds related to anthranilic acid. A. Young and T. R. Sweet. *bibliog Am Chem Soc J* 80:800-3 F 20 '58

ANTHRAQUINONE

Photoreduction by anthraquinone 2,6-disulfonic acid of cotton duck before and after weathering. A. D. Baskin and A. M. Kaplan. *bibliog Textile Res J* 28:554-9 Ji '58

See also

Aminoanthraquinone

ANTHROIC acid

Meerwein arylation of anthracene, 9-phenylanthracene and 9-anthracic acid. S. C. Dickerman and others. *Chem & Ind* p360 Mr 22 '58

ANTHROPOLOGY

Chemical anthropology, an open door. R. J. Williams. *bibliog* (53 ref) *diags Am Scientist* 46:1-23 Mr '58

ANTIBIOTIC X-465A. See Chartreusin

ANTIBIOTICS

- Amidol, bacimycin and plicacetic; chemical studies. T. H. Haskell. *Am Chem Soc J* 80:747-51 F 5 '58
- Antibiotic economics. *il Drug & Cosmetic Ind* 83:289-91-+ S '58
- Antibiotics against plant disease; duramycin, a new antibiotic from streptomyces cinnamomeus forma azcoluta. O. L. Shotwell and others. *bibliog Am Chem Soc J* 80:3912-15 Ag 5 '58
- Antibiotics for the common cold; abstract. J. M. Ritchie. *Drug & Cosmetic Ind* 82:301 Je '58
- Cancer: challenge from antibiotics. *Chem & Eng N* 36:19-20 O 27 '58
- Chemistry and partial structure of botromycin. J. M. Walsvisz and M. G. Van der Hoeven. *Am Chem Soc J* 80:383-5 Ja 20 '58
- Comparison of the growth-promoting effects of a proprietary trimethylalkylammonium stearate and a proprietary antibiotic for fattening pigs. R. S. Barber and others. *Chem & Ind* p 13-19 Ja 4 '58
- Effect of selected antibiotics on pseudomonas fluorescens, pseudomonas fragi, and pseudomonas putrefaciens. C. D. Heather and C. Vanderzant. *Food Tech* 12:263-4 My '58
- Faster antibiotics via additive. *Chem & Eng N* 36:54 F 17 '58
- FTC accuses antibiotics makers. *Chem & Eng N* 36:27-9 Ag 11 '58
- FTC charges six antibiotic sellers. *Drug & Cosmetic Ind* 83:283-+ S '58
- Germicides versus antibiotics and chemotherapeutics in the control of resistant staphylococcal infections of the skin. S. M. Peck and I. Kantor. *bibliog il Am Perfumer & Aromatics* 72:27-31 Ji '58
- Germination and growth of cress. N. Leys. *Research* 1:43-4 Ja '58
- Isolation and characterization of three crystalline antibiotics from streptomyces plicatus. T. H. Haskell and others. *Am Chem Soc J* 80:743-7 F 5 '58
- Isolation of a second antibiotic from streptomyces hygroscopicus. R. L. Mann and W. W. Broer. *bibliog Am Chem Soc J* 80:2714-16 Je 5 '58
- Kanamycin. J. Kalish. *bibliog il Drug & Cosmetic Ind* 83:155-7-+ Ag '58
- Kanamycin; characterization and acid hydrolysis studies. M. J. Cron and others. *Am Chem Soc J* 80:762-3 F 5 '58
- Kanamycin; kanamycin B. H. Schmitz and others. *Am Chem Soc J* 80:2911-12 Je 5 '58
- Kanamycin stops staph. *diag Chem & Eng N* 36:24 Ji 28 '58
- Kanamycin; the hexosamine units. M. J. Cron and others. *Am Chem Soc J* 80:2342 My 5 '58
- Kanamycin; the structure of kanamycin. M. J. Cron and others. *Am Chem Soc J* 80:4115 Ag 5 '58
- Kanamycin; the structure of kanosamine. M. J. Cron and others. *Am Chem Soc J* 80:4741-2 S 5 '58
- Look to the future. G. M. Savage. *Drug & Cosmetic Ind* 83:302-3-+ S '58
- Novobiocin; structure of the coumarin moiety. C. H. Stammer and others. *bibliog Am Chem Soc J* 80:137-40 Ja 5 '58
- Novobiocin; synthesis of novobiocic acid, dihydronovobiocic acid and cyclonovobiocic acid. C. F. Spencer and others. *bibliog Am Chem Soc J* 80:140-3 Ja 5 '58
- Novobiocin; the configuration of noviose. E. Walton and others. *bibliog Am Chem Soc J* 80:5168-73 O 5 '58

ANTIBIOTICS—Continued

- Oleandomycin (PA-105); chemical characterization (I). H. Els and others. *bibliog Am Chem Soc J* 80:377-82 JI 20 '58
- PA-147 (3-carboxy-2,4-pentadienal lactol), a new antibiotic. H. Els and others. *Am Chem Soc J* 80:878-80 F 20 '58
- Post-harvest spoilage; chemicals and antibiotics hold much promise for control of produce decay. *il J Agri & Food Chem* 6: 16-4 Ja '58
- Potential application of antibiotics in the salmon canning industry. J. A. Stern and others. *bibliog il Food Tech* 12:132-7 Mr '58
- Preservation by inoculation; antibiotics as materials preservatives. *Ind & Eng Chem* 50:sup30A-1A Mr '58
- Recent developments in food preservation technology. J. H. Taylor and E. A. Walker. *bibliog il Research* 11:62-5 F '58
- Resistant bacteria, beware; Spontin, a potent new antibiotic. *il Chem & Eng N* 35:46 D 2 '57
- Review and preview; antibiotics, steroids, pace medicinals. *Chem & Eng N* 36:84-5 Ja 6 '58
- Role of antibiotics in nutrition and metabolism. P. György. *bibliog Am J Clinical Nutrition* 6:466-71 S '58
- Structure of a new antibiotic, pyoluteorin. K. Takeda. *Am Chem Soc J* 80:4749-50 S 5 '58
- Structure of etamycin. J. C. Sheehan and others. *bibliog Am Chem Soc J* 80:3349-55 JI 5 '58
- Structure of sulcin, a new antifungal agent. R. E. Hammar and others. *Am Chem Soc J* 80:5173-3 O 5 '58
- See also
- Aureomycin
- Chlartreusin
- Erythromycin
- Penicillin
- Puromycin
- Streptomycin
- Subtilin
- Tetracycline

ANTICHOLINESTERASE

- Anticholinesterase activity; recognition and detection in the field and hospital. H. H. Golz. *bibliog A M A Archives Ind Health* 18:138-41 Ag '58

ANTIFERRROMAGNETIC resonance. See Magnetic resonance**ANTI-FREEZE solutions**

- Antifreeze market outlook. E. R. Boedeker. *il maps Soap & Chem Spec* 33:109-11+ D '57
- Quality control in antifreeze production. R. R. Bennett. *Soap & Chem Spec* 34:97+ My '58
- Reuse cuts antifreeze total. *Chem & Eng N* 36:32 My 5 '58

Testing

- Antifreeze corrosion testing. J. R. Heard and others. *il diags Soap & Chem Spec* 34: 97-8+ Mr '58
- Antifreeze performance testing. F. A. Gundlach and others. *il Soap & Chem Spec* 34: 100-3 Ja; 97+ F '58
- Corrosion of metals in ethylene glycol solutions. R. J. Agnew and others. *bibliog diag Ind & Eng Chem* 50:649-56 Ap '58

ANTI-FRICTION bearings. See Bearings, Anti-friction**ANTIGENS and antibodies**

- Antibody response to poliomyelitis vaccine administered by jet injection. M. J. Lipson and others. *bibliog Am J Pub Health* 48: 599-603 My '58
- Cancer screened; cells contain a chemical. Cytolipin H. *Chem & Eng N* 36:27 JI 28 '58
- Isolation of serum albumin from specific precipitates of serum albumin and its rabbit antibodies. T. Peters, Jr. *bibliog Am Chem Soc J* 80:2700-2 Je 5 '58
- Oral antigen preparation in the prevention of poison ivy dermatitis; results in 455 cases of ivy sensitivity. E. R. Gross. *bibliog Ind Med* 27:142-4 Mr '58
- Physical-chemical studies of soluble antigen-antibody complexes; the influence of pH on the association of a divalent hapten and antibody. S. I. Epstein and S. J. Singer. *bibliog diags Am Chem Soc J* 80:1274-83 Mr 20 '58
- Role of nutritional factors in the anti-body responses of the anamnestic process. A. E. Axelrod. *bibliog Am J Clinical Nutrition* 6:119-25 Mr '58
- See also
- Immunity

ANTIKLYSTRON. See Vacuum tubes—Traveling wave tubes**ANTI-MATTER. See Matter****ANTIMONY**

- Activation analysis with an antimony-beryllium neutron source. A. K. De and W. W. Meinke. *bibliog il diag Anal Chem* 30:1474-82 S '58
- Antimony. 1957. A. Renick. *Eng & Min J* 159: 343 F '58
- Dislocation etch pits in antimony. J. H. Wernick and others. *bibliog il J Ap Phys* 29:1013-18 JI '58
- Electroanalysis with controlled cathode potential of metallic copper applied to fabrics as metallo-organic fungicides. J. Bubernak and A. D. Baskin. *bibliog diag Textile Res J* 27:878-82 N '57
- ANTIMONY alloys**
- Anodic corrosion and hydrogen and oxygen overvoltage on lead and lead antimony alloys. P. Ruetschi and B. D. Cahan. *bibliog diags Electrochem Soc J* 104:406-13 JI '57; Discussion. 105:360-1; Reply. 361-3 Je '58
- Properties of materials; lead-tin-antimony alloys. *Materials in Design Eng* 48:117-19 Mid-O '58
- ANTIMONY chlorides**
- Reactions of phosphorus and antimony chlorides with trimethylamine, triethylamine and trimethylphosphine. R. R. Holmes and E. F. Bertaut. *bibliog Am Chem Soc J* 80:2980-3 Je 20 '58
- Reduction of phosphorus and antimony chlorides by trimethylarsine and trimethylstibine. R. R. Holmes and E. F. Bertaut. *bibliog Am Chem Soc J* 80:2983-5 Je 20 '58
- ANTIMONY iodide**
- Benzene extraction of antimony iodide. R. W. Kamette. *bibliog Anal Chem* 30:1158-9 Je '58
- ANTIMONY oxide**
- Infrared-transmitting glasses in the system K₂O-Sb₂O₃-Sb₂S₃. B. W. King and G. D. Kelly. *il diags Am Cer Soc J* 41:367-71 S 1 '58
- ANTIMONY plating**
- Antimony plating on steel and zinc. G. R. Schaer and others. *bibliog il Plating* 45: 139-43 F '58
- ANTIMONY sulfide**
- Infrared-transmitting glasses in the system K₂O-Sb₂O₃-Sb₂S₃. B. W. King and G. D. Kelly. *il diags Am Cer Soc J* 41:367-71 S 1 '58
- ANTIOXIDANTS**
- Antagonistic effect with antioxidants for unsaturated fats. E. S. Olcott and E. Elmslet. *bibliog Am Oil Chem Soc J* 35:159-60 Ap '58
- Antioxidant in malt and malt sprouts. D. L. Baker and N. N. Hellman. *bibliog Food Tech* 12:33-5 Ja '58
- Antioxidative activity of derivatives of vitamin B₆ and structurally related compounds. T. Sakuragi and F. A. Kummerow. *bibliog Am Oil Chem Soc J* 35:401-4 Ag '58
- Discover antioxidants for polyethylene. *Ind Lab* 9:110 Mr '58
- Enzymatic oxygen removal from packaged foods. D. Scott. *Food Tech* 12:sup7-8+ JI '58
- New antioxidant from yeast: isolation and chemical studies. M. Forbes and others. *bibliog Am Chem Soc J* 80:385-9 Ja 20 '58
- New protectants for polyethylene; suppressing thermal oxidation. F. H. Winslow. *il Bell Lab Rec* 36:318-22 S '58; Abstract. *Rubber World* 139:81 O '58
- Phenolic antioxidants and the stability of perineal rat fat. A. R. Johnson and others. *bibliog Am Oil Chem Soc J* 35:496-501 O '58
- Problems arising in connection with the use of antioxidants in the food industry. F. D. Tollenaar and H. J. Vos. *Am Oil Chem Soc J* 35:448-55 S '58
- Stabilization of alfalfa carotenoids with N,N'-diaryl-alpha,omega-diaminoalkanes. L. A. Gugliemelli and H. L. Mitchell. *bibliog J Agri & Food Chem* 6:126-8 F '58
- Sulfur compounds as antioxidants; analogs of beta-alkylmercaptoketones. R. B. Thompson and others. *bibliog Ind & Eng Chem* 50:797-8 My '58
- Sulphoxides and thiolsulphates as inhibitors of autoxidation and other free radical reactions. D. Barnard and others. *Chem & Ind* p318-19 JI 19 '58
- Thermal antioxidants for polyethylene. *il(cover) Bell Lab Rec* 36:78 F '58; Same. *Franklin Inst J* 265:357 Ap '58
- Toxicological studies on sesamol. A. M. Ambrose and others. *bibliog J Agri & Food Chem* 6:600-4 Ag '58

ANTIPERSPIRANTS. See Cosmetics

ANTIRACHITIC vitamins. See Vitamins—
Vitamin D

ANTISEPTIC soap. See Soap, Antiseptic

ANTISEPTICS

See also

Vioform

ANTITRUST laws. See Trusts, Industrial—Law

ANTS

Fire ant. E. O. Wilson. *Il maps Sci Am* 198:

36-41 Mr '58

Fire ant. disease; editorial. *Ind Med* 27:373-4 J1 '58

Occupational exposure to the imported fire ant. W. L. Wilson and R. B. Eads. *Il Ind Med* 27:436-8 S '58

ANXIETY

Anxiety and escape. Z. M. T. Tarkowski. *bibliog diags Engineering* 185:561-2 My 2 '58

APARTMENT houses

Apartment building from the inside out. *Il diags Arch Forum* 109:120-2 Ag '58

Apartment house bridges two city streets; Manhattan's Washington Square village. *Il Eng N* 160:23 My 22 '58

Castles in the air; 16-storey cluster block. *Il plan Engineering* 184:753 D 13 '57

First slip-formed apartment building in the United States. J. H. Doggett. *Il diag Am Concrete Inst J* 29:767-72 Mr '58

Helical design offers expensible apartments. *Il Eng N* 160:51 Je 5 '58

Housing; building types study. *Il plans diags Arch Rec* 124:163-90 J1 '58

Piles by water, girders by land; apartment over New York city's East River drive. *Il Eng N* 161:54-5 J3 '58

Rise in apartments. R. A. Miller. *Il plans Arch Forum* 109:105-11 S '58

Ten stories concreted in nineteen days; Birkenhead, England. *Il Eng N* 160:67-8 Ja 16 '58

University of Arkansas married students' apartments. *Il plan Arch Rec* 123:182-3 F '58

Air conditioning

Air conditioning; residential. *Il plans Prog Arch* 39:142-53 Mr '58

Designs and plans

Award citation; Wilshire terrace luxury apartments, Los Angeles. *Il plans diag Prog Arch* 39:88-9 Ja '58

Heating and ventilation

Low pressure steam zone system meets varied heating demands in small apartments, motels. P. S. Amber and G. H. Amber. *Il Heating-Piping* 30:102-4 J1 '58

Sheet metal ducts are solution to critical stack effect problem. L. Smith. *Il Heating-Piping* 30:130-1 Je '58

APARTMENT houses, Cooperative

Architect and his community; Architects associated; co-operative housing. *Il plans Prog Arch* 39:108-9 F '58

Home lighting, cooperative style. M. Taepke. *Il Illum Eng* 53:307-10 Je '58

APARTMENTS

Lighting

Case study; apartment lighting. R. Kelly. *Il plan Prog Arch* 39:171-7 S '58

Home lighting, cooperative style. M. Taepke. *Il Illum Eng* 53:307-10 Je '58

APATITE

Apatitlike mineral of sediments. D. McConnell. *bibliog Econ Geol* 53:110-11 Ja '58

Dahlite pseudomorphs after pyrite concretions from Big Horn basin, Wyo. R. S. Mitchell and W. C. Sherwood. *Il Am Mineralogist* 43:600-3 My '58

APLITE

Deuteric alteration of some aplite-pegmatites of the Boulder batholith, Montana, and its possible significance to ore deposition. G. J. Neuerburg. *bibliog Econ Geol* 53:287-99 My '58

APPALACHIAN region

See also

Petroleum—Appalachian region

APPEL, Karl

Appel; Dutch muralist. S. Burrey. *pers Arch Rec* 123:147-50 Ja '58

APPLE juice

Effects of sodium sorbate and ascorbic acid on attempted gamma radiation pasteurization of apple juice. E. A. Asselbergs and others. *Food Tech* 12:156-8 Mr '58

Improves juice extraction; Purdue university. N. W. Desrosier and others. *diag Food Eng* 30:99 F '58

New dihydroxy-acid (2-methyl-2:3-dihydroxy-butyric acid) in apple juices and ciders. G. C. Whiting. *bibliog Chem & Ind* p720 Jc 14 '58

See also

Cider

APPLES

Dehydrocanned apples. M. J. Powers and others. *bibliog Food Tech* 12:417-19 Ag '58

Determination of diphenylamine residues on apples. R. B. Brink and others. *J Agri & Food Chem* 6:597-600 Ag '58

p-coumaric-quinic acid from apple fruit. A. H. Williams. *Chem & Ind* p 1200 S 13 '58

APPLESAUCE

Controls consistency in-stream; controlling directly on the production line automatically guards product quality; Bowman apple products co. P. Payne. *Il diag Food Eng* 30:111-12+ S '58

Trimming time and yield factors in processing of applesauce. A. Lopez and others. *Food Tech* 12:57-84 Jc '58

APPLIANCE manufacturers. Institute of. See Institute of appliance manufacturers

APPLIED science. See Technology

APPRENTICES

Boys and girls come out to work. T. A. Prichard. *Il Engineering* 185:278-80 F 28 '58

California union okays fifth-year training in electronic controls. S. Johnson. *Control Eng* 5:28+ Ap '58

I.C.I. Billingham engineering apprentice school. *Chem & Ind* p7 Ja 4 '58

Moldmaking and tooling; moldmaker apprenticeship training. E. J. Cszasz, ed. *Plastics Tech* 4:81 Ja '58

More apprentice programs needed. *Il Steel* 143:46-7 J1 7 '58

See also

Employees, Training of

Trade schools

APPROXIMATE computation

Approximate analysis of Timoshenko beams under dynamic loads. E. A. Eoley and C. C. Chao. *diags J Ap Mech* 25:31-6 Mr '58

Approximate method for determining the wave drag of axisymmetric conical cowls. J. W. Brook. *J Aeronautical Sci* 25:401-2 Je '58

Approximate method of determining axisymmetric inviscid supersonic flow over a solid body and its wake. S. I. Cheng. *bibliog diags J Aeronautical Sci* 25:185-93 Mr '58

Approximate solution of matrix problems. A. S. Householder. *bibliog Assn for Computing Mach J* 5:205-43 J1 '58

Approximate solution of the laminar heat transfer along a heated flat plate with an arbitrary distribution of surface temperature. G. Lowe. *J Aeronautical Sci* 24:920-1 D '57

Approximation of the boundary of a supersonic axisymmetric jet exhausting into a supersonic stream. H. S. Love. *J Aeronautical Sci* 25:139-1 F '58

Approximations and the intersection method. D. E. Spencer. *bibliog Illum Eng* 53:243-9; Discussion. 249-51 My '58

Axisymmetric supersonic flow near the nose of a pointed body of revolution. L. G. Napolitano and A. Ferri. *bibliog diags J Aeronautical Sci* 24:900-4 D '57

Better estimate of entrainment from bubble-trap trays. J. R. Fair and R. L. Matthews. *bibliog diag Pet Refiner* 37:153-8 Ap '58

Chebyshev fitting criterion; method for approximating functions by polynomials. A. Spitzbart and D. L. Shell. *Assn for Computing Mach J* 5:22-31 Je '58

Cooling rates and peak temperatures in fusion welding. C. M. Adams, jr. *bibliog Il Welding J* 37:sup210-15 My '58

Financial return on railway electrification; approximate method for its determination. H. F. Brown and H. E. Marmaros. *Applications & Ind* p 163-5; Discussion. 165; Reply. 165-71 J1 '58

Higher approximation to relaxation spectra from dynamic measurements. H. Fujita. *bibliog J Ap Phys* 29:94-6 Je '58

Higher order approximations to the solution of nonuniform transmission lines. L. Solymar. *Inst Radio Eng Proc* 45:1547-8 N '57

Kinetics of the reversible Michaelis-Menten mechanism and the applicability of the steady-state approximation. W. G. Miller and R. A. Alberty. *bibliog Am Chem Soc J* 80:5146-51 O 5 '58

Network containing a periodically operated switch solved by successive approximations. C. A. Desoer. *bibliog diags Bell System Tech J* 36:1403-28 N '57

APPROXIMATE computation—Continued.

- Nonstationary velocity estimation. T. M. Burford. *Bell System Tech J* 37:1009-21 J1 '58
- Numerical calculation of certain small electrostatic effects. R. Cade and K. A. Small. *diag J Ap Phys* 29:53-5 Ja '58
- One-term approximate solutions for non-linear vibration problems. S. Mahalingam. *Roy Aeronautical Soc J* 62:450-1 Je '58
- Rapid approximation for standard deviation and coefficient of variation. J. H. Burkhalter. *Textile Res J* 28:91-2 Ja '58
- Reliability of a simple approximation. D. S. Davis. *Chem Eng* 65:150 F 10 '58
- Sample calculations of gamma-ray penetration into shelters; contributions of sky shine and roof contamination. M. J. Berger and J. C. Lamkin. *diag J Res Nat Bur Stand* 60:109-16 F '58
- Selection of the cross section for a composite T-beam. R. S. Fountain and I. M. Viest. *diag Am Soc C E Proc* 83 [ST 4 no 1318] 1-29 J1 '57; Discussion. A. Zaslavsky. 84 [ST 1 no 1521] 3-3 J1 '58
- Simplified π approximation method for calculating thermal utilization. E. M. Page and R. L. Murray. *diag Nucleonics* 16: 114-15 Mr '58
- Square root approximation. L. R. Axelrod. *Instruments & Automation* 31:1042 Je '58
- Three approximation methods for finding roots of equations to any desired accuracy; data sheet. R. C. Boucher. *diag Machine Design* 30:125-7 Ag 7 '58
- Torsion and flexure of slender solid sections. W. J. Carter. *diag J Ap Mech* 25:115-21 Mr '58
- Truncation error of discrete approximations to the solutions of Dirichlet problems in a domain with corners. P. Laasonen. *Assn for Computing Mach J* 5:32-8 Ja '58
- Use numerical integration and differentiation. W. E. Ball and R. C. Johnson. *bibliog Chem Eng* 64:232+ D '57
- See also
- Relaxation methods (mathematics)
- APTITUDE tests.** See Ability tests
- AQUAMETER.** See Volumetric analysis—Apparatus
- AQUATIC plants**
- See also
- Water hyacinths
- AQUEDUCTS**
- Prestressed pressure pipelines for Athens aqueduct. P. J. Doanides. *il map plan diag Civil Eng* 28:653-7 S '58
- Supplemental water for the San Francisco area. W. L. Berry and H. A. Howlett. *il map Am Water Works Assn J* 50:679-87 My '58
- Two contractors prove out new hard rock tunneling method; West Delaware tunnel. *il diag Eng N* 160:28-30+ Je 26 '58
- \$200 million expansion program; Colorado River aqueduct. *Eng N* 160:36 Ja 9 '58
- AQUIFERS.** See Water, Underground
- ARABAN**
- Constitution of beet araban. P. A. Finan and P. S. O'Colla. *bibliog diag Chem & Ind* p493-4 Ap 26 '58
- ARABIA**
- See also
- Petroleum—Arabia
- ARABIAN American oil company**
- Aramco plans big expansion. *Oil & Gas J* 5:63 Je 30 '58
- ARABINOFURANOSE**
- Anomeric 2,3,5-tri-O-benzoyl-D-arabinosyl bromides and other D-arabinofuranose derivatives. R. K. Ness and H. G. Fletcher, jr. *bibliog Am Chem Soc J* 80:2007-10 Ap 20 '58
- Phosphorylated sugars; syntheses of arabinofuranose and arabinopyranose l-phosphates. R. S. Wright and H. G. Khorana. *bibliog Am Chem Soc J* 80:1994-8 Ap 20 '58
- ARABINOPYRANOSE**
- Phosphorylated sugars; syntheses of arabinofuranose and arabinopyranose l-phosphates. R. S. Wright and H. G. Khorana. *bibliog Am Chem Soc J* 80:1994-8 Ap 20 '58
- ARABINOSE**
- Condensation of nitromethane with D-erythrose, D-arabinose, D-mannose and D-glycero-D-gala-heptose in aqueous alkali. J. C. Sowden and R. R. Thompson. *Am Chem Soc J* 80:2236-7 My 5 '58
- ARAMCO.** See Arabian American oil company
- ARAMITE.** See Insecticides
- ARBITRATION**
- Amended arbitration clause; finished goods contracts and receipts. *Mod Textiles Mag* 39:59 Mr '58

- Law and your profits; know your arbitration clause. W. H. Hilmyer. *Heating-Piping* 30:142 Mr '58
- ARBITRATION, Industrial**
- Do's and don'ts in arbitration. R. I. Weill. *Textile Ind* 122:61-2 J1 '58
- How would you decide? Published in monthly numbers of Rock products
- Right or wrong in labor relations. Published in bi-weekly numbers of Paint oil and chemical review
- Right or wrong in labor relations. Published in monthly numbers of Mill and factory news also
- Strikes
- ARBORS and mandrels**
- Expanding mandrel aligns parts. *il Steel* 143: 79 J1 7 '58
- Mandrel for machining cams. C. Spicer. *diag Tool Eng* 40:79 Ja '58
- Pneumatic lathe mandrel compensates for component variations. G. R. Tindale. *diag Mach* 64:181 Ja '58
- Precision expanding mandrels. *il diag Tool Eng* 41:111 S '58
- Rubber mandrel holds thin-wall liners. A. R. Gilat. *diag Am Mach* 101:157 N 4 '57
- Split arbor expanded by ball-bearing center. F. L. Rush. *diag Mach* 64:154 Mr '58
- Tables facilitate lathe winding of conical coil springs. G. G. Herzl. *diag Mach* 64:172 N '57
- Tailstock adapter supports small-dia spring mandrel. C. Willey. *diag Am Mach* 101:166 N 18 '57
- Manufacture**
- Difficult part produced with novel milling machine setup. S. C. Harden. *diag Am Mach* 101:98 D 30 '57
- ARC, Electric.** See Electric arc
- ARC lamps.** See Electric lamps, Arc
- ARC welding.** See Electric welding, Arc
- ARCHAEOLOGY**
- See also
- Greece—Antiquities
- ARCHED bridges.** See Bridges, Arched
- ARCHES**
- Analysis of open-spandrel arches. A. F. Diwan. *bibliog diag Am Soc C E Proc* 84 [ST 2 no 1564] 1-36 Mr '58
- Numerical analysis of two-hinged arches. T. D. Y. Fok and T. Au. *diag Am Soc C E Proc* 84 [ST 5 no 1758] 1-10 S '58
- See also
- Influence lines
- ARCHES, Concrete**
- Arched thin-shell roof will span 1,000 ft. *il Eng N* 160:48-9 Je 5 '58
- Arches and catenaries carry rink roof; Yale's hockey rink, New Haven. *il diag Eng N* 160:30-1+ Ap 10 '58
- Concrete block arches; supermarket in Alpena, Mich. *il diag Arch Forum* 108:130 Ja '58
- Hyperbolic paraboloids and other shells of double curvature. A. L. Parme. *bibliog diag Am Soc C E Proc* 82 [ST 5 no 1057] 1-32 S '56; Discussion. 83 [ST 2 no 1192] 57-65 Mr '57; Reply. 84 [ST 3 no 1656] 5-10 My '58
- Precast arches for gym span 132 feet; Laura Lamar joint junior-senior high school. Homer City, Pa. *il Eng N* 161:26-7, cover S 18 '58
- Soviets precast arch in parts. *il Eng N* 161:54 A 14 '58
- Tied arches made of concrete block span 100 feet; supermarket roof in Alpena, Mich. *il Eng N* 159:26-7 D 5 '57
- ARCHES, Steel**
- Long welded arches save steel in rigid-frame school structure. *il Arch Rec* 123:266 My '58
- Revised scheme, revived hope, for Saarinen's St Louis arch. E. Saarinen. *il Arch Rec* 122:11 N '57
- This building is made of arches, it's pre-engineered, it's galvanized. *il Plant Eng* 12:112-13 Ag '58
- Wide-span arches for rigid-frame school structure are completely arc welded. W. F. Fischer. *il Welding J* 37:594-6 Je '58
- ARCHIMEDEAN screw**
- English pump adapts Archimedes' screw. *il Eng N* 160:56 My 8 '58
- ARCHITECTS**
- Architect and his community; Architects associated. *il plans diag Prog Arch* 39:99-115 F '58
- Architect and his community; Fehr & Granger. *il plans Prog Arch* 39:99-104 Ag '58

ARCHITECTS—Continued

Architects and speculative housing; can a marriage be arranged? panel discussion. Arch Rec 123:18+ F '58
 Architects A.D. 2003; abstract. P. Van Bloem. Arch Forum 108:171 My '58
 Architects are enjoying a record business year. Arch Forum 108:6-7 Je '58
 Architects big and little; editorial. Arch Forum 109:87+ S '58
 Architect's education in mechanical and electrical services of buildings L. Axelbank. Prog Arch 39:11+ My '58
 Architect's high task; abstract. J. Wolfenden. Arch Forum 108:143-4 Jl '58
 Architecture's biggest firms. Arch Forum 109:112-14 S '58
 Thoughts on professionalism. R. Spilman. Prog Arch 39:13 Ag '58
 Whence architects and whither architecture? A. Bush-Brown. Arch Rec 124:10+ S '58
See also
 Allen, William Stephen
 American Institute of architects
 Anshen, S. Robert
 Breuer, Marcel
 Gaudi y Cornet, Antonio
 Kahn, Louis I.
 Maybeck, Bernard Ralph
 Nelson, George
 Rudolph, Paul
 Sert, José Luis
 Shear, John Knox
 Tange, Kenzo
 Van de Velde, Henry
 Yamasaki, Minoru

Advertising

Office brochures. Il Prog Arch 39:11+ S '58

Fees

Architects stymied in fight to obtain fees from Guam; island cannot be sued. Arch Forum 108:11+ My '58
 Fees, service and human nature; editorial. E. K. Thompson. Arch Rec 123:48+ F '58
 How much should architects be paid? F. Fogarty. Arch Forum 108:108-11+ Je '58

Law

It's the law. B. Tomson. Published in monthly numbers of Progressive architecture

Public relations

Lessons in public relations. A. B. Etkes. Prog Arch 39:11+ Ja '58
 Public relations stressed as concern of architects. G. Venne. Il Arch Rec 123:48+ Je '58

Registration

Need for a uniform licensing and registration law. B. Tomson. Prog Arch 39:7 Je '58
 Standards for licensing architects. B. Tomson. Prog Arch 39:5 Mr '58

ARCHITECTS homes. See Architecture, Domestic—Architects homes

ARCHITECTS offices

Four offices. Il plans diag Arch Rec 123:189-90, 192 Mr '58
 Office building. Il plan Prog Arch 39:95-7 Ag '58

ARCHITECTURAL acoustics. See Acoustics, Architectural

ARCHITECTURAL education

See also

Architecture—Study and teaching

ARCHITECTURAL lighting. See Lighting, Architectural

ARCHITECTURAL models

Miniature boom; demand for architectural models. J. Jacobs. Il Arch Forum 108:106-11+ My '58

ARCHITECTURAL photography. See Photography of buildings and structures

ARCHITECTURAL schools

See also

Yale university—School of architecture and design

ARCHITECTURAL societies

See also

American Institute of architects

ARCHITECTURE

Adolescent architecture; abstract. P. Rudolph. Arch Forum 109:177 S '58
 Architect-engineer collaboration in air-conditioning design. R. D'Agrosa. Il plans Prog Arch 39:9-11+ Mr '58

Chicago dynamic show; building and design conference. Arch Forum 107:12+ D '57
 Close-ups; focus on current architecture; illustrations with text. Arch Forum 108:133-5 Je '58

Design and structure. E. Contini. Prog Arch 39:152-3+ F '58

Navy's creative design symposium. Arch Rec 123:48+ F '58

Nuclear energy and the design professions; panel discussion. Il Arch Rec 122:18+, 330 N '57

Structures; tr. by G. Salvadori and M. Salvadori. P. L. Nervi. Review, by H. M. Noyes, jr. Il Arch Rec 123:68+ Ja '58

Technology misapplied. R. E. Fischer. diags Arch Rec 123:203-6 Je '58

Water and architecture. E. B. Kassler. Il diags Arch Rec 123:137-52 Je '58

Whence architects and whither architecture? A. Bush-Brown. Arch Rec 124:10+ S '58

See also

Airlines—Ticket offices

Airport buildings

Apartment houses, Cooperative

Bandstands

Bathhouses

Beach architecture

Building materials

Buildings

Childrens homes

Church architecture

Clinics

Clubhouses

College architecture

Community centers

Concrete construction

Convents

Department stores

Embassy buildings

Exhibition buildings

Factories

Hillside architecture

Interior decoration

Library buildings

Lobbies (architecture)

Medical buildings

Memorials

Municipal centers

Museums

Naval architecture

Nurses homes

Nursing homes

Office buildings

Palaces

Park buildings

Pavilions

Planetariums

Public buildings

Recreation buildings

Remodeling (architecture)

Shelters

Space (architecture)

Stadiums

Store buildings

Studios

Tennis courts, Indoor

Theaters

also subdivision

names of cities, e.g.

Baghdad

Berlin

Bogotá, Colombia

Boston

Chicago

Cologne, Germany

Havana

Mexico (city)

Milan

New Orleans

St Louis

Santa Fe, New Mexico

Tokyo

Bibliography

Books. Published in monthly numbers of Architectural forum

Required reading. Published in monthly numbers of Architectural record

Reviews. Published in monthly numbers of Progressive architecture

Competitions

Architecture and competition; editorial. Arch Forum 108:87-8 My '58

Architecture salutes the American cowboy; National cowboy hall of fame and museum, Oklahoma City. Il Arch Rec 122:10-11 D '57

Belgian transportation pavilion at Brussels receives \$25,000 AIA Reynolds memorial award. Il Civil Eng 28:626 Ag '58

Florida architects bestow one honor award, seven merits; illustrations with text. Arch Rec 123:12 My '58

For the Jersey meadows, a serpentine band of housing. Il diag Arch Forum 108:13 Ap '58

ARCHITECTURE—Competitions—Continued

- Four buildings get South Atlantic A.I.A. awards of merit. *Il Arch Rec* 124:20 JI '58
- Fourteen buildings cited in A.I.A.'s tenth honor awards program. *Il Arch Rec* 123:12-13 Je '58
- Honor awards: Western mountain region, A.I.A. *Il Arch Rec* 123:48+ Ja '58
- Mausoleum for Jinnah; London firm takes first prize in international competition. *Il plans Arch Rec* 123:32+ Je '58
- Nine architects, fourteen buildings honored in Pasadena A.I.A. awards program to celebrate Institute centennial; illustrations with text. *Arch Rec* 123:48+ F '58
- Progressive Architecture design awards seminar. *Il Prog Arch* 39:85-8 Ag; 181-2 S '58
- Progressive Architecture fifth annual design awards program. *Il maps plans diags Prog Arch* 39:81-125 Ja '58
- Texas architecture 1957; nine buildings get awards in annual competition. *Il diag Arch Rec* 123:12+ F '58
- Three-acre roof wins Reynolds architectural award; Brussels world fair transportation pavilion. K. Darby. *Il Mod Metals* 14:56+ Je '58
- Winners named in community center competition. J. C. Smith. *Il plan Arch Rec* 123:36 My '58
- Yale's hospital-design fellowship. *Il plans Prog Arch* 39:115-17 Ap '58

Architecture, Domestic—Competitions**Conservation and restoration**

- Architecture worth saving. *Il Arch Forum* 108:93-100 Je '58
- Santa Fe seeks preservation in architectural control. T. Le Viness. *Arch Rec* 123:20+ Je '58

Designs and plans

- Progressive Architecture fifth design awards program. *Il maps plans diags Prog Arch* 39:81-125 Ja '58
- UNESCO headquarters in Paris nearing completion. *Il plans diags Prog Arch* 39:65-9 Mr '58

See also subdivision Designs and plans under special subjects, e.g.

- Architecture, Domestic
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Details

- Progressive Architecture selected details. *Il plans diags Arch Prog* 39:148-9 F; 168-9 Ap; 131-7 Je; 110-11 JI '58

Exhibitions

- Art and architecture exhibit; the Patron church. *Il Arch Rec* 123:18 Mr '58
- First look at architecture exhibition of São Paulo's IV Biennial. *Il Arch Rec* 123:16D Ja '58
- Milan's eleventh triennale; the mood (mode)? International. B. Campbell. *Il Arch Rec* 123:16+ F '58
- New Zealand holds first architectural convention and exhibit. *Il Arch Rec* 122:18 D '57
- Postwar Swiss architecture on view in new exhibit. *Il Arch Rec* 122:16 N '57
- Sarasota exhibit spotlights architecture of region. *Il Arch Rec* 122:12 D '57

International aspects

- Continuing review of international building. Published in monthly numbers of Architectural forum

Good looks abroad, why not here? editorial. *Arch Forum* 108:67+ F '58

- USA abroad; 15 embassy and consular buildings. *Il plans diags Arch Forum* 107:114-23 D '57

Philosophy

- Modern architecture; architecture and the individual. F. Blake. *Il Arch Forum* 108:112-17 Je '58

Sea of ugliness; abstract. R. E. Rapson. *Arch Forum* 108:158 Mr '58

- What is architecture? F. L. Wright. *Arch Forum* 108:102 My '58

Psychological aspects

- Behind today's walls; abstract. E. Raskin. *Arch Forum* 108:155-6 Mr '58

Psychology of shells. M. G. Salvadori and E. Raskin. *diags Arch Forum* 109:112-13 JI '58

- Seagram's bet on elegance. *plan Arch Forum* 109:76-7 JI '58

Study and teaching

- Fontainebleau summer course. E. A. Pachner. *Prog Arch* 39:11 F '58
- New kind of architectural education for teachers of architecture; report of A.C.S.A.-A.I.A. joint committee. *Arch Rec* 123:28+ F '58
- Trends in architecture that are affecting the school's curriculum; abstract. E. W. McLaughlin. *Arch Forum* 108:147 F '58

British Columbia

- Look at current architecture in British Columbia. J. C. Smith. *Il Arch Rec* 123:36 Ja '58
- Spirit of architecture in the Canadian Northwest. P. Oberlander and C. Oberlander. *Il map Prog Arch* 39:120-32 F '58

Canada

- Canada's housing for aged program yields new opportunities for architects. J. C. Smith. *Il diags Arch Rec* 124:44+ JI '58
- Roundup of new buildings and current projects; illustrations with text. J. C. Smith. *Arch Rec* 122:36+ D '57

Florida

- Florida architects bestow one honor award, seven merits; illustrations with text. *Arch Rec* 123:12 My '58

New Zealand

- New Zealand holds first architectural convention and exhibit. *Il Arch Rec* 122:18 D '57

Switzerland

- Postwar Swiss architecture on view in new exhibit. *Il Arch Rec* 122:16 N '57

Texas

- Texas architecture 1957; nine buildings get awards in annual competition. *Il diag Arch Rec* 123:12+ F '58

United States

- Progressive architecture in America. A. L. Huxtable. *Il plan diag Prog Arch* 39:149-52 Ap; 105-6 Ag '58

ARCHITECTURE, American

- Architecture worth saving. *Il Arch Forum* 108:93-100 Je '58

Revised survey project resumes recording of American architectural history. E. Mickel. *Arch Rec* 123:28 Mr '58

ARCHITECTURE, Domestic

- Clinic and residence combined. G. A. Sanderson. *Il plan Prog Arch* 39:112-14 Je '58

Modular disciplines govern design for living. G. A. Sanderson. *Il plan Prog Arch* 39:114-16 Je '58

- Steel, stocks, and private man. S. Moholy-Nagy. *diags Prog Arch* 39:128-9+ Ja '58

- See also*
Apartment houses
Beach houses
Country houses
Courts (architecture)
Fireplaces
Hillside architecture
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Houses, Row
Interior decoration

Architects homes

- Eight rooms with a view; home of Daniel Schwartzman. *Il plans Arch Rec* 123:170-2 F '58

Narrow city lot yields space for outdoor living; residence for Mr and Mrs Thomas W. D. Wright. *Il plans Arch Rec* 124:167-8 Ag '58

- Prefab panels frame walls, roof of Michigan residence for Daniel W. Toshach. *Il diag Arch Rec* 123:200 Ja '58

Rectangular houses; John Black Lee's home. *Il plan Arch Rec* 122:152-3 N '57

Competitions

- Winning designs for living with the sun. *diags Arch Rec* 122:10 N '57

Designs and plans

- Contemporary Palladian villa. *Il plans diag Arch Forum* 103:126-31 S '58

Four indoor-outdoor houses. *Il plans Arch Rec* 124:150-8 JI '58

- Interior space ordered for exterior vistas. *Il plan Prog Arch* 39:118-21 My '58

Interpenetration of house by site. *Il plans Prog Arch* 39:110-13 My '58

- Record houses of 1958. *Il plans diags Arch Rec* 123:67-104 Mid-My '58

ARCHITECTURE, Domestic—Designs and plans*—Continued*

Rectangular houses. *il plans Arch Rec 122: 151-66 N '57*

Residential; award citations. *il plans diag Prog Arch 39:92-5 Ja '58*

Space expanded and enclosed for use flexibility. *il plan Prog Arch 39:104-9 My '58*

Structure and garden spaces related in sequence. *il plans diag Prog Arch 39:95-103 My '58*

Swedish villa in a forest setting. *il plans Arch Rec 123:179-4 Mr '58*

Three dimensions interwoven for living and working. *il plan Prog Arch 39:114-17 My '58*

Three-part structure for a hillside house. *il plans Arch Rec 124:205-8 S '58*

See also

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Houses, Model

California

Adobe shields congenial house. *il plans diag Arch Rec 123:110-15 Mid-My '58*

Small lot well used. *il plans diag Arch Rec 123:152-7 Mid-My '58*

Connecticut

Disciplined romanticism. *il plans diag Arch Rec 123:170-5 Mid-My '58*

Cuba

Rectangular houses, Havana. *il plans Arch Rec 122:164-6 N '57*

Florida

Bold interplay of forms. *il plan diag Arch Rec 123:86-91 Mid-My '58*

Controlled environment. *il plans diag Arch Rec 123:68, 74-9 Mid-My '58*

In the tropical tradition. *il plans diag Arch Rec 123:128-33 Mid-My '58*

Open scheme developed for small, lakeside house. G. A. Sanderson. *il plan Prog Arch 39:110-12 Je '58*

Georgia

House of linked pavilions. *il plans diag Arch Rec 123:104-9 Mid-My '58*

Illinois

Four-in-one scheme. *il plan diag Arch Rec 123:176-81 Mid-My '58*

Slated, the curtain wall. *il plan Arch Rec 123:122-7 Mid-My '58*

Japan

A house. *il Arch Rec 124:137-8 JI '58*

Louisiana

Variations in space. *il plan diag Arch Rec 123:182-7 Mid-My '58*

Windowless courtyard house. *il plans diag Arch Rec 123:116-21 Mid-My '58*

Michigan

Accent on vertical space. *il plans diag Arch Rec 123:146-51 Mid-My '58*

Minnesota

High-flying house. *il plan diag Arch Rec 123:188-93 Mid-My '58*

New York (state)

Pavilion for living. *il plans Arch Rec 123: 98-103 Mid-My '58*

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House around an atrium. *il plan diag Arch Rec 123:92-7 Mid-My '58*

Order on an irregular site. *il plans Arch Rec 123:164-9 Mid-My '58*

Pennsylvania

Compact delight. *il plans diag Arch Rec 123:140-5 Mid-My '58*

Formal country house. *il plans diag Arch Rec 123:80-5 Mid-My '58*

Sweden

Swedish villa in a forest setting. *il plans Arch Rec 123:179-4 Mr '58*

Texas

Contrast in Texas. *il plans Arch Forum 109: 82-7 JI '58*

Economy in court house design. *il plans Arch Rec 123:158-63 Mid-My '58*

Strong emphasis on privacy. *il plans Arch Rec 123:199-202 Ap '58*

Washington (state)

In the Northwest tradition. *il plan diag Arch Rec 123:134-9 Mid-My '58*

ARCHITECTURE, Japanese

Compliment to traditional Japanese architecture; U.S. Consulate general headquarters in Kobe. *il plans diag Arch Rec 123:157-64 F '58*

Handsome outpost in Japan; American Consulate in Kobe. *il plan Arch Forum 108: 70-5 F '58*

Japanese architect seeks a new expression; work of K. Tange. *il Arch Rec 124:127-38 JI '58*

People want castles; relationship between modern architecture and traditional architecture. K. Tange. *Arch Rec 123:9 Ap '58*

ARCHITECTURE, Modernistic

Architecture and popular taste. D. Haskell. *il Arch Forum 109:104-9 Ag '58*

Congress Hall debate; U.S. contribution to Berlin's international building exhibit. H. Stubbins and F. Otto. *il plan diag Arch Forum 108:116-21+ Ja '58*

Meaning of Brussels. *Arch Forum 109:153 Ag '58*

Modern architecture. P. Blake. *il plan diag Arch Forum 108:76-81 Mr; 98-103 Ap; 126-31 My; 112-17 Je; 109:120-5+ S '58*

Modern art and architecture; abstract. P. N. Youtz. *Arch Forum 108:174 My '58*

People want castles; relationship between modern architecture and traditional architecture. K. Tange. *Arch Rec 123:9 Ap '58*

Seagram's bet on elegance. *plan Arch Forum 109:76-7 JI '58*

Soviet architecture; does it have a new look? G. Gruman. *il Arch Rec 123:16+ Mr '58*

Who he? many contemporary buildings are hard to recognize for what they are. *Arch Forum 107:172+ D '57*

Yamasaki's serene campus center; Detroit's Wayne university. *il plans Arch Forum 109:78-83 Ag '58*

ARCHITECTURE, Russian

Soviet architecture; does it have a new look? G. Gruman. *il Arch Rec 123:16+ Mr '58*

ARCTIC regions

Arctic IGY research team. *Elec Eng 77:569-70 Je '58*

Army vies with nature to heat Arctic air base. N. E. Pearsall and W. O. McClune. *il diag Heating-Piping 29:77-81, cover D '57*

Building below zero; rule air base. *il diag Arch Forum 108:116-21 F '58*

Missile radar probes Arctic. *il Electronics 30:19 D 10 '57*

Preventive maintenance, Alaska style; Alaskan air command. M. E. Weissman. *il Plant Eng 12:98-101 S; 99-102 O '58*

*See also***Petroleum—Arctic regions**

Petroleum industry and trade—Arctic regions

Water supply—Arctic regions**AREA measurement**

Amateur scientist; an excursion into the problem of measuring irregular areas. C. L. Strong. *diag Sci Am 199:107-8+ Ag '58*

Effective area of diaphragms. N. Baskewitch. *diag Machine Design 30:124 Ag 7 '58*

Rapid method for calculating irregular areas; data sheet. W. G. Flannelly. *diag Machine Design 29:135 N 28 '57*

AREA of surfaces. *See Surfaces—Areas and volumes*

ARENAS. *See Stadiums***ARGENTINA***See also* subdivision Argentina under

special subjects, e.g.

Electricity supply

Gas, Natural—Pipe lines

Hydroelectric plants

Iron industry and trade

Petroleum industry and trade

Petroleum pipe lines

Standards

Steel industry and trade

ARGININE

Amino acid progress; General Mills has new way to make arginine. *il Chem & Eng N 36:50+ F 3 '58*

Cytopathologic changes in liver cord cells of arginine-deficient chicks. E. L. Jungherr and others. *bibliog il J Nutrition 65:281-92 Je '58*

Studies on arginine deficiency in chicks. H. M. Edwards, Jr., and others. *bibliog J Nutrition 64:271-9 F '58*

Synthesis of the pressor-antidiuretic hormone, arginine-vasopressin. V. du Vigneaud and others. *bibliog Am Chem Soc J 80:3355-8 JI 5 '58*

ARGININE—Continued

Synthesis of two protected hexapeptides containing the N-terminal and C-terminal sequences of arginine-vasopressin. P. G. Katsoyannis and others. *bibliog Am Chem Soc J* 80:2558-62 My 20 '58

Analysis

Ion exchange paper in rapid separation and identification of basic amino acids: arginine, histidine, and lysine from casein hydrolyzates. M. M. Tuckerman. *bibliog Anal Chem* 30:231-3 F '58

ARGON

Diffusion of argon in a potassium-lime-silica glass. M. B. Reynolds. *bibliog diag Am Cer Soc J* 40:395-8 N 1 '57

Excess helium and argon in beryl and other minerals. F. E. Damo and J. K. Kinsinger. *diags Am Mineralogist* 43:433-59 *bibliog* (p457-9) My '58

Inert gas boosts oil's ability; lubricating missiles and space vehicles. *il Chem & Eng N* 36:34-5 O 13 '58

Investigation of the perveances and beam profiles of an argon arc disk emission system. E. R. Harrison. *bibliog diags J Ap Phys* 29:909-13 Je '58

Noise and electron temperatures of some cold cathode argon discharges. E. W. Collings. *bibliog J Ap Phys* 29:1215-19 Ag '58

Physical adsorption; adsorbed monolayers of argon and nitrogen on boron nitride and on a graded series of partially graphitized carbon blacks. S. Ross and W. W. Pultz. *bibliog J Colloid Sci* 13:397-406 Ag '58

Reaction kinetics by the matrix isolation method; diffusion in argon; *cis-trans* isomerization of nitrous acid. G. C. Pimentel. *diags Am Chem Soc J* 80:62-4 Ja 5 '58

Viscosity of five gases; a re-evaluation. J. Kestin and H. E. Wang. *bibliog A S M E Trans* 80:11-17 Ja '58

Manufacture

New England gets gas plant; Airco puts oxygen-nitrogen-argon plant on stream. *il Chem & Eng N* 36:22-3 Je 30 '58

ARGONNE national laboratory

Argonne preferred for A-smasher. *Chem & Eng N* 35:59 D 9 '57

Metallurgy of experimental boiling water reactor. K. F. Smith. *il diags Metal Prog* 72:79-83 N '57

Shop custom-machines for nuclear research; Argonne national laboratory. J. R. Beil. *il Ind Lab* 9:34+ O '58

ARISTOTLE

Aristotle and the physics student. J. K. Wood. *bibliog Am J Phys* 26:175-8 Mr '58

ARITHMETIC

See also

Division
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ARIZONA

See also subdivision Arizona under special subjects, e.g.

Copper mines and mining
Electric utilities
Gas, Natural
Geology
Mines and mineral resources
Paleobotany
Petroleum
Petroleum industry and trade

ARIZONA university

Research reactor to be installed for campus training; abstract. T. L. Martin, jr. *Elec Eng* 77:569 Je '58

ARKANSAS

See also subdivision Arkansas under special subjects, e.g.

Gas, Natural
Geology
Petroleum
Petroleum industry and trade
Water supply

ARKANSAS river

Water quality studies in the Arkansas and Red River basins. K. S. Krause. *bibliog Am Water Works Assn J* 50:1166-70; Discussion. D. F. Metzler. 1170-4 S '58

ARKANSAS-White-Red Basins inter-agency committee

Organization. J. A. Short. *Am Water Works Assn J* 50:1175-9 S '58

ARMATURES

Balanced rotary-armature design for miniaturized relay assembly. *il diags Machine Design* 30:116 Ap 17 '58

Electrical engineers develop a new concept for multi-path, direct current armature windings. W. E. Menzies. *diags Machine Design* 30:134+ F 20 '58

End component of armature leakage reactance of round-rotor generators. R. T. Smith. *bibliog il diags Power Apparatus & Systems* p636-45; Discussion. 646-7 Ag '58

Phonograph cartridge uses ferrite armature. *il diags Elec Manuf* 61:151-2 My '58

Manufacture

Armatures; automatic assembly. *il diag Product Eng* 29:90 Ap 28 '58

ARMCO steel corporation

National supply co. to be merged with Armco steel corp. *Oil & Gas J* 55:107 D 30 '57

ARMED forces communications and electronics association

Annual meeting, 12th. Washington. *Electronics* 31:8+ Je 20 '58

ARMOR, Plastic

Microscopical study of a multilayer nylon body armor panel after impact, ballistic tests. G. Susich and others. *bibliog il Textile Res J* 28:361-77 My '58

ARMOUR research foundation

Armour did \$14 million worth of research in 1957. *Control Eng* 5:166-7 F '58

ARMSTRONG, Eva V.

Dexter award winner. *Chem & Eng N* 36:82 Ag 18 '58

ARMY combat development experimentation center.

See United States—Army combat development experimentation center.

ARMY institute for exploratory research.

See United States—Army institute for exploratory research

ARMY research office.

See United States—Army research office

ARMY signal research and development laboratory.

See United States—Army signal research and development laboratory

ARNEL.

See Cellulose acetate fibers

AROMATIC compounds

Additivity of electrical effects in aromatic electrophilic substitutions as determined by desilylation reactions. R. A. Benkeser and others. *bibliog Am Chem Soc J* 80:5289-94 O 5 '58

Analysis of aromatic sulfonation reaction mixtures. W. H. Houff and others. *bibliog Anal Chem* 29:1866-8 D '57

Aromatic cyclodehydration; alkoxy derivatives of the acridizinium ion. C. K. Bradsher and J. H. Jones. *bibliog Am Chem Soc J* 79:6032-4 N 20 '57

Cleavage studies of simple aromatic boronic acids. H. Gilman and others. *bibliog Am Chem Soc J* 80:1355-7 Mr 20 '58

Contribution to the anthrasteroid problem; the location of the aromatic C-methyl group and the position of the conjugated double bond. A. W. Burgstahler. *bibliog Am Chem Soc J* 79:6047-50 N 20 '57

Cyclazines, the synthesis of a new class of aromatic compounds. V. Boekelheide and R. J. Windgassen. *Am Chem Soc J* 80:2020 Ap 20 '58

Deuterium isotope effects in some intramolecular aromatic substitutions. D. B. Denney and P. P. Klemchuk. *bibliog Am Chem Soc J* 80:3289-90 Jl 5 '58

Dry cells containing various aromatic nitro compounds as cathode materials. C. K. Morehouse and R. Glicksman. *Electrochem Soc J* 105:306-11 Je '58

Effect of various Friedel-Crafts catalysts on the rates and kinetics of the reaction of benzoyl chloride with aromatics. F. R. Jensen and H. C. Brown. *bibliog Am Chem Soc J* 80:3039-47 Je 20 '58

Electron spin resonance spectra of aromatic mononegative and monopositive ions. E. de Boer and S. L. Weissman. *bibliog Am Chem Soc J* 80:4549-55 S 5 '58

High pressure-high temperature reactions; the trimerization of aromatic nitriles. I. S. Bengelsdorf. *bibliog Am Chem Soc J* 80:1442-4 Mr 20 '58

Homolytic reactivity of aromatic side-chains. K. M. Johnston and G. H. Williams. *bibliog Chem & Ind* p328 Mr 15 '58

Industrial organic intermediates; past, present and future. D. A. W. Adams. *Chem & Ind* p 1428-33 N 2 '57

Intramolecular aromatic ring-hydrogen bonding. D. S. Trifun and others. *bibliog diags Am Chem Soc J* 79:6566-7 D 20 '57

Investigation of the electrochemical properties of organic compounds; aromatic nitro compounds. R. Glicksman and C. K. Morehouse. *bibliog Electrochem Soc J* 105:299-306 Je '58

AROMATIC compounds—Continued

Kinetics of the Friedel-Crafts sulfonylation of aromatics with aluminum chloride as catalyst and nitrobenzene as solvent. F. R. Jensen and H. C. Brown, *bibliog Am Chem Soc J* 80:4038-41 Ag 5 '58

Mechanisms of exchange reactions between elementary iodine and aromatic iodides. S. Levine and R. M. Noyes, *bibliog Am Chem Soc J* 80:2401-9 My 20 '58

Migration of carboxylate groups in aromatic systems. J. I. Jones and others, *bibliog Chem & Ind* p659-60 My 31 '58

New method for determining the reactivity of a particular ring position in an aromatic system. R. A. Benkeser and others, *bibliog Am Chem Soc J* 80:5294-7 O 5 '58

Nucleophilic displacement reactions in aromatic systems; catalysis of the reaction of 2,4-dinitrochlorobenzene and *n*-butylamine by triethylamine in chloroform. S. D. Ross and R. C. Petersen, *Am Chem Soc J* 80:2447-9 My 20 '58

Nucleophilic reactivity of sodium thiophenoxide with aromatic substrates. J. F. Bunnett and W. D. Merritt, jr, *bibliog Am Chem Soc J* 79:5967-9 N 20 '57

Platinum-catalyzed exchange of aromatic compounds with deuterium oxide. W. G. Brown and J. L. Garnett, *bibliog Am Chem Soc J* 80:5272-4 O 5 '58

Polarographic reduction of some aromatic aldehydes. R. M. Powers and R. A. Day, jr, *bibliog Am Chem Soc J* 80:808-11 F 20 '58

Pyrolysis of aromatics and related heterocycles. J. J. Madison and R. M. Roberts, *bibliog diags Ind & Eng Chem* 50:237-50 F '58

Reactions of free radicals with aromatics. E. L. Eliel and others, *bibliog Am Chem Soc J* 80:3303-22 J 15 '58

Reactions of perchloryl fluoride with organic compounds; perchlorylation of aromatic compounds. C. E. Inman and others, *bibliog Am Chem Soc J* 80:5288-8 O 5 '58

Replacement of bromine by chlorine in aromatic compounds. W. E. Hardy and R. B. Fortenbaugh, *bibliog Am Chem Soc J* 80:1716-18 Ap 5 '58

Salt effect in the aromatic nucleophilic substitution reaction. J. D. Reinheimer and others, *bibliog Am Chem Soc J* 80:164-8 Ja 5 '58

Simultaneous synthesis of aromatic acid chlorides and metal chlorides. R. C. Schreyer, *Am Chem Soc J* 80:3483-4 J 15 '58

Some bromine-containing and sulfur-containing aromatic boronic acids. L. Santucci and H. Gilman, *bibliog Am Chem Soc J* 80:193-6 Ja 5 '58

Study of the hydrolysis of phosphonamides; aromatic phosphonamides. J. D. Chanley and E. Feageson, *bibliog Am Chem Soc J* 80:2686-91 Je 5 '58

Sulfonation of poly(vinyl aromatics). H. H. Roth, *bibliog Ind & Eng Chem* 49:1820-2 N '57

Ultrasonic cleavage of some aromatic and heterocyclic rings. D. L. Currell and L. Zechmeister, *bibliog Am Chem Soc J* 80:205-8 Ja 5 '58

See also

Hydrocarbons, Aromatic

Analysis

Determination of aromatic nitro compounds. W. B. Koniecki and A. L. Linch, *bibliog Anal Chem* 30:1134-7 Je '58

Low voltage techniques in high molecular weight mass spectrometry. H. E. Lumpkin, *bibliog diags Anal Chem* 30:321-5 Mr '58

Nature of the fixed phase or of the carrier in gas-liquid partition chromatography of essential oils and aromatics. Y. R. Naves, *Am Perfumer & Aromatics* 71:38 My '58

AROMATIZATION

Base-catalyzed elimination and aromatization of a cyclohexadienamine and its methiodide. C. R. Hauser and D. N. Van Eenam, *bibliog Am Chem Soc J* 79:6274-7 D 5 '57

Thermal and acid induced aromatizations of an *exo*-methylenecyclohexadienamine with alcohols; relation to *ortho* substitution rearrangement. C. R. Hauser and D. N. Van Eenam, *bibliog Am Chem Soc J* 79:6277-9 D 5 '57

AROSORB process. See Hydrocarbons—Separation processes

ARSENATES

Separation of uranium from other metals in sulphate solution by fractional hydrolysis; precipitation in the presence of phosphate, arsenate and silicate. T. V. Arden and others, *J Ap Chem* 8:151-9 Mr '58

See also

Rare earth arsenates

ARSENIC**Analysis**

Determination of arsenic; abstract. S. Meyer and O. G. Koch, *Ind Chem* 34:349 Je '58

Determination of arsenic in hydrocarbon reforming catalysts by neutron activation. G. F. Shipman and O. I. Miner, *bibliog diags Anal Chem* 30:210-12 F '58

Determination of arsenic in iron and steel. diags Iron & Steel Inst J 188:331-7 Ap '58

Determination of arsenic in petroleum fractions and reforming catalyst. D. Lieder- man and others, *bibliog diags Anal Chem* 30:1543-6 S '58

Determination of small amounts of arsenic in selenium. J. F. Reed, *bibliog Anal Chem* 30:1122-4 Je '58

Sources of error in microdetermination of arsenic. H. S. Satterlee, *bibliog (23 titles) diags M A Archives Ind Health* 17:218-29 Mr '58

Isotopes

Preparation of carrier-free vanadium, scandium, and arsenic activities from cyclotron targets by ion exchange. U. Schindewolf and J. W. Irvine, jr, *bibliog Anal Chem* 30:906-8 My '58

ARSENIC compounds

Toxicity of arsenical compounds to microorganisms. R. A. Zabel and F. W. O'Neill, *bibliog Tappi* 40:911-14 N '57

ARSENIC oxides**Physiological effect**

Acute oral toxicity and chemical and physical properties of arsenic trioxides. J. W. E. Harrison and others, *bibliog I A M A Archives Ind Health* 17:118-23 F '58

ARSENIC trioxide. See Arsenic oxides

ARSENICALS. See Arsenic compounds

ARSINE

Dietary arsine complexes of bi- and ter-valent rhodium. N. F. Curtis and others, *bibliog Chem & Ind* p625-6 My 24 '58

Reduction of phosphorus and antimony chlorides by trimethylarsine and trimethylstibine. R. R. Holmes and E. F. Bertaut, *bibliog Am Chem Soc J* 80:2983-5 Je 20 '58

ART

Art in Swedish schools. G. Hellman, *il Arch Fac* 123:198-9 F '58

Modern art and architecture; abstract. P. N. Youtz, *Arch Forum* 108:174 My '58

See also

Architecture
Ceramic art
Mural painting and decoration
Photography
Sculpture

ART and science

Creative process. J. Bronowski, *il diags Sci Am* 199:58-65 S '58

ART industries

See also

Ceramics
ART objects

Conservation and restoration

Care of works of art. F. I. G. Rawlins, *il Research* 11:2-6 Ja '58

ARTEMISIA absinthium

Contribution to the structure of absinthin and anabsinthin. L. Novotny and others, *Chem & Ind* p465-6 Ap 19 '58

ARTEMISIN

Constitution and stereochemistry of artemisin. M. Sumi, *bibliog Am Chem Soc J* 80:4869-75 S 20 '58

ARTERENOL**Analysis**

Fluorometric determination of adrenalalin and noradrenalalin in aqueous solution. S. Ros-ton, *Anal Chem* 30:1363-6 Ag '58

ARTERIOSCLEROSIS

Atherosclerosis breakthrough; gas chromatography advances lead to quick separation of key fatty acids from complex lipids. *Chem & Eng N* 36:48 F 3 '58

Current trends in atherosclerosis research. J. H. Bragdon, *bibliog I A M A Archives Ind Health* 18:222-7 S '58

ARTHRITIS

Hydrocortisone ionization; a study to determine the effects of a new method of utilizing hydrocortisone in the treatment of rheumatoid and osteoarthritis. C. G. Paski and others. *bibliog Ind Med* 27:233-8 My '58
More punch in steroids; new Merck compound could be most potent antiarthritic steroid. *diags Chem & Eng N* 36:42-3 Je 30 '58
Now, 16 beta steroids. *Chem & Eng N* 36:40 Ag 25 '58

ARTIFICIAL diamonds. See **Diamonds, Artificial**

ARTIFICIAL eyelashes. See **Eyelashes, Artificial**

ARTIFICIAL islands. See **Islands, Artificial**

ARTIFICIAL lakes. See **Lakes, Artificial**

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Enamel and enameling (arts and crafts)

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Pottery (arts and crafts)

ARUBA (island)

See also

Water supply—Aruba (island)

ARYL compounds

Amine boranes; the preparation of pyridine arylboranes. M. F. Hawthorne. *bibliog Am Chem Soc J* 80:4291-3 Ag 20 '58

Amine boranes; the preparation of pyridine diarylboranes. M. F. Hawthorne. *bibliog Am Chem Soc J* 80:4293-6 Ag 20 '58

Transmission of electrical effects through homolytic systems; kinetics of solvolysis of some 6-arylcholesteryl ρ -toluenesulfonate esters. R. A. Snee. *bibliog Am Chem Soc J* 80:3977-81 Ag 5 '58

Transmission of electrical effects through homolytic systems; the synthesis and physical properties of a series of 6-arylcholesteroles and of 6-arylcholesteryl ρ -toluenesulfonate esters. R. A. Snee. *bibliog Am Chem Soc J* 80:3971-6 Ag 5 '58

ARYL group

Polymethine dyes; a comparison of several vinylogous series in which the polymethine chains are terminated by aryl groups. W. B. Tuemmler and B. S. Wildt. *bibliog Am Chem Soc J* 80:3772-7 JI 20 '58

Syntheses by free radical reactions; the addition of stable aryloxy radicals to unsaturates. W. R. Hatchard and others. *bibliog Am Chem Soc J* 80:3636-40 JI 20 '58

ASBESTOS

Asbestos from Black lake. *il Chem & Eng N* 36:22-4 O 27 '58

Asbestos, 1957. W. A. Rukeyser. *Eng & Min J* 159:162-5 F '58

Asbestos-phenolics aid rocket and missile flight. D. V. Rosato. *il Plastics World* 16:4-6 Ap '58

Asbestos textiles and brake linings. *il Engineering* 185:412 Mr 28 '58

Behaviour of compressed asbestos-fibre gaskets in narrow-faced, bolted, flanged joints. M. B. Donald and J. M. Salomon. *bibliog diag Inst Mech Eng Proc* 171 no 31:829-33; Discussion. 859-69 '57

Canadian asbestos slumps. *Chem & Eng N* 36:91-3 O 20 '58

Epoxy-asbestos for class B insulation. *il Materials in Design Eng* 46:208+ N '57

Factory for asbestos products; Turner brothers asbestos co. *il Engineer* 205:406 Mr 14 '58

Incentive awards for good safety records; Asbestos corp. J. M. Smith. *il Min Cong J* 44:75-8 Je '58

New high-temperature material; asbestos-phenolic laminates. *Chem & Eng N* 36:58 F 3 '58

Superior heat resistance and bonding of asbestos-base phenolic compounds. H. E. Barkan. *Elec Manuf* 61:12 Mr '58

Thermal insulation materials. R. J. Fabian. *il Materials in Design Eng* 47:122-4 Mr '58

Analysis

Identification of minerals associated with asbestos by X-ray diffraction patterns. M. S. Badollet and J. P. McGourty. *il Can Min & Met Bul* 51:335-40 Je '58

Manufacture

Air gently separates fiber from rock in asbestos mill. *il Rock Prod* 61:89+ JI '58

ASBESTOS workers

Epidemiological study of lung cancer in asbestos miners. D. C. Braun and T. D. Truan. *A M A Archives Ind Health* 17:634-53 bibliog(p651-3) Je '58

ASCORBIC acid. See **Vitamins—Vitamin C**

ASH, Volcanic. See **Volcanic ash, tuff, etc.**

ASH handling

Eddystone station, new Philadelphia electric co. has longest vacuum ash system. *il diag Power Eng* 62:67 S '58

ASHES

Fuel ash attack on aluminum coated stainless steel. J. E. Srawley. *bibliog il diags Corrosion* 14:54-6 Ja '58

See also

Oil fuel—Ash content

Analysis

Ash in paper; proposed revision of TAPPI standard T413 m-54. *Tappi* 41:sup 127A-8A JI '58

Ash in pulp; proposed revision of TAPPI standard T211 m-54. *Tappi* 41:sup 126A-7A JI '58

Ash in wood; proposed revision of TAPPI standard T15 m-54. *Tappi* 41:sup 127A JI '58

ASPARTIC acid

Characterization of polyaspartic acid and some related compounds. A. Vegotsky and others. *bibliog Am Chem Soc J* 80:3361-6 JI 5 '58

ASPEN

Diploid versus triploid aspen as pulpwood sources with reference to growth, chemical, physical, and pulping differences. J. P. van Buijtenen and others. *bibliog Tappi* 41:170-5 Ap '58

Hypochlorite as the third stage in bleaching aspen neutral sulphite semichemical pulp. N. A. Jappe. *bibliog il Tappi* 41:224-31 My '58

Petroleum ether extracts of aspen bark. R. L. Hossfeld and W. T. Hunter. *bibliog Tappi* 41:359-62 JI '58

Study of the developing tissues of aspenwood. R. F. Sultze, jr. *bibliog(34 ref) il diag Tappi* 40:985-94 D '57

ASPHALT

Additives for asphalt? W. B. Warden. *Pet Eng* 30:C 14 Mr '58

Asphalt content of crude oil. W. L. Nelson. *Oil & Gas J* 56:123 Ja 6 '58

Asphalt demand; 137 million barrels in 1960-67? H. O. Jason. *Pet Eng* 30:C8-11 Mr '58

Asphalt molecular structure probed; abstract. H. F. Hardman. *Eng N* 160:58 Je 12 '58

Asphalt plant finds electric heat economical; Rochester coal, trucking, and contracting co. J. Aldridge. *il Elec World* 150:114 Ag 18 '58

Asphalt technology is progressing. H. G. Nevitt. *Roads & Sts* 101:157-8+ Mr '58

Know your asphalts. E. J. Barth. *Pet Refiner* 36:290 S; 118 O; 316 N; 124 D '57; 37:194 Ja; 150 F; 172 Mr; 180 Ap; 234 My; 212 Je; 140 JI; 152 Ag '58

Progress in asphalt uses and specifications. S. H. Alexander and A. J. Holberg. *il Pet Eng* 30:C 11-14 Mr '58

Propane deasphalting and fractionation; M. W. Kellogg co. flow diag *Pet Refiner* 37:276 S '58

Solvent decarbonizing; M. W. Kellogg co. flow diag *Pet Refiner* 37:279 S '58

See also

Bituminous materials

Gilsonite

Manufacture

Tailor-made asphalts. E. J. Barth. *il Pet Eng* 30:C22-5 Mr '58

Testing

Know your asphalts; new trends in asphalt testing. E. J. Barth. *Pet Refiner* 37:234 My '58

New asphalt tests needed. *Oil & Gas J* 56:96-7 Ap 21 '58

Transportation

First asphalt tanker ready for duty. *il Oil & Gas J* 56:78 Mr 3 '58

ASPHALT coated paper. See **Paper, Asphalt coated**

ASPHALT coating

Tentative recommended specifications for asphalt-type protective coatings for underground pipe lines. *Corrosion* 14:37-8 Ag '58

Thermal insulation materials; asphalt coatings. R. J. Fabian. *Materials in Design Eng* 47:138 Mr '58

ASPHALT lining

Asphalt lining of radiochemical waste storage basins. C. D. Watson and others. bibliog flow sheet. *Il Ind & Eng Chem* 50:sup8A-91A Ag '58

Asphalt panels for economical reservoir lining. L. R. Hovater. *Il Civil Eng* 28:644-5 S '58

Two keys to a low-cost reservoir; asphalt lining and simple wood roof. *Il Eng N* 161:49-50+ JI 17 '58

ASPHALT plants

Ames & Webb, inc.; asphaltic concrete capacity doubled at Virginia plant. B. C. Herod. *Il Pit & Quarry* 50:110-12 F '58

Asphalt plant design; mixer and dryer innovations. *Il Roads & Ssts* 101:122+ Ja '58

Big capacity plant mixes asphalt for Mackinac bridge. *Il Roads & Ssts* 101:153, cover F '58

Design and operation of modern asphalt plants. D. W. Gagle. flow plan *Il diags Pet Eng* 30:C 15-16+ Mr '58

ASPHALT plants, Portable

Automatic blender takes to the road; mobile asphalt-mixing plant. P. A. Jassoy. *Il diag Control Eng* 5:121 Ja '58

Portable asphalt plant speeds street patching; Wylie mfg. co. Patchmobile. M. Huston. *Il Pub Works* 89:214 S '58

ASPHALT roads. See Roads, Asphalt

ASPHALT roofing. See Roofing, Asphalt

ASPIDOSPERMINE

Aspidospermine; nuclear magnetic resonance spectra and classical degradations. H. Conroy and others. bibliog *Am Chem Soc J* 85:5173-85 O 5 '58

ASPIRIN

Aspirin and buffered aspirin. J. Kalish. *Drug & Cosmetic Ind* 82:304-5+ Mr '58

Aspirin for diabetes. J. Reid and A. I. MacDougall. *Drug & Cosmetic Ind* 82:226 F '58

Aspirin setting production record. *Chem & Eng N* 35:36 N 18 '67

ASSAYING

Mass isotope dilution assay for gibberellic acid. B. H. Arison and others. bibliog *Anal Chem* 30:1083-5 Je '58

Principles of isotope dilution assays. C. Rosenblum. bibliog (65 ref) *Anal Chem* 29: 1740-4 D '57

ASSEMBLING machines

Armatures; automatic assembly. *Il diag Product Eng* 29:90 Ap 28 '58

Automatic assembling and precision boring machine. *Il Mach* 64:174 Ag '58

Huntingdon and Porter partition assemblers. J. W. Honeysett, Jr. *Tappi* 40:sup 176A-9A N '57

Mechanical-assembly equipment. G. R. Fitzgerald. *Il Mech Eng* 79:332-4 Ap '57; Same abr. *Product Eng* 28:A 26-37 Mid-O '57; Abstract. *diag Tool Eng* 38:215-16 F '57; Discussion. *Mech Eng* 80:112-13 F '58

1958 production preview; welding and assembly. *Il Am Mach* 102:211-12 Ja 27 '58

Semi-automatic machine for Oldsmobile engine assembly. J. Geschelin. *Il Automotive Ind* 113:60-2+ F 1 '58

ASSEMBLING methods

A. O. Smith speeds frames; marriage fixture shows how sections are joined. *Il Steel* 142:71-2 Ap 21 '58

Assembling the army's M-274 weapons carrier. *Il Automotive Ind* 113:24-5 Mr 1 '58

Assembling transmission in the air; Chrysler corp.'s TorqueFlite plant. T. Metaxes. *Il Mill & Factory* 61:127-8 N '57

Automatic assembly; check-chart for single-part complexity. P. C. Noy. *diags Product Eng* 29:124-5 Mr 31 '58

Automatic assembly moves ahead; Ford's Hardware div. plant. *Il Steel* 142:120-1 Mr 3 '58

Automatic assembly trims cost 30 per cent; Gillette safety razor co. *diags Steel* 142:104-5 Mr 24 '58

Automatic engine assembly on transfer machines; Oldsmobile div. of General Motors corp. C. H. Wick. *Il Mach* 64:103-7 Ag '58

Automatic transfer solves assembly jigsaw puzzle; Ford motor co.; illustrations with text. *Am Mach* 102:71-3 JI 28 '58

Automation emerging slowly. *Il Electronics* 31: 18-19, cover Ap 18 '58

Brazing makes strong assemblies out of paper-thin parts. A. Geib and G. E. Korb. *Il Am Mach* 102:105 Je 18 '58

Components suitable for automatic assembly; abstract. J. W. Buffington. *Brit Inst Radio Eng J* 18:256 Ap '58

Controls up output; static control brings about a 10 to 15 per cent increase in production on a sparking assembly machine at General Motors. *AC spark plug div.* *Il Steel* 142:123 Ap 7 '58

Efficient assembly methods at Fruehauf trailer co. *Il Automotive Ind* 117:71 N 15 '57

Efficient parts handling in new outboard motor plant; Evinrude motors. *Il Automotive Ind* 118:66-8+ Je 1 '58

Equations predict chance of misfit in assembling. W. Hanka. *diags Product Eng* 29: 61-3 My 26 '58

Experienced hands shape a new car; Edsel automobile. R. H. Spiotta. *Il Mach* 64:150-5 D '57

Four vibratory feeders set fast assembly pace. R. Le Grand. *Il Am Mach* 102:154 Ap 21 '58

Handling small parts for assembly. E. G. Reader. *Il diags Automation* 5:52-8 Ja '58

Lazy-susan worktables cut assembly costs. B. C. Brosheer. *Il Am Mach* 102:96 JI 14 '58

Mechanical fasteners for military electronic equipment; assembly costs. G. H. Lines. *diags Elec Manuf* 61:123-4 Je '58

Overhead conveyors feed assembly benches; Minneapolis-Honeywell regulator co. J. V. Jensen. *Il diags Am Mach* 101:94-6 D 30 '57

Planning automatic assembly. G. H. Kendall and L. Walter. *Il plans diags Engineering* 186:184-5 Ag 3 '58

Probability applied to assembly fits. G. D. Phil. *diags Product Eng* 28:88-9 N 25 '57

Production nuggets; information from American machinist and other publications; developments to watch; assembly, heat treat, finishing. *Il Am Mach* 102:F 1-9 Mid-S '58

17 wedge-action assemblies for temporary or semi-permanent assembly. F. Strasser. *diags Product Eng* 29:96-7 Mr 17 '58

Shop for large structural assembly work; Ransomes and Rapier, Ltd. *Il Engineer* 206:457-8 S 19 '58

Shrink-fit assemblies gain in popularity. D. W. Thomas. *Il diags Mach* 64:112-14 Je '58

Specialized handling equipment for chassis frame assembly at Budd co. plant. C. A. Weinert. *Il diags Automotive Ind* 117:48-51 O 15 '57

Tape programs assembly; two-coordinate system positions circuit boards beneath a drilling and a component-inserting head. *Il diag Product Eng* 29:66 Mr 3 '58

Toy train inspires automatic assembly; General electric co.'s Meter dept. G. C. Thomas and others. *Il diag Mod Materials Handling* 13:118-21 Mr '58

Welding methods fabricate railroad cars. *Il Mach* 65:165-6 O '58

Wire lists simplify assembling. J. D. Wingfield. *Il diag Electronics* 31:112+ Je 6 '58

See also

Automation

Automobile assembly plants

Costs

Cost of assembly; reference book sheet, *diags Am Mach* 101:175 Mr 25 '57; Same. *Product Eng* 28:G4 Mid-O '57

ASSESSMENT

Financing main extensions by betterment assessments. K. W. Roble. *diag Water Works Eng* 111:577+ Je '58

Municipal parking financed by special assessment district. R. B. Riddle. *Il Pub Works* 89:135 Ap '58

ASSOCIATED equipment distributors

Annual meeting, 39th, Chicago. Jan. 26-30. Pit & Quarry 50:42 Mr '58; Roads & Ssts 101:65+ Mr '58

ASSOCIATED general contractors of America Annual meeting, 39th, Dallas. Feb. 10-13 Arch Forum 108:12 Mr '58; Civil Eng 28:222 Mr '58; Pit & Quarry 50:46 Ap '58

Annual meeting, 39th, Dallas. Feb. 10-13; highway session. Roads & Ssts 101:66-9 Ap '58

AGC's getting a new look. *Il Eng N* 160:25-7 Je 12 '58

Midyear board meeting, Seattle. Civil Eng 27:827 N '57; Roads & Ssts 100:133-4 N '57

ASSOCIATION of American railroads**Communications section**

Annual meeting, 34th. Electronics 31:12+ S 26 '58

ASSOCIATION of American soap and glycerine producers

Annual meeting, New York. Jan. 22-24. Soap & Chem Spec 34:43-7+ F '58

ASSOCIATION of Diesel specialists

Meeting, New Orleans. Diesel Power 35:54 N '57

ASSOCIATION of Edison illuminating companies

Annual meeting, 73d, White Sulphur Springs, Oct. 23-26, Elec World 148:53-60+ N 11 '57

ASSOCIATION of iron and steel engineers

Annual meeting and exposition, Cleveland, Sept. 23-26; program, list of exhibitors; abstracts of papers. Iron & Steel Eng 35:176-97 S '58

Annual meeting, Cleveland, Sept. 23-26; program. Steel 143:130+ S 15 '58

District chairmen, 1957-1958. Iron & Steel Eng 35:80-1 Mr '58

Engineering societies of America. T. J. Ess. J Gen Elec R 61:36-8 Mr '58

Officers and directors, 1958; national committees. Iron & Steel Eng 35:90-4 Ja '58

Spring meeting, Birmingham, April 21-23; program and abstracts of technical papers. Iron & Steel Eng 35:103-11 Mr '58

Western meeting, Los Angeles, Feb. 24-26; abstracts of papers. Iron & Steel Eng 35:106-11 Ja '58

ASSOCIATION of oilwell servicing contractors

Annual meeting, 2d, Dallas. Pet Eng 30:B42 Mr '58

ASTIGMATISM (lenses)

Use of the optical path concept in the study of spherical surfaces. D. G. Douglas. Am J Phys 26:14-16 Ja '58

ASTRO navigation gear. See Aeronautic instruments**ASTRONAUTICAL congress, International. See International astronomical congress****ASTRONAUTICAL federation, International. See International astronomical federation****ASTRONAUTICAL society, American. See American astronomical society****ASTRONAUTICS. See Space flight****ASTRONOMICAL instruments**

See also Spectroheliograph

Telescope

ASTRONOMICAL models

See also Planetariums

ASTRONOMICAL observatories

Observatory for the study of meteors near Ottawa. F. R. Park. J Eng 41:68-70 Ag '58

ASTRONOMICAL photography

New film to take close look at Mars; Kodak spectroscopic film, type IV-G. Ind Lab 9:13 Jl '58

ASTRONOMICAL photometry. See Photometry, Astronomical**ASTRONOMY**

Celestial ionospherics, the ultimate astronomy. W. J. Berger. Jet Propulsion 28:337-8 My '58

See also Comets

Galactic systems

Jupiter (planet)

Meteors

Milky way

Moon

Orbits

Planets

Radio astronomy

Stars

Venus (planet)

ASWAN high dam. See Dams**ASYNCHRONOUS generators. See Electric generators, Alternating current****ATHENS, Greece****Water supply**

Prestressed pressure pipelines for Athens aqueduct. P. J. Doanides, J map plan diags Civil Eng 28:653-7 S '58

ATHEROSCLEROSIS. See Arteriosclerosis**ATISINE**

Atisine; chemistry and structure of the carbocyclic bridged system. D. Dvornik and O. E. Edwards. J Biol Chem & Ind p623-4 My '58

Carbocyclic bridged system in atisine. S. W. Pelletier. J Biol Chem & Ind p 1116-17 Ag 23 '58

1-Methyl-6-ethyl-3-azaphenanthrene, a key degradation product of atisine. D. M. Locke and S. W. Pelletier. J Biol Chem Soc J 80:2358-9 Mr '58

ATLANTA**Lighting**

Bright Lights. G. B. Arthur. J Pub Works 89:114-16 Ap '58

Sewerage

Three-way control of sludge digestion; R. M. Clayton sewage treatment plant. J. C. Kelley. J Water & Sewage Works 105:170-1 Ap '58

ATLANTIC ocean

Circulation of Atlantic studied. Franklin Inst J 266:79-80 Jl '58

ATLANTIC research corporation

Career opportunities. J Chem & Eng N 36:18 pt 2 Ja 27 '58

ATLAS. See Guided missiles**ATLAS powder company**

Career opportunities. J Chem & Eng N 36:19 pt 2 Ja 27 '58

ATMOSPHERE

Atmospheric effects on vhf and uhf propagation. G. H. Millman. J Inst Radio Eng Proc 46:1492-501 Ag '58

Atmospheric limitations on missile photography. S. Q. Duntley. SMPTE J 67:231-3 Ap '58

Atmospheric optics. H. C. Schepler. J SMPTE J 67:225-7 Ap '58

Effect of atmosphere on surface tension of glass. N. M. Parikh. J Appl Phys 29:11-12 Ja 1 '58

Investigation of long-distance overwater tropospheric propagation at 400 mc. H. E. Dinger and others. J map diags Inst Radio Eng Proc 46:1401-10 Jl '58

Measurement and analysis of gust structure. H. H. Brooke. Roy Aeronautical Soc J 62:304-5 Ap '58

Radiometer studies atmosphere. Electronics 31:92 Ag 15 '58

Tropospheric radio propagation; report on URSI commission. J. E. Smyth. J Inst Radio Eng Proc 46:1358-61 Jl '58

Tropospheric scatter propagation; summary of recent progress. H. Staras. J Biol Diags RCA R 19:3-18 Mr '58

Tropospheric scatter system evaluation. M. Telford. J Biol Diags Brit Inst Radio Eng J 18:511-23 S '58

See also Air

Auroras

Meteorology

ATMOSPHERE, Upper

Apparent saturation in F₂ layer; relationship between F₂-layer critical frequency and sunspot number. T. W. Bennington. Wireless World 64:472-3 O '58

Attenuation of radio waves reflected from the E-region of the ionosphere. R. W. Meadows. J Biol Diags Inst E E Proc 105 pt B:22-6 Ja '58

Canadian armament research and development establishment I.G.Y. upper air research program. R. F. Chinnick. J Biol Diags Inst E E Proc 105 pt B:27-32 Ja '58

Effect of fading on the accuracy of measurement of ionospheric absorption. R. W. Meadows and A. J. G. Moorat. J Biol Diags Inst E E Proc 105 pt B:27-32 Ja '58

Effect of the earth's magnetic field on absorption for a single-hop ionospheric path. R. W. Meadows and A. J. G. Moorat. J Biol Diags Inst E E Proc 105 pt B:33-7 Ja '58

International geophysical year; ionosphere. D. C. Rose. J Eng J 41:52-3 Ag '58

IGY probes ionosphere; illustrations with text. Electronic Ind 17:104 F '58

Investigation of the perturbations imposed upon radio waves penetrating the ionosphere. R. S. Lawrence. J Biol Diags Inst E E Proc 105 pt B:38-40 Ja '58

Ionosphere review 1957; record high conditions. W. Bennington. Wireless World 64:77-8 F '58

Ionospheric radio propagation; report on URSI commission. L. A. Manning. J Biol Diags Inst E E Proc 105 pt B:38-40 Ja '58

Long-distance h/f broadcasting; factors governing effective coverage of target area. T. W. Bennington. J Biol Diags Inst E E Proc 105 pt B:38-40 Ja '58

Off-path propagation at vhf. V. C. Pineo. J Biol Diags Inst E E Proc 105 pt B:38-40 Ja '58

Probing the upper atmosphere. J Biol Diags Anal Chem 30:sup 19A-22A+ S '58

Rockets probe upper atmosphere for IGY. Franklin Inst J 265:316; 266:74-5 Ap, Jl '58

Role of stratospheric scattering in radio communication. H. G. Booker and W. E. Gordon. J Biol Diags Inst E E Proc 105 pt B:38-40 Ja '58

Secrets of the ionosphere. D. J. Farmer. Elec Eng 77:71 Ag '58

Solar cycle influence on the lower ionosphere and on vhf forward scatter. C. Ellivett and H. Leighton. J Biol Diags Inst E E Proc 105 pt B:38-40 Ja '58

46:1711-16 O '58

ATMOSPHERE, Upper—Continued

Some measurements of high-latitude ionospheric absorption using extraterrestrial radio waves, G. G. Little and H. Leinbach, bibliog. map Inst Radio Eng Proc 46:334-48 Ja '58
 Upper atmosphere atomic-oxygen power plant, S. T. Demetriades, J Aero/Space Sci 25:663-4 O '58
 Use of radio stars to study irregular refraction of radio waves in the ionosphere, H. G. Booker, bibliog. ii diags Inst Radio Eng Proc 46:298-314 Ja '58; Correction, 46:1085 Je '58

ATMOSPHERIC electricity

See also
 Auroras
 Thunderstorms

ATMOSPHERIC pressure

See also
 Barometers

ATOMIC bombs

A-bomb might become super-excavator, Eng N 160:31-2 Mr 6 '58

Detection

Scientific diplomacy, Sci Am 199:52-3 O '58

History

Nuclear chain reaction; when the first atomic pile went critical, S. K. Allison and others, Metal Prog 72:65-70 D '57

Radiological effect

Decontamination reactions of synthesized fallout debris for nuclear detonations, C. F. Miller and others, bibliog. J Colloid Sci 13:337-57 Ag '58

Variation of gamma radiation rates for different elements following an underwater nuclear detonation, W. J. Helman, bibliog. diag J Colloid Sci 13:329-36 Ag '58

Testing

Detection of bomb tests, Metal Prog 73:109 Je '58

Future of A-bomb; Pauling leads 9,000 scientists urging halt to nuclear bomb tests, Chem & Eng N 36:28+ Ja 27 '58

Mine blasting with a countdown? Atomic energy commission Rainier project, Min Eng 10:441 Ap '58

Monitors ring A-bomb test, map Electronics 31:13-14 Je 13 '58

Underground atomic explosions, Metal Prog 73:77 My '58

Underground nuclear detonation at Nevada test site, ii Engineer 205:556-7 Ap 11 '58

ATOMIC bombs and building

Behavior of one-story reinforced concrete shear walls, J. R. Benjamin and H. A. Williams, bibliog. ii diags Am Soc C E Proc 83 [ST 3 no 1254]:1-49 My '57; Discussion, D. A. Matteson, Jr. 83 [ST 6 no 1442]:27-9 N '57; Reply, 84 [ST 3 no 1656]:17-21 My '58

Design of masonry walls for blast loading, K. E. McKee and E. Sevin, bibliog. diags Am Soc C E Proc 84 [ST 1 no 1512]:1-18 Ja '58

ATOMIC clocks. See Clocks—Atomic clocks**ATOMIC energy. See Atomic power****ATOMIC energy authority. See Great Britain—Atomic energy authority****ATOMIC energy commission (United States)**

Atomic energy commission basic philosophy, H. S. Vance, Chem Eng Prog 53:sup6+ N '57

AEC costs up \$400 million, Electronics 31:12+ Ja 17 '58

AEC nears first fusion goal, A. E. Ruark and others, Elec World 149:54 My 12 '58

AEC proposes to process spent fuels, Chem Eng Prog 53:sup90+ D '57

AEC sets atomic power targets, Chem & Eng N 36:40-1 Je 16 '58

AEC splits A-power division, Elec World 149:47 Ja 13 '58

AEC under fire from Congress, Chem & Eng N 36:43-4 My 3 '58

AEC's industrial-heat program, J. F. Kaufmann and D. H. Stewart, Jr. Nucleonics 16:65 F '58

AEC's three-year record, Mech Eng 80:87 My '58

Federal atom role checked, Elec World 149:69 My 19 '58

Fuel for the world's reactors; AEC's fuel program, R. C. Dalzell and others, ii Nucleonics 16:78-81 Ar '58

How AEC licensing is evolving in today's experimental stage, H. L. Price, Elec World 149:74-5 Ap 28 '58

McCone tabbed as next chief, Elec World 149:43 Je 16 '58

Progress of the Atomic energy commission, Elec Eng 76:113-21 D '57

Shall we revamp the atomic energy commission? A. Spilhaus, Chem Eng Prog 64:6+ Ja '58

Showdown nears for MURA; Congress urged to overrule AEC, Chem & Eng N 36:28-9 Je 9 '58

Switch in AEC policy may be next; subsidy of civilian power reactors, Elec World 149:65 F 17 '58

U.S.-Euratom joint nuclear programme, Engineer 206:113 J 18 '58

UO₂, why the AEC put on the brakes; meeting sponsored by Uranium Institute of America and Chamber of commerce of U.S. Eng & Min J 159:132+ Ja '58

Work of the U.S. Atomic energy commission, ii Engineer 204:803-5, 841-3, 878-81 N 29-D 13 '57

National reactor testing station

Testing aircraft nuclear power plants, A. R. Crocker, ii Aeronautical Eng R 16:30-5 D '57

ATOMIC industrial forum, inc.

Meeting, New York, Electronics 30:19 D 20 '57
 Meeting, New York, Oct. 28-31; abstracts of papers, Combustion 29:53-7 D '57; 61-2 Ja '58

ATOMIC nuclei

Cold fusion in the lab; hydrogen nuclei fuse at low temperatures, Chem & Eng N 36:51 Ju 6 '58

International conference on nuclear sizes and density distributions, Stanford, Calif. Dec. 17-19, Phys Today 11:24-8 My '58

International conference on nuclear structure; Rehovoth, Israel, Sept. 8-16; with abstracts of papers, Phys Today 11:17-20 Ja '58

Nuclear periodic table, Y. Yavitch, Power Eng 62:43 Je '58

Relation $\nu/\pi=136$ between the nuclear and chemical stability numbers, D. E. Lynch, bibliog. Am J Phys 26:196-9 Mr '58

Simple model for calculating magnetic shielding of nuclei in molecules, K. Ito, bibliog. diags Am Chem Soc J 80:3502-5 J 20 '58

Waves or particles, ii Engineering 184:763-4 D 13 '57

What holds the atomic nucleus together? abstract, J. J. Grebe, Elec Eng 77:659-60 J '58

See also**Nuclear reactions****Nucleonics****Spin**

E2-M1 mixing ratios in $2^+ \rightarrow 2^+ \rightarrow 0^+$ transitions, V. R. Potnis and C. E. Mandeville, Franklin Inst J 266:266-8 S '58

Fierz homomorphisms for nuclear spin resonance instrumentation, M. J. E. Golay, diag R Sci Instr 29:313-15 Ap '58

Modified spin-echo method for measuring nuclear relaxation times, S. Meiboom and D. Gill, diags R Sci Instr 29:688-91 Ag '58

Modulation in nuclear paramagnetic resonance, R. V. Pound, R Sci Instr 28:966-7 N '57

Nuclear magnetometer, G. S. Waters and P. D. Francis, bibliog. ii diags J Sci Instr 35:88-93 Mr '58

Nuclear orientation and nuclear cooling; first Fritz London address, N. Kurtl, bibliog.(28 ref) diags Phys Today 11:19-25 Mr '58

Nuclear resonance pulse apparatus; nuclear spin relaxation times measured, J. C. Buchta and others, bibliog. diags R Sci Instr 29:55-60 Ja '58

Rotation of elongated atomic nuclei, D. R. Inglis, ii diags Am J Phys 26:52-9 F '58

Solution of the Bloch equations for determination of relaxation times in liquids, P. S. Hubbard, Jr. and T. J. Rowland, bibliog. diags J Ap Phys 28:1275-81 N '57

ATOMIC orbitals

Oxides of the 3d transition metals, F. J. Morin, bibliog. diags Bell System Tech J 37:104-84 J '58

ATOMIC power

Acceleration, subsidy backed by atom leaders in survey, Nucleonics 16:17-21 F '58

Annual engineering review, 1957, ii Westinghouse Eng 18:2-5 Ja '58

Atom chiefs set their sights, ii Coal Age 63:26+ Mr '58

Atom won't hurt oil much, Oil & Gas J 56:66 J 21 '58

Atomic age challenge to steel, E. A. Livingston, J Metals 10:111-13 F '58

ATOMIC power—Continued

- Atomic energy; the facts. A. R. Gardner. *il*
Product Eng 29:52-6 Ap 14 '58
- Atomic power and the boilermaker. T.
 Baumeister. *il* *Combustion* 29:53-6 Mr '58
- A-power review; Congress and AEC hammer
 out development pace. *Eng N* 160:25 Mr 20
 '58
- Atomic power; today's challenge and oppor-
 tunity; abstract. E. L. Lindseth. *Elec*
World 149:90-1 Je 23 '58
- Atomics. A. W. Kramer, ed. Published in
 monthly numbers of *Power engineering*
- Atomics; section covering current and forth-
 coming developments in the field of nuclear
 power throughout the world. flow diag *il*
diag Power Eng 61:105-14+ D '57
- Costs key to oil's future energy role. C. J.
 Dwyer. *Oil & Gas J* 56:64 S 22 '58
- Federation of British industries conference on
 nuclear energy. Eastbourne. April 9-12. En-
 gineering 185:525-7 Ap 25 '58
- Fission and fusion power. G. Corfield. *Gas*
34:15 Jl '58
- Franklin institute museum; from atoms to
 kilowatts; exhibit. T. Coulson. *Franklin*
Inst J 265:253-4 Mr '58
- How the atom figures in U.S. power future.
Elec World 156:56-7 Jl 21 '58
- Hydrox cells and nuclear energy for space-
 craft auxiliary power units. C. F. Drexel.
il *diags Aviation Age* 30:140-3 Jl '58
- Law of supply and demand brings reappraisal
 of troubled atom industry; Atomic industrial
 forum, New York. *Elec World* 148:76-7 N 18
 '57
- 1947-1957, the first decade of nuclear power
 development. A. W. Kramer. *il* *Power Eng*
 62:54-7 Ja '58
- Nuclear energy and the design professions;
 panel discussion. *il* *Arch Rec* 122:18+, 330
 N '57
- Nuclear energy as we start 1958. L. M. Currie.
Pappi 41:sup24+ Mr '58
- Nuclear notes. B. G. A. Skrotzki. Published
 in monthly numbers of *Power*
- Nuclear power development. W. K. Davis.
Chem Eng Prog 54:8+ F '58
- Nuclear, solar energy to aid gas. M. A.
 Elliott and M. Chandler. *Am Gas Assn Mo*
 40:29-30+ Ap '58
- Peaceful use of atomic energy. F. Perrin.
Engineer 206:380-2 S 5 '58
- Prospects of atomic energy. J. Cockcroft.
Engineer 206:442-4 S 19 '58
- Role of nuclear power in Canada. W. J.
 Bennett. *Can Min & Met Bul* 51:548-52 S
 '58
- Sweden to use nuclear power for district
 heating; abstract. J. Grindrod. *Eng J* 41:
 85-6 My '58
- Technical societies speed nuclear progress.
 H. J. Stremba. *il* *A S T M Bul* p46-9 Jl '58
- Thermonuclear power. *il* *Mech Eng* 80:93-4
 Mr '58
- Thermonuclears. Published in monthly
 numbers of *Nucleonics*
- United States and Britain reveal fusion
 advances with detailed descriptions of
 pinch-effect devices. bibliog *il* *Nucleonics*
 16:90-3+ F '58
- U.S. and British controlled-fusion research;
 abstracts of papers. *Elec Eng* 77:374-5 Ap
 '58
- Vacuum techniques in the atomic energy in-
 dustry. H. Kronberger. *diags Engineer* 204:
 702-5 N 15 '57; Discussion. 204:749-50 N 22
 '57
- See also*
- Airplanes, Atomic powered
- Atomic industrial forum, Inc.
- Automobiles, Atomic powered
- International conference on the peaceful
 uses of atomic energy
- Locomotives, Atomic
- Nuclear engineering
- Rockets, Atomic powered
- Ship propulsion, Atomic

Bibliography

- Geneva bibliography. *Nucleonics* 16:145-51 S
 '58
- Selected readings in atomic energy. *S A E J*
 65:82-3 N '57

Economic aspects

- Atom people face problems; nuclear business
 is no big money maker today. *il* *Chem &*
Eng N 36:36-7 Mr 31 '58
- Charting a course for nuclear power develop-
 ment. K. Cohen. bibliog *Nucleonics* 16:66-70
 Ja '58

- Competitive atom power seen; abstract. N.
 R. Sutherland. *Elec World* 149:43-4 Je 16
 '58
- Competitive A-power seen; Edison electric
 institute report. *Elec World* 149:62-3 Mr 17
 '58
- Impact of nuclear energy on the chemical
 process industries; time for more data,
 fewer prophecies. R. E. Vener. *Chem Eng*
Prog 54:51-62 F '58
- Impact of nuclear energy upon industry. E.
 Plowden. *Engineer* 205:618-19 Ap 25 '58
- Let's shift the emphasis. G. F. Jenkins. bib-
 liog *Chem Eng Prog* 54:63-5 F '58
- Nuclear power future. C. G. Manly. *Chem*
Eng 65:138-8 Mr 10 '58
- Understanding nuclear power costs; special
 report. J. A. Lane and others. flow diags
Nucleonics 16:46-57 Ja '58
- See also*
- Atomic power plants

Exhibitions

- Atoms for peace exhibitions at Geneva. *il*
Engineer 206:324-7 Ag 29 '58
- Geneva preview: U.S. exhibitors 1958. Nu-
 cleonics 16:155-8 Ag '58
- Harvesting a three year nuclear crop; atomic
 energy exhibits at Geneva. *il* *diags Engi-
 neering* 186:232-5, 272-5, 324-6, 345-7 Ag 22-
 S 12 '58
- Industry looks at the atom; Atomic trade fair,
 New York. *il* *Chem & Eng N* 35:25-6 N 11
 '57
- 1958 atom fair, Chicago, March 17-21; list of
 exhibitors. *Chem Eng Prog* 54:190+ F '58

Insurance aspects

- Cover for atomic energy risks. *Engineer* 205:
 404 Mr 14 '58
- Insurance aspects of nuclear energy. E. R.
 Lloyd. *Am Soc C E Proc* 84 [PO 2 no 1599]:
 1-9 Ap '58

International aspects

- Atoms for peace moves along. *il* *Chem &*
Eng N 36:21-3 Ag 18 '58
- Congressional action nears on Euratom. *Elec*
World 149:48 My 26 '58
- Cue for atom-fuel processing by industry?
 J. A. King. *il* *Chem Eng* 65:62+ O 6 '58
- European start-up. *il* *Engineering* 185:76-7
 Ja 17 '58
- Fuel for the world's reactors; U.S. export
 policies. M. B. Kratzer. bibliog *il* *Nucleonics*
 16:82-6 Ag '58
- How U.S. policy is shaping up. *Elec World*
 149:67 Mr 3 '58
- OEEC sets up nuclear agency; European nu-
 clear energy agency. *Chem & Eng N* 36:62
 Ja 13 '58
- World nuclear programs; Geneva 1958. Nu-
 cleonics 16:62-5 S '58
- World programme. *Engineering* 186:262-5 Ag
 29 '58

See also

International atomic energy agency

Laws and regulations

- States urged to take atomic lead. *Chem &*
Eng N 36:30-1 O 27 '58

Patents

- AEC patent policy hit. *Chem & Eng N* 36:43-4
 Mr 17 '58

Tables, calculations, etc.

- Nuclear power calculations. *Power Eng* 62:
 45-6 Je '58

ATOMIC power equipment industry

- Atomic sales outlook holds. *Electronics* 31:48-
 9 Ap 4 '58
- List of suppliers of principal equipment for
 Shippingport. *Power Eng* 62:46+ Ag '58
- Nuclear industry, 1958-1968. *Chem Eng* 65:90
 Ap 7 '58
- Overseas markets for atomic industry. *Elec*
Eng 76:1112 D '57

ATOMIC power plants

- Annual nuclear power report, 3d. *Elec World*
 149:77-88 Ap 28 '58
- Atom power enters the new year; Shipping-
 port atomic power plant. maps *Chem &*
Eng N 36:35-6 Ja '58
- Atomic energy in 1957. *il* *Engineer* 205:5-7 Ja
 3 '58
- A-plant competes with conventional fuels—
 Pacific gas & electric co. plans to build
 plant near Eureka. *Product Eng* 29:29 Mr
 24 '58
- Atomic plant passes crucial test; central sta-
 tion at Shippingport, Pa. *il* *Steel* 142:83
 Je 9 '58
- A-plants to carry more load by '65. W.
 Dreyer. *Elec World* 149:64 Ap 7 '58

ATOMIC power plants—Continued

- Basic concepts of the pressurized water reactor plant; Shippingport station. *il* diags Westinghouse Eng 18:34-6+ Mr '58
- Characteristics of high-temperature nuclear power systems, flow diag *il* Power Eng 61: 111-13 D '57
- Comparison of conventional and nuclear plants shows differences; chart. *Elec* World 149:62-3 My 12 '58
- Conventional lubricants are sufficiently radiation-resistant for most nuclear power reactor applications. E. D. Reeves. S A E J 68:56-7 My '58
- Core is installed in Shippingport atomic electric generating station. *il* Iron & Steel Eng 34:165 N '57
- Economic atomic power now. *Chem & Eng* N 35:23-4 Mr 3 '58
- Electric utility; atoms on the move. *il* Westinghouse Eng 18:2-4 Ja '58
- Electrical penetrations to reactor chambers; Shippingport atomic power station. W. M. Hutchison. diags *Elec Constr & Maint* 57: 72-5 Ag '58
- Elk River, Piqua A-plants get go-ahead. *Elec* World 149:54 My 12 '58
- Engineering developments; reactors; illustrations with text. *Elec* Eng 77:4-5 Ja '58
- First privately-owned atomic power plant exceeds designer's fondest dreams. *il* *Product Eng* 28:26 N 18 '57
- Four-stage plan set by Carolinas Virginia, Inc. diag *Elec* World 148:35 D 23 '57
- Goal; cheaper nuclear power; Atomics International's sodium reactor experiment. *il* *Chem & Eng* N 35:26-7 N 25 '57
- Homogeneous reactor study is pessimistic. *Elec* World 148:46 O 28 '57
- Instrumentation in an atomic power station. *Elec* Manuf 61:10 My '58
- Load control for the Shippingport nuclear power station. H. A. Van Wassen. *Power Apparatus & Systems* p 1504-6 F '58
- Modern power is nuclear power. C. B. Graham. diags *Ind Lab* 3:67-71 O '58
- Nuclear energy for electricity supply overseas. *Engineer* 206:6-10 JI 4 '58
- Nuclear power helps light Golden triangle; Shippingport plant. *il* *Power Ind* 74:14-15 Je '58
- Nuclear power; illustrations with text. *Engineer* 205:pl 1 Ja 3 '58
- Nuclear power plant division for Atomic energy of Canada ltd. *Eng* J 41:92 Mr '58
- Nuclear power station is located in Chicago area. *il* (cover) *Elec* Eng 77:367 Ap '58
- Our newest frontier, the atomic power plant; Duquesne light company's new Shippingport facility. *il* diag *Mill & Factory* 61:123-4 D '57
- Pacific Gas & Electric's 60-mw A-plant to be competitive. *il* *Elec* World 149:40-1 Mr 10 '58
- Pennsylvania Power & Light's A-plan is altered. *Elec* World 149:70 Ap 28 '58
- Plan 23 atomic reactors in U.S. by 1964. map Machine Design 30:28+ Ag 7 '58
- Pressurized-water reactor goes on line; Duquesne light co. *il* *Nucleonics* 16:86 Ja '58
- Reactor goes on-stream. Shippingport, Pa. *il* *Electronics* 31:22-3 F 7 '58
- Search for a program formula bogs down. P. Sporn and others. *Elec* World 148:87 D 16 '57
- Shift in A-power program needed? *Chem & Eng* N 35:42 N 18 '57
- Shippingport atomic power station in Pennsylvania. *il* diags *Engineer* 205:447-9, 483-5, 519-21 Mr 21-Ap 4 '58
- Shippingport completes five months' operation; with list of equipment suppliers. *il* diag *Power Eng* 62:44-6+ Ag '58
- Shippingport dedicated. *il* *Mech Eng* 80:59 JI '58
- Shippingport opens door to atomic power; illustrations with text. *Elec* World 149:54-5 Mr 10 '58
- Shippingport puts out full power. *il* *Elec* World 148:52 D 30 '57
- Shippingport reactor. *il* diags *Engineering* 185:682-4 My 30 '58
- Shippingport station forecasts era of atom-electric power. G. F. Sullivan. *il* diag *Iron Age* 181:94-6 My 29 '58
- Significance of Shippingport; special report. *il* diags *Nucleonics* 16:53-72 Ap '58
- Sodium vies with water; two civilian atomic power plants were dedicated in California. *il* *Chem & Eng* N 35:21-2 D 16 '57
- Switch in AEC policy may be next; subsidy of civilian power reactors. *Elec* World 149: 65 F 17 '58
- Theory versus practice; concept of a graphite-moderated, gas-cooled system to generate steam for a central electric station; cut-away drawing of the Hinkley Point nuclear power station. diags *Metal Prog* 74:66-7 Ag '58
- Three optimistic predictions made for nuclear plants. E. Graham and others. *il* *Elec* World 148:30-1 N 18 '57
- 12-mill nuclear power? *Mech Eng* 80:85 F '58
- Unions hedge on Yankee bid. *Elec* World 148: 60 N 4 '57
- Utility group slates advanced reactor. *Elec* World 149:37 Ja 6 '58
- Utilitymen to Congress; we're spending dollars to hasten A-age. *Elec* World 149:40-2 Mr 10 '58
- Valecitos atomic power plant goes on the line. *il* *Power* 102:35 F '58
- World's eyes turn to Shippingport. *il* *Elec* World 149:40 Je 2 '58
- Yankee plant; new step in atomic progress. R. L. Witzke and A. E. Voysey. *il* diags Westinghouse Eng 18:102-6 JI '58
- See also
- Water supply for atomic power plants

Construction

- Clyde 200-ton Goliath crane at Bradwell. *il* diags *Engineer* 205:472-4 Mr 28 '58
- Goliath crane saves erection time at Bradwell. *il* diag *Engineering* 185:439 Ap 4 '58
- Progress at Hinkley Point. *il* *Engineer* 206: 268 Ag 15 '58
- Progress at Hunterston nuclear power station. *il* diags *Engineer* 206:51-4 JI 11 '58

Control equipment

- A-plant control bill \$1.9 million. *Electronics* 31:12+ My 9 '58

Costs

- Atomic energy cost, New Mexico; unit prices. *Eng* N 159:88 N 21 '57
- Cue for atom-fuel processing by industry? J. A. King. *il* *Chem Eng* 65:62+ O 6 '58
- Fuel costs in batch- and continuous-processed homogeneous reactors. F. R. Kasten and R. E. Aven. bibliog *Ind & Eng Chem* 50: 171-7 F '58
- How nuclear power cost estimates are made. L. Roddis, Jr. *Power Eng* 62:46+ Je '58
- Latest prospects for economic nuclear power; abstract. W. K. Davis and L. H. Roddis, Jr. *Metal Prog* 73:158+ Je '58
- Pressurized water reactor cost hits \$121.4 million; Shippingport atomic plant. *Chem & Eng* N 35:28 Mr 10 '58
- Pressurized water reactor; with table of nuclear fuel cycle costs. E. D. Reeves. S A E J 66:48-9 '58
- Shippingport power costs; what do they mean? *Nucleonics* 16:80-1 Ap '58
- Understanding nuclear power costs; special report. J. A. Lane and others. flow diags *Nucleonics* 16:46-57 Ja '58

Design

- ABC's of A-plant electrical design. R. E. Frick. diags *Elec* World 149:47-50 F 10 '58
- Analog computer aids nuclear plant design. D. W. Leiby. bibliog diags *Combustion* 29:34-43 S '57
- Civil engineering aspects of the Dresden nuclear power station. J. E. Love and others. *il* plans diags *Am Soc C E Proc* 84 [PO 2 no 16001]:1-21 Ap '58
- Civil engineering aspects of the Fermi atomic power station. P. C. Burg and J. G. Feldes. maps plans diags *Am Soc C E Proc* 84 [PO 2 no 16021]:1-13 Ap '58
- Development of plant for nuclear power stations. *il* *Research* 11:158-60 Ap '58
- Digital program to evaluate transients for nuclear power plant design. abstract. F. J. Scheib and A. J. Arker. *Chem Eng Prog* 54:88-91 F '58

Electric analogies

- Analog computer study of the transient performance of a dual-cycle boiling-water-reactor nuclear power plant. D. W. Leiby. bibliog diags *Com & Electronics* p 17-25 Mr '58

Electric equipment

- Way to stabilize reactor instrument power supplies. J. Parnell and C. W. Sundin. *Nucleonics* 16:102-3 JI '58

ATOMIC power plants—Continued

Employees

- Closed circuit tv used in training nuclear plant operators. Franklin Inst J 266:162-3 Aug '58
 Personnel and training. *il* diag Westinghouse Eng 18:63-4 Mr '58
 Training operating personnel for nuclear power plants. W. G. McKeown. diags Elec Eng 77:122-5 F '58

Equipment

- ABC's of A-plant electrical design. R. E. Frick. diags Elec World 149:47-50 F 10 '58
 Army package power reactor water treatment and waste disposal. A. L. Medin. *il* diag Ind & Eng Chem 50:989-90 J 1 '58
 Batteries to control atomic electric generator. Elec Eng 76:1112 D '57
 Boilers for nuclear power stations; illustrations with text. Engineer 205:900 Je 13 '58
 British close to competitive A-power; installation at Hinkley Point in Somerset. diags Eng N 159:73-4 D 5 '57
 Casting for atoms; specifications for reactor valves and fittings can be met by stainless steel castings. diags Steel 142:98-9 F 10 '58
 Engineering design of the Experimental boiling-water reactor facility. D. C. McClintock. *il* plans diags Power Apparatus & Systems 1492-8 F '58
 Equipment for atomic power plants. Westinghouse Eng 18:15 Ja '58
 Fabrication for nuclear power plant; illustrations with text. Engineer 204:560 O 18 '57
 First heat exchanger for Bradwell; illustrations with text. Engineer 205:772-3 My '58
 Fuel handling for the pressurized water reactor plant. *il* Westinghouse Eng 18:54-6 Mr '58
 Heat exchanger at Berkeley. *il* Engineer 205:780 My 23 '58
 Heat exchanger design for heavy water reactor service. A. D. Duff, Jr. and E. E. Wilson. *il* diags Can J Chem Eng 36:203-6 O '58
 How to prevent weld failures in nuclear power piping. V. T. Malcolm and S. Low. *il* Heating-Piping 30:106-8 J 1 '58
 Instrumentation for a boiling water reactor. L. Kornblith, Jr. Elec Eng 77:696-8 Ag '58
 Instrumentation of a pressurized water reactor atomic power plant; Shippingport atomic power plant. S. Baron and T. L. R. Williamson. *il* plan diags I S A J 5:46-51 Ja '58
 Instrumenting the Pennsylvania advanced reactor slurry-test loop. E. A. Goldsmith and W. W. Wentzel. flow diag *il* I S A J 5:50-3 Je '58
 Nuclear power piping codes progress toward standardization. V. T. Malcolm and S. Low. *il* Heating-Piping 30:132-5 My '58
 Nuclear power plant instrumentation. R. C. Faught, Jr. *il* diags Elec Eng 76:1046-51 D '57
 Photometer detects ion impurities. *il* Elec World 150:71 S 29 '58
 Piping systems and metallurgy for nuclear applications. *il* Power Eng 61:114+ D '57
 Preliminary operation; Shippingport atomic power station. E. M. Parrish. *il* diag Mech Eng 80:56-9 Mr '58
 Pressure measurement in molten metals. R. J. Ingham and R. C. DuBois. *il* diags I S A J 5:47-9 Je '58
 Pressure vessels in manufacture. *il* diags Engineering 185:717-19 Je 6 '58
 Pressurized water reactor primary system. *il* diags Westinghouse Eng 18:39-47 Mr '58
 Reactor plant control. *il* diags Westinghouse Eng 18:50-3 Mr '58
 Shares and prices; nuclear instrumentation manufacturers. Electronics Bsns ed 30:5 N 20 '57
 Shippingport atomic power station; radioactive material control. J. R. LaPointe and R. D. Brown. bibliog *il* diags Ind & Eng Chem 50:980-6 J 1 '58
 Shippingport station. *il* plan Westinghouse Eng 18:48-9 Mr '58
 Stainless castings use growing in nuclear power equipment. *il* Foundry 86:100+ Ag '58
 Stainless steel reactor vessel for Enrico Fermi atomic power station. *il* diag Engineer 206:34-7 J 1 '58
 Suppliers to Shippingport. Nucleonics 16:118+ Ap '58
 Thermal insulation for nuclear systems. C. G. Collins and G. W. Pomeroy. bibliog diag Heating-Piping 30:129-34 Ag '58

Vacuum techniques in the atomic energy industry. H. Kronberger. bibliog flow sheet diags Inst Mech Eng Proc 172 no 3:113-24, pl 1-2; Discussion. 125-31; Reply. 131-2 '58
 What can be done to combat failures in nuclear piping? V. T. Malcolm and S. Low. *il* Heating-Piping 30:112-14 Je '58

See also

Atomic power equipment industry

Finance

- A-power market gets big boost. Eng N 161:26 J 12 '58
 Big money for A-power plants. Eng N 161:28 S 4 '58

Government ownership

- Crazy-quilt nuclear power business. Eng N 159:21-3 N 28 '57
 Federal atom role checked. Elec World 149:69 My 19 '58
 We need a new A-power policy, and fast! C. H. Whitmore. *il* diag Elec World 149:42-5 Ja '58

Hot water distribution

- Heat from nuclear fission. K. S. Sutherland and C. M. Nicholls. bibliog Ind Chem 34:53-65 F '58

Location

- AEC ponders site choices, indemnity changes. H. L. Price. Elec World 149:48 My 26 '58
 For nuclear power, a lake-side in the Welsh hills. *il* maps Engineering 185:490-2 Ap 18 '58
 Reactor exclusion areas; can they be eliminated? G. W. C. Tait. bibliog Nucleonics 16:71-3 Ja '58

Safety measures

- AEC ponders site choices, indemnity changes. H. L. Price. Elec World 149:48 My 26 '58
 High-density concrete for shielding atomic energy plants. H. S. Davis. bibliog Am Concrete Inst J 29:365-77 My '58; Discussion. 30:1411-13 pt 2 D '58
 Safeguards at Shippingport. J. R. LaPointe and R. D. Brown. Ind & Eng Chem 50:986 J 1 '58
 Safeguards for the pressurized water reactor plant. *il* diag Westinghouse Eng 18:59-62 Mr '58
 Safeguards in an atomic power plant. *il* Safety Maint 115:44-9+ My '58
 Spherical containment shell of the Dresden station. L. P. Zick and others. *il* diags Am Soc C E Proc 84 [PO 2 no 1601]:1-26 Ap '58

Statistics

- Power consumption at major atomic energy commission installations; tables. Elec World 149:38 Je 30 '58

Waste

- Radioactive waste disposal. flow diags Westinghouse Eng 18:57-8 Mr '58
 Radioactive waste recovery; abstract. B. F. Judson. Franklin Inst J 265:482 Je '58

See also

Nuclear reactors—Waste

Canada

- Construction resumed on Nuclear power demonstration. diag Enk J 41:90 Ag '58
 Some procedures for the evaluation of reactor fuels and sheathing materials at Chalk River. R. F. S. Robertson. bibliog *il* diags Can J Chem Eng 36:213-16 O '58
 Work resumed on improved Nuclear power demonstration. *il* diag Can Chem Process 42:26-8 S '58
 Work starts again on redesigned Canadian reactor. diag Elec World 150:59-60 S 8 '58

Europe

- Europe cooperates on atomic power. Chem & Eng N 36:82 J 1 '58
 Nuclear development in eastern Europe. S. E. Schattmann. Power Eng 62:47-8+ Ap '58
 Nuclear power in Europe. A. W. Kramer. *il* Metal Prog 73:76-82 Ja '58
 U.S.-Euratom pact promises economic nuclear power plants. Machine Design 30:40-1 J 12 '58

France

- Operating and design experience abroad. Nucleonics 16:136+ S '58

Great Britain

- Atomic power in Britain. C. Hinton. *il* map diags Sci Am 198:29-35 Mr '58
 British close to competitive A-power; installation at Hinkley Point in Somerset. diags Eng N 159:73-4 D 5 '57

ATOMIC power plants—Great Britain—Cont.
 Constructional progress at Bradwell. *Il Engineer* 205:84-6 Ja 17 '58
 Critical review of nuclear power progress. *Il Engineer* 205:8-12 Ja 3 '58
 First heat exchanger for Bradwell; illustrations with text. *Engineer* 205:772-3 My 23 '58
 For nuclear power, a lake-side in the Welsh hills. *Il maps Engineering* 185:490-2 Ap 18 '58
 Future development of nuclear power. J. Cockcroft. *Engineer* 205:435-6 Mr 21 '58
 Future for nuclear power. C. Hinton. *Engineer* 203:442-4 Mr 22 '57; Abstract. *Metal Prog* 73:179-80 Ap '58
 Heat exchanger at Berkeley. *Il Engineer* 205:780 My 23 '58
 Hinkley Point nuclear power station. diag (p402) *Engineer* 205:403 Mr 14 '58
 King-size construction at British nuclear plants. *Il Eng N* 161:54-5 Ag 7 '58
 More efficient nuclear plants for Britain. R. M. Fishenden. *Power Eng* 62:56+ O '58
 Nuclear energy for Britain's electricity supply. C. Hinton. *Engineer* 205:358-61; Discussion. 361-2 O 27 '58
 Nuclear power for the future. J. Cockcroft. *Engineer* 205:764-5 My 23 '58
 Nuclear power in Britain. W. R. Wootton. *Il Mech Eng* 80:60-3 F '58
 Operating and design experience abroad. *Il diags Nucleonics* 16:76-7+ S '58
 Progress at Berkeley. *Il Engineering* 184:504-5 O 18 '57
 Progress is good at first of big British A-plants in Berkeley. *Il Eng N* 159:50 D 26 '57
 Technical developments in the field of nuclear energy; abstract. J. Cockcroft. *Metal Prog* 73:140+ My '58

Italy

Nuclear power for Italy. *Chem & Eng N* 35:25 D 2 '57

Japan

Japan's atomic power program taking shape. map *Nucleonics* 16:22-4 My '58

Russia

Enigma variations. *Il diags Engineering* 184: 668-9 N 22 '57

Scotland

Gas-cooled reactor for the South of Scotland electricity board. P. J. Grant. *diags Nucleonics* 16:108-13 My '58

South Dakota

South Dakota site slated for northern states atom plant. *Elec World* 148:65 D 9 '57

Sweden

Development of atomic energy in Sweden. *Il Engineer* 205:111-12 Ja 17 '58
 Nuclear district heating. *diag Mech Eng* 79: 1054 N '57
 Sweden advances in nuclear power. *Chem & Eng N* 36:80 Mr 17 '58

ATOMIC power plants, Portable
 How the APRR was prepared for start-up. J. M. Totten. *flow diag Power Eng* 62:50+ Ap '58

ATOMIC powered airplanes. See Airplanes, Atomic powered

ATOMIC powered automobiles. See Automobiles, Atomic powered

ATOMIC powered locomotives. See Locomotives, Atomic

ATOMIC powered rockets. See Rockets, Atomic powered

ATOMIC reactors. See Nuclear reactors

ATOMIC research
 Atomic review. Published in weekly numbers of *Engineering*
 Congress goes to graduate school; top researchers brief committee members on latest basic research in nuclear chemistry and physics. *Il Chem & Eng N* 36:42 F 17 '58
 Controlled thermonuclear progress in the United States and Britain. *Il diags Power Eng* 62:44-7 Ap '58
 Nuclear power development, 1946-1956. C. Hinton. *Engineer* 205:281-2 F 21 '58
 Research reactors. *Nucleonics* 16:139-43 S '58
 Seek further uses of atom at new laboratory. John Jay Hopkins laboratory for pure and applied science. *Il Ind Lab* 9:15-16+ O '58
 Top secret? thermonuclear research. A. W. Kramer. *diags Power Eng* 62:45-3 JI '58
 See also
 Bubble chambers

Australia

Australia's first nuclear reactor; Lucas Heights research establishment. *Il Chem & Ind* p522-3 My 3 '58
 Australia's first reactor. *Il diag Engineering* 185:558-9 My 2 '58; Excerpt. *Eng J* 41: 85 JI '58

Great Britain

Atomic energy laboratories at Erith. *Il Engineer* 205:427-31 Mr 21 '58
 Controlled thermo-nuclear research. J. Cockcroft. *Brit Inst Radio Eng J* 18:398-400 JI '58
 Thermonuclear research. T. E. Allibone. bibliog *diags Engineer* 206:369-71 S 5 '58

India

Atomic energy in India. *Mech Eng* 80:94 Ap '58

Russia

Radioisotopes in Russia. H. J. Gomberg. *Il Nucleonics* 16:136+ Ag '58

Switzerland

Nuclear research in Switzerland. E. Fueter. *Eng J* 41:75 Je '58

ATOMIC research laboratories

Atomic energy of Canada Ltd.; the Chalk River plant. *Il Chem & Ind* p 1039-41 Ag 16 '58

Building for handling highly radioactive materials; Atomic energy research establishment at Harwell. *Il plan Engineer* 205:135-7 Ja 24 '58

Designing fume hoods for medium level radioactive conditions. J. M. Ruddy. *Il diags Heating-Piping* 30:128-31 Mr '58

Dounreay, Britain's fast reactor project. *Il diags Power Eng* 61:58-62 N '57

Dounreay first commercial fast-breeder. *diags Can Chem Process* 41:70-2+ N '57

Gamma-irradiation facilities in the United States. R. H. Ellis, jr. map *Nucleonics* 16: 108-9 JI '58

G.E.C. expands atomic research facilities; new laboratory for beryllium studies. *Il Metallurgia* 57:213-15 Ap '58

Record cobalt-60 shipment opens fully-equipped industrial nuclear lab; Texaco radiation laboratory. *plan Plant* 18:82-3 O '58

See also

Argonne national laboratory
 Brookhaven national laboratory
 Oak Ridge national laboratory

Air conditioning

Safety takes top priority in heating, cooling atom lab; U. S. navy radiological defense laboratory. W. O. Miller. *Il Heating-Piping* 30:100-3 F '58

Equipment

Atomic energy laboratories at Erith. *Il Engineer* 205:427-31 Mr 21 '58

New slave-robot helps improve breed. *Il Machine Design* 30:12+ S 18 '58

ZETA; main recording and monitoring equipment. A. E. Cawkell and R. Reeves. *Il diags Electronic Eng* 30:115-20 Mr '58

ZETA; the control room monitoring and recording instruments. E. P. Butt. *Il diags Electronic Eng* 30:110-14 Mr '58

Maintenance and repair

Electrical and electronic maintenance; University of California radiation laboratory. C. W. Jensen. *Il diags Elec Constr & Maint* 57:73-84 JI '58

Hot laundry cools equipment; Hanford engineers reclaim expensive processing equipment formerly buried when it broke down. *Il Chem & Eng N* 36:117-18 S 1 '58

Waste

Wastes yield enriched uranium. *Il Chem & Eng N* 36:50+ Ap 14 '58

ATOMIC weights

Atomic weight scales unified? C&EN interview with E. Wichers. *diags Chem & Eng N* 36:76-81 S 8 '58

Rational choice of a unified scale for atomic weights and nuclidic masses. J. Mattauch. *Am Chem Soc J* 80:4125-6 Ag 20 '58

Report on atomic weights for 1956-1957. E. Wichers. *Am Chem Soc J* 80:4121-4 Ag 20 '58

ATOMIC workers

Atomic industry jobs; 100,000+. *Chem & Eng N* 35:86-7 N 4 '57

Industrial health in the atomic energy industry. J. H. Sterner. bibliog A. M. A. Archives *Ind Health* 17:659-64 Je '58

ATOMIZATION

- Atomized powder alloys of aluminum, R. J. Townner, *il Metal Prog* 73:70-6+ My '58
- Chemical recovery from neutral sulphite semi-chemical spent liquors by the atomized suspension technique, G. Lee and W. H. Gauvin, *bibliog flow sheet il diag Tappi* 41:110-16 Mr '58
- Effect of high altitude conditions on atomization phenomena, C. C. Miesse, *bibliog Jet Propulsion* 28:335-7 My '58
- Experiments in liquid atomization by air streams, H. F. Hrubecky, *bibliog flow diag diags J Ap Phys* 29:572-8 Mr '58
- Gas atomizes open-hearth fuel; Empire-Reeves steel corp. V. B. Thompson, *diags Steel* 142:144+ Ap 14 '58; Same abr. *Power* 102:123 Ag '58
- Theory of spray combustion, C. C. Miesse, *bibliog diag Ind & Eng Chem* 50:1303-4 S '58

ATOMIZERS

- Electrically-driven disk atomizer for high speeds of rotation, D. J. Ryley, *bibliog il diags J Sci Instr* 35:237-40 Ji '58

ATOMS

- Atoms, diags *Wireless World* 64:89-92 F '58
- Chart showing the sphere of influence of atoms and ions in minerals, J. H. Remick, *Am Mineralogist* 43:166-8 Ja '58
- Demonstration of an atom transfer process by electron spin resonance, F. C. Adam and S. I. Weissman, *Am Chem Soc J* 80:1518-19 Mr 20 '58
- Liberation of electrons by fast neutral helium atoms from a tungsten target, H. W. Berry, *bibliog J Ap Phys* 29:1219-25 Ag '58
- Solvent effects in the reactions of free radicals and atoms, G. A. Russell, *bibliog Am Chem Soc J* 80:4987-5003 S 20 '58

See also

- Atomic nuclei
Atomic weights
Collision phenomena
Deuterons
Electrons
Neutrons
Nuclear reactions
Protons

Models

- Physical interpretation of the relativistic corrections to the Van der Waals force found by Penfold and Zatskis, E. A. Power and S. Zienau, *bibliog diags Franklin Inst J* 264:408-7 N '57
- Polyvinyl chloride makes versatile models, J. C. Godfrey, *il Chem & Eng N* 36:62 Mr 10 '58

Recombination

- Interpretation of halogen atom recombination rates, D. L. Bunker and N. Davidson, *bibliog Am Chem Soc J* 80:5090-6 O 5 '58
- Recent advances in convective heat transfer with dissociation and atom recombination, D. E. Rosner, *bibliog Jet Propulsion* 28:445-51 Ji '58

ATTENTION

- Listening, the missing link in communication, C. J. Dover, *Gen Elec R* 61:7-10+ My '58

ATTENUATORS, Radio. See Radio attenuators

ATTICS

- Improving attic space insulating values, F. A. Joy, *bibliog diags Heating-Piping* 30:223-9 Ja '58

ATTITUDE (psychology)

- Changing workers' attitudes, A. J. M. Sykes, *Research* 11:236-9 Je '58
- Teenage attitudes, H. H. Remmers and D. H. Radler, *Sci Am* 198:25-9 Je '58

ATTITUDE surveys. See Employees—Opinion polls

ATWATER, Reginald

- Obituary, H. R. Leavell, *por Am J Pub Health* 47:1567-9 D '57

AUDIGAGE. See Ultrasonic waves—Industrial applications

AUDIO engineering society

- Stereo tape standards; symposium, *Audio Eng Soc J* 6:131-43 Ap '58

AUDIOMETERS

- Integrated audio monitor for home and studio use, R. L. Ives, *il diags Audio* 42:24-5, 72-4 Ap '58

AUDIO-VISUAL aids

- Answers to your audio-visuals questions, H. J. Highland, *il Ind Phot* 7:17-19+ Ji '58

AUDIO-VISUAL instruction

- Root-parasites beware! a-v helps farmers; slide kits in Shell chemical co. war against nematode menace, M. M. Badler, *il Ind Phot* 7:30+ Ag '58

AUDITING

Internal control

- Internal audit using receiving inspection techniques, J. L. Gable, *il diag Ind Quality Control* 14:15-17+ Ja '58

AUDITORIUMS

- Auditorium-stadium will have roll-back roof; Pittsburgh, *il plan diags Eng N* 160:30-2 Ja 30 '58
- Congress Hall debate; U.S. contribution to Berlin's international building exhibit, H. Stubbins and F. Otto, *il plan diags Arch Forum* 108:116-21+ Ja '58
- Construction of the Dallas memorial auditorium, J. E. Rosenlund, *il diags Am Concrete Inst J* 29:329-39 O '57; Discussion, E. C. Molke, 29:1169-70; Reply, 1170-1 Je '58
- Ethine Convention Hall, *il Arch Rec* 124:136 Ji '58
- Flexible auditorium handles many functions; Duke power co, W. J. Wortman, *il Elec World* 149:100 Mr 3 '58
- Folded plate dome ideal for auditoriums, L. Welch, *il plan diags Am Concrete Inst J* 30:441-6 O '58
- Frank Lloyd Wright designs for Baghdad; Grand opera and civic auditorium, *il plans diags Arch Forum* 108:89-101 Mi '58
- Large ribbed concrete dome is precast; San Francisco auditorium, *il Eng N* 160:33-4+ My 15 '58
- Toronto gets auditorium designed as complete entertainment center, *il diag Arch Rec* 123:34 F '58
- Wide auditorium will have no columns inside, *il Eng N* 160:49 Je 5 '58

Air conditioning

- Steam heats, cools new arena and theater; Dallas memorial auditorium, G. L. Dahl, *il Heating-Piping* 30:115 Ap '58

AUGERS

- Auger puts sand drains down 120 feet, *il Eng N* 160:45-6+ My 15 '58
- Big augers, cranes speed lines, J. F. Servis, *il Elec World* 150:73-4 Ag 18 '58
- Gear motors drive earth auger, J. A. Swanson, and others, *il diag Ap Hydraulics* 11:106+ Mr '58

AUREOMYCIN

- Chlorotetracycline for preserving Gulf oysters, A. P. Novak and others, *bibliog Food Tech* 12:237-9 My '58
- Effects of package type, irradiation, and treatment with aureomycin on redness of vacuum-packed beef cuts, R. W. Dean and C. O. Ball, *J Agri & Food Chem* 6:468-71 Je '58
- Growth and development of Central American children; growth responses of rural Guatemalan school children to daily administration of penicillin and aureomycin, M. A. Guzman and others, *bibliog Am J Clinical Nutrition* 6:430-3 Ji '58

AURORAS

- Artificial aurora; Luxembourg effect, *diag Electronic & Radio Eng* 35:168-70 My '58
- International geophysical year; aurora and air glow, D. C. Rose, *il Eng J* 41:50-1 Ag '58

AUSTEMPERING. See Steel, Heat treatment of

AUSTENITE

- Electrolytic migration of carbon in steels, W. Hume-Rothery, *Iron & Steel Inst J* 188:113 F '58
- Isothermal transformation of austenite in high speed steel; abstract, A. P. Gulyaev and K. A. Malinina, *Metal Prog* 73:180+ My '58
- Isothermal transformation of spheroidized pearlite to austenite, A. A. Golestaneh and others, *Iron & Steel Inst J* 188:237-41 Mr '58

AUSTIN, Texas

- Expressway completion to bring economic growth, D. Wageck, *il Pub Works* 89:75-6 F '58

AUSTRALIA

- See also subdivision Australia under special subjects, e.g.
Aeronautic research
Atomic research
Automobile industry and trade
Chemical engineering
Chemical industries
Chemical research
Drug trade
Gas, Natural
Geology
Hydroelectric plants
Mines and mineral resources
Moving picture industry
Petroleum
Petroleum industry and trade
Television broadcasting

AUSTRIA

See also

Electric plants (central stations)—Austria
Hydroelectric plants—Austria
Petroleum industry and trade—Austria

AUTHORITARIANISM (psychology)

Authoritarian barriers to communication.
Z. M. T. Tarkowski. *bibliog diag Engineer-*
ing 185:721-2 Je 6 '58

AUTHORSHIP

See also

Scientific writing
Technical writing

AUTOCALVE building products association

Annual meeting, Chicago, April 14-16. *Concrete* 66:37-9 My '58

AUTOCALVES

Closure for autoclave internal window. W. Rose. *diags R Sci Instr* 29:797 S '58
Considerations in determining size, layout, and details of autoclaves. J. B. Maher. *il diags Concrete* 66:28-31 My '58
Polyvinyl-alcohol sheet simplifies autoclave bonding. *il Am Mach* 102:112 Ja 13 '58

AUTOFINING process. See Petroleum refining

—Sulfur removal

AUTOIGNITION. See Ignition

AUTOMATIC checkout equipment. See Electronic data processing

AUTOMATIC control. See Control equipment

AUTOMATIC machinery. See Machinery, Automatic

AUTOMATIC telephone. See Telephone, Automatic

AUTOMATION

Abstracts. Published in monthly numbers of

Automation

Anatomy of automation. G. H. Amber and P. S. Amber. *Elec Manuf* 61:78-83+ Ja; 124-34 F '58

Atlantic puts automation to work; Atlantic's new Block 31 gas liquids recovery plant. E. L. Odom. *flow diags il Pet Eng* 30:C13-16 My '58

Automated lathe line for axle production. H. Chase. *il Mach* 64:142-3 Mr '58

Automated line adjusts easily to design changes; Export automation machine co. R. H. Eshelman. *il plans Iron Age* 180:144-6 D 5 '58

Automated warehouse doubles storage volume. *il diags Plant* 18:48-9 S '58

Automatic manufacturing with the integrated line. D. A. Cargill. *il Tool Eng* 40:97-100 Je '58

Automatic techniques of oil and gas production. N. E. Armstrong. *il Automation* 5:57-61 Ag '58

Automating the quality control function. W. S. Tandler. *il Automation* 5:144-7 My '58

Automation applied to small-lot production. C. O. Herb. *il Mach* 64:191-3 My '58

Automation boosts, cuts Russian costs. *Product Eng* 29:21 Ap 7 '58

Automation cuts motor-building time by 50 per cent; General electric co. *il Power* 102:158+ Mr '58

Automation developments in Philadelphia. V. A. Appleyard. *map Am Water Works Assn J* 50:7-14 Ja '58

Automation emerging slowly. *il Electronics* 31:18-19, cover Ap 13 '58

Automation for small-lot producers. *il diags Automation* 5:54-68 Mr '58

Automation for small manufacturers; abstract. N. Marchak. *Tool Eng* 39:219-20 N '57

Automation has a field day as Ford unveils its Lima engine plant. *il Am Mach* 102:76-8 Ag 25 '58

Automation in gas industry operations, 1958; symposium. *Gas* 34:45-50 Ji; 66-8+ Ag '58

Automation in heating and quenching. N. K. Koebel. *il diag Metal Prog* 73:72-8 F '58

Automation in refinery product blending. L. Lowy. *il diags Pet Eng* 29:C50+ S; C53-4+ O; C50+ D '57

Automation in textiles: here's what is happening. *il Textile World* 108:70 Ja '58

Automation in the mineral industries. J. McCaslin. *il diags Min Eng* 10:337-41 Mr '58

Automation of the block plant; Standard block & supply co. *il diag Concrete* 66:32-6 My '58

Automation progress in the United States. L. D. Miller. *il Automation* 5:115-21 Ag '58

Automation, the sales, engineering, manufacturing triangle. W. C. Allen. *Tool Eng* 40:73-6 My '58

Automation today (cont.). T. J. Williams. *bibliog diags Pet Refiner* 36:305-8 N '57

Automation will place U.S. ahead in missile race. *il diag Mech Eng* 80:128-9 My '58

Automation with process instruments; abstract. W. H. Ridley. *Textile World* 108:125 Ja '58

Automation works on short runs; Ford makes gas, Diesel engines on same line. H. R. Neal. *Iron Age* 181:74+ Mr 20 '58

Basic concepts in selecting integrated machine tool systems. W. F. Jessup. *il diags Automation* 5:50-5 Ap '58

Basic pneumatics for automation. H. L. Stewart and J. M. Moritz. *il diags Automation* 5:78-81 Mr; 92-6 My; 67-71 Ji '58

Build quality control into automation. *il Product Eng* 29:20 S 8 '58

Design for automatic production. *bibliog il diags Product Eng* 29:81-92 Je 23 '58

Digital automation (cont.). M. L. Klein and others. *il diags Instruments & Automation* 30:2064-5, 2270-2; 31:476-7, 1032-7, 1526-8 N-1 '57, Mr, Je, S '58 (to be cont)

Effects of hydrates on automation. W. M. Owen. *il Gas* 34:108+ S '58

European instrumentation and automation. R. Rimbach. *Instruments & Automation* 31:106-10 Ja '58

Experienced industry looks at automation. R. E. Sutherland. *Automation* 5:109-10 Ji '58

Flexible automation makes specials as G.E. builds for \$1 billion motor market. J. M. Crawford. *il Am Mach* 102:274-6 Ja 27 '58

Foolproof automation. *il Automation* 5:43-4 Mr '58

Guideposts to automation planning. L. H. Worthman and J. H. Lemelson. *Automation* 5:52-6 F '58

HPAC services; the workhorses of automation. *il Heating-Piping* 29:92-4 D '57

How five companies organized for automation; abstract. H. E. Wolcott. *S A E J* 60:118 Ji '58

Impact of automation on plant engineering and maintenance; abstract. B. J. Drummond. *Automation* 5:147 Ap '58

International conferences and exhibition of measuring technique and automation. Dusseldorf, Nov. 2-10. *il I S A J* 5:59 Ja '58

Interpretation of recent events in the automation field. R. Rimbach. *Instruments & Automation* 30:2255-9 D '57

Laboratory automation system. Franklin Inst J 266:81-2 Ji '58

Low-cost automation for water treatment and pumping plants. W. E. Hooper. *il Am Water Works Assn J* 50:645-9 My '58

Management and engineering in the age of automation. A. Harvey. *bibliog Mech Eng* 80:66-9 My '58; Discussion, V. F. Caputo. 80:98 O '58

Metalworking. 1962. G. G. Murie. *Am Mach* 101:141 N 18 '57

More than hardware; semiconductors for automation. H. B. Fancher. *Automation* 5:143-50 Ap '58

New product planning needs manufacturing team for automation. D. J. Yomine. *Automation* 5:34-7 Ag '58

1957 in retrospect; automation grows in stature. R. W. Bolz. *il Automation* 5:9-10 Ja '58

Process control and automation; annual review. T. J. Williams. *il Ind & Eng Chem* 50:520-4 bibliog(p550-4) pt 2 Mr '58

Professional education for automation engineers. C. Linsy. *Tool Eng* 40:113-18 Ap '58

Rayon staple manufacture gets automated. *il Textile Ind* 122:92-3 Ag '58

Resistance welding joins swags to automation. R. H. Eshelman. *il diag Iron Age* 181:99-102 Ap 10 '58

Scanning the field of instrumentation, automatic control and automation; illustrations with text. Published in monthly numbers of ISA journal.

Soap plant observer; automation in the detergent industry. J. W. McCutcheon. *Soap & Chem Spec* 34:141+ Ji '58

Textile mill of 1968. R. E. Parker. *il Textile Ind* 122:94-7 Mr '58

Trends for '58; tomorrow's automated pipeline. N. E. Armstrong. *Gas* 34:97-8 Ja '58

Trends in automation. J. F. Ebdon. *Gas* 34:93-6 Ja '58

Trends in electrification and automation of iron and steel processes. W. E. Miller. *il diags Iron & Steel Eng* 34:83-94 O '57

Tribute to automation. A. Dreier. *Plant* 18:59-60 Ag '58

USSR proposes vast automation scheme. P. Trippe. *Product Eng* 29:16-18 Ag 25 '58

See also

Control equipment
Machinery, Automatic

AUTOMATION—Continued

Bibliography

New books. Published in monthly numbers of Automation
 New books. Published in monthly numbers of ISA journal

Economic aspects

Answers to the doom prophets. L. Slater. I S A J 5:14+ Ap '58
 Dollar value of automated thermoset molding. II Mod Plastics 35:35-9+ Ag '58
 Economics of process control. R. E. Olson. I S A J 5:22+ Ja '58
 Progressive mechanization; economic justification and measurement of actual results. A. J. Dunkle. Mech Eng 80:75-7 Je '58
 Quality in an automated economy. J. T. Rettaliata. Automation 5:154-5 Mr '58
 What questions are posed by automation? I. C. Miller. Food Eng 29:61-2 N '57

Exhibitions

Automation congress and exposition, New York. Control Eng 5:28 Ag '58
 Instruments, electronics and automation exhibition, London, April 16-25; list of exhibitors and floor plans. Electronic & Radio Eng 35:144-8 Ap '58
 Instruments, electronics and automation; International exhibition, London, April 16-25. II diag Wireless World 64:208-3, 284-90 My-Je '58
 Interkama spotlights German control; International congress and exhibition of measuring instruments and automation, Dusseldorf, Nov. 2-10. II Control Eng 5:25-6+ Ja '58
 International automation exposition and congress, 4th, New York, June 9-13; with list of exhibitors and program. Instruments & Automation 31:817-25, 1185+ My, Jl '58

Medical aspects

Medical aspects of automation. C. G. Merckel. bibliog Ind Med 26:541-6 D '57

Social aspects

Automation and the community. R. H. Sullivan. Automation 5:150-1 Ap '58
 Automation, its social, moral and spiritual implications; abstract. J. J. Lamb. Inst Radio Eng Proc 46:926 My '58
 Human side of automation; abstract. W. H. Carpenter. Mod Materials Handling 13:56 F '58

Terminology

Automation dictionary. Electronic Ind 17:31-2+ Je '58

AUTOMOBILE accidents

Automobile accidents and carbon monoxide. Ind Med 26:574 D '57
 Automobile seat belt, a factor in preventive surgery. R. C. Waltz. Ind Med 27:384-5 Ag '58

Causes of highway accidents; United States experience. L. Ehrman. Traffic Q 12:30-57 Ja '58

Economic costs of motor-vehicle accidents of different types. R. Dunman. Pub Roads 30:40-4 Je '58

Industrial safety techniques urged to cut highway accidents. Safety Maint 116:47 Jl '58

Photographic instrumentation for collision injury research. D. M. Severy. II diags SMPTE J 67:69-77 F '58

Road accident costs? \$7 billion in 1957! T. N. Boate. Safety Maint 115:52 F '58

Traffic accident measuring standard proposed. Safety Maint 114:48-9 N '57

See also

Automobile drivers

AUTOMOBILE assembly plants

Advanced form of automotive assembly line is used at new Mercury plant. II Plant 18:78-9 S '58

Air powered tools for door installations at Ford's Kansas City plant. II Automotive Ind 117:64 D 1 '57

Assembling Lincolns and Continentals. J. Geschelin. II Automotive Ind 118:48-9+ F 15 '58

Light piping saves dollars; paint distribution system at the Lincoln assembly plant. II Steel 142:156 My 19 '58

Mercury's Rivera assembly plant. II Automotive Ind 119:62+ S 15 '58

Synchronized conveyors; Chrysler corporation's Plymouth assembly plant. G. E. Mathias. II diags Elec Constr & Maint 57:73-81 Ap '58
 Vertical lift automates transfer of large units; Lincoln assembly facility. II diag Iron Age 181:82-3 Ja 16 '58

Maintenance and repair

Trouble spotting control system speeds maintenance; British motor corp. automobile assembly plant. II Automation 5:14 Jl '58

AUTOMOBILE brakes. See Brakes, Automobile

AUTOMOBILE drivers

Alcohol and the driver, a Glasgow point of view; abstract and discussion. M. Herd. Chem & Ind p251-2 Mr 1 '58

Driver vision unsafe. Safety Maint 114:49 N '57

How road-users appraise roads. M. C. Sielski. Traffic Q 12:102-12 Ja '58

Licenses

Let's see your photo license! photographed onto aluminum plate. II Ind Phot 7:48 Je '58

Training

Driver training leaves horse-and-buggy age. T. N. Goate. Safety Maint 115:45 Mr '58

AUTOMOBILE driving

Drugs and driving; editorial. Ind Med 27:121-2 F '58

Electronic chauffeurs fail to match human drivers. Machine Design 30:14-15 My 29 '58

New safe driving system announced. Safety Maint 115:33+ Mr '58

AUTOMOBILE engineering

Car aerodynamics. G. E. L. Walker. bibliog II diags Automobile Eng 48:215-21, 262-70 Je-Jl '58

Roll axes. W. Steeds. diags Automobile Eng 48:55-8 F '58

Vehicle engineering; illustrations with text. Engineer 205:pl 4 Ja 10 '58

See also

Automobile engines

Bibliography

Recent foreign publications; brief reviews of current technical books. Automobile Eng 48:39-40, 231-2 Ja, Je '58

Tables, calculations, etc.

Gas ejectors. A. G. Filimonov. diags Automobile Eng 48:271-4 Jl '58

Performance prediction: a comparison of various methods of estimating the performance of a vehicle. J. R. Ellis. diag Automobile Eng 48:117-21 Mr '58

AUTOMOBILE engineers

How to produce a design engineer. R. S. Frank. S A E J 66:26-7 Mr '58

AUTOMOBILE engines

Aluminum engine comes closer. H. R. Neal. Iron Age 182:40+ Jl 3 '58

Aluminum for engine parts? yes! E. Hundt. diags S A E J 66:66-7 Ag '58

Balancing engines. II Automobile Eng 48:38 Ja '58

B.M.C. engine replacement plant. II Automobile Eng 48:402-4 O '58

Chevrolets have all coil chassis springs and optional air suspension. II diags Automotive Ind 117:50-2 N 1 '57

Chevy switching to aluminum engines? here are the clues. Product Eng 29:19 S 8 '58

Chrysler's new V-8 engine. R. S. Rarey and E. G. Moeller. II diags S A E J 66:36-43 Ap '58

Diesel for the private war. II Engineering 185:538 Ap 25 '58

Evaluation of the future of Diesels. free-piston engines, piston engines, gas turbines. C. G. A. Rosen. S A E J 66:38-40 Mr '58

General Motors testing V-8 aluminum engines. C. A. Chayne and L. R. Hafstad. II Mod Metals 14:77 Je '58

Inclined engines catch on at Indianapolis. R. B. Kay. II Automotive Ind 118:54-8+ My 15 '58

London show review; engines. II diag Automobile Eng Extra no 47:468-84 N 27 '57

Mechanics of vehicles; performance prediction. J. J. Taborek. bibliog Machine Design 29:92-101 D 28 '57

New engines featured by Dodge for '58. II Automotive Ind 117:62+ N 1 '57

Panhard Dyna 55 engine. II diags Automobile Eng 48:128-34 Ap '58

Progress in engine design, 1936-1952; tables. Automotive Ind 118:154-5 Mr 15 '58

AUTOMOBILE engines—Continued

Russia's motor vehicle industry; latest engines and motor vehicles. D. Scott. *il Automotive Ind* 118:90-5 Ja 1 '58
 Small firms have aluminum engines, too. *il Steel* 142:63-4 Je 30 '58
 Trends in 1958 car design; engines. *il diag S A E J* 65:28-9+ D '57
 Twin camshaft engine for MGA. *il Engineering* 186:101 J1 25 '58
 Twin overhead camshaft engine for MGA sports car. *diags Automotive Ind* 119:64 S 15 '58
 U.S. passenger car engine trends, 1930-1957; tables. *Automotive Ind* 118:160 Mr 15 '58
 What's going to happen to American passenger cars and why; charts and explanatory captions. P. H. Richard. *S A E J* 65:60-3 Mr '58

See also

Carburetors
 Gas turbines, Automotive
 Internal combustion engines
 Motor truck engines
 Tractors

Bearings

Aluminum alloy bearings. *Automobile Eng* 48:211-14 Je '58

Cooling

Corrosion inhibitors in automotive coolant media. M. Levy. *bibliog Ind & Eng Chem* 50:657-62 Ap '58
 Trends in 1958 car design; cooling keeps pace. *S A E J* 65:61 D '57
 Vapor-phase cooling has many applications; abstract. M. L. Baker. *S A E J* 66:91-2 F '58

Deposits

Esso perfects new gas designed to cut down engine deposits. *Oil & Gas J* 66:103 My 19 '58
 Ways sought to cut throttle deposits; abstract. K. B. Valentine. *S A E J* 66:117 J1 '58

Design

All-aluminum V-type engine. J. M. Smith and R. M. Smith. *plans diags S A E J* 66:26-9 Ag '58
 Chevrolet's engineering of its new V-8. J. T. Rausch and others. *il diags S A E J* 66:34-8 Je '58
 Engine makers on spot; abstract. J. M. Campbell. *Oil & Gas J* 55:120-1 N 11 '57
 Improving the six to match V-8 advances; American motors corp. F. R. Kishline. *diag S A E J* 66:76-8 Ap '58
 New combustion chamber designs in 1958 passenger car engines. J. Geschelin. *il diags Automotive Ind* 117:60-1 D 15 '57

Detonation

Studies of the chemical reactions which occur in an engine prior to knock; abstract. K. J. Pipenberg and others. *Pet Refiner* 37:200 My '58
 Time a factor in knock correlations; abstract. J. H. MacPherson and others. *S A E J* 66:127+ Ap '58

Exhaust

Auto exhaust control. *Safety Maint* 115:43 My '58
 Auto exhaust may be reduced in nitrogen oxide content by application of new carburetion data. *Air Cond Heat & Ven* 55:106 Ja '58
 Ceramic coating offers new hope in struggle against exhaust smog. *il Product Eng* 28:29 N 13 '57
 Clamp-down on auto exhausts sought. *Pet Refiner* 37:311-12 My '58
 Control of oxides of nitrogen in automobile exhaust gases. R. W. Bishop and G. J. Nebel. *bibliog A M A Archives Ind Health* 17:511-18 My '58
 Determination of carbon dioxide in automotive exhaust by means of infrared filter photometer. J. L. Parsons and others. *il diag Anal Chem* 30:1055-7 Je '58
 Developments in the control of vehicle exhaust gases; SAE National West Coast meeting, Seattle; abstracts of papers. *Automotive Ind* 117:70-2 O 15 '57
 Exhaust studies raise new queries; abstract. G. Way and W. S. Fagley. *S A E J* 66:105 My '58
 Gas chromatographic analysis of engine exhaust and atmosphere; determination of C₂ to C₈ hydrocarbons. F. T. Eggertsen and F. M. Nelsen. *diag Anal Chem* 30:1040-3 Je '58

Instruments measure unburned hydrocarbons in auto exhaust. J. C. Neerman and G. H. Millar. *diags S A E J* 65:58-60 N '57
 Integrator determines total emission of automotive exhaust gas components. R. T. VanDerveer and others. *S A E J* 65:61-2 N '57

Methods and devices for controlling the hydrocarbon control of exhaust gases. *Automobile Eng* 47:446-8 N '57
 Oxidation catalysts reduce hydrocarbons in automobile exhaust gas. E. F. Hill and others. *S A E J* 65:36-7 Ja '58
 Photochemical formation of air contaminants from automobile exhaust vapors; effects of different motor fuels. P. E. Mader and others. *bibliog Ind & Eng Chem* 50:1173-4 Ag '58
 Product design, key to smog control. *diags Product Eng* 28:106-8 D '57
 Smog chamber studies of unleaded vs. leaded fuels. F. V. Morriss and others. *bibliog Ind & Eng Chem* 50:673-6 Ap '58
 Trends in 1958 car design; exhaust systems. *S A E J* 65:60 D '57
 Variable influence of automotive fuel type on exhaust composition; abstract. R. W. Hurn. *Pet Refiner* 37:205-6 My '58

See also

Carbon monoxide

Fans

Fabricating changes pack a wallop: Buick's integrated line produces fan shrouds. *il Mill & Factory* 62:133-3 F '58

Fuel

Changes in autos may jar oil; abstract. P. C. Ackerman. *Oil & Gas J* 55:113 S 15 '58
 Fuel additives need engine life test o.k.; abstract. R. V. Kenley. *S A E J* 66:114+ F '58
 Fuels, lubricants keep pace with design trend demands. E. M. Johnson and C. W. Mortensen. *il S A E J* 66:57-9 Ap '58
 How fuel makeup affects car pickup. O. C. Bridgeman and E. W. Aldrich. *Oil & Gas J* 56:90-2 Je 2 '58
 Needed, new fuels to double car engine compression ratios. *Machine Design* 30:84 Je 26 '58
 Octane number requirements for 1955 cars studied by CRC. *S A E J* 65:102 N '57
 Radioactivity traces piston-ring wear. J. S. Batzold and others. *S A E J* 66:81-3 My '58
 SAE National fuels and lubricants meeting, Cleveland. *Automotive Ind* 117:68+ D 1 '57
 Trialkyl phosphines reduce octane-requirement buildup. A. V. Mrstik and R. B. Payne. *S A E J* 66:71-3 Ja '58

See also

Gasoline
 Gasoline—Anti-knock and anti-knock mixtures

Fuel consumption

Fuel consumption measurement. *il plan Automotive Eng* 48:312-13 Ag '58

Fuel feeding

Cold-weather vapor-lock control through sacrifice in ease of engine starting. O. C. Bridgeman and E. W. Aldrich. *Oil & Gas J* 56:85-7 Ap 23 '58
 Electrical pulses meter engine fuel. *diag Machine Design* 29:99 O 31 '57
 Extruded steel bars reduce machining time; split clamping rings for fuel injection pumps. *il diag Automotive Ind* 119:65 S 15 '58
 Fuel injection, just how good is it? A. E. Felt and others. *S A E J* 66:70-5 My '58
 London show review; carburation and induction. *il Automotive Eng Extra* no 47:475-84 N 27 '57
 1958 engines offer wide variety of induction systems. J. Geschelin. *Automotive Ind* 117:60-1+ D 1 '57
 Petrol injection; symposium. *Engineer* 205: 616-17, 650-2 Ap 25-May 2 '58; Discussion. 205:652-3 My 2 '58
 Trends in 1958 car design; fuel injection. *il diags S A E J* 65:59-60 D '57

Ignition

Ignition analyzer; DuMont IgnitionScope. *il Electronic Ind* 17:84 F '58
 Ignition uses transistors. *diags Electronics* 31: 20 Je 27 '58

Lubrication

Don't ask gasoline-engine oils to pass Diesel-engine tests. J. K. Patterson and W. E. Waddey. *S A E J* 66:58-60 My '58

AUTOMOBILE engines—Lubrication—*Continued*
 Engine lubrication; tests on a compound based on molybdenum disulphide. *Automobile Eng* 48:19-20 Ja '58

Engine wear measured while you wait, using radioactive tracer techniques. *Oil & Gas J* 56:91 Mr 3 '58

Investigation into the mechanism of oil loss past pistons. P. D. Dykes. *diags Inst Mech Eng Proc* 171 no 11:413-26; Discussion. 444-57; Reply. 453-60 '57

New nonmetallic oil additive reduces engine deposits. J. A. Miller and C. K. Parker, jr. *Oil S A E J* 65:38-41 N '57

Oil consumption in passenger cars can be predicted. J. K. Patterson and R. C. Gregor. *S A E J* 66:63-4 Ap '58

Radioactivity traces piston-ring wear. J. S. Batzold and others. *S A E J* 66:81-3 My '58

SAE National fuels and lubricants meeting, Cleveland. *Automotive Ind* 117:68+ D 1 '57

Study of piston-ring lubrication. S. Eilon and O. A. Saunders. *bibliog diags Inst Mech Eng Proc* 171 no 11:427-43, pl 1-6; Discussion. 444-57; Reply. 460-2 '57

See also
 Oil filters. *Automobile*

Manufacture

Automatic engine assembly on transfer machines; Oldsmobile div. of General Motors corp. C. H. Wick. *il Mach* 64:103-7 Ag '58

Automatic foundry. Pontiac motor div. *il Mech Eng* 80:64-5 Ja '58

Automation has a field day as Ford unveils its Lima engine plant. *il Am Mach* 102:76-8 Ar 25 '58

Bunching the output of a segmented production line. *il plan Mach* 64:87-9 Ag '58

Carbides cut forged crankshafts for Pontiac. *il diags Am Mach* 101:141-3 N 4 '57

Cast 150 engine blocks an hour; Pontiac's automated foundry line. *il diags Steel* 141:122-4 D 2 '57

Continuous improvement in equipment at Buick engine plant. J. Geschel. *il Automotive Ind* 118:66-9+ My 15 '58

Die casting cylinder blocks and heads for 50-hp V-4 engines. K. Rose. *il Automotive Ind* 119:56-7 S 15 '58

Economical automotive production when quantities are small. *il Mach* 65:125-7 O '58

Ford Thames foundry. *il plans diag Automobile Eng* 48:233-46 Je '58

Machining mechanical details: production methods employed by Vauxhall motors ltd. *il diags Automobile Eng* 48:190-7 My '58

New transfer machine lines for cylinder heads and blocks at Cadillac. J. Geschel. *il Automotive Ind* 117:68-72+ D 15 '57

Oldsmobile's rocket engine transfer line. C. H. Wick. *il Mach* 64:156-61 D '57

Pontiac's automatic foundry; cylinder block production. *flow diag il Automotive Ind* 117:56-8 D 1 '57

Pontiac's new molding line. E. J. Texter. *flow diag il Foundry* 85:110-13 D '57

Semi-automatic machine for Oldsmobile engine assembly. J. Geschel. *il Automotive Ind* 118:60-2+ F 1 '58

V-8 engine manufacture; Chrysler Plymouth engine. *il plan Automobile Eng* 48:346-53 S '58

See also
 Automobile parts

Mounting

Tackling car shake through engine mounts; abstract. L. M. Morrish. *diags S A E J* 66:78-9 Je '58

Mufflers

Longer life from coated mufflers. H. R. Neal. *Iron Age* 182:56+ Ag 7 '58

Specifications

U.S. passenger car specifications; tables. *Automotive Ind* 118:126-41 Mr 15 '58

Superchargers

Latham supercharger. *il diags Automobile Eng* 48:32-3 Ja '58

Testing

Auto doctors use stethoscope. *il Oil & Gas J* 56:168 Mr 10 '58

Automotive testing for leaks in cylinder blocks. H. Chase. *il diag Automotive Ind* 117:68-9 O 15 '57

Diagnosing engine troubles; abstract. N. A. Accardo and E. E. Ecklund. *il S A E J* 66:54-6 My '58

Engine dynamometer; English Electric equipment at the laboratories of Esso research ltd. *il Automobile Eng* 48:376-7 O '58

Engine testing; Heenan and Froude dynamometer. *il Automobile Eng* 48:32 F '58

Engine wear measured while you wait, using radioactive tracer techniques. *il Oil & Gas J* 56:91 Mr 3 '58

Oscilloscopes check cars. *il Electronics* 31:17 F 7 '58

Valves

Butterworth swing valve. *il diag Automobile Eng* 48:198-202 My '58

AUTOMOBILE fabrics
 Car interiors combine beauty and practicality. A. W. Shearer. *il diag Automotive Ind* 119:50-5+ Ag 15 '58

How Ford buys auto fabrics. E. Zagiel. *il Mod Textiles Mag* 38:81-6 N '57

AUTOMOBILE factories
See also
 Automobile assembly plants
 Automobiles—Manufacture

Costs

Two steps to heat treat savings; Chrysler corp. *Steel* 142:100-1 Je 16 '58

Electronic equipment

New plant banks on electronics; Ford's new Lima, Ohio, engine plant. *il Iron Age* 182:20-1 Ag 28 '58

Employees

Employment to expand in automobile industry. *Automotive Ind* 117:132 O 15 '57

What the designer should know about production; Chrysler corp. training course, Product design and production processes. K. C. Butterfield. *Mach* 65:166-7 S '58

Equipment

A. O. Smith speeds frames; marriage fixture shows how sections are joined. *il Steel* 142:71-2 Ap 21 '58

American Motors reveals some secrets of small car tooling. *Am Mach* 102:92 S 22 '58

Automated production lines for Chrysler power steering. K. Rose. *il diag Automotive Ind* 119:38-40 Ag 1 '58

Automatic control of bodies at Fisher plant in Flint. *il Automotive Ind* 119:48-9 Ag 15 '58

Automatic transfer solves assembly jigsaw puzzle; Ford motor co.'s illustrations with text. *il Am Mach* 102:71-3 J1 28 '58

Automation has a field day as Ford unveils its Lima engine plant. *il Am Mach* 102:76-8 Ar 25 '58

Automation news report; production, vehicles, aircraft (cont.). S. Cummings. *il Automotive Ind* 117:112+ N 1 '57; 118:183+ J 1; 102 F 1; 57+ Mr 1; 58-9+ Ap 1; 70-1 My 1; 72+ Je 1; 119:57 J1 1; 50 Ag 1; 134+ S 1; 66+ O 1 '58

Automotive Industries machine tool and production equipment. *il diags Automotive Ind* 119:73-83+ S 1 '58

Big Three set machine tool standards. *Product Eng* 29:24-5 Ap 21 '58

Buick's facilities for multi-pitch Dynaflo production. J. Geschel. *il Automotive Ind* 117:48-52 D 1 '57

Build quality control into automation. *il Product Eng* 29:20 S 8 '58

Carmakers seek answer to high tool cost. *Product Eng* 29:19-20 J1 28 '58

Chrysler boosts stamping capacity. *il Steel* 141:136-7 N 11 '57

Chrysler's new stamping plant will have 28 major press lines. J. Geschel. *il Automotive Ind* 118:62-4 Ja 15 '58

Continuous improvement in equipment at Buick engine plant. J. Geschel. *il Automotive Ind* 118:66-9+ My 15 '58

Crankshaft line with a new look. *il diag Steel* 141:114-15 N 11 '57

Crankshaft turning; an American in-line transfer machine. *il diags Automobile Eng* 48:303-5 Ag '58

Detroit re-automates for '58 production. G. H. De Groat. *il diags Am Mach* 101:117-18 S 9; 105-10 O 7; 129-34 N 4; 113-20 D 2 '57

Dieing machines save floor space, handling time at Chrysler's Highland Park plant. J. I. Feldborg. *il diags Am Mach* 102:144-5 My 19 '58

Economical automotive production when quantities are small. *il Mach* 65:125-7 O '58

Fabricating changes pack a wallop; Buick's integrated line produces fan shrouds. *il Mill & Factory* 62:133-9 F '58

AUTOMOBILE factories—Equipment—Cont.

Faster and better; Chrysler rolling splines of axle shafts; Roto-Flo cold-forming machines. *il Mill & Factory* 62:241-2+ Ja '58
 Flying punch press teams up with flying shear piercing introduced in roll-milling line; Buick sheet-metal plant. *il Mach* 64:162-3 N '57

For Renault, automation opens way to world markets. P. E. Besier. *il Steel* 143:56-7 Ag 18 '58

Ford's new automatic monorail system. *il diag Mod Materials Handling* 13:98-9 Jl '58

GM heads for annual retooling; switch to a single body-shell concept. H. R. Neal. *Iron Age* 181:98+ My 22 '58

Gripper jaws unload panels efficiently, safely; GM's Fisher body plant. H. Chase. *il Iron Age* 180:130-1 D 12 '57

How Ford makes steering gear components. *il Automotive Ind* 119:56-7+ Ag 15 '58

Imperial moves into new plant. H. R. Neal. *Iron Age* 182:52+ Ag 14 '58

Industrial trucks play key role in automotive and aircraft plants. A. W. Shearer. *il Automotive Ind* 118:48-50 Je 1 '58

Lincoln's new plant for unitized body construction. J. Geschelin. *il plan Automotive Ind* 117:52-7 N 15 '57

Modernization of production equipment, a must. J. Geschelin. *Automotive Ind* 119:74-8+ S 1 '58

More than 200 presses in Cadillac's plant four. J. Geschelin. *il Automotive Ind* 118:64-8 F 1 '58

Motor car factory extensions; British motor corp. *il Engineer* 206:458-9 S 19 '58

New Chevrolet plant diecasts transmission parts. K. L. Mountain. *il Foundry* 85:93-7 N '57

New plant and tools. *il Automotive Eng* 48:14-16 89-91 Ja '58

New plant and tools; recent developments in production equipment. *il Automotive Eng* 47:538-40 D '57

New production and plant equipment. Published in semi-monthly numbers of *Automotive Industries*

New tooling for the new Dynaflo transmission. C. H. Wick. *il Mach* 64:124-7 F '58

1958 automotive production. *il diag Mach* 64:130-33 D '57

Production expansion; Luton and Dunstable works of Vauxhall motors ltd. *il Automobile Eng* 48:159-65 Ap '58

Prototype die use grows. *il Steel* 141:73-4 D 16 '57

Russia's motor vehicle industry; Moskvich plant in Moscow. D. Scott. *il Automotive Ind* 118:34-9 Ja 1 '58

Russia's motor vehicle industry; ZIL plant in Moscow. D. Scott. *il Automotive Ind* 118:78-83 Ja 1 '58

Setup for handling wide sheet metal at Buick motor div. *il Automotive Ind* 117:70-1 D 1 '57

Special machine anodizes Chevrolet grille and headlamp bezel. *il Automotive Ind* 118:58-9+ F 1 '58

Switch to numerical control can be easy; abstract. H. P. Grossmann. *S A E J* 66:76-7 Ag '58

Tooling that makes steering easy. E. Altholz. *il diag Mach* 64:151-7 My '58

Tubes troubleshoot engines; Ford motor co.'s Cleveland engine plant. *il Electronics* 30:22-3 D 20 '57

V-8 engine manufacture; Chrysler Plymouth engine. *il plan Automotive Eng* 48:346-53 S '58

Vauxhall Motors' double-output plant. *il Engineering* 185:634-6 My 16 '58

Vauxhall Motors' new press shop. *il plan diag Automotive Eng* 48:277-85 Jl '58

Vauxhall works extensions. *il Engineer* 205:690-4 My 9 '58

Versatile transfer machine runs intermixed designs; Ford motor co. *il diag Automation* 5:64-6 Jl '58

Fires and fire protection

Re-building after the Jaguar fire. *il Engineering* 184:796-7 D 20 '57

Maintenance and repair

Re-building after the Jaguar fire. *il Engineering* 184:796-7 D 20 '57

Management

Coordination between engineering and manufacturing. J. Geschelin. *Automotive Ind* 118:65+ My 15 '58

German auto industry; how to make money in a recession; labor and management work together. A. N. Weckslar. *il Mill & Factory* 63:79-82 S '58
 What Chrysler thinks about materials handling engineering. F. Matthews. *Mod Materials Handling* 13:91-3 Je '58

Quality control

Automotive Industries machine tool and production equipment; quality control section. *il Automotive Ind* 119:115-18 S 1 '58

Quality control rules the roost at Chrysler's re-done Imperial plant. *il Am Mach* 102:67-8 Ag 25 '58

Records

How GM lists machine tools. *Steel* 143:112 S 8 '58

Safety measures

Accident reduction in plants discussed at National safety congress. *Automotive Ind* 117:174+ N 15 '57

AUTOMOBILE fans. See *Automobile engines—Fans*

AUTOMOBILE headlights. See *Automobiles—Lighting*

AUTOMOBILE hoods. See *Automobiles—Hoods*

AUTOMOBILE horns

Horn buttons designed into steering-wheel spokes. *il Machine Design* 29:146 N 14 '57

AUTOMOBILE industry and trade

Car buyers still prefer comfort. H. R. Neal. *Iron Age* 181:72+ Ap 10 '58

Horsepower race ends? *Steel* 141:73 N 11 '57

See also
 Ford motor company

New models

1958 cars; more power, better gas. *Oil & Gas J* 55:147-9 N 18 '57

1959 cars; more power and gadgets. map *Oil & Gas J* 56:76-8 Ag 11 '58

See also
 Automobiles—Exhibitions

Australia

Aussies aim for 300,000-cars-a-year output. *il Am Mach* 102:92 S 8 '58

Brazil

Brazil's auto industry sprouting; parts makers needed. *Product Eng* 28:21 D 16 '57

Canada

Transport equipment; motor vehicles. *il Eng J* 41:106-7 Ap '58

China

Free China builds its first autos. *il Am Mach* 102:102 Mr 10 '58

Europe

Adoption of US methods sparks boom in European auto output; panel discussion. *Am Mach* 102:277 Ja 27 '58

Engineering firms in the free trade area; Régie nationale des usines Renault. *Engineering* 184:589-90 N 8 '57

Europe is catching up on quantity production methods. J. B. Adams. *S A E J* 66:32-3 Ag '58

European production methods. *S A E J* 66:72-5 Ap '58

1958 European automobile trends. A. Pershouse. *diag S A E J* 66:26-30 F '58

Germany

German auto industry; how to make money in a recession; labor and management work together. A. N. Weckslar. *il Mill & Factory* 63:79-82 S '58

Great Britain

British motor transport industry; abstract. *Eng J* 41:82-3 Ja '58

Daimler activity increasing. *il Engineering* 186:47 Jl 11 '58

Engineering industries; motor vehicles. *Engineering* 185:85-6 Ja 17 '58

Flywheels, spark plugs make British headlines. *Product Eng* 29:27 Ap 7 '58

Italy

Craftsmanship in quantity; expansion of the Italian coachbuilding industry. G. Wilkins. *il Engineering* 184:674-5 N 29 '57

Japan

World machine tool builders woo Japan's budding auto industry at Osaka fair. *il Am Mach* 102:102 My 19 '58

AUTOMOBILE industry and trade—Continued**Russia**

How Moscow designs; largest auto plant does its own design; Likhachyov automobile works, *il Product Eng* 29:44+ JI 14 '58
 Russia's motor vehicle industry, D. Scott, *il Automotive Ind* 118:78-95 Ja 1 '58
 Soviet automotive industry; a current assessment, with tables, B. K. Schwalberg, bibliography map, *Automotive Ind* 118:60-77 Ja 1 '58
 Soviet engineer discusses auto design, G. Rovinsky, *il Product Eng* 28:111-18 N 11 '57
 USSR car industry lists new models, *Product Eng* 29:27 Ag 11 '58

Switzerland

Germany dominates Swiss automobile markets, G. Wilkins, *Engineering* 185:435 Ap 4 '58

AUTOMOBILE laboratories

Curing car shake by new lab method, K. P. Pettibone, *il S A E J* 66:52-3 Je '58

Electronic equipment

More sales to automakers; Chrysler's new 11-room vibration lab, *il Electronics* 31:18 Ag 8 '58

AUTOMOBILE laws and regulations*See also*

Motor vehicles—Inspection
AUTOMOBILE license plates. *See* Automobiles—License plates

AUTOMOBILE lighting. *See* Automobiles—Lighting

AUTOMOBILE oil filters. *See* Oil filters, Automobile

AUTOMOBILE ornaments
 Making Cadillac's grille; Doehler-Jaryls impact extrudes aluminum ornaments, *il Steel* 142:87-3 F 17 '58

AUTOMOBILE parking
 Automatic parking garage to be run by cashier's key, *il Arch Rec* 123:242+ M '58
 Can a city stay out of the parking lot business? G. E. Arthur, *il map Pub Works* 89:104-6 F '58
 Chicago's fifty million dollar municipal parking program, P. M. Linscott, 2pls Traffic Q 12:124-31 Ja '58

Ground transportation at New York International airport; roadway system and parking facilities, R. I. Strickland, *il maps Am Soc C E Proc* 84 [HW 2 no 1623]:1-19 My '58

Lighting an automobile parking lot; lighting data sheet, W. A. Mize, *il diag Illum Eng* 63:129-30 Mr '58

Lighting of parking lots at shopping centers, W. Harrison, *il plans Elec Constr & Maint* 57:82-3 Ag '58

New York to have automatic parking garage, *il Civil Eng* 28:145 F '58

Our downtown parking garage handled 142,313 cars in nine months; Saginaw, Mich., J. W. Federhart, *il Pub Works* 89:110-11 S '58

Parking lot, St. Louis municipal airport, Mo.; unit prices, *Eng N* 180:87 Ja 23 '58

Parking lots are problems, problems with people, B. W. Wombacher, *Plant Eng* 12:98-9 Je '58

Solving our parking problems, A. D. May, bibliography *il plan Pub Works* 89:100-4 My '58

Swiss figure out car parking; autosilo, *il Product Eng* 29:19 JI 21 '58

See also

Office buildings, Government—Automobile parking space

Control officers

Women parking officers help public relations, *il Pub Works* 89:121-2 Mr '58

Finance

Municipal parking financed by special assessment district, R. E. Riddle, *il Pub Works* 89:135 Ap '58

Meters

Records assist parking meter maintenance, D. O. Townsend, *il Pub Works* 89:124-5 O '58

AUTOMOBILE parts

AC hydroforms sample stampings, T. C. Barrett, *il diag Mach* 64:144-9 D '57

Automotive parts cleaners, L. Shaffroff, *il Soap & Chem Spec* 34:57-60+ My '58

Powder metallurgy scores impressive gains, A. W. Shearer, *il diag Automotive Ind* 118:54-6+ Ap 15 '58

Use of rubber in automobiles, W. J. Simpson, *diag Rubber World* 137:404-8+ D '57

Welded stampings form mounting plates, *il diag Product Eng* 29:68 My 26 '58

Why Chrysler dabbles in rubber, H. R. Neal, *il Iron Age* 181:84+ Mr 13 '58

See also

Automobiles—Doors

Manufacture

Automatic assembly moves ahead; Ford's Hardware div. plant, *il Steel* 142:120-1 Mr 3 '58

Diecasting foundry makes automotive hardware parts, R. H. Herrmann, *il Foundry* 86:110-13 Ap '58

Ford's self-contained Rawsonville plant, J. Geschelin, *il Automotive Ind* 118:52-6+ Je 1 '58

Hardening automotive parts in furnaces with vertical radiant tubes, K. Rose, *il Automotive Ind* 119:48-9 JI 15 '58

Hundreds of different parts made at Ford Sandusky plant, J. Geschelin, *il Automotive Ind* 118:64-8 F 1 '58

Testing

Accelerated salt spray testing of plated parts, G. L. Sukes, *Automotive Ind* 117:54-5+ D 1 '57

AUTOMOBILE racing

How to stop Salih at Indianapolis, W. J. Smyth, *il Automotive Ind* 118:54-7 Je 15 '58

Inclined engines catch on at Indianapolis, K. E. Kay, *il Automotive Ind* 118:54-8+ My 15 '58

New British sports racing car, the Willment, G. Wilkins, *il Engineering* 185:82 Ja 17 '58

Small engines perform well at annual Sebring race, H. J. Tsakis, *il Automotive Ind* 118:58-61+ My 1 '58

Turbine-powered car might win at Indianapolis, L. H. Williams, *il diag S A E J* 66:41-4 Ja '58

AUTOMOBILE radios. *See* Radio receiving apparatus—Installation on automobiles

AUTOMOBILE research
 Car aerodynamics, G. E. L. Walker, bibliography *il diag Automobile Eng* 48:215-21, 262-70 Je-JI '58

See also

Automobile laboratories
AUTOMOBILE tires. *See* Tires, Automobile

AUTOMOBILE traffic
See also
 Road traffic
 Street traffic

AUTOMOBILE trailers
 Integral light-alloy caravan, *il diag Engineering* 185:608 My 9 '58

Mobilehomes; low cost family shelter, R. J. Stinson, *il Eng N* 160:40+ Ja 16 '58

AUTOMOBILE wash racks. *See* Automobiles—Cleaning

AUTOMOBILES
 American Motors announces Rambler and Ambassador models for '58, *il Automotive Ind* 117:66-7 O 15 '57

Austin Gipsy, *il diag Automobile Eng* 48:328-35, 368-75 S-O '58

Automotive developments in '57, J. Geschelin, *Automotive Ind* 118:122-4+ Ja 15 '58

Baby Austin Healey, *il Engineering* 185:644 My 23 '58

Buick ditches the gingerbread, H. R. Neal, *il Iron Age* 182:60+ S 18 '58

Cadillac has all coil type chassis springs, *il Automotive Ind* 117:60-1 N 15 '57

Chrysler introduces all-new Windsor series, *il Automotive Ind* 117:61 N 1 '57

Different station wagons visioned in foreseeable future; abstract, D. C. Woods, *S A E J* 66:80 My '58

Firebird pushes automatic ride, *il Iron Age* 182:126 S 11 '58

Ford offers air suspension and dual range transmission, *il diag Automotive Ind* 117:62-4 N 15 '57

Gipsy; Austin's new light utility vehicle, *il Engineering* 185:294-5 Mr 7 '58

Larger Imperials have more powerful engines, *il Automotive Ind* 117:60-1 N 1 '57

Lotus 15; new sports racing model for 1.5 or 2.2 litre engine, *il Engineering* 185:516 Ap 25 '58

Lotus formula 1, *il Engineering* 186:359 S 12 '58

Many design changes in 1958 Buicks, *il diag Automotive Ind* 117:48-9+ N 1 '57

Mechanical details of Chrysler corp.'s 1959 cars, *il diag Automotive Ind* 118:48-50 S 15 '58

Mercedes for 1959, *il diag Engineering* 186:358 S 12 '58

Mercury adds big Park Lane series to line, *il diag Automotive Ind* 117:54-5+ N 1 '57

AUTOMOBILES—Continued

- New British sports racing car; the Willment. G. Wilkins. *il Engineering* 185:32 Ja 17 '58
- New engines featured by Dodge for '58. *il Automotive Ind* 117:62+ N 1 '57
- New Lincoln and Continental models. *il Automotive Ind* 117:58-9+ N 1 '57
- New Opel Kapitän. *il Engineering* 186:101 J1 25 '58
- 1959 Buick. *il diag Automotive Ind* 119:52-4 S 15 '58
- Oldsmobile offers air suspension with closed circuit system. *il diags Automotive Ind* 117:56-7 N 1 '57
- Plymouth's line of cars for '58. *il Automotive Ind* 117:64-5 N 1 '57
- Pontiac adds new models to line. *il diag Automotive Ind* 117:66-7 N 1 '57
- Rounding up the 1958 automobiles. *il Machine Design* 29:24+ O 31; 8+ N 14; 22+ N 23 '57
- SAE meeting report; cars better than ever. *Product Eng* 29:30+ F 10 '58
- SAE National passenger car, body and materials meeting. Detroit, March 4-6. S A E J 66:94-6 Ap '58
- Solar-powered car foreseen. J. C. Zeder. S A E J 66:59-60 Ja '58
- Sports cars. *Mech Eng* 79:1151 D '57
- Studebaker sedan and station wagons for 1958. *il Automotive Ind* 117:58-9 O 15 '57
- Thunderbird for 1958; illustrations with text. D. N. Frey and others. S A E J 66:40-4 Ag '58
- Two new V-8 engines for De Soto's 1958 line. *il Automotive Ind* 117:53+ N 1 '57
- What do car buyers want? *il Steel* 142:69-70 Ad 28 '58
- What do new car buyers want? H. R. Neal. *il Iron Age* 182:142+ S 11 '58
- What's going to happen to American passenger cars and why; charts and explanatory captions. P. H. Richard. S A E J 66:60-3 Mr '58
- See also*
- Automobile engineering
- Automobile engines
- Electric vehicles
- Motor buses
- Motor trucks
- Motor vehicles
- Photography of automobiles
- Radar apparatus on automobiles
- Radio telephone on automobiles
- Taxis
- Tractors

Acceleration

- How fuel makeup affects car pickup. O. C. Bridgman and E. W. Aldrich. *Oil & Gas J* 56:90-2 Je 2 '58

Air conditioning

- Air flow and distribution. R. D. Foley. *diags Refrig Eng* 66:41-3 Ag '58
- Comfort in the heat. J. D. Loveley and R. S. Heym. *Refrig Eng* 66:39-41 Ag '58
- Controls for the load. W. H. Jackson. *il diags Refrig Eng* 66:44-5 Ag '58
- Interior cooling for cars. A. S. Lamburn. *diags Automobile Eng* 48:306-7 Ag '58
- Rolls-Royce air conditioning system. *il diag Engineering* 185:489 Ap 18 '58

Auxiliary power

- Hydraulic, pneumatic, too many systems in one car. *Product Eng* 29:25 Mr 10 '58
- New passenger-car power assists; developments in electrical, hydraulic, and pneumatic aids. *diags S A E J* 66:54-8 Ja '58

Axles

- Automated lathe line for axle production. H. Chase. *il Mach* 64:142-3 Mr '58
- Automatic welding installation for axle castings. *il Automotive Eng* 48:202 My '58
- Faster and better; Chrysler rolling splines of axle shafts; Roto-Plo cold-forming machines. *il Mill & Factory* 62:241-2+ Ja '58
- Mechanical handling expedites forging of axle shafts. H. Chase. *il Automotive Ind* 117:53 D 15 '57
- More than 200 presses in Cadillac's plant four. J. Geschelin. *il Automotive Ind* 118:64-8 F 15 '58
- New transfer machines for Chevrolet rear axles. *il Automotive Ind* 118:57+ Ja 15 '58
- Passenger-car rear axles; Daimler-Benz single-joint swing axle. H. Scherenberg and others. S A E J 66:37-8 F '58
- Unique production methods for Ford rear axles. *il diags Automotive Ind* 118:20-2 Mr 1 '58

Bearings

- Flexible bearings. *il diags Automobile Eng* 48:255-9 J1 '58
- Ford speeds output of needle bearings. C. H. Wick. *il diags Mach* 64:136-43 D '57

Bodies

- American bodywork. *il diag Automobile Eng* 48:222-30 Je '58
- Automatic control of bodies at Fisher plant in Flint. *il Automotive Ind* 119:48-9 Ag 15 '58
- Automobile body manufacturing organizes for controlling costs. F. S. Altman. S A E J 65:55-6 N '57
- Body mounting. *il diags Automobile Eng* 48:86-95 Mr '58
- Continental coachwork. *il Automotive Eng* 48:157-80 My '58
- Craftsmanship in quantity; expansion of the Italian coachbuilding industry. G. Wilkins. *il Engineering* 184:674-5 N 29 '57
- Experienced hands shape a new car; Edsel automobile. R. H. Spiotta. *il Mach* 64:150-5 D '57
- GM heads for annual retooling; switch to a single body-shell concept. H. R. Neal. *Iron Age* 181:38+ My 22 '58
- Lincoln's new plant for unitized body construction. J. Geschelin. *il plan Automotive Ind* 117:52-7 N 15 '57
- London show review; coachwork. *il Automotive Eng Extra* no 47:501-10 N 27 '57
- New body plant at Vauxhall. D. Scott. *il plans Automotive Ind* 118:62-7 Ap 15 '58
- New plant, new presses stamp Chrysler bodies. G. H. De Groat. *il diags Am Mach* 101:129-34 N 4 '57
- New scrap process scores a hit; Proler plant cuts automobile bodies to shreds. *il Iron Age* 181:83-9 My 22 '58
- 1958 U.S. passenger car body data and dimensions; tables. *diags Automotive Ind* 118:124-5 Mr 15 '58
- Trends in 1958 car design; bodies. *il diags S A E J* 65:67-8 D '57
- Unit body strengthens Lincoln. H. R. Neal. *il Iron Age* 180:38+ O 31 '57
- Volvo mechanizes its phosphating line. *il diag Steel* 143:100-1 Ag 25 '58
- Welding Austin-Healey car bodies. *il Automotive Eng* 48:100-4 Mr '58
- Welding the Lincoln uniframe body. M. H. Trygar and O. B. Simmons. *il diags Mach* 64:162-5 D '57
- See also*
- American society of body engineers

Brakes

See Brakes, Automobile

Bumpers

- Bright crack-free chromium plating at Cadillac. H. Mahlstadt. *il Automotive Ind* 118:48-50 My 15 '58
- How Auto-Lite produces 1958 bumpers. C. Starzman. *il Mach* 64:174-9 D '57
- Loader speeds plating line; Eaton mfg. co.'s Cleveland stamping div. *il diag Steel* 141:108+ D 2 '57
- Plating Ford bumper bars in 700-ft automatic machines. *il Automotive Ind* 118:70-1+ Ja 15 '58
- Stripped parts are ready for replating; rejected auto bumpers. *il Steel* 142:112-13 F 3 '58
- Welding avoids deep drawing problems. *il Tool Eng* 40:104-6 F '58

Chassis

- Air springs; their effect on passenger car chassis design. A. S. Krotz and others. *il diags Automotive Ind* 117:54-7+ D 15 '57
- Austin Gipsy; engine, clutch, gearbox, transfer box and final drive units. *il diags Automobile Eng* 48:368-75 O '58
- Renault Frégate chassis. *il diags Automobile Eng* 47:426-41, 529-37 N-D '57
- Trends in 1958 car design; many chassis changes. *il diags S A E J* 65:64-66E D '57

Cleaning

- Automobile wash racks can control noise. D. P. Loye. *il Noise Control* 4:47-9+ Ja '58

Clutches

- Electromagnetic-particle clutch in French cars. *Product Eng* 28:28 D 2 '57
- Pedal-less clutch for English car. *il diag Product Eng* 28:95 N 11 '57

AUTOMOBILES—Clutches—Continued

- Seating of wet clutches. P. A. Vasavada. diag
Automobile Eng 47:461-2 N '57
Sintered bronze-faced clutch plates. II diags
Automobile Eng 48:34-7 Ja '58

Control

- Automakers study new car control systems.
D. MacDonald. II Control Eng 5:24+ Je '58
Automatic car steering passes first road test;
electronic guidance control. II diag Ma-
chine Design 30:29 Mr 20 '58
Automatic steering is coming; GM proves
electronically-guided car is workable. H. R.
Neal. II Iron Age 181:76+ F 27 '58
Automatic traffic control a step closer; elec-
tronic control for automobiles will control
steering, speed, and braking through elec-
tronic computers in each vehicle. diag
Product Eng 29:28 Mr 10 '58
Automobile safety features electronic con-
trols. J. B. Bidwell. Elec Eng 77:863 S '58
Drivers still needed; practical electronic road
controls are a long way off. Eng N 160:25 F
20 '58
Electric cable steers automobile. Elec Eng
77:378 Ap '58
Electronic car control nears. Electronics 31:44
F 7 '58
Electronic cars: how soon? II Electronics 31:
14+ My 23 '58
Electronic Chevrolet. L. R. Hafstead. Control
Eng 5:26 Mr '58
Electronic highway. Arch Forum 108:138 Ap
'58
Electronic vehicle control for traffic accident
problem; abstracts of two papers. V. K.
Zworykin; L. E. Flory. Franklin Inst J
285:226 Mr '58
Improved safe highway travel; road design
plan and an experimental automotive control
system. Elec Eng 77:571 Je '58
Nebraska pioneers electronic vehicle control.
V. K. Zworykin. Elec Eng 77:200-1 F '58
New highway instrumentation; electronic
vehicle control system. E. H. Muller. Anal
Chem 30:sup63A Ap '58
Operation of the automatically operated car
at General Motors technical center. II diag
Automotive Ind 118:70 Ap 1 '58

Corrosion

- Protection of motor vehicles from corrosion;
symposium. Chem & Ind p 1189-91 S 13
'58

Cost of operation

- Car drivers groan; figures tell why. Product
Eng 29:24-5 Je 23 '58

Design

- Aerodynamic drag; analysis of the factors
that affect passenger car design. R. M.
Ogorkiewicz. diags Automobile Eng 48:397-
9 O '58
American design outlook. Automobile Eng 48:
394 O '58
Continental coachwork. II Automobile Eng 48:
177-89 My '58
Data for designers is plentiful in recent sur-
vey of Los Angeles county traffic pattern.
S A E J 65:72-3 N '57
Design, construction, and performance of the
Citroen DS-19. J. R. Bond. II diags S A E J
66:28-32 Mr '58
Design trends at recent motor shows. G. Wil-
kins. II diag Engineering 184:572-3 N 1 '57
450 plus; problems of high speed cars. II En-
gineering 186:200 Ag 15 '58
How foreign car design has changed since
1950. II Product Eng 29:19-21 J1 7 '58
Lowering cars poses problem of driveshaft
tunnel; abstract. P. Kyropoulos. S A E J
66:47 My '58
New Edsel. N. L. Blume. II diags S A E J
66:69-71 F '58
1958 European automobile trends. A. Per-
shouse. diags S A E J 66:26-30 F '58
Outlook on automobile design. G. Roesch.
Automobile Eng 48:354-5 S '58
Soviet engineer discusses auto design. G. Ro-
vinsky. II Product Eng 28:111-13 N 11 '57
Trends in 1958 car design. II diags S A E J
65:25-9+ D '57
Whither auto design. F. Giordano. diags
Product Eng 28:106-10 N 11 '57
See also
Automobiles—Bodies
Automobiles—Chassis

Doors

- Air powered tools for door installations at
Ford's Kansas City plant. II Automotive Ind
117:64 D 1 '57

Electric equipment

- Factors in designing generator-battery sys-
tems. C. W. King. II diag Machine Design
30:125-8 My 29 '58
London show review; electrical equipment.
II diags Automobile Eng Extra no 47:494-
501 N 27 '57
Selecting vibrator and dynamotor power sup-
plies. R. C. Rodgers. II Machine Design
30:129-30 My 29 '58
Selenium rectifier applications in automo-
tive vehicles. E. J. Szabo. II Applications
& Ind p359-71 Ja '58
Watt-muscles in the modern automobile; ab-
stract. J. C. Johnson. S A E J 66:85 F '58
See also
Automobiles—Lighting

Equipment

- Gas ejectors. A. G. Filimonov. diags Auto-
mobile Eng 48:271-4 J1 '58
New mechanical features of Chrysler corpora-
tion cars for '58. diags Automotive Ind 117:
52-3 O 15 '57
New products; automotive, aviation. Pub-
lished in semi-monthly numbers of Auto-
motive industries
Trends in 1958 car design; lights and acces-
sories. II diags S A E J 65:66F-66H D '57
Trends in use of selected equipment on pas-
senger cars; comparison tables for 1957 and
1958. Automotive Ind 119:63 S 15 '58
See also
Automobile horns
Oil filters. Automobile
Shock absorbers

Exhibitions

- International motor show. 42d. London. II
diags Engineer 204:562-5, 599-601, 628-32 O
18-N 1 '57
Special car designs featured at Geneva motor
show. R. Braunschweig. II Automotive Ind
118:56-7 My 1 '58

Fabrics

See Automobile fabrics

Frames

- Argonaut has massive frame. II Steel 141:
124 N 18 '57
Automation isn't always best; A. O. Smith's
auto frame plant. J. R. Parker. Iron Age
181:94+ Je 5 '58
Efficient frame production lines at A. O.
Smith. II Automotive Ind 119:66-8 J1 15 '58
Lightweight gun speeds CO₂ welding; Parish
pressed steel div., Dana corp. J. W. Holz-
man. II Steel 142:118 Je 16 '58
Specialized handling equipment for chassis
frame assembly at Buick co. plant. C. A.
Weinert. II diags Automotive Ind 117:48-51
O 15 '57
Trends in 1958 car design; new frames. II
S A E J 65:66C-66D D '57
X-frame a break for designers. N. H. McCuen.
II Iron Age 180:106+ D 12 '57

Gearing

- Gear lubricants. Automobile Eng 47:463-4 N
'57
See also
Automobiles—Clutches
Automobiles—Steering gear
Automobiles—Transmission

Heating and ventilation

- Trends in 1958 car design; heating and ven-
tilating. II diags S A E J 65:66H-67 D '57
Height
Lower cars, but where to put passengers?
abstracts. P. O. Johnson. Product Eng 29:17
Je 30 '58; S A E J 65:106 J1 '58

Hoods

- Two-panel hoods produced on mechanical
lines; Pontiac motor div., General Motors.
W. Zerbby. II Automotive Ind 119:50-3 J1 15
'58

Leasing

- Truck and car leasing. II Paint Oil & Chem II
120:6-8 N 28 '57

Length of service

- Yardstick for vehicle replacement. H. J.
Wurth. Gas Age 122:19+ J1 24 '58

License plates

- Infrared degreases license plates. II Steel 142:
91 Je 30 '58

AUTOMOBILES—Continued

Lighting

Engineering headlights for safer driving. G. E. Meese. *il* diags Gen Elec R 61:18-21 S '58
Head lamp alignment for production line use. *il* Elec Eng 77:662-3 J '58
Highway visibility in fog. C. Marsh. *il* Illum Eng 52:621-7; Discussion. 627-8 D '57
Trends in 1958 car design: lights and accessories. *il* diags S A E J 65:66F-66H D '57

Lubrication

Fuels, lubricants keep pace with design trend demands. E. M. Johnson and C. W. Mortensen. *il* S A E J 66:57-9 Ap '58
Gear lubricants. Automobile Eng 47:463-4 N '57

Manufacture

Europe paces unit-body race; unitized welded construction. *il* Welding Eng 43:51 Mr '58
Extruded and die-cast aluminum parts effect economies at Chrysler. H. Chase. *il* diags Mach 64:147-9 J '58
Making transmission parts at Ford's Livonia plant. J. Geschelin. *il* Automotive Ind 119: 58-61 S 15 '58
Mechanized foundry operations at English Ford plant. D. Scott. *il* plan Automotive Ind 119:54-5 J 15 '58
1958 automotive production. *il* diags Mach 64: 130-93 D '57
Tomorrow's production. A. A. Kucher. S A E J 66:68-9 Ap '58
Welding Austin-Healey car bodies. *il* Automobile Eng 48:100-4 Mr '58
See also
Automobile assembly plants
Automobile engines—Manufacture
Automobile parts

Materials

Adhesives applications in the shoe, flooring, and automotive industries. L. L. Blyler. Rubber World 137:93-4 Mr '58
All-aluminum V-type engine. J. M. Smith and R. M. Smith. plans diags S A E J 66: 26-9 Ag '58
Aluminum for engine parts? yes! E. Hundt. diags S A E J 66:66-7 Ag '58
Aluminum hopes to gain weight in each US car: 250 lb more. Product Eng 28:24-5 D 30 '57
Aluminum nibbles at auto market. V. E. Flaherty. Iron Age 182:74+ Ag 21 '58
Automotive and aircraft uses of tin. A. W. Shearer. *il* Automotive Ind 119:54-8 J 15 '58
Automotive uses of rubber soar. A. W. Shearer. *il* diags Automotive Ind 118:58-65+ Je 15 '58
Average 1958 automobile uses 52.40 lb of aluminum with tables. Automotive Ind 118: 60-1 Ja 15 '58
Edsel uses estimated 64.2 lb of aluminum. Automotive Ind 117:59 D 1 '57
Fatigue tests proved by three statistical checks. L. G. Johnson. S A E J 66:72-3 Mr '58
Forecast 50 per cent greater use of aluminum in '59 autos. Mod Metals 14:78 Ag '58
Four door Edsel models use 93 lb of zinc. *il* Automotive Ind 118:66-7 Ja 15 '58
Friction materials: today and tomorrow. A. W. Shearer. *il* diag Automotive Ind 118: 62-7+ Ap 1 '58
Honeycomb termed ideal absorber. *il* Light Metal Age 15:40 O '57
Light alloys impractical for passenger-car bodies. L. M. Forbush. S A E J 66:124 Ja '58
Light metal go-power; 1958 Edsel incorporates more aluminum than the average 1957 auto. *il* Light Metal Age 15:22-3 O '57
Magnesium industry eyes automobile market. A. W. Shearer. *il* diag Automotive Ind 118: 52-5 My 1 '58
1958 autos to use 13 per cent more aluminum: Chrysler and Kaiser estimates. Light Metal Age 15:37 D '57
1958 autos using 52.4 pounds aluminum. *il* Light Metal Age 16:12-13 F '58
SAE-ASTM technical committee on automotive rubber meeting, Detroit, Dec. 5-6. Rubber Age 82:1059 Mr '58
Strength of materials: fundamental research required in a wider field than hitherto. Automobile Eng 48:275-6 J 15 '58
Three adhesive types meet auto requirements; abstract. C. J. Rawson. S A E J 66:100 Je '58

Use of aluminum and its alloys in private cars. R. K. Bolton. *il* Metallurgia 57:59-63 F '58
Use of rubber in automobiles. W. J. Simpson. diags Rubber World 137:404-8+ D '57
Zinc die castings abound in 1958 cars. *il* diags Automotive Ind 118:62-4 My 15 '58

Plastics

Automotive expands plastics use; abstract. C. A. Chayne. Iron Age 181:72+ F 6 '58
Britain tries new approach to all-plastic car. *il* diags Product Eng 28:113 N 11 '57
Curon's properties and applications. Automotive Ind 117:94 O 15 '57
Detroit group symposium on plastics in automobiles. Rubber World 137:418-19 D '57
Making reinforced plastic parts for automobiles; Molded fiber glass co. *il* Automotive Ind 118:68-70 Je 15 '58
More plastics are coming for cars; abstract. R. F. Boyer. S A E J 66:84-5 F '58
Plastics drive ahead in automotive field. A. W. Shearer. *il* diags Automotive Ind 119:58-63+ J 1: 42-7+ Ag 1 '58
Plastics foam; Foamoprene. Automobile Eng 48:214 Je '58
Plastics in cars on the upswing. Product Eng 29:27-8 Mr 24 '58
Plastics suspension; Viberti-Poggioli system. *il* diags Automotive Eng 48:122-3 Mr '58
Potential applications for urethane foam in automobiles total over 24 lb. per car. A. W. Shearer. *il* diag Automotive Ind 118:28-31 Mr 1 '58
Society of plastics engineers National technical conference, Detroit; abstracts of papers on automotive uses for plastics. Automotive Ind 118:100+ F 15 '58
Thermoformed Junior DeSoto; miniature plastic-bodied model. *il* Mod Plastics 35:108-9 My '58
What the designer should know about production; plastic materials and processing. F. Lyytinen. *il* diags Mach 65:168-72 S '58

Models

Chrysler checks its cars with plastics; use of all-plastics model. *il* Mod Plastics 35:198 F '58

New models

See Automobile industry and trade—New models

Noise

Battle to quiet cars grows hotter. R. H. Bollinger and H. N. McGregor. S A E J 66: 32-3 My '58
Car noise reduction. H. N. McGregor and R. H. Bollinger. *il* diags Noise Control 4:32-7+ My '58

Painting and finishing

Drive-through equipment for re-painting cars. *il* Finishing 34:115 Mr '58
Flow coat paint for ease and safety; Pontiac motor div. *il* Iron Age 180:136-7 D 12 '57
High efficiency painting equipment at Buick-Oldsmobile-Pontiac assembly plant. *il* Automotive Ind 118:102+ F 15 '58
Light piping saves dollars; paint distribution system at the Lincoln assembly plant. *il* Steel 142:156 My 19 '58
Lincoln dips bodies in latex primer. *il* Ind Finishing 34:40 Mr '58
Nineteen-mile paint system in Ford's Hazelwood plant. *il* Automotive Ind 119:53+ J 1 '58
Painting the Edsel. P. C. Bardin. *il* Ind Finishing 34:62-4+ N '57
Pipelines for paint; finishing automobile bodies at Ionia mfg. co. div. of Mitchell-Bentley corp. *il* Mill & Factory 63:103-4 J 1 '58
25 miles of paint lines in Lincoln assembly plant. *il* Automotive Ind 118:65+ My 1 '58
Two car finishes have durable gloss. Materials in Design Eng 47:190+ F '68
Water-thinned paints; how they compare for metal products. W. Brenner. *il* Materials in Design Eng 47:100-3 My '58

Parking

See Automobile parking

Patents

Current patents. Published in monthly numbers of Automobile engineer

Performance

Performance prediction; a comparison of various methods of estimating the performance of a vehicle. J. R. Ellis. diag Automobile Eng 48:117-21 Mr '58

AUTOMOBILES—Continued**Prices**

1958 models, what you get for your money; prices, specifications, accessory prices; tabulation. Steel 141:123 N 18 '57

Radio equipment

See Radio receiving apparatus—Installation on automobiles

Repair

Photo-record of wrecks speeds repair work. J. Landis. Il Ind Phot 7:30 Ja '58

Riding qualities**See also**

Automobiles—Springs and suspension

Automobiles—Vibration

Motor trucks—Riding qualities

Safety measures

Safe automobile; program sponsored by Liberty mutual insurance co. and carried out by Safety design research dept. of the Cornell laboratory. Il diag Mech Eng 79:150-1 D '57

Safest car in the world. Il Safety Maint 114:18+ D '57

Safety first, style next; car developed by Cornell aeronautical lab. Il Product Eng 28:114 N 11 '57

Warning radar for cars. Mech Eng 80:57 J1 '58

Why safety is a delicate subject. H. R. Neal. Il Iron Age 181:100+ Ap 24 '58

Will Detroit buy a safety car? Cornell aeronautical lab and Liberty mutual insurance co. put their ideas into a mock-up auto. H. R. Neal. Il Iron Age 180:96+ N 7 '57

See also

Motor vehicles—Inspection

Seat belts

Automobile seat belt, a factor in preventive surgery. R. C. Waltz. Ind Med 27:384-5 Ag '58

Safety belts. Il Automobile Eng 48:21 Ja '58

Safety belts for automobiles. diag Engineering 184:729 D 6 '57

Seats**See also**

Automobile fabrics

Shock absorbers**See Shock absorbers****Skidding**

Anti-skid device. Il diag Automobile Eng 48:248-54 J1 '58

Anti-skid unit for automobiles. Engineering 186:9 J1 4 '58

New method for increasing tire traction on wet, snowy and icy surfaces; Tomarkin process. L. W. Tomarkin. Rubber Age 83:832-5 Ag '58

Road tests determine: what makes autos skid? H. O. Thompson. Il Eng N 160:54-6+ F 6 '58

Skid prevention; experiments with a device to prevent wheels locking during braking. R. D. Lister and R. N. Kemp. bibliog Il diag Automobile Eng 48:382-91 O '58

Small size

Are small cars here to stay? H. R. Neal. Il Iron Age 181:78+ Ap 17 '58

Auto for the city; abstract. A. K. Lahti and others. Arch Forum 108:171-2 My '58

Dutch-built small car has V-belt drive to rear axle. Il Automotive Ind 118:71 Ap 1 '58

Folding car for use in airborne operations. Il Mech Eng 80:91 Ap '58

Foreign cars; new problem for oil? Il Oil & Gas J 56:72-4 Ap 14 '58

International motor show. Il Engineer 204:599-601 O 25 '57

Miniature-car battle. G. Wilkins. Il diag Engineering 184:518-20 O 25 '57

Pressure builds up for smaller automobiles. Arch Forum 108:12-13 Mr '58

Riley returns to small car market. Il Engineering 184:580 N 8 '57

Well, what about the small car? A. P. Anderson and others. Il diag S A E J 66:40-3 J1 '58

Specifications

Foreign car specifications; tables. G. A. Smith. diag S A E J 66:77 J1 '58

Foreign passenger cars, 1958; specifications; tables. Automotive Ind 118:142-5 Mr 15 '58

1958 models, what you get for your money; prices, specifications, accessory prices; tabulation. Steel 141:123 N 18 '57

U.S. passenger cars specifications; tables. Automotive Ind 118:126-41 Mr 15 '58

Speed

Vehicle speed measuring equipment. Il Electronic Eng 30:77 F '58

Venner electronic equipment for measuring road vehicle speeds. Il Engineer 204:870-1 D 13 '57

See also

Automobile racing

Springs and suspension

Air-leveling system adjusts vehicle height. Il diag Machine Design 29:142-3 N 14 '57

Air spring assembly at Cadillac. J. Geschelein. Il Automotive Ind 118:50-3 Ap 15 '58

Airsprings and their application to automotive, aircraft, and industrial uses. H. H. Deist. Il diag Rubber World 138:563-70+ J1 '58; Excerpts. Mech Eng 80:61-3 Je '58; Discussion. 80:102-3 D '58

Air springs; panel discussion. Rubber World 138:111 Ap '58

Air springs; their effect on passenger car chassis design. A. S. Krotz and others. Il diag Automotive Ind 117:54-7+ D 15 '57

Air suspension for road vehicles. J. H. Sainsbury. Il diag Engineer 205:253 F 14 '57; Discussion. 205:290-1 F 21 '58

Air suspension makes inroads. H. R. Neal. Il Iron Age 181:72+ Ja 30 '58

Airride springs. bibliog Il diag Automobile Eng 48:208-10 Je '58

Austin Gipsy has independent suspension, with rubber springs, at the front and rear. Il diag Automobile Eng 48:328-35 S '58

Automatic testing of air suspension system components. diag Automotive Ind 119:55+ S 15 '58

Buick air-poise suspension system. F. McFarland and others. Il diag S A E J 55:57-9 F '58

Chevrolet suspension features interchangeability. K. H. Hansen and others. Il diag S A E J 66:56-7 F '58

Chevroleths have all coil chassis springs and optional air suspension. Il diag Automotive Ind 117:50-2 N 1 '57

Dunlop air suspension. Il diag Automobile Eng 48:168-74 My '58

Expanded activities at Chevrolet's Livonia plant; making of complete air spring assemblies. J. Geschelein. Il Automotive Ind 118:43-52 Je 15 '58

Ford's approach to air suspension. C. F. O'Shea. Il diag S A E J 66:50+ F '58

General Tire launches new air spring. C. O. Slemmons. diag S A E J 66:54-6 F '58

New developments in torsion bars. R. E. Hanslip and L. O. Imber. Automotive Ind 119:112-13 S 15 '58

New design and construction of air springs for passenger cars; based on papers by F. McFarland and others. Il diag Automotive Ind 118:50-7 F 15; 48:53 Ap 1 '58

New stampings for a new ride; Chevrolet produces its air suspension parts. Il Iron Age 181:63 F 27 '58

Oldsmobile new-matic ride. R. W. Perkins. diag S A E J 66:51+ F '58

Plastics suspension; Viberti-Poglioli system. Il diag Automobile Eng 48:122-3 Mr '58

Pontiac using modified closed-cycle system. H. Aldikacti. Il diag S A E J 66:53-4 F '58

Rambler puts air springs on rear only. W. S. Berry. Il diag S A E J 66:51-2 F '58

Renault Frégate chassis; independent front and rear suspension and the steering and brakes. Il diag Automobile Eng 47:529-37 D '57

Roll axes. W. Steeds. diag Automobile Eng 48:55-8 F '58

Testing for leaks in air suspension systems. Il Automotive Ind 118:72 My 15 '58

Three looks at air springs. Il diag Product Eng 29:86-7 Ap 23 '58

Torsion springs still strong. Il Steel 143:69-70 Ag 4 '58

Trends in 1958 car design; air suspensions. Il diag S A E J 65:65-66B D '57

See also

Automobiles—Vibration

Shock absorbers

Stability

Finns improve automobile stability. V. M. Exner. diag S A E J 66:122 Ja '58

AUTOMOBILES—Continued

Steering gear

- Automated production lines for Chrysler power steering. K. Rose. *il diag Automotive Ind* 119:38-40 *Ag* 1 '58
Heat treating steering gear parts; Ross gear and tool co. *il Automotive Ind* 119:51+ *S* 15 '58
How Ford makes steering gear components. *il Automotive Ind* 119:56-7+ *Ag* 15 '58
Lincoln's power steering gear has torsion bar control. *il diags Automotive Ind* 118:57+ *Ap* 1 '58
Machining Pontiac's new steering knuckle. L. B. Arcsott. *il diag Mach* 64:130-5 *D* '57
Tooling that makes steering easy. E. Altholz. *il diags Mach* 64:151-7 *My* '58

Testing

- Automated test stand replaces on-the-road driving. *il Product Eng* 29:25 *Ag* 4 '58
Car noise reduction. H. N. McGregor and R. H. Bollinger. *il diags Noise Control* 4:32-7+ *My* '58
Computers; new proving ground; they'll take over more future testing tasks. H. R. Neal. *Iron Age* 181:94+ *F* 13 '58
Goodyear builds rubber-asphalt track. *il Roads & Sts* 101:129 *Ag* '58
Inertia-electronically; dynamometers controlled by magnetic tape. R. F. Knudsen. *il diags I S A J* 5:52-4 *Ap* '58
Laboratory chassis dynamometer; Engine laboratory of the Associated ethyl co. *il diag Engineer* 205:366-7 *Mr* 7 '58
Test-bed tests for cars. *il diags Engineering* 185:434-5 *Ap* 4 '58
Vehicle dynamometer for fuel and lubricating oil research. H. J. Eatwell and others. *il diags Automotive Eng* 48:297-302 *Ag* '58
Vehicle test plant; a Heenan and Froude development. *il diag Automotive Eng* 48:142-5 *Ap* '58

Three-wheel cars

- Harper Mk. VI invalid's car. *il diags Automobile Eng* 47:456-60 *N* '57

Transmission

- Assembling transmissions in the air; Chrysler corp.'s TorqueFlite plant. T. Metaxas. *il Mill & Factory* 61:127-8 *N* '57
Austin Gipsy; engine, clutch, gearbox, transfer box and final drive units. *il diags Automobile Eng* 48:368-75 *O* '58
Automatic transmission seals undergo changes; abstract. E. S. Bower and B. C. Vandemar. *S A E J* 66:130+ *Ap* '58
British automatic transmission for low powered cars. D. Scott. *diag Automotive Ind* 117:94 *D* 15 '57
Buick's facilities for Multi-Pitch Dynaflo production. J. Geschelin. *il Automotive Ind* 117:48-52 *D* 1 '57
Chemical and mechanical development of elastomeric piston seals for automatic transmissions; abstract. E. S. Bower and B. C. Vandemar. *Rubber World* 138:115 *Ap* '58
Europeans develop improved transmissions. W. H. Worthington. *il diag S A E J* 66:84-8 *Mr* '58
Four seater with belt-drive automatic transmission. *il diag Engineering* 185:265 *F* 23 '58
Gear production for the Flight Pitch Dynaflo. C. H. Wick. *il diags Mach* 64:166-73 *D* '57
Handa overdrive. *il diags Automobile Eng* 48:111-12 *Mr* '58
High-speed diecasting line features automatic pouring. H. Chase. *il Iron Age* 181:96-8 *Je* 12 '58
London show review; transmissions. *il diags Automobile Eng Extra* no 47:484-91 *N* 27 '57
Magnesium makes drilling job easier; Chevrolet's Turboglide transmission. *il Iron Age* 181:67 *Ja* 9 '58
Making transmission parts at Ford's Livonia plant. J. Geschelin. *il Automotive Ind* 119:58-61 *S* 15 '58
Motor industry research association positive displacement hydraulic transmission. *diags Engineer* 204:568-9 *O* 18 '57
New Chevrolet plant diecasts transmission parts. K. L. Mountain. *il Foundry* 85:93-7 *N* '57
New Chevrolet transmission plant now in high gear. E. Altholz. *il Mach* 64:180-7 *D* '57
New tooling for the new Dynaflo transmission. C. H. Wick. *il Mach* 64:124-7 *F* '58

- New turbine added to Buick's Dynaflo. F. McFarland and C. S. Chapman. *il diags S A E J* 66:84-9 *Ap* '58
1958 European automobile trends. A. Pershouse. *diags S A E J* 66:26-30 *F* '58
Operating principles of fluid couplings for automotive engines. O. K. Kelley. *diags Product Eng* 29:15-17 *Mid-S* '58
Power brush finishing of automatic transmissions. *il Automotive Ind* 118:32-3+ *Mr* 1 '58
Renault Frégate chassis; transmission; design and development. *il diags Automobile Eng* 47:426-41 *N* '57
Russian automatic transmission. *diag Automotive Ind* 118:61 *Je* 1 '58
Torque converters; a flexible drive. H. L. Wilke. *Machine Design* 29:116-20 *F* 7 '57
Same cond. *Product Eng* 28:E2-4 *Mid-O* '57; *Abstracts. Automotive Ind* 116:59+ *Ja* 1 '57; *il Mech Eng* 79:738-40 *Ag* '57
Transfer lines build Buick's new Dynaflo. *il diags Arm Mach* 101:135-40 *N* 4 '57
Trends in 1958 car design; transmissions and drive controls. *il diags S A E J* 65:61-3 *D* '57
Turning transmission parts on tracer lathes. R. Kennedy. *il Automotive Ind* 118:52-3 *My* '58
Vane pumps do auto transmission job. *il diag Product Eng* 29:74 *Je* 23 '58

Trim

- New painting methods offer improved decorative parts. H. Mahlstedt. *il Automotive Ind* 117:65+ *D* 1 '57
One machine anodizes many colors; automotive grilles and body. *il plan Steel* 141:65-7 *D* 30 '57

Upholstery

See also

Automobile fabrics

Vibration

- Curing car shake by new lab method. K. P. Pettibone. *il S A E J* 66:52-3 *Je* '58
Man's new environment; vehicle vibration. A. O. Radke. *bibliog diags Mech Eng* 80:38-41 *J* '58
Tackling car shake through engine mounts; abstract. L. M. Morrish. *diags S A E J* 66:78-9 *Je* '58
Vibration damage evaluation. *diags S A E J* 65:48-51 *N* '57

Washing

See Automobiles—Cleaning

Windows

- More glass coming for new cars; larger windshields and windows. H. R. Neal. *il Iron Age* 182:77+ *J* 10 '58

Windshields

- More glass coming for new cars; larger windshields and windows. H. R. Neal. *il Iron Age* 182:77+ *J* 10 '58

AUTOMOBILES, Atomic powered

- Atomic powerplants are out, for highway vehicles, locomotives or transport planes until problems are solved. E. D. Reeves. *S A E J* 66:69 *Mid-S* '58

AUTOMOBILES, Electric

- Electric is coming back. H. D. Harkins. *diag Elec World* 149:42 *Mr* 10 '58

AUTOMOBILES, Folding. See Automobiles—Small size

AUTOMOBILES, Toy

- Physics in a toy auto. J. S. Miller. *Am J Phys* 26:132 *F* '58
Thermoformed junior DeSoto; miniature plastic-bodied model. *il Mod Plastics* 35:108-9 *My* '58

AUTOMOBILES and roads

- Crown types for divided highways. *Roads & Sts* 101:133 *Ag* '58
Driveways and approaches for modern automobiles. M. Anaya. *Pub Works* 89:113-14 *Je* '58

AUTOMOTIVE chemicals

- Automotive products survey. *Soap & Chem Spec* 34:119+ *Mr* '58
Marketing automotive specialties. C. E. Allardice, Jr. *il Soap & Chem Spec* 34:81-3+ *Ap* '58

AUTOMOTIVE Diesel engines. See Diesel engines, Automotive

AUTOMOTIVE engineers, Society of. See Society of automotive engineers

AUTOMOTIVE fuel

- Fuels and lubricants for tomorrow's cars. C. G. A. Rosen. *Pet Eng* 29:C27-30 *N* '57

AUTOMOTIVE fuel—Continued

How an oil company picks a fuel additive.
W. G. Ainsley, S A E J 66:118+ Ja '58

See also

Airplane engines—Fuel

Gasoline

Gasoline—Anti-knock and anti-knock mixtures

Testing

Vehicle dynamometer for fuel and lubricating oil research. H. J. Eatwell and others. *il* diags Automobile Eng 48:297-302 Ag '58

AUTOMOTIVE gas turbines. See Gas turbines, Automotive

AUTORADIOGRAPHY. See Radiography

AUTOTRANSFORMERS. See Electric transformers—Autotransformers

AUTOXIDATION. See Oxidation—Autoxidation

AUXINS

Electronic structure and auxin activity of benzoic acid derivatives. K. Fukui and others. *bibliog* Am Chem Soc J 80:2267-70 My '58

See also

Indoleacetic acid

AVERAGE

Nonreciprocal two-port measurement based on an averaging technique. H. M. Alt-schuler. *diags* Inst Radio Eng Proc 45:1293 S '57

AVIATION

Commercial jet transport piloting techniques. D. P. Germeraad. *il* map diags S A E J 66:86-9 Je '58; Abstract. Aircraft Eng 30:241 Ag '58

See also

Air navigation

Airlines

Airplanes—Take-off

Airports

Meteorology, Aeronautic

Radar aids to aviation

Radio aids to aviation

Seaplanes

Television aids to aviation

Television apparatus on aircraft

United States—Air service, Army

United States—Air service, Navy

Accidents

Instruments find crash causes. Electronics 31:26-7 Ap 4 '58

Jammed slide causes landing accident. *diags* Aviation Age 29:98 Je '58

Prevention of death and injury in aircraft accidents. H. G. Moseley and others. *bibliog* A M A Archives Ind Health 17:111-17 F '58

Reduce lost plane search time. Product Eng 29:26 Ap 21 '58

SeaMaster; its development and some considerations from the accidents. J. L. Decker. *il* diag Aeronautical Eng R 16:58-62 N '57

See also

Aviation—Collisions

Altitude flying

Newer concepts in aviation medicine. W. M. Snowden. A M A Archives Ind Health 18:190-4 S '58

Simple method of estimating the Reynolds number effects on aircraft gas-turbine engines operating at high altitudes. R. W. Pinnes. A S M E Trans 80:1264-72 Ag '58

Collisions

Airlines to test infrared warning. Electronics 31:8+ Je 6 '58

Anti-collision devices for aircraft. W. Wong. S A E J 66:33-4 My '58

Can airborne electronics prevent midair collisions. J. Holahan. *diags* Aviation Age 29:130-4 Je '58

Collision avoidance system for aircraft; abstracts. Y. J. Liu and J. O. Campbell. *diag* S A E J 66:84-5 My '58; Aircraft Eng 30:241 Ag '58

Infrared collision warning proposed. Electronics 31:27 Mr 7 '58

Ice problem

See Airplanes—Ice protection

Medical aspects

Newer concepts in aviation medicine. W. M. Snowden. A M A Archives Ind Health 18:190-4 S '58

Preventive aspects of aviation medicine in a commercial airline operation. O. B. Schreuder. A M A Archives Ind Health 17:170-3 F '58

Physiological aspects

Air force problems in toxicology. G. Kitzes. *bibliog* diag A M A Archives Ind Health 17:56-62 My '58

Observations made during Manhigh II flight. D. G. Simons. Jet Propulsion 28:521-2 Ag '58

Preventive medicine aspects of flight feeding. A. A. Taylor and B. Finkelstein. *bibliog* il Am J Pub Health 48:604-9 My '58

Role of the flight surgeon in aviation safety. C. E. Wilbur. A M A Archives Ind Health 17:64-6 Ja '58

Seven physiologic considerations in design for high-speed, high-altitude flight. J. W. Raeke. S A E J 66:52-5 Ag '58; Abstract. Aircraft Eng 30:241 Ag '58

Survival at high altitudes. A. I. Beck. Aeronautical Eng R 17:33-7 Ap '58

Safety measures

Air safety: Flight safety foundation international seminar. Palo Alto, Nov. 11-15. Aeronautical Eng R 17:50-2 Ap '58

Anti-collision devices for aircraft. W. Wong. S A E J 66:33-4 My '58

Collision avoidance system for aircraft; abstracts. Y. J. Liu and J. O. Campbell. *diag* S A E J 66:84-5 My '58; Aircraft Eng 30:241 Ag '58

Energy absorption applied to seat design: Aerotherm seat. R. Hawthorne. *il* diags Space/Aeronautics 30:70-4+ O '58

Fall-safe structural design. N. F. Harpur. *bibliog* il diags Roy Aeronautical Soc J 62:363-76 My '58

Flight efficiency and safety measures. *diags* Elec Eng 77:362-3 S '58

Prevention of death and injury in aircraft accidents. H. G. Moseley and others. *bibliog* A M A Archives Ind Health 17:111-17 F '58

Role of the flight surgeon in aviation safety. C. E. Wilbur. A M A Archives Ind Health 17:64-6 Ja '58

Safety and large aircraft. A. H. Crawshaw. Roy Aeronautical Soc J 61:831 D '57; Discussion. 62:67, 139, 385 Ja-F, My '58; Reply. 62:385-7 My '58

Skid-warning system for aircraft. *il* Safety Maint 114:22+ N '57

See also

Air pilots—Emergency equipment

Airplanes—Ice protection

Airplanes, Military—Ejection devices

Airports—Traffic control

Airways—Traffic control

Aviation—Collisions

Brakes, Airplane

Weather aspects

See Meteorology, Aeronautic

AVIATION fuel. See Airplane engines—Fuel

AVIATION landing stations

See also

Airports

AVIATORS. See Air pilots

AVIATORS, Military. See Air pilots, Military

AVICENNIA marina

Pulping studies on eucalyptus deglupta Bl., bruguiera parviflora Wight, and Arn. avicennia marina (Forsk.) Vierh. A. von Koeppen. *bibliog* Tappi 41:460-4 Ag '58

AWARDS. See Rewards, prizes, etc.

AWNING fabrics

They keep awning quality headed up; Falls co. *il* Textile Ind 122:154-6 Je '58

AWNINGS

Heat gain through windows shaded by canvas awnings. N. Ozisik and L. F. Schutrum. *il* diags Heating-Piping 30:159-66 My '58

Heat gain through windows shaded by metal awnings. N. Ozisik and L. F. Schutrum. *il* diags Heating-Piping 30:121-5 Jl '58

Refrigeration panel solves ship awning problem. W. J. Williams. *il* Marine Eng/Log 63:64 Ag '58

AXLES

Which should turn, wheel or axle? J. T. Em-merton. *bibliog* *il* diags Engineering 185:47-7 Ap 11 '58

See also

Automobiles—Axles

Bearings

Car axles

Motor trucks—Axles

Manufacture

Automated lathe line for axle production. H. Chase. *il* Mach 64:142-3 Mr '58

Unique production methods for Ford rear axles. *il* diags Automotive Ind 118:20-2 Mr 1 '58

AXONOMETRIC projection. See Projection, Axonometric

AZAPHENANTHRENE

1-Methyl-6-ethyl-3-azaphenanthrene, a key degradation product of atisine. D. M. Locke and S. W. Pelletier. *Am Chem Soc J* 80:2688-9 May 20 '58

AZAUACIL

Reaction of chloral hydrate with semicarbazides and the synthesis of semicarbazide-CP and 6-azauracil-2-C¹⁴. P. K. Chang and T. L. V. Ulbricht. *bibliog Am Chem Soc J* 80:976-9 F 20 '58

AZEOTROPES

Gas chromatography: determination of constituents in the study of azeotropes. J. F. Haskin and others. *bibliog Anal Chem* 30: 217-19 F '58

Take a look at permeation: membrane permeation process for difficult-to-separate liquid mixtures. *diag Chem & Eng N* 36:58-9 Mr 31 '58

AZIDES

Ionization and dissociation of hydrazoic acid and methyl azide by electron impact. J. L. Franklin and others. *bibliog Am Chem Soc J* 80:298-302 Ja 20 '58

Polynitrogen systems from the hydrazinocarbonic acids; aminolytic reactions of N,N-diphenylcarbamyl azide. F. L. Scott and M. T. Scott. *bibliog Am Chem Soc J* 79: 6077-82 N 20 '57

Reaction of organic isothiocyanates with hydrazoic acid and azide ion. E. Lieber and J. Ramachandran. *bibliog Chem & Ind* p461-2 Ap 19 '58

Thermal rearrangement of triarylmethyl azides. W. H. Saunders, Jr. and J. C. Ware. *bibliog Am Chem Soc J* 80:3328-32 Ji 5 '58

X-ray powder diffraction data of several cobalt amine azides. T. B. Joyner and others. *bibliog Anal Chem* 30:194-6 F '58

See also
Lead azides

AZINES

Complexes of pyridinaldazine with iron(II) and nickel(II). W. J. Stratton and D. H. Busch. *diags Am Chem Soc J* 80:3191-5 Ji 5 '58

AZIRIDINE

Nuclear magnetic resonance spectra; nitrogen inversion rates of N-substituted aziridines (ethylenimines). A. T. Bottini and J. D. Roberts. *bibliog Am Chem Soc J* 80: 5203-8 O 5 '58

Synthesis of 1,1'-blaziridine; a new bicyclic system. A. F. Graefe and R. E. Meyer. *bibliog Am Chem Soc J* 80:3939-41 Ag 5 '58

AZO BENZENE

Anodic reductions; reduction of nitrobenzene, nitrobenzene azoxybenzene and azobenzene. J. Y. Yang and others. *bibliog Am Chem Soc J* 80:4300-3 Ag 20 '58

Kinetics of the condensation of anilines with nitrosobenzenes to form azobenzenes. Y. Ogata and Y. Takagi. *bibliog Am Chem Soc J* 80:3591-5 Ji 20 '58

Photochemical isomerization of azobenzene. G. Zimmerman and others. *bibliog Am Chem Soc J* 80:3528-31 Ji 20 '58

Tautomeric equilibria; the basicities of mono-substituted azobenzenes; an acidity scale in 20 per cent ethanolic aqueous sulfuric acid. H. H. Jaffé and R. W. Gardner. *bibliog Am Chem Soc J* 80:319-23 Ja 20 '58

AZO compounds

Addition of silylmetallic compounds to the azo and azomethine linkage. D. Wittenberg and others. *bibliog Am Chem Soc J* 80: 4532-4 S 5 '58

Adsorption at organic surfaces; adsorption of sulfonated azo dyes by chitin from aqueous solution. C. H. Giles and others. *bibliog Soc Dyers & Col J* 74:682-8 O '58

Application of azo pigments to nylon. A. Butterworth. *Soc Dyers & Col J* 74:480-1 Je '58

Azo compounds; a seven-membered cyclic azo compound. C. G. Overberger and J. G. Lombardino. *bibliog Am Chem Soc J* 80:2317-21 My 5 '58

Azo compounds; oxidation of 1,1-disubstituted hydrazines; the synthesis and oxidation of *cis*- and *trans*-1-amino-2,6-diphenylpiperidine; a new stereospecific ring closure. C. G. Overberger and others. *bibliog Am Chem Soc J* 79:6430-5 D 20 '57

Azo compounds; synthesis of neophyl-type azo compounds. C. G. Overberger and H. Gainer. *bibliog Am Chem Soc J* 80:4556-61 S 5 '58

Azo dyes from substituted 2-aminothiophens. J. E. Dickey and others. *bibliog Soc Dyers & Col J* 74:123-31; Discussion. 131-2 Mr '58

Color removal from azo dye wastes. N. L. Nemerow and W. L. Wilson. *Ind & Eng Chem* 49:sup77A-8A D '57

Color removal from azo dye wastes; research report. *Am Soc C E Proc* 84 [SA 2 no 1611]: 1-4 Ap '58

Neophyl-type azo compounds; their decomposition and rearrangement of the neophyl-type free radical. C. G. Overberger and H. Gainer. *bibliog Am Chem Soc J* 80:4561-6 S 5 '58

Phosphinemetallenes; a new class of azo dyes containing phosphorus. F. Ramirez and S. Levy. *bibliog Am Chem Soc J* 79: 6167-72 D 5 '57

Relation between the absorption spectra and the chemical constitution of dyes; interaction of direct azo dyes in aqueous solution. M. N. Inscoe and others. *bibliog* (30 ref) *J Res Nat Bur Stand* 60:65-83 Ja '58

Relative stabilities of metal derivatives of *oo'*-dihydroxyazo dyes. F. A. Shavelly and others. *bibliog Soc Dyers & Col J* 73:491-5 N '57

Structural effects of anionic azo dyes on serum albumin. G. Markus and F. Karush. *bibliog Am Chem Soc J* 80:89-94 Ja 5 '58

See also
Naphthols

AZOMETHINE. See Methylenimine

AZOTOBACTER

Vitamin B₁₂ content of azotobacter vine-landii. L. Almon. *bibliog J Nutrition* 65: 643-8 Ag '58

AZOXY compounds

Anodic reductions; reduction of nitrobenzene, nitrosobenzene, azoxybenzene and azobenzene. J. Y. Yang and others. *bibliog Am Chem Soc J* 80:4300-3 Ag 20 '58

Study of the Wallach rearrangement and related reactions. M. M. Shemyakin and others. *bibliog Chem & Ind* p755-6 Je 21 '58

AZULENE

Azulene; a study of the Beckmann rearrangement of 1,3-diacetylazulene dioxide and 1,3-diacetylazulene dioxide diacetate. A. G. Anderson, Jr. and others. *bibliog Am Chem Soc J* 79:6511-16 D 20 '57

Azulene-metal complex. R. Burton and G. Wilkinson. *Chem & Ind* p 1205 S 13 '58

Azules; migration of the isopropyl group during the synthesis of 1-isopropyl-8-methylazulene. W. Herz. *bibliog Am Chem Soc J* 80:3139-41 Je 20 '58

Azules; 1- and 2-*t*-butylazulene; migration of the *t*-butyl group. W. Herz. *bibliog Am Chem Soc J* 80:1243-6 Mr 5 '58

4,7-Dimethylazulene from longifolene. T. Kubota. *Chem & Ind* p951 Ji 26 '58

Proton magnetic resonance spectra of azulene and acepladiene. W. G. Schneider and others. *bibliog Am Chem Soc J* 80: 3497-502 Ji 20 '58

See also
Phenylazulene

B

BMD. See United States—Air force—Ballistic missiles division

BOD testing. See Sewage—Testing

BABCOCK-HART award

Bernard I. Oser, 1958 winner. *Chem & Eng N* 36:98 Je 30 '58
New York scientist to receive award for nutritional research. *Food Tech* 12:sup24 My '58

BABY carriages

Line of new products results from parent's exasperation. A. E. Peterson manufacturing co. *il Wire & Wire Prod* 33:547-+ My '58

BABY foods. See Infants food

BACHNER award. See Rewards, prizes, etc.

BACILLUS subtilis

Products of low-iron fermentation with bacillus subtilis; isolation, characterization and synthesis of 2,3-dihydroxybenzoylglycine. T. Ito and J. B. Nellands. *bibliog Am Chem Soc J* 80:4464-7 S 5 '58

BACK

Pre-existing structural defects and severity of compensation back injuries. C. F. Runge. *Ind Med* 27:249-52 My '58

BACKFILL. See Filling

BACKHOES. See Excavating machinery

BACKWARD regions

Help from the West in Iraq. M. G. Iopides. *il map Engineering* 186:172-4 Ag '58
Problems in mechanization in primitive countries. J. V. Thompson. *il Min Eng* 10: 858-63 Ag '58

BACON

New sweetener for cured meats; cyclamate sucaryl. K. M. Beck and others. *il Food Eng* 30:114 My '58
Scale computes weight correction; bacon-packing. *il diags Product Eng* 29:82-3 Mr 17 '58

BACTERIA

Continuous freeze-drying of serratia marcescens. H. G. Maister and others. *bibliog il diag Ind & Eng Chem* 50:623-6 Ap '58
How bacteria leaches low-grade ores. S. Zimmerley. *diags Eng & Min J* 159:89-91 Je '58

Kinetics of bacterial inactivation by heat. S. E. Charm. *bibliog il Food Tech* 12:4-8 Ja '58

Pilot-plant production of ground serratia marcescens. V. F. Pfeifer and others. *bibliog flow sheet il Ind & Eng Chem* 50: 1143-8 Ag '58

Size reduction of dried pellets containing serratia marcescens; high-speed centrifugal mill pulverizes dried microorganisms used in aerosol production and testing. V. F. Pfeifer and others. *bibliog il diags Ind & Eng Chem* 50:627-32 Ap '58

Transduction in bacteria. N. D. Zinder. *il diags Sci Am* 199:38-43 N '58

See also

Escherichia coli

Iron bacteria

Paper making—Bacteria control

Sphaerotilus

Sulitor bacteria

BACTERIA, Anaerobic

Anaerobic digestion. R. R. Kountz and J. E. Nesbitt. *bibliog Water & Sewage Works* 105:262-3 Je '58

BACTERIA, Nitrifying

See also

Azotobacter

BACTERIA, Pathogenic

Bacteriological and epidemiological studies of pulmonary diseases associated with atypical acid-fast bacilli. A. V. Hardy and others. *Am J Pub Health* 48:754-9 Je '58

Fatal silicosis with complicating infection by an atypical acid-fast photochromogenic bacillus. G. W. H. Schepers and others. *bibliog il Ind Med* 27:27-36 Ja '58

Highlights of research in sanitary engineering; University of Colorado; the survival of pathogenic organisms in sewage. S. G. Dunlop. *il plan Pub Works* 88:80-1 D '57

See also

Clostridium

Escherichia coli

Food poisoning

Immunity

Pneumococci

Salmonella

Staphylococci

Streptococci

Tubercle bacilli

BACTERICIDES. See Disinfection and disinfectants**BACTERIOLOGICAL apparatus**

Spot scanner counts micron-sized particles. H. P. Mansberg and others. *il diags Electronics* 30:142-6 D 1 '57

BACTERIOLOGY

Highlights of research in sanitary engineering; University of Florida; advancements in bacteriology and analytical methods. J. E. Kiker, jr. *Pub Works* 88:89-90 D '57

See also

Air—Bacteriology

Cotton—Bacteriology

Microorganisms

Sewage—Bacteriology

Viruses

Water—Bacteriology

Culture and culture mediums

Amateur scientist: how to cultivate harmless bacteria. E. Lawrence and H. Soloway. *diags Sci Am* 198:134-44 Mr '58

Continuous fermentation; its industrial value and use as a research tool; abstracts of papers and discussion. *Chem & Ind* p381-6 Mr 29 '58

Delayed recovery of streptococci from throat swabs. N. F. Hollinger and L. H. Lindberg. *bibliog il Am J Pub Health* 48:1162-9 S '58

Pilot plant for the continuous culture of micro-organisms. R. W. Harrison. *diag J Ap Chem* 8:68-72 Ja '58

Laboratory methods

Bacteriology of tuberculosis; laboratory methods. G. Middlebrook and M. L. Cohn. *bibliog Am J Pub Health* 48:844-53 Jl '58
Stool specimen collection for laboratory examination for infestations. H. J. Johnson and G. K. Ebbesen. *diags Ind Med* 27:370-1 Jl '58

See also

Filters and filtration (bacteriology)

BACTERIOSTATIC

Influence of solvents on the bacteriostatic and bactericidal action of organic acids. E. A. Cooper and A. E. Goddard. *bibliog J Ap Chem* 7:613-19 N '57

BADGER manufacturing company

Career opportunities. *il Chem & Eng N* 36: 20 pt 2 Ja 27 '58

BAGASSE

Cleaning and depithing bagasse for paper-making. *il diags Paper Ind* 40:296-7 Ag '58

Depithing bagasse; Horkel mechanical system for removing pitch and dirt. *il Tappi* 41: sup 127A-9A Ag '58

New method for production of viscose rayon pulp from bagasse. Y. Fahmy and E. Ashmawy. *bibliog Tappi* 41:439-42 Ag '58

Paper pulp from sugarcane bagasse by the sulphate process. A. J. Ernst and others. *bibliog diag Tappi* 40:873-9 N '57

BAGHDAD**Architecture**

American embassy at Baghdad. *il plans-diags Arch Rec* 123:126-33 Ja '58

Frank Lloyd Wright designs for Baghdad; Grand opera and civic auditorium. *il plans diags Arch Forum* 108:89-101 My '58

BAGS, Plastic

Bag limit; 3000 garments per hour; special-purpose packaging machine. *il Textile Ind* 122:148-9 My '58

Bigger role for boll-bags assured by new low-cost pouch. *il Food Eng* 30:30-2 O '58

Fertilizer bags double as tarpaulins. *il Mod Plastics* 36:198 S '58

Liquid detergent in pouches. *il Soap & Chem Spec* 34:167+ Mr '58

New bag for shippers. *il Chem & Eng N* 36:48 My 19 '58

Transparent polyethylene bags protect printed circuits. *il Electronics* 30:214 D 1 '57

Twist ups chili sales twenty per cent; brick-type product is cardboard-molded in plastic bag. *il Food Eng* 30:66 Je '58

See also

Garment bags, Plastic

BAHAMAS ISLANDS

Algal disintegration of Bahamian limestone coasts. E. Purdy and L. S. Kornicker. *bibliog J Geol* 66:97-9, pl 1 Ja '58

BAINITE. See Steel—Metallography**BAKER, Manly Benson**

Obituary. *por Can Min & Met Bul* 51:595-6 S '58

BAKER, Walter R. G.

Sketch. *por Inst Radio Eng Proc* 45:1458 N '57

Winner of the 1958 Founders award. *por Inst Radio Eng Proc* 46:532 Mr '58

BAKERS and bakeries

Board and calendar solve day-off problem; Hall baking, co. F. P. Grzyb. *il Food Eng* 30:101 Mr '58

But, will the people want to eat it? H. M. Freund. *Food Eng* 29:53 D '57

Innovations in baking; Bakery engineers convention; abstracts of papers. *diags Food Eng* 30:126-7 Ap '58

Small plant's striking success; Kitchens of Sara Lee, inc. *il Food Eng* 30:55-8 F '58

This all-out attack assured best design; Kitchens of Sara Lee. *il Food Eng* 30:86-8 Ap '58

Equipment

Lost art of bread twisting revived by automated line. *il Automation* 5:12 Ag '58

New twist to twisting trick; conveyors work with mechanical cups to perform a special bakery operation. *il diag Product Eng* 29:91 S 15 '58

Poppy seed sprayer cuts baking labor. F. P. Grazyb. *il Food Eng* 30:85 Ag '58

Radiant cooling boosts quality, volume of product while saving valuable space. C. A. Mills. *il Food Eng* 30:94-5 Je '58

Unique monoral system doubles bakery production; Rainbo bread co. R. Latimer. *il Food Eng* 30:76-7 Jl '58

Vacuum depanner solves bakery handling problem. *il Automation* 5:91 F '58

See also

Flour handling

BAKERS and bakeries—Continued**Lighting**

Recipe for brighter cake sales; lighting, a.c. W. L. Stretch. *Il Elec World* 149:94 My '58

Maintenance and repair

They give their batteries nine lives; Nabisco's special care of truck and lifter units. *Il Food Eng* 30:120 Ja '58

Management

Formula for growth; sell less to sell more; Tasty baking. T. C. Taylor. *Il Food Eng* 30:64-6 F '58
Simple twist on five-step work-saving formula puts your problems to rout; Wagner baking corp. F. A. Russo. *Food Eng* 30:49-51 F '58

BALANCES

High cobalt alloy ups product life. *Il Iron Age* 180:156+ N 21 '57
New balance speeds material analysis. A. G. Piken. *Il diag Ind Lab* 9:12 Ap '58
New recording balance features several innovations. R. H. Müller. *Il Anal Chem* 30:sup47A-8A+ J1 '58
Quartz helix magnetic susceptibility balance using the Curie-Cheneveau principle. F. E. Senfelle and others. *Il diag R Sci Instr* 29:429-32 My '58
Quick-acting balance; useful aid to routine analysis. *Il diag Metallurgia* 56:312 D '57
Recording balances; Mauer balance. R. H. Müller. *Anal Chem* 30:sup63A-4A Ap '58
Simple inertia balance suitable for quantitative measurements. R. L. Edwards and J. M. Bradford. *Am J Phys* 26:399 S '58

See also

Scales
Thermobalances

BALANCING machines

Automatic balance checking speeds missile production; Falcon missiles. *Il diag Automation* 5:62-3 Ag '58
Crankshaft line uses in-line production balancing; Ford motor co. W. M. Gruber. *Il diag Automation* 5:80-3 F '58
Giesler dynamic balancing machine. *Il Engineer* 206:107 J1 18 '58

Testing

Performance tests for balancing machines. W. I. Senger. *Il diag Mach* 64:156-67 Mr; 159-68 Ap '58

BALANCING of machinery

Balancing engines. *Il Automobile Eng* 48:38 Ja '58
Computer clips balancing time; locates turbine-wheel unbalance. W. E. Boggs. *Il diag Control Eng* 5:119+ Je '58
Here are ABC's of balancing rotating parts. S. Elonka. *Il Power* 102:110-11 F '58
Polar method improves dynamic balancing. A. B. Barnes. *diag Am Mach* 101:154-6 N 18 '57

See also

Balancing machines

BALDNESS

Alopecia areata treatment. *Drug & Cosmetic Ind* 82:232 F '58

BALING presses

Baling heavy scrap. *Il Engineering* 185:261 F 28 '58
Baling press for scrap metal. *Il Engineer* 205:295 F 21 '58

BALL bearings. See Bearings, Ball**BALL mills**

Ball mills; their efficiency can be improved! G. J. Halbart and V. F. Freymann. *Il diag Rock Prod* 60:157-8+ Je; 105-6+ J1 '57; 61:151-2+ Ja '58

Effect of ball mill grinding on acidulation of phosphate rock. R. K. Rounsley and D. R. Boylan. *bibliog flow sheet* *Il plan diag J Akri & Food Chem* 6:677-84 S '58

Forum on the non-catacting ball mill. *bibliog diag Can Min & Met Bul* 51:495-504 Ag '58; Discussion. 51:752-3 D '58

Grinding ball size selection. F. C. Bond. *Min Eng* 10:Trans 592-5 My '58

Gearing

Hard-surfaced spur gears last 35 times as long. *Il Welding J* 36:1196 D '57

BALL point pens. See Fountain pens**BALLAST tubes. See Electric resistors****BALLISTIC missiles. See Guided missiles****BALLISTIC missiles division. See United States—Air force—Ballistic missiles division****BALLISTICS**

Bore-surface temperature variation during rapid firing of a 40-mm gun. W. H. Giedt and D. L. Rahl. *diag Jet Propulsion* 28:116-19 F '58

Dynamics of a projectile penetrating sand. W. A. Allen and others. *bibliog* *Il diag J Ap Phys* 28:370-6, 1331-5 Mr, N '57

Effect of a variable evaporation rate on the ballistics of droplets. C. C. Miesse. *bibliog Franklin Inst J* 264:391-401 N '57

Mathematical model of terrain shielding. R. R. Hare. *jr. diag Op Res* 6:530-7 J1 '58

Microscopical study of a multilayer nylon body armor panel after impact; ballistic tests. G. Susich and others. *bibliog* *Il Textile Res J* 28:361-77 My '58

Rational determination of loads and exit velocities of cartridge ejected stores. H. Wolf and S. Pines. *diag J Aero/Space Sci* 25:425-8 J1 '58

Use of capacitor discharges to produce high-velocity pellets. D. E. Blossom, jr. *Il J Ap Phys* 29:1049-51 J1 '58

See also

BALLISTOCARDIOGRAPHY

Ballistocardiography. H. W. Lewis. *Il diag Sci Am* 198:89-92+ F '58

BALLOONS

Balloon descension, an old trick with a new twist; man's ingenuity held back the tide when major piping changes were needed at plant Hagood. *Il diag Power Eng* 62:73 Mr '58

Balloon-launched vehicle may be first on the moon. K. R. Stehling. *Il diag Aviation Age* 28:32-5 Mr '58

Balloons pace gas velocity. L. Babcock. *Chem Eng* 65:148 Mr 24 '58

Balloons raise aluminum structure in 22 hours. *Il Comp Air Mag* 63:26-7 F '58

Balloons substitute for falsework as aluminum dome factory is erected in 22 hours. *Il Eng N* 159:24-5 N 28 '57

Giant balloons hoist aluminum stressed-kin dome. F. Po conveyor co. *Il Arch Rec* 123:183 Ja '58

Imagery aloft; balloons of R. H. Macy & co.'s thirty-first annual parade. S. M. Parkhill. *Il Comp Air Mag* 62:373-6 D '57

Navy telecasts from 82,000 ft. *Electronics* 31:8 Ar 15 '58

Observations made during Manhigh II flight. D. G. Simons. *Jet Propulsion* 28:521-2 Ag '58

Operation Manhigh II. O. C. Winzen and D. P. Parks. *bibliog* *Il diag Jet Propulsion* 28:523-32 Ar '58

Role of manned balloons in the exploration of space. M. D. Ross and M. L. Lewis. *bibliog map diag Aero/Space Eng* 17:45-52+ Ar '58

BALLOONS, Meteorological

Capitice balloon refractovariometer. A. L. Crozier. *Il diag R Sci Instr* 29:276-9 Ap '58

Navy probes space; balloon carries automatic telescope. *Il Electronics* 31:24 Ja 10 '58

BALLS, Rubber

Automatic spray painting offers advantages in finishing of rubber-covered athletic balls. *Il Rubber Age* 82:476-7 D '57

BALLS, Steel

Radioactive-tracer technique for studying grinding ball wear. M. Pobereskin and others. *bibliog Min Eng* 9:Trans 1356-8 D '57

Testing

Investigation of the structural conditions in steel bearing-balls. I. Berz and others. *Il Engineering* 185:151-3 Ja 31 '58

BALTIMORE

New heart for Baltimore. J. Jacobs. *Il map plans Arch Forum* 108:88-92 Je '58

Thinking big; Baltimore tags its entire downtown area of 1,150 acres for urban renewal. O. H. Winston. *Eng N* 160:42 F 13 '58

Water supply

Concrete wins round one of big pipe job. *Eng N* 161:26 J1 31 '58

BALUN. See Radio lines**BAMICETIN. See Antibiotics****BANANAS****Transportation**

Problems associated with the transport of bananas; abstract and discussion. R. Gane. *Chem & Ind* p307-8 Mr 15 '58

BANDSTANDS

Hyperbolic paraboloid band shell collapses for storage. *Il Arch Rec* 122:212 D '57

BANGKOK**Sanitary affairs**

Refuse composting plant. Eng J 41:86-7 My '58

BANISTERIA caapi

Alkaloids of *Banisteria caapi* and *prestonia amazonicum*. F. A. Hochstein and A. M. Paradies. *Biblog Am Chem Soc J* 79:5725-6 N 5 '57

BANK buildings

Bank building with precast face: Wachovia bank building, Charlotte, N.C. II plans diag Arch Rec 124:189-96 S '58
Banks; interior design data. II Prog Arch 39: 150-5 Ag '58
Broken-back friction piles will underpin building: California bank building in Los Angeles. II diag Eng N 161:38-9 Ag 21 '58
Downtown bank adds garage with drive-in service: First national bank of Oklahoma City. II plans diag Arch Rec 123:256-4 Ja '58

52-ton columns readied for skyscraper: Chase Manhattan bank building. II Eng N 160:26 Mr 20 '58

Glass bank: Seattle first national bank. II Arch Forum 100:119 JI '58
Making a monument work: how Sullivan's Minnesota bank was remodeled and restored. II plans Arch Forum 100:99-103, 156 JI '58

New bank to replace old one; same site, business as usual: Bankers trust company building, New York city. II Arch Rec 123: 245-4 Mr '58

New York bank in business as usual during rebuilding: Bankers trust co. II diag Civil Eng 28:219 Mr '58

Spaciousness created in small, urban bank: First industrial savings bank of Tampa. G. A. Handerson. II plan Prog Arch 39:106-8 Je '58

State bank of clearing, Chicago, Ill. plans diag Arch Rec 123:173-6 F '58

See also

Building and loan association buildings

Air conditioning

Unusual structural layout demands unique air conditioning design: Chase Manhattan building, New York. II Heating-Piping 30: 98-9 Ag '58

Electric equipment

200 kw at 600 volts, 840 cycles: Federal reserve bank building in Houston. J. H. Bradell. II plans diag Elec Constr & Maint 57:71-9 Je '58

Lighting

Floodlighting a building and sidewalk; data sheet. II diag Illum Eng 53:75-6 F '58

Houston bank building shows that high-frequency lighting cuts costs. E. D. Burnham. Eng N 160:120 Je '58

Lighting in architecture: South bay bank of Manhattan Beach, Calif. II plan Prog Arch 39:132-5 S '58

200 kw at 600 volts, 840 cycles: Federal reserve bank building in Houston. J. H. Bradell. II plans diag Elec Constr & Maint 57:71-9 Je '58

BANK credit. See Credit, Bank

BANK equipment and supplies

Bankers buy more electronics. II Electronics 31:15-16 My '58

Electronic banks take shape: processing random-sized paper checks. II Electronics 30:26 D 10 '57

Experimental signature-verification system. P. K. Becker and J. R. Hebele. II diag Bell Lab Rec 36:41-6 F '58

Magnetic reader speeds travelers-check processing. K. R. Eldredge and others. II diag Control Eng 5:79-83 JI '58

BANK loans. See Loans, Bank

BANKS and banking

Electronic monetary system. G. M. Hunt and P. J. Lannan. Elec Eng 77:769 Ag '58

See also

Checks

Drive-in and curb services

See Drive-in and curb services

Records

Flood-soaked film record reclaimed: microfilm rolls of bank records removed from flooded buildings. II Ind Phot 7:83 Ja '58

BARBADOS

See also

Petroleum—Barbados

BARBITURATES

Barbiturates. E. Adams. *diag Sci Am* 198: 60-2+ Ja '58

BARBITURIC acid

2-Thioarbituric acid method for the measurement of rancidity in fishery products: the quantitative determination of malonaldehyde. R. O. Sinnhuber and T. C. Yu. *biblog Food Tech* 12:9-12 Ja '58

BARGES

First fracturing barge built. II Oil & Gas J 55:77 D 9 '57

Novel method used to re-bottom barge. II Marine Eng/Log 63:63 Ja '58

Progressive towing trials for full-scale inland and shallow draught vessels; discussion. *Engineer* 205:534-9 Ap 11 '58

Pusher tug and barge train. II Engineering 136:69 JI 12 '55

Pusher tug and integrated barge train. II *Engineer* 206:223-4 Ag 8 '58

See also

Loading and unloading—Barges

Pontoons

Tank barges

Model testing

Scientific developments in river transportation; model testing of push type river towboats and barge fleets. C. R. Horton. Jr. *Am Soc C E Proc* 84 [WW 4 no 1772]:1-11 S '55

BARGES, Oil well drilling

Another big drilling barge joins Texas-Louisian fleet, Leonard Glade. II Oil & Gas J 56:108 Ag 25 '58

Barge headed for Persian gulf. II Oil & Gas J 56:102 F 24 '58

Creole marks barge redefinition. *Pet Eng* 29: 132 N '57

Drill two wells at once, and up to 25 total. D. H. Stornoff. II diag Oil & Gas J 56: 111-12+ Je 9 '58

First drilling platform positioned off coast. II Marine Eng/Log 63:38D Ag '58

First fracturing barge launched on Venezuela's Lake Maracaibo. *Pet Eng* 30:B 104 Ja '58

Floating barges to drill in deep water of the Gulf. II Oil & Gas J 55:92-3 N 4 '57

Here's how electric drive works. E. McGhee. II Oil & Gas J 56:104-6 My 12 '58

Here's how mechanical rig works: Sharp gulf drilling co. E. McGhee. II Oil & Gas J 56:102-3 My 12 '58

Japanese betting on platform. II Oil & Gas J 56:73 S 22 '58

Le Tourneau risks go abroad. II Oil & Gas J 56:38 Ja 20 '58

Mr Cap sets record in fast-moving offshore venture. II *Pet Eng* 29:B68 Ja '58

Mr Guo II: world's largest off-shore drilling barge. II diag Machine Design 30:27-8 Mr 20 '58

Mobile drilling platforms make intercontinental moves. II *Pet Eng* 30:B72 F '58

New barge designs for offshore drilling. II Oil & Gas J 55:133 Ap 21 '58

New firms to drill in Gulf using novel platform launching barges. II Oil & Gas J 56: 82-3 My 12 '58

New hinge barge developed for installing drilling platforms offshore. *diag Oil & Gas J* 55:120-1 N 11 '57

New mobile rig ready to go. II Oil & Gas J 56:108 Ap 21 '58

New off-shore rig and another new proposed design. J. L. Goldman; C. J. Foster. II *diag Marine Eng/Log* 63:80-1 Je '58

Offshore drilling boats prove value. Oil & Gas J 56:59 JI 21 '58

Offshore drilling fleet. Diesel-electric drilling barges. II Oil & Gas J 56:147 Je 9 '58

Off-shore oil rig with set up and go. T. M. Porter. II *diag Marine Eng/Log* 63:82-4 Ap '58

Old barge plus new machinery means a modern rig for efficient drilling of 124-in. hole to 12,000 ft. II Oil & Gas J 56:72-4 S 29 '58

Persian Gulf fleet grows. II Oil & Gas J 56:87 Mr 3 '58

Platform ordered by Italians for Persian Gulf drilling venture with National Iranian oil co. Oil & Gas J 56:39 Je 23 '58

Platform ordered by Shell for drilling in China sea. Oil & Gas J 56:75 Ap 23 '58

Shell designs circular barge. II Oil & Gas J 56:96 F 24 '58

Trans-Gulf competes offshore; new low-cost drilling platform. II Oil & Gas J 56:80 F 10 '58

12,600 ft. in 28 days: Diesel-electric drilling barge. II Oil & Gas J 56:138 My 5 '58

See also

Tenders, Oil well drilling

BARGES, Oil well drilling—Continued**Control equipment**

Mr Gus' position controls; automatic and semiautomatic electrohydraulic servos. *Il Control Eng* 5:33-4+ My '58

Electric equipment

Classification of hazardous areas for electrical installations on barges employed in drilling operations in Lake Maracaibo, Venezuela. J. C. K. Muhlenberg, bibliog *il plans diags Pet Eng* 29:B 143+ N '57

BARGES, Pipe laying

New pipe-laying barge goes to work; L. E. Minor, *Il Oil & Gas J* 56:60-1 My 26 '58
New sea-going pipe layer; Brown & Root, Inc. s. L. E. Minor, L. Resen, *Il diag Oil & Gas J* 56:130-2 Mr 17 '58
Pipelaying barge is launched, *Il Oil & Gas J* 56:79 F 17 '58

BARITE

Barite, 1957. C. F. Talbot. *Eng & Min J* 159:165 F '58

BARIUM

Barium absorption pumps for high-vacuum systems. R. W. Cloud and others, *diag R Sci Instr* 28:389-92 N '57

Measurement of instantaneous absolute barium evaporation rates from dispenser cathodes. W. C. Rutledge and others, bibliog *diags J Ap Phys* 29:334-9 My '58

Metal-water reactions; kinetics of the reactions of water vapor with strontium and barium. H. J. Svec and H. G. Staley, *Electrochim Acta* 3:105-121-5 Mr '58

Thermionic emission from barium activated molybdenum. E. S. Rittner and R. H. Ahlert, *J Ap Phys* 29:61-3 Ja '58

Analysis

Analyze for Ba, Ca, and Zn this way; lube additives and oils. R. J. Bertolacini, *bibliog Pet Refiner* 37:147-9 F '58

Quantitative spectrochemical determination of barium and strontium. R. J. Grabowski and R. C. Unice, *bibliog Anal Chem* 30:1374-9 Ag '58

Isotopes

Batch processing for kilocurie production of barium-140. A. L. Ayers and B. M. Lester, *flow sheets il diag Chem Eng Prog* 54:33-6 F '58

BARIUM acetate

Sedimentation volumes of a phosphor powder in potassium silicate and potassium silicate-barium acetate settling media. J. F. Hazel and L. Fiorito, *diags Electrochem Soc* 105:67-8 Ja '58

BARIUM aluminate

Mechanism of operation of the barium aluminate impregnated cathode. E. S. Rittner and others, *diag J Ap Phys* 28:1463-73 D '57

BARIUM cobalt oxide. See Barium cobaltate**BARIUM cobaltate**

Preparation of a barium cobalt oxide and other phases with similar structures. B. E. Gushee and others, *bibliog Am Chem Soc J* 79:5601-3 N 5 '57

BARIUM dimethyl. See Dimethyl barium**BARIUM in the body**

Radiochemical analysis of strontium and barium in human urine. L. B. Farabee, A. M. A. Archives *Ind Health* 17:200-3 Mr '58

BARIUM oxide

Analysis of the dc and pulsed thermionic emission from BaO. G. A. Haas, *bibliog diags J Ap Phys* 28:1486-92 D '57
Shape of liquid immiscibility volume in the system barium oxide-boric oxide-silica. E. M. Levin and G. W. Cleek, *bibliog Am Cer Soc J* 41:175-9 My 1 '58

Some properties of glasses in the system barium oxide-boric oxide-silica. E. H. Hamilton and others, *bibliog Am Cer Soc J* 41:209-15 Je 1 '58

Ternary systems BaO-TiO₂-SnO₂ and BaO-TiO₂-ZrO₂. G. H. Jonker and W. Kwestroo, *bibliog Am Cer Soc J* 41:390-4 O 1 '58

Manufacture

Lower process temperature ups BaO quality. *Il Chem Eng* 65:56+ O 6 '58

BARIUM phosphates

Crystal structure of barium hydrogen orthophosphate. C. Burley, *bibliog J Res Nat Bur Stand* 60:23-7 Ja '58

BARIUM silicates**See also**

Sanbornite

BARIUM sulfate**See also**

Barite

Physiological effect

Bronchogenic carcinoma from radioactive barium sulfate. H. Cember and J. A. Watson, *bibliog il A M A Archives Ind Health* 17:230-5 Mr '58

BARIUM tantalates

Preparation and structure of the strontium and barium tantalates. SrTaO₅ and BaTaO₅. L. H. Brixner, *bibliog Am Chem Soc J* 80:3214-15 J1 5 '58

BARIUM titanate

Effect of hydrostatic pressure on the permittivity of barium titanate ceramics. G. W. Marks and L. A. Monson, *bibliog il diag Power Apparatus & Systems* p64-9 Ap '58

Electrical stability of BaTiO₃ single crystals at -195°C. H. L. Stadler, *bibliog J Ap Phys* 29:743-4 Ap '58

Examination of the surface and domain structure in ceramic barium titanate. V. J. Tennery and F. R. Anderson, *bibliog il J Ap Phys* 29:755-8 My '58

Interaction of low-energy electrons with ferroelectric materials. R. C. Miller and R. D. Heidenreich, *bibliog il diags J Ap Phys* 29:957-9 Je '58

Phase equilibria in the system BaTiO₃-SrTiO₃. J. A. Basmajian and R. C. DeVries, *bibliog Am Cer Soc J* 40:373-6 N 1 '57

Phenomenological theory of polarization reversal in BaTiO₃ single crystals. C. F. Fulvari and W. Kuebler, *bibliog diags J Ap Phys* 29:1315-21 S '58

Piezoelectric and dielectric characteristics of single-crystal barium titanate plates. A. H. Meitzler and H. L. Stadler, *bibliog diags Cell System Tech J* 37:719-33 My '58

Primary pyroelectricity in barium titanate ceramics. T. A. Perls and others, *bibliog J Ap Phys* 29:1297-302 S '58

Quick piezoelectrics; method of making barium titanate units. *Electronics* 31:23 S 5 '58

Small barium titanate transducer for aerodynamic or acoustic pressure measurements. W. W. Willmarth, *bibliog il diags R Sci Instr* 29:218-22 Mr '58

Study of process variables in barium titanate ceramics. J. J. Rosenthal and S. D. Stoddard, *bibliog Am Cer Soc Bul* 37:370-5 Ag 15 '58

Ultra-low-velocity component of spontaneous polarization in BaTiO₃ single crystal. K. Husimi, *diag J Ap Phys* 29:1379-80 S '58

Ultra-low-velocity component of polarization switching processes in barium-titanate single crystal. K. Husimi and K. Kataoka, *diags J Ap Phys* 29:1247-51 Ag '58

BARK

Bark tolerance of Douglas-fir chips in kraft pulp manufacture. E. M. Samuels and D. W. Glennie, *bibliog Tappi* 41:250-5 My '58

Chemical nature of the extractives from the bark of red fir. E. S. Becker and E. F. Kurth, *bibliog Tappi* 41:380-4 J1 '58

Petroleum ether extractives of aspen bark. R. L. Hossfeld and W. T. Hunter, *bibliog Tappi* 41:359-62 J1 '58

Steam generators for multiple fuel firing; suspension burning of bark and coal. M. O. Funk, *il diags Combustion* 30:49-54 O '58

Storage and its effect on bark stain in spruce-rood, abstract. J. Alhojärvi and A. A. Ahn, *Paper Ind* 39:726 N '57

See also

Bast fibers

Analysis

Investigations of the trunk bark of melia azadirachta Linn. P. Sengupta and others, *bibliog Chem & Ind* p361-2 J1 5 '58

Some constituents of takini bark. I. R. C. Bick and P. S. Clezy, *Chem & Ind* p361-2 My 24 '58

BARK peeling

Hydraulic barkling: International paper co. J. Hannikarn, *Tappi* 40:sup 136A-7A D '57

Skew rollers feed debarker; illustrations with text. *Product Eng* 29:68 Ja 20 '58

BARLEY

Effect of gibberellic acid upon the germination of barley. E. O. Morris, *Chem & Ind* p97 Ja 25 '58

Growth substances in relation to dormancy in barley. J. R. A. Pollock, *bibliog Chem & Ind* p387-8 Mr 29 '58

BARNACLES

Marine sterols: 24-dehydrocholesterol; isolation from a barnacle and synthesis by the Wittig reaction. H. M. Fagerlund and D. R. Idler, *bibliog Am Chem Soc J* 79:6473-5 D 20 '57

BAROMETERS

Balance barometer. J. B. Hart. *Am J Phys* 26:199 Mr '58

BARRELS, Plating. See Plating barrels

BARRY, Edward H.

ASME elects five to grade of Fellow member. *Mech Eng* 80:146 Mr '58

BARTHLOMEW, Harland

City plans of H. Bartholomew. *pers Arch Forum* 108:88-91+ F '58

BASALT

Granophyre and hybrid pipes in a dolerite layer of Slieve Gullion. R. W. D. Elwell. *bibliog map diag J Geol* 66:57-71, pl 1-3 Ja '58

Leucite nepheline dolerite of Melches, Voelzberg, Hessen. C. E. Tilley. *bibliog diag Am Mineralogist* 43:758-61 Jl '58

BASCULE bridges. See Bridges, Bascule

BASEBALL, Photography of. See Photography of sports

BASEBALL stadiums. See Stadiums

BASEBOARD heating. See Heating—Baseboard heating

BASEMENTS

Heating and ventilation

Supply outlet locations for basement heating. J. R. Wright and D. R. Bahnfleth. *bibliog diag Heating-Piping* 30:137-44 Ag '58

BASES (chemistry)

Chemisorption of oxygen on activated charcoal and sorption of acids and bases. B. R. Puri and others. *bibliog Ind & Eng Chem* 50:1071-4 Jl '58

Chemistry of fumagillin; the action of aqueous base on alcohol I. D. D. Chapman and D. S. Tarbell. *Am Chem Soc J* 80:3679-82 Jl 20 '58

Coordination compounds of uranium with organic bases in aqueous solution. P. S. Gentile and L. H. Talley. *bibliog Am Chem Soc J* 79:5889-90 N 20 '57

Epoxy ketones derived from the reactions of 1,4-dihalo-1,4-dibenzoylbutanes with base. H. H. Wasserman and M. J. Gorbunoff. *bibliog Am Chem Soc J* 80:4568-73 S 5 '58

Evidence for general base catalysis in an ester hydrolysis; hydrolysis of an amino-alkyl acetylsalicylate. E. R. Garrett. *Am Chem Soc J* 80:4049-56 Ag 5 '58

Imidazole catalysis; the reaction of general bases with *p*-nitrophenyl acetate in aqueous solution. T. C. Bruce and R. Lapinski. *bibliog Am Chem Soc J* 80:2265-7 My 5 '58

Improved conductometric titration of weak bases. W. H. McCurdy, Jr. and J. Galt. *bibliog Anal Chem* 30:940-6 My '58

Interaction of stannic chloride with some organic bases in benzene. S. T. Zhenchelsky and F. R. Segatto. *bibliog Am Chem Soc J* 80:4796-9 S 20 '58

Polypeptides; a kinetic study of the polymerization of amino acid *N*-carboxyanhydrides initiated by strong bases. M. Idelson and E. R. Blout. *bibliog Am Chem Soc J* 80:2387-93 My 20 '58

Proximity effects; reaction of *cis*- and *trans*-cyclooctene oxide with bases. A. C. Cope and others. *bibliog diag Am Chem Soc J* 80:2849-52 Je 5 '58

Reactions of the *p*-nitrobenzenediazonium and diazotate ions with acid and base. E. S. Lewis and H. Suhr. *bibliog Am Chem Soc J* 80:1367-71 Mr 20 '58

Rearrangement of bromofenphone by base; the structure of γ -fencholenic acid and the synthesis of dihydro- α -fencholenic acid. D. S. Tarbell and F. C. Loveless. *bibliog Am Chem Soc J* 80:1963-7 Ap 20 '58

Titration of weak bases in strong salt solutions. F. E. Critchfield and J. B. Johnson. *Anal Chem* 30:1247-9 Jl '58

Vulcanization of elastomers; the vulcanization of natural and synthetic rubber with sulfur in presence of organic bases. W. Scheele and M. Cherubim. *bibliog Rubber Chem & Tech* 31:286-300 Ap '58

See also

Alkaloids

Schiff bases

Analysis

Potentiometric titration of some organic and inorganic bases with sodium tetraphenylborate. W. J. Kirsten and others. *Anal Chem* 30:237-40 F '58

BASICITY

Amines; the base strengths of tetramethylated 1,2-ethanediamines. L. Splatter and R. W. Mosher. *bibliog Am Chem Soc J* 79:5956-7 N 20 '57

Basicity constants and rates of hydration of some imines. G. J. Buist and H. J. Lucas. *bibliog Am Chem Soc J* 79:6157-60 D 5 '57

Tautomeric equilibria; the basicities of mono-substituted azobenzenes; an acidity scale in 30 per cent ethanolic aqueous sulfuric acid. H. H. Jaffe and R. W. Gardner. *bibliog Am Chem Soc J* 80:319-23 Ja 20 '58

BASILICAS

Two-hinged frames cover three-acre oval basilica; Lourdes, France. *plan diag Eng N* 160:28-9+ My 22 '58

BASKETS, Wire. See Wire baskets

BAST fibers

Middle lamella of the bast fibers. M. Lewin. *bibliog Il Tappl* 41:403-15 Ag '58

See also

Hemp

Jute

BASTIEN, Paul G.

Sketch. *por Iron & Steel Inst J* 187:front D '57

BATHHOUSES

Bath house. Atlanta. *plan Prog Arch* 39:36-7 Jl '58

BATHROOMS

Lead pipe installation for bathrooms; detail sheet. *diag Air Cond Heat & Ven* 55:83 Mr '58

Privatization concept. *Il Arch Rec* 123:7 Mid-My '58

BATHS (chemical apparatus)

Combined liquid nitrogen cryostat, furnace and liquid helium bath. M. J. Stubbs and M. W. Thompson. *diag J Sci Instr* '58:68-9 F '58

BATHS, Roman

Heating by hypocaust; Forum baths at Ostia. E. D. Thatcher. *plans diag Heating-Piping* 30:153-60 Je '58

BATHS, Shower. See Shower baths

BATHTUBS

Manufacture

Domestic bath; semi-automatic production of thin castings; Bilston foundries. *Il diag Engineering* 185:637-8 My 16 '58

BATHYSCAPH

Bathyscaph; in this vessel men can visit the ocean bottom at depths of more than 15,000 feet. R. S. Dietz and others. *Il diag Sci Am* 198:27-33 Ap '58; Discussion. 198:8+ Je '58

Gasoline-filled blimp sails deep under the sea. *Il diag Machine Design* 30:14 S 18 '58

BATON ROUGE, Louisiana

Harbor

Louisiana's new ocean-river port 225 miles from the Gulf. J. D. M. Luttman-Johnson. *Il Civil Eng* 28:12-15 Ja '58

BATS

More about bat radar. D. R. Griffin. *diag Sci Am* 199:40-4 Jl '58; Discussion. G. Larsen. 199:8+; Reply. 10+ O '58

BATTERIES, Electric. See Electric batteries

BAUXITE

Argillaceous and direct bauxitization in terms of concentrations of hydrogen and metal cations at surface of hydrolyzing aluminum silicates. W. D. Keller. *bibliog* (26 titles) *Il Am Assn Pet Geologists Bul* 42:233-45 F '58; Discussion. C. P. Gravenor and G. J. Govett. 42:2523-5; Reply. 2525-6 O '58

See also

Alumina

Laterite

BAYOCEAN peninsula, Oregon

Closure of the breach. H. E. Brown and others. *Il maps diag Am Soc C E Proc* 84 [WW 1 no 1516]:1-20 Ja '58

BEACH architecture

Bathing and picnic facilities. *Il plan Prog Arch* 39:88-9 Jl '58

BEACH houses

Having to do with swimming; design for a beach house and studio. H. Yang. *Il plan Arch Rec* 123:196-8 My '58

BEACHES

Breaking wave force prediction using a model beach. R. L. Wiegell and R. E. Skjel. *diag Am Soc C E Proc* 84 [WW 2 no 1573]:1-14 Mr '58

Feeder beaches and groins restore Presque Isle peninsula. L. D. Olmstead and G. A. Lynde. *Il maps Civil Eng* 28:172-5 Mr '58

Hungry beach to be nourished by sand pumping plant; Palm Beach, Fla. F. H. Zurmuhlen. *Il Eng N* 161:46-8 Ag 7 '58

Rio de Janeiro acts to save its beaches. *Il map diag Eng N* 160:65 Ap 24 '58

BEACHES—Continued

Wave run-up on roughened and permeable slopes. R. P. Savage. *diag* Am Soc C E Proc 84 [WW 3 no 1640]:1-38 My '58

See also

Inlets

Shore lines

BEACONS

See also

Radio beacons (for aircraft)

BEAM trammels. See Trammels

BEAMS and girders

Analysis of continuous beams by carry-over moments. J. J. Tuma. *bibliog* *diags* Am Soc C E Proc 84 [ST 5 no 1762]:1-32 S '58

Analysis of continuous beams by Fourier series. S. L. Lee. *diags* Am Soc C E Proc 83 [EM 4 no 1399]:1-13 O '57; Discussion. S. J. Medwadowski. 84 [EM 1 no 1520]:33-4 Ja '58; Reply. 84 [EM 4 no 1831]:5-8 O '58

Analysis of finite beams on elastic foundation. D. C. Gazis. *diags* Am Soc C E Proc 84 [ST 4 no 1722]:1-18 Jl '58

Analysis of helical beams under symmetrical loading. A. M. C. Holmes. *bibliog* *diags* Am Soc C E Proc 83 [ST 6 no 1437]:1-37 N '57; Discussion. 84 [ST 3 no 1561]:75-8 My '58; Reply. 84 [ST 6 no 1827]:7-10 O '58

Analytical and experimental study of helicoidal girders. Y. F. Young and A. C. Scordelis. *bibliog* *diags* Am Soc C E Proc 84 [ST 5 no 1761]:1-23 S '58

Approximate analysis of Timoshenko beams under dynamic loads. B. A. Boley and C. C. Chao. *diags* J Ap Mech 25:31-6 Mr '58

Approximate deflections in cantilevers curved in plan. P. B. Mellor and W. Johnson. *diags* Roy Aeronautical Soc J 62:64-6 Ja '58

Asquith girder end facing machine. *il* Engineer 206:426 S 12 '58

Beam deflection in bridges designed for continuity. G. Villena. *diags* Am Soc C E Proc 83 [ST 3 no 1234]:1-8 My '57; Discussion. Z. Sobotka. 83 [ST 6 no 1442]:19-26 N '57; Reply. 84 [ST no 1566]:15-16 My '58

Beams pick up four-story load. *il* Eng N 160:73 My 15 '58

Bending frequency of a rotating cantilever beam. M. J. Schilhansl. *diag* J Ap Mech 25:28-30 Mr '58

Bending of pretwisted thin-walled beams of symmetric star-shaped cross sections. L. Maunder. *bibliog* *diags* J Ap Mech 25:67-74 Mr '58

Big prestressed beams easy for Strad-Krane. *il* Concrete 66:38 Ag '58

Brick girders spanning 65 feet; St Hedwig's church. St Louis. *il* *diag* Eng N 161:39-40 Jl 31 '58

British broad flange beams in 1958: Dorman Long's universal mill. *il* plan Engineering 184:601; 186:406-8 N 8 '57. S 26 '58

Coefficient method for determining reactions and bending moments in beams of two and three equal spans; data sheet. K. H. Feng. *diags* Machine Design 30:129-33 Jl 10 '58

Conjugate frame method and its application in the elastic and plastic theories of structures. S. L. Lee. *bibliog* *diags* Franklin Inst J 266:207-22 S '58

Consultant designs-in economies; East Providence expressway. R. L. Pare. *diags* Eng N 161:53-4 Ag 21 '58

Deflection limitations of bridges; progress report of the committee on deflection limitations of bridges of the structural div. Am Soc C E Proc 84 [ST 3 no 1633]:1-20 *bibliog* (p 14-20) My '58

Deflections of cantilever beams with changing cross sections. W. R. Leopold. *diags* Product Eng 28:F 15-17 Mid-O '57

Deflections of structures in the inelastic range. K. H. Gerstle. *diags* Am Soc C E Proc 82 [EM 3 no 1290]:1-21 Jl '57; Discussion. J. H. Percy. 84 [EM 1 no 1520]:25-7 Ja '58

Design in the plastic region. J. J. Kerley. *jr*. *diags* Machine Design 29:153-8 N 14 '57

Effect of column width on continuous beam moment. H. Hepp and T. Germundsson. *diags* Am Concrete Inst J 29:1143-6 Je '58

Effect of deflection on lateral buckling strength. J. W. Clark and A. H. Knoll. *bibliog* *il* *diags* Am Soc C E Proc 84 [EM 2 no 1566]:1-18 Ap '58

Electronic synthesis of flexible beam behaviour. M. Squires and W. G. Hughes. *bibliog* *diags* Brit Inst Radio Eng J 18:151-73 Mr '58

Evaluation of spar matrices for stiffness analyses. E. J. Melosh and R. G. Merritt. *diags* J Aero/Space Sci 25:537-43 S '58

Finding deflections of arched cantilever beams with graphical aids; data sheet. A. Blake. Machine Design 30:127-30 Je 26 '58

Flame cambering of beams for bridges. A. H. Yoch. *il* Welding J 37:138 F '58

Flexural cracks in reinforced concrete beams. M. Chi and A. F. Kirstein. *bibliog* *il* *diags* Am Concrete Inst J 29:865-78 Ap '58; Discussion. 30:1347-67; Reply. 1368-72 pt 2 D '58

Floor and roof beams glamorize campus building; community center at Wayne state university. *il* plan *diags* Eng N 160:42-4 Je 12 '58

For spring action, which cantilever beam is best? K. Maier. *diags* Product Eng 29:83-7 F 17 '58

Fork trucks cut beam handling costs; Precast industries, inc. *il* Concrete 66:28-9 S '58

Formulas for the frequencies including higher frequencies of uniform cantilever and free-free beams with additional masses at the ends. J. Haener. J Ap Mech 25:412 S '58

Heavy post-tensioned concrete girders for second Narrows bridge. C. Stawick. *il* *diags* Roads & Sts 101:95-64 My '58

How to figure deflections of elastically supported cantilever beams; reference book sheet. T. F. Callahan. *diags* Product Eng 29:63-4 Ag '58

Illinois toll highway; bold planning results in efficient production of prestressed girders. C. Zolman. *il* *diags* Civil Eng 28:423-6 cover Je '58

Large deflection of thin circular cantilever beams. K. Satō. *diag* J Ap Mech 25:294-5 Ja '58

Lateral bracing of columns and beams. G. Winter. *bibliog* *il* *diags* Am Soc C E Proc 84 [ST 2 no 1561]:1-22 Mr '58; Discussion. 84 [ST 3 no 1656]:89-90 My; IST 5 no 1781:25-40 S '58

Limited deflection of beam by chart. T. D. Y. Fok. Civil Eng 28:525 Jl '58

Location of maximum principal stresses. T. Ranov and H. S. Wolko. *diags* Am Soc C E Proc 84 [ST 3 no 1629]:1-30 My '58

Matrix analysis of beams. R. W. Clough. *bibliog* *diags* Am Soc C E Proc 84 [EM 1 no 1494]:1-24 Ja '58

Moment distribution factors for tapered beams. J. M. Gere. *diags* Civil Eng 28:597-8 Ag '58

Moments in beams by the method of partial moments. H. Posner. *diags* Am Soc C E Proc 84 [ST 2 no 1567]:1-34 Mr '58; Discussion. 84 [ST 4 no 1721]:23-5 Jl; IST 5 no 1781:65-8 S '58

Moments in continuous beams on flexible supports. R. A. Williamson. *diags* Am Soc C E Proc 84 [ST 3 no 1631]:1-9 My '58; Discussion. 84 [ST 7 no 1851]:33-5 N '58

Natural frequencies of beams and plates under shock and vibration; nomograph. J. J. Kerley. *jr*. Product Eng 28:F34-5 Mid-O '57

Nomograph for intermediate stiffener spacing. A. S. Migram. Civil Eng 28:268 Ap '58

Numerical solutions for beams on elastic foundations. H. Maier. *bibliog* *diags* Am Soc C E Proc 84 [ST 2 no 1562]:1-20 Mr '58; Discussion. 84 [ST 5 no 1787]:41-61 S; [ST 6 no 1827]:29-34 O '58

Optimization of multiweb beams under combined bending and torsional loading. G. Strasser. *diag* J Aero/Space Sci 25:529 Ag '58

Optimum distribution of material in a beam for stiffness. B. Saelman. *diag* J Aeronautical Sci 25:268 Ap '58

Plastic design of cover plated continuous beams. E. P. Popov and J. A. Willis. *bibliog* *il* *diags* Am Soc C E Proc 84 [EM 1 no 1495]:1-21 Ja '58; Discussion. 15 T. Wright. 84 [EM 2 no 1619]:13-14 Ap '58

Prestressed beams make skyscraper debut; Norton building in Seattle. *il* Eng N 160:25 Ap 17 '58

Project, a post-tensioned shell beam; design and construction project of architectural students at the University of Utah. T. Sparks. *il* *diags* Concrete 66:22-3 Je '58

Roll pass design for combination structural and wide flange beam mill. H. E. Muller. *diags* & Steel Eng 34:86-95; Discussion. 95-7 D '57

Shutdown on the conjugate-beam method; reference book sheet. E. D. Clark. *diags* Product Eng 29:83-4 Ap '58

Selection of the cross section for a composite T-beam. R. S. Fountain and I. M. Viest. *diags* Am Soc C E Proc 83 [ST 4 no 1313]:1-23 Jl '57; Discussion. A. Zaslavsky. 84 [ST 1 no 1522]:51-3 Ja '58

Shear, diagonal tension and bond stresses in reinforced concrete beams; discussion. I. F. Morrison. Eng J 41:74; Reply. E. M. Rensaa. 74-6 F '58

BEAMS and girders—Continued

- Simplified graphical integration for solution of beam problems. W. L. Vaughan. diags Product Eng 28:F26-7 Mid-O '57
- 62-foot prestressed concrete sewer bridge. A. W. Sweeton, 3d. il diag Civil Eng 28:198-9 Mr '58
- Some solutions of the Timoshenko beam equation for short pulse-type loading. H. J. Plass, jr. bibliog diags J Ap Mech 25:379-85 S '58
- Spacing of vertical U-shaped stirrups in concrete beams. W. L. Barrows. diags Civil Eng 28:522-4 J '58
- Stiffening effects of edge beams on a right slab bridge. J. A. N. Lee. bibliog il diags Engineering 185:539-42 Ap 25 '58
- Thermal stress in curved beams. B. A. Boley and E. S. Barrekette. diags J Aero/Space Sci 25:627-30+ O '58
- 3,456 bridge girders cast. il Concrete 66:13+ Ag '58
- Ultimate resisting moment of beams with compression reinforcement. E. Guillard. diags Am Concrete Inst J 29:759-65 Mr '58; Discussion. 30:1281-8; Reply. 1288-90 pt 2 S '58
- Ultimate shear strength of reinforced concrete flat slabs, footings, beams, and frame members without shear reinforcement. C. S. Whitney. bibliog diags Am Concrete Inst J 29:265-98 O '57; Discussion. 29:1157-62; Reply. 1162-4 J '58
- Ultimate torsional properties of rectangular reinforced concrete beams. G. C. Ernst. bibliog il diags Am Concrete Inst J 29:341-56 O '57; Discussion. 29:1173-5 Je '58
- Universal beams and their application. S. Barlow and G. Foster. diags Engineer 204: 673-5 N 8 '57; Abstract. Metallurgia 56:276 D '57
- Welding does fast job on huge girders; Weirton steel co. J. Angus. il Iron Age 181:94-5 Je 12 '58
- Will ultimate strength design of reinforced concrete beams simplify stress calculations? discussion. J. G. MacGregor. bibliog Eng J 41:72-3; Reply. E. M. Rensaa. 73-4 F '58
- Wind forces on structures; plate girders and trusses. W. W. Pagon. bibliog il Am Soc C E Proc 84 (ST 4 no 1711):1-29 J '58
- Wood giant; delta-shaped beam. il diag Arch Forum 109:114 J '58

Testing

- Destructive impulse loading of reinforced concrete beams. F. T. Mavis and M. J. Greaves. il diags Am Concrete Inst J 29:233-52 bibliog(96 titles. p248-52) S '57; Discussion. 29:811-20; Reply. 820-3 Mr '58
- Economical beam testing machine. il Engineering 185:484 Ap 18 '58
- Effect of range of stress on fatigue strength of plain concrete beams. J. W. Murdock and C. E. Kesler. bibliog diag Am Concrete Inst J 30:221-31 Ag '58
- Fatigue and static tests of steel strand prestressed beams of expanded shale concrete and conventional concrete. G. M. Nordby and W. J. Venuit. il diags Am Concrete Inst J 29:141-60 Ag '57; Discussion. A. M. Ozell. 29:803-4; Reply. 804-7 Mr '58
- Fatigue behavior of reinforced concrete beams. T. S. Chang and C. E. Kesler. diags Am Concrete Inst J 30:245-54 Ag '58
- Fatigue properties of concrete beams. T. E. Stelson and J. N. Cernica. il diag Am Concrete Inst J 30:255-9 Ag '58
- Load test of 120-ft. precast, prestressed bridge girder. F. R. Khan and A. J. Brown. il diags Am Concrete Inst J 30:139-50 J '58
- New concrete beam testing machine for third-point loading. H. F. McDonnell. il Roads & Sts 100:79-80 N '57
- Plate girder design; flange stiffness and web plate behaviour. K. C. Rockey. il diags Engineering 184:788-92 D 20 '57
- Precast concrete girders reinforced with high strength deformed bars. J. R. Gaston and E. Hognestad. il diags Am Concrete Inst J 30:469-84 O '58
- Probability of fatigue failure of plain concrete. J. T. McCall. bibliog il Am Concrete Inst J 30:233-44 Ag '58
- Shear strength of lightweight reinforced concrete beams. J. A. Hanson. bibliog il diags Am Concrete Inst J 30:387-403 S '58
- Spacing of spliced bars in beams. S. J. Chamberlin. il diags Am Concrete Inst J 29:689-97 F '58

- Static and fatigue strength in shear of beams with tensile reinforcement. T. S. Chang and C. E. Kesler. bibliog diags Am Concrete Inst J 29:1033-57 Je '58; Discussion. 30:1425-6 pt 2 D '58
- Stress distribution in overstrained mild steel beams. K. Farnell. diag Engineering 185: 788-9 Je 20 '58
- Structural analysis in the elastic-plastic range; floating body analogy. R. J. P. Garden. diags Engineering 185:573 Mr 2 '58
- Students test corrugated precast beams. il Arch Rec 123:230 F '58
- Tests of full-sized prestressed concrete bridge beams. I. Lyse. diags Am Concrete Inst J 29:979-85 My '58
- Under-reinforced concrete beams under long-term loads. H. A. Sawyer, Jr. and J. E. Stephens. il diags Am Concrete Inst J 29: 21-9 J '57; Correction. 29:sup26-7 N '57; Discussion. S. Soretz. 29:779-84; Reply. 784-5 Mr '58

Vibration

- Behavior of the node of an elastic during stationary vibration. S. Higuchi and K. Iinuma. il diag Franklin Inst J 265:309-15 Apr '58
- Coupled vibrations of thin-walled beams of open cross section. J. M. Gere and Y. K. Lin. diags J Ap Mech 25:373-8 S '58
- Natural frequencies of nonuniform beams on multiple elastic supports. R. A. Di Taranto. diags J Ap Mech 25:57-63 Mr '58

BEANS

- Varieties of broad beans suitable for canning. D. Dickinson and others. Chem & Ind p 1503 N 16 '57

BEANS, Dried

- Effect of variety, location, and years on the protein and amino acid content of dried beans. E. M. Lantz and others. bibliog J Agr & Food Chem 6:58-60 Ja '58

BEANS, Frozen

- Influence of added monosodium glutamate on the flavor of processed green beans. L. A. Sather and others. Food Tech 12: 372-4 J '58

BEARING materials

- Bearing material made of bronze, lead, TFE. Materials in Design Eng 43:150+ S '58
- Fluidizing process gives nylon-clad sleeve bearings. D. L. Penney and F. J. Bockhoff. il Product Eng 29:52-4 Mr 3 '58
- Glass fiber bearing; patent. diag Glass Ind 36: 567-8 O '57
- New dry bearing. R. E. Harmon. diag Machine Design 30:22-4 J '58

BEARING metals

- Aluminum alloy bearings. Automobile Eng 48: 211-14 Je '58
- Instrument bearings for 300F and up. N. A. Sinclair. Product Eng 29:72-5 F 3 '58
- Material recommendations for special bearing applications. W. Blinder. Product Eng 28: 77-9 Mid-O '57
- New native alloy steel for bearings with stands high operating temperatures. il Mill & Factory 62:143 Mr '58
- Selecting bearing metals that will not seize. C. L. Goodzeit. il diags Materials in Design Eng 47:105-9 Je '58
- These bearings don't wear out: steel-backed aluminum bearings. il Steel 142:82-3 Ja 20 '58

BEARINGS

- Adjustable-diameter bearing. diags Machine Design 30:117 Mr 6 '58
- Bearing heat and dissipation charts. H. W. Hamm. Product Eng 29:F 10-11 Mid-S '58
- Behavior of the lubricating film and side leakage in dynamically loaded bearings. M. N. Özdas. bibliog il diags A S M E Trans 80:826-32 My '58
- Effect of heat conduction on slider-bearing characteristics. W. H. Gullinger and E. A. Sattel. bibliog diag A S M E Trans 80:800-4; Discussion. 804-6 My '58
- Elastic and damping properties of oil-film journal bearings for application to unbalance vibration calculations. A. C. Hagg and G. O. Sankey. J Ap Mech 25:141-3 Mr '58
- High capacity, low-cost bearing. diag Product Eng 29:103 Mr 17 '58
- Industrial know-how handbook; sleeve bearings. il diags Mill & Factory 62:PT8-9 My '58
- Maintenance of sleeve bearings. E. J. Clements. il Mill & Factory 62:95-102 F '58 (reprints 25c)
- Numerical note on bearing clearances and shaft stability. J. W. Head and G. M. Oulton. Aircraft Eng 30:109-11 Ap '58
- Oil resonance in bearings; influence on the whirling of vertical rotors. F. Orbeck. Engineering 185:343 Mr 14 '58

BEARINGS—Continued

- Principles and applications of hydrodynamic-type gas bearings. G. W. K. Ford and others, biblog *diags Inst Mech Eng Proc* 171 no 2:93-113, pl 1-4; Discussion. 113-22; Reply. 123-8 '57
- Protective atmospheres for high-temperature bearing operation; abstract. C. H. Bailey and others. *Tool Eng* 41:227-8 S '58
- Research focusses on gas bearings. N. Chironis. *diags Product Eng* 28:100-2 N 25 '57
- Rubber cushions, when bearings must be quiet. R. E. Downes. *diags Product Eng* 29:96-7 Ap 28 '58
- Scissor-bearing design; LeBlond Carlatsted rapid borer. *diags Machine Design* 30:132 Ap 3 '53
- Sleeve-bearing alignment; reference book sheet. R. J. Sollohub. *diags Am Mach* 100: 151 D 17 '56; Same. *Product Eng* 28:F41 Mid-O '57
- Small oil-free bearings; abstract. H. S. White. *Metal Prog* 73:194+ Je '58
- Solution of Reynolds' equation for finite journal bearings. O. Pinkus. biblog *diags A S M E Trans* 80:858-64 My '58
- Steel bearings run at 1,000° F. without oil; surrounded with certain hydrocarbon vapors. A. G. Cattaneo. *Oil & Gas J* 56:138 F 24 '58
- Theoretical and experimental analysis of hydrodynamic gas-lubricated journal bearings. B. Sternlicht and R. C. Elwell. biblog *diags A S M E Trans* 80:865-75; Discussion. 875-8 My '58
- Unusual applications of miniature bearings; drawings with text. R. H. Carter. *Product Eng* 28:F42-3 Mid-O '57
- Viscosity-pressure effect on friction and temperature in a journal bearing. S. J. Needs. *A S M E Trans* 80:1099-102; Discussion. H. A. Hartung. 1102-3 Ji '58
- Watch those duplex bearing arrangements! J. Riddle. *diags Mill & Factory* 62:89-90 Ap '58
- Where and how to use plain spherical bearings. A. R. McCloskey. *diags Machine Design* 30:119-22 My 15 '58
- Wire insert simplifies bearing adjustment. *diags Product Eng* 28:65 O 28 '57
- See also**
- Bearing metals
Bearings, Needle
Bearings, Roller
also subdivision Bearings under special subjects, e.g.
Air compressors
Automobile engines
Automobiles
Cars
Electric generators
Electric motors
Excavating machinery
Instruments
Internal combustion engines
Nuclear reactors
Propellers
Pumps
Rolling mills
- Bibliography**
- Bearings, lubricants and lubrication. *Mech Eng* 80:64-74 biblog(p71-4) S '58
- Design**
- Design data for flat air bearings under steady load conditions. H. L. Wunsch. *diags Engineer* 206:411-15 S 12 '58
- Determination of optimum proportions for hydrostatic bearings through the use of the electric analog field plotter. A. M. Loeb and H. C. Rippel. *diags Franklin Inst J* 265: 342-4 Ap '58
- How to design hydrodynamic gas bearings. J. S. Ausman and M. Wildmann. *diags Product Eng* 28:103-6 N 25 '57
- Pressure-fed bearings; a designer's guide. D. J. Myatt. biblog *diags Machine Design* 30:161-4 S 18 '58
- Failure**
- Effect of loading systems and vibration on bearing life; abstract. C. L. Dellinger. *Machine Design* 30:154+ Ap 17 '58
- Laboratory investigations can curb engine bearing failures. R. J. Ronan and others. *diags Plant* 18:33-4 Ji '58
- Location and causes of motor failure; bearings. N. L. Danforth. *diags Tappi J* 41:sup 180A-2A F '58
- Lubrication**
- Dry-film lubricants in plain bearings. M. H. Weisman. *Machine Design* 30:107-10 F 6 '58
- Grease flow in shielded bearings. R. O'Halloran and others. *Lub Eng* 14:104-7; Discussion. 107+ Mr '58
- Klin car bearing lubricants. W. C. Kiefer and H. A. Bedell. biblog *Am Cer Soc Bul* 37:85-90 F 15 '58
- Lubrication of plain bearings; an examination of Reynold's hydrodynamic theory; abstract. J. H. Halton. *Engineering* 186:59-60 Ji 1 '57
- No grease, no bearing failure. *diags Chem & Eng N* 36:90 Mr 3 '58
- Roll-neck bearing lubrication for rubber and plastics calenders. K. J. Gooch and W. C. Whittum. *diags Plastics Tech* 4:339-43 Ap '58
- Take care of oil seals for longer bearing life. B. W. Fisher. *diags Iron Age* 181:110-11 Mr 13 '58
- Today's industrial machines necessitate modern lubrication methods; air-borne system for bearing lubrication. R. K. Gould. *diags Plant* 17:60-1+ Ja '58
- Water-lubricated bearings. S. Abramowitz. biblog *diags Product Eng* 28:F38-9 Mid-O '57
- We threw out press fits for bearings; liquid sealant called Loctite. E. F. Oblinger. *diags Product Eng* 29:67 Ja 6 '58
- Maintenance and repair**
- Large hydro bearing repaired on job by flame-welding. *diags Power Eng* 62:85 O '58
- Welders repair bearings economically and quickly. A. J. McCubbin. *diags Elec World* 150: 118 Ji 21 '58
- Manufacture**
- Bigger powdered bearings by joining components with silver solder. *diags Machine Design* 30:157 D 23 '57
- Makes most of machine time; tackwelding bearing brackets doubles output of boring mill operation. *diags Steel* 142:95 F 10 '58
- Saw cuts bearing costs; Worthington corp. *diags Steel* 142:100 Mr 17 '58
- Specialist's way of making a way. Ohio knife co. O. C. Underhill. *diags Mach* 65:142-5 O '58
- Swedes make modern bearings. A. E. Olsson. *diags Metal Prog* 74:91-3 Ag '58
- Testing**
- Design data for flat air bearings under steady load conditions. H. L. Wunsch. *diags Engineer* 206:411-15 S 12 '58
- Journal bearing performance for combinations of steady, fundamental and harmonic components of load. G. S. A. Shawki. biblog *Inst Mech Eng Proc* 171 no 2:795-803, pl 1-8; Discussion. 803-4 '57
- BEARINGS, Anti-friction**
- Bearings keep going without attention; PTFE impregnated bronze. *diags Engineering* 186:17 Ji 4 '58
- Improved polytetrafluoroethylene impregnated bronze dry bearing. D. C. Mitchell. *diags Engineer* 205:625-8 Ap 25 '58
- Industrial know-how handbook; anti-friction bearings. *diags Mill & Factory* 62:PT6-7 My '58
- Mechanical factors involved in bearing design for aircraft electric motors; abstract. T. W. Bakewell. *Machine Design* 30:156 Mr 6 '58
- Replacement of anti-friction bearings. C. W. Borho. *diags Pitt & Quarry* 50:118+ Je '58; Same. *Pet Eng* 30:127 Ji '58
- Lubrication**
- Anti-friction bearings and their lubrication. C. R. Gillette. *Product Eng* 28:C6-7 Mid-O '57
- BEARINGS, Ball**
- Correcting an enlarged bearing seat. G. G. Herzl. *diags Mach* 64:179 F '58
- Depth perception improves inspection. *diags Am Mach* 101:119 N 4 '57
- Design and operation of ball bearings for use in pressurized-water reactor systems. P. R. Eklund. *diags Lub Eng* 14:153-8+ Ap '58
- Eccentric bushing and preloaded balls assure boring head accuracy. *diags Tool Eng* 40:94 My '58
- Effect of a tangential contact force upon the rolling motion of an elastic sphere on a plane. K. L. Johnson. biblog *diags J Appl Mech* 25:339-46 S '58
- Effect of spin upon rolling motion of an elastic sphere on a plane. K. L. Johnson. biblog *diags J Appl Mech* 25:332-8 S '58
- Ground rules for determining or comparing bearing capacity ratings; with nomograph. L. Elderer. biblog *diags Machine Design* 29:133-42 D 12 '57

BEARINGS, Ball—Continued

- Improved ball bearings will meet tomorrow's needs of gyro spin-axis support. C. S. Draper. *Il Aviation Age* 30:52-4 J1 '58
- Maintenance of ball bearings on machine tool spindles. R. W. Moran. *Il diags Mach* 64: 141-52 Je '58
- Material recommendations for special bearing applications. W. Blinder. *Product Eng* 28: F7-9 Mid-O '57
- Measuring the preload of ball or roller bearings; abstract. C. L. Emmerich. *diags Machine Design* 30:185-6 Mr 20 '58
- Plastic ball and roller bearings. J. E. Montalbano. *Il (cover) Machine Design* 30:96-9 Ag 7 '58
- Plastic bearings for armored-vehicle turrets. *Il Machine Design* 30:98-9 Ag 7 '58
- Preventive maintenance of modern motors: ball bearings. J. W. Samzelius. *Il diags Plant* 17:60-3 Mr '58
- Teflon stops galling in new type of bearing. *Il Materials in Design Eng* 47:178-4 Ap '58
- See also*
- Bearings, Anti-friction

Cleaning

- Ultrasonic cleaning process cleans bearing balls in one minute. *Il Mill & Factory* 61:138 N '57

Design

- How to design ball bearings for water lubrication. P. R. Eklund. *diags Product Eng* 28: 72-3 O 28 '57

Failure

- Lubricants at higher temperatures; assessing the effects on ball bearing failures. D. Scott. *Il diag Engineering* 185:660-3 My 23 '58

Lubrication

- Correct practice for oil and grease seals. E. P. Stahl. *diags Power Eng* 61:70-2 D '57
- Guide to lubricants for instrument ball bearings. R. F. Irwin. *Product Eng* 29:66-9 Je 9 '58
- How to design ball bearings for water lubrication. P. R. Eklund. *diags Product Eng* 28: 72-3 O 28 '57

Testing

- Instrument analyzes bearing roughness. *Il Elec Manuf* 62:120 J1 '58
- Instrument bearings for 300F and up. N. A. Sinclair. *Product Eng* 29:72-5 F 3 '58
- Investigation of the structural conditions in steel bearing-balls. I. Berz and others. *Il Engineering* 185:151-3 Ja 31 '58

BEARINGS, Needle

- Rules for application of needle bearings. R. Smith. *Il diags Machine Design* 30:116-19 Ja 9 '58

Manufacture

- Ford speeds output of needle bearings. C. H. Wick. *Il diags Mach* 64:136-43 D '57

BEARINGS, Non-metallic

- Flexible bearings. *Il diags Automobile Eng* 48:255-9 J1 '58

BEARINGS, Plastic

- Designing with nylon. W. C. Warriner and A. J. Cheney. *Product Eng* 28:C 11-15 Mid-O '57
- Friction of polytetrafluoroethylene dry bearings. S. B. Twiss and others. *bibliog diags Lub Eng* 14:255-61+ Je '58
- New advance in rolling mill bearings. *Il Metalurgia* 56:246 N '57
- New synthetic replaces rubber in bearings of water turbines. L. McWilliams. *Il Elec World* 150:74 S 8 '58
- Plastic ball and roller bearings. J. E. Montalbano. *Il (cover) Machine Design* 30:96-9 Ag 7 '58
- Plastic bearings for armored-vehicle turrets. *Il Machine Design* 30:98-9 Ag 7 '58
- Plastics as solid lubricants and bearings; friction and wear of plastics with particular reference to polytetrafluoroethylene. A. J. G. Allan. *bibliog Lub Eng* 14:211-15 My '58
- Timer motor silenced with nylon bearings. *Il diags Elec Manuf* 61:147 Ap '58

BEARINGS, Roller

- Characteristics of basic roller bearings. J. Riddle. *Il Machine Design* 30:138-45 Mr 6 '58
- Correct practice for oil and grease seals. E. P. Stahl. *diags Power Eng* 61:70-2 D '57
- Ground rules for determining or comparing bearing capacity ratings; with nomogram. L. Fiderer. *bibliog diags Machine Design* 29:133-42 D 12 '57
- Heat expansion licked by cylindrical roller bearings. D. E. Batesole. *diags Aviation Age* 28:80-5 F '58

- Mechanized warehouse rushes bearing shipments. *Il Tool Eng* 40:181 Ja '58
- Plastic ball and roller bearings. J. E. Montalbano. *Il (cover) Machine Design* 30:96-9 Ag 7 '58

See also

- Bearings, Anti-friction
- Bearings, Needle

Lubrication

- Protective atmospheres for high-temperature bearing operation; abstract. C. H. Bailey and others. *Machine Design* 30:194 Ap 3 '58
- Servicing roller freight; overheated journals or hot boxes. *Il Comp Air Mag* 63:21-2 Ja '58

Manufacture

- Automated lines for heat treating bearings. J. Squire. *Il diags Automotive Ind* 117:48-52 D 15 '57
- Automatic controls guarantee top-quality carburizing; Timken roller bearing co.'s railroad bearing plant. P. M. Unterweiser. *Il Iron Age* 182:61-3 J1 '58
- Automatic production lines for tapered roller bearings. *Il Engineer* 204:678-80 N 8 '57
- Automatic production of tapered roller bearings. *Il Engineering* 184:664-6 N 22 '57
- Bearing line needs few operators; Timken roller bearing co. *Il Steel* 142:80-2 Je 2 '58
- Breaking the hot-box barrier; Timken tools for tripled railroad bearing market. *Il Am Mach* 102:94-5 Je 2 '58
- Carbide tooling on automatics. *Il diag Mach* 64:128-31 Ap '58
- Electronic device permits precise bearing control; Airborne Instruments laboratory. *Inc. diag Ind Lab* 9:19 Je '58
- Heat treating of roller bearings is geared to automatic production; Timken Bucyrus, Ohio plant. L. H. Everett and O. E. Cullen. *Il diags Metal Prog* 73:67-73 Je '58
- Making tapered roller bearings; Timken roller bearing co. *Il diags Automation* 5:57-62 F '58
- More roller bearings for freight cars; Timken roller bearing co. *Il Iron Age* 181:136-7 My 22 '58
- Roller bearings for the Nation's rolling stock. *Il Mach* 64:160-3 J1 '58
- Secrecy wraps taken off Timken automatic plant. C. A. Weinert. *flow chart Il Automotive Ind* 117:48-53+ O 1; 60-2+ O 15 '57
- Take a look at this bearing production; Timken's automatic bearing factory. C. J. Vlahos. *Il plan Mill & Factory* 61:82-6 N '57
- Timken railroad-bearing plant. *Il Mech Eng* 80:74-5 Ag '58

BEARINGS, Thrust

- Evolution of the design and operation of large thrust bearings. R. A. Baudry. *bibliog Il diags Power Apparatus & Systems* p502-7 Ag '58; Abstract. *Elec Eng* 77:801 S '58; Discussion. *Power Apparatus & Systems* p507-8 Ag '58
- Influence of load and thermal distortion on the design of large thrust bearings. R. A. Baudry and others. *bibliog Il diags A S M E Trans* 80:807-15; Discussion. 815-18 My '58
- Influence of pressure and temperature on oil viscosity in thrust bearings. B. Sternlicht. *A S M E Trans* 80:1108-12 J1 '58
- Needle thrust bearing. *Il diags Automobile Eng* 48:392-3 O '58
- Oil seals to provide positive lubrication on large or high-speed thrust bearings. R. A. Baudry and others. *Il diags A S M E Trans* 80:819-24; Discussion. 824-5 My '58
- Self-excited vibrations of an air-lubricated thrust bearing. L. Licht and others. *Il diags A S M E Trans* 80:411-14 F '58

BEARTOOTH mountains

- Geologic evolution of the Beartooth mountains, Montana and Wyoming. F. D. Eckelmann and A. Poldervaart. *maps diags Geol Soc Bul* 68:1225-61, pl 1-5 bibliog (p 1259-61) O '57

BEATING process. See Paper making—Beating**BEAUFORT county, North Carolina***See also*

- Water supply—Beaufort county, North Carolina

BECKMAN award

- Hasler, Lingane receive Beckman, Fisher awards. *Anal Chem* 30:sup25A My '58
- Maurice F. Hasler received award in chemical instrumentation. *Chem & Eng N* 36:84 Ap 23 '58

BECKMAN spectrophotometers. See Spectrophotometers**BECKMANN rearrangement. See Molecular rearrangements****BEDSPREADS. See Coverlets**

BEEF

- Beef carcass chilling and holding. R. Retrum. Refrig Eng 66:63-4+ Ja '58
- Comparison of an objective and subjective measurement of beef tenderness. A. H. Eockian and others. Bibliog Food Tech 12: 483-5 S '58
- Crystallization of Indian beef tallow fatty acids from aqueous ethanols. V. V. R. Subrahmanyam and K. T. Achaya. bibliog Am Oil Chem Soc J 35:457-9 S '58
- Effects of package type, irradiation, and treatment with aureomycin on redness of vacuum-packaged beef cuts. R. W. Dean and C. O. Ball. J Agri & Food Chem 6: 468-71 Je '58
- Quick tenderizing poses challenge to packers; enzyme-treater low-cost beef. J. V. Ziembra. II Food Eng 30:120-1+ Ap '58
- Shrinkage and organoleptic characteristics of beef aged in controlled environments. R. E. Sleeth and others. bibliog Food Tech 12:86-90 F '58

BEEF, Dried

- Drying fish and beef prior to solvent extraction. L. K. Arnold and P. R. Hsia. bibliog J Agri & Food Chem 6:281-2 Mr '58
- Effects of dehydration on actomyosin in fish and beef muscle. S. M. V. Hunt and N. A. Matheson. bibliog II Food Tech 12:410-16 Ag '58

BEER

- Beer bottled hot via exchanger. H. Benecke. II Food Eng 30:79 Je '58
- See also
- Brewing industries

Advertising

- Ion-free beer boosts sales; Goebel brewing. D. MacDonald. II Food Eng 30:71-2 F '58

Analysis

- Determination of food tannins by ultraviolet spectrophotometry. J. L. Owades and others. bibliog J Agri & Food Chem 6:44-6 Ja '58

BEER containers

- Beer in aluminum cans; Hawaii brewing corp. K. Darby. II Mod Metals 14:60+ Ag '58
- Major breakthrough for aluminum beverage cans. II Food Eng 30:82-3 S '58

BEES

- Essential oils train bees for fruit blossom pollination. B. E. Borud. II diag Am Perfumer & Aromatics 72:38-40 Jl '58

BEETS and beet sugar

- Sugar from beet. flow diag II diag Englineer 205:335-8, 876-82 Je 6-13 '58

BEHAR, Manoel F. de Mayo

- Obituary. por Instruments & Automation 31: 1351 Ag '58

BEHAVIOR (psychology)

- Three human reactions; aggression, submission or escape. Z. M. T. Tarkowski. bibliog diags Engineering 185:429-30 Ap 4 '58

BELGIUM

- See also
- Chemical engineering—Belgium
- Chemical industries—Belgium
- Engineering education—Belgium

BELL Jars. See Glassware, Laboratory**BELL telephone laboratories**

- A.T.&T. annual report cites gains in 1957; tells of research. II Bell Lab Rec 86:131-2 Ap '58

- Combined basic and applied research achieves outstanding results. II Anal Chem 30:sup 69A-61A Mr '58

- Laboratories marks a decade of transistor progress. II Bell Lab Rec 36:304-6 Ag '58

BELL telephone system

- Bell system keeps buying. II Electronics 31:18-19 My 2 '58

BELLEVILLE spring washers. See Washers (machinery)**BELLOWS**

- High precision barometric bellows. II Englineering 185:709 Je 6 '58

- Stress and deflexion studies of pipeline expansion bellows. C. E. Turner and H. Ford. bibliog II diags Inst Mech Eng Proc 171 no 15:526-44; Discussion. 544-50; Reply. 551-2 '57

- Teflon bellows. II Mod Plastics 35:218 My '58

Testing

- Tests on large stainless steel bellows. II diag Englineer 205:181-2 Ja 31 '58

BELLS

- See also
- Carillons

BELMONT county, California

- See also
- Water supply—Belmont county, California

BELT conveyors. See Conveying machinery—**Belt conveyors****BELT drive. See Belting****BELTING**

- Belt feeders. R. A. Wilson. diags Mech Eng 79:1042-3 N '57
- Belts and chains. A. Thornton. II diags Power 101:76-87 My '57; Abstract. Product Eng 28: E26-7 Mid-O '57
- Calculation of sheave diameters for V-drives knowing center distance. Product Eng 29: E9 Mid-S '58
- Design of belt and wire rope drives. G. H. Ryder. Product Eng 29:E 10-13 Mid-S '58
- Industrial know-how handbook; flat belts, V-belts and timing belts. II diags Mill & Factory 62:PT 10-14 My '58
- Let's take a look at plastic-core leather belting. S. Elionka. II Power 102:116-17 My '58; Same. Product Eng 29:E 14 Mid-S '58
- Parts of various shapes carried by flat, grooved rubber belts; design of a new surface-finishing machine; illustrations with text. Machine Design 30:114-15 Ja 9 '58
- Seven check points for V-belt drives. diags Textile World 108:15+ Ap '58
- Test your belt know-how. E. H. Rumble. II diags Plant Eng 12:104-5 Ag '58
- Variable speed belt drive. II Engineer 205: 405 Mr 14 '58

Standards

- V-belt standard clears measurement fog. J. L. Riche. II diags Mill & Factory 62:32-4 F '58

BELTING, Conveyor

- Belt lets parts slide freely; Oldsmobile div. of General motors corp. II Steel 143:124 Jl 14 '58
- Beltman's guide. Coal Age 63:122-3+ Mr '58
- Conveyor belt carryover can be licked. II diags Plant 17:48-9 My '58
- Conveyor belts new Swedish specialty. II Rubber Age 83:684 Jl '58
- Cotton-rayon in medium-tension conveyor belt. Rubber World 138:888 S '58
- Current trends in heavy conveyor belts. A. Arguedas. II Min Cong J 44:35-8; Discussion. M. Vander Laan. 88-90 Ag '58
- Design principles; key to conveyor belt problems. II diag Mod Materials Handling 13:119-21 Ap '58
- Designing belts for material handling. F. W. Blanchard. II Mech Eng 80:71-4 Mr '58
- Metallurgical problems in the production of woven wire cloth; abstract. J. Warink. Metal Prog 74:154-4 S '58
- New life for damaged conveyor belts. II Eng & Min J 159:34 Jl '58
- Tachometer generators for positive belt protection. diag Coal Age 63:142 Ap '58
- Tensioning conveyor belts. diags Engineering 185:102 Ja 24 '58
- Terylene-polyvinyl chloride conveyor belt. II Engineering 184:679 N 29 '57
- Today's conveyor-belt picture. II Coal Age 62:64-5 D '57
- Woven wire conveyor belts as a processing tool. J. E. Reid. Chem Eng Prog 54:114+ Jm '58

Cleaning

- Combat conveyor carryover; self-cleaning rotary brush. II Power Ind 74:20-2 Je '58
- Power brushes take on maintenance job. E. P. Fisher. II diags Iron Age 181:80-1 Ja 16 '58

BELTS, Abrasive. See Abrasive belts**BENDER process. See Petroleum refining—Sulfur removal****BENDING**

- Analysis of finite beams on elastic foundation. D. C. Gazis. diags Am Soc C E Proc 84 [ST 4 no 1722]:1-18 Jl '58
- Axial-temperature-gradient bending stresses in tubes. F. G. Hammitt. diags J Ap Mech 25:109-14 Mr '58
- Bending and vibration of elastically restrained circular plates. C. L. Kantham. bibliog diags Franklin Inst J 265:483-91 Je '58
- Bending frequency of a rotating cantilever beam. M. J. Schilhansl. diag J Ap Mech 25:28-30 Mr '58
- Bending of an elastically restrained circular plate under normal loading over a sector. W. A. Bassall and R. H. Dawoud. bibliog diag J Ap Mech 25:37-46 Mr '58
- Bending of elastically supported rectangular plates. M. Zaid and M. Porray. bibliog diags Am Soc C E Proc 84 [IEM 8 no 1719]:1-25 Jl '58

BENDING—Continued

- Bending of pretwisted thin-walled beams of symmetric star-shaped cross sections. L. Maunder. *bibliog* *J* Ap Mech 25:67-74 Mr '58
- Bending of pre-twisted turbine blades; effect of inclination of longitudinal fibres. W. Carnegie. *diags* *Engineering* 185:605-6 My '58
- Bending of thin uniform circular rings. W. J. Goodey. *diags* *Aircraft Eng* 30:101-8 Ap '58
- Bending stability of thin-walled unstiffened circular cylinders including the effects of internal pressure. H. S. Suer and others. *bibliog* *J* *diags* *J* Aeronautical Sci 25:281-7 My '58
- Comparison of methods for analyzing bending effects in toroidal shells. G. D. Galletly. *diag* *J* Ap Mech 25:413-14 S '58
- Compressive buckling of a long simply supported plate on an elastic foundation. P. Seide. *diags* *J* Aeronautical Sci 25:382-4+ Je '58
- Curves find bending and torsion strength of thin-walled cylinders; reference book sheet. J. Kusmiss. *diags* *Product Eng* 29:85+ J1 21 '58
- Die with floating members for bending heavy angle-iron. A. G. Amos. *diags* *Mach* 64:170-1 Ap '58
- Effect of elastic bending on magnetic properties of oriented silicon iron. R. W. Cole. *bibliog* *J* Ap Phys 29:370-1 Mr '58
- Formability index determines minimum bend radius. W. W. Wood. *diags* *Am Mach* 101:121-5 F 25 '57; Excerpts. *Product Eng* 28: F23-5 Mid-O '57
- Graphical method for oblique bending. T. F. W. Smith. *diags* *Engineer* 206:129-30 J1 25 '58
- Heavy-duty bending is a familiar sight at Caterpillar plant. A. W. Johnson. *il* *Mach* 64:158-9 N '57
- How to bend electrical conduit. W. Jacoby. *diags* *Plant Eng* 12:110-11 J1 '58
- Influence of repeated bending loads on biaxial residual stresses in shot-peened plates. T. M. Elssesser. *bibliog* *il* *diags* *A S M E Trans* 79:1904-10 N '57
- Levy-type solution for a rectangular plate of variable thickness. H. D. Conway. *diag* *J* Ap Mech 25:297-8 Je '58
- Linkage measures bending stress. *il* *diags* *Product Eng* 29:65 Je 4 '58
- Machine for bend tests; Philip's research laboratory, Eindhoven, Holland. *diags* *Steel* 142:114 F 3 '58
- Modulus of rupture of γ -Zr 45 ADP crystals. B. J. Faraday and D. J. G. Grogan. *bibliog* *diags* *J* Ap Phys 28:1039-102 J1 '58
- Nonaxial bending of thin plates of varying thickness. H. D. Conway. *J* Ap Mech 25:386-8 S '58
- Plastic bending of heavily curved beams. W. Johnson and B. W. Senior. *diags* *Roy Aeronautical Soc J* 61:324-30 D '57
- Prediction of creep in bending from tension- and compression-creep data when creep coefficients are unequal. W. N. Findley and others. *bibliog* *A S M E Trans* 80:1294-8 Ag '58
- Rectangular strength and stiffness in bending of structural metals; tables. *Product Eng* 28:F6 Mid-O '57
- Static bending of pre-twisted cantilever blading. W. Carnegie. *diags* *Inst Mech Eng Proc* 171 no 32:873-86, pl 1-2; Discussion. 887-90; Reply. 891-4 '57
- Strong cylindrical bending of elastic plates. S. J. Medvadowski and K. S. Pister. *bibliog* *Am Soc C E Proc* 84 [EM 3 no 1692]: 1-11 J1 '58
- This k-factor speeds answers for edge area of bent-up shapes; reference book sheet. S. W. Kaye. *diag* *Product Eng* 29:101+ S 15 '58
- See also*
Tube bending
- BENDING machines**
Bend it cold, bend it smart. *il* *Mill & Factory* 62:94-6 Mr '58
- Bending machines form precision parts. *il* *diags* *Steel* 142:79-82 F 10 '58
- Cone rolling simplified; Bronx plate bending machine. *il* *Engineering* 185:260 F 28 '58
- Hydraulically driven bending rolls. *il* *Engineer* 206:345 Ag 29 '58
- See also*
Tube bending machines
- BENDING moment**
Bending moments by direct measurement; Wiegmann slope differential instrument. G. F. Tschoborloff and others. *il* *plan* *diags* *Eng N* 160:39-40+ Ap 24 '58

- Coefficient method for determining reactions and bending moments in beams of two and three equal spans; data sheet. R. H. Feng. *diags* *Machine Design* 30:129-33 J1 10 '58
- Creep deflection and stress distribution in a beam. W. J. Goodey. *Aircraft Eng* 30:170-2 Je '58
- General method for analysis of flat slabs and plates. J. F. Brochie. *bibliog* *diags* *Am Concrete Inst J* 29:31-50 J1 '57; Discussion. *J* Chinn. 29:787-91; Reply. 791-5 Mr '58
- Model study of a dynamically laterally loaded pile. R. D. Gaul. *bibliog* *il* *diags* *Am Soc C E Proc* 84 [SM 1 no 1535]:1-33 F '58
- Moments in continuous beams on flexible supports. R. A. Williamson. *diags* *Am Soc C E Proc* 84 [ST 3 no 1631]:1-4 My '58; Discussion. 84 [ST 7 no 1857]:33-5 N '58
- BENDING tools**
Bending tools for rod and tubing; reference book sheet. A. Young. *il* *diags* *Am Mach* 102:131+ My 19 '58
- BENEFIT plans, Employees.** *See* *Employees*
- BENELUX union**
See also
Chemical industries—Benelux union
- BENJAMIN, Ray Neel**
Sketch *Mech Eng* 80:145-6 Je '58
- BENTONITE**
Contribution on the Hector, California bentonite deposit. L. L. Ames, Jr. and others. *bibliog* *il* *maps* *diag* *Econ Geol* 53:22-37 Ja '58
- Evaluation of bentonites in the steel foundry. V. E. Zang. *il* *Foundry* 86:154-7 My '58
- How to mine and mill bentonite. D. S. Turner. *flow sheets* *Eng & Min J* 159:108-10 J1 '58
- New testing method included in western bentonite specification. *il* *Foundry* 86:127 Mr '58
- See also*
Montmorillonite
- BENZACRIDINE**
Synthetic amebicides; [(benz)acridin-7-ylamino]-alkylamino-alkanols and their esters. E. F. Elslager and others. *bibliog* *Am Chem Soc J* 80:451-5 Je 20 '58
- Synthetic amebicides; 7-(3-octylaminopropylamino)-benz[acridine (PAA-2056)] and related 7-(alkyl- and aralkylaminoalkylamino)-benz[acridines. F. W. Short and others. *bibliog* *Am Chem Soc J* 80:223-3 Je 5 '58
- BENZAL chloride.** *See* *Dichlorotoluene*
- BENZALDEHYDE**
Kinetics of the chromic acid oxidation of benzaldehyde. G. T. E. Graham and F. H. Westheimer. *bibliog* *diag* *Am Chem Soc J* 80:3030-3 Je 20 '58
- Kinetics of the chromic acid oxidation of benzaldehyde. K. B. Wiberg and others. *bibliog* *Am Chem Soc J* 80:3022-9 Je 20 '58
- Light on styrene formation; styrene from benzaldehyde. *Can Chem Process* 42:85-6+ Ag '58
- One-step transformation of acetophenone into benzaldehyde. J. H. Boyer and L. R. Morgan, Jr. *bibliog* *Am Chem Soc J* 80:2020-1 Ap 20 '58
- Preparation of aromatic aldehydes; benzaldehydes. K. Kulka. *bibliog* *il* *Am Perfumer & Aromatics* 71:51-3 Ja '58
- BENZALTETRALONE**
Chemistry of derivatives of 2-benzaltetralone. A. Hassner and N. H. Cromwell. *bibliog* *Am Chem Soc J* 80:933-905 F 20 '58
- BENZAMIDO group**
Neighboring groups in addition; the benzamido group in 3-benzamidocyclohexane; stereospecific synthesis of trisubstituted cyclohexane derivatives. L. Goodman and others. *bibliog* *Am Chem Soc J* 80:4312-17 Ag 20 '58
- BENZANTHRACENE**
Synthesis of some 10-(substituted phenyl)-1,2-benzanthracenes. F. A. Vinriello and R. K. Stevens. *bibliog* *Am Chem Soc J* 80:5256-7 O 5 '58
- BENZERDINE**
Amphetamine-resin compound. *Drug & Cosmetic Ind* 82:225 F '58
- BENZENE**
Aromatic hydrocarbons. J. J. O'Connell. *Pet Refiner* 36:199-200 N '57
- Benzene extraction of antimony iodide. R. W. Ramette. *bibliog* *Anal Chem* 30:1158-9 Ju '58
- Benzene purity by hydrogenation. *il* *Can Chem Process* 42:69 Mr '58
- Binary systems benzene-ethyl methyl ketone and benzene-cyclohexane. M. B. Donald and K. Ridgway. *bibliog* *J* Ap Chem 8:403-7 J1 '58

BENZENE—Continued

- Chromatography of a mixture of hexane, chloroform, and benzene on silica gel, J. W. Blair and E. S. Amis, *Anal Chem* **30**:329-32 Mr '58
- Clathrate compounds of Werner complexes with *p*-disubstituted benzene derivatives, F. V. Williams, *Am Chem Soc J* **79**:5876-7 N 20 '57
- Condensation of benzene with unsaturated chlorides, L. Schmerling and others, *bibliog Am Chem Soc J* **80**:576-9 F 5 '58
- Dienol-benzene rearrangement; some chemistry of 1,4-androstadiene-3,17-dione, M. J. Gentles and others, *Am Chem Soc J* **80**:3702-5 J 20 '58
- Disproportionation of alkylbenzenes, D. A. McCauley and A. P. Lien, *Am Chem Soc J* **79**:5808-9, 5953-5 N 5-20 '57
- Formation of benzene in the pyrolysis of acetylene, W. W. Robertson and others, *bibliog J Ap Chem* **8**:401-2 J '58
- Friedel-Crafts condensation of *trans*-2-hydroxycyclohexanecarboxylic acid lactone with aromatic hydrocarbons; benzene and naphthalene, D. D. Phillips and D. N. Chatterjee, *bibliog Am Chem Soc J* **80**:1360-6 Mr 20 '58
- General applicability of a fixed scale of inductive effects; inductive effects of dipolar substituents in the reactivities of *m*- and *p*-substituted derivatives of benzene, R. W. Taft, Jr. and I. C. Lewis, *bibliog Am Chem Soc J* **80**:2436-43 My 20 '58
- Interaction of stannic chloride with some organic bases in benzene, S. T. Zenchelsky and P. R. Segatto, *bibliog Am Chem Soc J* **80**:4796-9 S 20 '58
- Kinetics of the Friedel-Crafts benzoylation of benzene with aluminum chloride as catalyst and benzoyl chloride as solvent, H. C. Brown and F. R. Jensen, *bibliog diag Am Chem Soc J* **80**:2291-6 My 5 '58
- Kinetics of the Friedel-Crafts sulfonylation of benzene, chlorobenzene and toluene with aluminum chloride as catalyst and benzenesulfonyl chloride as solvent, F. R. Jensen and H. C. Brown, *bibliog Am Chem Soc J* **80**:4042-5 Ag 5 '58
- Mechanism of methanolysis of triphenylmethyl chloride in benzene solution, E. G. Swain and E. B. Pegues, *bibliog Am Chem Soc J* **80**:812-19 F 20 '58
- Metalation and addition reactions of allylbenzene and propenylbenzene with butyllithium and lithium amide, H. F. Herbrandson and D. S. Mooney, *bibliog Am Chem Soc J* **79**:5809-14 N 5 '57
- Micellar dispersion of α -monoglycerides in benzene and chlorobenzene, P. Debye and W. Prins, *bibliog J Colloid Sci* **13**:86-98 F '58
- Microwave absorption and molecular structure in liquids; dielectric relaxation times and molecular shapes of some substituted benzenes and pyridines, A. J. Petro and C. P. Smyth, *bibliog Am Chem Soc J* **79**:6142-7 D 5 '57
- Microwave absorption and molecular structure in liquids; the dielectric relaxation times of three prolate ellipsoidal molecules in benzene solution, D. A. Pitt and C. P. Smyth, *bibliog Am Chem Soc J* **80**:1061-3 Mr 5 '58
- New products from the reaction of benzoyl peroxide with benzene, D. F. DeTar, *Am Chem Soc J* **80**:4742-3 S 5 '58
- Polynuclear aromatic hydrocarbons: the reaction between allylsuccinic anhydride and benzene, D. D. Phillips and T. E. Hill, *bibliog Am Chem Soc J* **80**:3863-7 J 20 '58
- Promoted air oxidation of benzene to phenol in the gas phase, M. E. Donald and M. E. Darlington, *bibliog diag Ind Chem* **34**:8-15 Ja '58
- Reactions of free radicals with aromatics; involvement of ring hydrogens in the reaction of methyl radicals with alkylbenzenes, S. H. Wilen and E. L. Eliel, *bibliog Am Chem Soc J* **80**:3309-14 J 5 '58
- Relative rates and isomer distribution in the aluminum chloride-catalyzed benzene-sulfonylation of benzene and toluene in benzenesulfonyl chloride solution; partial rate factors for the benzenesulfonylation reaction, F. R. Jensen and H. C. Brown, *bibliog Am Chem Soc J* **80**:4046-8 Ag 5 '58
- Relative rates of the aluminum chloride-catalyzed benzoylation of representative benzene derivatives in benzoyl chloride solution; partial rate factors for the benzoylation of toluene, H. C. Brown and F. R. Jensen, *bibliog Am Chem Soc J* **80**:2296-300 My 5 '58
- Relative strengths of forty aromatic carboxylic acids in benzene at 25°C, M. M. Davis and H. B. Hetzer, *J Res Nat Bur Stand* **60**:569-92 bibliog(p591-2) Je '58
- Separation of benzene and *n*-heptane in continuous thermal diffusion columns, T. S. Heines and others, *bibliog flow diag il diag Ind & Eng Chem* **49**:1911-20 N '57
- Silver perchlorate-benzene complex, $\text{C}_6\text{H}_6\cdot\text{AgClO}_4$, crystal structure and charge transfer energy, H. G. Smith and R. E. Rundle, *bibliog diags Am Chem Soc J* **80**:5075-80 O 5 '58
- Some thermodynamic properties of the systems: benzene-allylbenzene and polyisobutene-benzene, R. S. Jessup, *bibliog diags J Res Nat Bur Stand* **60**:47-53 Ja '58
- Soviet bloc imports fall, *Chem & Eng N* **36**:34 Ag 11 '58
- Stereochemistry of conjugate additions; a study of the addition of amines to (2-nitropropenyl)-benzene, P. L. Southwick and J. E. Anderson, *bibliog Am Chem Soc J* **79**:6222-9 D 5 '57
- Sulfonation with sulfur trioxide; high boiling alkylated benzene, E. E. Gilbert and E. Veldhuis, *bibliog Ind & Eng Chem* **50**:997-1000 J '58
- Ternary system benzene-cyclohexane-ethyl methyl ketone, M. B. Donald and K. Ridgway, *bibliog J Ap Chem* **8**:408-15 J '58
- Ternary vapour-liquid equilibria; system ethyl methyl ketone-benzene-cyclohexane, P. Dakshinamurti and C. Venkata Rao, *bibliog J Ap Chem* **7**:654-9 D '57
- Testing sulfonation of alkyl benzene, A. Davidsohn, *Soap & Chem Spec* **34**:151 Je '58
- See also
Benzol (commercial benzene)
Butyl benzene
Chlorobenzene
Ethyl benzene
- Analysis**
- Detection of carbonyl compounds in benzene, D. A. Forss and E. A. Dunstone, *Chem & Ind* **p** 127-8 F 1 '58
- Infrared quantitative analysis data; determination of benzene and chlorobenzenes in chlorinated benzene, L. R. Kiley, *Anal Chem* **29**:1896 D '57
- Manufacture**
- Humble completes benzene plant, *il Oil & Gas J* **56**:110 M 3 '58
- Refining of benzole by chlorine treatment, O. W. Molony and D. Hughes, *bibliog diag J Ap Chem* **8**:690-700 O '58
- Spectra**
- Influence of an acidic environment on the spectra of benzene and some methylbenzenes, M. Kilpatrick and H. H. Hyman, *bibliog Am Chem Soc J* **80**:77-83 Ja 5 '58
- BENZENEBORONIC acid**
- Cyclic benzeneboronate esters, J. M. Sugihara and C. M. Bowman, *bibliog Am Chem Soc J* **80**:2443-6 J 20 '58
- Electrophilic displacement reactions; effects of substituents on rates of reactions between hydrogen peroxide and benzeneboronic acid, H. G. Kuivila and A. G. Armour, *Am Chem Soc J* **79**:5659-62 N 5 '57
- BENZENEDIAZONIUM compounds**
- Magnetic study on the photodecomposition of *p*-(N,N-dimethylamino)-benzenediazonium chloride, E. A. Boudreaux and E. Boulet, *bibliog Am Chem Soc J* **80**:1588-90 Ap 5 '58
- BENZENESULFONATES**
- Alkyl aryl sulfonates, Continental oil co. flow diags *Pet Refiner* **36**:210 N '57
- Evaluation of the detergency value of a series of alkylbenzene sulfonates by ultrasonic technique, H. A. Ludeman and others, *diag Am Oil Chem Soc J* **35**:5-8 Ja '58
- Analysis**
- Analysis of alkylbenzene sulfonates, E. W. Blank, *Soap & Chem Spec* **34**:41-4t Ja '58
- Analysis of alkyl benzene sulphonates, W. W. Myddleton, *Manuf Chem* **29**:207 My '58
- Analytical development work for detergent ABS determination in waste waters, R. House, *bibliog Sewage & Ind Wastes* **29**:1225-7 N '57
- BENZENESULFONYL chloride**
- Relative rates and isomer distribution in the aluminum chloride-catalyzed benzenesulfonylation of benzene and toluene in benzenesulfonyl chloride solution; partial rate factors for the benzenesulfonylation reaction, F. R. Jensen and H. C. Brown, *bibliog Am Chem Soc J* **80**:4046-8 Ag 5 '58

BENZHYDRYL chloride. See Chlorodiphenyl methane

BENZIDINE

Reaction of alkaline hydrogen peroxide with certain acid halides and anhydrides in the presence of benzidine-type bases. D. J. Marsh and E. Neale, *biblog J Ap Chem* 8:394-400 Je '58

BENZILIC acid

Mechanism of the benzilic acid rearrangement. J. Hine and H. W. Haworth, *biblog Am Chem Soc J* 80:2274-5 My 5 '58

BENZIMIDAZOLE

Benzimidazoles as specific inhibitors of vitamin B₁₂ or thymine in bacterial mutants. D. B. M. Scott and others, *biblog Am Chem Soc J* 80:2165-9 My 5 '58

Benzol[d]pyrido[a]benzimidazole-4,9-quinone. P. Truitt and others, *biblog Am Chem Soc J* 79:5708-10 N 5 '57

Carboxy derivatives of histidine, imidazole and benzimidazole. A. Patchornik and others, *biblog Am Chem Soc J* 79:6416-20 D 20 '57

Synthesis of bis-benzimidazoles. L. L. Y. Wang and M. M. Joulié, *biblog Am Chem Soc J* 79:5706-8 N 5 '57

BENZIMIDAZOLONE

Synthesis of some substituted benzimidazolones. R. L. Clark and A. A. Pessolano, *biblog Am Chem Soc J* 80:1657-62 Ap 5 '58

BENZOCARBAZOLE

Theoretical study of nitrogen heterocyclics; molecular diagrams and carcinogenic activities of some mono- and dibenzocarbazoles. J. I. Fernández-Alonso and others, *biblog Am Chem Soc J* 79:5839-44 N 20 '57

BENZOCYCLOBUTENE

Condensed cyclobutane aromatic systems; benzocyclobutene and 1-bromobenzocyclobutene. M. P. Cava and D. R. Napier, *biblog Am Chem Soc J* 80:2255-7 My 5 '58

BENZOCYCLOHEPTENONE

1,2-Benzocyclohept-1-en-4-one. T. A. Crabb and K. Schofield, *Chem & Ind* p 102-3 Ja 25 '58

BENZODIAZEPINE

1-Ethyl-4-(3-tropanyl)-tetrahydro-1H-1,4-benzodiazepine. S. Archer and others, *Am Chem Soc J* 79:5783-5 N 5 '57

BENZODIAZOCINE

Eight-membered and a ten-membered ring system; benzodiazocine and dibenzodiazocine. W. E. Rosen and others, *biblog Am Chem Soc J* 80:935-9 F 20 '58

BENZODIOXAN

Syntheses in the 3-methyl-1,4-benzodioxan series. J. Koo and others, *Chem & Ind* p832 Je 28 '58

BENZOFLOURENONE

Preparation of a substituted 1,2-benzofluorenone; an unusual Perkin reaction. J. C. Godfrey and R. A. Barnes, *biblog Am Chem Soc J* 80:3902-4 Ag 5 '58

BENZOIC acid

Alkyl and diethylaminoethyl esters of N-substituted aminoacylaminobenzoic acids. E. Epstein and D. Kaminsky, *biblog Am Chem Soc J* 79:5814-17 N 5 '57

Behavior of *o*-aroylbenzoic acid types in acidic media. M. S. Newman and K. G. Ihrman, *biblog Am Chem Soc J* 80:3652-6 JI 20 '58

Electronic structure and auxin activity of benzoic acid derivatives. K. Fukui and others, *biblog Am Chem Soc J* 80:2267-70 My 5 '58

Preparation of terephthalic acid from phthalic or benzoic acid. Y. Ogata and others, *biblog Am Chem Soc J* 79:6005-8 N 20 '57

Quantitative relationship between structure and reactivity for the reactions between diphenyldiazomethanes and benzoic acids in toluene at 25°. C. K. Hancock and J. S. Westmoreland, *Am Chem Soc J* 80:545-8 F 5 '58

Analysis

Detection of phthalic acid isomers and benzoic acid in alkyl resins by infrared absorption spectrometry. M. L. Adams and M. H. Swann, *Anal Chem* 80:1322-4 Ag '58

BENZOL (commercial benzene)

Examination of the distillation characteristics of hydrotreated benzole. D. Spencer, *biblog Il diags Ind Chem* 34:287-93 Je '58

Foam blankets benzol fires. *Il Safety Maint* 116:49-50 Ag '58

Refining benzoles and naphthas. flow diag

BENZONITRILE

Spectra

Integrated intensity of the infrared C≡N band of benzonitriles in various solvents. T. L. Brown, *biblog Am Chem Soc J* 80:794-7 F 20 '58

BENZOPHENANTHRENE

Polynuclear aromatic hydrocarbons; the synthesis of 6,7-acbenzof[1]phenanthrene. D. D. Phillips and D. N. Chatterjee, *biblog Am Chem Soc J* 80:4364-8 Ag 20 '58

BENZOPHENONE

Addition of silyllithium compounds containing methyl and phenyl groups to benzophenone in tetrahydrofuran. H. Gilman and G. D. Lichtenwalter, *biblog Am Chem Soc J* 80:607-3 F 5 '58

Durly 2,6-disubstituted phenyl ketones. R. C. Fuson and B. Vittimberga, *biblog Am Chem Soc J* 79:6030-2 N 20 '57

BENZOPINACOLONE

Oxygen function rearrangement in benzopinacolone. A. Fry and others, *biblog Am Chem Soc J* 80:4743-4 S 5 '58

BENZOPYRENE

Polynuclear aromatic hydrocarbons; the synthesis of 3,4-benzopyrene and 7-methyl-3,4-benzopyrene. D. D. Phillips and D. N. Chatterjee, *biblog Am Chem Soc J* 80:4360-4 Ag 20 '58

Analysis

Detection of pyrene, benzo[a]pyrene, and other polynuclear aromatic hydrocarbons. E. Sawicki and R. K. Miller, *biblog Anal Chem* 30:109-10 Ja '58

BENZOTHAZINE

10-(Diakylaminoalkyl)-pyrido[3,2-b][1,4]benzothiazine (1-azaphenothiazine) and related compounds. H. L. Yale and F. Sowiński, *biblog Am Chem Soc J* 80:1651-4 Ap 5 '58

BENZOTHIOPIN

Synthesis of benzo[h]-thiepin-1:1-dioxide. V. J. Traynelis and R. F. Love, *Chem & Ind* p439-40 Ap 12 '58

BENZOTRIAZOLE

Interaction of osmium with 1,2,3-benzotriazole. R. F. Wilson and L. J. Baye, *Am Chem Soc J* 80:2652-4 Je 5 '58

Interaction of rhodium(III) solutions with 1,2,3-benzotriazole. R. F. Wilson and C. M. Wornack, Jr., *Am Chem Soc J* 80:2065-6 My 5 '58

BENZOTROPOLONE

Enzymic oxidation of polyphenols to benzotropolone. E. A. H. Roberts and M. Oldschool, *Chem & Ind* p99-100 Ja 25 '58

BENZOYL chloride

Effect of various Friedel-Crafts catalysts on the rates and kinetics of the reaction of benzoyl chloride with aromatics. F. H. Jensen and H. C. Brown, *biblog Am Chem Soc J* 80:3039-47 Je 20 '58

Kinetics of the Friedel-Crafts benzoylation of benzene with aluminum chloride as catalyst and benzoyl chloride as solvent. H. C. Brown and F. R. Jensen, *biblog diag Am Chem Soc J* 80:2291-6 My 5 '58

Relative rates of the aluminum chloride-catalyzed benzoylation of representative benzene derivatives in benzoyl chloride solution; partial rate factors for the benzoylation of toluene. H. C. Brown and F. R. Jensen, *biblog Am Chem Soc J* 80:2296-300 My 5 '58

BENZOYL compounds

Intramolecular rearrangement of 4-benzoyl-oxycyclohexanone. R. L. Clarke and W. T. Hunter, *Am Chem Soc J* 80:5304-6 O 5 '58

BENZOYL peroxide

Mechanism of decomposition of benzoyl peroxide in cyclohexane solution. C. G. Swain and others, *biblog Am Chem Soc J* 80:5313-19 O 5 '58

New products from the reaction of benzoyl peroxide with benzene. D. F. DeTar, *Am Chem Soc J* 80:4742-3 S 5 '58

BENZOYLATION

Crystalline 4-O-benzoyl-1,2,5,6-di-O-isopropylidene-D-arabo-3-hexulose; a new route to talitol derivatives. J. M. Sugihara and G. T. Yuen, *biblog Am Chem Soc J* 79:5780-2 N 5 '57

Kinetics of the Friedel-Crafts benzoylation of benzene with aluminum chloride as catalyst and benzoyl chloride as solvent. H. C. Brown and F. R. Jensen, *biblog diag Am Chem Soc J* 80:2291-6 My 5 '58

BENZOYLATION—*Continued*

Relative rates of the aluminum chloride-catalyzed benzoylation of representative benzene derivatives in benzoyl chloride solution; partial rate factors for the benzoylation of toluene, H. C. Brown and F. R. Jensen, *bibliog Am Chem Soc J* 80: 2296-300 My '58

BENZOPYRENE. See Benzopyrene

BENZYL bromide. See Bromotoluene

BENZYL chloride. See Chlorotoluene

BENZYL compounds

Rates of solvolysis of *p*-substituted benzyl-dimethylcarbinyl chlorides, A. Landis and C. A. VanderWerf, *bibliog Am Chem Soc J* 80:5277-80 O 5 '58

BENZYL glutamate

Non-Newtonian viscosity of poly-*y*-benzyl-L-glutamate solutions, J. T. Yang, *bibliog Am Chem Soc J* 80:1783-8 Ap 20 '58

BENZYL group

Debenzylation of *S*-benzyl-N-phthaloyl-L-cysteinyl chloride with aluminum halides; preparation of L- α -phthalimido- β -propiolactone, D. Fleis and others, *bibliog Am Chem Soc J* 80:4654-7 S 5 '58

BENZYLIDENE compounds

Condensation products of cyclic 1,2-diketones with benzylidene-bis-piperidine and their spectral properties, N. J. Leonard and others, *bibliog Am Chem Soc J* 79: 6436-42 D 20 '57

Preparation and characterization of di-O-benzylidene-(γ)-inositol, E. A. Sheeour and C. E. Ballou, *Am Chem Soc J* 80:3960-1 Ag 5 '58

Some reactions of the 1:3-O-benzylidene glyceritols, N. Baggett and others, *bibliog Chem & Ind p* 1229-30 S 20 '58

Structure of the 1:3-O-benzylidene glyceritols, J. S. Brinacombe and others, *bibliog Chem & Ind p* 1228-9 S 20 '58

BENZYLATION

Indanols; preparation and spectra of benzylated indanols, S. L. Shapiro and others, *bibliog Am Chem Soc J* 80:3726-9 J1 20 '58

Plant polyphenols; the benzoylation of ellagic acid, L. Jurd, *bibliog Am Chem Soc J* 79:6043-7 N 20 '57

Reduction and benzoylation by means of benzyl alcohol; a new synthesis of α,β -diarylpipronic acids and the corresponding nitriles, M. Avramoff and Y. Sprinzak, *bibliog Am Chem Soc J* 80:493-6 Ja 20 '58

BERLIN**Architecture**

Berlin Congress hall, *il Engineer* 205:261 F 14 '58

Berlin Congress hall, *il plans diag* Arch Rec 122:143-50 D '57

Congress Hall debate; U.S. contribution to Berlin's international building exhibit, H. Stubbins and F. Otto, *il plan diag* Arch Forum 108:116-21+ Ja '58

BERMUDA

See also

Water supply—Bermuda

BERMUDA grass

Effect of nitrogen rate and clipping frequency upon lignin content and digestibility of coastal Bermuda grass, F. E. Knox and others, *bibliog J Agri & Food Chem* 6:217-19 Mr '58

BERRIES

See also

Cranberries

BERSTEIN, Irving A.

1957 ADR award to I. A. Berstein, *por Am Dyestuff Rep* 46:885 N 18 '57

BERYL

Excess helium and argon in beryl and other minerals, P. E. Damon and J. L. Kulp, *diag* Am Mineralogist 43:433-59 *bibliog* (p457-9) My '58

BERYLLIUM

Activation analysis with an antimony-beryllium neutron source, A. K. De and W. W. Meinke, *bibliog il diag Anal Chem* 30:1474-82 S '58

Air force pushes beryllium studies, J. G. Conner, *Aviation Age* 30:102-6+ S '58

Beryllium and beryllia; abstract, L. David, *Metal Prog* 73:192+ Je '58

Beryllium and berylliosis, J. Schubert, *il Sci Am* 199:27-33 Ag '58

Beryllium; atomic, electronics and missile industries brighten its future, L. F. Boland, *Light Metal Age* 16:17-18 Ap '58; Same *abr. il J Metals* 10:401-3 Je '58; Same *cond. Metal Prog* 73:148+ My '58

Beryllium content of roscherite from the sapucaia pegmatite mine, Minas Gerais, Brazil, and from other localities, M. L. Lindberg, *il diag* Am Mineralogist 43:824-38 S '58

Beryllium expands; Brush beryllium co. Steel 141:110 D 2 '57

Beryllium for weapon systems, *Mach* 64:149 Mr '58

Beryllium looks to wider uses, *Iron Age* 181:32 Je '58

Beryllium machining characteristics, D. R. Walker, *bibliog il Mech Eng* 80:57-62 Ag '58

Beryllium, 1957, D. E. Ellertsen, *Eng & Min J* 159:144 F '58

Beryllium on the move, *Chem & Eng N* 35:24 D 2 '57

Determination of the solubilities of beryllium and molybdenum in liquid bismuth, G. W. Horsley and J. T. Maskrey, *diag Inst Metals J* 86:401-2 Ap '58

Europe's first beryllium plant; Imperial chemical industries, *ltd. Chem & Ind p* 1171 S 6 '58

Expansion of atomic research facilities; General electric co.'s beryllium laboratory, *il Ind Chem* 34:180 Ap '58

G.E.C. beryllium laboratory, *il Chem & Ind* 34:80 Ap 26 '58

G.E.C. expands atomic research facilities; new laboratory for beryllium studies, *il Metallurgia* 57:213-15 Ap '58

How to machine beryllium, D. R. Walker and J. Gubas, *il Am Mach* 102:129-31 Ap 2 '58

Laboratory for studying a dangerous material; metallurgy and fabrication of beryllium, T. Raine and P. P. Starling, *il plan diag Engineering* 185:499-501 Ap 18 '58

Lithium and beryllium pegmatites of southeastern Manitoba, J. F. Davidson, *diag map diag Can Min & Met Bul* 51:420-6 J1 '58

New beryllium plant; Imperial chemical industries Metals div, *Metallurgia* 58:118 S '58

Production of wrought beryllium in Europe, *Ind Chem* 34:554 O '58

Analysis

Photometric determination of beryllium, U. T. Hill, *Anal Chem* 30:521-4 Ap '58

BERYLLIUM, Powdered

U.K. uses no pressure in powder route to beryllium, *Chem Eng* 65:74+ O 20 '58

BERYLLIUM alloys

Diffusion systems below 1000° F; techniques and systems used to obtain joints between beryllium copper and Monel; fabrication of throat blocks for hypersonic wind tunnels, J. T. Niemann and others, *bibliog il diag Welding J* 37:sup337-42 Ag '58

Semicontinuous casting of beryllium copper, K. G. Wikie, *il diag Metal Prog* 73: 85-9 Ap '58

BERYLLIUM compounds

Polymeric basic beryllium carboxylates, C. S. Marvel and M. M. Martin, *bibliog diag Am Chem Soc J* 80:619-22 F 5 '58

BERYLLIUM metallurgy

Beryllium; a continuous extractive process, K. E. Higbie and M. C. Farmer, *bibliog flow sheet il Chem Eng Prog* 64:51-4 Ap '58

Distilling titanium and beryllium, *Ind & Eng Chem* 49:sup27A-8A D '57

Metallurgy of beryllium, I. E. Newnham, *bibliog il diag Research* 11:185-91 My '58

BERYLLIUM oxide

Beryllium and beryllia; abstract, L. David, *Metal Prog* 73:192+ Je '58

Characterization of sinterable oxide powders; BeO, J. F. Quirk and others, *il Am Cer Soc J* 40:416-19 D 1 '57

BERYLLIUM poisoning

Beryllium and berylliosis, J. Schubert, *il Sci Am* 199:27-33 Ag '58

Beryllium in industry; some medical implications, E. E. Lieber, *bibliog Chem & Ind* p508-9 My '58

Health hazards of beryllium can be controlled, *il Safety Maint* 116:32-6 J1 '58

Working with beryllium, *bibliog il Light Metal Age* 16:8-9 Ag '58

BESEL functions

Evaluation of integrals involving combinations of Bessel functions and circular functions; electrical surveying of oil wells, L. de Witte and K. P. Fournier, *diag Assn for Computing Mach J* 5:119-26 Ap '58

Random notes on matrices, K. Goldberg, *J Res Nat Bur Stand* 60:321-5 Ap '58

Table of first 700 zeros of Bessel functions, $J_n(x)$ and $J'_n(x)$, C. L. Beattie, *bibliog Bell System Tech J* 37:689-97 My '58

BESSEMER process

Early industrial production of Bessemer steel at Edsken, P. Carlberg, il pl diags Iron & Steel Inst J 189:201-4 J1 '58
Production of Bessemer steel; patent. Iron & Steel Eng 35:22+ Ja '58

BEST, Alfred M.

Tribute. Safety Maint 115:6 Je '58

BEST foods, inc.

Best, Corn Products merge under one name; Corn products co. Chem & Eng N 36:22 O 13 '58

BETA alloy. See Titanium alloys

BETA rays

Amateur scientist; high-school students constructed a beta-ray spectrometer. diags Sci Am 199:197-8+ S '58

Automatic quartz-fibre electrometer recording of β -activity. M. C. B. Russell and J. Leng. bibliog diags J Sci Instr 35:134-8 Ap '58

Average energy of sulfur-35 beta decay. H. H. Seliger and others. bibliog J Res Nat Bur Stand 60:447-50 My '58

Beta-excited X-ray sources for scintillation-spectrometry calibration. J. G. Kereakes and others. bibliog Nucleonics 16:80-2 Ja '58

Industrial applications

Atomic instrumentation at Delco-Remy battery plant. il diags Automotive Ind 117:63-9+ N 1 '57

Beta-ray gauge for measurement of galvanising thickness. G. B. Wills. il Engineer 204:901-2 D 20 '57

How to use beta ray sources safely. R. S. Rochlin. il Mag of Stand 29:196-7 J1 '58

Interaction of beta particles with matter. R. E. Müller. bibliog il diags Ind & Eng Chem 60:205-9 F '58

Strip mill with automatic gauge control; D. F. Taylor and co. il Engineer 204:860-2 D 13 '57

Thickness of lead deposits; measurement by means of beta rays. G. Gabrielson and K. Ljunggren. diag Metal Finishing 56:52-3 F '58

Use of radiation gages in plastics extrusion. G. I. Doering. il diag Plastics Tech 4:344-7+ Ap '58

Measurement

Low-level beta counting. diags Nucleonics 16: 83 S '58

BETAINE

Biosynthesis of choline and betaine. J. A. Stekol. diags Am J Clinical Nutrition 6: 200-14 bibliog(p212-14); Discussion. 214-15 My '58

BETATRON

Industry sends work to doctors; clinic treats patients by day, industrial work is checked by night. il Steel 141:116 N 11 '57

X-ray unit penetrates 20-in. castings fast. il Iron Age 180:150 N 7 '57

BEVELLING machines. See Cutting machines

BEVERAGES

For beverage clarity. PVP. Food Eng 30: 104-5 Je '58

See also

Beer

Fruit juices

Wine

BEWLEY, L. V.

Electrical engineer in education. por Elec Eng 77:185 F '58

BIAZIRIDINE. See Aziridine

BIBLE

See also

Dead Sea scrolls

BICARBONATES. See Carbonates

BICYCLOHEPTADIENE

Bridged polycyclic compounds; the addition of p -thiocresol to norbornadiene; the question of non-classical free radicals. S. J. Cristol and others. bibliog Am Chem Soc J 80:635-40 F 5 '58

Isomerization of bicyclo(2.2.1)-2,5-heptadiene to cycloheptatriene. W. M. Halper and others. bibliog diag Ind & Eng Chem 50: 1131-4 Ag '58

BICYCLOHEPTANONE

Dehydrohalogenation products of hexahydro-terephthaloyl chloride; a bifunctional ketene and a bicyclo[2.2.1]-heptan-7-one derivative. W. R. Hatchard and A. K. Schneider. bibliog Am Chem Soc J 79:6261-3 D 5 '57

BICYCLOHEPTENE

Acid-catalyzed rearrangement of *exo-cis*-norbornene glycol. J. G. Traynham. Chem & Ind p 1142 Ag 30 '58

Bridged polycyclic compounds; the stereochemistry of the free radical addition of p -thiocresol to a bicyclo[2.2.1]heptene and a bicyclo[2.2.2]octene. S. J. Cristol and R. P. Arganbright. bibliog Am Chem Soc J 79:6039-41 N 20 '57

Relative stability of bridged hydrocarbons; norbornene and norbornylene. P. V. Schleyer. bibliog Am Chem Soc J 80:1700-4 Ap 5 '58

Stereoelectronic factors in the addition of sulfonyl halides to norbornene. H. Kwart and others. bibliog diags Am Chem Soc J 80:887-93 F 20 '58

Synthesis and rearrangement of some benzonorbornenes. J. Meinwald and G. A. Wiley. bibliog Am Chem Soc J 80:3667-71 J1 20 '58

BICYCLOOCTANE

Bicyclo(3.3.0)octane derivatives. S. Tanaka. bibliog Am Chem Soc J 80:5264-6 O 5 '58

BICYCLOOCTANOL

Proximity effects; stereochemistry of the *cis*-bicyclo(3.3.0)octan-2-ols. A. C. Cope and others. Am Chem Soc J 80:2852-5 Je 5 '58

BICYCLOOCTENE

Bridged polycyclic compounds; the stereochemistry of the free radical addition of p -thiocresol to a bicyclo[2.2.1]heptene and a bicyclo[2.2.2]octene. S. J. Cristol and R. P. Arganbright. bibliog Am Chem Soc J 79:6039-41 N 20 '57

BIGEISEN, Jacob

J. Bigelsen received American chemical society award for nuclear applications in chemistry. por Chem & Eng N 36:54 Ap 28 '58

BIGELOW, Lucius A.

L. A. Bigelow, Herty medalist. por Chem & Eng N 36:90 Je 2 '58

BIKITAITE

Additional data on bikitaite. C. S. Hurlbut, jr. il diag Am Mineralogist 43:768-70 J1 '58

BILE acids

Corticosteroids from bile acids; Uclaf ltd. il Manuf Chem 29:97-102 Mr '58

Gelation of bile salt solutions. H. Sobotka and N. Czerwiczka. J Colloid Sci 13:188-91 Ap '58

Serofoculating steroids; reduction of the bile acid side chain. R. T. Blickenstaff and F. C. Chang. bibliog Am Chem Soc J 80:2726-30 Je 5 '58

Analysis

High frequency technique for continuous recording in chromatographic analysis of bile acids. G. Johansson and others. bibliog diag Anal Chem 30:1397-400 Ag '58

BILL changers. See Money changing machines

BILLBOARDS

Billboard control; rules proposed for states that want to get extra aid. Eng N 161:30+ S 4 '58

BILLET, Félix

Sketch. E. S. Barr. Am J Phys 26:109 F '58

BILLING

Advantages of monthly billing for water utilities. A. V. A'neuw. Am Water Works Assn J 49:1103-6 Ag '57; Same. Water & Sewage Works 105:R20-1 S 15 '58

Automatic accounting slashes water billing time. C. Emans. il Pub Works 88:91-2 N '57

Automatic digital system bills telephone calls. R. C. P. Hinton. il diags Electronics 31:96-9, cover F 14 '58

Automatic number identification and its application to no. one crossbar panel and step-by-step offices. D. H. Pennoyer. il diags Bell System Tech J 37:1295-318 S '58

Budget billing; Central electric & gas co., Lincoln, Neb. R. Smith. il Gas 34:107-8+ O '58

Concept of automatic number identification; direct-distance customer dialing and automatic billing. A. E. Vialto. il diag Bell Lab Rec 36:153-6 My '58

Estimating unmetered heat customers' bills. E. G. Poole. Elec World 149:131 Ap 7 '58

How a city cut water billing costs. P. Hirsch. il Pub Works 88:103-4 D '57

Mechanized utility accounting brings simpler, more accurate results. E. B. Talcott. il Pub Works 89:116-17 Je '58

Therm billing becomes routine with punched card system. C. V. Griffith. il Gas 34:66+ F '58

Water works billing department. F. G. Ince. il Water & Sewage Works 105:273 J1 '58

BILLINGS, John Harland

Sketch. Mech Eng 80:146 Je '58

BINAPHTHYL. See Dinaphthyl

BINAURAL sound recording. See Sound—Stereo-phonographic recording and reproducing

BINDING materials

Progress report on the use of a new low odor latex as the sole binder for boxboard coatings. R. L. Hagerman and others. *il Tappi* 41:sup217A-23A Ag '58

Sodium-silicate bonded shell molds. P. J. Ahearn and G. L. Gartner. *il diag Foundry* 86:98-101 F '58

See also

Abrasives
Adhesives
Cements

Pitch
Resinous products—Binding materials

BINDSCHEDLER green

Nature of Bindschedler's green; preparation for analysis of hydrazo compounds. H. J. Shine and others. *bibliog Anal Chem* 30: 383-4 Mr '58

BINGHAMTON, New York

Sanitary affairs

Binghamton's incinerator after one year. L. S. Wegman. *il map plan diag Civil Eng* 28:413-17 Je '58

Municipal incinerator trends. R. F. Sternitzke. *il Pub Works* 89:112-14 S '58

BINS

Bin-on-scale speeds sugar check; Driscoll strawberry associates. O. C. Goodbrod. *il diag Food Eng* 30:94+ Mr '58

Flow of coal in bins. F. D. Cooper and J. R. Garvey. *bibliog il diags Combustion* 29:45-9 N '57; Discussion. F. Rogers. 29:6J Ja '58

Industrial know-how handbook: bins and racks. *il Mill & Factory* 62:MH27 My '58

1958 equipment buyer's guide; containers, racks and storage equipment. *il Mod Materials Handling* 13:279-306 My '58

Plug unplugs flow from bins; new hopper for bins. *diags Chem Eng* 65:78+ Ap '58

Sealed units aid processing of powdered products. *il Iron Age* 182:88-9 Ag 14 '58

Lighting

Unique support for storage bin lighting. *il diags Elec Constr & Maint* 57:102+ Je '58

BINS, Aluminum

Bulk materials handling. *il Engineer* 206:503 S 26 '58

BIOASSAY. See Biological assay**BIOCHEMICAL oxygen demand. See Sewage—Testing; Trade waste—Testing****BIOCHEMICAL research**

Direct ultramicrospectrography. T. O. Casperson. *Franklin Inst J* 265:432-3 My '58

BIOCHEMISTRY

Biochemistry of nitrogen in the synthesis of activated sludge. J. M. Symons and R. E. McKinney. *diags Sewage & Ind Wastes* 30: 874-90 Jl '58

Biochemistry of sprucewood decay; abstract. O. Gadd. *il Paper Ind* 99:940 F '58

Biochemistry of the sphingolipids; phyto-glycolipide, a complex phytosphingosine-containing lipid from plant seeds. H. E. Carter and others. *bibliog Am Oil Chem Soc J* 35:335-43 Jl '58

Biological control of chemical factors in the environment. A. C. Redfield. *bibliog map diag Am Scientist* 46:204-21 S '58

Chemical anthropology, an open door. R. J. Williams. *bibliog* (53 ref) *diags Am Scientist* 46:1-23 Mr '58

Fast and sensitive magnetic susceptometer for the study of rapid biochemical reactions. A. S. Brill and others. *bibliog diags R Sci Instr* 29:383-91 My '58

Universal molecule of living matter. M. D. Kamen. *diags Sci Am* 199:77-8+ Ag '58

See also

Antigens and anti-bodies
Bacteriology
Blood
Enzymes
Fermentation
Fungicides
Hemoglobin
Immunity
Microorganisms
Nucleoproteins
Porphyrins
Proteins
Urine

BIOHERMS. See Coral reefs and islands**BIOLOGICAL apparatus**

Nonmagnetic, vibrationless, constant delivery pump for biological solutions. A. S. Brill and others. *diags R Sci Instr* 29:242-3 Mr '58

See also

Bacteriological apparatus
Electrocardiograph

BIOLOGICAL assay

Bioassay of vitamin E by the dialuric acid hemolysis method. L. Friedman and others. *bibliog J Nutrition* 65:143-60 My '58

Development of methods for using bioassays in the control of pulp mill waste disposal. C. E. Warren and P. Doudoroff. *bibliog Tappi* 41:sup211A-16A Ag '58

Properties of the toxic factor in trichloroethylene-extracted soybean oil meal. T. A. Seto and others. *bibliog J Agri & Food Chem* 6:49-54 Ja '58

Review of fundamental developments in analysis; microbiological assays. S. H. Hutter and others. *Anal Chem* 30:849-67 *bibliog* (p864-7) pt 2 Ap '58

Utility of bioassay in the determination of pesticide residues. J. E. Dewey. *J Agri & Food Chem* 6:274-81 *bibliog* (100 ref, p279-81) Ap '58

BIOLOGICAL chemistry. See Biochemistry**BIOLOGICAL materials**

Drying viable biological materials by solvent extraction and azeotropic distillation. R. R. Freeman and others. *flow diags Chem Eng Prog* 53:590-2 D '57

See also

Urine
Analysis

Analysis of biological materials for boron. W. H. Hill and others. *bibliog diags A M A Archives Ind Health* 17:210-17 Mr '58

Determination of zinc and separation from ashed biological material. J. A. Stewart and J. C. Bartlett. *bibliog Anal Chem* 30: 404-9 Mr '58

BIOLOGICAL methods

See also

Tissues—Culture and culture mediums

BIOLOGICAL physics. See Biophysics**BIOLOGICAL pigments. See Pigments, Biological****BIOLOGICAL research**

Biological research, new frontier; Hazleton laboratories, inc. *il Anal Chem* 29:sup57A-9A D '57

Freezing and drying; Institute of biology's 2d international symposium. *Chem & Ind* 1997-8 Ag 9 '58

Radiation works for man; biological studies use a new tool. *il Gen Elec R* 61:24-5 Jl '58

See also

Biochemical research

BIOLOGY

Innovation in biology. G. Wald. *il diag Sci Am* 199:100-2+ S '58

See also

Biological research
Cell division (biology)
Ecology
Electrophysiology
Environment
Genetics
Growth
Marine biology
Regeneration (biology)
Sex

BIOPHYSICS

Biotechnical problem of the human body as a heat exchanger. L. P. Herrington. *A S M E Trans* 80:343-6 F '58

See also

Physics, Medical

BIOSTATIC agents. See Microorganisms**BIOSTRATIGRAPHY. See Geology, Stratigraphic****BIOSYNTHESIS. See Synthesis****BIOTIN**

Incorporation of acetate-C¹⁴ into liver and carcass lipids and cholesterol in biotin-deficient rats. M. R. Gram and R. Okey. *bibliog J Nutrition* 64:217-23 F '58

Role of biotin in carbamylation reactions. J. M. Ravel and others. *Am Chem Soc J* 80: 2344 My 5 '58

BIOTITE

Alteration of biotite under mesothermal conditions. G. M. Schwartz. *bibliog il Econ Geol* 53:164-77 Mr '58

Chlorine-rich biotite from Lemhi county, Idaho. D. E. Lee. *bibliog Am Mineralogist* 43:107-11 Ja '58

Effects and geologic significance of potassium fixation by expandable clay minerals derived from muscovite, biotite, chlorite, and volcanic material. C. E. Weaver. *Am Mineralogist* 43:839-61 *bibliog* (p859-61) S '58

Muscovite, biotite, and quartz fabric re-orientation. C. B. Crampton. *bibliog diags J Geol* 66:28-34 Ja '58

BIPHENYL. See Diphenyl

BIPYRIDINE

Synthesis of some 4,4'-disubstituted 2,2'-bipyridines. G. Maerker and F. H. Case, bibliog *Am Chem Soc J* 80:2745-8 Je 5 '58

BI-RADICALS. See Radicals (chemistry)**BIRCH**

Birchwood and birch pulp extractives; abstract. S. K. Kahila and A. Y. E. Rinne. *Paper Ind* 40:122 My '58

Polysaccharides of white birch (*Betula papyrifera*); determination of composition and identification of 2-O-(4-O-methyl-D-glucopyranosyluronic acid)-D-xylopyranose. C. P. J. Glaudemans and T. E. Timell, bibliog *Am Chem Soc J* 80:941-3 F 20 '58

Polysaccharides of white birch (*Betula papyrifera*); the constitution of the hemicellulose. C. P. J. Glaudemans and T. E. Timell, bibliog *Am Chem Soc J* 80:1209-13 Mr 5 '58

Volatile fraction of white birch soda lignin. I. Sobolev and C. Schuerch, bibliog *Tappi* 41:447-52 Ag '58

BIRDS

See also
Penguins

Diseases and pests

Amateur scientist; story of Robert Stroud, who studied birds while in solitary confinement. C. L. Stong, *Sci Am* 197:143-4 D '57

See also
Psittacosis

Migration

Celestial navigation by birds. E. G. F. Sauer, maps diags *Sci Am* 199:42-7 Ag '58

BIREFRINGENCE. See Refraction, Double**BISMUTH**

Bismuth, 1957. A. Renick, *Eng & Min J* 159: 139 F '58

Temperature-regulated bismuth resistor for magnetic-field measurements. C. G. Dols and others, bibliog *il diags R Sci Instr* 29: 349-54 My '58

Analysis

Gravimetric determination of bismuth using hypophosphorous acid. D. R. Bomberger, *Anal Chem* 30:1321-2 Ag '58

BISMUTH, Molten

Corrosion of 2% per cent Cr-1 per cent Mo steels by liquid bismuth. G. W. Horsley and J. T. Maskrey, bibliog *il diags Iron & Steel Inst J* 189:139-48 Je '58

Determination of the solubilities of beryllium and molybdenum in liquid bismuth. G. W. Horsley and J. T. Maskrey, *diag Inst Metals J* 86:401-2 Ap '58

Shard size and growth of some intermetallic compounds in liquid bismuth. P. J. Barton and G. W. Greenwood, bibliog *il diags Inst Metals J* 86:504-9 Jl '58

Use of molecular sieves to maintain clean surfaces on liquid sodium and liquid bismuth. C. C. Addison and others, *Chem & Ind* p86 Ja 25 '58

BISMUTH alloys

Bismuth recovery at Oroya; abstract. W. C. Smith and P. J. Hickey, *Metal Prog* 73:188 Ap '58

Some observations of the corrosion of UBe₂ and CeBe₃ dispersed in bismuth and of UPb₃ in lead. P. J. Barton and G. W. Greenwood, *Chem & Ind* p830-1 Je 28 '58

BISMUTH chlorides

Bismuth(I) chloride, J. D. Corbett, bibliog *Am Chem Soc J* 80:4757-60 S 20 '58

BISMUTH compounds

Growth of MnBi crystals and evidence for subgrains from domain patterns. W. C. Ellis and others, bibliog *il diags J Ap Phys* 29:534-6 Mr '58

Motion pictures of magnetic writing on thin films of MnBi. H. J. Williams and R. C. Sherwood, *il J Ap Phys* 29:296 Mr '58

Recrystallization of MnBi induced by a magnetic field; abstract. O. L. Boothby and others, *J Ap Phys* 29:353 Mr '58

BISMUTOFERRITE

Bismutoferrite, chapmanite, and hypochlorite, C. Milton and others, bibliog *il Am Mineralogist* 43:656-70 Jl '58

BISNORIRIDODIAL

Synthesis of 1,5-dials including bis-noriridodial. G. W. K. Cavill and others, bibliog *Chem & Ind* p292 Mr 8 '58

BISULFITES. See Sulfites**BISURETHANS**. See Urethans**BITS**

Big bit drills mine shaft, *il Oil & Gas J* 56:73 S 8 '58

Big eye bit successful in soft formations. E. McGhee, *il diag Oil & Gas J* 56:131+ Jl 7 '58

Comparison; turbodrill and conventional bit. E. L. Lomax, *il Oil & Gas J* 56:133+ Mr 3 '58

Did we bury the drag bit too soon? E. McGhee, *il Oil & Gas J* 55:125-6 D 16 '57

Drilling bits. L. Payne, *Pet Eng* 30:B49-50 Mr '58

Evaluation of carbide insert bits. J. W. Clemens, *il Min Cong J* 44:79-81; Discussion, 82-3 Je '58

Grinding of drill bits to be mostly electrolytic. *Product Eng* 29:18 Je 2 '58

Mud additive extends life of drill bit, *il Oil & Gas J* 56:94 F 24 '58

New bit designs contribute to lower-cost coal cutting. J. C. Leighton, *diags Coal Age* 63: 108-10 My '58

Prices trimmed on bits, mud. *Oil & Gas J* 56:90-1 My 12 '58

Stools and tool bits modified with boron. *Product Eng* 28:B 15-17 Mid-O '57

BITUMEN

Bituminous and other organic substances in Pre-Cambrian of Minnesota. F. M. Swain and others, bibliog map diags *Am Assn Pet Geologists Bul* 42:173-89 Ja '58

BITUMINOUS coal research, inc.

Annual meeting and Techno-sales conference, Pittsburgh, April 23-24; abstracts of papers. *Coal Age* 63:118-20 Je '58

BITUMINOUS concrete association, National. See National bituminous concrete association**BITUMINOUS concrete curbs**. See Curbs, Bituminous concrete**BITUMINOUS concrete pavements**. See Pavements, Bituminous concrete**BITUMINOUS concrete roads**. See Roads, Bituminous concrete**BITUMINOUS materials**

Are asphalt producers ready? S. W. Downer, 3d, *Pet Eng* 30:C50+ Je '58

Changes in the properties of an asphalt during the blowing operation. L. R. Kleinschmidt and H. R. Snoko, *J Res Nat Bur Stand* 60:169-72 Mr '58

Dust control by the use of salt, calcium chloride and bituminous materials. J. W. Hutchinson, *il Pub Works* 38:112-14 D '57

1957 topicals all records; 12th annual report survey; refiners plan for asphalt market. E. Adams, *il Pet Eng* 30:A24 My '58

Spectral absorption of asphaltic materials. H. E. Schweyer, bibliog *Anal Chem* 30:205-9 F '58

Stabilization of sand with asphaltic materials. J. C. Duff, *il Pub Works* 39:125-6 S '58

See also

Asphalt**Asphalt coating****Gilsonite****Mastics (asphalt composition, etc.)****Roads—Foundations—Bituminous materials****Roofing, Bituminous****Tar****Testing**

Use of mechanical tests in the design of bituminous road surfacing mixtures; stability tests on rolled asphalt. D. C. Broome and A. Please, bibliog diags *J Ap Chem* 8:121-35 F '58

Transportation

92-mile haul for plant mix, *Roads & Sts* 101: 192 Ap '58

BITUMINOUS pavements. See Pavements, Bituminous**BITUMINOUS roads**. See Roads, Bituminous**BITUMINOUS sand**

Exploitation of the Athabasca tar-sands. T. Gaskell, *Ind Chem* 34:76-8 F '58

BIURET

Formation of biuret from urea. C. E. Redemann and others, bibliog *Ind & Eng Chem* 50:633-6 Ap '58

BIZMAC system. See Electronic data processing**BLACK, Harold S.**

Black, Kelly praises achievements of H. S. Black, 1957 Lamme medalist, *por Bell Lab Rec* 36:298 Ag '58

H. S. Black, 1957 Lamme medalist presentation and acceptance, *por Elec Eng* 77:720-3 Ag '58

Lamme gold medal awarded to H. S. Black, *Bell Lab Rec* 36:266 Jl '58

BLACK body

Design and construction of a blackbody and its use in the calibration of a grating spectroradiometer. G. T. Lalos and others, *bibliog* *il* *diags* *R Sci Instr* 29:505-9 *Je* '58

BLACK HILLS

Stratigraphy of some lower cretaceous rocks of Black Hills area. H. Skolnick, *bibliog* *il* *map* *Am Assn Pet Geologists Bul* 42:787-815 *Ap* '58

BLACK liquor. See Paper and pulp mills—Waste

BLACK shale. See Shale

BLACK widow control system. See Photometers, Photoelectric

BLACKBOARDS

Plaster chalkboards. H. J. Rosen, *diag Prog Arch* 39:151 *F* '58

Roller coating panels for toy blackboards. J. Hyier, *il* *Ind Finishing* 34:36 *Je* '58

BLANCHING

Hot wind blanching, a preliminary statement. T. S. Panx, *Food Tech* 12:315-16 *Je* '58

This continuous vac-blanching setup improves color, flavor of vegetables. *diag Food Eng* 30:107 *JI* '58

BLANKETS

How Springfield Woolen Mills finishes its fabrics. *il* *Textile World* 108:104-5 *Ja* '58

How to finish orlon blankets. K. D. Houser and L. Bidgood, jr. *diag Mod Textiles Mag* 38:50+ *N* '57

Manufacture

Picture tour of Huyck's new felt mill. *il* *Textile World* 107:108-11 *D* '57

BLASDELL, New York**Sewerage**

Three-year summary of operation, sewage treatment plant. S. J. Pieczonka, *Sewage & Ind Wastes* 30:237-9 *R* '58

BLAST cleaning. See Grit blasting; Metal cleaning; Shot blasting

BLAST furnace stoves

Automatic stove changing for blast furnaces. A. J. Karsten, *il* *diags Instruments & Automation* 31:273-5 *F* '58

Century of Cowper stoves. D. Petit, *diags Iron & Steel Inst J* 185:501-9 *Ap* '57; Discussion. *il* 187:216-18 *N* '57

BLAST furnaces

Distributing raw materials in blast furnaces. H. W. Campbell, *diags Iron & Steel Eng* 35:116-24 *Ap* '58

Experience with sinter burden in Swedish blast-furnaces. U. Notini, *Iron & Steel Inst J* 189:322-6 *Ag* '58

Four iron ore agglomerating techniques; shaft furnace; pelletizing taconite concentrates. F. D. DeVaney, *diags Min Eng* 10:361-4 *Mr* '58

Furnace is quickfrozen; experimental blast furnace is stopped at mid-cycle. *il* *Steel* 142:106 *Je* 16 '58

Getting more iron from blast furnaces; National steel corp.'s program. *Steel* 141:164+ *D* 9 '57

Liquidus and high-temperature properties of blast-furnace slags. B. G. Baldwin, *bibliog* *il* *diags Iron & Steel Inst J* 186:388-95 *Ag* '57; Discussion. 188:360-4 *Ap* '58

Low-shaft blast furnace holds new promise at the Klockner Mannesmann-werke GmbH. F. W. Starratt, *diags J Metals* 9:1432-4 *N* '57; Abstract. *Metal Prog* 74:180+ *Ag* '58

Modern attacks on iron ores. C. F. Hoffman, *il* *Metal Prog* 74:67-70 *S* '58

Programme-controlled reduction test for blast-furnace burdens. R. Linder, *bibliog* *il* *diags Iron & Steel Inst J* 189:233-43 *JI* '58

Recovering iron values from blast furnace dust; patent. *diag Iron & Steel Eng* 35:22+ *Mr* '58

Scientists examine blast furnace operation. *il* *Iron & Steel Eng* 35:144-5 *Je* '58

Screening blast-furnace burden materials. H. N. Wilkinson and E. E. Farmer, *bibliog* *il* *diags Iron & Steel Inst J* 190:55-71 *S* '58

Studies of the permeability of blast-furnace burden materials. J. M. Ridgion, *Iron & Steel Inst J* 188:317-20 *Ap* '58

Study of the tuyere combustion zone. J. Taylor and others, *bibliog* *diags Iron & Steel Inst J* 187:330-41 *D* '57

Survey of modern blast-furnace techniques. T. P. Colclough, *Iron & Steel Inst J* 189:113-24 *Je* '58

See also

Cupola furnaces
Iron metallurgy

Air supply

Blower skirts steam; Republic Steel will install topping turbine for blast furnace blowing. *Steel* 141:188 *N* 18 '57

Gas turbines for blast furnace blowing. G. H. Krapf and J. O. Stephens, *flow diag* *il* *diags Iron & Steel Eng* 35:142-9 *S* '58

Humidified blast furnace operation. R. J. Wilson, *J Metals* 10:268-71 *Ap* '58

Instrumentation for large turbo-blower; Scunthorpe works of the Appleby-Frodingham steel co. *il* *Metalurgia* 57:97-8 *F* '58

Split wind blowing increases furnace production. *il* *Iron & Steel Eng* 35:174+ *F* '58

See also

Blast furnace stoves

Charging

Apparatus for charging a blast furnace; patent. *diag Iron & Steel Eng* 35:22 *Ja* '58

Automatic charging control for no. three Fairless blast furnace. S. P. Curtis and others, *il* *plan diag Iron & Steel Eng* 35:73-84; Discussion. 84 *JI* '58

Control

Blast furnace instrumentation. D. W. Gillings, *bibliog* *il* *diag Instruments & Automation* 31:256-9 *F* '58

Computer guides blast furnace. *Iron Age* 182:70 *JI* 31 '58

Controls increase quality, output. *Iron Age* 182:194-6 *S* 11 '58

Instrumentation of Patricia blast furnace no. three Fairless works. W. E. Williams, *il* *diags I S A J* 5:94-8 *S* '58

Equipment

See also

Blowers

Lining

Blast furnace interiors inspected photographically; Colorado fuel & iron corp. *F. M. Genty, il* *Ind Phot* 7:22-3+ *My* '58

Camera checks furnace linings; Colorado fuel & iron corp. *il* *Steel* 142:74 *Je* 2 '58

Camera shows inside of blast furnace. *il* *Iron & Steel Eng* 35:132+ *Ap* '58

How to see inside a blast furnace; photographing stock line armor. *il* *Iron Age* 181:79 *Mr* 6 '58

Proposal for a self-lining blast-furnace. W. A. Archibald and others, *il* *diags Iron & Steel Inst J* 187:32-45 *S* '57; Discussion. 188:364-70 *Ap* '58; Engineer 204:524-6 *O* 11 '57

Lubrication

Lithium-based grease reduces blast furnace lubrication costs. *il* *Iron & Steel Eng* 34:162+ *O* '57

Maintenance and repair

Recent innovations in blast furnace maintenance and rebuilding. L. Torok, *il* *Iron & Steel Eng* 35:173-5 *S* '58

Techniques in rebuilding a blast furnace. C. F. Bessent, *il* *diags Iron & Steel Eng* 35:82-9; Discussion. 94-5 *F* '58

BLASTING

A-bomb might become super-excavator. *Eng N* 160:31-2 *Mr* 6 '58

At Berkeley pit, blasting is an art. J. B. Huttli, *il* *diags Eng & Min J* 158:107-10 *D* '57

Blast damage claims going up? here's what you can do to cut them down to size. S. Hammon, *il* *Rock Prod* 61:94-5+ *Mr* '58

Blasting with ammonium nitrate. D. Tikker, *il* *Min Cong J* 44:60-2 *JI* 58

Blasting with fertilizers build a pipeline in rough country. *il* *Oil & Gas J* 56:78-9 *Ja* 20 '58

Boning up on blasting. *diags Eng & Min J* 159:102-9 *Mid-Je* '58

Controlled vibration in blasting at close quarters; modernization of power plant of New York city transit system. R. Samuels, *il* *plans Civil Eng* 28:3-5 *Ja* '58

Demolition by dynamite. *il* *Arch Forum* 108:136-7 *Ap* '58

Design of explosives. G. R. Phare and J. F. C. Dixon, *bibliog* *il* *diags Can Min & Met Bul* 61:536-45 *S* '58

Hanna ammonium nitrate blasting system. J. Hyslop, *il* *Min Cong J* 44:39-41 *Ag* '58

Here's how we do it; ammonium nitrate for use in blasting at the Utah Copper pit of Kennecott copper corp. L. E. Snow, *il* *diag Min Cong J* 44:62-4 *JI* '58

Initial wave phenomena in a weak spherical blast. R. G. Campbell, *bibliog* *il* *J Ap Phys* 29:55-60 *Ja* '58

Jet flame sinks fast blast holes. *il* *Eng N* 159:88 *N* 14 '57

BLASTING—Continued

- Mine blasting with a countdown? Atomic energy commission Rainier project. *Min Eng* 10:441 Ap '58
- Pittsburgh building razed in ten seconds; illustrations with text. *Eng N* 161:29 Jl 10 '58
- Simulating nuclear blast effects. J. R. Bannan, Jr. and W. E. Baker. *il Nucleonics* 16:74-7; Discussion. 78; Reply. 79 Mr '58
- Stornorriffs; milestone in rock excavation history. T. Goransson. *il map diags Eng N* 160:38-40+, cover Ja 30 '58
- Tractor-mounted drills the answer on 700,000 yard cliff; hill being blasted away. on New Mexico's U.S. 85 interstate relocation. *il Roads & Ss* 100:56-61 N '57
- Truck houses blast instruments. *il Eng N* 160:64 F 20 '58
- Tunneling with rotary drills and millisecond delay blasting; Chicago Central district filtration plant. R. Eliasogame and W. R. Law. *il diags Civil Eng* 28:184-7 Mr '58
- Use of fertilizer for blasting purposes. *Roads & Ss* 101:38 Mr '58

See also

Coal mines and mining—Blasting
Explosives
Petroleum—Well blasting
Quarries and quarrying

Accidents

- Blasting cap accidents need operating room technique; abstract. N. G. Long. *Roads & Ss* 101:62 Ap '58
- Claims and litigation resulting from spread blasting and compressor station operation. S. Hammon. *Gas* 34:128-30 Ap '58

Costs

- Blasting cost control manual; Atlas powder co.; abstract. *Pub Works* 89:200+ S '58

BLASTING, Subaqueous

- Channel blasting at Amherstburg. R. J. Nemmers. *il maps Comp Air Mag* 63:10-15 Mr '58
- Deepening the Welland canal. J. P. Smallwood. *il Comp Air Mag* 62:328-34 N '57
- End of Ripple rock. *il diag Eng J* 41:96 My '58
- Mining methods used in huge Ripple Rock blast. *Eng & Min J* 159:158+ My '58
- New blasting technique. *Eng J* 41:112 My '58
- On-shore drilling for blasting of underwater shoals; Thousand Islands channel improvement project. J. L. Romig. *il diag Civil Eng* 27:796-7 N '57
- Ripple rock, hazard to navigation, destroyed. *diag Civil Eng* 28:385 My '58
- Ripple rock is pioneer underwater shot. *il Eng N* 160:26-7 Ap 17 '58
- Underwater blasts curtailed, cushioned on Welland canal in Ontario. *Eng N* 160:60 Ap 24 '58

BLEACHERIES**Control equipment**

- We automated our bleachery; Russell manufacturing co. W. O. Bozeman, jr. *il Textile Ind* 122:143-4 Je '58

Equipment

- Turbostat high-temperature dyeing and bleaching machine. *il Am Dyestuff Rep* 46: 849 N 4 '57

Maintenance and repair

- PVC used to rebuild peroxide-bleaching bowls; Bollman carbonizing co. *il Textile World* 108:100 Je '58

Waste

- Design and operation of a complete mixing activated sludge system. R. E. McKinney and others. *Trans Sewage & Ind Wastes* 30:287-95 Mr '58

BLEACHING

- Fact file; chemical treatment. *Textile World* 108:41-6 Mid-Jl '58

- Joanna modernizes bleaching and coating methods. *il Textile World* 108:72-3 Ag '58

- Some aspects of bleaching with hydrogen peroxide and with peracetic acid. L. Chesner and G. C. Woodford. *bibliog Soc Dyers & Col J* 74:531-41 Jl '58; Discussion. 74:541-2, 860 Jl '58

See also

Dyeing oils—Bleaching
Dyes and dyeing
Oils and fats—Bleaching
Paper making—Bleaching

Cotton

- Bleaching of cotton goods; solvent treatment followed by desizing and bleaching; patent. *Am Dyestuff Rep* 47:500-1 Ja 27 '58
- Combine chlorine and peroxide for better cotton bleaching. *Textile World* 108:69 Ag '58
- Cut your bleaching costs. H. G. Smolens. *il Textile Ind* 122:98-9 Mr; 78-80 S '58
- Effect of iron and copper contaminants on cotton degradation in peroxide bleaching. *bibliog Am Dyestuff Rep* 47:79-83 F 10 '58
- Effects of metal contaminants on peroxide-bleached cotton; abstract. *Textile World* 108:115 Ja '58
- How Robinson prepares fabrics. *il Textile Ind* 122:124-6 Ap '58
- Solvay activated hydrogen peroxide bleaching process. W. R. Steele and S. M. Rogers. *Am Dyestuff Rep* 46:965-7 D 16 '57; Excerpts. *Textile Ind* 122:105-6 Ja '58; Abstract. *Textile World* 108:139 F '58
- Two-stage bleaching gives Startex good results; carded-yarn toweling. *il Textile World* 108:128-9 Mr '58

Hair (animal)

- Bleaching upgrades animal hair. *il Textile World* 107:136-7 D '57

Orlon

- Improved Orlon-bleaching routine. *Textile World* 107:166 D '57

Orlon—cotton

- How to bleach Orlon-cotton knit fabrics. *Textile Ind* 122:147 S '58

Rayon-cotton

- Bleaching and mercerizing cotton-rayon 80 x 80 cloth. T. R. Scott, jr. *bibliog Mod Textiles Mag* 39:75-9+ Je '58

Wool

- Evaluation of formaldehyde pretreatment for wool bleaching. J. E. Moore and R. A. O'Connell. *bibliog Textile Res J* 28:687-90 Ag '58

BLEACHING materials

- Optical bleaches in soaps and detergents. F. G. Villaume. *bibliog diag Am Oil Chem Soc J* 35:1558-66 O '58
- Preparation or regeneration of a silver bleach solution by oxidizing ferrocyanide with persulfate. B. A. Hutchins and L. E. West. *SMPTTE J* 66:764-8 D '57
- Soap plant observer; bleaches in the detergent industry. J. W. McCutcheon. *Soap & Chem Spec* 33:153+ N '57

See also

Chlorine
Hydrogen peroxide

BLEININGER award

- Alexander Silverman receives award. *Glass Ind* 39:210-11 Ap '58
- Bleininger award to Silverman. *il Am Cer Soc Bul* 37:250 My 15 '58

BLIND, Apparatus for

- Using electronics to help blind. J. C. Button, jr. *diags Electronics* 30:24 D 1 '57

BLINDS, Glass

- Control of daylighting, with reflecting жалюзи. T. Carson. *il diags Illum Eng* 63: 337-40 Je '58

BLOCH equations. See Differential equations**BLOOD**

- Effect of altitude and diet on hematopoiesis and serum cholesterol. I. R. Payne. *bibliog J Nutrition* 64:433-46 Mr '58
- Effect of edathamil calcium-disodium on the lead content of red blood cells and blood proteins. J. Teisinger and others. *bibliog il A M A Archives Ind Health* 17:295-301 Ap '58
- Effects of feeding wool-fat sterols on the sterol content of serum and liver of the rat. C. H. Duncan and others. *J Nutrition* 64: 425-31 Mr '58
- Effects of semistarvation on the distribution of erythrocytes and plasma in organs and tissues of the rat. E. P. Lasher and others. *bibliog J Nutrition* 65:317-26 Je '58
- Fatty acids of blood; abstract and discussion. G. A. Garton. *Chem & Ind p* 1433-4 N 2 '57

See also

Erythrocytes
Hemoglobin

Analysis

- Determination of blood alcohol; improvements in chemical and enzymatic procedures. P. L. Kirk and others. *bibliog diags Anal Chem* 30:1418-22 Ag '58

BLOOD—Analysis—*Continued*

Determination of corticosterone and 17-hydroxycorticosterone in human plasma. J. McLaughlin, jr. and others. *bibliog Anal Chem* 50:1517-2 S '58

Effect of isonicotinic acid hydrazide and vitamin B₆ on glutamic-oxalacetic transaminase levels in whole blood. M. Saas and G. T. Murphy. *bibliog Am J Clinical Nutrition* 6:424-9 J '58

See also

Anemia
Leukemia

Diseases**Testing**

Blood cholinesterase activity. J. H. Wolfsie. *bibliog A M A Archives Ind Health* 16:403-10 N '57

Should the premarital blood test be compulsory? A. W. Hedrich and C. Silverman. *bibliog Am J Pub Health* 48:125-32 F '58

Vitamin content

Comparative measurements of ascorbic acid and total ascorbic acid of blood plasma. J. H. Sabry and L. H. Dodds. *bibliog J Nutrition* 64:467-73 Mr '58

Effect of the ingestion of ascorbic acid and dehydroascorbic acid upon the blood levels of these two components in human subjects. H. Linkswiler. *bibliog J Nutrition* 64:43-54 Ja '58

Effects of exercise on blood (plasma) concentrations of vitamin A, carotene and tocopherols. R. W. Hillman and others. *bibliog J Nutrition* 64:505-13 Ap '58

Influence of diet upon tissue concentration of vitamin B₆. K. E. Cheslock. *bibliog J Nutrition* 65:53-61 My '58

Low serum vitamin B₁₂ concentrations in alcoholics: improvement with liver therapy. H. Gounelle and J. Richard. *bibliog Am J Clinical Nutrition* 6:422-3 J '58

Saturation studies with vitamin B₁₂ in human subjects. W. G. Unglaub and others. *bibliog Am J Clinical Nutrition* 6:535-41 S '58

BLOOD pressure

Antihypertensive agents; dialkylaminoalkoxyalkylpiperidines and pyrrolidines. S. L. Shapiro and others. *Am Chem Soc J* 80:2743-5 Je '58

Hypotensive agents; acetylenic diamines. J. H. Biel and F. DiPiero. *bibliog Am Chem Soc J* 80:4609-18 S '58

Hypotensive agents; aminoalkyl esters of piperidinecarboxylic acids and their reversed ester derivatives. J. H. Biel and others. *Am Chem Soc J* 79:6184-7 D '57

Manometer checks blood pressure in veins. *il Electronics* 30:20+ D '57

Sodium intake of the American male; implications on the etiology of essential hypertension. L. A. Dahl. *bibliog (27 titles) Am J Clinical Nutrition* 6:1-7 Ja '58

Synthetic hypotensive agents; 3- and 4-(3'-aminopropyl)-piperidine derivatives. A. P. Phillips. *bibliog Am Chem Soc J* 79:5754-6 N '57

Measurement

Transistor unit monitors blood pressure. O. Z. Roy and J. R. Charbonneau. *il diag Electronics* 31:82-3, cover Ap '58

BLOWDOWN systems. See Petroleum refineries—Blowdown systems**BLOWERS**

Applying mixed-flow units in commercial air-moving systems. A. A. Atalla. *diags Air Cond Heat & Ven* 55:64-7 Ap '58

Blower skims steam; Republic Steel will install topping turbine for blast furnace blowing. *Steel* 141:188 N '57

Blower wheels; new field for phenolics. *il diag Mod Plastics* 35:118-19 My '58

Economics of coils vs fan or blower units in combination freeze and hold freezers; abstract. B. C. McKenna. *Refrig Eng* 66:61-2 Ja '58

Equivalent performance parameters for turbo-blowers and compressors. H. Davis. *bibliog diag A S M E Trans* 80:108-13; Discussion. W. A. Clark. 113-16 Ja '58

Gas turbines for blast furnace blowing. G. H. Krapf and J. O. Stephens. *flow diag il diags Iron & Steel Eng* 35:142-9 S '58

Instrumentation for large turbo-blower; Scunthorpe works of the Appleby-Frodingham steel co. *il Metallurgia* 57:97-8 F '58

Inventory of new equipment and accessories; pumps, blowers and compressors. *il Chem Eng* 64:449-50+ Mid-N '57

Report on plastics; PVC blower; Bascodur. *il Power Eng* 62:82 O '58

Split wind blowing increases furnace production. *il Iron & Steel Eng* 35:174+ F '58

Vane-type blower looks ideal on paper; abstract. R. Keast. *S A E J* 66:91 F '58

See also

Soot blowers

Cleaning

Blower-tube scraper saves time and money. C. F. Yonkers. *diags Elec World* 149:86 Ap '58

Manufacture

Blower wheel production automated; Mayne products co. *il diags Automation* 5:74-6 My '58

BLUE ridge glass corporation

Merger with American Window Glass sanctioned by court; American-Saint Gobain. *Glass Ind* 39:211 Ap '58

BLUEBERRIES

Clumping in canned blueberries. M. J. Powers and others. *bibliog il Food Tech* 12:99-102 F '58

BLUEPRINTS

Blueprints by the millions: General Electric. *il diag Am Mach* 102:99-100 Mr '58

Exporting engineering drawings for overseas plant; Kaiser-Willys uses Autopositive materials and modified blueprinter. *il Ind Phot* 7:42+ F '58

Shop practice standards take the guesswork out of blueprint specifications and tolerances. J. A. Chingas. *diags Machine Design* 30:92-5 My '58

Storage rack for active blueprints. *il diags Elec Constr & Maint* 57:187-8+ Ap '58

BLUM, William

Fabulous story of W. Blum. *por Plating* 45:644 Je '58

BOAT coverings

Sheathing of boat hulls; Cascover process. *il Brit Plastics* 31:196-7 My '58

BOAT fenders. See Fenders, Boat**BOATS, Aluminum**

Aluminum in small boats; Alcoa survey indicates 63 per cent increase for '58. *Light Metal Age* 15:38 D '57

Rough sailing for aluminum in the small boat industry. K. Darby. *il Mod Metals* 14:48+ My '58

BOATS, Plastic

Boat mold for mass-production. F. M. Coleman. *il Mod Plastics* 35:121-2 Ag '58

Fiberglass boats. *il Engineering* 184:602 N '58

Plastics ahoy! plastics boat business is booming, here's why. *il Mod Plastics* 35:87-95+ F '58

Polyester/glass lifeboats for S.S. Oriana. *il diag Brit Plastics* 31:415 O '58

BOATS, Toy

Physics in a toy boat. J. S. Miller. *Am J Phys* 26:199 Mr '58

BOATS and boating

Hydrofoil boat; its history and future prospects; abstract. P. R. Crewe. *Engineer* 205:573; Discussion. 573-4 Ap '58

See also

Freight ships

Yachts and yachting

BOBBINS

Merry-go-round feeds bobbins to coll winder. *il Electronics* 31:124+ Ap '58

Top drive filling. M. Turner. *diags Textile Ind* 122:129+ S '58

What size package should we make? discussion. *Textile Ind* 122:137 Mr; 167 Je; 145 Ag '58

BODY fluids*See also*

Saliva

BODY temperature. See Temperature, Animal and human**BOEING airplane company**

Boeing banks on aircraft, but wants to diversify, too. R. M. Loebelson. *il Aviation Age* 30:16-17+ Ag '58

BOGOTA, Colombia**Architecture**

American design to brighten Bogotà: edificio Esso for Colombiana. *il plans Arch Rec* 123:165-70 Mr '58

BOGS

Bogs. E. S. Deevey, jr. *il diags Sci Am* 199:114-16+ O '58

BOHR, Niels

In the cause of humanity; first winner of the Atoms for peace award. *por Chem & Eng N* 35:122 N '57

BOILER cleaning

Boiler cleaning routine may be wasteful. Air
Cond Heat & Ven 55:75 My '58
Single-stage copper removal treatments
lengthen boiler tube life. J. P. Engle and
R. W. Fitzgerald. *il Power Eng* 62:76-8
Ag '58

Soot blowers shock slag with h-p water, slash
boiler outage. M. E. Marshall, *diags Power*
102:112-14 My '58

See also

Boiler scale
Boiler tubes
Soot blowers

BOILER furnaces. See Furnaces, Boiler

BOILER plants

Boiler plant too small? how one plant was ex-
panded, and how much the job cost. H. D.
Fisher. *il Power Eng* 61:86-7 N '57

Centralized vs decentralized heating plants.
W. E. Poole. *il plan Plant* 17:40-1 Je '58

Steam boiler plant modernized; Masonic
temple in Dayton, Ohio. F. M. Reiter. *il Air*
Cond Heat & Ven 55:78-80 My '58

See also

Boilers
Chimneys
Steam plants

Equipment

Centralizing boilers into single plant pays off
at Convaiv. W. H. Odle. *il diag Power Eng*
62:88-9 Ja '58

Flexible high-pressure hot-water and steam
boiler plant; Personal products corp.'s Mill-
town, N.J. plant. E. G. Hansen and W.
Liddy. *il diag Power* 102:109-11+ My '58

How and why this heating plant went
modern; naval ammunition depot at Ports-
mouth, Va. D. L. Gussler. *il Power Eng* 62:
68-71 F '58

New college heating plant switches to RCR
Coal-Pak units. S. A. Frye. *il Power Eng*
62:72-3 Ag '58

See also

Coal handling
Feed water heaters
Feed water regulators
Pumps, Feed water
Soot blowers
Stokers, Mechanical

Noise

Economy in a whisper; Massapequa high
school boiler room. E. A. Burt. *il Power*
Ind 74:22-3+ Ja '58

Platforms

Boiler furnace inspection platform. *il Engi-
neering* 185:169 F 7 '58

Safety measures

Boiler protection and interlocking. J. L.
Barker. *diag Combustion* 30:43-5 Ag '58

Packaged boilers; safety controls. R. C.
Bellias. *diags Power* 102:96-7 Ag '58

BOILER plants, Outdoor

Water-tube packaged boilers installed out-
of-doors. J. A. Poteat. *il Plant* 18:35-7
S '58

BOILER pumps. See Pumps, Feed water

BOILER scale

Boiler deposits; why they cost you money.
efficiency and tubes. J. S. Beecher. *diag*
Plant Eng 12:156 Ja '58

BOILER tubes

Boiler deposits; why they cost you money.
efficiency and tubes. J. S. Beecher. *diag*
Plant Eng 12:156 Ja '58

Calculate heater tube temperatures. A. Doll-
Steinberg. *il diags Pet Refiner* 36:165-9 D '57

Corrosion inhibition on tubes in low-pressure
steel boilers. W. A. Keilbaugh and F. J.
Pocock. *il diag Heating-Piping* 30:129-35 F
'58

Design of a liquid metal heated bayonet tube
steam generator. F. Boni. *bibliog diags*
Am Soc Naval Eng J 70:231-43 My '58

Experimental investigation of the process of
expanding boiler tubes. J. M. Alexander
and H. Ford. *bibliog diags Inst Mech Eng*
Proc 171 no 9:351-67, D1 1-2; Discussion,
368-77; Reply 377-81 '57

Good tube maintenance tools cut costs. A.
John. *il Pet Refiner* 36:317-20 N '57

How tubes compare for nuclear reactor
boilers. P. S. Otten. *il Power* 102:80-3+
Ja '58

New jig simplifies welding of boiler fin tubes.
diag Power Eng 61:90 N '57

Radiographic inspection; a practical method
for pinpointing boiler-tube corrosion. R. M.
Peterson. *il Power* 102:112-13 Ja '58

Recent research on the corrosion of boiler
tubes; abstract and discussion. E. C. Potter.
Chem & Ind p647-8 My 31 '58

Single-stage copper removal treatments
lengthen boiler tube life. J. P. Engle and
R. W. Fitzgerald. *il Power Eng* 62:76-8
Ag '58

See also

Soot blowers

BOILERS

Automatic coal-fired packaged generator
yields ready steam. *il Chem Eng* 65:66+ Je
2 '58

Axial flow turbine and monotube boiler are
basic design considerations of Portland
generating station. J. G. Miller and R. H.
Kreisinger. *bibliog plan diags Combustion*
29:34-41 Ja '58

Boiler for low-volatile char. *Mech Eng* 80:
89 Je '58

Dual-fuel package boilers save \$15,000 an-
nually at Hercules-Gallon products, inc. *il*
Plant 18:40-1 J1 '58

Film-boiling on boiler surfaces. E. Zielinski.
bibliog il diags Combustion 29:47-50 Je '58

New boiler cuts dyehouse steam costs; Re-
liable dyeing & finishing co. *il Mod Textiles*
Mag 39:51+ My '58

New boiler gives Blandin Paper operating
flexibility. *il flow diag diag Power Eng* 61:
78-80 N '57

New large boiler unit. *Mech Eng* 80:96-7 My
'58

Once-thru boiler used for subcritical opera-
tion; modernization and expansion of Frank
M. Tait station. H. B. Gismond. *il plan*
diags Elec World 148:52-4 D 23 '51

Package boiler sold off shelf. *il Power Ind*
74:11 Je '58

Packaged boilers. R. C. Bellias. *il diags*
Power 102:77-100 Ag '58

Tv spies on boiler flame at Humble plant. *il*
Oil & Gas J 55:70 N 25 '57

Tips on getting a new steam system; William
Pocke sons, inc. *il Food Eng* 29:121 D '57

Would a CO boiler pay off in your plant?
W. H. Alexander and R. L. Bradley. *Pet*
Eng 30:C 15-18 J1 '58; Same abr. *diags Pet*
Refiner 37:107-12 Ag '58

See also

Boiler plants
Boiler tubes
Draft
Feed water
Feed water heating
Furnaces, Boiler
Pumps, Feedwater
Slag (in boilers)

Blowdown

New look at continuous blowdown. *il diag*
Power Eng 62:72-3 My '58

Power engineers' valve manual; blow-off
valves. E. B. Finsel. *il diags Power Eng*
62:75-7 J1 '58

Steam purity monitoring permits big savings
in blowdown. R. W. Lane. *il Power Eng*
62:79-80 Je '58

Cleaning

See Boiler cleaning

Control

Automatic boiler operation. K. D. Cilley. *il*
Combustion 29:45-6 Ap '58

Boiler protection and interlocking. J. L.
Barker. *diag Combustion* 30:43-5 Ag '58

Combustion and safety controls for gas firing;
Scott Paper plant. F. Westfall. *Tappi* 41:
sup 149A-50A Mr '58

Control of the Sulzer monotube boiler. J.
Profos. *bibliog diags Combustion* 29:30-9 Je
'58

Electrical control features of the Avon
supercritical-pressure unit. R. G. Willett.
plan diags Power Apparatus & Systems
p268-75; Discussion. 275-6 Je '58

How automatic controls apply to feedwater
treatment systems. E. A. Strahlendorf.
flow diag il diags Power Eng 62:36-9 O '58

Packaged boiler automation pays off as Dana
corp. streamlines plant. H. L. Becker. *il*
Power Eng 62:83-4 O '58

Packaged boilers; combustion controls. R. C.
Bellias. *diags Power* 102:95 Ag '58

Placing a boiler control system in service.
R. W. Hunter. *il Combustion* 29:44-5 S '57

Servomechanisms in combustion control. J. S.
Tyndall. *il diags Combustion* 29:34-7 J1; 45-
54 Ag; 61-8 S '57

Corrosion

Boiler corrosion; why it occurs and how it
is controlled. J. S. Beecher. *il Plant* 17:
48-9 Mr '58

BOILERS—Corrosion—Continued

Corrosion and the destination of corrosion products in a high pressure power plant. R. C. Tucker, bibliog flow diag *il Corrosion* 14:19-22 My '58

Corrosion inhibition on tubes in low-pressure steel boilers. W. A. Keilbaugh and F. J. Pocock, *il diag Heating-Piping* 30:129-35 F '58

Radiographic inspection; a practical method for pinpointing boiler-tube corrosion. R. M. Peterson, *il Power* 102:112-13 Ja '58

Sulfuric acid corrosion in oil-fired boilers; studies on sulfur trioxide formation. D. R. Anderson and F. P. Manlik, bibliog diag A S M E Trans 80:1231-7; Discussion, 1231-8 Ag '58

Design

Design of six boilers for gas-cooled nuclear-power reactors. P. S. Otten, *diags Power* 102:80-3 F '58

Monotube boiler, axial-flow-exhaust turbine make unique combination; Portland station of Metropolitan Edison co. *il diags Power Eng* 62:66-8+ Ja '58

Packaged boilers; firetube designs. R. C. Bellas, *il diags Power* 102:79-84 Ag '58
Some considerations in the design of steam generators for pressurized water reactor systems. I. Granet, bibliog Am Soc Naval Eng J 70:471-9 Ag '58

Efficiency

Better boiler efficiencies are expected with new precipitator. J. J. Trainor, *il diag Elec World* 149:60-1 Ap 21 '58

Equipment

See also

Feed water heaters

Feed water regulators

Erection

High strength bolting speeds boiler erection; cuts costs. L. W. Donnelly, *il Power Enr* 62:90+ F '58

Firing

Combustion control, load control tie-in equipment. R. H. Travers and others, *diags Combustion* 29:34-41 F '58

Controlled starting and loading of modern central power stations. F. W. Kuehn, bibliog *il diags A S M E Trans* 80:1183-204; Discussion, 1204-7; Reply, 1207-9 Ag '58

Delayed coke cuts generation fuel costs; Virginia electric & power co.'s Yorktown power station. J. M. McGurn, *il diags Elec World* 149:64-6+ Ja 13 '58

Packaged boilers; solid-fuel firing shows promise. R. C. Bellas, *il Power* 102:93-4 Ag '58

Safe guard automatic boilers with flame failure control. P. E. Buday, *il diags Plant* 18:37-8 Ag '58

Servomechanisms in combustion control. J. S. Tyndall, *il diags Combustion* 29:34-7 JI; 55-54 Ag; 51-8 S '57

Starting experiences with a 150 mw unit installation; Cherepetskaya state regional power plant (U.S.S.R.). A. G. Prokopenko and others, *diags Combustion* 30:38-45 O '58

Steam boiler plant modernized; Masonic temple in Dayton, Ohio. F. M. Reiter, *il Air Cond Heat & Ven* 55:78-80 My '58

Steam generators for multiple fuel firing; suspension burning of bark and coal. M. O. Funk, *il diags Combustion* 30:49-54 O '58

Tables save time in excess air calculations. E. W. Jerger, *il Air Cond Heat & Ven* 55:73-5 Ja '58

What's the best way to light off boilers? answers, *il diags Power* 102:138+ Ap '58

See also

Boilers—Pulverized coal firing

Boilers—Pulverized coke firing

Stokers, Mechanical

Furnaces

See Furnaces, Boiler

Gas firing

Boiler fuel gas gets a ride. *Gas* 34:11-12 O '58

Carbon-monoxide-fired boiler. *Mech Eng* 80:94-5 Mr '58

Combustion and safety controls for gas firing; Scott Paper plant. F. Westfall, *Tappi* 41:sup 149A-50A Mr '58

Flame failure control protects Chevrolet plant's new boiler; can burn either pulverized coal or gas. V. Shanks, *il Plant* 17:30-1 Ap '58

Furnace conversion lowers operating costs. *il*

Plant Eng 12:131 My '58

How to prevent lighting-off explosions in gas-fired industrial boilers and furnaces; gas safety control system. J. B. Smith, *diags Gas Age* 121:18-19+ F 20 '58; Same, *Iron & Steel Eng* 35:144-1 My '58; Same, *Power Ind* 74:10-13+ JI '58

Packaged boilers; firing equipment. R. C. Bellas, *il diag Power* 102:91-3 Ag '58

Maintenance and repair

Automatic boiler operation. K. D. Cilley, *il*

Combustion 29:45-6 Ap '58

Fog applicator finds air leaks in boilers. *Elec World* 149:97 Mr 3 '58

How should this boiler repair be made? answers, *il diags Power* 102:136+ Ja '58

Proper maintenance insures top performance; package boilers. E. A. Burt, *il Plant* 17:50-2 Ja '58

Manufacture

Today's packaged firetube boiler. R. H. Pipkorn and E. J. Risseuw, *il Power* 102:82-5 Mr '58

Oil firing

Atlas Underwear conversion unit burns heavy residual oil, wins air atomization. C. G. Glaser, *il Plant* 18:40-1 O '58

Eastern furniture plant served by compact boiler installation; Sprague & Carleton inc. J. E. Hyler, *il Plant* 17:32-3 F '58

Furnace conversion lowers operating costs. *il Plant Eng* 12:131 My '58

\$100 a day savings in steam costs with automatic boiler (oil-fired 500 hp, packaged) at Reliable dyeing & finishing co. *il Textile Ind* 122:189 O '58

Packaged boilers; firing equipment. R. C. Bellas, *il diag Power* 102:91-3 Ag '58

Prevention of acid condensation in oil-fired boilers. L. K. Rendle and R. D. Wilsdon, bibliog *diags Combustion* 29:39-46 JI '57; Abstract, *Engineering* 182:490 O 19 '56

Sulfuric acid corrosion in oil-fired boilers; studies on sulfur trioxide formation. D. R. Anderson and F. P. Manlik, bibliog diag A S M E Trans 80:1231-7; Discussion, 1237-8 Ag '58

240 mw Ince power station; oil firing with semi-outdoor boilers. *il Engineering* 184:534 O 25 '57

What's the best way to keep fuel lines and storage tanks sludge free? question with answers, *il diag Power* 102:134-5 Ag '58

See also

Boilers, Heating—Oil firing

Boilers, Marine—Oil firing

Protection

Aluminum covers boiler insulation. *il Elec World* 150:62 JI 14 '58

Aluminum insulation protects boilers. *il Iron Age* 182:78 JI 3 '58

Safe guard automatic boilers with flame failure control. P. E. Buday, *il diags Plant* 18:37-8 Ag '58

Pulverized coal firing

Burn pulverized coal? here's how to prevent fires in the system. *Power Eng* 61:92+ N '57

Burning coal in pulverized form. U. B. Yeager, *il Power Eng* 62:69-71+ F '58

Cyclone fired boiler installation. *il diags Engineer* 204:670-3 N 8 '57

Determination of ferrous iron in pulverized fuel ash and slags from pulverized fuel-fired boilers. P. J. Jackson, bibliog *J Appl Chem* 7:605-10 N '57

Effect of temperature variation on composition, fouling tendency, and corrosiveness of combustion gas from a pulverized-fuel-fired steam generator. J. D. Piper and H. Van Vleet, bibliog *il diags A S M E Trans* 80:1251-61; Discussion, 1261-3 Ag '58

Flame failure control protects Chevrolet plant's new boiler; can burn either pulverized coal or gas. V. Shanks, *il Plant* 17:30-1 Ap '58

In-service washing of Ljungstrom air preheaters on pulverized coal-fired steam generators. H. J. Hupfer and others, *il diags A S M E Trans* 80:217-22; Discussion, 222-3; Reply, 223-4 Ja '58

Investigation of the variation in heat absorption in a pulverized-coal-fired slag-tap steam boiler at Blaine Island, Charleston, W.Va. A. A. Orning and others, bibliog *diags A S M E Trans* 80:1239-47; Discussion, 1247-9; Reply, 1249-50 Ag '58

Power plant for titanium production; cyclone fired boiler. *il diags Metallurgia* 56:290-2 D '57

BOILERS—Pulverized coal firing—Continued

Pulverized coal transport through pipes. R. C. Patterson. *il* *diags* Combustion 30:47-57 J 1 '58

Pulverized fuel for economic boilers. *il* Engineering 185:166 F 7 '58

Slurry handling at Barony power station. *diag* Engineer 204:607 O 25 '57

200,000 lb. cyclone-fired boiler compactness with high efficiency. Kynoch works of Imperial chemical industries, limited. *il* *diags* Engineering 184:688-9 N 29 '57

Pulverized coke firing

Pulverized coke fires clean in first refinery use. J. Brandler. *il* *diag* Oil & Gas J 55: 142-3 N 4 '57

Specifications

Packaged boiler specifications. D. L. Gusler. *diags* Plant Eng 12:114-17+ Ag '58

Standards

Proposed revisions and addenda to boiler and pressure vessel code (cont.) Mech Eng 80:126-2 F 12-7 Ap; 119-22 Je; 100-3 Ag; 102-9 O '58

Sulzer boiler

Control of the Sulzer monotube boiler. J. Profos. *bibliog* *diags* Combustion 29:30-9 Je '58

Testing

Application of automatic digital-data-collecting to boiler testing. J. H. Ball and others. *il* *diags* Mech Eng 79:1016-21 N '57

Effect of temperature variation on composition, fouling tendency, and corrosiveness of combustion gas from a pulverized-fuel-fired steam generator. J. D. Piper and H. Van Vliet. *bibliog* *il* *diags* A S M E Trans 80: 1251-61; Discussion. 1261-3 Ag '58

Investigation of the variation in heat absorption in a pulverized-coal-fired slag-tap steam boiler at Blaine Island, Charleston, W. Va. A. A. Orning and others. *bibliog* *diag* A S M E Trans 80:1239-47; Discussion. 1247-9; Reply. 1249-50 Ag '58

Testing boilers for leaks. *il* Engineer 205:71 Ja 10 '58

Ultrasonic resonance tests can cut your boiler downtime. J. L. Everett and J. H. Daniels. *il* Power 101:110-11 N '57

Vibration

Can vibrations caused by firing be reduced or eliminated? answers. *diags* Power 101: 160+ D '57

Water chambers

Wet-back boiler chamber carries off excess heat. *il* Power Ind 74:26 My '58

BOILERS, Heating

Controlled circulation boilers for high temperature water heating. S. F. Mumford. *il* *diags* Combustion 29:34-9 Ag '57

Corrosion inhibition on tubes in low-pressure steel boilers. W. A. Keilbaugh and F. J. Pocock. *il* *diag* Heating-Piping 30:129-35 F '58

Economy in a whisper: Massapequa high school boiler room. E. A. Burt. *il* Power Ind 74:22-3+ Ja '58

How and why this heating plant went modern: U.S. naval ammunition depot at Portsmouth, Va. D. L. Gusler. *il* Power Eng 62:68-71 F '58

Thermal shock to hot water boilers; its causes, cures. B. Streeter. Heating-Piping 30:168-9 Ja '58

Firing

Why Wake Forest chose coal firing. J. O. LaPrade. *il* *diag* Power 102:84-5 S '58

Oil firing

Potterton COA-53 oil-fired domestic boiler. *il* Engineering 184:684 N 29 '57

Twin burner boiler; Henry Wilson and co. *il* Engineering 186:160 Ag 1 '58

BOILERS, Marine

Design of a liquid metal heated bayonet tube steam generator. F. Boni. *bibliog* *diags* Am Soc Naval Eng J 70:231-43 My '58

Heat-transfer studies of naval boilers. L. Cohen and W. A. Fritz, Jr. *diags* A S M E Trans 80:683-90; Discussion. 690-2 Ap '58

Machinery for cross-channel passenger ships. E. L. Denny. *flow* *diag* *diag* Engineer 205: 168-70 Ja 31 '58

Technical progress in marine engineering during 1957; boilers and steam plant. Am Soc Naval Eng J 70:245-7 My '58

Oil firing

High-pressure fuel system in R.M.S. Queen Mary. *il* Engineer 204:757 N 22 '57

BOILERS, Waste heat

CO boiler of standardized design; effective answer to economic recovery of refinery waste heat. T. J. Harvey and P. C. Trounce. *flow* *diag* *il* *diags* Combustion 30:34-9 Ag '58

Design and operation of waste heat boilers in chemical industry; abstract. E. A. Seaman and W. Gregson. Chem & Ind p84-5; Discussion. p85-6 Ja 25 '58

Some fuel engineering aspects of waste-heat boiler. S. H. Brooks. *diags* Iron & Steel Inst J 190:22-5 S '58

Steam generation by waste-heat boilers. W. L. Nelson. Oil & Gas J 56:108 JI 21 '58

BOILERS, Water tube

Choosing draft systems for industrial boilers. J. G. Meissner. *diags* Power 102:98-100+ JI '58

Packaged boiler meets process and power needs; Scovill mfg. co. C. K. Stickney. *flow* *chart* *il* *diag* Combustion 30:38-41 S '58

Packaged boilers; watertube designs. R. C. Bellas. *il* *diag* Power 102:85-90 Ag '58

Water-tube packaged boilers installed out-of-doors. J. A. Poteat. *il* Plant 18:35-7 S '58

See also

Boiler tubes**BOILING**

Boiling growth rates in boiling. P. Griffith. *bibliog* *diags* A S M E Trans 80:721-6; Discussion. P. Savic. 726-7 Ap '58

Film boiling of flowing subcooled liquids. E. I. Motte and L. A. Bromley. *bibliog* Ind & Eng Chem 49:1921-8 N '57

Film-boiling on boiler surfaces. E. Ziellinski. *bibliog* *il* *diags* Combustion 29:47-50 Je '58

Investigation of burnout heat flux in rectangular channels at 2000 psia. H. S. Jackett and others. *il* *diag* A S M E Trans 80:391-400; Discussion. 400-1 F '58

Preliminary study of vortex-boiling burnout heat fluxes. W. E. Gambill and N. D. Greene. *diags* Jet Propulsion 28:192-4 Mr '58

Some aspects of surface boiling. C. E. Faneuff and others. *bibliog* *il* *diag* J Ap Phys 29:80-4 Ja '58

Stability of boiling heat transfer. N. Zuber. *bibliog* A S M E Trans 80:711-14; Discussion. *diag* 714-18; Reply. 718-20 Ap '58

Test loop for determining burnout heat flux. W. Millich and E. C. King. *diag* Nucleonics 16:108-9 Ap '58

BOILING points

Boiling point rise of spent liquors (atmospheric pressure); data sheet. Tappi 41:sup 136A Mr '58

Heat capacity, heat of fusion, heat of transition and heat of vaporization of chlorodifluoromethane between 16°K. and the boiling point. E. F. Neilson and D. White. *bibliog* Am Chem Soc J 79:5618-21 N 5 '57

Induction-heated ebulliometer. V. A. Zeitler and C. A. Brown. *diags* Anal Chem 29:1904-6 D '57

BOLIVIA

See also

Petroleum—Bolivia

Petroleum industry and trade—Bolivia

Tin mines and mining—Bolivia

BOLMETERS

Transverse film bolometers for the measurement of power in rectangular waveguides. J. A. Lane. *diags* Inst E E Proc 105 pt E:77-80 Ja '58; Discussion. 105 pt B:395 JI '58

BOLTS and nuts

Avdel lockbolt. *diags* Automobile Eng 48:357 S '58

Boost for assembly; Strippt pierce nut unit. *il* Steel 142:83 Je 2 '58

Calculating bolt loads. J. T. Meienberg. *diag* Machine Design 30:137 J 12 '58

Choosing the right fastener. W. P. Acres. Iron & Steel Eng 35:151-3 Mr '58

Crane rails installed with hook bolts. *il* Plant Eng 12:121 Ap '58

Design of bolted, flanged joints of pressure vessels. G. F. Lake and G. Boyd. *bibliog* *diags* Inst Mech Eng Proc 171 no 31:843-56; Discussion. 859-63; Reply. 870-2 '57

Drilled studs make nozzles; bottle-washing machine. W. Nekola. *il* *diags* Am Mach 102: 140 Mr 10 '58

Experience with chromium-molybdenum-vanadium steel in high-temperature bolting applications. R. G. Matters and C. D. Dickinson. *bibliog* *il* *diag* A S M E Trans 80:330-4 F '58

BOLTS and nuts—Continued

- Fatigue of a nut and bolt. P. B. Walker. *diags Roy Aeronautical Soc J* 62:395-407 Je '58; *Abstract. Automobile Eng* 48:308-11 Ag '58
- Grit and shot-reinforced high tensile bolted joints. R. L. Sanks and C. C. Rampton, jr. *il diags Am Soc C E Proc* 83 [ST 6 no 1435]: 1-31 N '57
- High strength bolting speeds boiler erection; cuts costs. L. W. Donnelly. *il Power Eng* 62:90-1 F '58
- High-temperature bolting; new standards for screw threads. F. G. Schulz. *il Power Eng* 62:68 My '58
- Knurls produce tight fit for new high-tensile bolt. *il Eng N* 160:54-1 Je 26 '58
- Mechanical fasteners for military electronic equipment; nuts. G. H. Lines. *diags Elec Manuf* 61:115-13 Je '58
- Mechanical fasteners for military electronic equipment; screws and studs. G. H. Lines. *diags Elec Manuf* 61:110-13 Je '58
- New anchor bolt fitting is flush with the floor. *il Eng N* 161:115-16 S 18 '58
- Nuts and bolts of instrument maintenance. W. S. Hitt. *il I S A J* 5:46-9 Ag '58
- Practical approach to accurate determination of tightening torque for bolts; data sheet. R. Skidmore. *il diag Machine Design* 30: 133-6 Ja 9 '58
- Production man's guide to fastening devices; screws, bolts, studs. J. J. Dwyer, jr. *diags Am Mach* 102:101-6 S 8 '58
- Stud driver operates in tight places. *il diags Tool Eng* 39:90 N '57
- Stud shear connectors help to speed bridge construction. *il Welding J* 36:1195 D '57
- Studs take off heat; welded to outside of a large cooling coil. *il Steel* 142:80 F 24 '58
- This bolt holds better; high tensile bearing bolt. W. G. Waltermire. *il Steel* 142:82-3 Mr 31 '58
- Tight bolts stop fatigue failures. R. Sproat. *il diag Iron Age* 181:105-3 Mr 13 '58
- Turn-of-nut method for tensioning bolts. M. H. Frincke. *Civil Eng* 28:31-2 Ja '58; *Discussion*. 28:526 J '58
- Wanted; improved anchoring method. H. K. Lee. *diags Am Mach* 101:105 D 2 '57
- Watch your bolts. M. Zar. *Civil Eng* 28:521-2 J '58

See also

Mine roof bolting
Slots

Manufacture

- Bolt forging is automated. *il Steel* 142:83 Ja 27 '58
- Cold forging strengthens jumbo bolts. *Iron Age* 181:86 My 15 '58
- How to save money by cold heading parts. *il Wire & Wire Prod* 33:307 Mr '58
- Making precision studs for the atomic age. W. Hambrecht. *il Mach* 64:132-5 Mr '58
- Producing hose reel nuts on an automatic bar machine. *il Mach* 64:166 N '57
- Progressive cold forming; Swiss machines for bolt-heading and nut-forming. *il Automobile Eng* 48:336-7 S '58

Specifications

- ASTM and SAE grade markings for steel bolts. *Product Eng* 29:G 17 Mid-S '58

Testing

- Locking ability of hexagon locknuts; reference book sheet. *diag Am Mach* 102:147 Mr 10 '58; *Same abr. Product Eng* 29:G6 Mid-S '58
- Tightening and tensile tests on joints. J. E. Field. *diag Engineer* 205:654-8, 700-3 My 2-9 '58
- Why threaded test bars lower A-286 stress-rupture values. H. T. McHenry and R. K. Pitter. *il Iron Age* 181:87-9 Je 12 '58
- BOMARC. *See Guided missiles*
- BOMB shelters. *See Air raid shelters*
- BOMBS (chemical apparatus)
Shaker bomb; laboratory tool for studying thermal processes. J. W. Payne and others. *il diags Ind & Eng Chem* 50:47-52 Ja '58

BOMBS, Aerial

See also
Guided missiles

BONAPARTE, Charles Louis

Sketch. B. S. Barr. *Am J Phys* 26:108 F '58

BONDED web. *See Textile fabrics—Bonded web*

BONDS, Chemical. *See Chemical bonds*

BONDS, Government

See also
Municipal bonds

BONES

See also

Fractures
BONHOEFFER, Karl Friedrich
Obituary. P. Hardeck. *por(pl) J Colloid Sci* 13:1-2 F '58; *Same. Electrochem Soc J* 105: 517-5C Ap '58

BONUS system

Awards get a new look. *Electronics Bsns ed* 30:16 N 20 '57

BOOK industry and trade

Paperbacks. *Tappi* 41:sup 128A-30A F '58

BOOKBINDING

See also
Periodicals—Binding

BOOKKEEPING machines

Manufacture

Two-head belt grinder speeds deflashing. *il Mach* 64:132-3 F '58

BOOKS

Conservation and restoration

Old gray book; new methods and simple chemistry can extend her life. *il Ind & Eng Chem* 49:sup25A-6A N '57

BOOLEAN algebra. *See Logic, Symbolical and mathematical*

BOOTH'S, Paint spraying. *See Paint spraying—Booths*

BORANES. *See Boron hydrides*

BORATES

Alkali metal tetrachloroborates. E. L. Muettterties. *Am Chem Soc J* 79:6563-4 D 20 '57

Isotopic exchange reactions; evidence for the tetrachloroborate anion from kinetic studies. J. L. Herber. *bibliog Am Chem Soc J* 80: 5080-3 O 5 '58

X-ray is key tool in Pacific Coast Borax laboratory. V. W. Palen. *il Eng & Min J* 158:124 N '57

See also

Alkaline earth borates

Analysis

Determination of the alkalinity and borate concentration of sea water. J. A. Gast and T. G. Thompson. *bibliog Anal Chem* 30: 1549-51 S '58

BORAX

U.S. Borax & Chemical opens new mine and refinery. *il Am Cer Soc Bul* 37:37 Ja 15 '58

U.S. Borax dedicates first open pit borax mine. *il Glass Ind* 38:698 D '57

U.S. Borax has integrated a complex industrial plant. *il Eng & Min J* 159:101-5 Ap '58

BORAZENE

Chemistry of borazene; the reaction of B-trichloro-N-trimethylborazene with Grignard reagents. G. B. Ryschewitsch and others. *bibliog Am Chem Soc J* 80:4515-17 S 5 '58

BORAZOLE

Organoboron compounds; a new synthesis of B-alkali and triaryl-N-triphenylborazoles. S. J. Grosz and S. F. Stafe. *bibliog Am Chem Soc J* 80:1357-60 Mr 20 '58

Preparation of borazole derivatives. H. S. Turner and R. J. Warne. *bibliog Chem & Ind* p526 My 3 '58

BORDEN award

William C. Gordon received award in the chemistry of milk. *Chem & Eng N* 36:62 Ap 28 '58

BOREHOLES

Electronic bore-hole camera for tv projection. K. John. *il diags Civil Eng* 28:197-5 Mr '58

Way to see into the earth; geophysical logging of water wells and test holes. J. W. Foster. *il diags Pub Works* 89:121-3-1 Ap '58

BORERS, Marine. *See Marine borers*

BOROSCOPES

Medical scope spies on wing interior. *il Iron Age* 181:61 Mr 20 '58

New optical methods spot hidden corrosion; improved boroscope takes panoramic photos. J. M. Holeman. *bibliog il diag Chem Eng* 65:170-1 Ap 21 '58

BORIC acid

Polymerization of α -D-glucose in the solid state, in the presence of metaboric acid. H. W. Durand and others. *bibliog Am Chem Soc J* 80:3361-7 J 20 '58

Power reactor control; fluid poison control of boiling water reactors; substitute for control rods. J. A. Thie. *bibliog Nucleonics* 16:32-3 My '58

Solvolytic of alkyl borates; catalysis by amines and phenols. C. L. Denson and T. I. Crowell. *bibliog Am Chem Soc J* 79:5656-8 N 5 '57

BORIC oxide. See Boron oxide

BORIDES

See also

Europium borides
Lanthanum borides

BORINE

Fluorocarbon-phosphinoboranes and related chemistry. A. B. Burg and G. Brendel. *bibliog Am Chem Soc J* 80:3198-202 J1 5 '58

BORING bars

Solution to a tough boring problem; illustrations with text. *Am Mach* 101:158 D 16 '57
Versatile boring-bar holder for lathe operations. R. Minser. *diags Mach* 64:169-70 Ap '58

BOROHYDRIDES

See also

Potassium borohydride

BORON

Boron. 1957. P. Colefax. *Eng & Min J* 159: 143 F '58

Electrical resistivity of boron. E. S. Greiner and J. A. Gutowski. *bibliog J Ap Phys* 28: 1364-5 N '57

Improvement in high-temperature alloys by boron and zirconium. W. J. Pennington. *Metal Prog* 73:82-6 Mr '58

Mammoth boron source in production; U.S. Borax & Chemical. *il Chem Eng Prog* 53: sup48 D '57

More boron for more uses. *il Chem & Eng N* 35:25-6 N 25 '57

New crystalline modification of boron. L. V. McCarty and others. *Am Chem Soc J* 80: 2592 My 20 '58

New nickel-boron phase diagram for brazing-alloy development. G. S. Hopin. *3d. il Welding J* 36:sup28-30 D '57

Structure of tetragonal boron. J. L. Hoard and others. *bibliog diags Am Chem Soc J* 80:4507-15 S 5 '58

W-545, a better turbine disk alloy. J. T. Brown. *il diag Metal Prog* 74:87-90 Ag '58

See also

Steel-Boron content

Analysis

Analysis of biological materials for boron. W. H. Hill and others. *bibliog diags A M A Archives Ind Health* 17:210-17 Mr '58

Determination of traces of boron in nickel. C. L. Luke. *diags Anal Chem* 30:1405-6 Ag '58

Direct flame photometric determination of boron in organic compounds. B. E. Buell. *bibliog Anal Chem* 30:1514-17 S '58

Photometric determination of traces of boron in silicon after separation by a hydrothermal refining technique. C. L. Luke and S. S. Flaschen. *diags Anal Chem* 30:1406-9 Ag '58

Proposed standard methods for boron determination. *Am Water Works Assn J* 50: 827-31 Je '58

Isotopes

Large scale separation of boron isotopes. A. L. Conn and J. E. Wolf. *bibliog il diags Ind & Eng Chem* 50:1231-4 S '58

BORON acetates

Constitution of glycervyl borate and boron acetate. W. Gerrard and E. F. Mooney. *Chem & Ind p227-8 F 22 '58*

BORON bromides

3:2-Boron trichloride and 1:1 boron tribromide complexes with dioxane. M. J. Frazer and others. *Chem & Ind p 1263-4 S 27 '58*

BORON carbide

How channeling between chunks raises neutron transmission through boron. W. R. Burrus. *bibliog Nucleonics* 16:91-4 Ja '58
Steels and tool bits modified with boron. *Product Eng* 28:B 15-17 Mid-O '57

BORON chlorides

Boron trichloride as a degradative reagent for carbohydrates and their derivatives. S. Allen and others. *Chem & Ind p630 My 24 '58*

3:2-Boron trichloride and 1:1 boron tribromide complexes with dioxane. M. J. Frazer and others. *Chem & Ind p 1263-4 S 27 '58*

Interaction of boron trichloride with alkoxy-silanes. W. Gerrard and J. A. Strickson. *Chem & Ind p860 J1 5 '58*

Interaction of primary amines and boron trichloride. W. Gerrard and E. F. Mooney. *Chem & Ind p 1259 S 27 '58*

Microwave excitation as a synthetic tool; the preparation of diboron tetrachloride. J. W. Frazer and R. T. Holzmann. *Am Chem Soc J* 80:2907-8 Je 5 '58

Preparation of diboron tetrachloride. A. K. Holliday and A. G. Massey. *Am Chem Soc J* 80:4744-5 S 5 '58

Reactions of haloboranes with organocyclo-siloxanes; boron chloride with methyl and ethyl trimer and tetramer. P. A. McCusker and T. Ostlick. *bibliog Am Chem Soc J* 80:1103-6 Mr 5 '58

BORON compounds

Boron-carbon ring; abstract. S. L. Clark. *Chem & Eng N* 36:56-7 Ap 28 '58

Boron is a toxicity problem. W. H. Schechter. *il Chem & Eng N* 35:54-5 D 2 '57

Boroxines; alkyl derivaives. J. C. Perrine and R. N. Keller. *bibliog Am Chem Soc J* 80:1823-7 Ap 20 '58

Chemistry of certain novel organic boron compounds. W. Gerrard and others. *Chem & Ind p292-3 Mr 8 '58*

Market managers get ready for new sales outlets as metallic fuels become vital. *Steel* 142:35 Ap 14 '58

Neoinorganic chemicals. F. H. May and others. *Ind & Eng Chem* 49:sup44A-7A N '57

Organoboron compounds; mixed trialkylboranes distillable without disproportionation. G. F. Hennion and others. *Am Chem Soc J* 80:3481-2 J1 5 '58

Organoboron compounds; preparation and properties of diisobutyl-t-butylborane. G. F. Hennion and others. *bibliog Am Chem Soc J* 80:617-19 F 5 '58

Preparation of boron peroxides by autoxidation. M. H. Abraham and A. G. Davies. *bibliog Chem & Ind p 1622-3 D 14 '57*

Preparation of boron peroxides by nucleophilic substitution. A. G. Davies and R. B. Moodie. *bibliog Chem & Ind p 1622 D 14 '57*

Reactions of hydrogen fluoride with some boron-oxygen compounds. E. L. Muettterties. *bibliog Am Chem Soc J* 80:4526-8 S 5 '58

Stability and aromatic character in boron chelates. W. Gerrard and others. *Chem & Ind p722 Je 14 '58*

Step up range with boron compound fuels. W. T. Olson. *il S A E J* 66:76-7 Je '58

Analysis

Determination of carbon, hydrogen, and nitrogen in organoboron compounds. P. Arthur and others. *bibliog diags Anal Chem* 29:1352-4 D '57

BORON fluorides

BF₃·NaO₂ complex as a nitrating agent. G. B. Bachman and C. M. Vogt. *bibliog Am Chem Soc J* 80:2987-91 Je 20 '58

Boron trifluoride proportional counters. W. Abson and others. *bibliog diags Inst E E Proc* 105 pt B:357-65; Discussion. 365-9 J1 '58

Diboron tetrafluoride. A. Finch and H. I. Schlesinger. *Am Chem Soc J* 80:3573-4 J1 20 '58

Molecular weight measurements in liquid ammonia; the molecular weights of the methylamine-boranes, the diammoniate of diborane, ammonia-boron trifluoride and other substances. R. W. Parry and others. *bibliog Am Chem Soc J* 80:24-7 Ja 5 '58

Some cleavage products of the boron trifluoride complexes of α -carotene, lycopene and γ -carotene. W. V. Bush and L. Zechmeister. *Am Chem Soc J* 80:2991-9 Je 20 '58

BORON hydrides

Action of borohydrides on thiamin in aqueous medium. G. E. Bonvicino and D. J. Hennessy. *bibliog Am Chem Soc J* 79:6325-8 D 5 '57

Amine boranes. M. F. Hawthorne and E. S. Lewis. *bibliog Am Chem Soc J* 80:4291-9 Az 20 '58

Boron-containing rocket propellants. Engineering 185:264 F 28 '58

Boron fuels. *Mech Eng* 79:1047 N '57

Boron rocket fuels. R. Parry. *Franklin Inst J* 265:436-7 My '58

Chemical evidence for the structure of the diammoniate of diborane. D. R. Schultz and others. *bibliog Am Chem Soc J* 80:4-24 Ja 5 '58

Decaborane Grignard reagents. B. Siegel and others. *Am Chem Soc J* 80:4523-6 S 5 '58

Decomposition of diborane in a silent discharge; isolation of B₂H₆ and B₂H₄. W. V. Kotlensky and R. Schaeffer. *bibliog Am Chem Soc J* 80:4517-19 S 5 '58

BORON hydrides—Continued

Deuterium exchange of decaborane with deuterium oxide and deuterium chloride. M. F. Hawthorne and J. J. Miller. *Am Chem Soc J* 80:754 F 5 '58

Energetics of the boranes; prediction of heats of formation; interconversion of the hydrides of boron. S. H. Bauer. *bibliog Am Chem Soc J* 80:294-8 Ja 20 '58

Future of aircraft fuels; abstracts. R. J. Heaston. *S A E J* 66:39 Je '58; *Aircraft Engr* 30:239 Ar '58

Gas-mask protection against diborane, pentaborane, and mixtures of boranes. J. E. Long and others. *bibliog diags A M A Archives Ind Health* 16:393-402 N '57

Interconversion of volatile boranes by basic reagents. J. L. Boone and A. B. Burg. *Am Chem Soc J* 80:1519-20 Mr 20 '58

Mass spectrometric appearance potential study of isotopically labeled diboranes. W. S. Koski and others. *bibliog Am Chem Soc J* 80:3202-7 J1 5 '58

Molecular weight measurements in liquid ammonia; the molecular weights of the methylamine-boranes, the diammoniate of diborane, ammonia-boron trifluoride and other substances. R. W. Parry and others. *bibliog Am Chem Soc J* 80:24-7 Ja 5 '58

Possibilities and problems of some high energy fuels for aircraft. W. T. Olson. *II S A E J* 66:76-7 Je '58; *Abstract, Aircraft Engr* 30:239 Ar '58

Preparation and properties of hexamminecobalt(III) borohydride, hexamminechromium(III) borohydride and ammonium borohydride. R. W. Parry and others. *bibliog diag Am Chem Soc J* 80:1-3 Ja 5 '58

Preparation and reactions of mono- and diethylboranes. I. J. Solomon and others. *bibliog Am Chem Soc J* 80:4520-3 S 5 '58

Preparation of tetraborane and pentaborane-11. M. J. Klein and others. *bibliog Am Chem Soc J* 80:4149-51 Ar 20 '58

Pyrolysis of decaborane. H. C. Beachell and J. F. Haugh. *bibliog Am Chem Soc J* 80:2939-42 Je 20 '58

Reaction of decaborane with substituted alcohols. H. C. Beachell and W. C. Schar. *bibliog Am Chem Soc J* 80:2943-5 Je 20 '58

Reaction of hydroxylamine and its N-methyl derivatives with diborane. D. H. Campbell and others. *Am Chem Soc J* 80:1549-52 Ap 5 '58

Reaction of iodine in methanol with decaborane and tetraborane. A. E. Messner. *Anal Chem* 30:547-8 Ap '58

Reaction of Lewis acids of boron with sodium hydride and borohydride. H. C. Brown and P. A. Tierney. *bibliog Am Chem Soc J* 80:1552-8 Ap 5 '58

Reaction of O-methylhydroxylamine and its N-methyl derivatives with diborane. T. C. Bisso and others. *bibliog Am Chem Soc J* 80:1868-74 Ap 20 '58

Reaction of phosphine methylenes with boron hydrides. M. F. Hawthorne. *Am Chem Soc J* 80:3480-1 J1 5 '58

Sodium-diborane reaction. W. V. Hough and others. *bibliog Am Chem Soc J* 80:1828-9 Ap 20 '58

Structures of halogen substituted boranes. R. Schaeffer and others. *bibliog Am Chem Soc J* 80:2670-3 Je 5 '58

Technology of boron hydrides. C. J. Major. *bibliog diags Chem Eng Prog* 54:49-54 Mr '58

See also

Lithium borohydride
Sodium borohydride

Physiological effect

Boron hydride (borane) intoxication in man. H. J. Lowe and G. Freeman. *bibliog A M A Archives Ind Health* 16:523-33 D '57

Correlation of the reducing power of boranes with their toxicity. W. H. Hill and others. *bibliog A M A Archives Ind Health* 17:124-8 F '58

Gather safety know-how in boron handling; Callery chemical co. W. H. Schechter. *Ind Lab* 9:8-9 Ja '58; Same abr. *A M A Archives Ind Health* 17:362-6 My '58; Same cond. *Safety Maint* 115:40-3 Ja '58

Spectra

Raman spectroscopy in liquid ammonia solutions; the spectrum of the borohydride ion and evidence for the constitution of the diammoniate of diborane. R. C. Taylor and others. *Am Chem Soc J* 80:27-30 Ja 5 '58

BORON in the body

Accumulation of dietary boron and strontium in young and adult albino rats. R. M. Forbes and H. H. Mitchell. *bibliog A M A Archives Ind Health* 16:489-92 D '57

BORON nitrides

Physical adsorption; adsorbed monolayers of argon and nitrogen on boron nitride and on a graded series of partially graphitized carbon blacks. S. Ross and W. W. Pultz. *bibliog J Colloid Sci* 13:397-406 Ag '58

BORON oxides

Glass formation and properties of glasses in the system $\text{Na}_2\text{O}-\text{B}_2\text{O}_3-\text{SiO}_2-\text{TiO}_2$. J. H. Strimple and E. A. Gless. *diag Am Cer Soc J* 41:231-7 J1 1 '58

Heat of formation of boric oxide. B. H. Eckstein and E. R. Van Artsdalen. *bibliog Am Chem Soc J* 80:1352-4 Mr 20 '58

Shape of liquid immiscibility volume in the system barium oxide-boric oxide-silica. E. M. Levin and G. W. Cleek. *bibliog Am Cer Soc J* 41:175-9 My 1 '58

Some properties of glasses in the system barium oxide-boric oxide-silica. E. H. Hamilton and others. *bibliog Am Cer Soc J* 41:209-15 Je 1 '58

Studies in lithium oxide systems; $\text{Li}_2\text{O}-\text{BaO}-\text{B}_2\text{O}_3$. B. S. R. Sastry and F. A. Hummel. *bibliog II Am Cer Soc J* 41:7-17 Ja 1 '58

BORON steel. See Steel—Boron content

BORON trifluoride. See Boron fluorides

BORON trimethyl

Electron mobility in boron trimethyl. G. A. Ferguson, Jr. and F. E. Jablonski. *bibliog diag R Sci Instr* 28:893-6 N '57

BORONIC acids

Aryl boronic acids; aryl boronic anhydrides and their amine complexes. H. R. Snyder and others. *Am Chem Soc J* 80:3611-15 J1 20 '58

Cleavage studies of simple aromatic boronic acids. H. Gilman and others. *bibliog Am Chem Soc J* 80:1355-7 Mr 20 '58

Some bromine-containing and sulfur-containing aromatic boronic acids. L. Santucci and H. Gilman. *bibliog Am Chem Soc J* 80:193-6 Ja 5 '58

Some studies on the preparation of aryl-boronic acids. H. Gilman and L. O. Moore. *bibliog Am Chem Soc J* 80:3609-11 J1 20 '58

Synthesis of aromatic boronic acids; aldehyde boronic acids and a boronic acid analog of tyrosine. H. R. Snyder and others. *bibliog Am Chem Soc J* 80:835-8 F 20 '58

BORONIC anhydrides

Aryl boronic acids; aryl boronic anhydrides and their amine complexes. H. R. Snyder and others. *Am Chem Soc J* 80:3611-15 J1 20 '58

BORSOOK, Henry

Named food man of the year. *por Food Tech* 12:184-S '58

BOSE, Sir Jagadis Chunder

Sketch. E. S. Barr. *por Am J Phys* 26:120-1 F '58

BOSTON**Architecture**

Commercial buildings, c. 1850-1870. A. L. Huxtable. *II Prog Arch* 39:105-6 Ag '58
Granite wharf, warehouse, office buildings, c. 1823-1872. A. L. Huxtable. *II Prog Arch* 39:117-18 Je '58

Markets

Quincy market, 1825-1826. *II plan diags Prog Arch* 39:149-52 Ar '58

BOTANICAL chemistry

See also

Photosynthesis

BOTANY

See also

Fungi

BOTTLE handling

Spring-loaded metal fingers uncage bottles at high speed. *II plan diag Machine Design* 29:100-1 O 31 '57

BOTTLE washing machines

Drilled studs make nozzles; bottle-washing machine. W. Nikola. *II diags Am Mach* 102:140 Mr 10 '58

BOTTLED goods

See also

Wine

BOTTLES

Lazy man's method of making measurement of the average sidewall thickness of bottles. *Cer Ind* 69:31 D '57

See also

Thermos bottles

BOTTLES, Plastic

- Polyethylene bottle remains rigid after boiling. *Plastics World* 16:17 Ja '58
Polyethylene squeeze bottles. W. W. Myddleton. *Manuf Chem* 29:206-7 My '58

BOTTLING plants

- Color engineering gives plant big lift; Westchester county bottling co. A. V. Gemmill. *Food Eng* 30:91-2 S '58

Equipment

- Beer bottled hot via exchanger. H. Benecke. *Food Eng* 30:79 Je '58
Fills five tanks at once with special manifold; Coca Cola bottling works. A. J. Morgan, Jr. *Food Eng* 30:101-2 Ja '58
High speed beer bottling. *Engineering* 186:210 Ag 16 '58
Puts cost-cutting performance into packaging; Minneapolis brewing co. E. V. Burke. *Food Eng* 30:72-3 Ja '58
Versatile bottle uncaser reduces work and breakage. *Food Eng* 30:76 S '58

BOTTOMYCIN. See Antibiotics**BOUGUER, Pierre**

- Sketch. E. S. Barr. *Am J Phys* 26:104-5 F '58

BOULDERS

- Tracing ore boulders as a prospecting method in Canada. A. Dreimanis. *bibliog* (38 titles) maps Can. Min & Met Bul 51:73-80 F '58

BOUND water. See Water—Bound water**BOUNDARY layer**

- Application of Görtler's series method to the boundary-layer energy equation. E. M. Sparrow. *J Aeronautical Sci* 25:71-2 Ja '58
Application of Van Driest's method to a highly cooled partially dissociated turbulent boundary layer. H. Hidalgo. *Jet Propulsion* 28:487-8 Jl '58
Approximation of the boundary of a supersonic axisymmetric jet exhausting into a supersonic stream. E. S. Love. *J Aeronautical Sci* 25:130-1 F '58
Boundary conditions for the flow of a multi-component gas. D. E. Rosner. *bibliog Jet Propulsion* 28:555-6 Ag '58
Boundary layer along annular walls in a swirling flow. H. Yeh. *bibliog diags A S M E Trans* 80:767-74; Discussion. 774-6 My '58
Boundary layer control will be used by tomorrow's Mach 1-3 planes. I. Stambler. *Aviation Age* 28:118-20 L Mr '58
Boundary-layer correction in supersonic nozzle scaling. A. Kogan. *J Aeronautical Sci* 25:64 Ja '58
Boundary layer development in open channels. J. W. Delleur. *bibliog diags Am Soc C E Proc* 83 [EM 1 no 11981]-24 Ja '57; Discussion. 83 [EM 3 no 13141]-7-8 Jl '57; 84 [EM 1 no 15201]-3-16; Reply. 16-21 Ja '58
Boundary-layer equation for axially symmetric flow past a body of revolution; motion of a sphere. D. Meksyn. *bibliog J Aero/Space Sci* 25:631-4 O '58
Boundary layer in simple shear flow past a flat plate; discussion. M. B. Glauert. *J Aeronautical Sci* 24:348-9; Reply. T. Y. Li. 849-50 N '57
Boundary-layer slip solutions for a flat plate. H. Hashimoto. *J Aeronautical Sci* 25:68-9 Ja '58
Boundary-layer transition on a 10° cone at Mach number 2.31 as affected by extreme cooling. E. R. van Driest and W. D. McCauley. *bibliog J Aeronautical Sci* 24:780-1 O '57; Discussion. *J Aero/Space Sci* 25:592-3 S '58
Certain similar solutions to unsteady laminar boundary-layer equations in low-speed flow. K. T. Yang. *bibliog J Aero/Space Sci* 25:471-2 Jl '58
Character of the instability of the laminar boundary layer near the nose of a blunt body. A. M. Kuethe. *Il J Aeronautical Sci* 25:338-9 My '58
Combustion in the laminar boundary layer of chemically active sublimating surfaces. M. R. Denison and D. A. Dooley. *diag J Aeronautical Sci* 25:271-2 Ap '58
Design considerations for boundary layer control stero airplanes. F. G. Wagner. *bibliog diags Aero/Space Eng* 17:58-64 O '58
Estimation of turbulent heat transfer at the sonic point of a blunt-nosed body. M. Sibulkin. *bibliog diag Jet Propulsion* 28:548-54 Ag '58
Experiment on flat plate turbulent boundary layer flow; effect of local fluid addition on friction and velocity distribution. H. Barrow. *bibliog Il Roy Aeronautical Soc J* 62:135-8 F '58

- Experimental investigation of the stability of the hyperonic laminar boundary layer. A. Demetriades. *bibliog Il diag J Aero/Space Sci* 25:599-600 S '58
Experimental study of the turbulent boundary layer behind the initial shock wave in a shock tube. W. A. Martin. *bibliog Il diags J Aero/Space Sci* 25:644-52 O '58
Experiments on boundary-layer transition at supersonic speeds. E. R. van Driest and J. C. Boison. *Il diags J Aeronautical Sci* 24:885-99 D '57
Experiments on effects of yaw on boundary-layer development in supersonic cone flow. D. G. DeCoursin and W. S. Bradford. *bibliog J Aero/Space Sci* 25:662-4 O '58
Flame stabilization in the boundary layer of heated plates. R. W. Ziemer and A. B. Cambel. *bibliog Il diags Jet Propulsion* 28:592-9 S '58
Flow against a vertical plate with large suction. J. R. Foote. *J Aero/Space Sci* 25:462-9 Jl '58
Flow against a vertical plate with small suction. J. R. Foote. *J Aeronautical Sci* 25:331-2 My '58
Flows in partly dissociated gases. M. Heil. *bibliog J Aero/Space Sci* 25:459-60 Jl '58
Flows in partly dissociated gases. H. J. Metzendorf. *J Aeronautical Sci* 25:200-1 Mr '58
Heat transfer in a laminar boundary layer from a surface having a temperature distribution. B. N. Pridmore Brown. *diag J Aeronautical Sci* 24:912-13 D '57
Heat transfer in a laminar boundary layer with constant fluid properties and constant wall temperature. A. G. Smith and D. B. Spalding. *bibliog diags Roy Aeronautical Soc J* 62:60-4 Ja '58
Heat transfer in laminar boundary-layer flows of liquids having a very small Prandtl number. G. W. Morgan and others. *J Aeronautical Sci* 25:173-80 Mr '58
Heat transfer to a general three-dimensional stagnation point. E. Reshotko. *bibliog diag Jet Propulsion* 28:58-60 Ja '58
Injection of air into the dissociated hypersonic laminar boundary layer. S. M. Scala. *J Aero/Space Sci* 25:461-2 Jl '58
Interaction of shock waves and turbulent boundary layers. A. G. Hammit. *bibliog Il diags J Aeronautical Sci* 25:345-56 Je '58
Investigation of the end-wall boundary layer of a turbine-nozzle cascade. J. R. Turner. *Il diags A S M E Trans* 79:1801-5; Discussion. 1805-6 N '57
Jet transport project with boundary layer control. *Il diag Engineering* 186:296 S 5 '58
Laminar free-convective heat transfer from the outer surface of a vertical circular cylinder. K. Millsaps and K. Pohlhausen. *diag J Aeronautical Sci* 25:357-60 Je '58
Mass transfer cooling at Mach number 4.8. B. M. Leardon and others. *J Aeronautical Sci* 25:67-8 Ja '58
Mass-transfer cooling of a laminar boundary layer by injection of a light-weight foreign gas. E. R. G. Eckert and others. *bibliog Jet Propulsion* 28:34-9 Ja '58
Numerical method for solving boundary-layer equations. S. W. Liu. *J Aero/Space Sci* 25:598-9 S '58
Oscillating shock boundary-layer interaction. L. Trilling. *diag J Aeronautical Sci* 25:301-4 My '58
Practical aspects of boundary layer control; abstract. H. C. Higgins. *Aircraft Eng* 30:239 Ag '58
Prediction of transition in the boundary layer on an airfoil. L. F. Crabtree. *bibliog Roy Aeronautical Soc J* 62:525-8 Jl '58; Discussion. E. J. Preston. 62:901 D '58
Rate of heat transfer in liquids with gas injection through the boundary layer. E. B. Gose and others. *J Ap Phys* 28:1509 D '57
Relative importance of free-stream vorticity and self-induced pressure gradient on a flat-plate boundary layer. H. Mirels. *bibliog J Aeronautical Sci* 25:339-40 My '58
Shear flow of a viscoelastic fluid past a flat plate with suction. A. S. Gupta. *J Aero/Space Sci* 25:591-S '58
Simplified form of the auxiliary equation for use in the calculation of turbulent boundary layers. T. J. Black. *bibliog Roy Aeronautical Soc J* 62:215-19 Mr '58
Skewed boundary-layer flow near the end walls of a compressor cascade. R. W. Moore, Jr. and D. L. Richardson. *bibliog Il diags A S M E Trans* 79:1789-97; Discussion. 1797-80 N '57

BOUNDARY layer—Continued

- Small barium titanate transducer for aerodynamic or acoustic pressure measurements. W. W. Willmarth. *bibliog* *il* *diags* *R Sci Instr* 29:218-22 Mr '58
- Solution of a laminar boundary layer with rotational free stream. F. D. Hains. *J Aero/Space Sci* 25:682 O '58
- Some solutions of the Navier-Stokes equations with time dependent density. R. D. Sullivan and C. D. Donaldson. *J Aeronautical Sci* 25:337-8 Mr '58
- Space-time correlations of the fluctuating wall pressure in a turbulent boundary layer. W. W. Willmarth. *bibliog* *J Aeronautical Sci* 25:335-6 My '58
- Stabilizing effect of centrifugal forces on the laminar boundary layer over convex surfaces. L. Lees. *diag* *J Aeronautical Sci* 25:407-8 Je '58
- Theory of stagnation point heat transfer in dissociated air. J. A. Fay and F. R. Riddell. *bibliog* *J Aeronautical Sci* 25:73-85+ F '58
- Transformation of the compressible turbulent boundary layer. A. Mager. *bibliog* *J Aeronautical Sci* 25:305-11 My '58
- Turbulence in civil engineering; turbulence in a diffuser boundary layer. J. M. Robertson and G. L. Caeheuff. *bibliog* *Am Soc C E Proc* 83 [HY 5 no 1393]:1-19 O '57; Discussion. T. S. Strelkoff. 84 [HY 2 no 1616]:17-18 Ap '58; Reply. 84 [HY 5 no 1832]:55-8 O '58
- Turbulent boundary layer in a conical diffuser. H. Raser. *bibliog* *diag* *Am Soc C E Proc* 84 [HY 3 no 1634]:1-17 Je '58
- Turbulent heat transfer through a highly cooled partially dissociated boundary layer. R. F. Probst and others. *Jet Propulsion* 28:56-8 Ja '58
- Unsteady interaction between a weak thermal layer and a strong plane oblique shock. C. T. Chang. *bibliog* *diags* *J Aeronautical Sci* 25:317-23 My '58
- Vaporization into a hypersonic laminar boundary layer. S. M. Scala. *diag* *J Aero/Space Sci* 25:655-6 O '58
- BOUNDARY value problems**
- Adsorption kinetics with diffusion control; the plane and the expanding sphere. P. Delahay and C. T. Pike. *Am Chem Soc J* 80:2628-30 Je 6 '58
- Analogue solution of two point boundary value problems. D. Greenspan and others. *diags* *R Sci Instr* 28:1040-2 D '57
- Analogue techniques for resolving two-point boundary value problems. D. Greenspan. *diag* *R Sci Instr* 29:787-8 S '58
- Machine solution of a boundary value problem for a continuous adsorb process. A. W. Pollock and others. *bibliog* *diags* *Ind & Eng Chem* 50:725-9 My '58
- Numerical calculation of certain small electrostatic effects. R. Cade and K. A. Small. *diag* *J Ap Phys* 29:53-5 Ja '58
- Truncation error of discrete approximations to the solutions of Dirichlet problems in a domain with corners. P. Laasonen. *Assn for Computing Mach J* 5:32-8 Ja '58

BOURDON, Eugène

Sketch. E. S. Barr. *Am J Phys* 26:107-8 F '58

BOURDON gages. See Pressure gages**BOVET, Daniel**

Nobel prize in medicine and physiology. *por* *Chem & Eng N* 35:120 N 4 '57

BOWERMAN, Myron R.

ASME elects five to grade of Fellow member. *Mech Eng* 80:146 Mr '58

BOWLING alleys

Designed to lend glamour to bowling; All star bowling alleys. *il* *plan Arch Rec* 124:159-60 Ag '58

Equipment

Striking machine operation for the mechanical pin-boy; Pinspotter. J. E. McConnell. *il* *diag* *Mach* 64:134-6 T '58

Lighting

Bowling alleys. R. W. Wilson. *il* *Illum Eng* 53:441-2 Ag '58

BOXES

See also

Crates

BOXES, Paper. *See Paper boxes*

BOY scouts

Scouts publish chemistry pamphlet. *il* *Chem & Eng N* 35:90-1 D 2 '57

BOYCOTT

It's up to you to beat down this dangerous union threat; UAW strike against Kohler co. *Cer Ind* 69:124 D '57

BOYLES law

Inexpensive Boyle's law apparatus. D. E. Moe. *diag* *Am J Phys* 26:35 Ja '58

BRACING

- Analysis of frames with knee braces. S. L. Lee. *diags* *Civil Eng* 28:670-1 S '58
- Embankment stability as a factor in adequate sheeting and bracing. W. S. Housel. *il* *diags* *Am Water Works Assn J* 50:287-96 F '58
- Lateral bracing of columns and beams. G. Winter. *bibliog* *il* *diags* *Am Soc C E Proc* 84 [ST 2 no 1561]:1-22 Mr '58; Discussion. 84 [ST 3 no 1656]:89-90 My; [ST 5 no 1787]:25-40 S '58
- Steel bracing aids toll plaza treadles; Delaware memorial bridge. R. A. Haber. *il* *diags* *Eng N* 160:62 Je 12 '58

BRAGDON, John S.

White House role in public works; first special assistant to coordinate public works planning. *pers Eng N* 161:21-2, cover Ag 21 '58

BRAIDING machines

Planning winder production; method used in a braiding plant. M. Havinovski. *Textile Ind* 122:178-9+ O '58

BRAIN

- Computer analyzes brain waveforms. C. J. Zaander. *il* *diags* *Electronics* 31:68-72 Jl 18 '58
- Physiology of imagination. J. C. Eccles. *il* *diags* *Sci Am* 199:135-42+ S '58

See also

Cerebellum

Electroencephalography

BRAINSTORMING. *See Ideas in business*

BRAKE drums

Mechanized molding line produces gray iron brake drums. R. H. Herrmann. *il* *Foundry* 86:90-3 Jl '58

BRAKE linings

- Asbestos textiles and brake linings. *il* *Engineering* 185:412 Mr 28 '58
- Properties of friction materials. P. R. Basford and S. B. Twiss. *bibliog* *diags* *A S M E Trans* 80:402-10 F '58

Testing

Determining the coefficient of friction for moulded and laminated brake-lining materials. H. W. Baker. *il* *Engineering* 185:785-6 Je 20 '58

BRAKE shoes

Some basic properties of shoe brakes. G. A. G. Fazekas. *diags* *J Ap Mech* 25:7-10 Mr '58

BRAKES

- Mechanics of vehicles; dynamics of braking. J. J. Taborek. *il* *diag* *Machine Design* 29:136-41 N 14 '57
- Voice coil actuates clutch or clutch-brake. *il* *diags* *Product Eng* 29:103-4 My 12 '58

See also

Braking, Dynamic

BRAKES, Airplane

- Aircraft brake system to save weight, wear. *Product Eng* 29:20-1 Ag 11 '58
- Clamshell gives jets powerful braking action. *il* *Product Eng* 28:23 D 30 '57
- 1000 F pneumatic servo system. C. H. Cannon. *S A E J* 66:70-1 Ap '58
- Recent advances in the design of aircraft tyres and brakes. H. W. Trevasakis. *il* *diags* *Roy Aeronautical Soc J* 62:203-11 Mr '58
- Skid warning system for aircraft. *il* *Safety Maint* 14:22+ N '57
- Wheel lock inhibits braking. *il* *diag* *Engineer* 205:940 Je 20 '58

Cooling

- Liquid brake system for aircraft. Franklin Inst J 265:435-6 My '58
- Liquid-cooled brake. *il* *Aviation Age* 29:82 My '58

Manufacture

Oxygen cutting speeds jet brake rotor production. *il* *Welding J* 37:709 Jl '58

BRAKES, Automobile

- Brake development; abstract. W. Tauss. *S A E J* 66:37 Jl '58
- Brake picture broadens as '59 brings wider drums, more aluminum drums, slow advance in disc brakes. *il* *Steel* 143:49-50 Jl 7 '58
- Caliper disc brakes. S. E. Sherlock. *il* *diags* *S A E J* 66:43-5 Je '58
- Dual-rate brake booster increases pressure 40 per cent; Baldwin F.E. hydro booster. *diag* *Automotive Ind* 118:36 Mr 1 '58
- London show review; brakes. *il* *diags* *Automobile Eng Extra* no 47:491-4 N 27 '57

BRAKES, Automobile—Continued

- Properties of friction materials. P. R. Basford and S. B. Twiss. bibliog diags A S M E Trans 80:402-10 F '58
 Skid prevention; experiments with a device to prevent wheels locking during braking. R. D. Lister and R. N. Kemp. bibliog il diags Automobile Eng 48:382-91 O '58
 Trends in 1958 car design; brakes feature. il S A E J 65:66E D '57
 Vacuum brake relay valve. diags Automobile Eng 48:146-7 Ap '58

Vibration

- Properties of friction materials; theory of vibration in brakes. P. R. Basford and S. B. Twiss. bibliog diags A S M E Trans 80:407-10 F '58

BRAKES, Eddy current

- Eddy current brakes; bridges sodium flow. il Chem Eng 65:66 My 19 '58
 Magnetic coupling and magnetic-particle brake. E. A. Studer. il diags Oil & Gas J 55:55-60 D 23 '57

BRAKES, Electric

- D-c braking for induction motors. diags Power Eng 61:90 D '57
 D-c braking of a-c motors in the textile industry; abstract. J. C. Marous. Machine Design 30:115 O 31 '57
 Electric clutches and brakes permit toggle-switch operation of paver. il diags Machine Design 30:110-11 My 1 '58
 Key to industrial progress; motor braking. J. C. Ponstingl. il diags Westinghouse Eng 16:130-4 S '56; Same abr. Product Eng 28: H2-3 Mid-O '57
 Miniature clutches, brakes have no brushes. il diags Product Eng 28:99 F 17 '58
 Seven ways to brake electric motors; drawings with text. N. Peach. Power 101:126-7 N '57

Standards

- D-c mill motor brake standard. diags Iron & Steel Eng 34:130-1 O '57

BRAKES, Hydraulic

- Brake fluid manufacturing. L. E. Carr. il Soap & Chem Spec 33:61-4+ N '57
 Caliper disc brakes. S. E. Sherlock. il diags S A E J 66:43-5 Je '58

BRAKES, Hydropneumatic

- DAF hydro-pneumatic brake system. il plan diags Automobile Eng 48:77-81 F '58

BRAKES, Magnetic

- Design characteristics of magnetic steel castings. W. C. Pierce. il Mech Eng 80:64-6 Ap '58
 Magnetic coupling and magnetic-particle brake. E. A. Studer. il diags Oil & Gas J 55:55-60 D 23 '57

BRAKES, Motor bus

- Lockheed power brake; accumulator actuated hydraulic servo system designed for public service vehicles. il diags Automobile Eng 48:341-5 S '58

BRAKES, Motor truck

- DAF hydro-pneumatic brake system. il plan diags Automobile Eng 48:77-81 F '58
 Lockheed power brake; accumulator actuated hydraulic servo system designed for public service vehicles. il diags Automobile Eng 48:341-5 S '58

- Mechanics of vehicles; braking performance limits. J. J. Taborek. diag Machine Design 29:126-33 N 28 '57

- Power and balance are key to good braking. H. T. Seale. S A E J 66:122-3 Ja '58
 Seek better truck-brake design. Product Eng 29:21 Jl 21 '58

- Zero-lag vacuum brakes for road vehicle trains; high-speed electro-vacuum system. diag Engineering 186:190 Ag 8 '58

BRAKES, Vacuum

- Rippon vacuum brake. H. C. Rippon. diags Automobile Eng 48:356-7 S '58
 Zero-lag vacuum brakes for road vehicle trains; high-speed electro-vacuum system. diag Engineering 186:190 Ag 8 '58

BRAKING, Dynamic

- Dynamic brake stops power tools. F. J. D. Erls. il diags Radio-Electronics 29:31-2 Ar '58
 Recent hot strip mill roughing trains. J. H. Greiner. il diags Iron & Steel Eng 35: 151-5; Discussion. 155-9 S '58

- BRANCH stores.** See Department stores—Branch stores

- BRAND names.** See Trade marks

- BRANDS, Private.** See Private brands

BRANDT, Allen D.

- Cameron, Brandt and Kuka win AISE paper awards. por Iron & Steel Eng 34:132 O '57

BRASS

- Decoration of dislocations in α -brass. R. Sun and H. Wilsdorf. bibliog il Franklin Inst J 265:413-15 My '58
 Dimensional changes resulting from dezincification of alpha brass. W. J. Cooley and D. D. Van Horn. bibliog il diag J Ap Phys 28:1292-7 N '57

- Electropolishing copper, brass and aluminum. K. F. Lorking. bibliog Metal Finishing 56: 64+ Mr '58

- New method for bonding polyethylene to rubber, brass, and brass-plated metals. H. Peters and W. H. Lockwood. il Rubber World 138:418-23+ Je '58

- Properties of materials; cast leaded red and semi-red brasses. Materials in Design Eng 48:98 Mid-O '58

- Properties of materials; coppers and brass. Materials in Design Eng 48:94-5 Mid-O '58

- Properties of materials; tin and aluminum brasses. Materials in Design Eng 48:102 Mid-O '58

- Staining of copper and brass. E. Mattsson. bibliog (37 ref) il Corrosion 14:48-52 F '58

- Study of order in annealed and irradiated alpha brass by lattice parameter measurements. R. Feder and others. bibliog J Ap Phys 29:984-8 Je '58

Metallography

- Development of microscopic inhomogeneities of deformation in polycrystalline 70:30 brass; some effects of method of deformation. L. E. Samuels and M. Hatherly. bibliog il Inst Metals J 86:442-6 Je '58

BRASS founding

- Brass and bronze; abstracts of AFS papers. Foundry 86:144+ Ag '58

- Brass foundry can have good working conditions. W. G. Gude. il diag Foundry 86:76-9 O '58

- Centerline shrinkage. C. W. Amman. diags Foundry 86:156+ Je '58

- Cupola melting of brass. C. W. Amman. diag Foundry 86:207-8 Mr '58

- M. A. Harrison mfg. co. believes that customers must be educated to the possibilities of shell molding. R. H. Herrmann and J. C. Miske. il Foundry 86:100-1 Ap '58

BRASS works

- New brass mill; American brass co. il Iron Age 182:27 Jl 3 '58

- Strip mill with automatic gauge control; D. F. Taylor and co. il Engineer 204:860-2 D 13 '57

- U.S. industries hurt by imports; need immediate action. T. E. Veltfort. Heating-Piping 29:82-5 D '57

Power

- Packaged boiler meets process and power needs; Scovill mfg. co. C. K. Stickney. flow chart il diag Combustion 30:38-41 S '58

BRAZIL

- See also subdivision Brazil under special subjects, e.g.
 Automobile industry and trade
 Chemical engineering
 Geology
 Mines and mineral resources
 Petroleum industry and trade

BRAZIL, Indiana**Water supply**

- Telestepped well supply for the clay city of the world. G. P. Huntington. il diags Water Works Eng 111:928-32 O '58

BRAZING

- Alloy selection for brazing. L. V. LaRou. il Machine Design 29:132-5 N 14 '57
 Aluminum waveguide, weld or braze? L. Virgile and J. Difazio. il Electronic Ind 17:90-4 Ap '58

- Bonding of cermet-valve components to metals. G. M. Slaughter and others. bibliog il Welding J 37:sup249-54 Je '58

- Brazing alloys for guided missiles. A. T. Cape. il Metal Prog 74:99-104 S '58

- Brazing alloys tackle heat barrier. il Steel 142:140-2 My 19 '58

- Brazing-filler metals meet high-temperature needs; abstracts. A. M. Setapen. il Iron Age 181:110-11 My 8 '58; Tool Eng 40:119-20 Je '58

- Brazing honeycomb sandwich. F. J. Filippi. il diags Tool Eng 41:98-101 S '58

- Brazing makes metal hose of coiled wire. F. C. Schaefer and T. Admerand. il Am Mach 101:109 D 2 '57

- Brazing makes strong assemblies out of paper-thin parts. A. Gelb and G. E. Korb. il Am Mach 102:105 Je 16 '58

BRAZING—Continued

- brazing; motorized setup simplifies flanged-part fluxing. *il* Iron Age 182:76-7 J1 3 '58
- Brazing; processes, joint designs and fluxes. *il* diags Welding Eng 43:29-34 A* '58
- Brazing salvages cracked stampings. E. H. Conway. *il* Steel 142:110+ Mr 3 '58
- Brazing sheet follows contoured surfaces; honeycomb construction. *il* Iron Age 181:108 My 1 '58
- Cold retort furnace brazes high-temperature honeycomb. R. R. Giler. *il* diags Iron Age 181:74-5 Ja 16 '58
- Combine brazing and hardening in one operation; General Electric co. R. E. Wright. *il* Iron Age 182:80-1 J1 17 '58
- Describe brazing filler metals for high-temperature service. Ind Lab 9:14-5 Je '58
- Dip brazing aluminum with paste filler. A. M. Setapen. *il* Welding Eng 43:30-3 Ja '58
- Dip brazing of aluminum parts with accurate assemblies; Raytheon mfg. co. E. G. Slotta. *il* Iron Age 182:92-3 S 25 '58
- Dip-brazing eases machining of complex parts for klystron tube mount. J. Gombos. *il* Electronics 31:186 Mr 14 '58
- Dip brazing machining. V. J. Graves. Light Metal Age 15:23 D '57; Same cond. *il* Electronics 31:118+ Ja 17 '58; Same cond. Machine Design 30:146+ F 6 '58
- Dip brazing of aluminum. J. W. Maston. *il* diags Light Metal Age 16:8-11 F '58; Same cond. Mod Metals 14:36+ F '58
- Dual fluxing boosts brazing rate. W. E. Atkinson. *il* Iron Age 181:100-1 F 6 '58
- Electric heat boosts production efficiency for plating and brazing. L. Albertson. *il* Elec World 149:106 Ap 21 '58
- Fabrication of small piping by welding and brazing. A. N. Kugler. *il* Air Cond Heat & Ven 55:53-8 Ag '58
- Fatigue characteristics of single-lap joints of AISI 347 brazed with a Ni-Cr-Si-B-C alloy. R. G. Aspden and W. Feduska. biblog *il* diags J 37:sup 125-3 Mr '58
- Filler metal comparison charts: AWS A5.0-57. Welding J 37:129 F '58
- Filler metals for joining. O. T. Barnett. *il* Welding Eng 43:35-8 Ag '58
- Flux in flame finds greater applications. E. H. Conway. *il* Welding Eng 43:40-2 Mr '58
- Fundamentals of brazing for elevated-temperature service. M. D. Bellware. *il* Welding J 37:683-91 J1 '58
- Graphite blocks aid honeycomb brazing. *il* Iron Age 181:130 Ap 17 '58
- Heat-exchanger fabrication. J. Patriarca and others. *il* diags Welding J 36:1172-3 D '57
- High temperature brazing looks good for missile parts. J. V. Long and G. D. Cremer. *il* Aviation Age 29:30-1+ My '58
- High-temperature vacuum brazing of jet-engine materials. E. G. Hirschke, Jr. and G. S. Hoppin. 3d. *il* Welding J 37:sup 233-40 My '58
- Homemade rig brazes automatically; American machine & foundry plant. *il* Am Mach 102:134 Mr 10 '58
- How to braze cast iron. *il* Oil & Gas J 55:126 O 28 '57
- How to braze copper tube. A. I. Heim. *il* Air Cond Heat & Ven 64:72-4 N '57
- How to weld copper and its alloys; braze welding. L. F. Spencer. *il* diags Steel 142:122-3 My 26 '58
- Industrial know-how handbook: soldering and brazing. *il* Mill & Factory 62:MW32 My '58
- Joining and fastening of materials; brazing and soldering alloys. Materials in Design Eng 48:374-7 Mid-O '58
- Joining problems aired; Western welding, brazing and soldering conference, 1st. Metal Prog 74:93-6 J1 '58
- Knurling becomes a design criterion; resistance brazing. W. L. Hughes and L. E. Mills. *il* Welding Eng 43:37 Ap '58
- Magnesium dip brazed accurately. *il* Steel 143:101 Ag 4 '58
- Manner and means. keys to brazing economy; Elbeco div. Aeroquip corp. C. E. Gumbert. *il* Welding Eng 43:38-9 F '58
- Motorized setup simplifies fluxing of flanged parts. *il* Welding J 37:809 Ag '58
- New nickel-boro phase diagram for brazing-alloy development. G. S. Hoppin. 3d. *il* Welding J 36:sup 238-30 D '57
- New process features close control of brazing heat for aluminum or magnesium. diags Welding Eng 43:38-9 Je '58
- Principles of braze welding; illustrated instructions. Welding J 37:708 J1 '58
- Vacuum-metallurgical research gives industry a glimpse into the future. R. C. Bertossa. biblog *il* diags Welding J 36:sup 483-9 N '67; Excerpts. Mech Eng 79:1039-41 N '57
- Welding and brazing of precipitation-hardening steels. F. K. Lamson. Machine Design 29:180+ D 12 '57; Same. S A E J 65:37-3 D '57
- Wrecked Diesel engine and no replacements; braze-welding fixed it. *il* Oil & Gas J 56:129 Je 9 '58
- See also
Silver solder
Solder and soldering

Testing

- Nature of high-temperature brazing alloy; base metal interface reactions. W. Feduska. biblog *il* Welding J 37:sup 62-73 F '58
- Proposed procedure for testing shear strength of brazed joints. F. M. Miller and R. L. Peaslee. biblog *il* diags Welding J 37:sup 144-50 Ap '58

BRAZING, Silver. See Silver solder**BREAD**

- Boosts payroll, and saves dollars; New process baking co. *il* Food Eng 30:72 Ap '58
- Fortification of bread with lysine. R. Cullik and H. R. Rosenberg. biblog *il* diags Food Tech 12:169-74 Ap '58
- High-speed overwrapping with polyethylene makes debut. *il* Food Eng 30:68-70 Je '58
- New type of bread; wheat-and-rice bread. A. Mosqueda-Suarez. biblog *il* Food Tech 12:15-17 Ja '58
- Organic acids and esters produced in preferments. J. A. Johnson and others. biblog J Agri & Food Chem 6:384-7 My '58
- Polyethylene bread wrap. *il* Mod Plastics 35:118-19+ Je '58
- Radiation-induced changes in bread flavor. R. C. Nicholas and others. biblog *il* Food Tech 12:52-4 Ja '58

Staling

- Preparation of 3-stearoyl-D-glucose, a bread-softening agent. F. H. Otey and C. L. Mehlreiter. biblog Am Oil Chem Soc J 35:455-7 S '58

BREAD, Frozen

- Moisture migration in frozen canned bread. J. G. Woodroof and H. R. Malcolm. *il* Food Tech 12:268-9 Je '58

BREADBOARDS (electronics). See Electronic circuits**BREAKDOWN, Electric. See Dielectrics****BREAKWATERS**

- Closure of the breach in Bayocean peninsula. Oregon. H. E. Brown and others. *il* maps diags Am Soc C E Proc 84 [WW 1 no 1516]:1-20 Ja '58

- Polythene pipe installation for wave reduction. *il* Brit Plastics 31:332 Ag '58

- Shipboard hydraulic breakerwater. R. A. Dilley. biblog diags Am Soc C E Proc 84 [WW 2 no 1569]:1-21 Mr '58; Discussion. J. B. Herlich. 84 [WW 4 no 1785]:7-9 S '58

See also**Groins****Costs**

- Breakwater and harbor of refuge, Michigan; unit prices. Eng N 160:84 My 8 '58

BREAKWATERS, Concrete

- Tetrapod challenged by new tribar shape. *il* Eng N 161:36 J1 3 '58

BREAST**Diseases**

- Control of an outbreak of staphylococcal infections among mothers and infants in a suburban hospital. F. R. Fekety and others. biblog (33 titles) Am J Pub Health 48:298-310 Mr '58

- Evaluation of the phone survey in an outbreak of staphylococcal infections in a hospital nursery for the newborn. W. A. Murray, Jr. and others. biblog Am J Pub Health 48:310-18 Mr '58

BRECCIA

- Salt-dome breccia. P. F. Kerr and O. C. Kopp. biblog *il* diags Am Assn Pet Geologists Bul 42:548-60 Mr '58

BREECHBLOCKS

- Clearing the breechblock production bottleneck. G. C. Hohenstein and others. *il* diags Mach 64:139-41 Mr '58

BREITUNG, Charles Adelbert

- Memorial. W. J. Sherry. por Am Assn Pet Geologists Bul 42:2026-7 Ag '58

BREMSTRALUNG

- Bremstrahlung gages improve thickness control. N. A. Hart. *il* diags Control Eng 5:125 Ap '58

- BREUER, Marcel**
Housing by Breuer; Institute for advanced study, Princeton, N.J. il plans diagz Arch Rec 123:157-64 Mr '58
- BREWSTERIES**
Unusual insulation technique puts plant in service fast; F&M Schaefer brewing co. il Power Ind 74:28 Ap '58
- Electric equipment**
- Modernization clips brewery production costs. J. E. Parker. il Elec World 148:86 N 4 '57
- Equipment**
- Automation key to brewery grain handling; Latrobe brewing co. E. H. Pechan. il Elec World 148:104 N 18 '57
- Brewers' and allied traders' exhibition, London, Sept. 30-Oct. 4. il Engineer 204:641-2 N 1 '57
- Three-way kettle control guards product uniformity; American brewery, Inc. L. Trauberman. diag Food Eng 29:93 N '57
- BREWING industries**
New plant taps new market; Carling brewery. C. Dixon. diag Food Eng 30:65 Ja '58
- BREWSTER, Ray Q.**
Writer, teacher, and scientist. por Chem & Eng N 35:116 N 18 '57
- BRICK, Fire.** See Fire brick
- BRICK construction**
Brick girders spanning 65 feet; St Hedwig's church, St. Louis. il diag Eng N 161:39-40 J1 31 '58
- Brick panels developed for construction economies. il Am Cer Soc Bul 36:453 D 15 '57
- Goatskins and ox-carts on big job; U.S. army engineer corps is supervising armored-division cantonnement for the Pakistani army. il Eng N 160:71-2 Je 12 '58
- See also*
- Brick houses
Walls, Brick
- BRICK houses**
Brick house built sans bricklayers; brick panels. il diag Arch Rec 122:196 D '57
- BRICK industry and trade**
- Kuwait**
- Getting bricks from sand for the Shaikh of Kuwait. il map plans Engineering 185:104-6, 188-91 Ja 24, F 7 '58
- BRICK walls.** See Walls, Brick
- BRICK works**
- Lighting**
- Gas found best for illumination of brick plant. il Am Gas Assn Mo 40:21 F '58
- BRICKMAKING**
Automatic application of special brick coatings. R. J. Verba. Am Cer Soc Bul 37:384-5 Ag 15 '58
- Getting bricks from sand for the Shaikh of Kuwait. il map plans Engineering 185:104-6, 188-91 Ja 24, F 7 '58
- BRICKS**
See also
Adobe
Clay
- Testing**
- Effects of type, thickness, and age of capping compounds on the apparent compressive strength of brick. N. W. Kelch and E. E. Emme. A S T M Bul p38-41 My '58
- BRICKS, Insulating**
See also
Fire brick
- BRIDGE and structural engineering, International association for.** See International association for bridge and structural engineering
- BRIDGE approaches**
Big capacity plant mixes asphalt for Mackinac bridge. il Roads & Sts 101:153, cover F '58
- Carquinez bridge approach leaps from big cut. il Eng N 161:27 Ar 21 '58
- Defects delay job; prestressed bridge beams crack, ordered removed; Hampton Roads bridge-tunnel approaches. Eng N 160:24-5 F 20 '58
- Design features of lower deck of George Washington bridge. L. P. Gould. il plans diagz Am Soc C E Proc 84 [ST 3 no 1632]:1-22 My '58
- BRIDGE design**
Aluminum bridges the mod. il Chem & Eng N 36:29 S 1 '58
- AASHO bridge studies will start soon. il diagz Eng N 161:49-51 J1 10 '58
- Analysis of open-spandrel arches. A. F. Diwan. bibliog diagz Am Soc C E Proc 84 [ST 2 no 1564]:1-36 Mr '58
- Application and development of AASHO specifications to bridge design. B. L. Erickson and N. Van Benam. bibliog (34 ref) diagz Am Soc C E Proc 83 [ST 4 no 1320]:1-38 J1 '57; Discussion. [ST 4 no 1329]:3-4 J1 '57; 84 [ST 1 no 1522]:75-92 Ja '58
- Beam deflection in bridges designed for continuity. G. Villenave. diagz Am Soc C E Proc 83 [ST 3 no 1234]:1-8 My '57; Discussion. Z. Sobotka. 83 [ST 6 no 1442]:19-26 N '57; Reply. 84 [ST 3 no 1566]:15-16 My '58
- Deflection limitations of bridges; progress report of the committee on deflection limitations of bridges of the Structural div. Am Soc C E Proc 84 [ST 3 no 1633]:1-20 bibliog (14-20) My '58; Discussion. 84 [ST 5 no 1787]:67-8 S; [ST 6 no 1827]:35-9 O; [ST 7 no 1857]:37-8 N '58
- Design and fabrication by welding of the Carquinez Strait bridge. L. C. Hollister. il plan diagz Welding J 57:308-19 Ap '58
- Design features of lower deck of George Washington bridge. L. P. Gould. il plans diagz Am Soc C E Proc 84 [ST 3 no 1632]:1-22 My '58
- Design of the main towers of the Mackinac bridge. K. H. Chu. bibliog il diagz Am Soc C E Proc 84 [ST 2 no 1565]:1-16 Mr '58
- Full-scale test on a half-scale bridge; experimental and analytical bridge at Northwestern university. il Eng N 160:53-4+ Ja 30 '58
- New Manahawkin Bay bridges built for long life across salt water. L. C. Petersen. il maps diag Civil Eng 28:574-7 Ar '58
- Possible subsidence countered in three new bridges. il diagz Engineering 185:440-1 Ap 4 '58
- Precast reinforced concrete slab bridges with stiffened edges. A. Gallia. bibliog diagz Am Concrete Inst J 29:1083-91 Je '58; Discussion. 30:1427-9 pt 2 D '58
- Problems of small bridge design. J. B. Mallette. il diagz Pub Works 89:117-20 Ap '58
- Richmond-San Rafael bridge. il map diagz Engineer 204:651-3, 689-91, 727-9, 766-7 N 1-22 '57
- Simplified design of composite bridge stringers. J. S. Hacker. diagz Am Soc C E Proc 83 [ST 6 no 1432]:1-6 N '57; Discussion. P. Spindel. 84 [ST 2 no 1576]:43-6 Mr '58
- Stiffening effects of edge beams on a right slab bridge. J. A. N. Lee. bibliog il diagz Engineering 185:539-42 Ap 25 '58
- Vehicle loads and highway bridge design. S. Mitchell and G. F. Borrmann. Am Soc C E Proc 83 [ST 4 no 1302]:1-21 J1 '57; Discussion. D. T. Wright. 84 [ST 1 no 1522]:29-30 Ja '58
- See also*
- Bridges—Load
Bridges, Suspension
Influence lines
- BRIDGE engineering**
AASHO bridge studies will start soon. il diagz Eng N 161:49-51 J1 10 '58
- Composite construction of bridges using steel and concrete. R. David and G. G. Meyerhof. bibliog diagz Eng J 41:41-7 My '58
- Distribution of loads on bridge decks. A. M. Lount. diagz Am Soc C E Proc 83 [ST 4 no 1303]:1-23 J1 '57; Discussion. 83 [ST 6 no 1442]:39 N '57; 84 [ST 1 no 1522]:31-41 bibliog (p38-8) Ja; [ST 2 no 1576]:17-21 Mr '58; Reply. 84 [ST 5 no 1787]:3-6 S '58
- Full-scale test on a half-scale bridge; experimental and analytical bridge at Northwestern university. il Eng N 160:53-4+ Ja 30 '58
- High-speed computer applied to bridge impact. C. T. G. Looney. Am Soc C E Proc 84 [ST 5 no 1759]:1-41 S '58
- Richmond-San Rafael bridge. il map diagz Engineer 204:651-3, 689-91, 727-9, 766-7 N 1-22 '57
- Sand embankment problems along the Calumet skynway. C. R. Shupe. il maps diagz Roads & Sts 101:53-3 Je '58
- Selection of the cross section for a composite T-beam. R. S. Fountain and I. M. Viest. diagz Am Soc C E Proc 83 [ST 4 no 1313]:1-29 J1 '57; Discussion. A. Zaslavsky. 84 [ST 1 no 1522]:51-3 Ja '58
- Soils studies prior to bridge construction. T. R. Dames. Pub Works 89:117-13 My '58
- Tables, calculations, etc.**
- Bridge piers designed by computer. E. M. Chafets and E. Plaxe. il diagz Civil Eng 28:337-40 My '58
- Computer prints out pier bent design loads by AASHO groups. diag Eng N 160:84+ My 15 '58

BRIDGE engineering—Tables, calculations, etc.

—Continued

Designing steel bridges by computer. C. W. Zahler. *il* diag Civil Eng 28:341-3 My '58
Solving spiral bridge geometrics by computer. J. Beizer. *il* diag Civil Eng 28:334-6 My '58

BRIDGE failures

Anchorages slip wrecks suspension bridge, British Columbia. *il* Eng N 159:26 O 24 '57; Discussion. 160:10+ F 13 '58
Failure loss shared; all parties to Canadian bridge collapse pay. Eng N 160:23 Ap 17 '58
Falsework failure dumps bridge. *il* Eng N 160:32 Mr 6 '58
Peace River suspension bridge collapses. *il* Civil Eng 27:398 D '57
What happened at Vancouver? *il* map Eng N 160:21-2 Je 26 '58

BRIDGE railings

Steel box bridge railing easy to install. *il* diag Roads & Sts 101:136 F '58

BRIDGES

Bridges in the news; illustrations with text. Civil Eng 28:707 S '58
Cable installations on bridges. E. W. Scheirer and L. Winitzky. *il* diag Power Apparatus & Systems p39-42 Ap '58; Excerpts. Elec Eng 77:224 Mr '58
Crossing bridges; spans over five major rivers pushed by officials. Eng N 159:77 D 26 '57
Flame cambering of beams for bridges. A. H. Yoch. *il* Welding J 37:138 F '58
Major transportation projects. *il* map Eng N 160:168+ F 13 '58
Potomac bridge gets a green light. Arch Forum 108:8-9 Ap '58

See also

Bridge approaches
Bridge design
Chicago—Bridges
Hudson River bridges
New Orleans—Bridges
Pipe lines—Bridge crossing
San Francisco Bay bridges
Tacoma, Washington—Bridges

Abutments

This turnpike bridge deck is level but shims go in to keep it that way. *il* Eng N 159:28 D 5 '57

Architecture

American institute of steel construction honors nine outstanding new bridges. *il* Civil Eng 27:328 N '57
Bridge beauty winners, welded! American institute of steel construction's 29th annual aesthetic bridge competition. *il* Welding Eng 43:29 Ja '58
Here are the most beautiful bridges; American institute of steel construction annual aesthetic bridge competition. *il* Eng N 161:26-7 S 25 '58

Clearance

Low bridges—low blow to south Louisiana drilling operators. Oil & Gas J 56:81 J1 14 '58

Costs

Baltimore rebuilds bridges, unit prices. Eng N 160:151 My 15 '58
Bidding battle on Virginia bridge; unit prices. Eng N 160:110 Je 12 '58
Bidding close on four span steel bridge, Illinois; unit prices. Eng N 160:86 Je 5 '58
Biscayne Bay bridges; unit prices. Eng N 160:87 Ja 23 '58
Concrete replaces asphalt deck; unit prices. Eng N 161:82 Ar 14 '58
Iowa prices on welded aluminum bridge; unit prices. Eng N 160:76 F 20 '58
Michigan bridge; double-deck bridge will have vertical lift span; unit prices. Eng N 160:72+ Mr 20 '58
Railroad relocation bridge at California reservoir; unit prices. Eng N 161:70 J1 24 '58
Steel deck girder bridges over Nebraska highway; unit prices. Eng N 160:59 My 1 '58
Structural steel accounts for 91 per cent of bridge cost; unit prices. Eng N 161:82 S 25 '58
Suspension span to Canada averages \$102.50 per sq ft; unit prices. Eng N 160:59-60 Mr 20 '58
Three alternates on bridge bids; unit prices. Eng N 160:68 F 27 '58
Tie-in bids on Minnesota spans; unit prices. Eng N 161:106 Ar 21 '58

Erection

Adjustable forms for 149 bridge columns; Bridgeport Harbor bridge, Connecticut turnpike. J. L. Calderella. *il* diag Civil Eng 28:123-4 F '58

Erecting Connecticut bridge poses problems.

il Civil Eng 28:384 My '58
Erecting the superstructure of Mackinac bridge. *il* diag Eng N 160:38-40, cover F 6 '58
Four jacks and eight H-beams put up river spans; Mianus River bridge. *il* Eng N 160:48-9 Ap 10 '58
Gantries set prestressed bridge beams; road system of U.S. air force academy. A. J. Brown and F. R. Khan. *il* diag Eng N 160:43-4+ Ja 9 '58
Greater New Orleans bridge completed. O. F. Sorgenfrei. *il* map Civil Eng 28:432-6 Je '58
Longest plate-girder span in western hemisphere carries turnpike through New Haven; Quinnipiac River bridge. R. M. Boynton. *il* diag Civil Eng 28:86-9 F '58
Mile-long bridge starts, ends in Gulf. *il* Eng N 161:23 Ar 21 '58
Richmond-San Rafael bridge. *il* Engineer 204:727-9, 766-7 N 15-22 '57

See also

Bridges—Welding operations

Floors

Distribution of loads on bridge decks. A. M. Lount. diag Am Soc C E Proc 83 [ST 4 no 1303]:1-23 J1 '57; Discussion. 83 [ST 6 no 1442]:39 N '57; 84 [ST 1 no 1522]:31-41 bibliog(p38-8) Ja; [ST 2 no 1576]:17-21 Mr '58; Reply. 84 [ST 5 no 1781]:3-6 S '58
Expansion joints a problem on pavement for the new Mackinac bridge. *il* Pub Works 89:86 Ja '58
Heavy-duty asphalt pavement for Chicago's Calumet Skyway. A. G. Avedisian. *il* diag Roads & Sts 101:119-20+ J1 '58
Load distribution in highway bridge decks. A. W. Hendry and L. G. Jaeger. bibliog diag Am Soc C E Proc 82 [ST 4 no 1023]:1-48 J1 '56; Discussion. P. K. Chaudhuri. 83 [ST 3 no 1321]:37-9 Mr '57; Reply. 84 [ST 4 no 1721]:3-4 J1 '58
Parkway bridge gets new reinforced asphalt surface. *il* Pub Works 88:159 D '57
Portable gantry casts bridge decks. *il* Eng N 161:84+ J1 10 '58
Simplified design of composite bridge stringers. J. C. Hacker. diag Am Soc C E Proc 83 [ST 6 no 1432]:1-6 N '57; Discussion. P. Spindel. 84 [ST 2 no 1576]:43-6 Mr '58
Smooth deck for Mackinac bridge. *il* Roads & Sts 101:144, cover F '58
Thruway bridge surfaces fail. C. Lang. Eng N 161:26 Ar 21 '58
Wafer slab bridge decks. P. W. Abeles. diag Engineer 205:842-3 Je 6 '58
Welded mesh anchors asphalt; resurfacing timber-decked railroad overpasses. *il* Eng N 160:71 My 8 '58

Foundations and piers

Aeration permits water work at -30 F. *il* Eng N 160:52 Ap 3 '58
Big lift span job hits snag. Eng N 159:23 N 28 '57
Bridge piers designed by computer. E. M. Chafets and E. Plaxe. *il* diag Civil Eng 28:337-40 My '58
Building a foundation through a foundation; lift span bridge. J. H. Thornley. *il* diag Eng N 161:40-2+ Ar 28 '58
Cast-in-place piers for toll road bridges. *il* Roads & Sts 101:177 Ap '58
Illinois toll highway; piles double as columns on tollway structures. M. Van Buren. *il* diag Civil Eng 28:420-2 Je '58
Large hollow prestressed concrete piles. *il* Roads & Sts 101:72-3 Mr '58
Novel anti-icing scheme kept bridge job going; aeration pipe prevents ice from forming. *il* Roads & Sts 101:106 Ap '58
Piles restore bridge pier in France. *il* diag Eng N 160:56+ Ja 2 '58
Richmond-San Rafael bridge. *il* diag Engineer 204:689-91 N 8 '57
Support without falsework; specially designed steel forms. *il* Am Concrete Inst J 29:sup 8-9+ F '58
Testing a bearing pile; with cost data. M. Quinn. diag Pub Works 89:110-11 My '58
This turnpike bridge deck is level but shims go in to keep it that way. *il* Eng N 159:28 D 5 '57

See also

Piles and pile driving

Lighting

Mackinac bridge has a maintained illumination of 1.0 footcandle for night safety. *il* Elec Eng 77:855-6 S '58

BRIDGES—Continued

- Load**
- Application and development of AASHTO specifications to bridge design. E. L. Erickson and N. Van Eenam. bibliog (34 ref) diags Am Soc C E Proc 83 [ST 4 no 1320]:1-38 JI '57; Discussion. [ST 4 no 1329]:3-4 JI '57; 84 [ST 1 no 1522]:75-92 Ja '58
- Computer prints out pier bend design loads by AASHTO groups. diag Eng N 160:84+ My '58
- Deflection limitations of bridges; progress report of the committee on deflection limitations of bridges of the Structural div. Am Soc C E Proc 84 [ST 3 no 1633]:1-20 bibliog (p 14-20) My '58; Discussion. 84 [ST 5 no 1787]:67-8 S '58; 84 [ST 6 no 1827]:85-9 O '58; 84 [ST 7 no 1857]:77-8 N '58
- Distribution of loads on bridge decks. A. M. Lount. diags Am Soc C E Proc 83 [ST 4 no 1303]:1-23 JI '57; Discussion. 83 [ST 6 no 1442]:39 N '57; 84 [ST 1 no 1522]:31-41 bibliog (p36-8) Ja '58; 84 [ST 2 no 1576]:17-21 Mr '58; Reply. 84 [ST 5 no 1787]:3-6 S '58
- High-speed computer applied to bridge impact. C. T. G. Looney. Am Soc C E Proc 84 [ST 5 no 1759]:1-41 S '58
- Lateral load distribution test on I-beam bridge. A. White and W. E. Farnell. bibliog diags Am Soc C E Proc 83 [ST 3 no 1255]:1-20 My '57; Discussion. 83 [ST 6 no 1442]:31-7 N '57; 84 [ST 1 no 1522]:19-28 Ja '58
- Lateral rigidity of suspension bridges. I. K. Silverman. bibliog diags Am Soc C E Proc 83 [EM 3 no 1292]:1-17 JI '57; Discussion. A. Selberg. 84 [EM 1 no 1520]:29-31 Ja '58
- Load distribution in highway bridge decks. A. W. Hendry and L. G. Jaeger. bibliog diags Am Soc C E Proc 82 [ST 4 no 1023]:1-48 JI '56; Discussion. P. K. Chaudhuri. 83 [ST 2 no 1192]:37-9 Mr '57; Reply. 84 [ST 4 no 1721]:3-4 JI '58
- Load factors for prestressed concrete bridges. T. Y. Lin. diags Am Soc C E Proc 83 [ST 4 no 1315]:1-18 JI '57; Discussion. E. N. W. Lane. 84 [ST 1 no 1522]:55-3 Ja '58; Reply. 84 [ST 3 no 1696]:27-8 My '58
- Railway bascule strengthened to carry extra-heavy loads. A. L. R. Sanders. il diags Civil Eng 28:263-70 Ap '58
- Section modulus of structural members quickly found. S. J. Levine. diags Civil Eng 28:125 F '58
- Vehicle loads and highway bridge design. S. Mitchell and G. F. Bormann. Am Soc C E Proc 83 [ST 4 no 1302]:1-21 JI '57; Discussion. D. T. Wright. 84 [ST 1 no 1522]:29-30 Ja '58
- Location**
- Highway and bridge surveys; reconnaissance, progress report of the committee on highway and bridge surveys of the Surveying and mapping division. Am Soc C E Proc 84 [SU 1 no 1593]:1-7 Ap '58
- Progress report of the committee on highway and bridge surveys of the Surveying and mapping division; foreword to Manual on highway and bridge surveys and chapter I. State plane coordinates. maps diags Am Soc C E Proc 83 [SU 1 no 1306]:1-33 JI '57; Discussion. J. C. Carpenter. 84 [SU 1 no 1605]:3-5 Ap '58
- See also
- Bridges—Surveying
- Maintenance and repair**
- Maintenance vehicle for Mackinac bridge. il Safety Maint 115:52-3 F '58
- See also
- Bridges—Reconstruction
- Raising**
- Long truss rolled to position over Seaway channel. il Civil Eng 27:900 D '57
- Raising the Jacques Cartier bridge, Montreal; illustrations with text. Engineer 204:668 N 8 '57
- Reconstruction**
- Piles restore bridge pier in France. il diags Eng N 160:56+ Ja '58
- Replacement of railway bridge at Lewisham. il Engineer 205:108 Ja 17 '58
- Specifications**
- Application and development of AASHTO specifications to bridge design. E. L. Erickson and N. Van Eenam. bibliog (34 ref) diags Am Soc C E Proc 83 [ST 4 no 1320]:1-38 JI '57; Discussion. [ST 4 no 1329]:3-4 JI '57; 83 [ST 1 no 1522]:75-92 Ja '58

Stresses

- Torsion analysis for suspension bridges. N. Sih. diags Am Soc C E Proc 83 [ST 6 no 1431]:1-8 N '57; Discussion. K. H. Chu. 84 [ST 2 no 1576]:41-2 Mr '58; Reply. 84 [ST 5 no 1787]:13-15 S '58
- See also
- Bridges—Load
- Surveying**
- Highway and bridge surveys; Introduction to bridge surveys and reconnaissance survey; progress report of the committee on highway and bridge surveys of the Surveying and mapping division. Am Soc C E Proc 84 [SU 2 no 1713]:1-5 JI '58
- Highway and bridge surveys; location survey; progress report of the committee on highway and bridge surveys of the Surveying and mapping division. Am Soc C E Proc 84 [SU 2 no 1698]:1-6 JI '58
- Highway and bridge surveys; preliminary survey; progress report of the committee on highway and bridge surveys of the Surveying and mapping division. Am Soc C E Proc 84 [SU 2 no 1697]:1-9 JI '58
- Precise surveys for Mackinac bridge. R. M. Boynton. il plan Am Soc C E Proc 84 [SU 2 no 1716]:1-3 JI '58
- Toll plazas**
- Steel bracing aids toll plaza treadles; Delaware memorial bridge. R. A. Haber. il diags Eng N 160:62 Je 12 '58
- Tolls**
- \$101 million skyway opens; Calumet skyway toll bridge. il map Eng N 160:26 Ap 24 '58
- Vibration**
- Vibration susceptibilities of various highway bridge types. L. T. Oehler. bibliog il map diags Am Soc C E Proc 83 [ST 4 no 1318]:1-41 JI '57; Discussion. 83 [ST 6 no 1442]:45-7 N '57; 84 [ST 1 no 1522]:71-3 Ja '58; Reply. 84 [ST 5 no 1787]:7-8 S '58
- Welding operations**
- Carquinez bridge spotlights high strength steel and submerged arc welding. il Roads & Sts 100:58 D '57
- Cars will soon cross new aluminum bridge. il Welding Eng 43:54 Ag '58
- Design and fabrication by welding of the Carquinez Strait bridge. L. C. Hollister. il plan diags Welding J 37:309-19 Ap '58
- Eight-way relief from welding woes; Don R. Fruchey, Inc. il Welding Eng 43:37 F '58
- Iowa tries a welded aluminum bridge. N. L. Ashton. diags Eng N 160:30+ F 20 '58
- Less cost and better appearance through welded bridges. il Welding Eng 43:50+ JI '58
- New turnpike bridges are welded. il Welding J 37:811 Ag '58
- Semiautomatic welding large bridge members. il Welding J 37:139-40 F '58
- Stud shear connectors help to speed bridge construction. il Welding J 36:1195 D '57
- Welded bridge spans the Seine. Welding J 37:536 My '58
- Welding defects in high-strength steel won't slow Carquinez. il Eng N 161:42-4+ S 4 '58
- Connecticut**
- Adjustable forms for 149 bridge columns; Bridgeport Harbor bridge, Connecticut turnpike. J. L. Calderella. il diags Civil Eng 28:123-4 F '58
- Longest plate-girder span in western hemisphere carries turnpike through New Haven; Quinnipiac River bridge. R. M. Boynton. il diags Civil Eng 28:86-9 F '58
- Germany**
- Neckar bridge at Mannheim. il Engineer 205:73 Ja 10 '58
- Great Britain**
- Possible subsidence countered in three new bridges. il diags Engineering 185:440-1 Ap 4 '58
- Illinois**
- Illinois toll highway; bold planning results in efficient production of prestressed girders. C. C. Zollman. il diags Civil Eng 28:423-6, cover Je '58
- Iraq**
- Self-supporting suspension bridge at Samawa, Iraq; prestressing components used to anchor the cables. il diags Engineering 186:24-6 JI 4 '58

BRIDGES—Continued

New Jersey

New Manahawkin Bay bridges built for long life across salt water. L. J. Petersen. *Il maps diag Civil Eng* 28:574-7 Ag '58

South Africa

Tugela River bridge. *Il Engineer* 206:348-9 Ag 29 '58

United States

U.S. bridges and tunnels; illustrations with text. *Engineer* 205:pl 16 Ja 3 '58

BRIDGES (instruments). See Wheatstone bridge; Wien bridge

BRIDGES, Aluminum

Aluminum applications for highway bridges. J. M. Pickett. *Am Soc C E Proc* 83 [ST 4 no 1312]:1-7 '57; Discussion. S. E. Ghaswala. *bibliog* 84 [ST 1 no 1522]:47-9 Ja '58

Aluminum bridge for Iowa state highway commission. *diag Mod Metals* 14:26-7 Mr '58

Aluminum bridge is competitive. *Il Iron Age* 182:47 S '58

Aluminum bridge of aircraft design. *Il Mech Eng* 80:76-7 O '58

Aluminum bridges practical. *Il Steel* 143:31 S 1 '58

Aluminum bridges the gap. *Il Chem & Eng N* 36:29 S 1 '58

Aluminum highway bridge. *Pub Works* 89:163 Mr '58

Aluminum sections make a first in road bridges. *Il Eng N* 161:32 S 25 '58

Aluminum's making the grade; bridge and highway construction. D. L. Cronk. *Il Mod Metals* 14:26-4 Je '58

Cars will soon cross new aluminum bridge. *Il Welding Eng* 43:54 Ar '58

Des Moines gets aluminum bridge. *Il Chem & Eng N* 36:37 S 29 '58

Fairchild aluminum bridge features shop-assembled components. *Il Pub Works* 89:138-4 O '58

Iowa tries a welded aluminum bridge. N. L. Ashton. *diag Eng N* 160:30-4 F 20 '58

Sheet-metal bridge survives tough test. *Il Eng N* 161:25 S 4 '58

BRIDGES, Arched

Radial shores support arch bridge forms. *Il Eng N* 160:105-6 My 15 '58

BRIDGES, Bascule

Railway bascule strengthened to carry extra-heavy loads. A. L. R. Sanders. *Il diags Civil Eng* 28:269-70 Ap '58

BRIDGES, Cantilever

Carquinez bridge spotlights high strength steel and submerged arc welding. *Il Roads & Ssts* 100:58 D '57

Connecting steel placed in Greater New Orleans bridge; illustration with text. *Civil Eng* 28:146 F '58

Design and fabrication by welding of the Carquinez Strait bridge. L. C. Hollister. *Il plan diags Welding J* 37:309-19 Ap '58

Greater New Orleans bridge completed. O. F. Sorgenfrel. *Il map Civil Eng* 28:432-6 Je '58

Tied-cantilever bridge, pioneer structure in U.S.; Benton City-Kiona bridge. H. M. Hadley. *Il Civil Eng* 28:16-18 Ja '58

Welding defects in high-strength steel won't slow Carquinez. *Il Eng N* 161:42-4 S 4 '58

BRIDGES, Concrete

AASHTO bridge studies will start soon. *Il diags Eng N* 161:49-51 Ji 10 '58

Approach bridges; United States air force academy. *Il Am Rec* 129:239-40 Ar '58

Circus tent, plastic sheeting helped bridge contractor defy winter. J. R. Cummings. *Il Roads & Ssts* 101:68-9 J '58

Colorado bridge project. *Il Am Concrete Inst J* 29:sup6-7 Mr '58

Concrete set slowed down to step up bridge construction; Wolcott Avenue bridge, Hartford. G. C. Linberg and M. Schupack. *Il diags Civil Eng* 28:167-71, cover Mr '58

Consultant designs in economies; East Providence expressway. R. L. Pare. *diags Eng N* 161:53-4 Ag 21 '58

Erection study of prestressed bridges; illustrations with text. *Engineer* 206:92 Ji 18 '58

Experience gained on 65 prestressed concrete bridges. L. O. Jahlstrom. *Il Pub Works* 89:94-7 Mr '58

Floating bridge concrete towed to site; across Hood canal for the Washington toll bridge authority. *Il Eng N* 161:27 Ag 28 '58

Floating concrete breaks a bottleneck; reinforced-concrete-pontoon, floating bridge in British Columbia. *Il map Eng N* 159:46-8+ N 21 '57

Gantries set prestressed bridge beams; road system of U.S. air force academy. A. J. Brown and P. R. Khan. *Il diags Eng N* 160:43-4+ Ja 9 '58

Heavy post-tensioned concrete girders for second Narrows bridge. C. Stanwick. *Il diags Roads & Ssts* 101:95-6+ My '58

Illinois toll highway; bold planning results in efficient production of prestressed girders. C. C. Zollman. *Il diags Civil Eng* 28:423-6, cover Je '58

Load factors for prestressed concrete bridges. T. Y. Lin. *diags Am Soc C E Proc* 83 [ST 4 no 1815]:1-18 Ji '57; Discussion. R. N. W. Lane. 84 [ST 1 no 1522]:55-8 Ja '58; Reply. 84 [ST 3 no 1656]:27-3 My '58

Load test of 120-ft precast, prestressed bridge girder. F. R. Khan and A. J. Brown. *Il diags Am Concrete Inst J* 30:139-50 Ji '58

Portfolio of prestressed bridges. *Il Roads & Ssts* 100:53-90 N '57

Precast reinforced-concrete slab bridges with stiffened edges. A. Gallia. *bibliog diags Am Concrete Inst J* 29:1033-91 Je '58; Discussion. 30:1427-9 pt 2 D '58

Prestressed bridge girders span 151 ft. T. Y. Lin. *Il Eng N* 160:63 Mr 6 '58; Discussion. 161:7 Ag 21 '58

Prestressed bridge on the river Trent, 275 ft span. *Il Engineering* 185:349-50 Mr 14 '58

Prestressed piers steel's bridge market. *Il map Eng N* 160:21-2 Ja 23 '58

Road and railway bridge at Abidjan. *Il diag Engineer* 205:432 Mr 28 '58

Soviets precast arch in parts. *Il Eng N* 161:54 Ag 14 '58

Tests of full-sized prestressed concrete bridge beams. I. Lyse. *diags Am Concrete Inst J* 29:979-85 My '58

3,458 bridge girders cast. *Il Concrete* 66:19-4 Ag '58

Tugela River bridge. *Il Engineer* 206:348-9 Ag 29 '58

Testing

Investigation of multibeam bridges. R. E. Walther. *bibliog Il diags Am Concrete Inst J* 29:505-26 D '57

BRIDGES, Floating

Floating bridge concrete towed to site; across Hood canal for the Washington toll bridge authority. *Il Eng N* 161:27 Ag 28 '58

Kelowna floating bridge. *Il Eng J* 41:99 Mr '58

Lightweight floating bridge. *Franklin Inst J* 264:527 D '57

See also

Bridges, Pontoon

BRIDGES, Foot

Moving walkway will span city street; pedestrian bridge. *Il Eng N* 160:26 My 22 '58

BRIDGES, Iron and steel

All-welded girder bridge for Redwood highway. *Il Civil Eng* 27:900 D '57

America's first iron bridge, 1839. G. W. Grupp. *Il Roads & Ssts* 101:171 Ap '58

Composite construction of bridges using steel concrete. R. David and G. G. Meyerhof. *bibliog diags Eng J* 41:41-7 My '58

Designing steel bridges by computer. C. W. Zahler. *Il diag Civil Eng* 28:341-3 My '58

Four jacks and eight H-beams put up river spans; Mianus River bridge. *Il Eng N* 160:46-8 Ap 10 '58

Less cost and better appearance through welded bridges. *Il Welding Eng* 43:50-4 Ji '58

Longest plate-girder span in western hemisphere carries turnpike through New Haven; Quinnipiac River bridge. R. F. Boynton. *Il diags Civil Eng* 28:386-9 F '58

Neckar bridge at Mannheim. *Il Engineer* 205:73 Ja 10 '58

Welding defects in high-strength steel won't slow Carquinez. *Il Eng N* 161:42-4 S 4 '58

BRIDGES, Lift

Building a foundation through a foundation; lift span bridge. J. H. Thornley. *Il diags Eng N* 161:40-2+ Ag 28 '58

Lift span to link island with British mainland. *Eng N* 160:81 Ap 17 '58

See also

Bridges, Bascule

BRIDGES, Pedestrian. See Bridges, Foot

BRIDGES, Pontoon

Floating concrete breaks a bottleneck; reinforced-concrete-pontoon, floating bridge in British Columbia. *Il map Eng N* 159:46-8+ N 21 '57

BRIDGES, Prefabricated

Pre-fab bridge sections go standard; western region of British railways. *II* diag Eng N 160:75-6 Ap 17 '58
 Prefabricated railway bridges. *II* Engineer 205:179-81 Ja 31 '58

BRIDGES, Railroad

Baguiba railway bridge, Iraq. *II* Engineer 205:871 My 2 '58
 Building a foundation through a foundation; lift span bridge. J. H. Thornley. *II* diags Eng N 161:40-2-1 Ag 28 '58
 Flood alarm guards bridge; Tangiwal, New Zealand. *II* Eng N 161:65 S 25 '58
 Pre-fab bridge sections go standard; western region of British railways. *II* diag Eng N 160:75-6 Ap 17 '58
 Prefabricated railway bridges. *II* Engineer 205:179-81 Ja 31 '58
 Railway bascule strengthened to carry extra-heavy loads. A. L. R. Sanders. *II* diags Civil Eng 28:269-70 Ar '58
 Replacement of railway bridge at Lewisham. *II* Engineer 205:108 Ja 17 '58
 Road and railway bridge at Abidjan. *II* diag Engineer 205:482 Mr 28 '58

Inspection

Inspection unit for railway viaducts. *II* Mech Eng 80:107 Mr '58
 Railway viaduct inspection equipment. *II* diags Engineer 204:756-7 N 22 '57

Reconstruction

Railroad bridge alterations. Calumet-Sag project. G. W. Svoboda. Am Soc C E Proc 84 [WW 3 no 1641]:1-10 My '58

BRIDGES, Steel. See Bridges, Iron and steel

BRIDGES, Suspension

Analysis of multiple-span continuous trusses. B. C. F. Wel. diags Am Soc C E Proc 83 [ST 2 no 1187]:1-21 Mr '57; Discussion. 83 [ST no 1382]:45-61 S '57; Reply. 84 [ST 2 no 1576]:3-7 Mr '58
 Design of the main towers of the Mackinac bridge. K. H. Chu. bibliog *II* diags Am Soc C E Proc 84 [ST 2 no 1565]:1-26 Mr '58
 Erecting the superstructure of Mackinac bridge. *II* diag Eng N 160:36-40, cover F 6 '58
 Forth road bridge. *II* Engineering 186:63-4 JI 11 '58
 Lateral rigidity of suspension bridges. I. K. Silverman. bibliog diags Am Soc C E Proc 83 [EM 3 no 1292]:1-17 JI '57; Discussion. A. Selberg. 84 [EM 1 no 1520]:29-31 Ja '58
 Mackinac bridge has a maintained illumination of 1.0 footcandle for night safety. *II* Elec Eng 77:855-6 S '58
 Peace River suspension bridge collapses. *II* Civil Eng 27:898 D '57
 Precise surveys for Mackinac bridge. R. M. Boynton. *II* plan Am Soc C E Proc 84 [SU 2 no 1716]:1-8 JI '58
 Self-supporting suspension bridge at Samawa, Iraq; prestressing components used to anchor the cables. *II* diags Engineering 186:24-6 JI 4 '58
 Torsion analysis for suspension bridges. N. Sih. diags Am Soc C E Proc 83 [ST 6 no 1431]:1-8 N '57; Discussion. K. H. Chu. 84 [ST 2 no 1576]:41-2 Mr '58; Reply. 84 [ST 5 no 1787]:13-15 S '58

Anchorage

Anchorage slip wrecks suspension bridge. Peace River bridge, British Columbia. *II* Eng N 159:26 O 24 '57; Discussion. 160:10-1 F 13 '58

Models

Wind tunnel for aerodynamic testing of section models of suspension bridges. *II* diag Pub Roads 30:51-2 Je '58

BRIDGES, Temporary

1,500 foot timber construction bridge at Priest Rapids dam. *II* Roads & Sts 101:151-2 Ag '58

BRIDGES, Wooden

1,500 foot timber construction bridge at Priest Rapids dam. *II* Roads & Sts 101:151-2 Ag '58

BRIGHTNESS

Brightness survey of two rooms using a photographic technique; abstract. M. N. Zeolla. *II* Illum Eng 53:478-80 S '58

Daylight illumination and brightness with minute louvers. W. B. Ewing and R. L. Biesele, Jr. *II* diags Illum Eng 53:331-6 Je '58

Electron traps and the electroluminescence brightness and brightness waveform. F. F. Morehead, Jr. bibliog Electrochem Soc J 105:461-8 Ag '58

Photographic method of brightness recording. C. Marsh and E. Marsh. *II* Illum Eng 53:355-7 Je '58

Should pavement brightness and traffic speed enter into design of roadway lighting? W. B. Elmer. Illum Eng 53:287-8 My '58
 Versatile method of calculating illumination and brightness; abstract. B. F. Jones and J. R. Jones. Illum Eng 53:467-8 S '58

See also

Glare
 Paper—Brightness
 Paper board—Brightness

BRINE

Case of the freezing cooler and ammonia in the brine. C. T. Baker. Power Eng 62:82 JI '58

See also

Calcium chloride

Sea water

BRINE, Frozen

Expansion forces of freezing brine automatically remove ice cubes; Norge refrigerator. *II* diags Machine Design 30:146-7 Ap 3 '58

BRINELL hardness test

Relationship between Scleroscope, Rockwell, and Brinell hardness readings. N. R. Arant and J. J. Marsalka. Iron & Steel Eng 35:160-1 F '58

BRISTOL-MYERS company

\$100,000,000 company still growing. H. Meredith. *II* Am Perfumer & Aromatics 71:27-8-1 Je '58

BRITISH chemical plant manufacturers association

Annual dinner, London, Oct. 30. Chem & Ind p 1470-2 N 9 '57

Report for 1957. Ind Chem 34:309 Je '58

BRITISH COLUMBIA

See also

Gas. Natural—British Columbia. Supply to also subdivision British Columbia under special subjects, e.g.

Architecture

Electric plants (central stations)

Gas. Natural

Geology

Hydroelectric plants

Iron industry and trade

Iron ores

Mineral industries

Petroleum

Industries and resources

Industrial development in British Columbia; past, present, and future. J. C. Ingram. Can Min & Met Bul 51:580-4 S '58

BRITISH COLUMBIA university

Faculty of applied science. *II* Eng J 41:97-9 Mr '58

BRITISH electrical and allied manufacturers association

Annual report. Engineer 205:511 Ap 4 '58

BRITISH GUIANA

See also

Public health—British Guiana

BRITISH HONDURAS

See also

Petroleum industry and trade—British Honduras

BRITISH plastics federation

Conference, Torquay, Sept. 25-26; papers on problems of plastic industry. Brit Plastics 31:408-14 O '58

BRITISH shipbuilding research association

Progress since 1950; abstract. S. L. Smith. Engineer 206:187; Discussion. 187-9 JI 25 '58

BRITISH SOMALILAND

See also

Petroleum—Somaliland

BRITISH welding research association

Annual exhibition, Abington Hall. *II* Metallurgia 58:39-40 JI '58

Open day, June 11. Engineer 205:381 Je 20 '58

BRITTLE coating test. See Strains and stresses —Brittle coating test

BRITTLENESS

Are ceramics really brittle? micro-hardness tests. E. Ryshkewitch. *II* diag Cer Ind 63:116-17 D '57

Brittleness in polyethylene. I. L. Hopkins. *II* diags Bell Lab Rec 36:5-8 cover Ja '58

Brittleness temperature testing of elastomers and plastics. A. C. Webber. bibliog diags A S T M Bul p40-4 Ja '58

Influence of pickling additions on embrittlement; abstract. A. Keller. Metal Finishing 56:81 Mr '58

Low-temperature brittleness testing of polyethylene. P. N. Bestelink and S. Turner. *II* diags A S T M Bul p68-73 JI '58

BRITTLENESS—Continued

- Measurement of P.V.C. brittle point. H. O. Williams. *bibliog* *il diag Brit Plastics* 31: 107-11 Mr '58
- Propagation of cracks and the energy of elastic deformation. H. F. Bueckner. *bibliog* *diags A S M E Trans* 80:1225-9; Discussion. 1229-30 Ag '58
- Some developments and applications of brittle lacquers. J. E. Linge. *bibliog* *il diags Aircraft Eng* 30:94-100, 142-3, 173-9 Ap-Je '58
- Strength of brittle solids. D. Dollimore and S. J. Gregg. *bibliog* *Research* 11:180-4 My '58
- Surface embrittlement of mineral-filled SBR polymers. W. F. Abbey and others. *Rubber World* 138:256-60+ My '58
- Thermal stresses in design: quantitative techniques for brittle materials. S. S. Manson. *diags Machine Design* 30:99-103 Je '58

See also
Steel—Brittleness

BROACHES

- Speeds up action of small broaches. B. Sullivan. *diags Mill & Factory* 62:127 Ja '58
- Manufacture**
- Vertical heat-treat produces gear broach. *il Am Mach* 101:124 N 4 '57

BROACHING

- Broach replaces reamer. *il Am Mach* 102:107 S 22 '58
- Broaching internal helical gears. F. Kirsten. *il Mach* 64:134-8 Ja '58
- Broaching saves time in small-part production. J. H. Warner, Jr. *il Tool Eng* 41:81-3 Jl '58
- Eaton saves 70 per cent with combined broaching, milling. G. H. De Groat. *il diags Am Mach* 102:102-3 F 16 '58
- Metalworking, 1962. O. W. Bonnaffé. *Am Mach* 101:132-3 N 18 '57
- Solved; one titanium machining problem; drilling and broaching. A. J. Wesolowski. *il diags Steel* 143:92 S 29 '58

BROACHING machines

- Horizontal broaching machine for automatic machining of cylinder-block bearing surfaces. *il Mach* 64:184 F '58
- Limit switches sequence vertical broach; Bond tool mfg. co. J. A. Tartaglia and W. H. Blackler. *il Ap Hydraulics* 11:92 Jl '58
- New broaching tool cuts helical gears in one pass. R. H. Eshelman. *il diag Iron Age* 181:117-19 Je '58
- 1958 production preview; broaching. *il Am Mach* 102:121 Ja 27 '58
- Turret tooling speeds broaching. *il diag Mach* 64:142-3 F '58
- Universal broach tooling saves 70 per cent. L. Hitchcock. *il diag Am Mach* 102:140-1 Ap 21 '58

BROADCASTING. See Radio broadcasting; Television broadcasting

BROCHURES. See Advertisements—Books and booklets

BRODE, Wallace R.

Science reborn at State; W. R. Brode named science adviser to Dulles. *por Chem & Eng N* 36:25 Ja 20 '58

BROKERS

See also
Food brokers

BROME grass. See Grasses

BROMIDES

Mechanisms of elimination reactions; rates of elimination from some substituted 2-phenylethylmethylsulfonium bromides in aqueous solution. W. H. Saunders, Jr. and others. *bibliog* *Am Chem Soc J* 80:4099-100 Ag 5 '58

See also
Aluminum bromide
Dibromides
Gallium bromides
Lead bromide
Potassium bromide
Titanium bromides

BROMINATION

- Bridged polycyclic compounds; the bromination of quadricyclo[2.2.1.0^{2,6}.0^{3,8}]heptane-2,3-dicarboxylic acid. S. J. Cristol and R. T. LaLonde. *bibliog* *Am Chem Soc J* 80:4355-7 Ag 20 '58
- Bromination of 2:7-dihydroxynaphthalene. R. G. Cooke and others. *bibliog* *Chem & Ind* p 1623-4 D 14 '57
- 5- and 8-bromination of quinoline in concentrated sulphuric acid. P. B. D. de la Mare and others. *bibliog* *Chem & Ind* p361 Mr 22 '58

Functionality of phenols by bromination. A. K. Ingberman. *bibliog* *Anal Chem* 30:1003-4 My '58

- P-O⁻ treatment for the bromination of substituted polymethylbenzenes; the kinetic effect of the cyano group. G. Illuminati. *bibliog* *Am Chem Soc J* 80:4941-5 S 20 '58
- Relative rates of bromination of some hydroxy, methoxy and methylthio-substituted polymethylbenzenes; partial inhibition of resonance effects. G. Illuminati. *bibliog* *Am Chem Soc J* 80:4945-8 S 20 '58
- Stereochemistry of bromination of *o*-substituted cyclohexanecarboxylic acids. J. Klein and G. Levin. *bibliog* *Am Chem Soc J* 80:1707-10 Ap 5 '58
- Substituted phenylsilanes; the bromination of the tolyltrimethylsilanes. R. G. Severson and others. *Am Chem Soc J* 79:6540-2 D 20 '57

BROMINE

- Bromine; the heat capacity and thermodynamic properties from 15 to 300°K. D. L. Hildenbrand and others. *bibliog* *Am Chem Soc J* 80:4129-32 Ag 20 '58
- Corrosion of lead by bromine and its prevention. M. R. Bloch and others. *il J Ap Chem* 8:171-4 Mr '58
- Deuterium isotope effects in the bromine oxidation of ethanol and of acetaldehyde. L. Kaplan. *bibliog* *Am Chem Soc J* 80:2639-42 Je 5 '58

Recovery of bromine from sea water. *Ind & Eng Chem* 49:sup27A N '57

Replacement of bromine by chlorine in aromatic compounds. W. B. Hardy and R. B. Fortenbaugh. *bibliog* *Am Chem Soc J* 80:1716-18 Ap 5 '58

Room temperature tarnishing of silver in bromine and iodine. J. L. Weininger. *bibliog* *il Electrochem Soc J* 105:577-81 O '58

Spectrophotometric study of the interaction of bromine with tetralin-*(p*-methoxyphenyl)-ethylene. R. E. Buckler and W. D. Womer. *bibliog* *Am Chem Soc J* 80:5055-8 O 5 '58

Vaporization of iron(II) chloride in bromine. L. E. Wilson and N. W. Gregory. *bibliog* *Am Chem Soc J* 80:2067-9 My 5 '58

See also
Bromination

Analysis

Photometric titrator and method for the determination of bromine numbers with electrogenerated bromine; abstract. J. W. Miller and others. *Pet Refiner* 37:25 My '58

Manufacture

New bromine plant taps rich oil-field brine; Michigan chemical corp. *il Chem Eng* 65: 51-2 Je 2 '58

BROMINE number

Bromine number of propylene and butylene polymers. J. C. S. Wood. *bibliog* *Anal Chem* 30:372-5 Mr '58

Influence of olefin structure on bromine number as determined by various analytical methods. E. H. Unger. *bibliog* *diag Anal Chem* 80:375-80 Mr '58

BROMOACETATE

Kinetics of the thiosulfate-bromoacetate reaction in the presence of electrolytes. G. Corsaro and others. *bibliog* *Electrochem Soc J* 105:229-35 Ap '58

BROMOCHLORIODOMETHANE

Methylene derivatives as intermediates in polar reactions; the basic hydrolysis of bromochloriodomethane. J. Hine and F. P. Frosser. *bibliog* *Am Chem Soc J* 80:4282-5 Ag 20 '58

BROMOFLUOROMETHANES

Freons; potential greases; abstract. D. H. Buckley and R. L. Johnson. *Chem & Eng N* 36:48-9 S 22 '58

BROMOHYDRINS

Mechanism of halide reductions with lithium aluminum hydride; reduction of certain bromohydrins and epoxides. E. L. Eliel and D. W. Delmonte. *bibliog* *Am Chem Soc J* 80:1744-52 Ap 5 '58

BROMONAPHTHALENE

Kinetic study of aromatic nucleophilic substitution under high pressure; bromoquinolines and bromonaphthalenes. K. R. Brower. *Am Chem Soc J* 80:2105-7 My 5 '58

BROMOCTANE

Studies on the mechanism of the Wurtz reaction; the configurations of 2-bromo-octane, 3-methylnonane and 7,8-dimethyltetradecane. E. LeGoff and others. *bibliog* *Am Chem Soc J* 80:622-5 F 6 '58

BROMOPROPENE

Separation of allylic bromides without isomerization by gas chromatographic techniques. R. F. Nyström and C. R. A. Berger. *Chem & Ind* p559-60 My 10 '58

BROMOQUINOLINE

Kinetic study of aromatic nucleophilic substitution under high pressure; bromoquinolines and bromonaphthalenes. K. R. Brower. *Am Chem Soc J* 80:2105-7 My 5 '58

BROMOSUCCINIMIDE

Rearrangement of N-bromosuccinimide to 8-bromopropionyl isocyanate. H. W. Johnson, Jr. and D. J. Pubitz. *bibliog Am Chem Soc J* 80:3150-2 Je 20 '58

Solvent effects in the reactions of N-bromosuccinimide with toluene, fluorene and acenaphthene; evidence for a polar mechanism in propylene carbonate. S. D. Ross and others. *bibliog Am Chem Soc J* 80:4327-30 Ag 20 '58

Use of neighboring group effects for the selective cleavage of peptide bonds; on the mechanism of oxidation of 8-substituted indoles with N-bromosuccinimide. A. Patchenick and others. *bibliog Am Chem Soc J* 80:4748-9 S 5 '58

BROMOTOLUENE

Reaction of sodium nitrite with ethyl bromoacetate and with benzyl bromide. N. Kornblum and W. M. Weaver. *bibliog Am Chem Soc J* 80:4333-7 Ag 20 '58

BROMOTRICHLOROMETHANE

Preparation and fluorination of addition products of bromotrichloromethane and bromo- and chloroolefins. P. Tarrant and others. *bibliog Am Chem Soc J* 80:1711-13 Ap 5 '58

BRONZE

Bronze over steel fights wear. *Il Iron Age* 181:109-10 My 29 '58

Cast high-leaded tin bronzes; file facts. Materials in Design Eng 48:127 S '58

Cast leaded tin bronzes; composition, properties, corrosion resistance, uses; file facts. Materials in Design Eng 48:121 Ag '58

Improved polytetrafluoroethylene impregnated bronze dry bearing. D. C. Mitchell. *Il Engineer* 205:625-8 Ap 25 '58

Materials for gears. N. E. Waldman. *Il Materials in Design Eng* 48:153-60 N '57

Porus bronze tank vent is safer, costs less; award of merit in Materials in design engineering competition. *Il diags Materials in Design Eng* 47:137-8 Ap '58

Properties of materials; cast leaded tin bronzes. Materials in Design Eng 48:96-7 Mid-O '58

Properties of materials; phosphor bronzes. Materials in Design Eng 48:100 Mid-O '58

Shrinkage in tin bronze castings. C. L. Frear. *Il Foundry* 85:81-5 D '57; 86:84-8 Ja; 92-7 F '58

Slice 'em yourself castings. *Il Am Mach* 102: 78-7 Je 30 '58

Turbine production facilitated with continuous-cast bronze. *Il Mach* 64:176 Ja '58

See also
Aluminum bronze
Manganese bronze

Analysis

Analysis control of tin bronze and gun metals; ethylenediaminetetraacetate (EDTA) titration method. J. Kinnunen and B. Wennerstrand. *bibliog Foundry* 88:97 Jl '58

Testing

Mechanical and physical characteristics of jewelry bronze, 87.5 per cent strip. D. E. Trout. *A S T M Bul* p45-50 Ja '58

BRONZE founding

Brass and bronze; abstracts of AFS papers. *Foundry* 86:144+ Ag '58

Casting a bull gear. C. W. Ammen. *diags Foundry* 85:214+ D '57

M. A. Harrison mfg. co. believes that customers must be educated to the possibilities of shell molding. R. H. Herrmann and J. C. Miske. *Il Foundry* 86:100-1 Ap '58

Shrinkage prevention in bronze castings. C. L. Frear. *diags Foundry* 86:73-7 S; 84-9 O; 96-101 N '58

BROOKHAVEN national laboratory

Atomic lab good customer. *Il Electronics Bsns* ed 30:24-5 N 10 '57

Brookhaven national laboratory. *Il Mech Eng* 80:80-1 O '58

BROOKLYN union gas company

Predicts record growth; abstract. J. E. Heyke. *Gas Age* 120:27 N 14 '57

BROWN, Carey H.

ASME elects five to grade of Fellow member. *Mech Eng* 80:147 Mr '58

BROWN, Cecil L.

AIC scroll to C. Brown. *por Chem & Eng N* 36:116 Je 9 '58

BROWN, Frank Emerson

F. E. Brown received Scientific apparatus makers award in chemical education. *por Chem & Eng N* 36:105 Ap 28 '58

BROWN, Freeman H.

Obituary. W. J. Melves. *SMPTE J* 67:114 F '58

BROWN, Gordon Stanley

Director, 1958-1960. *por Inst Radio Eng Proc* 46:1348 Jl '58

BROWN, Herbert C.

Nichols medalist. *por Chem & Eng N* 36: 114 O 20 '58

BROWN, Robert

R. Brown and the Brownian movement. J. H. S. Green. *por Research* 11:290-1 Ag '58

Sketch. E. S. Barr. *Am J Phys* 26:105-6 F '58

BROWN and Sharpe manufacturing company
Brown & Sharpe looks ahead; no resting on laurels after 125th year. E. J. Egan, Jr. *Iron Age* 181:109-10 Ap 10 '58

Brown & Sharpe turns 125. *Il Am Mach* 102: 86-7, 89 Ap 7 '58

BROWN coal. See Lignite

BROWNIAN movements

Robert Brown and the Brownian movement. J. H. S. Green. *Il diag Research* 11:290-1 Ag '58

BROWNING

Mechanism of browning of ascorbic acid-citric acid-glycine systems. T. Lalkainen and others. *bibliog diag J Agri & Food Chem* 6:135-9 F '58

BRUGUIERA parviflora

Pulping studies on eucalyptus deglupta Bl., bruguiera parviflora Wight, and Arn., avicennia marina (Forsk.) Vierh. A. von Koepen. *bibliog Tappi* 41:460-4 Ag '58

BRUSHES (electric machinery)

Are you demanding too much, or too little, from your carbon brushes? G. H. Gunnoe, Jr. *Il Power* 102:118-19 My '58

Brush choice and use for machine efficiency. W. Siebenmorgen and J. C. Copella. *Il diags Elec Manuf* 61:111-17 F '58

Brushes and commutators fighting? calm them down with these twelve tips. R. S. Tener. *Il diag Plant Eng* 42:130-1 S '58

Casting brushes in continuous strips for an impulse counter. E. Watkins. *Il Electronics* 31:145-7+ F 14 '58

Development and operation of a 10kw homopolar generator with mercury brushes. D. A. Watt. *bibliog Il diags Inst E E Proc* 105 pA:233-40 Je '58

How to get better performance for carbon brushes; questions and answers. G. H. Gunnoe, Jr. *Power Eng* 62:106 Ap '58

Improve your commutation with split brushes. R. L. Tauscher. *Il Mill & Factory* 62:119 Mr '58

Improved brush holder. *Il diag Engineer* 205: 109 Ja 17 '58

Improved high-altitude carbon brushes in France; patent. *Elec Manuf* 61:12 Je '58

Morgan brush holder reduces commutator wear. *Il diags Engineering* 185:261 F 28 '58

Readout head with wire brush fingers detects 80 signals simultaneously; illustrations with text. *Machine Design* 30:134-5 Ja 23 '58

BRUSHES, Industrial
Combat conveyor carryover; self-cleaning rotary brush. *Il Power Ind* 74:20-2 Je '58

Machine brushing strengthens large parts. *Il Iron Age* 180:165 N 14 '57

Power brush finishing of automatic transmissions. *Il Automotive Ind* 118:32-3+ Mr 1 '58

Power brushes take on maintenance job. E. P. Fisher. *Il diags Iron Age* 181:80-1 Ja 16 '58

BRUSHES, Paint. See Paint brushes

BRUSSELS

Worlds fair, 1958

Acrobatic structure in Brussels. *Il Arch Forum* 108:136-8 My '58

Architecture at Brussels: festival of structure. *Il Arch Rec* 123:163-70 Je '58

Belgian transportation pavilion at Brussels receives \$26,000 AIA Reynolds memorial award. *Il Civil Eng* 28:625 Ag '58

Belgium international fair. *Eng J* 41:90 My '58

Best at Brussels. O. Tanner. *Il Arch Forum* 108:78-87 Je '58

British pavilions. *Il Engineer* 204:801-2 N 29 '57

- BRUSSELS**—Worlds fair, 1958—*Continued*
 British stands at Brussels. *II Engineering* 185:487 Ap 18 '58
 Brussels; electronic tooting. *Electronics* 31:42 Ag 8 '58
 Brussels fair before the opening. *II Engineering* 185:456-7 Ap 11 '58
 Brussels for the dilettante. S. Moholy-Nagy. *II Prog Arch* 39:24 Ag '58; Discussion. J. E. Aronin. 39:98-100 '58
 Brussels 1958; plastics materials at the International exhibition. *II diags Brit Plastics* 31:230-6 Je '58
 Brussels preview. *II Engineering* 184:514-16 O 25 '57
 Brussels World's fair; rubber and plastics displays. R. Rowland. *II Rubber Age* 83: 848-50 Ag '58
 Buildings in the news; first report on buildings at Brussels world's fair 1958; illustrations with text. E. Flansburgh. *Arch Rec* 123:10-12 Mr '58
 Crowd in Brussels. *II Chem & Eng N* 36:34-7 Je 30 '58
 Dramatic lighting for central sphere of Atomium; Sylva-Lume system. *II Elec Eng* 77:568-9 Je '58
 Electronics stars at Fair. *II Electronics* 31: 13-14, cover Ap 18 '58
 E.C.S.C. pavilion at the Brussels exhibition. *II Engineer* 206:232-4 Ag 8 '58
 Gas pavilion now on view at Brussels. *II Am Gas Assn Mo* 40:19 Jl-Ag '58
 Giant snowflakes for Brussels world's fair. *Elec Eng* 77:378 Ap '58
 International and universal exhibition, 31st. Brussels, April 17-October 19. *II plans diags Engineer* 205:664-72, pl 1-4. 604-12, pl 5-8. 644-9. 684-6. 722-6. 760-2. 798-802 Ap 18-Mr 30 '58
 International exhibition. Brussels. A. E. Bender. *Chem & Ind p* 1081-2 Ag 16 '58
 Meaning of Brussels. *Arch Forum* 109:153 Ag '58
 1958 world exhibition. *II Engineer* 204:687-8 N 8 '57
 Previewing the Russians' sales pitch at Belgian world fair. D. Barlow. *II Control Eng* 5:37-8 Jl '58
 Progress in Brussels; illustrations with text. *Engineer* 205:408-9 Mr 14 '58
 Report from Brussels; science, engineering, and showmanship. *II Engineering* 185:520-2 Ap 25 '58
 Reynolds award, in the year of the fair, goes to Brussels transportation pavilion. *II Arch Rec* 123:16 Je '58
 Science hall. *II Engineer* 206:387-8 S 5 '58
 Three-acre roof wins Reynolds architectural award; Brussels world fair transportation pavilion. K. Darby. *II Heating-Piping* 80: 56-7 Jl '58
 Transparent vinyl wall encloses U.S. pavilion at Brussels world's fair. *II Mod Plastics* 35:88 Jl '58
 U.S. pavilion at Brussels features cable-supported roof. *II diag Civil Eng* 28:553 Jl '58
- BUBBLE caps.** See Distillation apparatus
- BUBBLE chambers**
 Fluorocarbon gas bubble chamber. B. Hahn and G. Riepe. *II R Sci Instr* 29:184-5 F '58
 Liquid hydrogen bubble chamber expanded by a piston in the liquid. E. M. Bolze and others. *bibliog II diags R Sci Instr* 29:297-9 Ap '58
 Use of Freons in bubble chambers. D. V. Burg. *R Sci Instr* 29:587-9 Jl '58
- BUBBLE point**
 Bubble point pressure correlation. J. A. Lasater. *J Pet Tech* 10:65-7 My '58
- BUBBLES**
 Bubble growth rates in boiling. P. Griffith. *bibliog diags A S M E Trans* 80:721-6; Discussion. P. Savic. 726-7 Ap '58
 Bubble study foreshadows crack detection technique. *II Tool Eng* 40:115 Mr '58
 Effect of chemical reagents on the motion of single air bubbles in water. D. W. Fuestenau and C. H. Wayman. *bibliog II diag Min Eng* 10:Trans 694-9 Je '58
 Eliminating air bubbles in measuring density. S. N. Srivastava. *bibliog Chem Eng* 65:160 F 10 '58
 Laminar separation bubbles. K. R. Cramer. *diag J Aeronautical Sci* 25:143-4 F '58
 Maintenance of fine bubble diffusion. P. F. Morgan. *bibliog diags Am Soc C E Proc* 84 [SA 2 no 1809]:1-28 Ap '58
- BUCHANAN, James**
 Obituary. *por Can Min & Met Bul* 51:233 Ap '58
- BUCHI, George**
 G. Buchi received Fritzsch award. *por Chem & Eng N* 36:60 Ap 28 '58
- BUCHTA, J. W.**
 Presentation of J. W. Buchta as the Oersted medalist for 1957. W. C. Michels. *por Am J Phys* 26:350-1 S '58
- BUCKET elevators.** See Buckets
- BUCKETS**
 Air-operated clamshell for sinking small shafts. J. W. Lower. *II diag Min Eng* 10: 773-5 Jl '58
 Hardfaced buckets star in underwater mine. *II Welding Eng* 43:68-9 My '58
 Improved bucket teeth cut costs; Peabody coal co. *II Coal Age* 63:114-15 Je '58
 Motor bucket elevator simplifies handling. *II Chem Eng Prog* 54:106 Jl '58
- BUDGET**
 United States
 Budget message; decreasing emphasis on federal aid and credit programs. E. Mickel. *Arch Rec* 123:30 F '58
 Budget no panacea for chemicals. *Chem & Eng N* 36:26-7 Ja 20 '58
 Eisenhower budget calls for federal construction outlays to rise 15 per cent. *Arch Forum* 108:43-4 F '58
 1958 budget; military, science get more. *Product Eng* 29:25 Ja 27 '58
 No big defense boost in new budget. R. M. Loebelson. *Aviation Age* 28:14-15 F '58
- BUDGET, Business**
 Budgeting water revenues, how much? what for, where from? C. K. Mathews. *II Water Works Eng* 111:468-9-+ Mr '58
 Capital budgeting for petroleum operations. H. N. Mead. *Pet Eng* 29:389-90-+ D '57
 Gas budgets top \$2 billion again; Gas' eleventh annual construction budget survey. *II diags Gas* 34:67-72 Ag '58
 Preparation, control, and accounting methods of the Akron, Ohio, water utility budget. W. R. LaDue. *Am Water Works Assn J* 50:1002-8 Ag '58; Same. *Water & Sewage Works* 105:367-70 S '58
- BUFFALO**
 Sewerage
 Fiscal operations of the Buffalo sewer authority. F. W. Crane. *Am Soc C E Proc* 83 [SA 6 no 1462]:1-12 D '57
- BUFFER solutions**
 Catalysis of the H₂O exchange by aqueous buffer solutions. S. L. Miller and D. Rittenberg. *Am Chem Soc J* 80:64-5 Ja 5 '58
 Distribution of fatty acids between n-heptane and aqueous phosphate buffer. D. S. Goodman. *bibliog Am Chem Soc J* 80:3887-92 Ag 5 '58
 Increased chemical reactivity of the surface compared with that in the bulk. Volume of Britton-Robinson universal buffers. R. G. Pike and D. Hubbard. *bibliog II J Res Nat Bur Stand* 59:411-14 D '57
 Metal protein interactions in buffer solutions. M. S. N. Rao and H. Lal. *bibliog Am Chem Soc* 80:3222-55 Jl 5 '58
- BUFFERIN**
 Aspirin and buffered aspirin. J. Kalish. *Drug & Cosmetic Ind* 82:304-5-+ Mr '58
- BUFFERS.** Car. See Cars—Buffers
- BUFFING.** See Polishing
- BUFFING materials.** See Polishing materials
- BUILDING**
 Antidote for nail pops. *II diag Prog Arch* 39: 139 Mr '58
 Builders beware; abstract. C. N. Parkinson. *diag Arch Forum* 107:174-+ D '57
 Building's biggest customers. *Arch Forum* 109:100-3 Ag '58
 Construction outlook brightens; January-April period. *Arch Forum* 108:5-6 Je '58
 Construction volume surpasses \$65 billion in 1957; 1958 potential estimated at \$68 billion. *Am Concrete Inst J* 29:sup 11-12 F '58
 High activity in prospect for schools, colleges, hospitals. R. M. Cunningham, Jr. *Arch Rec* 122:167-70 D '57
 Housing starts and capital spending cast shadows on bright building picture. *Arch Forum* 108:48-9 Ap '58
 Rockefeller touch in building. *diags Arch Forum* 108:86-91 Mr '58
 Run-down factory gets new shell without slowing output; Owens-Corning fiberglass corp. plant in Newark, Ohio. *II Eng N* 160: 38-9, cover Je 26 '58
 Seaway's hidden building boom. E. T. Chase. *map Arch Forum* 109:98-100-+ S '58

BUILDING—Continued

- Soils studies for the design and construction of buildings. S. M. Olko and H. A. Olko. Pub Works 89:119-1 My '58
- Uprise in home building bolsters construction. Arch Forum 109:7 J1 '58
- Why not pest-preventive construction? H. Frings. II diags Prog Arch 39:136-8 My '58
- See also*
- Arches
 - Architecture
 - Atomic bombs and building
 - Bracing
 - Brick construction
 - Building materials
 - Chimneys
 - Columns
 - Concrete construction
 - Construction equipment
 - Contractors
 - Dampness in buildings
 - Doors
 - Earthquakes and building
 - Fireproof construction
 - Floors
 - Foundation soils
 - Foundations
 - Framing (building)
 - Grandstands
 - Hot water supply
 - Houses
 - Masonry
 - Paneling
 - Piles and pile driving
 - Roofs
 - Shipbuilding
 - Shoring and underpinning
 - Skylights
 - Underground construction
 - Ventilation
 - Walls
 - Wind pressure
 - Windowless construction
 - Winter construction
 - Wood construction

Bibliography

- Publications of the Building research institute. Plant Eng 12:132-3 My '58

Construction-leasing

- Build plant or lease plant? construction-leasing. II Plant Eng 12:115 Je '58

Costs

- Construction cost indexes, labor and materials for New York, Atlanta, St Louis and San Francisco: selected years. Published in monthly numbers of Architectural record
- How to get unit prices on buildings. R. Birchard. Eng N 160:103-4 Mr 20 '58
- Where the building dollar goes; tables. Eng N 160:96 Mr 20 '58

See also

- School buildings—Costs

Estimates

- Cost estimating in depth pays off. S. Berger. Eng N 161:69-70+ S 13 '58
- Guaranteed or reliable estimates. M. F. Kenny. Prog Arch 39:13 F '58
- What does a refinery estimate cost? T. W. Bean. II Pet Refiner 37:163-6 J1 '58

Finance

- Administration steps up spending on three aid programs. Arch Rec 123:390+ My '58
- Bumping along from peak to peak. T. S. Holden and others. Arch Rec 122:insert 1-12 N '57

- Discount rate boost heralds money ease, but also emphasizes economy's soft spots. Arch Forum 107:45 D '57

- Financial news. W. H. Hillyer. Published in monthly numbers of Progressive architecture

- Voters ok most issues, but civic projects lag. Arch Forum 107:48+ D '57

See also

- Building—Construction-leasing
- Housing finance

Heating aspects

- Air leakage due to stack effect in multi-story buildings. G. L. Smith. diags Air Cond Heat & Ven 55:73-5 J1 '58

- Heat loss through wood windows: data sheet. Air Cond Heat & Ven 55:81-2 My; 71-2 Je '58

- How research can improve performance of fibrous and reflective insulation. W. Turbeville. II diags Heating-Piping 30:126-30 J1 '58

- How to make rough estimates of building heat losses: data sheet. M. F. Muzzillo and B. J. Candela. Heating-Piping 30:155-6 My '58

- New method for calculating radiant exchanges. B. Gebhart. bibliog diag Heating-Piping 30:131-5 J1 '58

- Sheet metal ducts are solution to critical stack effect problem. L. Smith. II Heating-Piping 30:130-1 Je '58

- Thermal behavior of metal curtain walls. II diags Air Cond Heat & Ven 55:85-8 F '58

- Winter infiltration through swinging-door entrances in multi-story buildings. T. C. Min. Bibliog II diags Heating-Piping 30:121-3 F '58

See also

- Solar heating
- Weatherstripping

International aspects

- Beating the odds when building abroad. II Eng N 160:31-2+ Mr 27 '58
- Competition tightens overseas. II Eng N 159:25-7 N 14 '57

Rapid construction

- Bigger and better homes for less money: John F. Long. Phoenix, homebuilder. II plan Eng N 160:52-3+ Ja 16 '58

See also

- Houses, Prefabricated

Safety measures

- Fire prevention guide on construction jobs: engineering reference sheet. Elec World 148:72 D 30 '57

- How standards assure safe construction. C. H. Luedeman. II Mag of Stand 29:6-7 Ja '58

- Model steals show at safety conference; shows safe construction practices. II Eng N 160:21-2 My 8 '58

See also

- Wrecking—Safety measures

Standards

- Construction specifications. R. E. Wallin. II Plant Eng 12:96-9 Ar; 111-14 S; 128-30 O; 110-12 N '58 (to be cont)

- How standards assure safe construction. C. H. Luedeman. II Mag of Stand 29:6-7 Ja '58

- Industry splits on ASA housing code. Eng N 161:24 S 13 '58
- Modular coordination in building. Eng J 41:86 Mr '58

- Value of standards in construction specifications; panel discussion. Mag of Stand 28:369-70 D '57

Statistics

- Builders fared better than suppliers in 1957. Arch Forum 108:47-8 Ap '58

- Bullish outlook for building. Arch Forum 108:104-7 F '58

- Construction forecast, 1958; even higher dollar volume. Concrete 66:22-6+ F '58

- First quarter building figures cause downward revision of 1958 total construction estimates. Arch Forum 108:45+ My '58

- Trends. Published in monthly numbers of Architectural forum

Canada

- Construction. II Eng J 41:87-94 Ap '58

Cincinnati

- Cincinnati, Ohio; an on-the-spot report. II Eng N 159:148 N 14 '57

Hawaiian Islands

- Hawaii, an on the spot report. II Eng N 160:74 Ja 2 '58

Iran

- Construction spotlight shifts to Iran. O. M. Marashian. II maps Eng N 161:50-2+ S 25 '58

Jacksonville, Florida

- Jacksonville, Fla.; an on-the-spot report. Eng N 160:92 F 27 '58

Lebanon

- Little country with big construction. W. Bowman. II maps Eng N 159:28-30+ N 21 '57

Midland, Texas

- Midland, Tex., an on-the-spot report. II Eng N 159:168 D 5 '57

New York (city)

- New York city's office building boom is still robust. Astor Plaza postponement misinterpreted. II Arch Forum 108:11-13 Ja '58

BUILDING—Continued**Russia**

Inside story on Soviet construction. W. J. Coughlin. *Il Eng N 159:26+ D 26 '57*

Toledo, Ohio

Toledo, an on-the-spot report. *Il Eng N 160:110 Ja 23 '58*

United States

Administration proposals for fighting recession will not stimulate much construction. *Arch Forum 108:7-8 Mr '58*

Bullish outlook for building. *Arch Forum 108:104-7 F '58*

Forecast for '58; building's biggest year; increased consumption of aluminum building products. E. A. Farrell. *Mod Metals 14:78+ Mr '58*

Rise in construction outlays for 1958 forecast. *Civil Eng 28:58-9 Ja '58*

U.S. forecast predicts 1958 construction rise. E. Mickel. *Arch Rec 122:48 D '57*

Voters ok most issues, but civic projects lag. *Arch Forum 107:48+ D '57*

BUILDING, Underground. See **Underground construction**

BUILDING and loan association buildings
Florida savings & loan office designed for expansion. *Il plans Arch Rec 123:340+ Mr '58*

BUILDING block design. See **Machine tools—Unit construction**

BUILDING contracts
Competition tightens overseas. *Il Eng N 159:25-7 N 14 '57*

Second biggest boom ahead. *Eng N 161:21-3 Ag 7 '58*

See also

Architects—Law

Heating contracts

BUILDING failures

See also

Bridge failures

Concrete construction—Failure

BUILDING finance. See **Building—Finance**

BUILDING fittings

Seagram's custom look; 13 new ideas for better skyscraper design. *Il diags Arch Forum 109:72-5 J1 '58*

Bibliography

Manufacturers' literature. Published in monthly numbers of Progressive architecture

BUILDING laws and regulations
Can civic beauty be legislated? *Il Arch Forum 109:92-5-6 Ag '58*

Codes ease up on curtain walls; survey of 100 major cities. *Arch Rec 124:202-4+ Ag '58*

Eisenhower vetoes harbors bill, signs highway and housing measures; public works given little chance. *Arch Forum 108:7-8 My '58*

Those chaotic building codes. W. B. Tabler. *Arch Forum 109:88-9+ J1 '58*

See also

City planning—Zoning system

Housing laws

Mechanics lien

Ventilation—Laws and regulations

BUILDING materials

Aluminum cladding of buildings. E. H. Lathwaite and E. W. Skerrey. biblog (29 titles) *Il J Ap Chem 7:216-31 My '57; Discussion. Chem & Ind p 1435-7 N 2 '57*

Colored terra sigillata coatings for building materials. L. E. Coffin. *Am Cer Soc Bul 37:446-7 O 15 '58*

Compatibility of aluminum with alkaline building materials. C. J. Walton and others. *Il Mod Metals 14:42-5 Mr '58*

Corrosion of metals in buildings; performance of zinc and zinc coatings. R. W. Bailey and H. G. Ridge. biblog *Chem & Ind p 1222-7 S 14 '57; Discussion. p 1437-9 N 2 '57*

Corrosion of metals in buildings; the behaviour of copper in buildings. S. Baker and E. Carr. *Chem & Ind p 1332-6 O 12 '57; Discussion. p 1439-41 N 2 '57*

Engineering with adhesives; panel discussion. *Eng N 159:24 D 12 '57*

Industrial materials. *Il Eng J 41:113-15 Ap '58*

New look in buildings. P. P. Dejongh. *Il Civil Eng 28:588-90 Ag '58*

Plastic proposals. J. Johansen. *Il plans Prog Arch 39:72-3 Ja '58*

Plastics in building; symposium. *Brit Plastics 31:171 Ap '58*

Plastics' stake in building; check list shows where 683 million lb. of plastics are going. *Il Mod Plastics 36:99+ S '58*

Plastics to boom in building. *Il Chem & Eng N 36:26-7 Je 16 '58*

Pointers to the plastics contribution to building. V. H. Wentworth. *Il Brit Plastics 31:161-4 Ap '58*

Products for the house. *Il Arch Rec 123:7+ Mid-May '58*

Room shapes and materials determine church acoustics. R. N. Lane. plans diags *Arch Rec 122:190-2 D '57*

Silicones and the treatment of road and building materials; abstract and discussion. J. S. Hughes and P. A. Griffiths. *Chem & Ind p221 F 22 '58*

Temple's construction demands met by variations of volcanic materials. Fairmount temple, Beechwood Village, Cleveland. diag

Air Cond Heat & Ven 55:76 Ja '58

See also

Adobe

Aluminum, Structural

Asbestos

Building stone

Cement

Concrete, Reinforced

Concrete blocks

Concrete slabs

Fiber board

Gravel

Guniting

Marble

Masonite

Masonry

Mastics (asphalt composition, etc.)

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Plaster and plastering

Plywood

Roofing

Sheet metal, Enameled

Sheet metal work, Architectural

Slate

Steel, Structural

Tiles

Timber

Wall board

Walls, Metal

Weatherstripping

Wood

Bibliography

Manufacturers' literature. Published in monthly numbers of Progressive architecture

Moisture content

Effect of moisture on heat transmission through building materials; abstract. J. S. Cammerer. *Air Cond Heat & Ven 55:88 Mr '58*

Prices

Unit prices of building components; tables. *Eng N 160:104 Mr 20 '58*

Testing

Deviations from one-dimensional heat flow in guarded hot-plate measurements; testing building and insulating materials. W. Woodside. diags *R Sci Instr 28:1033-7 D '57*

Flame spread properties of building finish materials. D. Gross and J. J. Loftus. *Il A S T M Bul p56-60 My '58*

Small tunnel-furnace test for measuring surface flammability. H. D. Bruce and V. P. Minutili. biblog *Il diag A S T M Bul p61-8 My '58*

BUILDING research

Big job for research; joint meeting of Building research advisory board and Board of governors of BRL. *Eng N 160:61-2 Ap 10 '58*

Building research program. *Air Cond Heat & Ven 55:104 Ja '58*

Integrated research called vital to building progress. W. H. Scheick. *Arch Rec 122:48+ D '57*

Needed, a building science. D. Allison. *Arch Forum 108:132-5+ My '58*

Research proposal; improving and proving building values. C. F. Neergaard. *Prog Arch 39:11+ Je '58*

BUILDING research institute

Annual meeting, 7th, Washington. *Eng N 160:23-4 My 1 '58*

Publications of the Building research institute. *Plant Eng 12:132-3 My '58*

BUILDING sites

Interpenetration of house by site. *Il plans Prog Arch 39:110-13 My '58*

Order on an irregular site. *Il plans Arch Rec 123:164-9 Mid-May '58*

BUILDING sites—Continued

Small lot well used, il plans diags Arch Rec 123:152-7 Mid-May '58

See also

Foundation soils
Hillside architecture

BUILDING stone

Preservation of building stone; abstract and discussion, R. J. Schaffer, Chem & Ind p650 My 31 '58

See also

Granite

BUILDING trades

Construction; review and forecast, J. G. Kostka, il Pit & Quarry 50:100-6 Ja '58
Rise of building productivity, S. G. Thompson, Arch Forum 108:103-5+ My '58

See also

Associated general contractors of America
Contractors
National association of home builders

BUILDINGS

Buildings designed for summer leisure; illustrations with text, Arch Forum 109:127-9 Ag '58

Buildings in the news. Published in monthly numbers of Architectural record

Electric load grows in buildings, Power Eng 62:73 F '58

In 1957, new shapes get a tryout, il Eng N 160:103-6+ F 13 '58

New look in buildings, P. P. F. Dejongh, il Civil Eng 28:588-90 Ag '58

Roundup of recent and significant proposals; illustrations with text, Published in monthly numbers of Architectural forum

Why composite construction for buildings? il diags Arch Rec 124:245-6, 320 S '58

See also

Airport buildings
Architecture
Bank buildings
Churches
College architecture
College buildings
Community centers
Concrete buildings
Courthouses
Electric utilities—Buildings
Exhibition buildings
Factories
Gymnasiums
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Public buildings
Recreation buildings
School buildings
Shopping centers
Steel buildings
Steel construction
Stone buildings
Theaters

Demolition

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Exterior lighting

Floodlighting a building and sidewalk; data sheet, il diags Illum Eng 53:75-6 F '58

Lighting for landscaping; Helsing's restaurant, il Illum Eng 53:286 My '58

Modern residential lighting design; outdoor lighting, il diags Elec Constr & Maint 57:79 Mr '58

Progressive lighting design for this modern commercial building; Celanese corp, il Elec Constr & Maint 57:96-8 F '58

Maintenance and repair

Soap association announces its new book on building maintenance and sanitation, il Soap & Chem Spec 33:41-2; Discussion, 42-3+ N '57

See also

Public buildings—Maintenance and repair

Preservation

Preservation of building stone; abstract and discussion, R. J. Schaffer, Chem & Ind p650 My 31 '58

See also

Architecture—Conservation and restoration

Signs

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Sunlight exposure

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Sun breaks

Vibration

Lead pads damp vibration from underground railroad traffic; Union Carbide building, diags Arch Rec 123:278 My '58

Wrecking

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BUILDINGS, Concrete

Tomorrow's daring buildings that can be built today; illustrations with text, Eng N 160:48-52 Je 6 '58

BUILDINGS, Plastic

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BUILDINGS, Portable

Contractor converts old trailers into portable office and tool house, il Roads & Sts 100:164 N '57

BUILDINGS, Prefabricated

Apartment building from the inside out, il diags Arch Forum 109:120-2 Ag '58

This building is made of arches, it's pre-engineered, it's galvanized, il Plant Eng 12:112-13 Ag '58

Those worrisome package builders, Arch Forum 108:120-3+ Ap '58

BUILDINGS, Remodeled

Beams pick up four-story load, il Eng N 160:78 F 13 '58

BUILDINGS, Temporary

Do-it-yourself shelter provides temporary storage, P. Yasny, diags Mod Materials Handling 13:90-1 Jl '58

See also

Air pressure support

BULKHEADS

Thermal stresses in a circular bulkhead subjected to a radial temperature distribution, M. Forray and M. Zaid, diags J Aeronautical Sci 25:63-4 Ja '58

Costs

Steel bulkhead, Florida; unit prices, Eng N 159:88 N 21 '57

BULLDOZERS. See Excavating machinery**BULLETIN boards**

People-ized bulletin boards pay off, il Mill & Factory 62:124-5 Ja '58

BUMPERS. See Automobiles—Bumpers**BURCHELL, David G.**

Sketch, per Can Min & Met Bul 51:248 Ap '58

BUREAU of shipping, American. See American bureau of shipping**BURGLAR alarms**

Alarm systems cast eye on hazards, babies, burglars, Machine Design 30:40-1+ Ja 9 '58

Intruder alarm uses phase-sensitive detector, S. Bagno and J. Fasal, il diags Electronics 31:102-5 F 14 '58

BURMA

See also

Chemical engineering—Burma
Petroleum—Burma
Waterways—Burma

BURNERS

Burner consumes wastes and residual fuels; Thermal vortex burner, il diags Chem Eng 65:86+ O 20 '58

Measurement of flame speeds by a nozzle burner method, C. Halpern, bibliog il diags J Res Nat Bur Stand 60:535-46 Je '58

New combustion process for temperature uniformity in heat treating furnaces, F. C. T. Daniels and S. Stasko, plans diags Iron & Steel Eng 35:85-90; Discussion, 90-1 Jl '58

BURNERS, Gas. See Gas burners**BURNISHING.** See Polishing**BURNS, Max**

New API chairman has fighting program for 1958, pers Oil & Gas J 55:136-7 N 18 '57

BURNS and scalds

Dry aluminum powder therapy for thermal burns, M. D. Maxmen, A M A Archives Ind Health 16:414-15; Discussion, 435-6 N '57

Exposure method in the treatment of burns, G. T. Van Petten, il A M A Archives Ind Health 16:416-21 N '57

Man and his thermal environment; based on papers by A. H. Woodcock and others, il diags Mech Eng 79:1029-36 N '57, Same, Am Soc Naval Eng J 70:331-9 My '58

Oral treatment of burn shock, K. Markley, A M A Archives Ind Health 16:427-34; Discussion, 436 N '57

Treatment of burns, R. D. Pillsbury, diags A M A Archives Ind Health 16:422-6 N '57

BURROUGHS corporation

Burroughs decentralizes. Electronics Bsns ed 30:37-8 N 20 '57

BUSBARS

Aluminum busbars. H. B. Grainger and R. J. Watkins. *Il diags Engineering* 184:744-8 D 13 '57

Aluminum, butyl, alkyl combined in radically new electrical busway; award of merit in Materials in design engineering competition. *Il Materials in Design Eng* 47:134-7 Ap '58

Bus-fuse-breaker teamup for low-cost current-limiting circuit protection. *Il diag Power* 101:78-80 N '57

Calculate secondary bus faults with nomograph; engineering reference sheet. H. C. Van Horn. *Elec World* 150:60-1 J 28 '58

Conductor sizes for grounding equipment and for buses; engineering reference sheet. A. H. Thiermann, jr. *Elec World* 149:70 Mr 10 '58

New busway designed for aluminum conductor. *Il Motor Metals* 34:78 P '58

New welder busway distribution system; Ohio stamping plant of Chrysler corp. L. E. Fisher and R. W. Dailey. *Il diags Welding J* 36:1085-96 N '57

138-kv metal-enclosed isolated-phase bus and switching structure. R. H. Albright. *Il diags Power Apparatus & Systems* p353-7 Je '58; Abstract. *Elec Eng* 77:303 Ap '58

Primary wiring and bus duct distribution system; aluminum brazing plant of Trane co. *Il plans Elec Constr & Maint* 57:84-6 F '58

Shock-absorbing bus-duct system provides power-distribution framework for earthquake-resistant skyscraper in San Francisco. A. Lera. *Il plans diags Elec Constr & Maint* 57:84-9 Ag '58

Three steps lead to economical and reliable buses. D. H. Sandell. *Il Elec World* 148:32-5 N 25 '57

Welded aluminum conductors in isolated phase bus. N. Swerdlow and K. N. Smith. *Il diags Power Apparatus & Systems* p337-41; Discussion. 341-2 Je '58

Design

Basic concepts in the design of electric bus for short-circuit conditions. A. C. Bates. *Diags Power Apparatus & Systems* p29-36; Discussion. O. R. Schurig. 36-9 Ap '58

Manufacture

Application aids for arc welding aluminum bus. *Welding Eng* 43:34-7 Ja '58

Protection

Insulator provides fault bus protection. C. W. Beringhaus. *Il Elec World* 150:54 S 1 '58

Testing

Power tests prove single-insulator isolated-phase aluminum bus. A. H. Powell and N. Swerdlow. *Il diags Power Apparatus & Systems* p808-14 O '58

BUSES, Motor. See Motor buses**BUSHINGS**

Eccentric bushing and preloaded balls assure boring head accuracy. *Il diag Tool Eng* 40:94 My '58

How to calculate stresses in press-fit bushings; reference book sheet. E. H. Schuette. *Diags Product Eng* 29:51+ S 1 '58

Improved Komet vertical shaft bushings. K. O. Metz. *diag Textile Ind* 122:153 Ag '58

BUSHINGS, Insulating

Bushing handling made easier. *Il Elec World* 150:64-5 Ag 25 '58

Store bushings on switching structure. C. F. Zimmerman. *Il Elec World* 148:115 D 16 '57

33-kv bushing modernization modified. J. H. Cravens. *Il Elec World* 148:69 D 30 '57

Standardized bushing potential device. R. L. Stauffer and E. O. Shepard. *Il diags Power Apparatus & Systems* p410-16 Je '58

Standards

Dimensional standards for bushings: an accomplishment; editorial. *Elec World* 149:59 Mr 17 '58; Same. *Mag of Stand* 29:175 Je '58

Testing

High voltage bushing insulation is checked hot. *Il Elec World* 149:74 Je 9 '58

Laboratory and field tests on 132kv condenser bushings; abstract. J. L. Douglas and A. W. Stannett. *Engineering* 185:405 Mr 28 '58

Laboratory and field tests on 132kv synthetic-resin bonded-paper condenser bushings. J. L. Douglas and A. W. Stannett. bibliog. *Il diags Inst E E Proc* 105 pt A:278-87; Discussion. 288-93; Reply. 294 Je '58

Progress in routine testing of high-voltage bushings. D. L. Johnston. *Il diags Power Apparatus & Systems* p879-81; Discussion. 881-4 O '58

BUSINESS

Is big business necessary? L. D. Copeland. *Power Ind* 74:16-19 My '58

See also

Competition
Export trade

Reports to government

Cutting costs of federal reports. T. G. Redman. *Am Gas Assn Mo* 40:111-+ Ap '58

Small business

How to really help small companies. T. C. Coleman. *Space/Aeronautics* 30:15 O '58

Linear programming, tool for small business. S. Spiegelman. *Am Mach* 102:110-12 Je 16 '58

Patents and small business; abstract. C. W. Coombs. *Tool Eng* 40:215 P '58

Small business gets a break. *Chem & Eng N* 36:36-8 O 20 '58

Small business in oil. *Il diags Oil & Gas J* 55:255-65+ N 18 '57

Who speaks for small business? E. T. Barrett. *Am Mach* 102:98-100 Ap 7 '58

BUSINESS and defense services administration

BDS probes instrument industry. L. A. Edelman. *Chem & Eng N* 36:54+ Ag 18 '58

BUSINESS conditions

Economic challenge is hurdled; AMA survey. *Am Gas Assn Mo* 40:31-2 J1-Ag '58

Nation's economic strength depends on business strength. F. R. Kappel. *Bell Lab Rec* 36:252 J1 '58

What are business prospects for 1958? Mill & Factory survey of the month. *Mill & Factory* 61:67-70 D '57

See also

Business forecasting

United States—Economic conditions

BUSINESS conferences

Do pre-bid conferences really pay off? *Il Eng N* 161:21-3 S 11 '58

Rate yourself as a conference leader. R. D. Stevens. *Pet Refiner* 37:244+ Je '58

BUSINESS consolidations

American's unique merger; will it change the course of the cement industry? J. N. Bell. *Il Rock Prod* 61:68-73 Ag '58

Amptel, Lindsay merge. *Chem & Eng N* 36:23 Mr 10 '58

Best. Corn Products merge under one name; Corn products co. *Chem & Eng N* 36:22 O 13 '58

Engelhard closes ranks. *Chem & Eng N* 36:26-7 Ja 13 '58

Gas merger ends peril of financial trouble for Pacific Northwest. El Paso. P. Kayser. *Oil & Gas J* 56:67 S 22 '58

Merger fancies shift. Electronics Bsns ed 30:5 N 20 '57

Merker pace holds. Electronics 31:5 J1 11 '58

Tennessee Gas Transmission taking over Minstates. *Oil & Gas J* 56:100 My 19 '58

See also

Electric utilities—Consolidation

Oil companies—Consolidation

BUSINESS depression

Plant and equipment additions hit by recession signs. *Product Eng* 28:26 Mr 24 '58

Recession, can industry overcome it? Mill & Factory survey. *Mill & Factory* 63:69-72 J1 '58

BUSINESS districts

Earning power of plazas. F. Fogarty. *plans diags Arch Forum* 108:106-9+ Ja '58

Montreal to have large office building center. *Civil Eng* 28:384 My '58

New Haven: test for downtown renewal. *Il map diag Arch Forum* 109:78-81+ J1 '58

See also

Industrial districts

Shopping centers

BUSINESS education**See also**

Junior achievement movement

BUSINESS ethics**See also**

Racketeering

Trade secrets

BUSINESS failures

Business failures among rubber manufacturers. *Rubber Age* 83:672-3 J1 '58

Failures drop in '57. Electronics 31:5 Ap 18 '58

BUSINESS forecasting

Building blocks of the chemical industry in 1965. maps Ind & Eng Chem 50:sup 105A-6A+ Ja '58

Computer to probe methanol-formalin future; chemical market forecasting. Chem Eng 65:66 O 6 '58

BUSINESS letters. See Commercial correspondence**BUSINESS machines.** See Office appliances**BUSINESS management**

Atom admiral blasts empire builders. H. G. Rickover. Machine Design 30:35 My 15 '58

Management in current business and the ten years ahead; abstract. R. H. Hassler. Pet Eng 30:A27 Ja '58

Problem recognition in business; abstract. L. de Rycke. Pet Refiner 37:206 My '58

Statistical aids to decision making; direct application of probability concepts. C. A. Bicking. Ind Quality Control 15:7-12 Ag '58

See also

Diversification in industry

Factory management

BUSINESS men

Businessmen; go to Washington. Chem & Eng N 36:36 Je 2 '58

BUSINESS reports

How to write a readable business report. H. E. Carroll. Pet Eng 30:B 152 Ja '58

BUSINESS statistics

See also

Business forecasting

Index numbers (economics)

BUSYCON canaliculatum. See Snails**BUTADIENE**

Butadiene, overexpanded but moving. il Chem & Eng N 35:76-80, cover D 80 '57

Butadiene-vinyl acetylene analysis by gas chromatography. H. R. Kaufman and A. Zlatkis. Chem & Ind p 1001 Ag 9 '58

Chemical structure of the popcorn polymer of butadiene. A. I. Yakubchik and A. I. Spasskova. bibliog Rubber Chem & Tech 31:531-7 J1 '58

Complex formed from cobalt hydrocarbonyl and butadiene. H. B. Jonassen and others. bibliog Am Chem Soc J 80:2586-7 My 20 '58

Cross linking of butadiene-acrylate polymers by alkaline earth hydroxides. W. Cooper and T. B. Bird. bibliog Ind & Eng Chem 50: 771-6 My '58

Cuprous ammonium acetate butadiene extraction. diag Pet Eng 30:C38a-38b My '58

Hydrogenated polybutadienes as bonding agents for plastics and metals. D. Wright and N. Parkman. diag Brit Plastics 31:255 Je '58

Hydrogenation of butadiene rubber. A. I. Yakubchik and G. N. Gromova. bibliog Rubber Chem & Tech 31:156-55 Ja '58

Ionization and dissociation of allene, propyne, 1-butyne, and 1,2- and 1,3-butadienes by electron impact; the $C_2H_2^+$ ion. J. Collin and F. P. Lossing. Am Chem Soc J 79:5848-53 N 20 '57

Low-temperature properties of 80 per cent *cis*-polybutadiene. H. E. Railsback and Q. L. Morris. bibliog Rubber World 138:75-80+, cover Ap '58

Polymeric peroxide of 1,3-butadiene. C. T. Handy and H. S. Rehrick. bibliog Am Chem Soc J 80:5306-8 O 5 '58

Radiation induced *cis-trans* isomerization of polybutadiene. M. A. Golub. Am Chem Soc J 80:1794-8 Ap 20 '58

Some thermodynamic properties of the systems polybutadiene-benzene and polyisobutene-benzene. E. S. Jessup. bibliog diags J Res Nat Bur Stand 60:47-53 Ja '58

Studies of graft copolymers; methyl methacrylate and acrylamide on polybutadiene; evaluation as elastomeric materials. N. Nikolov and L. A. McLeod. bibliog Rubber Age 83:987-92 S '58

Syntheses by free-radical reactions; additive dimerizations of butadiene with radicals from acyclic ketone peroxides. D. D. Coffman and H. N. Cripps. bibliog Am Chem Soc J 80:2850-2 Je 5 '58

U.S. has overbuilt butadiene industry. il Oil & Gas J 56:66-7 Je 2 '58

Manufacture

Butadiene capacity up again. Oil & Gas J 56:107 S 1 '58

Butadiene extraction; Esso research & engineering co. flow diag Pet Refiner 36:224 N '57

Butadiene extraction (furfural); Phillips petroleum co. flow diag Pet Refiner 36:295 N '57

Butadiene from butane; Houdry process co. flow diag Pet Refiner 36:223 N '57

Butadiene from butenes; Esso research and engineering co. flow diag Pet Refiner 36:224 N '57

Making butadiene. J. C. Reidel. bibliog flow sheet il Oil & Gas J 55:166-7+ N 11; 87-8+ D 2; 114-15+ D 9; 110+ D 16; 74-80 D 23 '57

Transportation

Barge hauls butadiene to Italy. Oil & Gas J 55:61 D 2 '57

BUTADIENE

Unsaturated macrocyclic compounds; the oxidation of terminal diacetylenes to macrocyclic tetraacetylenes. F. Sondheimer and others. bibliog diags Am Chem Soc J 79:6263-7 D 5 '57

BUTANE

Butadiene from butane; Houdry process co. flow diag Pet Refiner 36:223 N '57

Butamer; Universal oil products co. flow diag Pet Refiner 37:258 S '58

Butane dehydrogenation; Houdry process corp. flow diag Pet Refiner 37:310 S '58

Butane vapor-phase isomerization; Shell development co. flow diag Pet Refiner 37:259 S '58

Catalytic isomerization; Phillips petroleum co. flow diag Pet Refiner 37:260 S '58

Continental oil co.'s new Short Junction plant. J. C. Reidel. il diags Oil & Gas J 55:113+ O 28 '57

Direct oxidation of propane-butane; Celanese corporation of America. flow diags(p232) Pet Refiner 36:233 N '57

Liquid-phase butane isomerization. diags Pet Eng 30:C51-2 Mr; C38a-38b My '58

Liquid-phase isomerization; Shell development co. flow diag Pet Refiner 37:264 S '58

McMahon plant complex; light-hydrocarbon fractionation. C. B. Hetherington. flow diag Oil & Gas J 56:104-5 J1 7 '58

Reactions of methylene; ethylene, propane, cyclopropane and *n*-butane. H. M. Frey and G. B. Kistiakowsky. bibliog Am Chem Soc J 79:6373-9 D 20 '57

Use digital computers as distillation column design aid; designing a butane splitter. R. N. Maddox. bibliog Pet Eng 30:C 15-18 Ap '58

BUTANEDIOL

Production of 2,3 butanediol by bacteria in continuous culture; abstract. S. J. Firt and D. S. Callow. Chem & Ind p381-2 Mr 29 '58

BUTANETHIOL

2-Butanethiol; chemical thermodynamic properties between 0 and 1000°K; rotational conformations. J. P. McCullough and others. bibliog Am Chem Soc J 80:4786-93 S 20 '58

BUTANONE

Binary systems benzene-ethyl methyl ketone and benzene-cyclohexane. M. E. Donald and K. Ridgway. bibliog J Ap Chem 8:403-7 J1 '58

Carbonyl reactions; acidity and temperature dependence in the condensation of anisaldehyde and methyl ethyl ketone. D. S. Noyce and L. R. Snyder. bibliog Am Chem Soc J 80:4324-7 Ag 20 '58

Carbonyl reactions; the kinetics of the acid-catalyzed reaction of anisaldehyde with methyl ethyl ketone. D. S. Noyce and L. R. Snyder. bibliog Am Chem Soc J 80: 4033-7 Ax 5 '58

Heterocyclic compounds; reduction of 3-(3,4-methylenedioxyphenyl)-4-nitro-1-phenyl-1-butanone. M. C. Kloetzel and J. L. Pinkus. bibliog Am Chem Soc J 80:2332-4 My 5 '58

Ternary system benzene-cyclohexane-ethyl methyl ketone. M. B. Donald and K. Ridgway. bibliog J Ap Chem 8:403-15 J1 '58

Ternary vapour-liquid equilibria system; acetone-ethyl methyl ketone-cyclohexane. K. V. Kurmanadha Rao and others. bibliog(26 ref) J Ap Chem 7:535-43 O '57

Ternary vapour-liquid equilibria; system ethyl methyl ketone-benzene-cyclohexane. P. Dakshinamurthy and C. Venkata Rao. bibliog J Ap Chem 7:654-9 D '57

Manufacture

Methyl ethyl ketone and acetone. flow diag Pet Refiner 36:264 N '57

BUTAZOLIDIN. See Pyrazolidine

BUTCHER polish company

New industrial line as part of comeback effort by America's first floor wax maker. *Il Soap & Chem Spec* 34:111-14+ Mr '58

BUTT welding. See Electric welding**BUTTER**

Switch to pictorial packages sets off sales boom; illustrated cartons boost butter volume. *J. V. Ziemia, il Food Eng* 30:74-5+ Ja '58

Manufacture

Makes better butter; special temperature treatments. *G. H. Wilster, il Food Eng* 30: 92 F '58

BUTYLAMINE

Nucleophilic displacement reactions in aromatic systems; catalysis of the reaction of 2,4-dinitrochlorobenzene and *n*-butylamine by triethylamine in chloroform. *S. D. Ross and R. C. Petersen, Am Chem Soc J* 80: 2447-9 Mr 20 '58

Nucleophilic displacement reactions in aromatic systems; the rates of reaction of 2,4-dinitrochlorobenzene with *n*-butylamine and with hydroxide ion in 50 per cent dioxane-50 per cent water. *S. D. Ross, bibliog Am Chem Soc J* 80:5319-22 O 5 '58

Reaction of aromatic aldehydes with *n*-butylamine; acid catalysis and substituent effects. *G. M. Santerre and others, bibliog Am Chem Soc J* 80:1254-7 Mr 5 '58

BUTYL benzene

Disproportionation of alkylbenzenes; behavior of *n*-butyl- α -C¹⁴-benzene upon treatment with aluminum chloride; further results with ethyl- β -C¹⁴-benzene. *R. M. Roberts and others, Am Chem Soc J* 80:2507-9 My 20 '58

BUTYL bromide

Quaternization kinetics; di-tertiary amines with butyl bromide in propylene carbonate. *L. Y. Chow and R. M. Fuoss, bibliog Am Chem Soc J* 80:1095-100 Mr 5 '58

BUTYL chloride

Correlation of solvolysis rates; solvent effects on enthalpy and entropy of activation for solvolysis of *t*-butyl chloride. *S. Winstein and A. H. Fainberg, bibliog Am Chem Soc J* 79:5937-50 N 20 '57

BUTYL compounds

Ionic fission of the O-O bond in *t*-butyl arylpersulfonates. *P. D. Bartlett and B. T. Storey, bibliog Am Chem Soc J* 80:4954-61 S 20 '58

Series of tertiary butyl peresters showing concerted decomposition. *F. D. Bartlett and R. R. Hiatt, bibliog diags Am Chem Soc J* 80:1398-405 Mr 20 '58

Analysis

Improved iodometric method of analysis for *tert*-butyl peresters. *L. S. Silbert and D. Swern, bibliog Anal Chem* 30:355-7 Mr '58

BUTYL cyclohexane

Oxidation of *tert*-butylcyclohexane to dibasic acids with nitrogen dioxide. *W. H. Clingman, Jr. and F. T. Wadsworth, bibliog diags Ind & Eng Chem* 50:777-80 My '58

Oxidation of *tert*-butylcyclohexane to dibasic acids with ozone. *W. H. Clingman, Jr. and F. T. Wadsworth, bibliog Ind & Eng Chem* 50:1257-8 S '58

BUTYL cyclohexanone

Ethynylation of 4-*t*-butylcyclohexanone and kinetics of saponification of the ethynylcarbinol esters. *G. F. Hennon and F. X. O'Shea, Am Chem Soc J* 80:614-17 F 5 '58

BUTYL cyclohexylamine

Polymerization of 4-*t*-butyl-2-cyclohexylaminomethylphenol. *W. J. Burke and others, bibliog Am Chem Soc J* 80:3438-43 Ji 5 '58

BUTYL group

Azulenenes; 1- and 2-*t*-butylazulene; migration of the *t*-butyl group. *W. Herz, bibliog Am Chem Soc J* 80:1243-6 Mr 5 '58

Disproportionation and combination reactions of butyl free radicals. *J. W. Kraus and J. G. Calvert, bibliog Am Chem Soc J* 79:5921-6 N 20 '57

BUTYL hypochlorite

Analytical reactions of *tert*-butyl hypochlorite. *C. E. Van Hall and K. G. Stone, bibliog Anal Chem* 30:1416-18 Ag '58

tert-butyl hypochlorite for detection of nitrogenous compounds on chromatograms. *D. P. Schwartz and M. J. Fallansch, Anal Chem* 30:219-21 F '58

BUTYLLITHIUM

Metallation and addition reactions of allylbenzene and propenylbenzene with butyllithium and lithium amide. *H. F. Herbrandson and D. S. Mooney, bibliog Am Chem Soc J* 79:5809-14 N 5 '57

Reaction of 9-chloromethylene-fluorene with butyl- and phenyl-lithium. *D. Y. Curtin and others, bibliog Chem & Ind p* 1453-4 N 2 '57

Reaction of stereoisomeric C¹⁴-labeled 1-bromo-2,2-diarylethylenes and 1,8-bromo-styrenes with butyllithium. *D. Y. Curtin and others, bibliog Am Chem Soc J* 80: 4599-601 S 5 '58

BUTYLOXYCARBONYL group

t-butyloxy carbonylamino acids and their use in peptide synthesis. *G. W. Anderson and A. C. McGregor, bibliog Am Chem Soc J* 79:6180-3 D 5 '57

BUTYL perbenzoate

Reactions of *t*-butyl perbenzoate and olefins; a stereospecific reaction. *M. S. Kharasch and G. Sosnovsky, bibliog Am Chem Soc J* 80:756 F 5 '58

BUTYL rubber. See Rubber, Artificial**BUTYL** toluene

Production of *tert*-butyltoluene by depolyalkylation. *R. J. Lee and others, bibliog Ind & Eng Chem* 50:1001-4 Ji '58

BUTYLENE

Bromine number of propylene and butylene polymers. *J. C. S. Wood, bibliog Anal Chem* 30:372-5 Mr '58

Butadiene from butenes; Esso research and engineering co. flow diag *Pet Refiner* 36:224 N '57

Butylene? watch rubber. *Chem Eng* 65:92+ F 24 '58

Compressibility factors at low pressures. *H. W. Flennig and J. J. McKetta, bibliog Pet Refiner* 36:309-12 N '57

Making butadiene; butylene dehydrogenation by the steam-dilution method. *J. C. Reidel, bibliog flow sheet il Oil & Gas J* 55:37-8+ D 2 '57

New butene source. *Chem & Eng N* 36:64 My 26 '58

Rate of thermal isomerization of *cis*-butene-2. *W. F. Anderson and others, Am Chem Soc J* 80:2334-6 My 20 '58

Reactions of CD₃ radicals with the butenes. *J. R. McNesby and A. S. Gordon, Am Chem Soc J* 79:5902-6 N 20 '57

BUTYNE

Ionization and dissociation of allene, propyne, 1-butyne, and 1,2- and 1,3-butadienes by electron impact; the C₂H₃⁺ ion. *J. Collin and F. P. Lossing, Am Chem Soc J* 79:5848-53 N 20 '57

BUTYRAMIDE

γ -Keto- and γ -hydroxy- γ -phenylbutyramides; synthesis, absorption spectra and structure studies. *N. H. Cromwell and K. E. Cook, bibliog Am Chem Soc J* 80:4573-7 S 5 '58

BUTYRIC acid

Abnormal hydrolysis of γ -nitro- γ , γ -disubstituted butyric acid derivatives. *J. C. Westfahl, bibliog Am Chem Soc J* 80:3428-30 Ji 5 '58

Effect of ethionine feeding on liver and kidney coenzyme A content in the rat. *A. S. Wennerke and L. Recant, bibliog J Nutrition* 64:127-36 Ja '58

Five-vs. six-membered ring formation in the cyclization of 2,3,4-triphenylbutyric acid; the relative importance of stereochemistry. *D. Lednicher and C. R. Hauser, bibliog Am Chem Soc J* 80:3409-13 Ji 5 '58

γ -(3-Furydyl)- γ -methylaminobutyric acid as a urinary metabolite of nicotine. *H. McKennis, Jr. and others, bibliog Am Chem Soc J* 79:6342-3 D 5 '57

See also
Aminobutyric acid

BUTYROLACTONE

Condensation of monophenyl- and diphenylguanidine with malonates and α -alkyl- α -carboxy- γ -butyrolactones. *G. S. Skinner and others, Am Chem Soc J* 79:6207-9 D 5 '57

BUYING motives

See also
Motivation research

BY-PASS roads. See Roads—By-pass roads

C

CDEC. See United States—Army combat development experimentation center

CIGRE. See International conference on large high tension electric systems

CABINETS (furniture)

See also

Loud speaking apparatus—Cabinets

Phonograph cabinets

Radio cabinets

Television cabinets

CABINS, Airplane. See Airplanes—Cabins

CABLE joints. See Electric cables—Joints

CABLE laying and supply ships

Cable ship Ocean Layer. *il* Engineer 204:719 N 15 '58

Dynamics and kinematics of the laying and recovery of submarine cable. E. E. Zajac. bibliog diags Bell System Tech J 36:1129-207 S '57; Excerpts. Am Soc Naval Eng J 70:531-42 Ag '58

CABLE railroads. See Railroads, Cable

CABLES

Cable-hung roof goes to the races; grandstand portion of clubhouse at Yonkers raceway. *il* Eng N 161:33-4+ S 4 '58

Cable-supported roof cuts cost; stadium at Montevideo, Uruguay. M. Schupack. *il* diags Civil Eng 28:248-50 Ap '58

Cable-suspended roof for Yale hockey rink. F. N. Severud. *il* plan diags Civil Eng 28:666-9 S '58

Design notes; drag 'chute cables snag. diags Aviation Age 29:84 My '58

Special cable splice speeds reel changes. *il* Eng N 159:87-8 N 14 '57

See also

Anchorage

Electric cables

Electric cables, Submarine

Telephone cables

Wire rope

CABLEWAYS

Aerial ropeways at Cologne. *il* Engineer 204:376-7 D 13 '57

Bucket parade moves dam material; Wu-Sheh dam, Formosa. *il* Eng N 159:65 N 14 '57

Cableway is Europe's highest; Mount Pagnella, Italy. *il* Eng N 160:65 My 22 '58

Cableway towers travel on viaducts; India's Rihand dam. *il* Eng N 160:55 My 1 '58

Great Orr railway; illustrations with text. Engineer 206:220 Ag 3 '58

See also

Railroads, Cable

CABOT, Godfrey L., Inc.

Cabot commemorates 75th anniversary. *il* Rubber Age 83:146-7 Ap '58

CACAO

Cacao bean pigments and their behaviour during fermentation. J. A. R. Maclean. bibliog Chem & Ind p 1597-8 D 7 '57

CACTUS

Structure of the cactus sterol lophenol; a link in sterol biogenesis. C. Djerassi and others. bibliog Am Chem Soc J 80:1005-6 F 20 '58

Terpenoids; the structure of the cactus triterpene teleselegenic acid; ring conformational analysis in a pentacyclic triterpene. C. Djerassi and J. S. Mills. bibliog Am Chem Soc J 80:1236-43 Mr 5 '58

CADINENE

Absolute configuration of compounds of the cadinane series. V. Herout and V. Sykora. bibliog Chem & Ind p 130-1 F 1 '58

CADINOL

Structure of the crystalline cadinol from citronella oil. M. D. Soffer and others. bibliog Chem & Ind p 19-20 Ja 4 '58

CADMIUM

Anodic oxidation of cadmium. P. E. Lake and E. J. Casey. bibliog Electrochem Soc J 105:52-7 Ja '58

Cadmium. 1957. A. M. Lansche. Eng & Min J 159:141-2 F '58

Density and resistivity changes in Au-Cd upon quenching. W. J. Sturm and M. S. Wechsler. J Ap Phys 28:1509-10 D '57

Dislocation mobility and release of cold work in cadmium. R. Kamel and E. A. Attia. J Ap Phys 28:1365 N '57

Effect of current drains on cadmium standard cells. G. D. Vincent. bibliog diag Electrochem Soc J 104:712-16 D '57

Growth of cadmium from the vapor; abstract. J. E. McNutt and R. F. Mehl. Metal Prog 72:208+ N '57

Metal protein interactions in buffer solutions; a polarographic study of the interaction of Zn²⁺ and Cd²⁺ with bovine serum albumin. M. S. N. Rao and H. Lal. bibliog Am Chem Soc J 80:3222-6 Jl 5 '58

Slip of zinc and cadmium whiskers. R. V. Coleman and others. diag J Ap Phys 28:1360-1 N '57

Zinc and cadmium whiskers. R. V. Coleman and N. Cabrera. *il* J Ap Phys 28:1360 N '57

Analysis

Analysis for zinc, cadmium and copper in electroplating waste effluents. F. Stevens and L. E. Lancy. bibliog Plating 45:832-4 Ag '58

Rapid screening test for cadmium in potable water. M. Lieber. Water & Sewage Works 105:374 S '58

Corrosion

Kinetic study of acid corrosion of cadmium. H. Weaver, jr. and C. C. Lynch. bibliog diag Corrosion 14:31-2 Ja '58

Nuclear reactions

Gamma-dose enhancement from neutron capture in Cd. D. E. Kline and F. J. Remick. bibliog *il* diag Nuclconics 16:97-101 Mr '58

CADMIUM alloys

Ag-In-Cd could replace Hf for pressurized water reactor control rods. I. Cohen and others. bibliog *il* Nuclconics 16:122-7 Ag '58

Fused bath for electrodeposition of molten cadmium-indium alloy. G. L. Schnable and J. G. Javes. bibliog *il* Electrochem Soc J 105:84-8 F '58

Thermally precipitated phases and their distribution in an aluminum-silicon-cadmium alloy. E. Marburger and A. W. Schlachter. *il* J Ap Phys 29:184-8 F '58

Thermodynamic properties of the silver-cadmium system. P. D. Anderson. bibliog Am Chem Soc J 80:3171-5 Jl 5 '58

CADMIUM chloride

Simultaneous evaluation of the stability constant for the CdCl⁺ ion and the standard state potential of the cell Cd-Hg/CdCl₂(m)/AgCl/Ag at 25°. W. B. Treumann and L. M. Ferris. bibliog Am Chem Soc J 80:5048-50 O 5 '58

CADMIUM citrate

Determination of a thermodynamic stability constant for the cadmium citrate (CdCit⁻) complex ion at 25° by an e.m.f. method. W. B. Treumann and L. M. Ferris. bibliog Am Chem Soc J 80:5050-2 O 5 '58

CADMIUM coating

Vacuum deposition avoids embrittlement. V. Dress. *il* Iron Age 180:142-5 D 19 '57; Abstract. S A E J 65:125 N '57

CADMIUM compounds

Influence of inert cations on the reduction of complex anions; polarography of the cadmium-EDTA complex. R. W. Schmid and C. N. Reiley. bibliog Am Chem Soc J 80:2101-5 My 5 '58

Organoperoxy-cadmium compounds. A. G. Davies and J. E. Packer. Chem & Ind p 1177 S 6 '58

Polarographic study of thiourea complexes of cadmium and lead in aqueous media. T. J. Lane and others. Am Chem Soc J 80:815-18 Ja 20 '58

CADMIUM metallurgy

Electrometallurgy

Cadmium practice at Great Falls. A. I. Alf. flow sheet *il* diag J Metals 10:607-10 S '58

CADMIUM niobate

Preparation of cadmium niobate by an anodic spark reaction. W. McNeill. bibliog *il* Electrochem Soc J 105:544-7 S '58

CADMIUM plating

Automated barrel plating line combines speed, flexibility in parts handling. *il* diag Am Mach 101:182-3 N 18 '57

Cadmium plating; how to avoid embrittlement. Steel 141:132+ N 11 '57

New plating technique checks embrittlement; abstracts. W. F. Hamilton and others. S A E J 66:128-9 Ja '58; Materials in Design Eng 47:214+ Ap '58

New technique rids plated steel of hydrogen embrittlement. H. H. Johnson and others. Iron Age 182:47-50 Jl '58

Properties of materials; zinc and cadmium electroplated. Materials in Design Eng 48:264 Mid-O '58

CADMIUM poisoning

Chronic toxicity studies; cadmium administered in drinking water to rats. L. E. Decker and others. *biolog A M A Archives Ind Health* 18:28-31 S '58

CADMIUM selenide

Hysteresis effect in cadmium selenide and its use in a solid-state image storage device. F. H. Nicoll. *il diags RCA R* 19:77-85 Mr '58

Simple phase sensitive rectifier for use with radiation detectors. G. S. Richards. *diag J Sci Instr* 35:285-6 Ag '58

CADMIUM sulfide

Cadmium sulfide shampoo for seborrhea. *Drug & Cosmetic Ind* 82:88 Ja '58

Crystal growth mechanism in cadmium sulfide crystals. D. C. Reynolds and L. C. Greene. *il J Ap Phys* 29:559-62 Mr '58

Effects of electrode materials and surface preparation of CdS-metal contacts. R. A. Greiner and others. *J Ap Phys* 28:1358-9 N '57

Ohmic probe contacts to CdS crystals. Y. T. Silhvonon and D. R. Boyd. *il diags J Ap Phys* 29:1143-5 Ag '58

Precipitation of cadmium sulfide from acid solutions by thioacetamide. D. F. Bowersox and E. H. Swift. *Anal Chem* 30:1288-91 Jl '58

Production of cadmium sulfide crystals by coevaporation in a vacuum. R. J. Miller and C. H. Bachman. *biolog il diags J Ap Phys* 29:1277-85 S '58

Sensitive photocell; cadmium sulphide photocell. I. Queen. *diag Radio-Electronics* 29:118 Ja '58

Solar generator works to 750 C. *Electronics* 31:26 S 19 '58

CADWELL, Sidney Marsh

Sketch. *por Rubber Age* 83:326 My '58

CAFESTOL. See Terpenoids**CAFETERIAS, Employees**. See Lunchrooms and cafeterias, Employees**CAGE refining**. See Metallurgy—Zone refining**CAGNIARDS integrals**. See Integrals**CAISSONS**

Device to fix undersea pipe. *il Oil & Gas J* 55:98 N 4 '57

Giant spikes halt earth movement in California. *il Civil Eng* 28:64 Ja '58; Discussion. J. A. Lambie. *ibid* 28:271 Ap '58

CAKE mixes

Pillsbury's code sampling gives can't-miss quality control. K. Scherch. *il Food Eng* 30:116-17 Ja '58

CALCIFICATION

Calculi and kidney calcification from feeding milk diets to rats and hamsters. P. Sambhavaphol and others. *biolog il Am J Clinical Nutrition* 6:159-63 Mr '58

Dietary mineral interrelations as a cause of soft tissue calcification in guinea pigs. L. A. Maynard and others. *biolog il J Nutrition* 64:85-97 Ja '58

CALCINATION

Calcination of rutile-type titanium dioxide hydrolysates. J. E. Latty. *biolog J Ap Chem* 8:96-103 F '58

Controlled atmosphere calcining makes gilsonite coke. G. M. Pekula and C. H. Case. *flow diag il Pet Eng* 30:C20-4 Je '58

Development of an agitated trough continuous calciner. M. J. Szulinski. *flow sheet il diags Chem Eng Prog* 53:586-9 D '57

Effect of conditions of preparation on the form of alumina; precipitation and subsequent calcination of products in the system aluminum sulphate-sodium aluminate-water. J. A. Lewis and C. A. Taylor. *biolog J Ap Chem* 8:223-8 Ap '58

CALCITE

Calcite in water treatment; Oneonta, N.Y. T. M. Riddick and others. *il diag Water & Sewage Works* 105:15-24; Discussion. 24 Ja '58

Melting of calcite in the presence of water and carbon dioxide. M. S. Paterson. *il Am Mineralogist* 43:603-6 My '58

Pulverized calcite merely a cement adulterant? N. C. Rockwood. *Rock Prod* 61:21-4 Jl '58

Solution kinetics of calcite. P. K. Weyl. *biolog diags J Geol* 66:163-76 Mr '58

CALCIUM

Ca, Mg, S; plant nutrients. *il J Agri & Food Chem* 6:415-17 Je '58

High-purity calcium made by fractional distillation process. W. J. McCreary. *biolog il diags J Metals* 10:615-17 S '58

Analysis

Analyze for Ba, Ca, and Zn this way; lube additives and oils. R. J. Bertolacini. *biolog Pet Refiner* 37:141-9 F '58

Complexometric titration of calcium in the presence of magnesium. A. D. Kenny and V. H. Cohn. *Anal Chem* 30:1366-8 Ag '58

Complexometric titration of urinary calcium and magnesium. C. L. Yarbrow and R. L. Golby. *biolog Anal Chem* 30:504-6 Ap '58

Determination of calcium in wolframite ore. J. E. Mathers and others. *Anal Chem* 30:1412-13 Ar '58

Separation of strontium from calcium with potassium rhodizonate; application to radiochemistry. H. V. Weiss and W. H. Shipman. *Anal Chem* 29:1764-6 D '57

CALCIUM aluminate

New calcium aluminate hydrates. M. H. Roberts. *biolog J Chem* 7:543-6 O '57

Optical and physical properties of some calcium aluminate glasses. H. C. Hafner and others. *biolog Am Cer Soc J* 41:315-23 Ag 1 '58

Topping pavements with calcium aluminate cement concrete. W. C. Hansen and W. W. Brandy. *Am Concrete Inst J* 29:1009-11 My '58

CALCIUM carbonate

Anomalous behaviour of carbonate in phosphate rock. H. Feilchenfeld and C. Eden. *biolog J Ap Chem* 8:358-63 Je '58

Calcium carbonate decomposition in carbon dioxide atmosphere. E. P. Hyatt and others. *biolog Am Cer Soc J* 41:70-4 F 1 '58

Highlights of research in sanitary engineering; Harvard university corrosion studies. W. Stumm. *Pub Works* 83:73-80 D '57

Hydrogenation of butadiene rubber solutions; influence of the solvent with palladium-on-calcium carbonate catalyst. A. I. Yakubchik and G. N. Gromova. *biolog Rubber Chem & Tech* 31:583-91 Jl '58

Influence of bicarbonate ion on inhibition of corrosion by sodium silicate in a zinc-iron system. H. L. Shuldener and L. Lehman. *biolog il diag Am Water Works Assn J* 49:1432-40 N '57

Refined calcium carbonate and its effect on paper coating. R. W. Hagemeyer and G. E. Hall. *il Tappi* 41:sup217A-21A Ap '58

Relation between lattice constants and composition of the Ca-Mg carbonates. J. R. Goldsmith and others. *biolog Am Mineralogist* 43:84-101 Ja '58

Use of phosphoric acid for brightness control of book paper containing calcium carbonate. J. H. Dinius. *biolog Tappi* 41:93-6 F '58

See also

Calcite

Dolomite

CALCIUM chloride

CaCl₂ faces new era. *Chem & Eng N* 36:34 Je '58

Calcium chloride and hydroxyl ion catalyzed hydrolysis of several acylated α-amino acid esters. R. B. Martin and C. Niemann. *Am Chem Soc J* 79:5828 N 5 '57

County road stabilization with calcium chloride. L. J. Waldenberger. *il Pub Works* 89:120 Mr '58

Dust control by the use of salt, calcium chloride and bituminous materials. J. W. Hutchinson. *il Pub Works* 88:112-14 D '57

Electrical conductivity of fused sodium chloride-calcium chloride mixtures. J. B. Story and J. T. Clarke. *biolog diags J Metals* 9:Trans 449-54 N '57

In one season, Md. and places million tons of Ca. Cl stabilized base mix. *il Roads & Sts* 101:78-4 Ja '58

Liquid chemicals for dust and ice control. H. E. Stafseth. *il Pub Works* 89:91-3 My '58

CALCIUM compounds

Giant fume catcher stops fluoride emission; U.S. steel corp. *il Chem Eng* 65:66-4 F 24 '58

CALCIUM dimethyl. See Dimethyl calcium**CALCIUM fluoride**

Energy transfer and sensitization in single crystal phosphors. R. Leach. *biolog Electrochem Soc J* 105:27-33 Ja '58

Sealing a calcium fluoride window to glass. M. H. Greenblatt. *diag R Sci Instr* 29:738 Ag '58

CALCIUM gluconate

Production of calcium 2-ketogluconate by fermentation with species of pseudomonas. V. F. Pfeiffer and others. *biolog flow sheet il Ind & Eng Chem* 50:1009-12 Jl '58

CALCIUM hydroxide

Low temperature oxidation of solid ferrous sulfate heptahydrate with oxygen in the presence of solid calcium hydroxide, E. Roig and others, bibliog diag Am Chem Soc J 80:1874-6 Ap 20 '58

CALCIUM in the body

Adaptation to different calcium intakes in dogs, S. N. Gershoff and others, bibliog J Nutrition 64:303-12 F '58
Loss of calcium, phosphorus, iron, and nitrogen in hair from the scalp of women, F. A. Johnston and others, bibliog Am J Clinical Nutrition 6:136-41 Mr '58

See also
Calcification

CALCIUM mordenite. See Zeolites

CALCIUM nitrate

Fission recoil decomposition of calcium nitrate solutions, R. G. Sowden and E. M. Lynde, bibliog Am Chem Soc J 80:2593-4 My 20 '58

CALCIUM oxide. See Lime**CALCIUM peroxide****Analysis**

Analysis of mixed oxides of calcium, R. S. Johnston and others, bibliog Anal Chem 30: 511-13 Ap '58

CALCIUM phosphates

Effect of impurities on the plaque brightness of a 3000°K calcium halophosphate phosphor, A. Wachtel, bibliog diag Electrochem Soc J 105:256-60 My '58

Outlook bright for cal meta; plant hydrolyzes and ammoniates calcium metaphosphate in high concentration of sulfuric acid, J. L. Jenista and others, Chem & Eng N 36: 60-1 S 22 '58

CALCIUM silicates

Calcium analogues of chondrodite, E. R. Euckle and H. F. W. Taylor, bibliog il Am Mineralogist 43:318-23 S '58

Calcium-silicate-tungstate phosphor; phase relationships and fluorescent properties, D. E. Harrison and F. A. Hummel, bibliog diags Electrochem Soc J 105:34-7 Ja '58

Calcium-silicate-tungstate phosphor; preparation and physical properties, S. Jones, Electrochem Soc J 105:37-40 Ja '58

Crystal chemistry of hydrous calcium silicates (cont), G. L. Kalousek and A. F. Prebus, bibliog (29 ref) il Am Cer Soc J 41:124-32 Ap 1 '58

Stoichiometry of the hydration of β -dicalcium silicate and tricalcium silicate at room temperature, S. Brunauer and others, bibliog Am Chem Soc J 80:761-7 F 20 '58

Thermal insulation materials, R. J. Fabian, Materials in Design Eng 47:127 Mr '58

See also
Pseudowollastonite

CALCIUM sulfate

Effect of additives upon the process of crystallization: crystallization of calcium sulfate, E. R. McCartney and A. E. Alexander, bibliog il J Colloid Sci 13:383-96 Ag '58

See also
Anhydrite
Gypsum

Bibliography

Formation of sulphur trioxide and calcium sulphate in the sulphite process; abstracts from the literature, G. J. C. Potter and others, Tappi 41:sup 183A-95A F '58

CALCIUM superoxide**Analysis**

Analysis of mixed oxides of calcium, R. S. Johnston and others, bibliog Anal Chem 30: 511-13 Ap '58

CALCIUM tungstate

Calcium-silicate-tungstate phosphor; phase relationships and fluorescent properties, D. E. Harrison and F. A. Hummel, bibliog diags Electrochem Soc J 105:34-7 Ja '58

Calcium-silicate-tungstate phosphor; preparation and physical properties, S. Jones, Electrochem Soc J 105:37-40 Ja '58

CALCIUM vanadate

Simplotite, a new quadrivalent vanadium mineral from the Colorado plateau, M. E. Thompson and others, il map diag Am Mineralogist 43:16-24 Ja '58

CALCULATING devices

Automatic dip-component computer for use with Brunton compass, R. L. Threet, diags Am Assn Pet Geologists Bul 41:2762-3 D '57
Calculator for numerical Fourier synthesis, V. Timbrell, il diags J Sci Instr 35:313-18 S '58

Color timing method and calculator for subtractive motion-picture printers, G. T. Keene, il diags SMPTE J 67:404-8 Je '58
Composition/anticomposition calculator for use in organic chemical analyses, W. D. Crow and Y. M. Greet, il diags Chem & Ind p 1618-21 D 14 '57

Matrix manipulator, il diags Ind Quality Control 15:21-3 Ag '58

New Diesel-Dial provides engine data, il Diesel Power 36:18-19 Mr '58

Radar calculator, Franklin Inst J 265:316 Ap '58

Save time in figuring glazes; glaze computer made from index cards, D. Journeaux, il Cer Ind 71:84-6 Ag '58

CALCULATING machines

Analog and digital computers in the French electric power production, transmission, and distribution industry, F. M. Cahen and J. M. Carteron, bibliog Power Apparatus & Systems p 1533-6; Discussion, F. A. Abetti and S. B. Williams, 1536-8 F '58

Analog-digital conversion; Southeastern simulation council, Melbourne, Fla. Sept. 27; abstracts of papers, Instruments & Automation 31:119-20 Ja '58

Application of computers to the work of the analyst, Anal Chem 30:sup 19A-21A+ My '58

Application of machine computation to petroleum research; symposium, bibliog flow chart, diags Ind & Eng Chem 50:712-40 My '58 (reprints \$1)

Application of transistors to computers, R. A. Henle and J. L. Walsh, bibliog diags Inst Radio Eng Proc 46:1240-54 Je '58

Auto-Abstract, electronic machine; abstract, H. P. Luhn, Franklin Inst J 265:522 Je '58

Automated history book, IBM 305 Ramac computer, Elec Eng 77:378-9 Ap '58

Automatic computing for process-unit operating guides, H. F. Moore, diag Eng J 41:57-9 F '58

Automatic pilot plant; Esso's Micro-Plant, Control Eng 5:28-4 Mr '58

Automation today, T. J. Williams and J. M. Young, bibliog diags Pet Refiner 36:165-8 Ag; 315-18 S; 125-7 O; 305-8 N '57

Basic logic modules speed programming, il diags Electronics 31:104-5 S 26 '58

Board automatically plots business trends, il Electronics 30:16-4 D 1 '57

Bridge piers designed by computer, E. M. Chafets and E. Plaxe, il diags Civil Eng 28:337-40 My '58

Building frame analyzed by computer, E. S. Brandon, plan Eng N 159:34-5 D 19 '57

Character reading is a signal/noise problem, C. E. G. Bailey, il diag Control Eng 5:137-4 My '58

Chemical structures by computer, A. Opler and N. Baird, il Chem & Eng N 36:108-9 Ap 28 '58

Civil engineers boost computers; annual meeting of American society of civil engineers, New York, Electronics 31:44-5 F 7 '58

Commercial computers; illustrations with text, Engineer 205:pl 5 Ja 10 '58

Commercially available analog-to-digital converters; tables, G. G. Bower, Product Eng 28:A22 Mid-O '57

Complete automation of a process plant, I. C. Bechtold, bibliog diags Oil & Gas J 56:116-4 Je 9 '58

Computations in the field of engineering chemistry, T. J. Williams and others, bibliog diags Instruments & Automation 31:90-4 Ja '58

Computer abstracts, Control Eng 5:32 Mr '58
Computer analyzes brain waveforms, C. J. Zaander, il diags Electronics 31:68-72 J 18 '58

Computer and the brain, J. von Neumann, Review, by S. Ulam, Sci Am 198:127-8+ Je '58

Computer calculates heat rates to set economic turbine overhauls, C. F. Whitmer and W. M. Stephens, diags Elec World 149: 44-6 Ja 6 '58

Computer checks as-driven pile groups, P. T. Gavaris, diag Eng N 160:54 My 22 '58

Computer checks closure at Oahe dam, map Eng N 160:78-9 Ja 9 '58

Computer-controlled pilot plant speeds research on processes, il Instruments & Automation 31:378 Mr '58

Computer-designed rolling mill, diag Instruments & Automation 31:233 F '58

Computer for repetitive business operations; series F2000 computer, Franklin Inst J 266: 148-9 Ag '58

Computer guides blast furnace, Iron Age 182: 70 J 31 '58

CALCULATING machines—Continued

- Computer in darkroom simplifies color printing; Tricolor computer. *Il Machine Design* 30:124 Ap 17 '58
- Computer prints out pier bent design loads by AASHO groups. *diag Eng N* 160:84+ My 15 '58
- Computer reads microfilm. flow diag *Il Electronic Ind & Tele-Tech* 16:83+ N '57
- Computer representations of engineering systems involving fluid transients. F. D. Ezekiel and H. M. Paynter. *diags A S M E Trans* 79:1840-9; Discussion. S. L. Kerr. 1849-50 N '57
- Computer service made feasible for small firms. *Civil Eng* 28:383 My '58
- Computer simplifies purchasing decisions. C. S. Knox. *S A E J* 86:29-31 Je '58
- Computer studies of penstock and governor systems. E. C. Koenig and H. A. Knudtson. *bibliog diags Am Soc C E Proc* 83 [PO 6 no 1489]:1-18 D '57
- Computer system automatically abstracts technical articles. *Machine Design* 30:38-9 Mr 20 '58
- Computer to control power distribution. *Electronics* 31:22 Je 13 '58
- Computer to probe methanol-formalin future; chemical market forecasting. *Chem Eng* 65:66 O 6 '58
- Computer v. chess-player. A. Bernstein and M. D. Roberts. *il diags Sci Am* 198:96-8+ J= '58
- Computers aid process control. W. A. Stapleford. *S A E J* 86:29-31 Je '58
- Computers and numerical automation; mechanical business; abstract. A. D. Booth. *Engineering* 185:684 My 30 '58
- Computers and the future. *il Chem & Eng N* 36:32+ Ap 23 '58
- Computers do double duty via telephone. *il Oil & Gas J* 56:32 Mr 3 '58
- Computers go to work on tough problems for Socony's world-wide operations. *Oil & Gas J* 56:52 J1 21 '58
- Computers in production; programming for turret punchpresses pays off; Allis Chalmers mfg co. A. H. Knable and R. Stowe. *diags Am Mach* 102:116-17 Mr 24 '58
- Computers in the profession. E. K. Timby. *il Civil Eng* 28:324-6 My '58
- Computers, mathematics and statistics; annual review. A. Rose and others. *Ind & Eng Chem* 50:512-19 bibliog(p518-19) pt 2 Mr '58
- Computers; now proving ground; they'll take over more future testing tasks. H. R. Neal. *Iron Age* 181:94+ F 13 '58
- Computers now talk to each other. *Iron Age* 180:192-3 N 14 '57
- Computers permit new statistical analysis concepts to aid design. *Product Eng* 29:21-2 S 8 '58
- Computers speed pipe-stress studies. *il diag Power* 102:86-7 S '58
- Computers; what they can do and how to speak their language. V. Paschakis. *diag Mech Eng* 80:52-3 Ar '58
- Computing mechanisms; drawings with text. *Product Eng* 28:12-5 Mid-O '57
- Conditional probability computer. *Electronic Eng* 30:435 J1 '58
- Conditional probability computer; Wales oil refinery. *Wireless World* 64:439 S '58
- Control systems engineering; some solutions. E. W. James. *il Chem Eng Prog* 54:45-8 Mr '58
- Converting pulse and coded data into usable output signals. H. W. Mergler. *bibliog diags Control Eng* 5:146-52 S '58
- Dead Sea scrolls indexed by computer. *il Elec Eng* 77:561-2 Je '58
- Design of a self-optimizing control system. R. E. Kalman. *bibliog il diags A S M E Trans* 80:468-77; Discussion. 477-8 F '58
- Designing steel bridges by computer. C. W. Zahler. *il diag Civil Eng* 28:341-3 My '58
- Desk-side electronic computer. *il Mech Eng* 79:1046-7 N '57
- Differentiator for a-c computers. W. X. Johnson. *bibliog diags Com & Electronics* p 1-4 Mr '58
- Digital and analogue computer service. *Engineering* 184:697 N 29 '57
- Dual-mode servo compensation; computer-relay combination. D. K. Gehrmlich. *diags Control Eng* 5:19-23 My '58
- Eastern joint computer conference, Washington. Nov. 18-21; program. *Inst Radio Eng Proc* 45:1585-6 N '57
- Effects of hydrates on automated transmission and gathering systems. W. M. Owen. *Gas Age* 121:49-50+ My 1 '58
- Electronic computation of stresses in pipe systems. C. F. Gradwell. *diags Manuf Chem* 29:374-6 S '58
- Electronic computer applications to petroleum engineering. J. G. Debanne. *diags Can Min & Met Bul* 51:223-7 Ap '58
- Electronic computer for mass identification of particles. W. V. Briscoe. *diags R Sci Instr* 29:401-4 My '58
- Electronic computer serves five areas as engineering's newest tool. D. G. Thoroman. *S A E J* 86:30-1 My '58
- Electronic computers in surveying operations. A. J. McNair. *Am Soc C E Proc* 83 [SU 2 no 1444]:1-7 N '57
- Electronic devices for the civil engineering field. *il Pub Works* 89:113-17+ Mr '58
- Engineering developments; computers; illustrations with text. *Elec Eng* 77:10-11 Ja '58
- Entering the machine domain; human-to-machine information transfer problem. S. L. Seaton. *bibliog diag Elec Eng* 77:289-92 Ap '58
- Environmental prerequisites for computer efficiency. R. D. Horwitz. *il diags Instruments & Automation* 31:1204-6 J1 '58
- Fitting computers into control systems; panel discussion. *Elec Eng* 77:396-401 My '58
- Flexible, high strength raised floors for computers, heavy equipment. *il Arch Rec* 124:201 J1 '58
- Floating-point computer for Germany. *Electronic Eng* 30:191 Ap '58
- Foxboro-Yoxall pneumatic computer. *diag Engineering* 185:165 F 7 '58
- Gas network analysis program for high-speed computer; Cincinnati gas & electric co. F. L. Duffy. *diags Gas* 34:47-54 Je '58
- Hard look at production control; panel discussion. *Control Eng* 5:35-6 Je '58
- Helicopter and calculators help manage six companies. *il Roads & Sts* 100:99-100+ D '57
- High speed camera picks computer brain. H. Waterman. *il Ind Phot* 7:62-3+ F '58
- High-speed computer determines beam stress of gear tooth. H. W. Van Gerpen. *diag S A E J* 86:56-7 N '58
- How computers aid economic studies; special report on costs. H. E. Jones and E. W. Kjellmark. *jr. bibliog il diag Pet Refiner* 37:151-63 Je '58
- How to calculate unsteady-state flow of natural gas in long pipelines. J. M. Nelson and J. E. Powers. *bibliog diag Oil & Gas J* 56:36+ Je 30 '58
- How to use digital computers to calculate piping flexibility. T. Kolbat and K. E. Knapp. *il diags Heating-Piping* 29:106-8 Ar; 124-7 N '57
- IP-24 chart computer. C. M. Rice and J. P. Parker. *diag Textile Res J* 28:87-8 Ja '58
- Indicating horse-power continuously; generator gives product of two variables. J. Thilaimuthu. *il diags Engineering* 184:528-9 O 26 '57
- Japanese make giant computer. *il Electronics* 31:12+ Ap 25 '58
- Kiev, an all-purpose computer. *Control Eng* 5:26 Mr '58
- Length of the smallest uniform experiment which distinguishes the terminal states of a machine. S. Ginsburg. *Assn for Computing Mach J* 5:266-80 J1 '58
- Let computers pick your exchangers. R. E. Githens. *jr. Chem Eng* 65:143-6 Mr 10 '58
- Load-sharing matrix witch. G. Constantine. *jr. il diag Electronics* 31:18+ S 12 '58
- Low-cost, mechanical calculator attains electric machine speeds; Context. *il diags Machine Design* 30:144-5 Ap 3 '58
- Magnavox develops film data recorder and reader. *il diag Ind Lab* 3:53-5 O '58
- Man-machine simulator. *Electronics* 31:21 Ag 22 '58
- Matrix math compiler. L. C. McGinn. *Franklin Inst J* 264:415-16 N '57
- Mechanical version of the Smith chart. J. E. Knowles. *il diags J Sci Instr* 35:233-7 J1 '58
- Middle East gets computer; Arabian American oil co. *Electronics* 31:34 J1 25 '58
- Monroe calculator unveils all-electric computer in under-\$10,000 price range; Monrobot IX. *il Gas Age* 120:16 D 26 '57
- Moon computer uses breadboard servos in field. A. S. Goodrich. *il plan diag Control Eng* 5:133+ F '58
- More computer progress; Eastern joint computer conference, Washington. *Electronics* 31:16-17 Ja 10 '58
- National Motor Bearing solves design problems by computer. *il Product Eng* 28:36-7 N 4 '57
- Natural gasoline; computer designs plants. H. C. Mieth and A. C. Moore. *Pet Refiner* 37:140 Ap '58

CALCULATING machines—Continued

Neon lamp logic gates play tick-tack-toe. C. E. Hendrix and R. B. Purcell. *Il diags Electronics* 31:68-9 Je 20 '58

New computers announced. *Il Electronics* 31:12-4 Ja 31 '58

New giant brain for businessmen; Datamatic 1000. W. W. Finke. *Franklin Inst J* 264:456 D '57

New lab tests systems. *Il Electronics* 31:14-5 S 12 '58

New method of identifying disaster victims; electronic computer handling of skull measurements. V. Sassouni. *Franklin Inst J* 266:147-8 Ag '58

Now producing plane computer. *Electronics* 31:47 Ja 10 '58

Oil industry looks to computers. *Electronics* 30:22 D 1 '57

Operating experience with GEDA automatic economic dispatching. Ohio Edison system. R. H. Travers. *Il Power Apparatus & Systems* p407-9; Discussion. 409-10 Je '58

Operating experience with West Penn power co.'s economic dispatch computer. W. R. Hamilton and W. H. Osterle. *Il plan Power Apparatus & Systems* p702-6; Discussion. 706-7 O '58

Operations research; aid to decision. G. C. Jacobus. *Pet Eng* 29:E 17-18+ D '57

Order-invoice computer combines typing, automation. *Il Machine Design* 30:14 F 6 '58

Packaged circuits for computer design. *Franklin Inst J* 265:166-8 F '58

Performance computer for steam-electric generating units. A. J. Hornfeck and T. S. Insland. *bibliog Il diags Power Apparatus & Systems* p647-53; Discussion. 653-4 Ag '58

Pneumatics; using electronic computers in the oil industry (cont.). K. L. Austin and others. *diags Oil & Gas J* 55:121 N 25; 135 D 9 '57; 55:125 Ja 6; 150 Ja 20; 106 F 3; 131 F 17; 131 Je 9; 185 J 23 '58

Problem solving by computers; stimulant to creative engineering. C. K. Buell and L. W. Pollock. *Il Chem Eng* 65:147-9 O 20 '58

Problems unique to computers of a kind; panel discussion. *diags Instruments & Automation* 31:1219-25 J 1 '58

Provisional international computation centre. *Engineer* 206:428 S 12 '58

Puncher transcribes computer output. J. E. Palmer and others. *Il diags Electronics* 30:164-7 D 1 '57

Push computer input, storage. *Il Electronics* 31:8+ Ja 3 '58

Schools seeking psych measure. *Electronics* 30:35-6 D 20 '57

Scientific problems solved through Univac. *Franklin Inst J* 265:255-7 L 1 '58

Sequential functions. G. N. Raney. *Assn for Computing Mach J* 5:177-80 Ap '58

Simulation, key to systems development; based on papers by A. H. Noll and others. *diags S A E J* 65:30-7 N '57

Sine-cosine encoders beat angle encoders. W. L. Frank. *Il Control Eng* 5:131 F '58

Solving spiral bridge geometrics by computer. J. Belzer. *Il diags Civil Eng* 28:334-6 My '58

Some current practice with computers. flow chart *Il Engineer* 204:638-40 N 1 '57

Soviet computing machines; illustrations with text. *Control Eng* 5:22 My '58

Standard simulation circuits; Western simulation council meeting. Downey, Calif. Nov. 14; abstracts of papers. *Instruments & Automation* 31:120-4 Ja '58

Statistical methods in fabric development; Orion sweaters. F. J. Evans and others. *Mod Textiles Mag* 39:67-73; Discussion. 73-5 Ap '58

System planners advised on getting most from computer; abstract. A. P. Fugill. *Elec World* 143:91 D 16 '57

10,000-transistor computer out. *Il Electronics* 31:12+ My 23 '58

Texaco tries computing-control for tricky refining process. J. S. Worden. *Control Eng* 5:44 Ja '58

Textile companies eye computers for production control. F. Ridgeway. *Control Eng* 5:38+ My '58

Tips on organizing computer operation; interviews with R. F. Ziegenfelder and W. O. Salter. *Eng N* 160:43-5 Mr 27 '58

Transistorized analog-digital converter. W. B. Towles. *Il diags Electronics* 31:90-3 Ag 1 '58

Transistors give desk-size computer. *Il Product Eng* 29:75 Je 23 '58

Trends for '58; increased use of computers. J. F. Ebdon. *Il Gas* 34:99-101+ Ja '58

True stress, true strain computer. T. S. DeSisto and D. E. Driscoll. *Il diags A S T M* Bul p46-9 F '58

Unique approach to computer versatility; Bendix G-15 computer system. L. S. Michels. *Il diags Electronic Ind & Tele-Tech* 16:72-5+ O '57

Use of computers for mechanized literature searching in operations-research libraries. R. Coile and B. Foster. *Op Res* 6:434-8 My '58

Use of computers in reactor design. D. S. Billingsley and others. *bibliog diags Ind & Eng Chem* 50:741-52 My '58

What computers can and cannot do. *Il Can Chem Process* 42:103-6 Mr '58

What's ahead in computers. *Il Electronics* 31:17-18 Mr 7 '58

See also

Accounting—Mechanical aids
Data processing service centers
Differential analyzers
Electronic data processing
Information storage and retrieval systems
Integrators
Magnetic memory (calculating machines)
Numerical control

Aeronautic uses

Airborne computer programs flight path. H. Bristol. *Il diags Aviation Age* 30:126-31 J 1 '58

Airlines can use computer techniques; abstract. L. Rosenfeld. *S A E J* 66:101 Je '58

Calculations by the method of characteristics. R. D. Linnell. *bibliog diags Aeronautical Eng R* 17:39-44 Mr '58

Cascading resolves without booster amplifiers; ac bombing and navigation computers. J. Gilbert. *diags Control Eng* 5:85-90 Mr '58

Computer-controlled air traffic. *Il diags Mech Eng* 80:88-9 Ap '58

Cruise control instrumentation for turbojet aircraft; abstract. H. W. Kidder. *S A E J* 66:60-1 Je '58

Digital computer flies plane from takeoff to touchdown. *Il Machine Design* 30:26 Ja 9 '58

Digital computer guides jets. J. H. Rubel. *Il (cover) Radio-Electronics* 29:63 Ap '58

Display computer plots targets at speeds above Mach 20. *Machine Design* 30:6 Ja 23 '58

Laboratory pressure measurement requirements for evaluating the air data computer. A. J. Eberlein. *diag Aeronautical Eng R* 17:53-7 Ap '58

Mach scientific H-bomb defense advance; Digital computer. *Il Elec Eng* 77:272-3 Mr '58

Mathematical services at Farnborough; Royal aircraft establishment. flow chart *Il diags Aircraft Eng* 30:20-4 Ja '58

Modified transceivers compute distance. H. Vantine, Jr. and E. C. Johnson. *Il diags Electronics* 31:94-8 S 12 '58

Multipurpose automatic navigator. B. J. Baron and R. W. Unold. *Il diags Aero/Space Eng* 17:55-9 My '58

Rhumb line computer automates dead reckoning. *Il diags Aviation Age* 28:100-1 F '58

Seven jobs for the airborne computer in aircraft navigation and control. E. L. Braun and G. Post. *diags S A E J* 66:63-6 F '58

TRADIC, the first phase. J. R. Harris. *Il diags Bell Lab Rec* 36:330-4 S '58

Weapon system requirements for air data computers. A. K. Hammell. *Aeronautical Eng R* 17:32-5 Ja '58

Weapons system approach to air data computing. H. F. Creel. *diag Aeronautical Eng R* 17:41-4+ F '58

Analog computers

Acrylic heart for analogue computer. *Il Mod Plastics* 35:195 F '58

Amplitude-stabilized bridged-T oscillator. K. Enslin. *bibliog diags Com & Electronics* p75-9 Mr '58

Analog computer aids nuclear plant design. D. W. Leiby. *bibliog diags Combustion* 29:34-43 S '57

Analog computer study of a torsional vibrations problem. R. T. Gray and S. W. McElhenny. *bibliog diags Applications & Ind* p219-27 S '58

Analog computer study of the transient behavior and stability characteristics of serial-type digital data systems. O. I. Elgerd. *bibliog diags Com & Electronics* p358-66 J 1 '58

CALCULATING machines—Analog computers

—Continued

- Analog computer study of the transient performance of a dual-cycle boiling-water-reactor nuclear power plant. D. W. Leiby. bibliog diags Com & Electronics p 17-25 Mr '58
- Analog computer study of wind-tunnel drive. K. G. Black and R. J. Noorda. bibliog il diags Com & Electronics p145-50 Ja '58
- Analog computing systems for corrected Q. D. D. Pierson and F. W. Helming, jr. il diags Gas Age 120:22-4+ D 12 '57
- Analog multiplier based on the Hall effect. L. Löfgren. bibliog il diags J Ap Phys 29: 158-66 F '58
- Analog or the digital computer? R. B. Squires and L. J. Rindt. il Elec World 150:53-4+ J17 '58
- Analog solution of two point boundary value problems. D. Greenspan and others. diags R Sci Instr 28:1040-2 D '57
- Analog study of a high-speed recording servomechanism. J. W. Schwartzberg. diags A S M E Trans 80:490-6 F '58
- Analog techniques for resolving two-point boundary value problems. D. Greenspan. diag R Sci Instr 29:787-8 S '58
- Analog and digital computer solutions of daylighting problems: abstract. P. F. O'Brien and J. A. Howard. diags Illum Eng 53:477-8 S '58
- Analogous computer applied to induction-motor design. il diag Engineering 186:188 Apr 8 '58
- Analogous computer for Fourier transforms. D. G. Tucker. bibliog il diag Brit Inst Radio Eng J 18:233-5 Ap '58
- Analogous computer for the British transport commission. Electronic Eng 30:505 Ag '58
- Analogous computers and their use in nuclear reactor safety studies. I. Wilson and R. Potter. diags Brit Inst Radio Eng J 18: 95-100 F '58
- AYDAR, special purpose analog machine for yaw data reduction. S. J. Zarodny and T. Leser. bibliog il diags Assn for Computing Mach J 5:89-99 Ja '58
- Application of the analog computer to product dynamic performance in typical hydraulic circuits. G. Reethof. bibliog diags A S M E Trans 80:1299-306; Discussion, 1306-7 Apr '58
- Applications of automatic programming equipment: abstract. G. Bekey. Instruments & Automation 31:1548-9 S '58
- Applications of flow graphs to analog computer programming: abstract. J. L. Hammond. Instruments & Automation 31:1063-4 Je '58
- Brain designs rolling mill. Mill & Factory 62:262 Mr '58
- British transport commission analogue computer. il Engineer 206:30 J14 '58
- Cathode-ray tube analogue-to-serial digital converter. J. Willis and M. G. Hartley. diags J Sci Instr 35:197-202 Je '58
- Combined analog-digital control systems. M. H. Nothman. diags Elec Manuf 61:78-86 Je '58
- Computer analyzes voltage-regulator performance. H. L. Prescott. il diags Westinghouse Eng 18:76-9 My '58; Abstract. Elec World 149:56-7 My '58
- Computer and control for the telescope at Jorðell bank. il diags Electronic Eng 30: 466-72 Ag '58
- Computer checks out pH control before plant is built; Union carbide and chemical co. il I S A J 5:24 J1 '58
- Computer slips balancing time; locates turbine-wheel unbalance. W. E. Boggs. il diag Control Eng 5:119+ Je '58
- Computer verification of steam generator instrumentation for a nuclear power plant: abstract. D. P. Waite and E. E. Lynch. diags Control Eng 5:166+ Ja '58
- Computers direct movies. diag Electronics 31:49 Apr '58
- Computing train timetables; British transport commission installed an analogue computer in the office of the chief electrical engineer, British railways central staff. il Engineering 186:87 J118 '58
- Curve followers program heat runs; simulate the heating conditions encountered by missile during re-entry into earth's atmosphere. J. W. Powell. il diag Control Eng 5:169 S '58
- Design of function generators using short-time memory devices and nonlinear elements. A. W. Revay and D. J. Ford. diags Com & Electronics p 143-52 My '58
- Design of function generators using silicon carbide non-linear resistors. E. Brown and P. M. Walker. il diags Electronic Eng 30:154-7 Mr '58
- Design trends; card programs function generator; illustrations with text. Electronics 31:142 F14 '58
- Direct analog computers for structural dynamics. W. J. Dixon. diags Instruments & Automation 31:1222-3 J1 '58
- Distillation-column dynamic characteristics. diags Instruments & Automation 31:1367-9 Ag '58
- Electrical analog computer cuts line pack calculation time in half at Pannhandle. Gas Age 122:40 Ag '58
- Electronic synthesis of flexible beam behaviour. M. Squires and W. G. Hughes. bibliog diags Brit Inst Radio Eng J 18: 151-73 Mr '58
- Evaluation of series summations on the analog computer: abstract. H. M. Ireland. diags Instruments & Automation 31:1064-5 Je '58
- Extending transducer transient response by electronic compensation for high-speed physical measurements. F. F. Liu and T. W. Berwin. bibliog (27 ref) il diags R Sci Instr 29:14-22 Ja '58
- Generation of functions for analog computing: abstract. P. E. Stanley. Control Eng 5:168 Ja '58
- Hydraulic problem solution on electronic computers. E. A. Lawler and R. V. Druml. diags Am Soc E C E Proc 84 [WW 10 1516]: 1-38 Ja '58
- Interreflections in asymmetrical rooms. P. F. O'Brien. bibliog diags Illum Eng 53:131-6; Discussion, 136-8; Reply, 138-9 Mr '58
- Interrelationship of analog and digital computers; joint meeting of the Western simulation council, DDA council and Los Angeles chapter of Association for computing machinery, Los Angeles, Jan. 8; abstracts of papers. Instruments & Automation 31: 487-91 Mr '58
- Jones & Laughlin steel corp. utilizes analog computer in research. Iron & Steel Eng 36: 153-4 J1 '58
- Marine radar simulators. il Electronics Eng 30:396-7 Je '58
- Matrix programming of electronic analog computers. R. E. Horn and P. M. Honnell. diags Com & Electronics p420-6; Discussion, il 426-8 S '58
- Maximizing control performance and economy with analog simulation. R. G. E. Franks. bibliog diags I A J 5:30-4 S '58
- Method of scaling and checking computer circuits. L. J. Lane. diags Applications & Ind p67-70 My '58
- Mr Math; analog computer. F. H. Frantz. il diags Radio-Electronics 29:52-5 Je '58
- Monsanto buys simulation gear. il Control Eng 5:40+ Ja '58
- NBS man-machine simulator; abstract. B. Yaeger. diag Instruments & Automation 31: 1543-4 S '58
- New applications of impedance networks as analog computers for electronic space charge and for semiconductor diffusion problems. G. Cremona and others. bibliog il diags Inst Radio Eng Proc 46:868-77 My '58
- New approach to analog-digital conversion. M. Palevsky. il diags I S A J 5:42-4 Ap '58
- Output is function of two variables. Electronics 31:106+ Ap 11 '58
- Pipeline analyzer speeds flow computations. F. C. Constant. jr. il diags Oil & Gas J 6:82-4 Mr 31: 160-1+ Ap 21 '58
- Predicting process control performance with computers. W. A. Crawford. diags I S A J 5:54-7 Ja '58
- Process analysis plus analog simulation yields better mill controls; using noncontacting thickness gauges. E. A. Phillips. il diags Control Eng 5:113-13 My '58
- Process characteristic analyzer. B. White. il diags Instruments & Automation 31:862-5 My '58
- Process simulation; joint Central and Midwestern simulation council meeting, St. Louis, Feb. 4; abstracts of papers. Instruments & Automation 31:652-5 Ap '58
- Quickening for finer control; analog differentiation. H. P. Birmingham and F. V. Taylor. diags Mech Eng 80:56-7 O '58
- Radar simulators; various methods of analog computation. L. Kennard and C. E. Nicholson. il diags Brit Inst Radio Eng J 18:17-30; Discussion, 30-1 Ja '58
- Realistic nuclear trainer; simulation of boiling-water experimental reactor. F. X. McPartland. il Control Eng 5:38+ S '58
- Resistance potentiometers as function generators. R. W. Williams and H. Marchant. diags Electronic Eng 30:579-85 O '58
- Sampled-data-analog computer for solution of partial differential equations. G. S. Stubbs. diags Franklin Inst J 264:506-8 D '57

CALCULATING machines—Analog computers—

Continued

- Semiautomatic, two-dimensional Fourier analog computer. L. V. Azároff. *Il R Sci Instr* 29:317-18 Ap '58
- Semiconductors provide analog voltage source. E. R. James. *Il diag Electronics* 31:96-7 Ag '58
- Shares and prices; analog computer manufacture. *Electronics* 31:7 My '58
- Simulation answers a process stability question. D. Barlow. *Il Control Eng* 5:34-7 Ap '58
- Spreading the analog gospel. *Control Eng* 5:58-9 S '58
- Stabilized s.h.t. unit; design of a compact equipment for anode supplies. D. J. Collins and J. E. Smith. *Il diags Wireless World* 64:184-6 Ap '58
- Survey of recorders being used with analog computers; tables. J. McLeod. *Instruments & Automation* 31:852 My '58
- Theory of networks of linear variable resistances. H. Levenstein. *bibliog diags Inst Radio Eng Proc* 46:486-93 F '58
- Toroidal transformers for an analogue system of machine tool control. D. A. Alexander. *Il diags Brit Inst Radio Eng J* 13:71-81 F '58
- Transformer analog computer. P. Venkata Rao and K. Krishna. *bibliog il diags Com & Electronics* p732-8 Ja '58
- Xenon-poisoning computer. J. J. Paul and J. R. G. Cox. *Il diag Nucleonics* 16:97-101 My '58

Bibliography

Book reviews. Published in quarterly numbers of *Journal of the Association for computing machinery*

Digital computers

- Accurate electroluminescent graphical-output unit for a digital computer. T. Kilburn and others. *bibliog il diags Inst E E Proc* 105 pt B:136-44; Discussion. 144-6 Mr '58
- Achieving top plant efficiency; Carbide Chemicals use a computer to derive optimum operation of ethylene oxide unit. *Il Can Chem Process* 42:91-2-4 Je '58
- Aerodynamic flight simulation on a general-purpose digital computer; abstract. D. Sonheim. *Instruments & Automation* 31:1224-5 J '58
- Analog or the digital computer? R. B. Squires and L. J. Rindt. *Il Elec World* 150:53-4-7 J '58
- Analogous and digital computer solutions of daylighting problems; abstract. P. F. O'Brien and J. A. Howard. *diags Illum Eng* 53:477-8 S '58
- Allocation of digital computers to nuclear-reactor design. J. Howlett. *bibliog Inst E E Proc* 105 pt B:331-6 J '58; Excerpts. *Engineer* 205:243-5 F 14 '58; Discussion. *Inst E E Proc* 105 pt B:365-9 J '58
- Application of digital systems to process control. M. Phister. *Ir. Chem Eng Frog* 64:53-7 S '58
- Application of square hysteresis loop materials in digital computer circuits. A. D. Holt. *bibliog diags Electronic Eng* 30:196-9 Ap '58
- Applications of the digital computer to reservoir yield studies. R. S. Gooch. *Pub Works* 89:91-2-4 Ag '58
- Applying the IBM 704 to milling-machine programming; with cost data. J. Albert and others. *flow diag il diags Control Eng* 5:101-6 Je '58
- Arizona computer study goes into second year. *Il Elec World* 149:76-7 F 17 '58
- Automatic computer program for the reduction of routine emission spectrographic data. F. W. Anderson and J. H. Moser. *Anal Chem* 30:879-81 My '58
- Automatic digital system bills telephone calls. R. C. P. Hinton. *Il diags Electronics* 31:96-9, cover F 14 '58
- Basic transistor circuit for the construction of digital-computing systems. P. L. Cloot. *Il diags Inst E E Proc* 105 pt B:213-20 My '58
- Calculation of utilization coefficients for indoor luminaires by computers. F. A. Zaphyr and G. A. Horton. *bibliog Illum Eng* 53:236-40 My '58
- Cathode-ray tube analogue-to-serial digital converter. J. Willis and M. G. Hartley. *diags J Sci Instr* 35:197-202 Je '58
- Choosing your digital computer. J. P. Nash. *Il Civil Eng* 28:316-20 My '58
- Columbia Basin streamflow routing by computer. D. M. Rockwood. *diag Civil Eng* 28:348-51 My '58
- Combined analog-digital control systems. M. H. Nothman. *diags Elec Manuf* 61:78-86 Je '58
- Computer, a valuable tool for the power engineer. G. F. Trexler. *Il Power Eng* 62:92-4 O '58
- Computer applications for a small consulting firm. E. G. Brender and others. *Il Pub Works* 89:67-9 J '58
- Computer circuit simulator. *Il Electronic Ind* 17:60 J '58
- Computer data swap urged. J. K. Dillard. *Elec World* 150:48 S 29 '58
- Computer gives automatic plant record. *Il Elec World* 149:84 Je 16 '58
- Computer monitors power plant. *Il Chem & Eng N* 36:63 Je 16 '58
- Computer oriented toward spatial problems. S. H. Unger. *bibliog diags Inst Radio Eng Proc* 46:1744-50 O '58
- Computer speeds solution of broken conductor crossing clearance. F. E. Swain and T. M. Austin. *flow diag diags Elec World* 150:48-50 J 17 '58
- Computer used to survey surge line. D. W. Petersen. *S A E J* 66:33-5 Ja '58
- Computers and basic research; progress report. *Elec Eng* 77:139 F '58
- Computers shown at ASCE Chicago convention. S. J. Fenves. *Il Civil Eng* 28:321-3 My '58
- Computing in the AMA assembler-computer. J. C. Rehm. *Il diags Bell Lab Rec* 36:25-9 Ja '58
- Curve plotting routine for the inverse Laplace transform of rational functions. T. R. Bashkow. *Assn for Computing Mach J* 5:62-6 Ja '58
- Decimal adder using a stored addition table. M. A. Maclean and D. Aspinall. *diags Inst E E Proc* 105 pt B:129-35; Discussion. 144-6 Mr '58
- Decimal product accumulator. R. R. Hoge. *bibliog diags Brit Inst Radio Eng J* 18:125-32; Discussion. 133 F '58
- Design of the control unit of an electronic digital computer. M. V. Wilkes and others. *diags Inst E E Proc* 105 pt B:121-8; Discussion. 144-6 Mr '58
- Designing cam profiles with digital computers. H. Jeans. *diags Machine Design* 29:103-6 O 31 '57
- Desk-size digital computers; engineering departments. C. E. Wise. *Il Machine Design* 30:22-5 Ap 17 '58
- Digital-analog converter provides storage. H. N. Putsch and others. *Il diags Electronics* 30:148-51 D 1 '57
- Digital and pictorial photographic electronic recorder. R. G. McPherson and I. A. Sonderby. *Il diags Com & Electronics* p 194-6 My '58; Same. *Elec Eng* 77:616-19 J '58
- Digital automation (cont). M. L. Klein and others. *Il diags Instruments & Automation* 30:2064-5, 2270-2, 31:476-7, 1032-7, 1526-8 N-D '57, Mr, Je, S '58 (to be cont)
- Digital compensation for control and simulation. J. Fou. *bibliog diags Inst Radio Eng Proc* 45:1243-8 S '57
- Digital computer adding and complementing circuits. C. D. Florida. *diags Electronic Eng* 30:429-35 J '58
- Digital computer aids economic-probabilistic study of generation systems. M. K. Brennan and others. *bibliog flow diags Power Apparatus & Systems* p564-77 Ag '58
- Digital computer applied to the design of large power transformers. W. A. Sharpley and J. V. Oldfield. *bibliog flow diags Inst E E Proc* 105 pt A:112-21; Discussion. 125-5 Ap '58
- Digital computer calculates transient stability problems. G. W. Stagg and others. *diags Elec World* 150:49-50 S 1 '58
- Digital computer files plane from takeoff to touchdown. *Il Machine Design* 30:26 Ja '58
- Digital computer guides jets. J. H. Rubel. *Il (cover) Radio-Electronics* 29:68 Ag '58
- Digital computer makes root locus easy. C. J. Doda. *bibliog flow charts Control Eng* 5:102-6 My '58; Discussion. R. M. Fleming. 5:11-12 Ag '58
- Digital computer program saves in controlling voltage on feeders. H. K. Amchin and others. *diags Elec World* 150:48-52-4 S 15 '58
- Digital computer simulates free-piston engine. D. R. Olson. *diags S A E J* 66:44-52 Ap '58
- Digital computers and three municipal water problems. D. A. Brock. *Pub Works* 89:196-4 O '58
- Digital computers applied to pipeline design. H. E. Thomas. *diags Am Soc C E E Proc* 84 (PL 1 no 1575):1-8 Mr '58

CALCULATING machines—Digital computers

—Continued

- Digital computers for distribution systems. D. N. Repps. flow diag diags Elec Eng 77: 708-13 Ag '58
- Digital computers for pipeline network analysis. Q. B. Graves and D. Branscome. flow diag diag Am Soc C E Proc 84 [SA 2 no 1608]:1-18 bibliog(p 17-18) Ap '58; Discussion. 84 [SA 6 no 1786]:13-15 S '58; 84 [SA 6 no 1859]:11-13 N '58; Reply. 84 [SA 6 no 1855]:16-17 N '58
- Digital computers take witchcraft out of pipeline network analysis. R. L. McIntire. diag Water Works Eng 111:43-9 Ja '58
- Digital computers tap out designs for large motors. fast. L. Godwin. flow chart II diag Power 102:102-4+ Ap '58
- Digital differential analysis and its application; abstract. R. Rutishauser. Instruments & Automation 31:1223-4 JI '58
- Digital differential analyzer; panel discussion. Instruments & Automation 30:2231-5 D '57
- Digital process control. II diag Mech Eng 80:96 Mr '58
- Digital program to evaluate transients for nuclear power plant design; abstract. F. J. Scheib and A. J. Arker. Chem Eng Prog 54:88-91 F '58
- Digital short-circuit solution of power system networks including mutual impedance. M. J. Lantz. diag Power Apparatus & Systems p 1230-3 Discussion. 1233-5 F '58
- Digital simulation of an air war; abstract. D. E. Wendland. Instruments & Automation 31:1389 Ag '58
- Digital scale new heights. L. G. Peck. Chem & Eng N 36:53-4 S 29 '58
- Digital-to-analog converter. H. R. Finney. II diag Instruments & Automation 31:1038 Je '58
- Distribution system primary-feeder voltage control; digital computer. H. E. Lokay and others. bibliog flow diags diags Power Apparatus & Systems p45-76; Discussion. 876-8; Reply. 878-9 O '58
- Economic dispatch computer. W. H. Osterle and R. B. Squires. II plan diag Westinghouse Eng 18:66-70, cover My '58; Excerpts. Elec World 149:55-7 Ap 21 '58
- Effect of quantization in sampled-feedback systems. J. E. Bertram. bibliog diags Applications & Ind p 177-82 S '58
- Electronic bid openings prove out. Eng N 161: 77 S 18 '58
- Electronic brain flame-cutting. W. Sekules. II diag Marine Eng/Log 63:61-5+ My '58
- Electronic computers in surveying operations. A. J. McNair. Am Soc C E Proc 83 [SU 2 no 1444]:1-7 N '57
- Experiments with speech using digital computer simulation; abstract. E. E. David, jr. and others. II Bell Lab Rec 36:349 S '58
- Flow-Matic codes digital computers automatically. Elec World 150:74-+ S 29 '58
- Formulation of steam properties for digital computer application. W. G. Steltz and G. J. Silvestri. A S M E Trans 80:967-72; Discussion. 972-3 My '58
- Function tables in digital control computers. E. J. Schubert. diags Com & Electronics p316-19 JI '58
- Half-adders drive simultaneous computer. F. B. Maynard. II diags Electronics 31:80-2 JI 18 '58
- Here are the ABC's of digital computer programming. F. J. Maginnis. flow diag Elec World 149:54-7 Ja 13 '58
- High precision digital shaft position indicator; abstract. D. H. Raudenbush. Control Eng 5:174 Je '58
- High-speed computer applied to bridge impact. C. T. G. Looney. Am Soc C E Proc 84 [ST 5 no 1759]:1-41 S '58
- High-speed computer technique for the transportation problem; stepping stone method. J. B. Dennis. diags Assn for Computing Mach J 5:132-53 Ap '58
- How a computer is applied to a specific problem of pipeline design. R. W. Leach and W. P. Redmond. diag Oil & Gas J 56:157-8 S 15 '58
- How to cut design hours to computer seconds. flow chart II diag Pet Eng 30:D28-30 Ax '58
- How to develop a refinery-simulation program with a medium-size digital computer. J. S. Bonner and others. bibliog diag Oil & Gas J 56:183-5 Mr 10 '58
- Improved technique for fast multiplication on serial digital computers. M. Shimshoni. Electronic Eng 30:504-8 Ag '58
- Interrelationship of analog and digital computers; joint meeting of the Western simulation council, DDA council and Los Angeles chapter of Association for computing machinery, Los Angeles, Jan. 8; abstracts of papers. Instruments & Automation 31:487-91 Mr '58
- It pays us to use computers to figure coal purchases; digital computers used by Commonwealth Edison co. Chicago. L. A. Evers. II Power Ind 74:9-11 S '58
- Japan eyes computer market. Electronics 31: 60 Ap 4 '58
- Japan producing better Mark IV. Electronics 31:14 JI 18 '58
- Magnetic amplifiers for digital computers. E. W. Hogue. diags Elec Manuf 61:150-1 My '58
- Major scientific H-bomb defense advance; Digital computer. II Elec Eng 77:272-3 Mr '58
- Mathematical services at Farnborough: Royal aircraft establishment, flow chart II diags Aircraft Eng 30:20-4 Ja '58
- Methods of simulation of differential analyzer on a digital computer. F. Lesh. diag Assn for Computing Mach J 5:281-8 JI '58
- Minimality of rectifier nets with multiple outputs incompletely specified. E. McNaughton and B. Mitchell. diags Franklin Inst J 264: 457-80 D '57
- Multicomponent distillation calculations on a large digital computer. N. R. Amundson and A. J. Fontinen. Ind & Eng Chem 50: 730-6 My '58
- NES nuclear-machine simulator; abstract. B. Yaeger. diag Instruments & Automation 31: 1543-4 S '58
- New approach to analog-digital conversion. M. Palevsky. II diags I S A J 5:42-4 Ap '58
- New bistable element suitable for use in digital computers. C. D. Florida. diags Electronic Eng 30:71-7, 148-53 F-Mr '58
- New digital display unit devised for computers; Hoffman electronics corp. M. E. Paradise. II Inst Lab 9:59 My '58
- New digital readout. II diag Electronic Ind 17:124-5+ Ap '58
- New jobs for computers. II Electronics 31:8 Ap 11 '58
- New road jobs for computers. II Electronics 31:20-20 My 16 '58
- Numerical solution of characteristic equations in flutter analysis. N. Franklin. Assn for Computing Mach J 5:45-51 Ja '58
- Parametrons figure in Japan's computer plans. S. Sanders. Control Eng 5:52-4 S '58
- Philosophy of applying digital computers to the design of electric apparatus. P. A. Abetti and others. bibliog diags Com & Electronics p367-77; Discussion. 377-9 JI '58
- Phone conversations are digitized. H. S. MacDonald. II Electronics 31:124 F '58
- Physical realization of an electronic digital computer; input and output. A. D. Booth. II diags Electronic Eng 30:570-4 O '58
- Practice and the economics of applying digital computers to engineering problems. P. A. Abetti and S. Williams. bibliog II Com & Electronics p331-41; Discussion. 341-2; Reply. 342 JI '58
- Progress in thermal design of oil-cooled rotating machinery; iteration technique programmed for the IBM 650 digital computer. F. B. Richards. diags Elec Eng 77:808-12 S '58
- Property of semi-definite hermitian matrices. G. G. den Broeder, jr. and H. J. Smith. Assn for Computing Mach J 5:244-5 JI '58
- Rapidly converging digital load flow. R. H. Jordan. diag Power Apparatus & Systems p 1433-8 F '58
- Replacing analogue computers; modified digital machine gives greater accuracy. II diag Engineering 184:698 N 20 '57
- Revolution in design practice. N. M. Newmark. Civil Eng 28:315 My '58
- Rigid frame analysis with the aid of digital computers. E. Czerniak. diags Am Soc C E Proc 84 [ST 3 no 1634]:1-31 My '58
- Semiautomatic assembly of mass spectrometry matrices. D. R. McAdams. Anal Chem 30: 881-5 My '58
- Shifting counters; logical design of a digital computer for real-time simulation of airplane flight. J. E. Hight and others. diags Com & Electronics p70-4 Mr '58
- Short-cut multiplication and division in automatic binary digital computers. M. Lehman. bibliog Inst E E Proc 105 pt B:496-504 S '58
- Simple digital correlator. C. Collins. II diags R Sci Instr 29:487-90 Je '58
- Solid-state light practical for digital display. II Electronics 31:86 Mr 23 '58

CALCULATING machines—Digital computers

—Continued

- Some applications of a digital computer in structural research. A. S. Veletsos. bibliog *il Civil Eng* 28:344-7 My '58
- SWAC experiments on the use of orthogonal polynomials for data fitting. M. Ascher and G. E. Forsythe. bibliog *Assn for Computing Mach J* 5:9-21 Ja '58
- Statistical design theory for digital-controlled continuous systems. S. S. L. Chang. bibliog *diags Applications & Instr* p 191-8; Discussion. 198-200; Reply. 200-1 S '58
- Statistical design theory for strictly digital sampled-data systems. S. S. L. Chang. bibliog *diags Com & Electronics* p702-8; Discussion. 708-9 Ja '58
- Survey of delay lines for digital pattern storage. S. Moniegh. bibliog *diags Electronic Eng* 30:380-7 Je '58
- System organization of MOBIDIC; abstract. J. Terzian. *Inst Radio Eng Proc* 46:670 Mr '58
- TRADIC; the first phase. J. R. Harris. *il diags Bell Lab Rec* 36:330-4 S '58
- Teleregister's biggest: United air lines' reservation system. *Control Eng* 5:242+ S '58
- Testing inertial-guidance computers. C. P. Linnick. *il diag Control Eng* 5:182 S '58
- Texaco to use first process-control computer. J. S. Worden. *Instruments & Automation* 30:2192 D '57
- Thinking machines need thinking; digital computer value; abstract. P. A. Abetti and S. B. Williams. *Machine Design* 30:36+ Mr '58
- Time and fuel required to fly the DC-8 between two airports is being figured on digital computers; abstract. A. C. Butterworth and G. E. Hill. *il S A E J* 66:43 Ap '58
- Train performance and locomotive tonnage ratings calculated by digital computer. J. E. Hagan. flow charts *diag Applications & Instr* p 119-26 J '58; Same cond. *Elec Eng* 77:424-9 My '58
- Use digital computers as distillation column design aid. R. N. Maddox. bibliog *Pet Eng* 30:C 15-18 Ap '58
- Use of a digital computer in a generator reserve requirement study. H. E. Brown. flow *diags Com & Electronics* p82-5 Mr '58
- Use of electronic digital computers in highway engineering. S. E. Ridge. *il Civil Eng* 28:330-3 My '58
- Use of modern computers in structural analysis. W. Clough. *diags Am Soc C E Proc* 84 (ST 3 no 1636):1-20 bibliog (13-16) My '58; Discussion. W. H. Eldridge. 84 (ST 7 no 1857):39 N '58
- Using digital computers. J. R. M. Alger. *Machine Design* 29:128-32 D '57
- What happens when hammer hits pile; electronic digital computers are solving the wave equation. E. A. Smith. *Eng N* 159:46-8 S '57; Discussion. 159:6+ D '57 '57; Reply. 160:8+ Ap 24; 10+ Je 19 '58
- Wisconsin integrally synchronized computer at work on Wisconsin campus. *Elec Eng* 77:250 Mr '58

Failure

- What price computer reliability? S. Rogers and J. McLeod. *il Instruments & Automation* 31:1039-41 Je '58

Highway engineering use

- Calculators save time for county highway department. J. F. Melsner. *il Pub Works* 88:109+ D '57
- Civil engineers put electrons to work; conference on increasing highway engineering productivity. 4th. Boston. Sept. 17-19. *Civil Eng* 27:829-30 N '57
- Electronic bid openings prove out. *Eng N* 161:77 S '58
- 11 miles of interstate designed in 16 weeks; Indiana state highway department. *il plan Eng N* 161:42-4+ S '58 '58
- Engineering man-hours saved with electronic computers; Texas highway dept. J. F. Manix. *il Pub Works* 89:108-10 Ja '58
- New road jobs for computers. *il Electronics* 31:20 My 16 '58
- Use of electronic digital computers in highway engineering. S. E. Ridge. *il Civil Eng* 28:330-3 My '58

Manufacture

- Design trends; preassembled indicator decodes; illustrations with text. *Electronics* 31:136 Ja 17 '58
- Stamping the unusual; digit-shaped anodes for numerical indicator tube. H. W. Bredin. *il diag Mach* 64:115-17 Mr '58

- Wiring by machine; plug-in electronic computers. *il Electronics* 31:48 Ap 4 '58

Meteorological uses

- Computer evaluates rainfall and predicts flood crests. *Automation* 5:12+ F '58

Power supply

- Semiconductors provide analog voltage source. E. R. James. *il diag Electronics* 31:96+ Ag 15 '58

Print-out equipment

- Electron gun operates high-speed printer. J. T. McNaney. *il diags Electronics* 31:74-7 S 26 '58
- High-speed electronic data print-out machine: S-C 5000. *il diags Automation* 5:37-8 F '58
- Miniaturized integrated telegraph equipment teleprinter. B. Howard. bibliog *il diags Com & Electronics* p311-15 J '58
- Printing register. P. W. Ford. *il diag R Sci Instr* 29:728-9 Ag '58

Protection

- Air conditioning, hidden tool in modern aircraft design; air conditioning for computer installation. E. W. Winchester. *il Heating-Piping* 30:110-13 Mr '58
- Magnetic amplifier detects open fuses. J. Maroz. *il diags Electronics* 31:86+ J '58

Readout systems

- Accurate electroluminescent graphical-output unit for a digital computer. T. Kilburn and others. bibliog *il diags Inst E E Proc* 105 pt B:136-44; Discussion. 144-6 Mr '58
- Data logger tested in pilot work; Sohio's Process and product development division laboratory. J. J. Arendt and J. Savoy. flow *diags il Pet Refiner* 37:175-8 Je '58
- Digital automation; wheel and belt digital readouts. *il Instruments & Automation* 31:1526-8 S '58
- Digitizer, a digital readout converter. H. R. Finney. *il diag Instruments & Automation* 31:1035 Je '58
- Electroluminescence phenomenon in digital indicator design. P. G. Jacobs. *diags Elec Manuf* 62:10-11 J '58
- Electroluminescent digital indicator with Elpak translation logic. E. A. Sack. *il diags Com & Electronics* p 113-18 Mr '58; Abstract. *Elec Eng* 77:517 Je '58
- New digital readout. *il diag Electronic Ind* 17:124-5+ Ap '58
- Numerical readout. *il diags Instruments & Automation* 31:1032-7 Je '58
- Photo-electro-mechanical digitalizer. *il Electronic Ind* 17:149-50 Ap '58
- Planes of neon lamps display numerals; illustrations with text. *Electronics* 31:56 Ag 29 '58
- Progressive codes for positive and negative indication. W. T. Bane. *J Sci Instr* 35:30 Jm '58

Scientific applications

- Computer simulation chain for research on picture coding; abstract. R. E. Graham and J. L. Kelly, Jr. *il Bell Lab Rec* 36:349 S '58

Study and teaching

- Go into training for computers. J. Diebold. *il Engineering* 185:33-40 Ja 10 '58
- Industry goes to the campus; Arizona state computer center, operated by General Electric. D. D. McCracken. *il Gen Elec R* 61:19-21 Mr '58
- Training for Hollerith equipment. *Engineer* 206:69 J '58

Testing

- Checking on computers; a new approach to verification. W. C. Meilander. *il diag Electronic Ind* 17:62-5 F '58
- Testing inertial-guidance computers. C. P. Linnick. *il diag Control Eng* 5:182 S '58
- What price computer reliability? S. Rogers and J. McLeod. *il Instruments & Automation* 31:1039-41 Je '58
- Word generator for digital testing. R. R. Hartel. *il diag Electronics* 31:71 F 28 '58

Thermal computers

- Thermal computers. *il diags Mech Eng* 80:86 My '58

Unit construction

- Building-block technique points to small-computer design. *il Product Eng* 29:24 F 10 '58

CALCULUS

- Operational calculus. *diags Electronic & Radio Eng* 34:345-7, 388-90, 422-4, 462-4 S-D '57; Discussion. D. G. Tucker. 35:74 F '58

CALCULUS—Continued

Statistical theory. L. Hogben. Review, by M. Kline. *Sci Am* 198:143-4+ My '58
Summation and manipulation of series. *Electronic & Radio Eng* 35:226-8 Je '58

See also
Interpolation
CALCULUS of differences. See Difference equations

CALCULUS of variations
Flight mechanics and variational problems of a linear type. A. Miele. *bibliog diags J Aero/Space Sci* 25:581-90 S '58
General formulation of powered flight trajectory optimization problems. B. D. Fried. *bibliog J Ap Phys* 29:1203-9 Ag '58

CALENDARS
Punched card calendar. P. A. Peck. *Il Research* 11:sup 13-14 Ap '58

CALENDARS
Constant-tension calendar drive features' inertia compensation. J. V. McCaughy. *Il diags Control Eng* 5:86-9 Je '58
Roll-neck bearing lubrication for rubber and plastics calendars. K. J. Gooch and W. C. Whittum. *Il Plastics Tech* 4:339-43 Ap '58

CALIBRATION
Add an amplitude calibrator to your scope. P. S. Lederer. *Il diags Radio-Electronics* 29:76-7 JI '58

Analog comparator for production testing of potentiometer-type pressure-sensing instruments. C. N. Boode and C. E. Calohan. *Il diags Electronics* 31:47-9 Mr 28 '58

Automatic calibrator for chart recorders. J. L. Durand. *diag R Sci Instr* 29:534-5 Je '58

Calibrating and running-in unit injectors. S. E. Franklin. *Il Diesel Power* 36:44-5 O '58

Calibrating manometer for pressure transducers. R. Greer. *diag J Sci Instr* 35:223 Je '58

Calibration drift of mercury thermometers repeatedly copied to -30 C. W. I. Martin and others. *bibliog A S T M Bul* p62-4 JI '58

Calibration of ballistic galvanometers for magnetic measurements. B. L. Miller. *diag Am J Phys* 26:129-30 F '58

Calibration of mirror extensometers by optical interferometry. A. Brown. *Il diags Engineering* 186:180-2 Ag 8 '58

Chart aids calibration of rotameters. G. M. Machwart. *Chem Eng* 64:292-4 D '57

Chart calibration of a photographic recording microphotometer. M. Gadsden. *diag J Sci Instr* 35:186-7 My '58

Diode counter calibrates missile testing camera. S. E. Dorsey. *Il diags Electronics* 31:93-5 F 14 '58

Dynamic calibration of fatigue-testing machines. T. M. Dowell. *bibliog Il diags Engineering* 185:693-4 My 30 '58

Here's the way to proper meter calibration. M. A. Levy. *Oil & Gas J* 56:107-9 Je 30 '58

Inexpensive scope calibrator. J. Chernoff. *Il diag Radio-Electronics* 29:99-100 Je '58

Instrument calibration scheduling simplified with electronic data processing machines. W. A. Lawrence. *Il diags Ind Quality Control* 14:32-6 My '58

Magnetic sweep calibration utilizing super-regenerative nuclear resonance detection. R. L. Collins. *diags R Sci Instr* 29:176-7 F '58

Measuring decimetric wavelengths: use of resonant lines for calibrating an absorption wavemeter covering 450 to 760mc. H. E. Dent. *Il diags Wireless World* 64:319-23 JI '58

Meter proving. M. L. Barrett, Jr. *Il diags Oil & Gas J* 56:153-5 F 24; 201-2+ Mr 10; 213-15 Mr 24; 179-81 Ap 21; 133-4+ My 5 '58

Metering problems in the navy calibration program. L. M. Morrow. *diags Instruments & Automation* 31:1214-17 JI '58

Method of calibrating centimetric radio-meters using a standard noise source. J. S. Hey and V. A. Hughes. *diag Inst Radio Eng Proc* 46:119-21 Ja '58

Mock iodine for I^{131} calibrations. *Nucleonics* 16:134 Ag '58

Quick calibration for small gas flowmeters. M. V. Kunte and M. U. Pal. *diag Chem Eng* 65:160 Ap 7 '58

Series versus shunt bridge calibration. E. Frank. *diags Instruments & Automation* 31:648 Ap '58

Standards to aid sonar: calibration of electroacoustic transducers. W. J. Trott. *Il Mag of Stand* 29:166-7 Je '58

Study reveals errors affecting calibration. F. E. Washer. *Il Ind Phot* 7:72-4 Mr '58

Vacuum tube voltmeter calibration. J. H. Sutton. *Il diags Radio-Electronics* 29:116+ My '58

CALICO printing

How Southern Bleachery produces fine cotton prints. *Il Textile World* 108:118-19 F '58

CALIFORNIA

See also
Gas, Natural—California, Supply to

also subdivision California under special subjects, e.g.

Architecture, Domestic
Chemical industries
Gas, Natural
Geology
Gold mines and mining
Hydroelectric plants
Iron industry and trade
Mineral and mineral resources
Paleontology
Paper and pulp mills
Petroleum
Petroleum industry and trade
Petroleum laws and regulations
Petroleum pipe lines
Public health
Roads
Rock products industry
Sewerage
Steel industry and trade
Water, Underground
Water supply
Wood pulp

CALIFORNIA university

Chemistry building, unit one, Berkeley. *Il plans diags Arch Rec* 124:172-3 S '58

Institute of transportation and traffic engineering

Transportation; a challenge for ITTE. *Il Eng N* 160:97-9+ Je 12 '58

CALIPERS

Calipers speed weaving inventory. *diags Textile Ind* 122:136 My '58

Ends checkweigh routine; caliper that continuously measures stuffed franks; Wisconsin meat products. *Il Food Eng* 30:79 F '58

Hydraulic internal calipers. D. W. Godwin. *diag Engineer* 204:900-1 D 20 '57

Overside caliper measures radome thickness. A. Wittenberg. *Il Am Mach* 101:164 N 13 '57; Discussion. L. Folk, Jr. *diag* 102:113 F 10 '58

CALKING compositions
Caulking compound is very flexible. *Iron Age* 181:126 F 6 '58

Examination of building mastics and similar compositions; abstract and discussion. J. Bowler-Reed. *Chem & Ind* p348-9 Mr 22 '58

CALLERY chemical company
Career opportunities. *Il Chem & Eng N* 36:21 pt 2 Ja 27 '58

CALMES process. See Tubes, Steel—Manufacture

CALORIMETERS and calorimetry
Adiabatic calorimeter for the range 30° to 1600° C. E. D. West and D. C. Ginnings. *bibliog Il diag J Res Nat Bur Stand* 60:309-16 Ap '58

Adiabatic vacuum calorimeter from 600° to 1600° C; specific heats of titanium, 44 per cent Cr-Fe alloy, and a low-alloy steel. R. Bachurst. *bibliog diags Iron & Steel Inst J* 189:124-34 Je '58

Automatic adiabatic bomb calorimeter. W. F. Raymond and others. *bibliog diags J Sci Instr* 34:501-3 D '57

Automatic temperature regulation and recording in precision adiabatic calorimetry. E. D. West and D. C. Ginnings. *bibliog Il diags R Sci Instr* 28:1070-4 D '57

Calorimetric assembly for the measurement of heats of fusion of inorganic compounds. J. Goodkin and others. *bibliog diags R Sci Instr* 29:105-8 F '58

Calorimetric determination of the values of ΔH for certain chromium(III)-chloride complex ion reactions. K. Schug and E. L. King. *bibliog Am Chem Soc J* 80:1089-91 Mr 5 '58

Development of the calorimeter heat transfer gauge for use in shock tubes. P. H. Rose. *bibliog Il diags R Sci Instr* 29:557-64 JI '58

Differential calorimeter of the Tian-Calvet type. R. W. Attree and others. *Il diags R Sci Instr* 29:491-6 Je '58

High radiation-flux, absolute, water-flow calorimeter. P. E. Glaser. *flow diag Il diag R Sci Instr* 28:1084-6 D '57

Improved method of gamma-ray calorimetry. I. T. Myers. *bibliog diag R Sci Instr* 29:758-61 S '58

Precision calorimetric measurement. J. R. Pattison. *bibliog diags Research* 11:192-202 My '58

CALORIMETERS and calorimetry—Continued
 Rocking-bomb calorimeter for measuring heats of solution. S. R. Gunn. diag R Sci Instr 29:377-80 My '58
 Simple way to measure steam quality. R. Lemlich. diag Chem Eng 65:162 Ap 7 '58
 Steam calorimetry. J. H. Potter. bibliog diags Combustion 29:51-5 JI '57
 Throttling of wet steam. J. H. Potter. bibliog diags Combustion 29:55-9 Ag '57
See also
 Bubble point

CALUMET-SAG project
 Calumet River lock. W. J. Santina and E. G. Hoffmann. maps plans diags Am Soc C E Proc 84 [WW 3 no 1642]:1-20 My '58
 Calumet-SAG navigation project. J. B. Corey, Jr. 11 map Am Soc C E Proc 84 [WW 3 no 1643]:1-12 My '58
 Railroad bridge alterations. G. W. Svoboda. Am Soc C E Proc 84 [WW 3 no 1641]:1-10 My '58

CALVERT CITY, Kentucky
 Industrial city of the future? 11 map Arch Forum 108:112-13+ My '58

CAMBRIDGE university, England

Engineering school

Cambridge laboratory extensions. 11 Engineering 185:275-6 F 28 '58

CAMDEN, New Jersey

Rapid transit

Rapid transit at wholesale; Camden-Philadelphia area. Eng N 160:24 Je 5 '58

CAMERA clubs

Camera clubs. M. Scacherl. Published in monthly numbers of Modern photography

CAMERA shutters

Have trouble stopping action? shutter lag may be your problem. 11 Mod Phot 22:110+ S '58

Shutters. B. Sherman. diags Mod Phot 22:50-5+ S '58

CAMERA tripods

Directory of sheet-film cameras and their associated tripods. Ind Phot 7:46+ Ja '58

CAMERAS

Advantages of working with the big camera. D. Bell. 11 Ind Phot 7:44-5 Ja '58

At Hughes tool company, a 35mm camera surveys well casing. R. Sanddal. 11 Ind Phot 7:18-19 Mr '58

Bellows controls camera exposure. diag Product Eng 28:80 E 17 '58

Big cameras. D. E. Elsendrath, Jr. Ind Phot 7:54+ Ja '58

Camera assembly uses ultrahigh-speed shutter. 11 Machine Design 30:10 My 15 '58

Camera checks furnace linings; Colorado fuel & iron corp. 11 Steel 142:74 Je 2 '58

Camera detects hot spots; Barnes far infra-red camera. 11 Steel 141:157 N 18 '57

Camera maps temperatures. 11 diags Product Eng 28:86 D 9 '57

Cameras record flight of satellites and meteors; Super Schmidt meteor camera and the IGY satellite tracking camera. 11 Ind Lab 9:65-9 Je '58

Detection of radioactive contamination by lead camera. J. Payne. Franklin Inst J 265: 357-8 Ap '58; Same cond. Elec Eng 77: 372 Ap '58

Directory of sheet-film cameras and their associated tripods. Ind Phot 7:46+ Ja '58

Drum camera—best way to put motion on record. K. Maier. 11 diags Product Eng 29:78-80 JI 21 '58

Epoxy-coated phenolic camera parts. 11 Plastics Tech 4:457 My '58

Exa; quiet as a mouse! 11 Mod Phot 22:74 F '58

Fast and wide: 40mm f/1.9 lens. lvs for new Lord 5D. 11 Mod Phot 22:106 Ja '58

Gas target and nuclear plate camera. D. L. Booth and others. 11 diag J Sci Instr 35: 24-6 Ja '58

Great cameras? fact or fiction? Rolleis. H. Keppler. 11 diag Mod Phot 22:82-3+ My '58

Great new Hasselblad! H. Keppler. 11 diags Mod Phot 22:48-53+ Ja '58

Handling systems protects celestial bloodhound; straps secure satellite tracking camera from factory to White Sands observatory. 11 Mod Materials Handling 13: 77 F '58

How to get view camera results with 35mm. M. Thompson. 11 Mod Phot 22:60-1+ Ap '58

How to hold it depends on the camera type and whether you are left or right eyed. 11 Mod Phot 22:69 Je '58

Infra-red camera. 11 diag Electronic Ind 16: 67 D '57

Large camera. A. Feininger. Published in monthly numbers of Modern photography

Low-temperature camera for X-ray diffractometer. L. K. Jetter and others. bibliog diags R Sci Instr 28:1087-8 D '57

Measuring temperatures by photography. Gas 34:15 Ap '58

Modern tests; the newest cameras, the latest films, important accessories. 11 Mod Phot 22: 132-4 My; 80-1+ Je; 72-3+ JI; 74-5+ Ag; 88-9+ S; 102-3+ O; 92-3 N; 136-41+ D '58

New Agfa Silette SL; is it a step in the right direction? D. Jackson. 11 Mod Phot 22:108 Ja '58

New name in 35mm cameras; Wittnauer. 11 Mod Phot 22:123-4 Ja '58

New products published in monthly numbers of Modern photography

No image blackout! Asahi Pentax. M. A. Matzkin. 11 Mod Phot 22:65+ Ja '58

Nuclear plate camera for angular distribution measurements with gaseous or solid targets over a wide range of angles. W. M. Jones and D. G. Waters. diags J Sci Instr 25:286-8 Ag '58

Oscilloscope camera-positioning for multiple sweep exposures. P. L. Kerley. 11 diags Electronic Ind 17:70-1 Ag '58

Ricoh offers three sizes. 11 Mod Phot 22:87+ Mr '58

Single crystal heater and grower for the precision camera. L. Katz and M. I. Kay. diags R Sci Instr 28:968-9 N '57

Spectrograph attachment for high speed cameras. D. P. C. Thackeray. bibliog 11 diags J Sci Instr 35:248-52 JI '58

Super super graphic; new view camera abilities, better press features in Graflex' latest. A. Feininger and J. Wolbarst. 11 Mod Phot 22:88-9+ My '58

Thermal camera utilizes infrared radiations. R. B. Barnes. 11 diag Eng & Min J 158:1109-11 D '57

Two-camera helmet. M. M. Badler. 11 Ind Phot 7:27 Ap '58

Underwater data recording is made easy by special camera; Navy underwater sound laboratory. J. F. Selvidio. 11 Ind Phot 7:39+ Je '58

View/rangefinder 35mm cameras make a comeback! B. Sherman and J. Wolbarst. 11 diags Mod Phot 22:50-5+ F '58

Which one is best? Modern reports on five new leaf-shutter, interchangeable lens cameras. 11 Mod Phot 22:68-9 F '58

Why I prefer the big camera. J. Hampson. 11 Ind Phot 7:41-2+ Ja '58

See also
 Lenses, Photographic

Moving picture cameras

Cold weather operation

Ultra-cold weather photography. R. R. Conger. 11 SMPTE J 67:35-7 Ja '58

Manufacture

Epoxy coating improves cameras. 11 Mod Plastics 35:89 JI '58

How flat is flat? measuring the flatness of the faces of platens for aerial cameras. J. Stonitsch. 11 Tool Eng 39:114 N '57

How to standardize gaging techniques; Argus camera div. Sylvania electric products, inc. H. O. Lesperance. 11 Mill & Factory 62:89-91 Je '58

Improving paint adhesion on phenolic surfaces. 11 Metal Finishing 56:57+ S '58

Phenolic camera parts are now epoxy coated. 11 Ind Finishing 34:26-8 JI '58

Small size

Look back at the first candid camera. D. Jackson. 11 Mod Phot 22:62-3 Ag '58

Tiny medical flash camera snaps photos inside stomach. 11 Machine Design 30:14-15 Ag 21 '58

Ultra miniature. J. D. Cooper. 11 Mod Phot 22:110-11 Mr; 38+ Ap; 32+ My; 38 Je; 34 JI; 30 Ag; 20 S; 26 O; 44+ N; 50 D '58

Testing

Modern tests the Alpha 6; great camera or expensive toy? 11 Mod Phot 22:66-7+ F '58

CAMERAS, Electron diffraction

Adjustable apertures for electron diffraction cameras. T. C. Mills. diags J Sci Instr 34: 460-1 N '57

Simple hot powder camera. W. L. Bond. diags R Sci Instr 29:654-5 JI '58

CAMERAS, Gamma ray. See Gamma ray cameras

- CAMERAS**, Moving picture. See Moving picture cameras
- CAMERAS**, Television. See Television cameras
- CAMERAS**, X ray. See X ray cameras
- CAMERON**, A. M.
Cameron, Brandt and Kuka win AISE paper awards, por Iron & Steel Eng 34:132 O '57
- CAMPBELL**
Electron impact dissociation of camphene-8-C¹³ L. Friedman and A. P. Wolf, bibliog Am Chem Soc J 80:2424-6 My 20 '58
Reaction of camphene and dinitrogen tetroxide, T. E. Stevens, bibliog Chem & Ind p 1546-7 N 23 '57
- CAMPBELL**
Steric effects on the nuclear magnetic resonance spectra of some cyclohexanone, indanone and camphor compounds, W. D. Kumler and others, bibliog Am Chem Soc J 80:2533-6 My 20 '58
- CAMS**
Cam and ratchet intermittent mechanism, O. O. Nagellis, diags Mach 64:156 Ap '58
Cam varies spindle speed; illustrations with text, Product Eng 29:66 Ja 20 '58
Catalog of equivalent mechanisms for cams; data sheet, H. A. Rothbart, diags Machine Design 30:175-80 Mr 20 '58
Combination cam controls stock feed of wire-forming machine, K. W. Nittel, diags Mach 64:114-15 Ap '58
Designing cam profiles with digital computers, H. Jeans, diags Machine Design 29:103-6 O 31 '57
Development of a high-speed indexing mechanism, R. C. Johnson, il diags Machine Design 30:134-8 S 4 '58
Linkages gain on cams, diags Product Eng 28:76 D 23 '57
Linkages vs. cams, T. P. Goodman, bibliog diags Machine Design 30:102-9 Ag 21 '58
Method of finite differences in cam design, R. C. Johnson, Machine Design 29:159-61 N 14 '57
Principles and practices of constant-load cam design for high-speed operation, J. A. Carlson, il diags Machine Design 30:121-8 JI 10 '58
Radius of curvature of parabolic cams; nomogram, R. Gruenberg, diag Product Eng 28: F28-9 Mid-O '57
Reciprocating engine with half as many parts; novel use of a cam, il Power Ind 74: 13+- O '58
- Manufacture**
Cast alloy fixture has long life in thermal shock service, D. A. Schoefer, il Metal Prog 73:106-8 Je '58
Grinding cams on a lathe, C. McLaughlin, diag Tool Eng 40:383 Ap '58
Making precision points in space; Parker-Hartford corp, il Am Mach 102:100-1 S 22 '58
Mandrel for machining cams, C. Spicer, diags Tool Eng 40:79 Ja '58
Which way to make a cam? H. A. Rothbart, il diag Product Eng 29:67-71 Mr 3 '58
- CAMS**, Wood
Wooden cams save money, J. E. Hyler, il Tool Eng 40:117-18 Ja '58
- CAMSHAFTS**
Modular camshaft design, il diags Machine Design 30:117 Ja 23 '58
- CANADA**
See also subdivision Canada under special subjects, e.g.
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- Army**
Commissariat
Prepared foods for the Canadian armed services, R. M. Ballantyne and others, Food Tech 12:470-2 S '58
- Commerce**
Chemical tradewinds, rough but steady, Can Chem Process 42:20-48 Mr '58
- United States**
Sales, not slogans, build trade, S. J. Cook, Chem & Eng N 36:61 Ag 4 '58
- Defenses**
National defence and defence construction, il Eng J 41:123-8 Ap '58
- Economic conditions**
Canada in 1957, Eng J 41:5 Ap '58
- Industries and resources**
Canadian consumption of industrial coals, G. M. Hutt and E. Swartzman, map Can Min & Met Bul 51:19-26 Ja '58
Canadian industry; its likes, needs and attitudes; report on the market for industrial measuring and recording apparatus, M. K. Shelley, Instruments & Automation 31:151-16 S '58
Changing Canada; 1938 to 1958, Chem & Ind p 1011-13 Ag 16 '58
Industrial production, il Eng J 41:95-118 Ap '58
- CANADIAN chemical specialties manufacturers**
Meeting, 1st, Montreal, Nov. 13-14; program, Soap & Chem Spec 34:107+- S '58
Specialties makers association, an independent Canadian body along the lines of the C.M.S.A., Can Chem Process 42:31 JI '58
- CANADIAN gas association**
Annual meeting, Murray Bay, June 24-27, Gas Age 122:23 JI 10 '58
- CANADIAN graphic arts association**
Annual meeting, 19th, Vancouver, Sept. 18-21, Inland Ptr 140:102 N '57
- CANADIAN industries, ltd.**
C-I-L offspring matches predecessor, il map Can Chem Process 42:34-6+ F '58
- CANADIAN institute of mining and metallurgy**
Annual general meeting, 60th, Vancouver, April 21-23; with program, Can Min & Met Bul 51:39-57, 321-31 Mr, Je '58
Annual meeting, 60th, Vancouver, April 21-23, Eng & Min J 159:82-8 Je '58
Balance sheet and statement of revenue and expenditure, Can Min & Met Bul 51:208-9 Ap '58
1958-1959 council, Can Min & Met Bul 51:63 F '58
Organization, officers and council, 1958-1959, Can Min & Met Bul 51:431-8, 519-21 JI-Ag '58
Presidential address, H. J. Fraser, Can Min & Met Bul 51:332-4 Je '58
Report of council, year ended Dec. 31, 1957, map Can Min & Met Bul 51:198-207 Ap '58

CANADIAN institute of mining and metallurgy —Continued

Petroleum and natural gas division

Annual technical meeting, 9th, Calgary, May 28-30. Can Min & Met Bul 51:397-400 JI '58

CANADIAN pipe line contractors association. See Pipe line contractors association of Canada

CANAL lining

USBR's lower-cost canal lining program. R. J. Willson. *il* diags Am Soc C E Proc 84 [IR 2 no 1589]:1-30 Ap '58; Discussion. F. L. Hotes. 84 [IR 3 no 1784]:37 S '58

CANALS

Beauharnois canal locks, D. McIntyre. *il* map plans diags Am Soc C E Proc 84 [WW 4 no 1781]:1-13 S '58

Highest sector-gate lock is under way; new ship canal to San Francisco Bay tributary. map Eng N 161:28 JI 3 '58

Hydraulic design of stilling basins; high dams, earth dams, and large canal structures (basin II). J. N. Bradley and A. J. Peterka. diags Am Soc C E Proc 83 [HY 5 no 1402]:1-14 O '57; Discussion. A. R. Thomas. 84 [HY 5 no 1616]:31-2 Ap '58; Reply. 84 [HY 5 no 1832]:65-6 O '58

Hydraulic design of stilling basins; short stilling basin for canal structures, small outlet works, and small spillways (basin III). J. N. Bradley and A. J. Peterka. diags Am Soc C E Proc 83 [HY 5 no 1403]:1-22 O '57; Discussion. A. R. Thomas. bibliog 84 [HY 2 no 1616]:33-9 Ap '58; Reply. 84 [HY 5 no 1832]:67-9 O '58

St Lawrence seaway; planning and constructing the Lachine section. L. H. Burpee. *il* maps diags Eng J 41:55-68 S '58

St Lawrence seaway; soil and foundation problems. F. L. Beckover and T. G. Tustin. *il* maps plan diags Eng J 41:69-76+ S '58

St Lawrence seaway, 27-ft. canals and channels. W. Grothaus and D. M. Ripley. *il* maps diag Am Soc C E Proc 84 [WW 1 no 1518]:1-22 Ja '58

See also

Calumet-Sag project
Cape Cod canal
Irrigation canals
Locks (hydraulic engineering)
Suez canal
Waterways
Welland ship canal

Great Britain

New work on the Trent and Mersey canal. *il* Engineer 205:820-1 My 30 '58

Sweden

13 million cu yd landslide cuts canal; Gota, Sweden. *il* Eng N 161:58-9 JI 3 '58

CANCER

Basal cell epithelioma following a single trauma. M. Reisch. bibliog *il* Ind Med 27: 533-4 O '58

Carcinogens versus cancerigens; editorial. Ind Med 27:492 S '58

Carcinoma of the stomach. A. Ochsner and J. Blalock. bibliog Ind Med 27:406-9 Ag '58

Detection of uterine cancer in industry. B. McLean and others. A M A Archives Ind Health 18:261-7 S '58

Epidemiological study of lung cancer in asbestos miners. D. C. Braun and T. D. Truan. A M A Archives Ind Health 17:634-53 bibliog (p651-3) Je '58

Potential anticancer agents; model experiments for synthesis of 2'-deoxynucleosides by the 2,3-episulfide approach. L. Goodman and others. bibliog Am Chem Soc J 80: 1680-6 Ap 5 '58

Preliminary findings of the Memphis-Sheley county uterine cancer study and their interpretation. J. E. Dunn, jr. bibliog Am J Pub Health 48:861-73 JI '58

Radiation device for cancer treatment. Elec Eng 77:469 My '58

Sunlight and skin cancer. Drug & Cosmetic Ind 82:380 Mr '58

Synthesis of potential anticancer agents. J. A. Montgomery and others. bibliog Am Chem Soc J 80:404-11 Ja '58

Synthesis of potential anticancer agents; ribonucleosides of 2-substituted purines. H. J. Schaeffer and H. J. Thomas. bibliog Am Chem Soc J 80:4896-9 S 20 '58

Synthesis of potential anticancer agents; ribosides of 6-substituted purines. J. A. Johnson, jr. and others. bibliog Am Chem Soc J 80:699-701 S '58

Synthesis of potential anticancer agents; ribosides of 2,6-disubstituted purines. H. J. Schaeffer and H. J. Thomas. bibliog Am Chem Soc J 80:3738-42 JI 20 '58

Theoretical study of nitrogen heterocyclics; molecular diagrams and carcinogenic activities of some mono- and dibenzocarbazoles. J. I. Fernández-Alonso and others. bibliog Am Chem Soc J 79:5839-44 N 20 '57

CANCER research

Anti-tumor activities *in vitro* of 5-imino-1,2,4-dithiazolidin-3-thione and bis(diethylthiocarbamoyl)disulfide toward the Krebs-2 ascites carcinoma. F. E. Reinhardt and others. bibliog Franklin Inst J 265:58-62 Ja '58

Bronchogenic carcinoma from radioactive barium sulfate. H. Cember and J. A. Watson. bibliog *il* A M A Archives Ind Health 17:230-5 Mr '58

Cancer; challenge from antibiotics. Chem & Eng N 38:19-20 O 27 '58

Cancer gets a new foe; Upjohn's U-8344. *il* Chem & Eng N 36:47 S 22 '58

Cancer only a symptom. R. D. Coghill. Chem & Eng N 36:42-3 Ja 13 '58

Cancer; prevention and cure; Sloan-Kettering report. *il* Chem & Eng N 35:44-5 D 16 '57

Cancer research spurred. *il* Chem & Eng N 36:28 S 22 '58

Cancer screened; cells contain a chemical. Cytolipin H. Chem & Eng N 36:27 JI 28 '58

Carcinogenic action of p-aminobiphenyl in the dog. W. B. Deichmann and others. *il* Ind Med 27:25-6 Ja '58

Drug patent rule puts public first. Chem & Eng N 35:26 D 23 '57

Expectations in cancer chemotherapy. R. D. Coghill. *il* Drug & Cosmetic Ind 82:604-6+ My '58

Inhibition and stimulation of anaerobic glycolysis of ascites tumor cells; seminar. bibliog diag Franklin Inst J 264:509-16 D '57

New cancer institute at Hahnemann. *il* Chem & Eng N 36:42-3 Ap 14 '58

New rules spur cancer research. *il* Chem & Eng N 36:34 Ag 18 '58

Pfizer fights cancer; screens antibiotic broths. *il* Chem & Eng N 36:33 S 29 '58

Pulsed X-ray may aid cancer fight. R. W. Trehan and others. *il* Electronics 31:58-4 Ja 31 '58

Strain selection of a heterologous yolk sac tumor in serial transplantation to prevent increased chick embryo mortality. I. Galsinsky and W. G. Batt. bibliog Franklin Inst J 264:417-20 N '57

Viruses as a cause of cancer. J. W. Beard. *il* diag Am Scientist 46:226-54 bibliog (p250-4) S '58

CANDY

Dandy candy; completely hydrogenated cottonseed oil may take sticky fingers out of candy eating. *il* Ind & Eng Chem 50:sup25A-6A JI '58

See also
Marshmallows

Manufacture

Candy men probe quality control; production conference targets new materials and methods. diag Food Eng 30:104 JI '58

CANDY, Frozen

Sees candy-freezing expanding market. *il* Food Eng 30:66 Ja '58

CANDY factories

Air conditioning

Ingenious refrigeration ups output and quality; Peerless co. T. Miller. *il* diag Food Eng 30:108-10 My '58

Heating and ventilation

Candy output climbs as steam yields to electric heat; Bachman chocolate manufacturing co. N. S. Hartman. *il* Elec World 148:71 D 23 '57

Safety measures

How to cut your accidents in half; Curtiss candy co. E. B. Bryan and J. V. Ziembra. *il* Food Eng 30:55-7 S '58

Management makes safety programs click; Curtiss candy co. E. B. Bryan and J. V. Ziembra. Food Eng 30:56-7 Ja '58

CANNED fish

Predicting the color of canned sockeye salmon from the color of the raw flesh. P. J. Schmidt and D. R. Idler. bibliog Food Tech 12:44-8 Ja '58

Tuna comes off asparagus line in product switch that eases cost squeeze; J. H. Dulany & son, inc. A. V. Gemmill. *il* Food Eng 30: 97-8 Ap '58

See also
Sardines

CANNED food

Dehydrocanned apples. M. J. Powers and others. *bibliog Food Tech* 12:417-19 Ag '58
 Flip-ld can lets housewife season to taste; Broadcast chili. *il Food Eng* 30:82-3-4 Mr '58
 Influence of added monosodium glutamate on the flavor of processed green beans. L. A. Sather and others. *bibliog Food Tech* 12:372-4 JI '58
 Influence of ripening temperature, ripeness level, and growing area on quality of canned Bartlett pears. L. L. Claypool and others. *bibliog Food Tech* 12:375-80 JI '58
 Microbiological spoilage of canned fruit; abstract. T. G. Gillespy. *Chem & Ind* p645; Discussion. 545-6 My 10 '58
 This continuous vac-blanching setup improves color, flavor of vegetables. *diag Food Eng* 30:107 JI '58
 Varieties of broad beans suitable for canning. B. Dickinson and others. *Chem & Ind* p 1503 N 16 '57

See also

Canned fish
 Canned oysters

Storage

Objective criteria for storage changes in tomato paste. B. S. Luh and others. *bibliog Food Tech* 12:347-51 JI '58
 Storage changes in tomato juice. B. S. Luh and others. *bibliog Food Tech* 12:380-4 JI '58

CANNED oysters

Popular new product from former waste; canned oyster stew; DeJean packing co. L. Hall and W. Fornae. *il diag Food Eng* 30:74-5 Je '58

CANNERIES**Equipment**

Better flow from plant to warehouse; specially designed conveyor system. L. Phillips. *il Food Eng* 30:99 S '58
 Cost squeeze eased by mechanization; Dole Hawaiian pineapple co. Coon's pear machine. C. R. Havighorst. *il Food Eng* 30:96-7-4 F '58
 Fluidized conveying streamlines processing; Pine Grove canning co. *il Food Eng* 29:99 N '57
 Hoods, ducts for catsup cook kettles, of welded 18-8, clear pungent air. *il Air Cond Heat & Ven* 54:124 N '57
 17 new units for cost-conscious processors; equipment at canners show. *il Food Eng* 30:112-15 Mr '58
 Sharper scheduling and handling perk up your line performance; Morgan packing co. I. H. Morgan and J. V. Ziemba. *il diag Food Eng* 30:90-4 Ap '58
 Steps that up product quality; Libby, McNeill & Libby. flow sheet(p 126-9) *il Food Eng* 29:88-9 D '57
 Tuna comes off asparagus line in product switch that cuts cost; squeeze. John H. Dulany & son, inc. A. V. Gemmill. *il Food Eng* 30:97-8 Ap '58

Management

Production scheduling in a canning plant. C. T. Shewell and H. C. Edwards. *Ind Quality Control* 15:20-1 Ag '58
 Sharper scheduling and handling perk up your line performance; Morgan packing co. I. H. Morgan and J. V. Ziemba. *il diag Food Eng* 30:90-4 Ap '58

Waste

Aeration curbs waste-disposal odors; tomato-waste disposal methods detailed. G. R. Ammerman and N. W. Desrosier. *Food Eng* 30:115 Ja '58
 Comminuted solids inclusion with spray irrigated canning waste. R. A. Canham. *bibliog il plan Sewage & Ind Wastes* 30:1028-49 Ag '58

CANNING and preserving

Canning of foods. L. E. Cliffoern. *Refrig Eng* 66:74-4 Mr '58
 Canning quality of Elberta peaches as affected by nitrogen fertilization. G. H. Carter and others. *bibliog Food Tech* 12:174-9 Ap '58
 Clumping in canned blueberries. M. J. Powers and others. *bibliog il Food Tech* 12:99-102 F '58
 Evaluation of canning processes when α is less than 0.1. E. W. Hicks. *Food Tech* 12:116 F '58
 Factors influencing drained weight of canned clingstone peaches. S. Leonard and others. *bibliog Food Tech* 12:80-5 F '58

Penetration of maltosaccharides into processed clingstone peaches. R. E. Hughes, jr. and others. *bibliog il Food Tech* 12:111-15 F '58

Relationship of chemical composition to quality in fruit and vegetables for canning; abstract. D. Dickinson. *Chem & Eng Ind* p482-3; Discussion. 483-4 Ap 26 '58

Studies in canning processes; the effects of the variation with temperature of the thermal properties of foods. H. L. Evans. *bibliog Food Tech* 12:276-80 Je '58

These nomographs simplify syrup calculations. M. A. Joslyn and A. S. Levens. *bibliog Food Eng* 30:108-10 S '58

This streamlined layout assures superior sauces; National cranberry assn. *il diag Food Eng* 30:80-1 My '58

CANS**Manufacture**

For better containers. Canco's coil stock plant. *il Paint Oil & Chem R* 121:10-11 Je 26 '58

Testing

Estimation of vacuum in unopened containers. B. G. Davis and G. D. Elliott. *bibliog diag Food Tech* 12:473-3 S '58

CANS, Aluminum

Aluminum cans. *il Light Metal Age* 16:10-11+ Ag '58

Aluminum from the can maker's point of view. L. P. Gotsch and others. *il Food Tech* 12:487-92 S '58

Kraft cheeses make debut in aluminum cans. *il Food Eng* 29:84-5+ N '57

Major breakthrough for aluminum beverage cans. *il Food Eng* 30:82-3 S '58

Manufacture

Aluminum cans. *il Materials in Design Eng* 47:10-11 Ja '58

Aluminum cans deep-drawn in one stroke. *il Product Eng* 28:28 N 4 '57

CANTILEVER beams. See Beams and girders

CANTILEVER bridges. See Bridges, Cantilever

CAP screws. See Screws

CAPACITANCE. See Electric capacitance

CAPE CANAVERAL, Florida

Water supply

Water for Cape Canaveral, interplanetary boom town. *il Water Works Eng* 111:753-4, cover Ag '58

CAPE COD canal

Tidal movement. B. W. Wilcox. map Am Soc C E Proc 84 [HY 2 no 15861]:1-9 Ap '53

CAPILLARIES

Capillary sealing jig. M. H. Mueller and others. *diag R Sci Instr* 29:253-4 Mr '58

Construction of small fixed leaks of predictable throughput. S. A. Gordon. *bibliog il diag R Sci Instr* 29:501-4 Je '58

Effects of capillary shape on flow characteristics and degradation of polymer solutions. H. S. White and H. V. Belcher. *bibliog il diag J Res Nat Bur Stand* 60:215-19 Mr '58

Factors affecting the drying of apparel fabrics; capillary size distribution. R. Steele. *Textile Res J* 28:144-7 F '58

Simple X-ray capillary manipulative aid. E. M. Larsen and J. J. Leddy. *diag R Sci Instr* 29:736 Ag '58

Size of the intermicellar spaces and capillaries in jute fibers as revealed by X-ray analysis. S. K. Chowdhury. *bibliog il Textile Res J* 27:935-9 D '57

CAPILLARITY

Calculation of linear waterflood behavior including the effects of capillary pressure; abstract. J. Douglas, jr. and others. *J Pet Tech* 10:Trans 131A Je '58

Capillarimetric method for measurement of crude oil wetting tendencies. H. N. Dunning and R. T. Johansen. *bibliog diag Pet Eng* 30:B26-7 JI '58

Measurement of the capillary curve. D. F. Dempsey. *diag Am J Phys* 26:89-90 F '58

See also

Surface active substances

CAPITAL

Plan your working capital requirements. E. F. Reiter. *Concrete* 65:35-6+ D '57

See also

Investments

CAPITAL spending. See Industrial expansion

CAPITOLS

See also

United States—Capitol

CAPROLACTAM

- Enka's nylon output grows; caprolactam nylon (nylon 6). *Il Mod Textiles Mag* 39:29 Ag '58
- Irradiation of polycaprolactam with γ -rays and electrons. T. G. Majury and S. H. Pinner. *bibliog J Ap Chem* 8:168-71 Mr '58
- New caprolactam source. *Chem & Eng N* 36:27 Ag '58

CAPSAICIN**Analysis**

- Detection of foreign pungent compounds; oleoresin capsicum ground capsicum, and chili spices. E. H. Todd, Jr. *bibliog Food Tech* 12:463-9 S '58

CAPSULES

- Pack in low-cost capsules. *Il diags Chem Eng* 65:88+ Ja 13 '58
- Ten ways to use metal diaphragms and capsules; drawings with text. D. C. Whitten. *Product Eng* 29:92-3 F 17 '58

CAPSULES, Gelatin

- Drug houses of Australia link-up with American Cyanamid; new building for encapsulating antibiotics. *Il Manuf Chem* 29:239 Je '58
- Encapsulating at Upjohn. *Il Drug & Cosmetic Ind* 82:606-8 My '58
- Seamless gelatin capsules. *Il Manuf Chem* 29:332-4 Ag '58

CAPTORHINIKOS. See Reptiles, Fossil**CAR axles**

- History of the railway axle. *Metallurgia* 56:229-30 N '57

Testing

- Mobile reflectoscopic inspection of railroad car axles on the Chesapeake and Ohio railway. E. R. Hauer and C. M. Angel. *Il diags Applications & Ind p* 143-7 J '58

CAR buffers. See Cars—Buffers**CAR cleaning**

- Blast unit cuts cleaning costs; railroad car cleaning. *Il Iron Age* 181:109 Mr 20 '58

CAR dumpers

- 25-ton tipping tray car. *Il Engineer* 206:188 Ag 1 '58

CAR retarders

- Hadfield retarder for tubs and cars. *diag Engineer* 204:909 D 20 '57
- Hydraulic retarder smooths car feed. *Il diag Coal Age* 62:98 D '57

CAR shops

- Geodesic roundhouse; the biggest dome yet built; railroad car repair shop of the Union tank car co. *Il diag Arch Forum* 108:126-8 Je '58

- Railroad car rebuilds and repair at Kaiser's Fontana Works. A. B. Stoker. *Il diags Iron & Steel Eng* 35:132-6; Discussion. 136-7 Ag '58

See also**Railroads—Shops****CAR wheels**

- Wheel-slip detection in railroad braking. C. M. Hines. *bibliog Il diags Applications & Ind* p215-19 S '58

Manufacture

- Let automation give heavy jobs a lift; setup for machining railway car wheels. R. H. Eshelman. *Il Iron Age* 181:104-5 Mr 20 '58
- Machine slashes wheel turning time; Snyder tool & engineering co. *Il Steel* 142:138-9 My 19 '58
- Transfer machine shapes car wheels. *Il Steel* 142:108 Je 16 '58

CARACAS, Venezuela**Water supply**

- Caracas still dry; new water source becomes deficient in dry season. *Eng N* 161:60 J 10 '58

CARANINE

- Partial synthesis of caranine. K. Takeda and others. *bibliog Am Chem Soc J* 80:2562-7 My 20 '58

CARBAMATES

- In vivo* hydroxylation of 1-ethynylcyclohexyl carbamate. R. E. McMahon. *bibliog Am Chem Soc J* 80:411-14 Ja 20 '58

CARBAMYL compounds

- Carbamylmaleimides from the malonamide-diethyl oxalate reaction. R. H. Wiley and S. C. Slavemaker. *bibliog Am Chem Soc J* 80:1385-8 Mr 20 '58

CARBONIS

- Dicarbonyls of dibenzyl ketone dibenzyl sulfone and α,β,β -triphenylpropionitrile. C. R. Hauser and T. M. Harris. *Am Chem Soc J* 79:6342 D 5 '57

CARBENES

- Electrophilic character of carbethoxycarbene. F. S. Skell and R. M. Etter. *bibliog diags Chem & Ind* p624-5 My 24 '58

CARBETHOXY compounds. See Ethoxycarbonyl compounds**CARBIDE cutting tools**. See Cutting tools, Carbide**CARBIDES**

- Acetylene and carbide have held jobs in almost every field; abstract. W. B. Brown. *Ing. Welding Eng* 43:39 Mr '58
- Carbide-coated graphite. *Mech Eng* 79:1155 D '57
- Carbide dies. *Il Mech Eng* 80:63 J 1 '58
- Carbide precipitation in several steels containing chromium and vanadium. A. K. Seal and R. W. K. Honeycombe. *bibliog 3pls Iron & Steel Inst J* 183:9-15 Ja '58
- Carbides co-deposited by plating boost wear resistance five to one or more. *Il Am Mach* 102:80 J 28 '58
- Cemented carbide is heat treatable. *Materials in Design Eng* 47:176-1 Ap '58
- Conditions for stability of graphite, iron, and its oxides and carbides. D. I. Cameron. *Iron & Steel Inst J* 183:251-5 J 1 '58
- Electrolytic machines cemented carbides. *Product Eng* 29:22-3 Je 16 '58
- Guide to tool steels and carbides; index of materials by trade names and by companies. *Steel* 142:97-140 Ap 21 '58
- Machinable carbide cuts costs; Ferro-Tic. *Tool Eng* 40:114 My '58

See also**Aluminum carbide****Boron carbide****Cutting tools, Carbide****Iron carbides****Lanthanum carbide****Rare earth carbides****Silicon carbide****Titanium carbide****Uranium carbide****CARBINAMINE**. See Methylamine**CARBINOLS**

- Rates of solvolysis of *p*-substituted benzyl-dimethylcarbinyl chlorides. A. Landis and C. A. VanderWerf. *bibliog Am Chem Soc J* 80:5277-80 O 5 '58
- Rates of solvolysis of phenyldimethylcarbinyl chlorides containing substituents (-NMe₂, -CO₂) bearing a charge. Y. Okamoto and H. C. Brown. *bibliog Am Chem Soc J* 80:4976-9 S 20 '58
- Rates of solvolysis of substituted phenyldimethylcarbinyl chlorides in methyl, ethyl and isopropyl alcohols; influence of the solvent on the value of the electrophilic substituent constant. Y. Okamoto and others. *bibliog Am Chem Soc J* 80:4972-6 S 20 '58
- Rates of solvolysis of the *m*- and *p*-phenyl-, *m*- and *p*-methylthio-, and *m*- and *p*-trimethylsilylphenyldimethylcarbinyl chlorides; steric inhibition of resonance as a factor in electrophilic substituent constants. H. C. Brown and others. *bibliog Am Chem Soc J* 80:4964-8 S 20 '58
- Syntheses and some reactions of α -silylcarbinols. H. Gilman and G. D. Lichtenwalter. *bibliog Am Chem Soc J* 80:2680-2 Je 5 '58
- Synthetic oxytocics; synthesis and reactions of 3'-indolyl-2'-pyridylcarbinols and of 2,3-(2',3'-indolyl)-hexahydroquinolizines. H. Bader and W. Oroshnik. *bibliog Am Chem Soc J* 79:5686-9 N 5 '57
- Tertiary carbinols of the piperazine series. H. E. Zaugg and others. *bibliog Am Chem Soc J* 80:2763-74 Je 5 '58

CARBOHYDRATES

- Acute reduction in plasma amino acids by carbohydrate infusion in diabetes and liver disease. M. E. Rubini and D. Saligson. *bibliog Am J Clinical Nutrition* 6:365-75 J 1 '58
- Application of the mass spectrometer to carbohydrate chemistry. P. A. Finan and others. *Chem & Ind* p1172 S 6 '58
- Boron trichloride as a degradative reagent for carbohydrates and their derivatives. S. Allen and others. *Chem & Ind* p630 My 24 '58
- Free reducing, acid-hydrolyzable, and total sugars and total available carbohydrates in Ladino clover, nutritionally significant chemical components of forage legumes. H. L. Wilkins and others. *bibliog J Agri & Food Chem* 6:369-73 My '58
- Influence of carbohydrate on the utilization of rations containing soybean alpha protein. U. D. Register and E. W. Peterson. *bibliog J Nutrition* 64:483-91 Mr '58
- Reactions of carbohydrates with nitrogenous substances; the Amadori rearrangement in methanol. L. Rosen and others. *bibliog Am Chem Soc J* 80:4697-702 S 5 '58

CARBOHYDRATES—Continued

- Reduction of the products of periodate oxidation of carbohydrates; methylation studies on the monaldehyde formed by catalytic reduction of p'-methoxy-D-hydroxymethyl-diglycolic aldehyde. I. J. Goldstein and F. Smith. *bibliog Am Chem Soc J* 80:4681-2 S 5 '58
- Reduction of the products of periodate oxidation of carbohydrates; the constitution of cellulose. I. J. Goldstein and others. *bibliog Am Chem Soc J* 79:6469-73 D 20 '57

See also

Galactose
Oligosaccharides
Polysaccharides
Starch
Sugars

Analysis

- Infrared microtechniques for identification of carbohydrates and other organic compounds. F. E. Resnik and others. *bibliog diags Anal Chem* 29:1874-7 D '57

Spectra

- Infrared spectra of carbohydrates, differentiation of γ - and δ -lactones of aldonic acids. S. A. Barker and others. *Chem & Ind* p658-9 My 31 '58

CARBON

- Carbon-hydrogen ratio of distillate fuels. W. L. Nelson. *Oil & Gas J* 56:103 Ag 25 '58
- Carbon-pickup in the cupola. M. Perch and C. C. Russell. *bibliog Foundry* 85:70-5 D '57
- Carbon-steam reaction kinetics from pilot plant data. W. G. May and others. *bibliog diags Ind & Eng Chem* 50:1289-96 S '58
- Dipole moment of the carbon-carbon bond. A. J. Petro. *bibliog Am Chem Soc J* 80:4230-2 Ag 20 '58
- Effect of carbon on the resistance of hard facing deposits to abrasive wear; abstract. E. I. Leynachuk. *Metal Prog* 74:150+ Ag '58
- Elastic moduli and tensile properties of titanium-carbon and titanium-aluminum-carbon alloys. H. Brooks and others. *bibliog Il Metallurgia* 56:277-82 D '57
- Electrolytic migration of carbon in steels. W. Hume-Rothery. *Iron & Steel Inst J* 188:113 F '58
- Experimental evidence for equivalency of carbon atoms in the tropylium ion. M. E. Volpin and others. *Chem & Ind* p 1261-2 S 25 '58
- Further observations on the mechanism of chlorinolysis of sulfur-carbon bonds; the chlorinolysis of 4-benzylthio-7-chloroquinoline. H. Kwart and L. J. Miller. *bibliog Am Chem Soc J* 80:884-7 F 20 '58
- Microstructures of carbon products. S. W. Martin and R. L. Sherr. *jr. bibliog Il Ind & Eng Chem* 50:41-6 Ja '58
- Modern touch speeds up sugar decolorizing. *Il diag Chem Eng* 65:30+ Mr 10 '58
- Morphological and phase changes during quench-aging of ferrite containing carbon and nitrogen; abstract. G. Lagerberg and B. S. Lement. *Metal Prog* 72:204+ N '57
- S.C.I. conference on industrial carbon and graphite, London, Sept. 24-26; with abstracts of papers. *Chem & Ind* p 1442-7 N 2 '57
- Solubility and diffusion of carbon in a silicon-iron alloy. D. A. Leak and G. M. Leak. *bibliog Iron & Steel Inst J* 189:256-62 J1 '58
- Solubility of carbon in thorium; abstract. R. Mickelson and D. Peterson. *Metal Prog* 72:146+ N '57
- Study of the role of carbon in temper embrittlement; abstract. E. B. Mikus and C. A. Siebert. *Metal Prog* 72:174+ N '57
- Tracer studies on the mechanism of combustion of carbon, sulfur and mercuric sulfide. J. H. Wang and E. B. Fleischer. *Am Chem Soc J* 80:3874-5 Ag 5 '58
- Variations in isotopic composition of oxygen and carbon in Leadville limestone (Mississippi, Colorado) and in its hydrothermal and metamorphic phases. A. E. J. Engel and others. *bibliog map diags J Geol* 66:374-93, pl 1 J1 '58

See also

Coal
Coke
Graphite

Analysis

- Analysis for industry; microdetermination of carbon and hydrogen. J. Körbl. *bibliog Ind Chem* 34:507-10 S '58

- Carbon-hydrogen analysis of coke on catalysts. S. G. Hindin and others. *diag Anal Chem* 29:1850-2 D '57

- Carbon the easy way: Automatic carbon determinator. *Chem & Eng N* 36:63 Mr 17 '58
- Determination of carbon, hydrogen, and nitrogen in organoboron compounds. P. Arthur and others. *bibliog diags Anal Chem* 29:1852-4 D '57

- Determination of carbon in titanium, zirconium and their alloys by gravimetric and conductimetric methods. D. F. Wood and M. Williams. *bibliog diags Metallurgia* 58:47-52 J1 '58

- Determination of very small amounts of carbon in metals. R. E. Fryxell. *bibliog diag Anal Chem* 30:273-5 F '58

- Microdetermination of carbon and hydrogen by a rapid combustion procedure. G. I. Robertson and others. *bibliog Il diag Anal Chem* 30:132-5 Ja '58

- Microdetermination of carbon and hydrogen in pyrophoric and hygroscopic organic compounds. W. P. Pickhardt and others. *bibliog Il diag Anal Chem* 30:1298-301 J1 '58

- Rapid and precise carbon-hydrogen determination; automatic macrocombustion apparatus. T. J. White and others. *bibliog Il diags Anal Chem* 30:409-14 Mr '58

Isotopes

- C^{14} hot atom chemistry of n-pentane and isopentane. C. F. MacKay and W. F. Libby. *bibliog Am Chem Soc J* 79:6366-9 D 20 '57

- Carbon-14 kinetic isotope effects. M. L. Bender and G. J. Buist. *bibliog Am Chem Soc J* 80:4304-11 Ag 20 '58

- Carbon-14 kinetic isotope effects in nucleophilic substitution reactions. M. L. Bender and D. F. Hoeg. *bibliog Am Chem Soc J* 79:5649-54 N 5 '57

- Carbon isotope effect in the pinacolpinacol rearrangement: a reinvestigation. V. F. Raaen and C. J. Collins. *Am Chem Soc J* 80:4432-3 Ag 20 '58

- Carbon isotopic compositions of petroleum and other sedimentary organic materials. S. R. Silverman and S. Epstein. *bibliog diag Am Assn Pet Geologists Bul* 42:998-1012 My '58

- Single-channel counter for carbon-14 and tritium. T. S. Hodgson and others. *bibliog diags Nucleonics* 15:89-94 J1 '58

- Temperature dependence of the carbon isotope effect in the acid hydrolysis of urea. P. E. Yankwich and A. E. Veazie. *bibliog Am Chem Soc J* 80:1335-8 Ap 20 '58

See also

- Radiocarbon dating

CARBON, Activated

- Activated charcoal for air purification. H. L. Barnebey. *Il diag Heating-Piping* 30:153-60 Mr '58

- Chemisorption of oxygen on activated charcoal and sorption of acids and bases. R. R. Puri and others. *bibliog Ind & Eng Chem* 50:1071-4 J1 '58

- Filter balances smoke, contains activated charcoal. *Chem & Eng N* 36:38 Ag 18 '58

- Molded carbon shapes adsorb unwanted vapor. *Il Materials in Design Eng* 47:166+ Ja '58

- Reaction of nitric oxide with activated carbon and hydrogen. G. Bedjai and others. *bibliog Ind & Eng Chem* 50:1165-8 Ag '58

CARBON, Structural

- Properties of materials; carbon and graphite. *Materials in Design Eng* 48:236 Mid-O '58

Manufacture

- Carbon production time slashed by new process. *Il Tool Eng* 40:152-3 Mr '58

CARBON arc. See Electric arc**CARBON black**

- Additives check oxidation; Bell laboratories. *Il Chem & Eng N* 36:58-9 F 24 '58

- Cabot commemorates 75th anniversary. *Il Rubber Age* 83:146-7 Ap '58

- Carbon black controls clouds. *Il Chem & Eng N* 36:67-8 O 5 '58

- Dispersion of carbon black in rubber and its role in vulcanization properties. C. W. Switzer and others. *bibliog Il Rubber World* 138:869-76; 139:74-81 S-O '58

- Evaluation of carbon black dispersions in polyethylene to predict weatherability. R. M. Schulken, Jr. and others. *bibliog diags Mod Plastics* 35:125-8+ Ag '58

- Examining the dispersion of carbon black in rubber. I. Drogin. *bibliog Il Rubber Age* 83:463-71 Je '58

CARBON black—Continued

- Improving the carbon-rubber bond. H. A. Braendle, bibliog flow diag Rubber Chem & Tech 31:147-55 Ja '58
- Low cost compounding with oil-extended rubber. Z. J. Dorko and H. A. Fisterer, bibliog Rubber Age 83:105-11 Ap '58
- New improved Synpol black masterbatches. Rubber World 138:784 Ag '58
- Physical adsorption; adsorbed monolayers of argon and nitrogen on boron nitride and on a graded series of partially graphitized carbon blacks. S. Ross and W. W. Piltz, Bibliog J Colloid Sci 13:397-406 Ag '58
- Pore sizes and pore size distribution in reinforcing pigment particles. A. Voet, bibliog diags Rubber World 139:64-74, 232-6 O-N '58
- Theory of rubber reinforcement; interaction of carbon black with sulfur and rubber. B. A. Dogadkin and others, bibliog Rubber Chem & Tech 31:361-8 Ap '58

Manufacture

- Carbon black filter installation; Tilghman special dust arresters. Il Ind Chem 34:88 F '58
- Carbon black (Lynn process); Lynn carbon black co. flow sheet Pet Refiner 36:226 N '57
- Carbon black (oil black). flow diag Pet Refiner 36:227 N '57
- Tilghman's filters for carbon black production plant. Il Engineer 205:145 Ja 24 '58

Moisture content

- Study of the moisture adsorption properties of carbon blacks. E. M. Dannenberg and W. H. Opte, Jr. bibliog Rubber World 137: 849-55; 138:85-9 Mr-Ap '58

Physiological effect

- Study of the physiological effects of carbon black. C. A. Nau and others, bibliog A M A Archives Ind Health 17:21-8 Ja '58

Spectra

- Absorption spectrum of carbon black dispersions. A. Voet, Rubber Age 82:657-63 Ja '58

Transportation

- Efficient handling of carbon black shipments; unitized loading. E. H. Baker and J. W. Hamilton, Il plans Rubber Age 84:88-90 O '58

CARBON compounds*See also*

- Carbohydrates
Hydrocarbons

CARBON dioxide

- Calcium carbonate decomposition in carbon dioxide atmosphere. E. F. Hyatt and others, bibliog Am Cer Soc J 41:70-4 F 1 '58
- Costs favor hot carbonate process for bulk removal of acid gases. A. G. Eickmeyer, diag Chem Eng 65:113-16 Ag 25 '58
- Cyanide effects on carbon dioxide fixation in chlorella. B. R. Eabin and others, bibliog 2pls diag Am Chem Soc J 80:2523-32 My 20 '58
- Effect of carbon dioxide concentration on gasification of artificial graphite. P. V. N. Ramachandra Rao and E. E. Petersen, bibliog diag Ind & Eng Chem 50:331-6 Mr '58
- Exchange of oxygen atoms among carbon dioxide, carbon monoxide and oxide catalysts of spinel type. Y. Yoneda and others, bibliog diag Am Chem Soc J 80:4503-7 S 5 '58
- Factors affecting quality of prepackaged meat; color studies; effects of nitrogen and carbon dioxide under different pressures upon color of product. J. A. Rikert and others, Food Tech 12:17-23 Ja '58
- Melting of calcite in the presence of water and carbon dioxide. M. S. Paterson, Il Am Mineralogist 43:603-6 My '58
- New agitator absorber for CO₂. A. S. Moore and S. Katell, flow diag diag Pet Refiner 37:163-8 Mr '58
- Nickel, copper and some of their alloys as catalysts for the hydrogenation of carbon dioxide. L. E. Cratty, Jr. and W. W. Russell, bibliog Am Chem Soc J 80:767-73 F 20 '58
- Packed column performance of carbon dioxide-monoethanolamine system. A. J. Teller and H. E. Ford, bibliog Il Ind & Eng Chem 50:1201-6 Ag '58
- Reaction of portland cement with carbon dioxide. C. M. Hunt and others, bibliog diag J Res Nat Bur Stand 60:441-6 My '58

- Reactions of methylene; ketene and carbon dioxide. G. B. Kistiakowsky and K. Sauer, bibliog Am Chem Soc J 80:1066-71 Mr 5 '58
- Which CO₂ removal scheme is best? J. F. Mullowney, diags Pet Refiner 36:149-52 D '57

Analysis

- Determination of carbon dioxide in automotive exhaust by means of infrared filter photometer. J. L. Parsons and others, Il diag Anal Chem 30:1055-7 Je '58
- Determination of carbon dioxide in gas streams. F. E. Toren and B. J. Heinrich, diag Anal Chem 29:1854-6 D '57
- Four methods of determination of carbon dioxide in solid fuels. P. O. Krumin and K. Svanks, bibliog diags A S T M Bul 551-7 Ja '58
- Gas content of steam and boiler feed water. W. B. Bartley and E. Moulit, Il diag Engineer 206:434 S 26 '58
- Sonic gas analyzer for measurement of CO₂ in expired air. F. D. Stott, diags R Sci Instr 28:914-15 N '57

See also

- Flue gas—Analysis

Industrial applications

- CO₂ a steadily growing giant. J. D. Leonard, Il Chem & Eng N 36:114-18+ O 6 '58
- CO₂ process useful in producing experimental castings; producing experimental rigid fuze bodies at Frankford arsenal. R. L. Fehr and R. C. Harris, Il Foundry 86:80-2 Mr '58
- Cast large propeller with CO₂ process. Il Foundry 86:96+ Je '58
- Controlling the CO₂ process. F. L. Turk and others, Il Foundry 86:94-7 Ja '58
- Fighting a mine fire with CO₂. F. J. Haller and F. G. Michels, diags Min Cong J 43: 53-5 N '57
- Mold for making repair part uses CO₂ process draw-backs. H. M. Griffoul, diags Foundry 86:124 Mr '58
- Propeller casting speeded by new process; CO₂ process for quick hardening of mold sand. Il Marine Eng/Log 63:70-1 My '58
- Rubber parts trim best when frozen. Il Am Mach 101:157 N 18 '57
- Washington conducts inert gas injection tests at Brandywine storage formation. Il Gas Age 122:22-3 S 18 '58

See also

- Electric welding, Arc—Carbon dioxide shielding
Fire extinguishers, Carbon dioxide

Manufacture

- How CO₂ is removed by the hot potassium carbonate process, flow diag Oil & Gas J 56:98-9 F 10 '58
- Price tags on seven methods of removing CO₂ from high-CO₂-content gas. J. F. Mullowney, flow diags Oil & Gas J 56:93-8 F 10 '58

CARBON dioxide, Liquid

- Vaporization of liquefied CO₂ refrigerates test chambers; Associated testing laboratories, Il Refrig Eng 68:71+ F '58

- CARBON dioxide fire extinguishers.** See Fire extinguishers, Carbon dioxide

CARBON disulfide

- Skin absorption of carbon disulfide vapor in rabbits. A. E. Cohen and others, bibliog diag A M A Archives Ind Health 17:164-9 F '58

Manufacture

- Carbon bisulfide, flow diag Pet Refiner 36:225 N '57
- Production of carbon disulfide; process based on the system carbon monoxide plus sulfur at 500° C. H. N. Madon and R. F. Strickland-Constable, bibliog Ind & Eng Chem 50:1189-92 Ag '58

CARBON monoxide

- Absorption of oxygen and carbon monoxide on tungsten. R. E. Schlier, diag J Ap Phys 29:1162-7 Ag '58
- Automobile accidents and carbon monoxide. Ind Med 26:574 D '57
- CO concentration is critical in underground garage ventilation. Il Air Cond Heat & Ven 55:64, cover Mr '58
- Carbon monoxide reduction of iron ore. O. Stelling, diags J Metals 10:290-5 Ap '58
- Dielectric properties of hemoglobin; carbon monoxide addition to horse hemoglobin. S. Takashima and R. Lumry, bibliog Am Chem Soc J 80:4244-8 Ag 20 '58

CARBON monoxide—Continued

- Exchange of oxygen atoms among carbon dioxide, carbon monoxide and oxide catalysts of spinel type. Y. Tonedo and others, *bibliog diag Am Chem Soc J* 80:4503-7 S 5 '58
- Hemoglobin studies; the combination of carbon monoxide with hemoglobin and related model compounds. J. H. Wang and others, *bibliog Am Chem Soc J* 80:1109-13 Mr 5 '58
- Reactions of methylene; addition to carbon monoxide. T. B. Wilson and G. B. Kistiakowsky, *bibliog Am Chem Soc J* 80:2934-9 Je 20 '58
- Report on pilot plant synthesis of liquid fuels. C. T. Yu and others, *bibliog flow diag il Chem Eng Prog* 54:55-8 Mr 58

CARBON monoxide as fuel

- Carbon-monoxide-fired boiler. *Mech Eng* 80: 94-5 Mr '58
- Fuel-bill savings for Sohio; burning carbon monoxide from catalytic cracking units. *il Oil & Gas J* 55:96 Mr 10 '58
- Would a CO boiler pay off in your plant? W. H. Alexander and R. L. Bradley, *Pet Eng* 30:C 15-18 J '58; Same abr. *diags Pet Refiner* 37:107-12 Ag '58

CARBON paper**Testing**

- Paired comparison test of typewriter carbon papers. M. Fleckenstein and others, *Tappi* 41:128-30 Mr '58

CARBON paste electrodes. See Polarography**CARBON tetrachloride**

- Formation and dissociation of iodobenzene dichloride in carbon tetrachloride. L. J. Andrews and R. M. Keefer, *bibliog Am Chem Soc J* 80:1723-8 Ap 5 '58
- Infrared measurements of the association of ethanol in carbon tetrachloride. W. C. Coburn, Jr. and E. Grunwald, *bibliog Am Chem Soc J* 80:1318-22 Mr '58

Manufacture

- Carbon tet. at Cornwall. *il Can Chem Process* 41:32 D 57

CARBON tetrachloride poisoning

- Carbon tet. poisoning case. *Soap & Chem Spec* 34:96+ Je '58

CARBON wool

- Improved carbon wool fibers. *il Materials in Design Eng* 46:162+ D '57

CARBONATES

- Acid-gas removal by the hot-carbonate method. A. G. Eickmeyer, *Oil & Gas J* 56:106-8+ S 22 '58
- Clay-carbonate-soluble salt interaction during differential thermal analysis. R. T. Martin, *Am Mineralogist* 43:649-55 J '58
- Distribution and lithology of organic carbonate unit of upper Devonian Fairholme group, Alberta. H. R. Belyea, *bibliog maps diags Can Min & Met Bul* 61:64-72 F '58
- Kinetics of the exchange reaction between carbon-14-labeled carbonate and carbonatobis-(trimethylenediamine)-cobalt(III) complex in aqueous solution; effect of steric hindrance in a ligand substitution process. J. E. Boyle and G. M. Harris, *bibliog Am Chem Soc J* 80:782-6 F 20 '58
- Polycarbonates; preparation, properties and processing details. *Brit Plastics* 31:112-14 Mr '58
- Relationship between q_{18}/q_{16} ratios in coexisting quartz, carbonate, and iron oxides from various geological deposits. R. N. Clayton and S. Epstein, *bibliog diags J Geol* 66: 352-73 J '58
- Requirement for bicarbonate in fatty acid synthesis. D. M. Gibson and others, *Am Chem Soc J* 80:2908 Je 5 '58
- Selective absorption of hydrogen sulphide in carbonate solutions. F. H. Garner and others, *bibliog diags J Ap Chem* 8:325-36 My '58
- Solvent extraction of uranium(VI) from carbonate solutions. W. E. Clifford and others, *Am Chem Soc J* 80:2959-61 Je 20 '58
- Stereochemistry and mechanism of reversible polymerization of 2,2-disubstituted 1,3-propanediol carbonates. S. Sarel and L. A. Pohorlyes, *bibliog Am Chem Soc J* 80:4596-9 S 5 '58
- See also*
Alkaline earth carbonate
Alkali metal carbonates
Calcium carbonate
Copper carbonates
Dolomite
Lead carbonate
Magnesium carbonate

CARBONIC anhydrase

- Kinetics of the reaction of human erythrocyte carbonic anhydrase; basic mechanism and the effect of electrolytes on enzyme activity. R. P. Davis, *bibliog Am Chem Soc J* 80: 5209-14 O 5 '58

CARBONIUM compounds

- Carbonium ions; σ^+ -parameters. N. C. Deno and W. L. Evans, *bibliog Am Chem Soc J* 79:5804-7 N 5 '57
- Unsymmetrical elimination from a formally symmetrical carbonium ion. P. Ballinger and P. B. D. de la Mare, *bibliog Chem & Ind* p 1545 N 23 '57

CARBONIZATION of coal. See Coal distillation**CARBONYL chlorides**

- Infrared spectrum, vibrational assignment and spectroscopic entropy of carbonyl chloride. E. Catalano and K. S. Pitzer, *bibliog Am Chem Soc J* 80:1054-7 Mr 5 '58

CARBONYL compounds

- Characterization of volatile carbonyl compounds isolated from meat fat subjected to gamma radiation. L. A. Witting and B. S. Schweigert, *bibliog Am Oil Chem Soc J* 35:413-16 Ag '58
- 2-Diphenylacetyl-1,3-indandione 1-hydrazone, a new reagent for carbonyl compounds. R. Braun and W. A. Mosher, *Am Chem Soc J* 80:3048-50 Je 20 '58
- Fixation of atmospheric carbonyl compounds by sodium bisulfite. K. W. Wilson, *bibliog Anal Chem* 30:1127-9 Je '58
- Some applications of metal carbonyls in organic chemistry; abstract and discussion. P. O. Lenel, *Chem & Ind* p249 Mr 1 '58
- Some reactions between metal carbonyls and acetylenic compounds; abstract. M. C. Whiting, *Chem & Ind* p248-9 Mr 1 '58

See also

- Iron carbonyls
Manganese carbonyl

Analysis

- Detection of carbonyl compounds in benzene. D. A. Forss and E. A. Dunstone, *Chem & Ind* p 127-8 F 1 '58
- New procedure for the determination of volatile carbonylic substances in autoxidizing edible fats. C. H. Lea and P. A. T. Swoboda, *Chem & Ind* p974-5 Ag 2 '58
- Qualitative and quantitative determination of aliphatic carbonyl compounds as 2,4-dinitrophenylhydrazones. K. J. Monty, *bibliog Anal Chem* 30:1350-2 Ag '58
- Spectrophotometric determination of carbonyl oxygen. F. H. Lohman, *bibliog Anal Chem* 30:972-4 My '58
- CARBONYL fluoride**
Trifluoromethyl hypofluorite; its decomposition and its reaction with carbonyl fluoride to form perfluorodimethyl peroxide. R. S. Porter and G. H. Cady, *bibliog Am Chem Soc J* 79:5628-31 N 5 '57

CARBONYL group

- Activation energies of the hydrolysis of esters and amides involving carbonyl oxygen exchange. M. L. Bender and others, *bibliog Am Chem Soc J* 80:1044-8 Mr 5 '58
- Carbonyl groups in cellulose and color reversion; hypochlorite bleaching and color reversion. W. H. Rapson and others, *Tappi* 41:442-7 Ag '58
- Carbonyl reactions; acidity and temperature dependence in the condensation of anisaldehyde and methyl ethyl ketone. D. S. Noyce and L. R. Snyder, *bibliog Am Chem Soc J* 80:4324-7 Ag 20 '58
- Carbonyl reactions; the kinetics of the acid-catalyzed reaction of anisaldehyde with methyl ethyl ketone. D. S. Noyce and L. R. Snyder, *bibliog Am Chem Soc J* 80:4033-7 Ag 5 '58
- Carbonyls from irradiated proteins. *Chem & Eng N* 36:50-1 Ap 7 '58
- Donor characteristics of the carbonyl group. D. Cook, *bibliog Am Chem Soc J* 80:49-55 Ja 5 '58
- General vs. specific acid-base catalysis in strong mineral acid solution; aromatic decarbonylation. W. M. Schubert and P. C. Myhre, *bibliog Am Chem Soc J* 80:1755-61 Ap 5 '58
- Infrared carbonyl band intensity in some substituted ethyl acetates. T. L. Brown, *bibliog Am Chem Soc J* 80:3513-15 J '20 '58
- Mechanism of carbonyl-methylene condensations. S. Patai and others, *Chem & Ind* p 1671-2 D 28 '57

CARBONYL group—Continued

New way to carbonyl reduction; diphenyltin dihydrides reduce carbonyls. *Chem & Eng N* 36:40 Ag 25 '58

Transannular nitrogen-carbonyl interaction in cyclic aminoketones and optical rotatory dispersion. N. J. Leonard and others, *bibliog Am Chem Soc J* 80:4858-62 S 20 '58

CARBONYL halides

Aliphatic halogen compounds; conversion of carbonyl halides into tetrahalomethanes. R. L. Hasselidine and H. Iserson, *bibliog Am Chem Soc J* 79:580-4 N 5 '57

CARBOXAMIDES. See Amides**CARBOXYL group**

Measurement of very slow reaction rates; decarboxylation of alanine. D. Conway and W. F. Libby, *bibliog diag Am Chem Soc J* 80:1077-84 Mr 5 '58

Reaction rates of polyelectrolyte derivatives; effect of neighboring carboxyl on the reactivity of *p*-nitroaniline groups. E. W. Westhead, Jr. and H. Morawetz, *bibliog Am Chem Soc J* 80:237-42 Ja 5 '58

Stereochemistry of ketonization; decarboxylation of 2-phenylcyclohexane-1,1-dicarboxylic acid. H. E. Zimmerman and F. W. Cutshall, *bibliog Am Chem Soc J* 80:2893-6 Je 5 '58

Studies on the oxidation of Assam coal; decarboxylation reaction. M. M. Roy, *J Ap Chem* 7:626-9 N '57

CARBOXYLATES

Migration of carboxylate groups in aromatic systems. J. I. Jones and others, *bibliog Chem & Ind* p659-60 My 31 '58

Polymeric basic beryllium carboxylates. C. S. Marvel and M. M. Martin, *bibliog diag Am Chem Soc J* 80:619-22 F 5 '58

Proximity effects; the reaction of phenylmagnesium bromide with methyl cyclooctene-1-carboxylate. C. Cope and M. Brown, *bibliog Am Chem Soc J* 80:2859-64 Ja 5 '58

Sulfinyl carboxylates. R. E. Putnam and W. H. Sharkey, *bibliog Am Chem Soc J* 79:6526-9 D 20 '57

Synthesis of diisopropylidene ethylenetetracarboxylate. H. E. Snyder and C. W. Kruse, *bibliog Am Chem Soc J* 80:1942-4 Ap 20 '58

CARBOXYLATION

Mechanism of the thermal rearrangement of potassium phthalate and of the carboxylation of potassium benzoate. F. Sorm and J. Ratusky, *Chem & Ind* p294-5 Mr 8 '58

CARBOXYLIC acids

Bridged polycyclic compounds; the bromination of quadricycloid [2,2,1,0^{2,4},0^{3,6}]heptane-2,3-dicarboxylic acid. S. J. Cristol and R. T. Lalonde, *bibliog Am Chem Soc J* 80:4355-7 Ag 20 '58

Bridged polycyclic compounds; the photoisomerization of bicyclo[2,2,1]hepta-2,5-diene-2,3-dicarboxylic acid to quadricycloid [2,2,1,0^{2,4},0^{3,6}]heptane-2,3-dicarboxylic acid. S. J. Cristol and R. L. Snell, *bibliog Am Chem Soc J* 80:1950-2 Ap 20 '58

Dibutyltin dicarboxylic acid esters. T. M. Andrews and others, *Am Chem Soc J* 80:4102-4 Ag 5 '58

d-3-Methylcyclopentane-1,2-dicarboxylic acids and the configurations of the nepetic acids. R. B. Bates and others, *bibliog Am Chem Soc J* 80:3413-20 Ji 5 '58

Hydrolysis andolation of Th(IV) chelates of polyaminopolycarboxylic acids. R. F. Elogucki and A. E. Martell, *bibliog diag Am Chem Soc J* 80:4470-4 Ag 20 '58

Hypotensive agents; aminoalkyl esters of piperidinecarboxylic acids and their reversed ester derivatives. J. H. Biel and others, *Am Chem Soc J* 79:6184-7 D 5 '57

New synthesis of α -aminocarboxylic acids; abstract. A. N. Nesmeyanov and others, *Ind Chem* 34:98 F '58

Nitrogen analogs of ketenes; reactions with carboxylic acids. C. L. Stevens and M. E. Munk, *bibliog Am Chem Soc J* 80:4065-9 Ag 5 '58

Observation of rearrangement during hydrogenolysis; a new method of preparing bridgehead carboxylic acids. H. Kwart and G. Noll, *bibliog Am Chem Soc J* 80:248-9 Ja 5 '58

Perfluoropropyl-substituted thia-, oxo- and aza-dicarboxylic esters. E. T. McBee and others, *bibliog Am Chem Soc J* 80:1719-21 Ap 5 '58

Reaction of α -ethoxymethylene-carboxylic esters with some cyclic amides. H. Antaki, *bibliog Am Chem Soc J* 80:3066-9 Je 20 '58

Reactions of hindered α - and β -substituted acids; monocarboxylic bromoacids. W. R. Vaughan and A. C. Schoenthaler, *bibliog Am Chem Soc J* 80:1956-63 Ap 20 '58

Reactions of silyllithium compounds with derivatives of carboxylic acids; triphenylsilyllithium and acetyl chloride. D. Wittenberg and H. Gilman, *bibliog Am Chem Soc J* 80:4529-31 S 5 '58

Relationship between pyrrolidonecarboxylic acid and an off-flavor in beet puree. R. S. Shallenberger and J. C. Moyer, *bibliog J Agri & Food Chem* 6:604-6 Ag '58

Relative strengths of forty aromatic carboxylic acids in benzene at 25° C. M. M. Davis and H. B. Hetzer, *J Res Nat Bur Stand* 60:569-92 bibliog(p591-2) Je '58

Science for electroplaters; dibasic (dicarboxylic) acids. L. Serota, *Metal Finishing* 56:67-70 S '58

Stereochemistry of bromination of α -substituted cyclohexanecarboxylic acids. J. Klein and G. Levin, *bibliog Am Chem Soc J* 80:1707-10 Ap 5 '58

Stereochemistry of ketonization; decarboxylation of 2-phenylcyclohexane-1,1-dicarboxylic acid. H. E. Zimmerman and F. W. Cutshall, *bibliog Am Chem Soc J* 80:2893-6 Je 5 '58

Syntheses by free-radical reactions; a new synthesis of carboxylic acids. D. D. Coffman and others, *bibliog Am Chem Soc J* 80:2882-7 Je 5 '58

Synthesis of a series of substituted *trans*-2-phenylcyclopropanecarboxylic acids. E. N. Trachtenberg and G. Odian, *bibliog Am Chem Soc J* 80:4015-18 Ag 5 '58

Analysis

Colorimetric determination of carboxylic acid derivatives as hydroxamic acids. V. Goldenberg and P. E. Spoerri, *bibliog Anal Chem* 30:1327-30 Ag '58

Determination of 1,1'-ferrocene dicarboxylic acid in presence of ferrocene monocarboxylic acid by infrared spectroscopy. E. F. Wolfarth, *Anal Chem* 30:185-6 F '58

Spectra

Characteristic integrated intensities of bands in the infrared spectra of carboxylic acids. J. Wenograd and E. A. Spurr, *bibliog Am Chem Soc J* 79:5844-8 N 20 '57

CARBOXYMETHYL cellulose

Study of improved strength in paper made from low-substituted carboxymethylcellulose pulps. K. K. Talwar, *bibliog Tappi* 41:207-15 My '58

Analysis

Detection of carboxymethyl cellulose in rosin size and paper; abstract. F. Blechinger, *Paper Ind* 40:251-2 Ji '58

CARBOXYMETHYLATION

Nonaqueous carboxymethylation of cotton. R. M. Reinhardt and others, *bibliog J Textile Res* 7:2787-8 N '57

Physical properties of chemically modified cottons; effects of partial carboxymethylation. J. N. Grant and others, *bibliog Textile Res J* 28:60-6 Ja '58

CARBOXYPEPTIDASE

Release of zinc from carboxypeptidase and its replacement. B. L. Vallee and others, *Am Chem Soc J* 80:4750-1 S 5 '58

CARBURETORS

Carburetor vapor loss. J. T. Wentworth, *diag S A E J* 66:50-3 My '58

Manufacture

Ford makes own carbs. *Jl Steel* 141:67-8 D 2 '57

New line has a three-year payoff; Zenith carburetor div., Bendix aviation corp. L. E. Fraver, *Jl Steel* 143:96-7 Ag 18 '58

CARBURIZATION. See Case hardening**CARBUTAMIDE**

Carbutamide for schizophrenia; abstract. I. Frost, *Drug & Cosmetic Ind* 82:517 Ap '58

CARD system in business

File system used for handling sales records of rubber products. L. C. Pape, *Jl Rubber Age* 83:488-9 Fe '58

Parts control by push button; Waukesha motor company's use of business machines. O. Pederson, *Jl Diesel Power* 36:228-9 My '58

CARDANOL

Cashew nut shell liquid; an investigation of the geometrical configurations of the olefinic components of cardanol and some observations concerning ginkgol. B. Loev and C. B. Dawson, *bibliog Am Chem Soc J* 80:643-5 F 5 '58

CARDIACS. See Heart—Diseases

CARDING

How Rhyné-Houser cards and spins Dacron-cotton blends. *il* Textile World 107:116-19 D '57

See also

Cotton carding
Wool carding

CARDING machines

New carding equipment speeds manhour production. *il* Textile World 108:52-4 O '58

Maintenance and repair

They conquered the bends! Canton cotton mills. *il* Textile Ind 122:83-5 Je '58

CARDIOGRAPH

See also

Ballistocardiograph
Electrocardiograph

CARDS**Testing**

IBM paper friction tester. H. O. George and J. E. Arnoult. *il* diags Tappi 40:972-4 D '57

CARENE

Revised structure for Δ^2 -carene-1:2-epoxide. E. F. Blanchard, Jr. *bibliog* Chem & Ind p293-4 Mr 8 '58

CARGO handling

Containers acquiring a new look? *il* Marine Eng/Log 63:57-9 Ag '58

How boom calculations are simplified. H. Benford. *diags* Marine Eng/Log 63:80-1+ Ap '58

See also

Loading and unloading—Ships

CARGO hooks. See Helicopters—Cargo hooks

CARGO ships. See Freight ships

CARIBBEAN region

See also

Petroleum industry and trade—Caribbean region

CARILLONS

Bells are ringing. H. Lawrence. *il* Audio 42:50-1 J1 '58

CARILLOY. See Steel alloys

CARLETON university

New engineering program. *il* Eng J 41:87-8 F '58

CARLISS, Oswald S.

ASME elects five to grade of Fellow member. *Mech Eng* 80:147 Mr '58

CARLL, John Franklin, award

Ernest O. Thompson to receive award. *J Pet Tech* 10:48 S '58

CARLSON, George E.

Sketch. C. Kirkpatrick. *por* Rubber Age 83:120 Ap '58

CARNATIONS**Transportation**

Savings in shipping carnations: new shipping system based on polyethylene film. *il* Mod Plastics 35:108-9 F '58

CARNAUBA wax

Carnauba waxes strong in spite of competition from synthetics; illustrations with text. *Soap & Chem Spec* 34:104-5 My '58

Analysis

Carnauba wax analysis. C. S. Treacy and A. S. Cascione. *diags* Soap & Chem Spec 34:97+ O '58

CARNITINE. See Vitamins—Vitamin B₁

CARNOT cycle

New appreciation of the memoir of Carnot. J. H. Potter. *bibliog* diags Am Soc Naval Eng J 70:297-304 My '58

Refresher look at the Carnot cycle. J. H. Potter. *bibliog* diags Power Eng 62:72-4 Ja '58

CARNOTITE

Early carnotite mining in Colorado. K. C. Nicholson. *il* Eng & Min J 159:100-1 Je '58

Synthesis and properties of carnotite and its alkali analogues. P. E. Barton, Jr. *bibliog* Am Mineralogist 43:799-817 S '58

CAROTENE

Availability to the chick of the carotene of stabilized alfalfa meal. D. B. Parrish and H. L. Mitchell. *bibliog* J Agri & Food Chem 6:621-2 Ag '58

Carotene balances on boys in Ruanda where vitamin A deficiency is prevalent. O. A. Roels and others. *bibliog* J Nutrition 65:115-27 My '58

Carotene status argued. *Chem & Eng N* 36:44+ Mr 31 '58

Carotene utilization and cholesterol metabolism as influenced by added choline and vitamin B₁₂ to diets containing yeast or a synthetic vitamin mixture. H. L. Mayfield and R. R. Roehm. *J Nutrition* 64:571-86 *bibliog*(p585-6) Ap '58

Coupled oxidation of β -carotene by a linoleate-lipoxygenase system and by autoxidizing linoleate. J. Friend. *bibliog* Chem & Ind p687-8 My 17 '58

Effects of exercise on blood (plasma) concentrations of vitamin A, carotene and tocopherols. R. W. Hillman and others. *bibliog* J Nutrition 64:605-13 Ap '58

Microbiological production of beta-carotene in shaken flasks. R. F. Anderson and others. *bibliog* J Agri & Food Chem 6:543-5 J1 '58

Some cleavage products of the boron trifluoride complexes of α -carotene, lycopene and γ -carotene. W. V. Bush and L. Zechmeister. *Am Chem Soc J* 80:2991-9 Je 20 '58

Analysis

Variation in carotene content of sweet potatoes. B. D. Bzeil and M. S. Wilcox. *bibliog* J Agri & Food Chem 6:61-5 Ja '58

CAROTENOIDS

Carotenoid stability in stored dehydrated carrots. G. Mackinnay and others. *bibliog* Food Tech 12:164-6 Mr '58

Plant carotenoids with particular reference to their stability in food preservation; abstract. A. E. Joyce. *Chem & Ind* p693-70; Discussion. 670-1 Je 7 '58

Stabilization of alfalfa carotenoids with N,N' -diaryl-alpha-omega-diaminoalkanes. L. A. Gugliemelli and H. L. Mitchell. *bibliog* J Agri & Food Chem 6:126-8 F '58

Analysis

Partition separation of carotenoids by silica-methanol columns. A. E. Purcell. *bibliog* Anal Chem 30:1049-51 Je '58

CARPENTER Lapelloy C. See Alloys, Heat resisting

CARPET backing fabrics. See Lining fabrics

CARPET factories

Renewal and growth at Roxbury carpet co. J. Campbell. *Mod Textiles Mag* 39:33-4+ O '58

Warped wood shell roofs quarter acre; Royal Wilton carpet co.'s rug factory. *il* Eng N 160:53 Mr 27 '58

Control equipment

Automation in a carpet mill. L. Walter. *il* Textile Ind 122:93-5 Je '58

Equipment

Bulk handling; Beattie carpet and rug co. *il* Plant Eng 12:107 O '58

How Velvetone makes and finishes tufted rugs. *il* Textile World 107:128-9+ D '57

Knitted carpets roll forward. *il* Mod Textiles Mag 39:49+ Ag '58

CARPET industry**England**

Tufteds in England. P. Abbenheim. *il* Textile Ind 122:82-5 Ja '58

Tufting moves forward in England, too. *il* Mod Textiles Mag 39:31-2 J1 '58

CARPETS

Carpet with a bounce; foam rubber padding. *il* Textile Ind 122:110+ Je '58

Here's a new carpet yarn system; combined jute and worsted system. P. Abbenheim. *il* Textile Ind 122:181-2+ O '58

Man-made fibers take over carpets. *il* Mod Textiles Mag 39:33+ Mr '58

New nylon carpet textures. I. R. Needle and M. Romer. *il* Mod Textiles Mag 39:56-8 O '58

Recent developments in lofted acetate yarns for apparel and home furnishing fabrics; lofted carpet yarns. R. E. Semmler and others. *il* Textile Res J 28:765-8 S '58

Warning on nylon waste in rugs. *Mod Textiles Mag* 39:40 J1 '58

Why not print your tufted carpets? P. Abbenheim. *Textile Ind* 122:117+ Je '58

See also

Dyes and dyeing—Carpet yarn

Manufacture

Bedspreads join carpets as profitable tufted textiles. *Textile World* 108:93-4 F '58

Improved machines and yarns put tufted carpets on top. *Textile World* 108:64-5 O '58

Lofted acetate in carpets. W. I. Langstaff and others. *il* diags Mod Textiles Mag 38:35-6+ N '57

Permanent, non-skid backing for rugs. *Rubber Age* 83:295 My '58

CARPETS—Manufacture—Continued

Spinning nylon carpet yarns on the American worsted system. *Textile Ind* 122:119 Mr '58
Tufting moves forward in England, too. *il Mod Textiles Mag* 39:31-2 J1 '58

CARQUINEZ Strait bridge. See San Francisco Bay bridges**CARRIER current control**

Carrier frequency clock control; U.S. military academy, West Point, N.Y. *il plan diags Elec Constr & Maint* 57:98-101 Je '58
Central heat control for huge army base; Ford Ord, Calif. *il Eng N* 160:37-8 Mr 13 '58

Compensator distance relaying; carrier control system. H. W. Lensner and others. *il diags Power Apparatus & Systems* p388-92; Discussion, 392-5; Reply, 401-2 Je '58

Coupling methods for power line carrier systems. D. E. Jones and P. W. Waddington. *il diags Power Apparatus & Systems* p 1284-F '58; Abstract. *Elec Eng* 77:64 Ja '58

Improve pilot-wire relaying with modified audio tone. G. W. Fox. *il diags Elec World* 149:58+ My '58

Line current controls remote tv receiver. J. R. Banker and C. H. Wood, jr. *diags Electronics* 31:68-9 Ag 15 '58

Line relay protection simplified. R. Zimering. *diags Elec World* 149:53-4 Ja 6 '58

New method of frequency error correction in carrier systems; frequency-correcting circuit. B. R. Stachiewicz. *diags Com & Electronics* p 176-80 My '58

Northern states power co. sidesteps carrier trouble. L. C. LaFourette and K. K. Dols. *il diags Elec World* 149:51-3 F 10 '58

Potomac Edison likes transistorized carrier relaying. E. E. Scheneman. *il diags Elec World* 149:57-9 Ap 14 '58; Westinghouse *Eng* 18:93-101 J1 '58

Protection equipment for power company communication lines. D. L. Brown and L. N. Sherban. *il diags Power Apparatus & Systems* p 1411-19 F '58

Telemetering interrates control. L. R. Larson and R. W. Brown. *diags Elec World* 149:62 Ja 20 '58

CARRIER current telephone. See Telephone, Carrier current**CARROTS, Dried**

Carotenoid stability in stored dehydrated carrots. G. Mackinney and others. *bibliog Food Tech* 12:164-6 Mr '58

CARRY home containers. See Containers, Carry home**CARS**

See also

Freight cars
Mine cars
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Air conditioning

See also

Cars, Subway—Air conditioning

Axles

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Bearings

Analysis of equilibrium operating temperatures of railroad journal bearings. W. M. Keller and G. L. Pigman. *Lub Eng* 14: 108-15 Mr '58

Automatic controls guarantee top-quality carburizing; Timken roller bearing co.'s railroad bearing plant. F. M. Unterweiser. *il Iron Age* 182:61-3 J1 '58

Breaking the hot-box barrier; Timken tools for tripled railroad bearing market. *il Am Mach* 102:94-5 Je 2 '58

More roller bearings for freight cars; Timken roller bearing co. *il Iron Age* 181:136-7 My 22 '58

New bearing fills railroad need; cartridge-type units of copper alloy. *il Iron Age* 181:39 My 15 '58

Roller bearings for the Nation's rolling stock. *il Mach* 64:160-3 J1 '58
Servicing roller freight; overheated journals or hot boxes. *il Comp Air Mag* 63:21-2 Ja '58

Buffers

Johnston buffer; an item of British steel foundry history. *il diags Metallurgia* 57: 143-7 Mr '58

Electric equipment

Redesign cuts generator bulk by a third. L. T. Loforese. *il Elec Manuf* 62:118 J1 '58

Riding qualities

New method of assessing the riding of vehicles and some results obtained; abstract. J. C. Loach. *Engineering* 185:186 F '58
Riding comfort of railroad passenger cars. W. E. Burdick. *bibliog il diags Mech Eng* 80:81-4 F '58; Discussion, 80:94-6 S '58

CARS, Electric railroad

Electric trains for South African railways. *il diags Engineering* 205:398-400 Mr 14 '58

Metro-Cammell railway coaches with load-carrying bodies. *il diags Engineering* 185: 344-6 Mr 14 '58

Multiple-unit-rectifier motive power; inductive co-ordination considerations on the New York, New Haven & Hartford railroad. L. J. Hibbard and others. *maps diags Applications & Ind* p416-25; Discussion, 425-6 Ja '58

See also

Cars, Subway

Street cars

CARS, Freight. See Freight cars

CARS, Steel

Plastics, better use of stainless produce lightweight railway car; award of merit in Materials in design engineering competition. *il Materials in Design Eng* 47: 140-1 Ap '58

Manufacture

Welding methods fabricate railroad cars. *il Mach* 65:165-6 O '58

CARS, Subway

London underground railway rolling stock. *Engineering* 205:109 Ja 17 '58

Rubber-tired subway train designed to run on wooden tracks; illustrations and drawings with text. *Machine Design* 29:144-5 D 12 '57

Air conditioning

Subway cars are air conditioned. *diags Air Cond Heat & Ven* 55:64 Ag '58

Ways to effectively air condition rapid transit cars. C. W. McElroy and D. W. Brown. *il diags Refrig Eng* 66:42-5+ Ap '58

Control

First year's operating experience with new control equipment on 100 New York city subway cars. G. W. Weber. *il diags Applications & Ind* p34-7 Mr '58

CARTAGENA, Colombia

Engineer goes abroad. *il Pet Eng* 30:B58-9+ F '58

CARTOONS

See also

Moving pictures—Animated cartoons

CARRIDGE cases, Plastic

Acrylonitrile-butadiene-styrene joins the artillery; injection molded shell cases for 105-mm. howitzers. *il Mod Plastics* 35:96-7 F '58

Cartridge casing opens new vistas for plastics industry. *il Product Eng* 28:108-9 D 9 '57

CARRIDGE cases, Steel

Steel case program; abstract. P. H. Burdett. *Metal Prog* 73:198+ My '58

CARTS

Put wheels on your shipments; GE Blooming-ton plant chain conveyor tows carts through warehouse. *il Mill & Factory* 62: 95 Ap '58

CARTWRIGHT, William Frederick

Sketch, por Iron & Steel Inst J 189:front My '58

CARVER, Emmett K.

Obituary. R. Fordyce. *por SMPTE J* 67: 636-7 S '58

CASCADE transformers. See Electric transformers**CASE hardening**

Carburized drill rods have long life. F. R. Anderson. *il Eng & Min J* 158:94 N '57

Controlling carburized case depth by a super-ficial Rockwell hardness test. R. L. Sufredini. *Materials in Design Eng* 47:118-19 Ja '58

Distribution of residual stresses in carburized cases and their origin; abstracts. D. P. Koistinen. *Metal Prog* 72:250+ O '57; Steel 141:142+ N 4 '57

Flame hardening machine. *il Metallurgia* 56: 301 D '57

Flame-hardening machine. R. A. Butler. *il diags Plant Eng* 12:106-7 Ag '58

Hardening automotive parts in furnaces with vertical radiant tubes. K. Rose. *il Automotive Ind* 119:48-9 J1 15 '58

CASE HARDENING—Continued

Heat-treatment of mild steel in raw town-gas and ammonia atmospheres. M. A. H. Howes and E. Mitchell. *bibliog* *il* Iron & Steel Inst J 187:177-90 N '57

High temperature carburizing is practical. *il* Steel 143:98-100 Ag 4 '58

High-temperature carburizing takes half the time. P. M. Unterweiser. *il* Iron Age 181:123-5 My 22 '58

Materials for gears. N. E. Woldman. *il* Materials in Design Eng 46:151-5 N '57

Pack carburizing and annealing of 4% per cent Ni-Cr-Mo case hardening steel. C. Dawes. *il* Metallurgia 58:3-9 J1; 69-75 Ag '58

Study of temperature uniformity in heat treating. H. N. Ipsen. *il* diag Metal Prog 73:89-92 My '58

Surface fatigue of carbo-nitrided steel. G. W. Powell and others. *il* diag Metal Prog 73:67-9 Mr '58

Surface treatment of high-speed steel tools: abstract. H. D. Weekener. *Tool Eng* 40:187-8 Je '58

Two-stage casehardening reduces warpage. R. Buyea. *il* diag Am Mach 102:111-12 Mr 24 '58

Electric hardening

Application of induction heating to the surface hardening of steel. J. Hamilton. *il* diag Metallurgia 55:3-7 Ja '57; *Abstract. Metal Prog* 73:190-4 Ap '58

Case history on induction hardening large drive gear. V. H. Pagano and C. J. Kropp. *il* Metal Prog 74:86-90 S '58

Combine nitriding, induction hardening on low-alloy steel. P. M. Unterweiser. *il* Iron Age 181:122-4 Je 19 '58

Induction hardening as a means of increasing the resistance to wear of internal combustion engines and machinery: abstract. G. W. Seulen. *Metal Prog* 73:128 Mr '58

Slender shafts hardened and ground without distortion. *il* diag Am Mach 102:142-3 My 19 '58

Spark plus arc hardens steel in Russia. I. I. Kichkin. *il* diag Am Mach 101:97-9 D 2 '57

Gas carburizing

Automatic controls guarantee top-quality carburizing; Timken roller bearing co.'s railroad bearing plant. P. M. Unterweiser. *il* Iron Age 182:61-9 J1 3 '58

Automatic marquenching solves distortion problem. *il* Mach 64:136-9 Ap '58

Nitriding process

Combine nitriding, induction hardening on low-alloy steel. P. M. Unterweiser. *il* Iron Age 181:122-4 Je 19 '58

Harder stainless practical; nitriding. R. N. Libsch. *il* Steel 142:85-6 Je 30 '58

New facts on the nitriding of 4140 and 4340. A. J. Schwarzkopf. *il* Iron Age 181:90-3 My 29 '58

New horizons in nitriding: abstract. H. C. Knerr. *Metal Prog* 72:188-4 D '57

Nitriding of large forgings. C. W. Johnson. *il* Metal Prog 72:99-101 D '57

Properties of materials; nitriding steels. Materials in Design Eng 48:65 Mid-O '58

Solubility of nitrogen in iron-chromium alloys. E. T. Turkdoran and S. Ignatowicz. *bibliog* Iron & Steel Inst J 188:242-7 Mr '58

CASEIN

Phosphopeptones obtained from α -, β - and whole casein by partial hydrolysis with pepsin. M. L. Groves and others. *bibliog* Am Chem Soc J 80:716-18 F 5 '58

Separation and amino acid composition of a pure phosphopeptone prepared from β -casein by the action of trypsin. R. F. Peterson and others. *bibliog* Am Chem Soc J 80:95-9 Ja 5 '58

See also

Whey

CASHEW NUTS

Cashew nut shell liquid: an investigation of the geometrical configurations of the olefinic components of cardanol and some observations concerning zinkgol. B. Loev and C. R. Dawson. *bibliog* Am Chem Soc J 80:643-5 F 5 '58

Preparation and properties of cation-exchange resin from cashew nut shell liquid. N. Krishnaswamy and others. *Chem & Ind* p 1455 N 2 '57

CASIMIROA

Constituents of casimiroa edulis Liave et Lex; the structure of casimiroin. A. Meisels and F. Sondheimer. *bibliog* Am Chem Soc J 79:6328-33 D 5 '57

CASKETS. See Coffins**CASSITERITE**

Minerals of the cassiterite-bearing veins at Irish Creek, Va. and their paragenetic relations. J. J. Glass and others. *bibliog* *il* maps Econ Geol 53:65-84 Ja '58

CAST IRON

Cast chain link wins redesign contest. *il* Foundry 86:152 F '58

Castings for longer jobs. C. F. Joseph. *il* Metal Prog 73:104-3 My '58

Determining tool life on nodular cast iron. G. Hug. *il* diag Tool Eng 40:97-103 My '58

Direct chloride process for tinning cast iron. C. J. Thwaites and J. J. Day. *bibliog* *il* diag Metallurgia 56:263-70 D '57

Double-end machining of unwieldy castings. R. Kennedy. *il* Mach 64:140-1 Ap '58

Ductile iron as a valve material. F. C. Monkman. *il* Gas Age 122:25-64 J1 24 '58

Ductile iron in use for chemical pumps. R. R. Rhodes. *il* Chem Eng Prog 64:116 S '58

Ductile iron moves in. *il* Steel 141:110-4 D 16 '57

Effect of grain size on the mechanical properties of ferritic nodular irons; abstract. G. N. J. Gilbert. *Metal Prog* 73:180-4 Je '58

Electric motor redesign converts to castings. *il* Foundry 86:137-8+ O '58

Ferrous castings stretch your dollars. *Steel* 142:70-4 Ja 13 '58

Gray iron has unique wear-resistant properties. J. R. Driear. *il* diag Foundry 86:62-3 Ag '58

High-chromium-molybdenum white iron for abrasion-resistant castings. T. E. Norman. *il* Foundry 86:128-4 Je '58

History, manufacture and properties of pearlitic malleable iron. M. Tilley. *bibliog* *il* Foundry 86:64-9 Ag '58

How to braze cast iron. *il* Oil & Gas J 55:126 O 28 '57

How to get more for your metalworking dollar; ferrous castings. *il* diag Iron Age 181:127-42 F 13 '58

Introduction to mold metals; abstract. E. R. Flatter. *Glass Ind* 39:380-1 J1 '58

Inverse greyness in white iron castings related to delayed cooling near the surface. G. Ostberg. *bibliog* Iron & Steel Inst J 189:57 My '58

Materials for gears. N. E. Woldman. *il* Materials in Design Eng 46:157-8 N '57

Metal selector; ferrous casting; properties and typical applications. *Steel* 141:174-5 O 23 '57

Metallurgy makes the difference. F. G. Seifing. *il* Diesel Power 35:35-9 N '57

Microstructures of cast crystals. *Engineer* 204:821 D 6 '57

New horizons in ductile cast iron; abstract. L. J. Greene. *Metal Prog* 72:182-4 D '57

New material for valves, regulators and meters? Reliantite, a ductile iron. *il* Gas 34:64-7 Je '58

Pearlitic malleable iron. J. H. Lansing. *il* Metal Prog 73:102-3 My '58

Properties of materials; irons and steels. Materials in Design Eng 48:32-6 Mid-O '58

Thin permanent-mold castings; abstract. A. M. Petrichenko. *Metal Prog* 73:198-9 Ja '58

Why and where to use centrifugal castings. J. L. Everhart. *bibliog* *il* diag Materials in Design Eng 48:89-93 Ag '58

See also

Chilled iron

Foundry practice

Gray iron founders society

Iron founding

Pig iron

Gas content

Effect of gas flushing on the consumption of magnesium in the production of nodular iron; abstract. W. Patterson. *Metal Prog* 73:198-9 Mr '58

Graphitization

Influence of understress on the fatigue properties of flake graphite and nodular graphite cast irons; abstract. G. N. J. Gilbert and K. B. Palmer. *Metal Prog* 73:140-1 Mr '58

Mechanism of the effect of hardening on graphitization; abstract. K. P. Bunin and E. N. Pogrebnoy. *Aeronautical Eng* R 16:74 N '57

Mechanism of the influence of preliminary quenching of white cast iron on the formation of graphite nuclei; abstract. A. F. Landa and V. D. Yakhmina. *Metal Prog* 73:152-3 Je '58

CAST iron—Graphitization—Continued

Solid state graphitization in iron-carbon-silicon alloys. A. Taub. *Foundry* 86:82-3 O '58

Titanium in nodular cast iron. A. Tominaga and others. *Metall Prog* 74:116 Ag '58

Strength

Fatigue properties of gray iron. F. R. Brotzen and J. F. Wallace. *bibliog* *Machine Design* 29:154-8 D 12 '57

Temperature effect

Updating the hi-temperature story on gray iron castings. C. F. Walton and others. *Product Eng* 29:52-7 Ja 20 '58

Testing

Case against the tension test. J. B. Caine. *bibliog* *Foundry* 86:36-32 N '57

Flow and fracture of nodular cast iron. W. R. Clough and M. E. Shank. *bibliog* *ASME Trans* 79:1911-20 N '57

Impact and fatigue properties of ductile cast iron. C. F. Walton. *bibliog* *Machine Design* 30:128-31 Ja 23 '58

Impact resistance of gray iron. E. R. Brotzen and J. F. Wallace. *bibliog* *Machine Design* 29:55-7 D 26 '57

Magnetic particle inspection of gray iron castings. A. Lindgren. *Foundry* 86:178-9+ F '58

Modified keel block design for ductile iron acceptance tests. G. McGlothlin. *diags Metall Prog* 73:126+ My '58

Welding

Arc vs gas welding on gray cast iron; which should it be? J. C. Pellegrino. *Welding Eng* 43:48 J1 '58

CAST iron pipes. See Pipes, Cast iron

CASTERS

Case for grooved wheel casters. R. D. Mount and F. E. Hummel. *Mod Materials Handling* 13:120-2 S '58

Flexello jacking castor. *Engineer* 205:902 Je 13 '58

Industrial know-how handbook; wheels and casters. *Mill & Factory* 62:MH21 My '58

Keeping your casters on the job. *Mod Materials Handling* 13:102 Je '58

CASTING, Centrifugal

Centrifugal casting upgrades stainless. K. H. Pierce. *Steel* 143:69-70 J1 23 '58

How centrifugal casting produces precision shapes. D. E. Parker. *Cer Ind* 69:97-8 N '57

Why and where to use centrifugal castings. J. L. Everhart. *bibliog* *diags Materials in Design Eng* 48:89-93 Ag; 93-5 S '58

CASTING machines

Designing a large tonnage continuous casting plant. H. E. Skelley and R. Easton. *bibliog plans diags Iron & Steel Eng* 35:131-42 My '58

See also

Die casting machines

CASTINGS

Cast-in tubing. H. L. Kee. *Product Eng* 29:76-9 My 12 '58

Casting; forum on technical progress. *Steel* 142:252-4+ Ja 6 '58

Casting properties of ferrous and nonferrous alloys; tables. *Product Eng* 28:D6-7 Mid-O '57

Castings cut mower costs. *Product Eng* 29:89 Ap 23 '58

Designing vacuum plaster-mold castings. W. G. Wilkins. *Machine Design* 29:106-8 N 23 '57

Forms and shapes of materials. *Materials in Design Eng* 48:296-9 Mid-O '58

Foundry progress cited in casting design conferences; General Motors corp. *Foundry* 86:138+ Mr '58

Heat and corrosion resistant alloy castings conference, 3d, Harbor Island, N.C. *Steel* 142:120 My 26 '58

Improved casting design can cut foundry costs. G. A. Pealer. *Foundry* 86:120-1 Mr '58

Improved precision castings for waveguides. *Wireless World* 64:439 S '58

Light metals; abstracts of AFS papers. *Foundry* 86:148+ Ag '58

Metallography solves a tough machining problem. A. J. Belli. *Iron Age* 181:96-8 E 20 '58

One step casting of complete heating element. *diags Elec Manuf* 61:156+ F '58

Painting rough metal and castings. K. F. Schreiber. *Ind Finishing* 34:94-6+ F '58

Production nuggets; information from American machinist and other publications; developments to watch; pressworking, molding, casting. *diags Am Mach* 102:D 1-5 Mid-S '58

Recent developments in the manufacture of castings. J. L. Rice and others. *bibliog plan diags Inst Mech Eng Proc* 172 no 4:133-51, pl 1-10; Discussion. 152-8; Reply. 158-60 '58

Slip 'em yourself castings. *Am Mach* 102:76-7 Je 30 '58

Slip casting of metals, ceramics, and cermets. E. E. Kemps and others. *bibliog* *Am Cer Soc Bul* 37:334-9 J1 15 '58

Super-strong light alloy castings. M. C. Flemings and H. F. Taylor. *bibliog* *Machine Design* 30:22-4 Je 12 '58

See also

Die casting

Steel castings

Cleaning

Cleaner comes to castings, breaks bottleneck. S. Thaxton. *Plant Eng* 12:111 Ap '58

Coated abrasives grind all types of castings. G. G. Willson. *diags Foundry* 85:196-200 D '57

Cutting cleaning costs through preventive maintenance. T. F. Hameline. *Foundry* 86:164+ Ag '58

Torch cleans cast parts quickly; Atlantic steel castings co. *Iron Age* 182:116-17 S 25 '58

Torch saves time in removing riser stubs; Griffin wheel co. *Foundry* 86:164+ S '58

Defects

Centerline shrinkage. C. W. Ammen. *diags Foundry* 86:156+ Je '58

Repair

\$11.35 spent for nickel-core electrode saves \$1600 iron casting. H. Peacor. *Welding J* 36:1098-9 N '57

Porous castings made alright with non-ferrous metal powders. *diags Materials in Design Eng* 47:170-1 Ap '58

Weld reclaims outsize machine part; Cyclic welding. *Steel* 143:80 J1 7 '58

Specifications

Review casting specifications at ASTM's 61st annual meeting. *Foundry* 86:120 Ag '58

Testing

Autoradiography traces additives in metals. R. H. Herrmann. *Foundry* 86:121+ Ja '58

Case against the tension test. J. B. Caine. *bibliog* *Foundry* 85:86-92 N '57; 86:78-85 S '58

Quality control tests in the shell process. E. W. Jahn. *Foundry* 86:80-1 O '58

CASTOR beans

Isolation of ricin, ricinine, and the allergenic fraction from castor seed pomace from two different sources. G. R. Waller and S. S. Negl. *bibliog Am Oil Chem Soc J* 35:409-12 Ag '58

CASTOR oil

Castor polyols for urethane coatings. H. M. Metz and others. *bibliog diags Paint Oil & Chem R* 121:5-12 Ap 17 '58

Hydrogenation of fatty oils with palladium catalyst; hydrogenation of castor oil. M. Zajew. *bibliog Am Oil Chem Soc J* 35:475-7 S '58

CATALASE

Investigation of the catalytic mechanism of catalase and other ferric compounds with doubly O₂-labeled hydrogen peroxide. R. C. Jarnagin and J. H. Wang. *Am Chem Soc J* 80:786-7 F 20 '58

CATALOGS

Fisher revamps catalog. *Chem & Eng N* 36:126+ S 29 '58

Purveyors of exotic organics; Eastman organic chemicals catalogs. *Chem & Eng N* 36:56-8 J1 7 '58

CATALYSIS

Binuclear iron carbonyls and their significance as catalytic intermediates. H. W. Sternberg and others. *bibliog Am Chem Soc J* 79:6116-21 D 5 '57

Catalysis; editorial. *Comp Air Mag* 63:35 F '58

Catalysis of the H₂-D₂O exchange by aqueous buffer solutions. S. L. Miller and D. Rittenberg. *Am Chem Soc J* 80:64-5 Ja 5 '58

Copper salt catalysis of the air oxidation of reduced uranium compounds in carbonate-bicarbonate solutions. W. E. Clifford. *Am Chem Soc J* 80:245 Ja 5 '58

Deliberate speed; catalysis. H. Taylor. *Franklin Inst J* 264:433-41 D '57

CATALYSIS—Continued

- Effect of sound on heterogeneous catalysis. H. B. Wiener and P. W. Young, bibliog diags J Ap Chem 8:336-41 My '58
- General vs. specific acid-base catalysis in strong mineral acid solution; aromatic decarbonylation. W. M. Schubert and P. C. Myhre, bibliog Am Chem Soc J 80:1765-61 Ap '58
- Heterogeneous catalysis; annual review. M. J. Boudart and G. Parravano, bibliog (33 ref) Ind & Eng Chem 50:486-8 pt 2 Mr '58
- Imperfection dependence of the catalytic decomposition of H_2O_2 on Al_2O_3 . R. N. Tucker and P. Gibbs, diags J Ap Phys 29:1374-5 S '58
- Intramolecular bifunctional catalysis of ester hydrolysis. H. Morawetz and I. Oreskes, Am Chem Soc J 80:2591-2 My 20 '58
- Kinetics of low temperature metal-catalysed hydrocarbon oxidation. C. E. H. Bawn and D. P. Moran, bibliog Inst Pet J 44:290-5 S '58
- Mechanism of copper catalysis in insulating oil oxidation. C. N. Thompson, bibliog Inst Pet J 44:295-310; Discussion, 11 diags 310-17 S '58
- New way to determine chlorides in charge to catalytic reformer. C. Petty and R. Kung, diags Oil & Gas J 56:94-5+ Ag 25 '58
- Ortho-para catalysis in liquid-hydrogen production. D. H. Weitzel and others, bibliog flow sheet diags J Res Nat Bur Stand 60:221-7 Mr '58
- Reaction of aromatic aldehydes with *n*-butylamine; acid catalysis and substituent effects. G. M. Santerre and others, bibliog Am Chem Soc J 80:1254-7 Mr 5 '58
- Specific effects in acid catalysis by ion exchange resins; resins prepared from styrenesulfonic esters. C. H. Chen and L. P. Hammett, Am Chem Soc J 80:1329-31 Mr 20 '58
- Surface catalysis of the ortho- to para-conversion in liquid hydrogen by paramagnetic oxides on alumina. C. M. Cunningham and H. L. Johnston, bibliog Am Chem Soc J 80:2377-82 My 20 '58
- See also
Catalysts
Oxo process
- CATALYSTS**
- Appearance of FeC in a hydrocarbon synthesis catalyst. J. D. Louw and others, 11 Am Chem Soc J 79:5899-902 N 20 '58
- Catalyst caged. Chem & Eng N 36:46 Mr 10 '58
- Catalyst controversy; Ziegler and lithium-type catalysts run a dead heat in race for job of polymerizing isoprene. 11 Chem & Eng N 38:43-4 Mr 10 '58
- Catalyst erosion in cat crackers; case histories of its control. L. Resen, diags Oil & Gas J 55:101-3 D 9; 61-3 D 16; 61-3 D 23 '57; 56:106-9 Ja 6; 81-5 Ja 13 '58
- Catalyst loss cut. Oil & Gas J 56:105 Ap 7 '58
- Chemisorption of nitrogen on nickel catalysts. R. J. Kokes and P. H. Emmett, bibliog Am Chem Soc J 80:2083-6 My 6 '58
- Determination of arsenic in hydrocarbon reforming catalysts by neutron activation. G. F. Shipman and O. I. Milner, bibliog diags Anal Chem 30:210-12 F '58
- Determination of catalyst water by exchange with deuterium gas. J. K. Lee and S. W. Weller, bibliog Am Chem Soc 10:57-8 J '58
- Exchange of oxygen atoms among carbon dioxide, carbon monoxide and oxide catalysts of spinel type. Y. Yoneda and others, bibliog diag Am Chem Soc J 80:4503-7 S 5 '58
- Fischer-Tropsch synthesis; nitriles and carbonitriles of iron as catalysts. J. F. Shultz and others, bibliog Ind & Eng Chem 49:2055-60 D '57
- Fischer-Tropsch synthesis with iron catalysts; effect of reaction temperature on product composition. D. Gall and P. J. Kipping, bibliog Inst Pet J 44:243-52 Ag '58
- Fixed beds still strong; fixed catalyst units. Ind & Eng Chem 50:sup30A+ F '58
- Fluid catalyst design data. F. A. Zenz, bibliog 11 diags Pet Refiner 36:173-8 Ap; 261-5 My; 133-42 Je; 175-83 Jl; 147-55 Ag; 305-8 S; 162-70 O; 321-3 N '57
- Gasoline from a liquid poly catalyst. E. D. Kane and G. E. Langlois, diag Pet Refiner 37:173-6 My
- Isothermal catalytic-conversion unit; test unit for catalyst screening. W. J. Cerveny and W. C. Pfefferle, diags Ind & Eng Chem 50:1255-6 S '58
- Molecular sieves cage catalysts. Chem Eng Prog 54:171 My '58
- Molecular sieves enable scientists to cage volatile liquid catalyst. Ind Lab 9:96 My '58
- Nickel, copper and some of their alloys as catalysts for the hydrogenation of carbon dioxide. L. E. Cratty, Jr. and W. W. Russell, bibliog Am Chem Soc J 80:767-73 F 20 '58
- Organocaluminum halides as hydrogenation catalysts. J. A. Ridgway, Jr. bibliog Ind & Eng Chem 50:1139-42 Ag '58
- Oxidation catalysts reduce hydrocarbons in automobile exhaust gas. E. F. Hill and others, S A E J 66:36-7 Ja '58
- Physical structure of silica-alumina catalysts. J. H. Ramser and P. B. Hill, bibliog diag Ind & Eng Chem 50:117-24 Ja '58
- Raney cobalt hydrogenation catalysts; applications and promoter effects. B. V. Aller, bibliog J Ap Chem 8:492-5 Ag '58
- Raney cobalt hydrogenation catalysts; the physical and chemical properties of the catalyst. B. V. Aller, bibliog J Ap Chem 8:163-7 Mr '58
- Selective catalytic oxidation; abstract. K. Heyns and H. Paulsen, Ind Chem 34:149-50 Mr '58
- Solid catalysts in ethylene polymerization. E. F. Peters and others, bibliog Ind & Eng Chem 49:1879-82 N '57
- Soluble catalyst helps properties; improved linear polyethylene. Chem & Eng N 36:56 Jl 21 '58
- Some factors affecting the activity of sintered iron catalysts for the Fischer-Tropsch synthesis. T. A. Dorling and others, bibliog J Ap Chem 8:533-49 S '58
- Supercooling of gold as affected by some catalysts. F. J. Bradshaw and others, bibliog Inst Metals J 87:15-18 '58-59
- Supported oxide catalysts in the production of polythene. E. G. Curphey, bibliog flow diag Brit Plastics 31:63-5 F '58
- See also
Nickel carbonyl
- Bibliography**
- Adsorbent clays, earths, and catalysts. W. L. Nelson, Oil & Gas J 56:109 Jl 21 '58
- Testing**
- Catalyst fouling; equations and techniques for isolating. A. L. Pozzi and H. F. Rase, bibliog flow diag Ind & Eng Chem 50:1075-80 Jl '58
- Determination of arsenic in petroleum fractions and reforming catalysts. D. Llederman and others, bibliog diags Anal Chem 30:1543-6 S '58
- CATALYTIC construction company**
- Career opportunities. 11 Chem & Eng N 36:22-3 pt 2 Ja 27 '58
- CATERPILLAR cracking process.** See Gasoline—Manufacture
- CATARACTS.** See Eye—Diseases and defects
- CATECHOL**
- Concerted displacement reactions; the reaction of catechol with acyl halides. J. W. Churchill and others, bibliog Am Chem Soc J 80:1944-6 Ap 20 '58
- CATERNARY**
- Arches and catenaries carry rink roof; Yale's hockey rink. New Haven, 11 diags Eng N 160:30-1+ Ap '58
- CATERPILLAR vehicles.** See Motor vehicles—Track layer types
- CATFORMING process.** See Gasoline—Manufacture
- CATHEDRALS**
- Lighting**
- Designed appearance lighting in Gloucester cathedral. 11 Engineering 185:566-7 My 2 '58
- Sacred heart cathedral, Hamilton, Ont. 11 Illum Eng 53:437 Ag '58
- CATHODE followers**
- Cathode-follower gain approaches unity, diag Electronics 31:94-4 Ja '58
- Electronic switch doubles as cathode follower. R. Benjamin, 11 diags Electronics 31:81-3 Ja 17 '58
- Linear amplifier for negative pulses. A. S. Penfold, diags R Sci Instr 29:765-6 S '58
- More about the cathode follower. N. H. Crowhurst, diags Radio-Electronics 29:50-3 My '58
- Transistors in measuring instruments; millivoltmeter features hybrid augmented cathode follower. E. J. Peterman, 11 diags Elec Manuf 61:140-2 F '58
- CATHODE ray oscillographs.** See Oscillographs, Cathode ray

CATHODE ray tubes

- Amplitude/frequency response display using a ratio method. H. L. Mansford and others. *diags Electronic Eng* 30:595-7 O '58
- Broadband oscilloscope tube. D. J. Brangaccio and others. *bibliog il diags Bell System Tech J* 37:447-60 Mr '58
- Cathode-ray recorder compares transients. C. W. Hargens. *il diags Electronics* 31:84-7 Ja '57
- Cathode-ray tube adds third dimension; Peritron. E. L. Withey. *il diags Electronics* 31:83-3 My '58; Abstract. *Wireless World* 64:440 S '58
- Cathode-ray tube analogue-to-serial digital converter. J. Willis and M. G. Hartley. *diags J Sci Instr* 35:197-202 Je '58
- Cathode-ray tube envelope; patent. *Glass Ind* 39:223-24 '58
- Cathode-ray tube function generator. J. Willis. *il diag Electronic Eng* 30:458 JI '58
- C.r.t. resolution measurement. *Wireless World* 64:239-40 My '58
- Continuous recording of waveforms on photographic film. V. B. Hulme. *diags Electronic Eng* 30:10-14 Ja '58
- Development and applications of transparent cathode-ray screens. C. Feldman. *il diags SMPTE J* 67:455-60; Discussion. 460 JI '58
- Development of the thin cathode-ray tube. W. R. Aiken. *il diags SMPTE J* 67:452-5 JI '58
- Electron excitation of bilayer screens. L. R. Koller and H. D. Coghill. *J Ap Phys* 29:1064-6 JI '58
- Electron-permeable window for cathode-ray tubes. J. Sechof and others. *bibliog il diags R Sci Instr* 29:776-8 S '58
- Fundamental concepts in the design of the flying spot store; semipermanent information storage system developed for use in electronic switching system. C. W. Hoover, jr and others. *bibliog il diags Bell System Tech J* 37:131-44 S '58
- Gabor television tube. *diags Research* 11:209-10 Je '58
- Generating characters for cathode-ray read-out. K. E. Perry and E. J. Aho. *il diags Electronics* 31:72-5 Ja '58
- High resolution tv tube for satellite. N. F. Fyler. *il Electronic Ind* 17:5 My '58
- Modified crt may aid air traffic. *il Electronics* 31:32 F 21 '58
- New cathode-ray tube for monochrome and colour. D. Gabor and others. *il diags Engineering* 135:620-3 My 16 '58; *Engineer* 205:733-5 My 16 '58
- Photodeposition of luminescent screens. M. Sadowsky and P. D. Payne, jr. *diag Electrochem Soc J* 105:105-7 F '58
- Photoformer solves sound barrier problems. R. W. Maloy. *il diags Electronics* 31:78-80 My 23 '58
- Photographing cathode-ray tube images. R. Samuel. *il Radio-Electronics* 29:40-2 F '58
- Printer narrows speed gap; Stromberg-Carlson Charactron tube. *Electronics* 31:34 Ja 24 '58
- Spot scanner counts micron-sized particles. H. P. Mansberg and others. *il diags Electronics* 30:142-6 D 1 '57
- Surface phenomena associated with application of organic films to phosphor screens. R. W. Dudding and D. J. Finnett. *il diags Electrochem Soc J* 105:888-92 JI '58
- Thin cathode-ray tube. W. R. Aiken. *il diags Inst Radio Eng Proc* 45:159-9 A4 D '57
- Transparent phosphors improve crt. *Electronics* 31:92-4 F 28 '58
- Visual check for taped machine programs. R. A. Bennett. *il diags Control Eng* 5:72-3 Ag '58
- See also*
Electron gun
Oscillographs, Cathode ray
Storage tubes

Maintenance and repair

- New tubes for old. *il Wireless World* 64:247-8 My '58

Manufacture

- Controlled turning puts screen on tv. E. K. Kaucher. *il diag Ap Hydraulics* 11:67 Je '58
- Manufacturing of cathode-ray tube envelopes; patent. *diag Glass Ind* 38:703-4 D '57
- Phosphor coated transparent tube developed. *il Elec Eng* 77:366-7 Ap '58
- Vacuum coating interior of glass tubes with metal; patent. *diag Glass Ind* 38:569 O '57

CATHODES

- Cathode reactions in the Leclanche dry cell. N. C. Cahoon and others. *bibliog Electrochem Soc J* 105:296-8 Je '58

- Cathodic disintegration of tin. H. W. Salzberg and F. Mies. *Electrochem Soc J* 105:64-6 F '58
- Considerations affecting the rise and decay of cathode currents in receiving tubes. E. R. Schrader. *RCA R* 19:109-27 Mr '58
- Disintegration of lead cathodes. L. W. Gastwirt and H. W. Salzberg. *bibliog Electrochem Soc J* 104:701-3 D '57
- Harmonic generation at microwave frequencies using field-emission cathodes. J. R. Fontana and J. J. Shaw. *bibliog Inst Radio Eng Proc* 46:1424-5 JI '58
- Hollow-cathode glow discharge in mercury vapor. K. G. Hernqvist. *bibliog il diags RCA R* 19:35-48 Mr '58
- Influence of doping on diffusion rate of impurities in cathode nickel. H. Mizuno. *J Ap Phys* 29:1265-6 Ag '58
- Measure of instantaneous absolute barium evaporation rates from dispenser cathodes. W. C. Rutledge and others. *bibliog diags J Ap Phys* 29:834-9 My '58
- Mechanism of electron emission in arcs with low boiling point cathodes. T. H. Lee. *bibliog J Ap Phys* 29:920 Ap '57; Discussion. 29:734-5 Ap '58
- Mechanism of operation of the barium aluminate impregnated cathode. E. S. Rittner and others. *diag J Ap Phys* 28:1468-73 D '57
- New analysis for nickel cathodes. *il Bell Lab Rec* 36:146-7 Ap '58
- Physics of the cathode. L. S. Nergaard. *bibliog (54 titles) RCA R* 18:486-511 D '57
- Study of the molded nickel cathode. C. P. Hadley and others. *diags Electrochem Soc J* 105:399-8 JI '58
- Use of oxide cathodes in demountable vacuum systems. G. A. Haas and J. T. Jensen, jr. *bibliog il R Sci Instr* 28:1007-10 D '57

Protection

- Built-in ion trap protects cathode. W. R. Aiken and E. Heller. *diag Electronics* 31:126 F 14 '58

Testing

- Cathode test utilizing noise measurements. W. Dahlke and F. Dlouhy. *bibliog diag Inst Radio Eng Proc* 46:1639-45 S '58

- CATHODIC protection.** See Gas pipes—Cathodic protection; Metal protection—Cathodic protection; Pipe lines—Cathodic protection; Piping—Cathodic protection; Steel—Cathodic protection

CATIONS

- Activation and inhibition of corrosion of metals by metallic cations. W. R. Buck, 3d, and H. Leidheiser, jr. *bibliog Corrosion* 14:22-6 JI '58
- Effect of cation vacancies on the magnetic annealing of cobalt-substituted magnetite. L. R. Bickford, jr. and others. *J Ap Phys* 29:441-2 Mr '58
- Electron-exchange reactions between large complex cations. E. Eichler and A. C. Wahl. *bibliog Am Chem Soc J* 80:4145-9 Ag 20 '58
- Etching of germanium crystals by ion bombardment. G. K. Wehner. *bibliog il J Ap Phys* 29:217-21 F '58
- Improved X-ray method for determining cation distribution in ferrites. L. P. Skolnick and others. *bibliog J Ap Phys* 29:198-203 F '58
- Influence of inert cations on the reduction of complex anions; polarography of the cadmium EDTA complex. R. W. Schmid and C. N. Reilly. *bibliog Am Chem Soc J* 80:2101-5 My 5 '58
- Positive-ion effects in pulsed electron beams. J. T. Senise. *bibliog diags J Ap Phys* 29:839-41 Mr '58
- Preferential volatilization of cations from ferrites during sintering. J. M. Brownlow. *J Ap Phys* 29:373-5 Mr '58
- Reactivity of the phenyl cation in solution. E. S. Lewis. *bibliog Am Chem Soc J* 80:1371-3 Mr 20 '58
- Sputtering of surfaces by positive ion beams of low energy. R. E. Honig. *bibliog diags J Ap Phys* 29:549-55 Mr '58

CATS

- Dietary nitrogen requirements of the cat. S. A. Miller and J. B. Allison. *bibliog J Nutrition* 64:493-501 Mr '58

CATTLE

- See also*
Cows

Breeds

- Cattle. R. W. Phillips. *il map Sci Am* 198:61-7+ Je '58

CATTLE—Continued

Feeding

Studies of the effects of dietary sodium fluoride on dairy cows. J. W. Suttie and others. *bibliog* *il* J Nutrition 65:293-304 Je '58

CATTLE guards, Concrete
Concrete stops the cows. H. J. Müller. *il* Concrete 66:34 Mr '58

CAULKING compositions. See Caulking compositions

CAUSEWAYS

Great Salt Lake crossing; \$49,000,000 project for Southern Pacific. W. M. Jaekle. *il* map Civil Eng 27:850-3 D '57

Great Salt Lake crossing; new sampler speeds design of 31,000,000-cu yd fill. H. V. Anderson. *il* diags Civil Eng 37:446-3 D '57

Salt Lake fill oozes apart. *il* Eng N 161:23 Ag 28 '58

CAUSTIC soda. See Sodium hydroxide

CAVES

Geological study of Shamsir Ghar cave, southern Afghanistan, and report of terraces along Panjshir valley near Kabul. J. M. Zeigler. *bibliog* *pl* maps plan diags J Geol 66:16-27 Ja '58

CAVITATION

Cavitation detector aids research. *il* Product Eng 29:20 Mr '57

Compact cavitation detector checks missile fuel systems. *Machine Design* 30:10 Mr 20 '58

See also

Hydraulic machinery—Cavitation

CAVITOMIC cotton. See Cotton—Diseases and pests

CAVITY resonators. See Radio resonators

CAYLEY, Sir George

Sir G. Cayley (1773-1857); inventor of the modern aeroplane. C. H. Gibbs-Smith. *Research* 11:21-13 Je '58

CECO steel products corporation

Ceco Steel to erect steel mill in Illinois. *il* Iron & Steel Eng 35:121 Je '58

CEDAR

Hemicelluloses of western red cedar; the constitution of a glucomannan. J. K. Hamilton and E. V. Partlow. *bibliog* *Am Chem Soc J* 80:4880-5 S 20 '58

CEILING S

Combination floor-ceiling decking offers many advantages. *il* diag Plant 18:36 O '58

Integrated ceilings for illumination; abstract. J. S. Hamel. *diag* Illum Eng 53:497-8 S '58

Light directing vs. diffusing media in luminous ceiling areas; abstract. H. A. Odie and R. L. Smith. *Illum Eng* 53:501-2 S '58

Luminous ceiling lights modern library and enhances architectural design; West End library at Hamilton, Ont. *il* diags Elec Constr & Maint 57:92-3 Ja '58

Luminous ceilings costly? this engineering department says no. J. A. Gilroy. *il* Plant Eng 12:132-3 S '58

Luminous ceilings with incandescent lamps. D. E. Spencer. *il* diags Illum Eng 53:300-6 Je '58

Modular ceiling cuts cooling load; Wakefield co. L. T. Avery. *il* Heating-Piping 29:140-1 N '57

Newberry Electric relights; West coast electrical contractor installs luminous ceiling. *il* Elec Constr & Maint 57:87 S '58

Some possibilities for enrichment of luminous ceilings; abstract. G. Kepes and others. *il* Illum Eng 53:505-6 S '58

Trends in lighting equipment design; diffuser ceilings. B. C. Cooper. *il* diags Elec Constr & Maint 57:82-3 O '58

Trends in lighting equipment design; louver ceilings. B. C. Cooper. *il* diags Elec Constr & Maint 57:81 O '58

CELANESE corporation of America

Career opportunities. *il* Chem & Eng N 36:24 pt 2 Ja 27 '58

CELL division (biology)

Deuterium explores reproduction. M. Calvin. *Chem & Eng N* 36:55 Mr 31 '58

CELLOPHANE

British cellophane ltd. *il* Chem & Ind p784-5 Je 28 '58

Cellophane wrapper for meats. Franklin Inst J 265:358-9 Ap '58

Manufacture

Du Pont of Canada; cellophane made at Shawinigan for 26 years. *il* Chem & Ind p 1055 Ag 16 '58

CELLS

Amino acid composition of fractionated cortical cells from wool. D. H. Simmonds and J. J. Bartulovich. *bibliog* Textile Res J 28:378-81 My '58

Cells at high pressure. D. Marsland. *il* diags Sci Am 199:36-43 O '58

Freezing and drying; Institute of biology's 2d international symposium. *Chem & Ind* p997-8 Ag 9 '58

See also

Chromatophores

Chromosomes

Genes

Regeneration (biology)

CELLS, Electrolytic. See Electrolytic cells

CELLULAR glass. See Glass, Cellular

CELLULAR plastics. See Plastics, Cellular

CELLULAR rubber. See Rubber, Sponge

CELULOSE

Acetal cellulose reactants. J. B. Irvine and E. H. Kress. *Textile Res J* 28:148-58 F '58

Acetylation of inclusion celluloses. C. A. Julander and I. Julander. *bibliog* (18 ref) Tappi 40:926-30 N '57

Adsorption of a reactive dye by modified celluloses. L. H. Daruwalla and F. Subramanian. *bibliog* Soc Dyers & Col J 74:295-9 Ap '58

Almost synthetic cellulose; abstract. D. S. Feingold. *Chem & Eng N* 36:41 My 5 '58

Applications of infrared absorption spectroscopy to investigations of cotton and modified cottons; physical and crystalline modifications and oxidation. R. T. O'Connor and others. *bibliog* Textile Res J 28:382-92 My '58

Carbonyl groups in cellulose and color reversion; hypochlorite bleaching and color reversion. W. H. Rapson and others. *Tappi* 41:442-7 Ag '58

Cellulose-base finishes fused onto metal parts. *il* Materials in Design Eng 47:200-4 Ap '58

Cellulose-base separators for lead-acid batteries. J. R. Thomas. *bibliog* (25 ref) Tappi 41:349-187A-91A Mr '58

Cellulose breakdown in wood by fungi; abstract and discussion. J. G. Savory. *Chem & Ind* p433-4 Ap 12 '58

Cellulose packing material cuts shipping damage. *il* Elec Manuf 62:1204-1 J '58

Cellulose supported thorium-alizarin red S reagent for fluoride ion determination. S. K. Yasuda and J. L. Lambert. *bibliog* Anal Chem 30:1485-9 S '58

Comparison of methods for determining intrinsic viscosities from Newtonian viscosities. K. H. Cram and J. C. Whitwell. *bibliog* *il* diags Textile Res J 28:849-60 O '58

Constitution of a glucomannan associated with wood cellulose from western hemlock. J. K. Hamilton and H. W. Kirschner. *bibliog* Am Chem Soc J 80:4703-9 S '58

Degradation of cellulose in alkaline cooks; abstract. O. Franzon and O. Samuelson. *Paper Ind* 40:192 Je '58

Degradation of cellulose in a vacuum with ultraviolet light. J. H. Flynn and others. *bibliog* *diag J Res Nat Bur Stand* 60:229-33 Mr '58

Determination and the significance of crystallite size in regenerated cellulose fibres. D. N. Tyler and N. S. Wooding. *bibliog* *diag Soc Dyers & Col J* 74:283-91 Ap '58

Dialdehydes as cotton cellulose crosslinkers. M. D. Hurwitz and L. E. Conlon. *bibliog* Textile Res J 28:257-62 Mr '58

Du Pont ends cellulose sponge production at Shawinigan Falls. *Can Chem Process* 42:46 F '58

Fast dyes on cellulosic fibers. T. Vickerstaff. *il* Am Dyestuff Rep 47:33-8 Ja 27 '58

Fixation of reactive dyes on modified celluloses. T. L. Dawson. *bibliog* Soc Dyers & Col J 74:584-5 Ag '58

Graded acid hydrolysis studies of a xylan polyuronide associated with wood cellulose from western hemlock. J. K. Hamilton and N. S. Thompson. *bibliog* diags Am Chem Soc J 79:6464-9 D 20 '57

Influence of varied cellulose and nitrogen levels upon ration digestibility and nitrogen balance of lambs fed semipurified rations. W. C. Ellis and W. H. Pfander. *J Nutrition* 65:235-60 *bibliog* (p248-50) Je '58

Interpretation of the beating process of paper based on the hydrogen-bond theory of the mechanical properties of cellulose sheets. A. H. Nissan. *Tappi* 41:131-4 Mr '58

Major expansion at chemical cellulose mill; Alaska pine & cellulose. *il* Chem Eng Prog 54:108-9 Je '58

CELLULOSE—Continued

- Mechanism of the thermal degradation of cellulose; review of work sponsored by the QMC, R. C. Laible, bibliog(38 ref) Am Dyestuff Rep 47:173-8 Mr 24 '58
- Molecular weight of two seed hair celluloses, T. E. Timell, bibliog Textile Res J 28:270-1 Mr '58
- Molecular weights of native celluloses; abstract, T. E. Timell, Paper Ind 40:252 JI '58
- More cellulose arrives, Il Chem & Eng N 36:24 Ja 27 '58
- New chemically modified cellulose fibers; symposium, bibliog Il diag Ind & Eng Chem 50:73-106 Ja '58
- Nitration of wood and related substances with gaseous dinitrogen pentoxide, W. E. Elias and L. D. Hayward, bibliog Tappi 41:246-50 My '58
- Permanent finishes; cellulose esterified or etherified with unsaturated chains in two steps; patent, Am Dyestuff Rep 47:202 Mr 24 '58
- Polymer-homologous series of oligosaccharide alditols from cellulose, M. L. Wolfrom and D. L. Fields, bibliog Tappi 41:204-7 My '58
- Production of high purity cellulose, G. Machell, bibliog Il Ind Chem 34:128-34 Mr '58
- Reactivities of lower aliphatic anhydrides toward hydroxyl groups of cellulose, C. J. Malm and others, bibliog Ind & Eng Chem 50:1061-6 JI '58
- Reactivity of cellulose, A. R. Urquhart, bibliog(34 titles) Textile Res J 28:159-69 F '58; Abstracts, Am Dyestuff Rep 47:147 Mr 10 '58; Textile World 107:123+ D '57
- Reduction of the products of periodate oxidation of carbohydrates; the constitution of cellulose, I. J. Goldstein and others, bibliog Am Chem Soc J 79:6469-73 D 20 '57
- Some aspects of alkali refining of pulps, W. M. Corbett and J. Kidd, bibliog(38 ref) Tappi 41:137-44 Mr '58
- Some properties of native hemp, jute, and kapok celluloses, T. E. Timell, bibliog(27 ref) Textile Res J 27:384-9 N '57
- Some relationships between supermolecular structure and mechanical behavior of native and chemically modified cotton cellulose, V. W. Tripp and others, bibliog Il Textile Res J 28:404-17 My '58
- Stabilization of cellulose towards alkaline degradation, G. Machell and G. N. Richards, bibliog Tappi 41:12-16 Ja '58
- Studies on the nitration of eucalyptus rostrata and pinus densata, M. Lewin and J. A. Epstein, bibliog Tappi 41:240-5 My '58
- Studies on the sorption of moisture by polymers; the cellulose-cellulose acetate system, D. K. Beever and L. Valentine, J Ap Chem 8:103-7 F '58
- Thermal degradation of cellulosic materials, S. L. Madorsky and others, J Res Nat Bur Stand 60:343-9 Ap '58
- Variation of cellulose in loblolly pine, B. J. Zobel and R. L. McElwee, Tappi 41:167-70 Ap '58
- See also
Carboxymethyl cellulose
Cotton
Ethyl cellulose
Hemicellulose
Holocellulose

Analysis

- Alpha, beta, and gamma-cellulose in pulp; revised tentative standard T 203 m-58, Tappi 41:sup 170A-1A Ap '58
- Cellulose standard sampler, Tappi 40:145A-6A D '57

CELLULOSE acetate

- Chain length breakdown of cellulose by acetic acid solutions of water and sulfuric acid, C. J. Malm and others, bibliog Ind & Eng Chem 50:103-6 Ja '58
- Properties of materials, Materials in Design Eng 48:144 Mid-O '58
- Studies on the sorption of moisture by polymers; the cellulose-cellulose acetate system, D. K. Beever and L. Valentine, J Ap Chem 8:103-7 F '58
- Triacetate film production by solvent casting, Il diag Brit Plastics 31:307 JI '58
- Viscosity-molecular weight relationships for cellulose acetate, W. R. Moore and B. M. Tidswell, bibliog J Ap Chem 8:232-7 Ap '58

Analysis

- Nonglucose sugar units in cellulose acetates, K. Matsuzaki and K. Ward, Jr, bibliog Tappi 41:396-402 N 1 '58

CELLULOSE acetate butyrate

- Properties of materials; cellulose acetate butyrate and cellulose propionate, Materials in Design Eng 48:145 Mid-O '58

CELLULOSE acetate fibers

- Arnel-Dacron wash and wear fabrics, H. F. Elsom and T. W. Westarp, Mod Textiles Mag 39:40+ O '58
- Arnel staple in wash-and-wear cloths, H. F. Elsom and W. A. Schoeneberg, Il Mod Textiles Mag 39:34-6+ JI '58
- Factors influencing the crystal structure of cellulose triacetate, B. S. Sprague and others, bibliog Il Textile Res J 28:275-87 Ap '58
- Man-made fibers; a review of synthetic textile fibers now produced in the United States, Il Plastics World 16:11-12 Mr '58

See also

- Dyes and dyeing—Cellulose acetate fibers

CELLULOSE acetate yarn

- Effect of nuclear radiation on fibrous materials; relative order of stability of cellulosic fibers, O. Teszler and others, Textile Res J 28:456-62 Je '58
- Lofted acetate in carpets, W. I. Langstaff and others, Il diags Mod Textiles Mag 38:35+ N '57
- Recent developments in lofted acetate yarns for apparel and home furnishing fabrics, R. E. Semmler and others, Il Textile Res J 28:761-8 S '58
- Textile research institute 29th annual meeting, New York, March 13-14; abstracts of papers on the outlook for celluloses, Textile Ind 122:122+ My '58

CELLULOSE nitrate. See Nitrocellulose**CELLULOSE propionate**

- Properties of materials; cellulose acetate butyrate and cellulose propionate, Materials in Design Eng 48:145 Mid-O '58

CELLULOSE triacetate. See Cellulose acetate fibers**CELLULOSE xanthate****Analysis**

- Determination of xanthate sulfur in viscose, J. P. Dux and L. H. Phifer, bibliog diags Anal Chem 29:1842-5 D '57

CEMENT

- A.I.M.E. annual meeting, New York, Feb. 16-20; with abstracts of papers on cement, lightweight aggregates, gravel, Pit & Quarry 50:130-2+ Ap '58
- Experimental electric smelting of manganese ores; production of iron, silicospiegelisen, and portland cement from a low-grade ore, L. A. Campbell and others, bibliog diag Can Min & Met Bul 51:283-93 My '58
- New panels compete with wood; Battelle's cement-based material, Chem & Eng N 36:64 Je 16 '58
- Pulverized calcite merely a cement adulterant, N. C. Rockwood, Rock Prod 61:21+ JI '58
- That cement-alkali-aggregate reaction again, N. C. Rockwood, Rock Prod 60:18+ D '57

See also

- Grouting
Gunite
Mortar

Alumina cement

- Topping pavements with calcium aluminate cement concrete, W. C. Hansen and W. W. Brandvold, Am Concrete Inst J 29:1009-11 My '58

Analysis

- Determination of the cement content of soil-cement; an investigation of some of the factors involved, P. T. Sherwood, bibliog diag J Ap Chem 7:596-604 N '57
- Insoluble residue determination in portland and portland-slag cements, W. J. Halstead and B. Chalken, A S T M Bul p60-5 Ap '58
- X-rays, new aid for cement process control; spectrograph; Riverside cement co, W. B. Lenhart, Il diags Rock Prod 61:90-3 Mr '58

Hydration

- Reaction of portland cement with carbon dioxide, C. M. Hunt and others, bibliog diag J Res Nat Bur Stand 60:441-6 My '58
- Some factors affecting the surface area of hydrated portland cement as determined by water-vapor and nitrogen adsorption, L. A. Tomes and others, bibliog(37 ref) diags J Res Nat Bur Stand 59:357-64 D '57

Manufacture

- Cement grinding mill of intermediate length, J. M. Wolfe and B. E. Kester, Il diags Pit & Quarry 51:120-3+ Ag '58

CEMENT—Manufacture—Continued

Cement slurry builds stronger block. H. Clegg. *il Concrete* 65:24-5 D '57
 Electrostatic precipitators in the cement industry. R. J. Plass and H. H. Haaland. *il diag Rock Prod* 61:104-5+ J1 '58
 How I look at the ACL system. K. Hauser. *il diag Rock Prod* 61:32-5+ J1 '58
 Inventory of new processes and technology; ceramics and cement. *Chem Eng* 65:125-6 My '58
 Making cement with pellets; Diamond portland cement co. E. Meschter. flow diag *il Rock Prod* 61:74-8+ My '58
 Phosphate slurry thinner used at Keystone Portland's bath plant. J. P. Allen and J. W. Lyons. *il plan Pit & Quarry* 51:135-44 J1 '58
 Two U.S. cement mills now save fuel, avoid dust losses with new Allis-Chalmers-Lellep calcining systems. *il diag Chem Eng* 65: 60-2 Ap 21 '58

See also

Cement kilns
 Cement plants—Equipment

Testing

Determination of the apparent density of hydraulic cement in water using a vacuum pycnometer. C. L. Ford. bibliog diag A S T M Bul 1981-4 J1 '58
 Elevated temperatures of portland cement mixtures related to surface removal. R. H. Heiskell and others. bibliog diags Am Concrete Inst J 29:591-603 Ja '58
 How they test gypsum cements and plasters for the ceramic industry. R. Hamilton. *il Cer Ind* 71:83-7 J1 '58
 Some factors affecting the surface area of hydrated portland cement as determined by water-vapor and nitrogen adsorption. L. A. Tomes and others. bibliog (37 ref) diags J Res Nat Bur Stand 59:357-64 Ref '57

Transportation

Converted Liberty delivers 9000 tons of cement per trip. *il plans diags Marine Eng/Log* 63:79-81 Mr '58

CEMENT clinkers

Role of sulphur trioxide in burning; its influence on cement quality. A. Stikker. *Pit & Quarry* 50:132-4+ Mr '58

CEMENT handling

Bulk cement batching equipment. *il Engineer* 204:799 N 29 '57
 Case history study of ten new cement plants; look at this raw materials handling system. *il Rock Prod* 61:88-9 My '58
 High-speed cement elevator served entire Texas turnpike. *il Roads & Sts* 101:180 Ap '58
 New car shaker speeds bulk cement unloading. *il Concrete* 66:37-8 Je '58

CEMENT industry and trade

Cement; a breathing spell, then growing demand. *Rock Prod* 61:81-4 Ja '58
 Cement; review and forecast. W. E. Trauffer. *il Pit & Quarry* 50:107-21 Ja '58
 Expanding markets are key to cement industry growth. 1957. J. S. Young. *il Min Cong J* 44:75-7 F '58

Canada

Canadian cement; review and forecast. W. E. Trauffer. *il Pit & Quarry* 50:134-6+ Ap '58

CEMENT kilns

Preheating cement kiln feed saves Btu.'s; Conlay cement mfg. co.; process flowsheet. C. H. Chilton. *Chem Eng* 65:146-3 S 22 '58
 Real lesson in kiln efficiency. G. P. Thomson. *il diags Rock Prod* 60:73-6 D '57
 Return of dust to cement rotary kilns. D. A. Wadia. *diag Ind Chem* 34:555-7 O '58
 Steam leaks gas sampling problem; Dragon cement co. *il diag Rock Prod* 61:82+ Ag '58
 Two U.S. cement mills now save fuel, avoid dust losses with new Allis-Chalmers-Lellep calcining systems. *il diag Chem Eng* 65: 60-2 Ap 21 '58
 Whitehall preheater installation. W. E. Trauffer. *il diags Pit & Quarry* 50:122-6+ Mr '58

Firing

Automatic kiln control at Calaveras. H. F. Utley. *il diags Pit & Quarry* 50:80-3 My '58
 Automation comes to kiln burning; research work done by Calaveras cement co. M. C. Sutton and L. A. Parsons. *il diags Rock Prod* 61:74-7 Je '58
 Burning control for cement kilns. M. C. Sutton and L. A. Parsons. *il diags Control Eng* 5:125 Mr '58

Kiln control goes automatic; Calaveras cement co. *il Chem & Eng N* 36:56-7 F 24 '58
CEMENT laboratories

See also

Portland cement association—Laboratory

CEMENT plants

Building a cement factory in a swamp. *il Eng N* 160:50+ Mr 13 '58
 Cement industry needs more large-scale modernization; Marquette cement mfg. co. W. A. Wecker. *Rock Prod* 61:79+ My '58
 New era begins; bigger units, more automation, greater flexibility, better service to communities. *il Rock Prod* 61:84-6+ My '58

See also

American cement corporation

Accounting

Do you need responsibility accounting in your plant? Riverside cement co. *il Pit & Quarry* 50:65-6+ Je '58

Employees

Roentgen resurvey of cement workers. O. A. Sander. bibliog *il A M A Archives Ind Health* 17:96-103 F '58

Equipment

Adds Lake Charles plant to far-flung operations; Lone star cement corp. B. C. Herod. flow sheet *il Pit & Quarry* 50:78-85+, cover Mr '58
 Barbed electrodes, a new idea in dust control diags *Rock Prod* 61:101 Ap '58
 Big equipment dominates new cement plant; Consolidated cement co. E. Meschter. *il Rock Prod* 60:90-3+ N '57
 Built for expansion; Lone star cement corp. E. Meschter. flow diag *il Rock Prod* 61:100-5+ Mr '58
 Capacity up 75 percent as Oregon Portland Cement expands two plants. H. F. Utley. *il Pit & Quarry* 50:83-90 My '58
 Case history study of ten new cement plants; operation, data and equipment. *il Rock Prod* 61:87-123 Mr '58
 Caudon cement works. *il diags Engineer* 204: 529-32 O 11 '57
 Cement company aids Ontario's booming economy; St Lawrence cement co.'s new plant. G. C. Lindsay. *il diag Rock Prod* 61:94-9+ F '58
 Cement mill lubrication. M. S. Clark. flow chart *il diags Pit & Quarry* 50:82-3+ F; 93+ Mr '58
 Cement with less fuel; the semi-dry process at Caudon. *il Engineering* 184:535-7 O 25 '57
 Diamond Portland completes extensive expansion program. W. E. Trauffer. *il plan diag Pit & Quarry* 50:90-1+ F '58
 Electrostatic precipitators in the cement industry. R. J. Plass and H. H. Haaland. *il diag Rock Prod* 61:104-5+ J1 '58
 Factors in design of cement plant milling rooms. C. A. Rowland. *il plan diags Pit & Quarry* 51:163-5+ J1 '58
 Instrumentation in Ideal's new Houston cement plant. T. B. Douglas. *Min Eng* 10: Trans 266-8 F '58
 Lake Ontario portland cement co. B. C. Herod. *il Pit & Quarry* 51:106-14 J1 '58
 Modernization at Lone Star's Nazareth plant. W. E. Trauffer. *il plan diag Pit & Quarry* 51:120-7+ J1 '58
 New Cape Girardeau mill, no. ten in Marquette chain. B. C. Herod. *il Pit & Quarry* 51:154-60 J1 '58
 Nuclear gauge sees through slurry pipe to control density; Permanente cement co. H. F. Utley. *Pit & Quarry* 51:162 J1 '58
 Universal Atlas' new plant at Gary. B. C. Herod. *il map Pit & Quarry* 51:72-8+ Ag '58

See also

Cement kilns

Power

Cement plant power. A. C. Lord. *il diags Pit & Quarry* 50:88-92+ Ja '58
 Operation skiffs remodels 60-cycle plant. S. Blue. *il Power Eng* 62:104-6 Ag '58

Safety measures

National safety council Cement, quarry and mineral aggregates section meeting, Chicago, Oct. 21-25. *Pit & Quarry* 50:89 F '58

Waste

Air pollution laws come to Lehigh valley. J. N. Bell. *Rock Prod* 61:80-3 My '58

CEMENT plants, Portable

Cement stations head south. *il Oil & Gas J* 56:87 J1 14 '58

CEMENT research

Further study of solution effects on concrete and cement in pipe. M. E. Flentje and R. J. Sweitzer. *il Am Water Works Assn J* 49 1441-51 N '57

Incremental compression test for cement research. A. Hrennikoff. *il diags Am Soc C E Proc* 84 [EM 2 no 1604] 1-13 Ap '58; Correction. 84 [EM 3 no 1724] 3-7 J '58; Discussion. K. Jones. 84 [EM 4 no 1831] 13-14 O '58

Long-time study of cement performance in concrete; progress report on strength and elastic properties of concrete. P. Klieger. *bibliog Am Concrete Inst J* 29:481-504 D '57

Long-time study of cement performance in concrete; report on the condition of three test pavements after 15 years of service. F. H. Jackson. *bibliog Am Concrete Inst J* 29:1017-32 Je '58

Structure and physical properties of hardened portland cement paste. T. C. Powers. *bibliog il Am Cer Soc J* 41:1-6 Ja 1 '58

See also
Cement laboratories

CEMENTITE

Effect of manganese on the Curie point of cementite; abstract. E. C. Roberts. *Metal Prog* 72:142+ N '57

CEMENTS

It's easy to use this new epoxy resin cement. *il Power Eng* 62:81 Ja '58

Joining and fastening plastics. M. W. Riley. *il Materials in Design Eng* 47:130-4 Ja '58

Research report; modern masonry cements. *Prog Arch* 39:146-7 F '58

See also

Adhesives
Resinous products—Adhesives

CENOZOIC period. See Geology, Stratigraphic—Cenozoic

CENSUS

Census uses erasable tape, but data becomes sacred. S. Alexander. *Control Eng* 5:44 Ap '58

CENTERING (machine work)

Automatic stock-centering device. F. Murray. *diags Am Mach* 102:117 Ag 11 '58

Two-way clamping and automatic work-centering fixtures. W. M. Halliday. *diags Mach* 64:154-7 N '57

Work-centering device rotates on its own axis. F. Hicks. *diag Am Mach* 102:140 My 5 '58

Work-centering drill jig for connecting-rods. R. Minser. *diags Mach* 64:153 Mr '58

CENTRAL air conditioning systems. See Air conditioning from central stations

CENTRAL stations. See Electric plants (central stations)

CENTRIFUGAL casting. See Casting, Centrifugal

CENTRIFUGAL fans. See Fans, Mechanical

CENTRIFUGAL pumps. See Pumps, Centrifugal

CENTRIFUGATION

Charge and specific ion effects on sedimentation in the ultracentrifuge. K. O. Pedersen. *bibliog Franklin Inst J* 265:503-3 Je '58

Distribution of particle size in colloidal silica by ultracentrifugation. J. J. Hermans and A. M. Ryke. *J Colloid Sci* 13:508-9 O '58

Unit operations in chemical engineering. J. E. Flood. *bibliog il Ind & Eng Chem* 50: 428-9 pt 2 Mr '58

CENTRIFUGES

Centrifuges. W. L. McMorris. *Min Eng* 9:1332-3 D '57

Diesel-fuel-cleaning system with a two-stage centrifuge and wash solution; U.S. navy's power plant at Subic bay. D. M. Landis and E. G. Bahret. *il diag Power* 102:87-9 Mr '58

High-temperature centrifuge for creep, rupture, and bend tests. I. I. Kornilov. *bibliog diag J Metals* 10:187-9 Mr '58

New concept for residual oil conditioning; self-cleaning centrifuge design and a water-phase recycle system. *diags Diesel Power* 36: 22-4 S '58

Selecting dewatering and drying equipment. G. H. Kennedy and J. L. Walker, jr. *Min Eng* 9:1329-32 D '57

Spin testing electronic components as high as 50,000 G's. *il Electronics* 31:88+ Ap 25 '58

Manufacture

Forged titanium machined for commercial product. *il Am Mach* 102:146-7 My 19 '58

CERAMIC art

Colorful ceramic murals depict water treatment. *il Pub Works* 89:111 Ja '58

Design at the crossroads. F. J. Von Tury. *Am Cer Soc Bul* 36:466-7 D 15 '57

CERAMIC coating

Ceramic coating of magnesium. P. A. Huppert. *il Light Metal Age* 16:8-10 Ap '58

Ceramic coating offers new hope in struggle against exhaust smog. *il Product Eng* 28: 29 N 18 '57

Ceramic coatings for experimental stress analysis. F. B. Stern. *il diag Machine Design* 30:147-9 My 29 '58

Ceramic coatings raise heat resistance of super-alloys. P. A. Huppert. *Iron Age* 180: 157-9 N 14 '57

Ceramic spray produces radomes. *il Electronics* 31:113 Ja 3 '58

Ceramics in first U.S. satellite launching; Norton company's Rokide ceramic coating. *il Am Cer Soc Bul* 37:204 Ap 15 '58

Characteristics of refractory oxide coatings produced by flame-spraying. N. N. Ault. *bibliog il Am Cer Soc J* 40:69-74 Mr 1 '57; Abstract. *Metal Prog* 73:141-2+ Mr '58

Coatings boost metals into high heat ranges. J. V. Long. *il Ind Lab* 9:137-44 S '58; Abstract. *Steel* 143:66-8 J1 28 '58

Coats structural aluminum alloys. P. A. Huppert. *Light Metal Age* 16:30 F '58

Colored terra sigillata coatings for building materials. L. B. Coffin. *Am Cer Soc Bul* 37:446-7 O 15 '58

Evaluation of the thermal insulative characteristics of ceramic coatings. W. J. Plankenhorn. *bibliog il diag Am Cer Soc Bul* 37:366-9 Ag 15 '58

HAE process to date. *il Light Metal Age* 15:10-14 D '57

How enamels, glasses and glazes are opacified; characteristics of opaque systems for ceramic applications. W. W. Coffeen. *Cer Ind* 70:76-7+ My '58

How high temp ceramic coatings protect aluminum. P. A. Huppert. *il Cer Ind* 69: 64-5+ N '57

Lithia agents boost heat resistance of ceramic coatings. P. A. Huppert. *Aviation Age* 29:56-8 My '58

Lithium type ceramic coatings resist prolonged heat at 1350 F. *il Materials in Design Eng* 46:161-2 D '57

Materials for hot rocket parts must withstand 1700 deg F plus. R. C. Kopituk. *diag Aviation Age* 28:104-9 Ja '58

Porcelain enamels and ceramic coatings. R. J. Fabian. *il diags Materials in Design Eng* 48:103-18 J1 '58 (reprints 35c)

Problems in simultaneous heat-hardening and ceramic coating of no. 420 stainless steel. E. L. Bradley. *Am Cer Soc Bul* 37:222-6 My 15 '58

Protecting metals at high temperatures; ceramic coatings. A. F. Hofstatter. *il Materials in Design Eng* 47:115-16 Ap '58

Uses grow for ceramic coatings. F. D. Shaw. *il Iron Age* 182:94-5 S 25 '58

What's new in refractory ceramic coatings for super metal alloys. *il Cer Ind* 70:62-4 Mr '58

Testing

Effect of temperature and thickness on the electrical resistivity of ceramic coatings. W. H. Fischer. *Electrochem Soc J* 105:201-3 Ap '58

Measuring fracture of ceramic coatings. D. R. Walker and H. W. Wyatt. *il Materials in Design Eng* 47:164+ F '58

CERAMIC cutting tools. See Cutting tools, Ceramic

CERAMIC engineers

See also

National institute of ceramic engineers

CERAMIC industries

Decade of progress for the ceramic industry. C. W. Planje. *Am Cer Soc Bul* 36:451-3 D 15 '57

Economic trends in the ceramic industry. C. W. Planje. *Am Cer Soc Bul* 37:414-15 S 15 '58

Materials equipment services. Published in monthly numbers of Ceramic Industry

What is the general picture? and the outlook for ceramics? here's what the experts say; with charts. *Cer Ind* 70:80-6 Je '58

Where are we going? up! what will we do? plenty! CI exclusive survey. *Cer Ind* 70: 87-94 Ap '58

See also

Cement industry and trade

Color in the ceramic industry

Enamel and enameling

Glass trade

Refractory materials

CERAMIC industries—Continued

Japan

Japanese ceramic association asks closer cooperation with American ceramic society. M. Ezyoe. *Am Cer Soc Bul* 37:418 S 15 '58

Southwestern states

Ceramic horizons of the Southwest. D. McPhail. *Am Cer Soc Bul* 37:378 Ag 15 '58

CERAMIC materials

Applications for ceramic materials and processes in present and future aircraft. W. M. Sterry. *Cer Ind* 70:155-8 Ap '58

Ceramic magnets make compact chuck. *Il diags Product Eng* 28:96 N 11 '57

Ceramic materials; complete directory of formulas, physical properties and uses in enamel, glass and pottery. *Cer Ind* 70:89-91+ Ja '58

Ceramic radome wall thickness tolerance requirements and their interpretation. M. J. Kofoid. *Il diags Am Cer Soc Bul* 37:4-8 Ja 15 '58

Ceramic structures made by Corning's Cercor process. *Il Chem & Eng N* 36:104 O 6 '58

Ceramics get the bends; forming ceramic material into extremely thin corrugated and other high surface area structures. *Il Chem & Eng N* 36:42 Ag 4 '58

Ceramics in electronics. E. C. Henry. *bibliog il Cer Ind* 70:160-8, 170 Ap '58

Comparisons of materials; hardness of metals and ceramics. *Materials in Design Eng* 48:18-19 Mid-O '58

Comparisons of materials; melting points of metals and ceramics. *Materials in Design Eng* 48:11 Mid-O '58

Development of ceramic insulating materials for high-temperature use. W. D. Kingery and others. *bibliog diag A S M E Trans* 80:705-10 Ap '58

Dielectric ceramics with zero firing shrinkage. B. R. Eichbaum. *Elec Manuf* 61:10-11 Mr '58

Do you have abrasion problems? wear problems? ceramic type materials. F. C. Roe. *diags Plant Eng* 12:116-18 Je; 115-17 Jl '58

Ductile ceramics. *Il Ind & Eng Chem* 50:sup29A-30A F '58

Ductile ceramics, a high temperature possibility. E. R. Parker and others. *bibliog il J Metals* 10:351-3 Mr '58

Ferromagnetic ceramics. G. Econometrics. *bibliog il diags Materials in Design Eng* 48:96-101 S; 109-14 O '58

Fixture resists high heat without warping. *Il Iron Age* 181:109 Mr 13 '58

Glass and ceramic fibers, they beat the heat. T. D. Callinan. *Product Eng* 29:70-2 Jl 7 '58

Gold coatings, paints protect steel, ceramics. *Materials in Design Eng* 47:150+ Je '58

Grinding ceramics by dual method is faster. E. B. McPherson. *Il Electronics* 31:112 Je 6 '58

Inventory of new processes and technology; ceramics and cement. *Chem Eng* 65:125-6 My 5 '58

Materials equipment services. Published in monthly numbers of Ceramic industry

Materials of construction for chemical engineering; ceramics. J. W. Lennon. *bibliog il Ind & Eng Chem* 50:1433-7 pt 2 S '58

Mechanisms involved in securing dense, vitrified ceramics from preshaped partly crystalline bodies. R. F. Vines and others. *Il Am Cer Soc J* 41:304-9 Ag 1 '58

Microstructure of ceramics for communication equipment. W. F. Janssen and M. D. Ristink. *bibliog il Am Cer Soc Bul* 37:152-6 Mr '58

More about those ductile ceramics. *Product Eng* 29:14 Ja 27 '58

New ceramics convert heat to electricity. C. Zener. *Il Iron Age* 182:125 S 11 '58

New developments in ceramics. J. H. Koenig. *bibliog il Materials in Design Eng* 47:121-36 My '58 (reprints 35c)

New materials that the design engineer should know about; ceramics and refractory materials. *bibliog Mech Eng* 79:725-7 Ag '57; Same. *Am Soc Naval Eng J* 70:148-51 F '58

Non-porous ceramic will be shown to IRE. *Il Ind Lab* 3:112 Mr '58

Plastics and ceramic foams for electronic applications. W. R. Cumming and P. M. Andrews. *Il Elec Manuf* 61:100-4 My '58

Progress in production of plastic ceramics. E. R. Parker. *Il Cer Ind* 70:57 Mr '58

Properties of materials; mechanical and electrical ceramics. *Materials in Design Eng* 48:223-9 Mid-O '58

Properties of materials; refractory ceramics and cermets. *Materials in Design Eng* 48:231-3 Mid-O '58

Raw materials for electronic and new ceramics. *Cer Ind* 70:72-4+ Ja '58

Research on elevated temperature resistant ceramic structural adhesives; abstract. H. G. Lefort and others. *Machine Design* 29:114 O 31 '57

Some missile design requirements for ceramic radomes. G. D. Robertson. *bibliog diag Am Cer Soc Bul* 37:1-3 Ja 15 '58

Structural ceramics on the way. *Il Chem & Eng N* 35:60 D 9 '57

Subsieve particle size measurements on porcelain materials. R. H. Lester. *bibliog diags Am Cer Soc Bul* 37:129-34 Mr 15 '58

Technical aspects of vitrified grinding wheel manufacture; materials and compositions. M. W. Gormly. *bibliog il Am Cer Soc Bul* 37:144-7 Mr 15 '58

Three ceramic products with high strength. *Il Materials in Design Eng* 48:126-8 Jl '58

Two ceramic sections in new atomic fuels center. *Il Cer Ind* 71:95-4 Ag '58

Why purity in raw materials. W. G. Lawrence. *Cer Ind* 70:62 Ja '58

See also

Alumina
Cermets
Clay
Drilling and boring (ceramic materials)
Etching (ceramic materials)
Fluorspar
Kyanite
Magnesia
Porcelain
Pyroceram
Pyrophyllite
Refractory materials
Slips (ceramics)
Steatite
Talc
Wollastonite

Electric properties

How to use electronic ceramics better. W. J. Baldwin. *Cer Ind* 71:88-92 Ag; 132-6 S '58

Study of process variables in barium titanate ceramics. J. J. Rosenthal and S. D. Stoddard. *bibliog Am Cer Soc Bul* 37:370-5 Ag 15 '58

Joining to metal

New metal-to-ceramic bonding technique. *Elec Manuf* 61:12 Ap '58

New uses for ceramics in motors and transformers. J. H. Terry. *Il Am Cer Soc Bul* 36:454-6 D 15 '57

Porcelain-to-aluminum seal is simple but powerful. *Il Product Eng* 29:18 Je 30 '58

Practical metalizing of technical ceramics. R. C. Steffey. *diag Metal Finishing* 55:56-61 N '57

Some parameters affecting ceramic-to-metal seal strength of a high-alumina body. S. S. Cole, Jr. and F. J. Hynes, Jr. *bibliog il Am Cer Soc Bul* 37:135-8 Mr 15 '58

Prices

What raw materials cost; tables. *Cer Ind* 70:66-7 Ja '58

Testing

High-temperature mechanical properties of ceramic materials; magnesium dititanate. E. A. Bush and F. A. Hummel. *bibliog il diags Am Cer Soc J* 41:189-95 Je 1 '58

How they test gypsum cements and plasters for the ceramic industry. R. Hamilton. *Il Cer Ind* 68:71-4 Jl '58

Some further laboratory applications of the gradient furnace. J. D. Welterten and R. S. DuFresne. *Am Cer Soc Bul* 36:457-9 D 15 '57

CERAMIC research

American ceramic society committee on research; reports on the year's activities. *Am Cer Soc Bul* 37:431-3 S 15 '58

Ceramics at M.I.T. W. D. Kingery and R. E. Norton. *Il Am Cer Soc Bul* 37:34-6 Ja 15 '58

Densification of domestic kyanite at high temperatures. H. H. Wilson and G. A. Bole. *Am Cer Soc Bul* 37:269-71 Je 15 '58

Effects of ultrasonics on heat transfer by convection. G. C. Robinson and others. *bibliog diags Am Cer Soc Bul* 37:399-404 S 15 '58

High-temperature mechanical properties of ceramic materials; magnesium dititanate. E. A. Bush and F. A. Hummel. *bibliog il diags Am Cer Soc J* 41:189-95 Je 1 '58

High-temperature reactions in domestic ceramic clays. R. R. West. *diags Am Cer Soc Bul* 37:262-8 Je 15 '58

CERAMIC research—Continued

- Mechanisms involved in securing dense, vitrified ceramics from preshaped partly crystalline bodies. R. F. Vines and others. *il Am Cer Soc J* 41:304-9 Ag 1 '58
- Solar furnace in ceramic research. P. Duwez. *il diags Am Cer Soc Bul* 36:410-11 N 15 '57
- Studies in the system $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2\text{-H}_2\text{O}$; new data on the polymorphism of Ca_2SiO_4 and its stability in the system $\text{CaO-SiO}_2\text{-H}_2\text{O}$. D. M. Roy. *bibliog Am Cer Soc J* 41: 283-9 Ag 1 '58
- Subsolidus relations between mullite and iron oxide. W. E. Brownell. *bibliog Am Cer Soc J* 41:226-30 Je 1 '58
- Westinghouse ceramics lab features special equipment. H. D. Root and T. L. Charland. *il Ind Lab* 9:99-101 S '58
- Yes, you can do research! *Cer Ind* 71:46 O '58

See also

- Glass research
Pottery research
Refractory research

CERAMICS

- ACS Basic science division, fall meeting, Alfred, N.Y. *Cer Ind* 69:100-1+ N '57
- Best prints in ceramicographic exhibit. *il Am Cer Soc Bul* 37:419 S 15 '58
- European ceramic organizations. J. F. McMahon and J. S. Welch. *Am Cer Soc Bul* 36:440-1, 468; 37:38-9, 101, 160-1 N 15 '57-Mr 15 '58
- Factorial design of experiments in ceramics. D. Smith and P. R. Jones. *diags Am Cer Soc J* 41:110-16 Mr 1 '58
- How automatic pressuring boosts production; interview with D. G. Cameron. *il Cer Ind* 70:106-11 Je '58
- How Gladding develops processes to meet needs of production; new techniques put ceramics in new fields. *il Cer Ind* 71:100-1 O '58
- Movie films for ceramists. *Am Cer Soc Bul* 37:244-5 My 15 '58
- Raw materials for electronic and new ceramics. *Cer Ind* 70:72-4+ Ja '58
- 30 second ideas for every operation. *Cer Ind* 70:107-13 Ap '58
- Use ceramics in power reactors. C. E. Curtis. *diags Cer Ind* 71:76-9 Jl '58
- What can ceramics do in missiles? J. Castelfranco. *il diags Cer Ind* 70:84-9 My '58
- What's new in ceramics? *Cer Ind* 71:54-5 Jl '58

See also

- Abrasives
American ceramic society
Clay
Enamel and enameling
Frits
Glass
Glass manufacture
Glazes
New York state ceramic association
Pottery
Slips (ceramics)
Tableware
Tiles
Vacuum tubes—Ceramic tubes

Bibliography

- Ceramic abstracts. Published in monthly numbers of *Journal of the American ceramic society*
- What's new in new ceramics. *Cer Ind* 70:84-5 P; 84:5 Mr '58

Study and teaching

- Ceramic educators hold workshop on curricula. *Am Cer Soc Bul* 37:392-3 Ag 15 '58
- Ceramics at M.I.T. W. D. Kingery and F. H. Norton. *il Am Cer Soc Bul* 37:34-6 Ja 15 '58
- Enrollments grow in ceramic engineering schools. *Am Cer Soc Bul* 37:94 F 15 '58
- Glamour course for other engineering students; School of ceramic engineering, Georgia institute of technology. L. Mitchell. *Am Cer Soc Bul* 37:417 S 15 '58

CERAMIDE

- Biosynthesis of ceramide by rat brain homogenates. I. Zabin. *bibliog Am Chem Soc J* 79:5834-5 N 5 '57

CERCOSPORIN. See Pigments, Biological**CEREAL chemists**, American association of. See American association of cereal chemists**CEREALS**, Prepared

- How lysine ups protein value of cereal foods. C. Feldberg and C. P. Hetzel. *bibliog il Food Eng* 30:110-11 Mr '58

- Lysine supplementation of a breakfast cereal and milk combination. R. Thiesen, Jr. and G. H. Reussner, Jr. *bibliog J Agri & Food Chem* 6:368-9 My '58

- This heat-treating includes carton; Fisher flouring mills co. *il diags Food Eng* 30:83 Je '58

- This improved equipment produces puffed rice cereals continuously. *diags Food Eng* 30:123 S '58

CEREBELLUM

- Cerebellum. R. S. Snider. *il diags Sci Am* 199:84-90 Ag '58

CEREBROSPINAL fluid**Analysis**

- Determination of total protein in cerebrospinal fluid by an ultramicro-Kjeldahl nitrogen procedure. W. W. Tourtelotte and others. *bibliog diags Anal Chem* 30: 1563-6 S '58

CERENKOV radiation counter. See Counters (electrons, ions, etc.)**CERITE**

- Cerite from Mountain Pass, San Bernardino county, Calif. J. J. Glass and others. *bibliog il diags Am Mineralogist* 43:460-75 My '58

CERIUM

- Cerium raises solder strength. *Electronics* 31:20 Ag 8 '58

- Electromotive force measurements in cerium-cerium chloride liquid systems. S. Senderoff and G. W. Mellors. *bibliog il diags Electrochem Soc J* 105:224-8 Ap '58

- Hydrogen peroxide-induced $\text{Ce}^{+}(\text{III})\text{-Ce}(\text{IV})$ exchange system. P. B. Sigler and B. J. Masters. *bibliog Am Chem Soc J* 79:6353-7 D 20 '57

- Present status of cerium(IV)-cerium(III) potentials. E. Wadsworth and others. *bibliog Anal Chem* 29:1824-5 D '57

CERIUM chloride

- Electromotive force measurements in cerium-cerium chloride liquid systems. S. Senderoff and G. W. Mellors. *bibliog il diags Electrochem Soc J* 105:224-8 Ap '58

CERIUM metallurgy**Electrometallurgy**

- High purity, small amount. *Chem & Eng N* 36:30 Jl 28 '58

CERMETS

- Bonding of cermet-valve components to metals. G. M. Slaughter and others. *bibliog il Welding J* 37:sup249-54 Je '58

- Cermets in jet engines. J. W. Graham and W. F. Zimmerman. *il Metal Prog* 73:108-11 Ap '58

- Coatings boost metals into high heat ranges. J. V. Long. *il Ind Lab* 9:137-44 S '58; Abstract. *Steel* 143:66-8 Jl 28 '58

- Determination of residual stresses in titanium carbide-base cermets by high-temperature X-ray diffraction. H. W. Newkirk, Jr. and H. H. Sisler. *bibliog diags Am Cer Soc J* 41:93-103 Mr 1 '58

- Etching of refractories and cermets by ion bombardment. T. K. Bierlein and others. *il diags Am Cer Soc J* 41:196-200 Je 1 '58

- New alumina-type cermets. T. F. Frangos. *il Materials in Design Eng* 47:112-15 F '58

- Predicting the thermodynamic stabilities and oxidation resistances of silicide cermets. A. W. Searcy. *bibliog Am Cer Soc J* 40:431-5 D 1 '57

- Processing high-temperature alloys; slip casting. L. M. Schifferli, Jr. *diags J Metals* 10:517-21 Ag '58

- Properties of materials; refractory ceramics and cermets. *Materials in Design Eng* 48: 231-3 Mid-O '58

- Recent advances in cermets. R. Steinitz. *bibliog Jet Propulsion* 28:15+ Ja '58

- Sintered metal ceramics for high-temperature applications. *Mach* 64:140 Je '58

- Slip casting of metals, ceramics, and cermets. E. L. Rempe and others. *bibliog il Am Cer Soc Bul* 37:334-9 Jl 15 '58

- Temperature stresses in the two-phase alloy, WC-Co; abstract. J. Gurland. *Metal Prog* 72:178+ N '57

- Titanium-carbide cermets for high temperature applications. K. Pfaffinger and others. *Product Eng* 28:B8-8 Mid-O '57

- What's happened to cermets? J. W. Graham and W. F. Zimmerman. *Metal Prog* 73:89-91 Mr '58

See also

- Titanium carbide

CESIUM chloride

Reactions between dry inorganic salts; the effect of common ions on the transition temperature of cesium chloride, L. J. Wood and others, *bibliog diag Am Chem Soc J* 80:307-12 Ja 58

CESIUM compounds

Rare chemicals ready; American Potash & Chemical is making a series of rubidium and cesium chemicals, *Chem & Eng N* 35:32 D 30 '57

CESIUM in the body

Metabolism of cesium and potassium in swine as indicated by cesium-134 and potassium-42, F. R. Mraz and others, *bibliog J Nutrition* 64:541-8 Ap '58

CESIUM iodide

Centrifugal electromotive force; the transference numbers of lithium, rubidium and cesium iodides; the iodide-iodine complex, B. R. Ray and others, *bibliog diag Am Chem Soc J* 80:1029-34 Mr '58

CsI crystal mounting for high-resolution particle detection, A. E. Souch and D. R. Sweetman, *diag R Sci Instr* 29:794-5 S '58

CETYL alcohol. See Hexadecanol**CEVINE**

Configuration of cevine, S. M. Kupchan and others, *bibliog Am Chem Soc J* 80:1769 Ap 5 '58

CHAIN conveyors. See Conveying machinery—Chain conveyors**CHAIN gear**

Bead chains for light service; drawings with text, B. Wasko, *Product Eng* 28:E24-5 Mid-O '57

Crossed-roller chains for precision slides, *il Engineer* 204:761-2 N 22 '57

Industrial know-how handbook; chain drives, *il Mill & Factory* 62:P7 15-16 Mr '58

Lubrication of roller chains; illustrated instructions, *Product Eng* 28:E 10-11 Mid-O '57

Maintenance of chain drives and gear drives, *il diags Mill & Factory* 62:97-104 Mr '58 (reprints 25c)

Polygonal action in chain drives, S. Mahalingam, *diag Franklin Inst J* 265:23-8 Ja '58

Proven concepts in oil field roller chain drive selection, R. A. Schakel and C. O. Sundberg, *Machine Design* 29:173-4 N 14 '57

See also

Sprockets**CHAIN stores**

Selling approach, key to winning shelf space in the chains: Safeway stores, C. R. Havighorst, *il Food Eng* 30:62-5+ Mr '58

See also

Kroger company**CHAIRS**

Cast chain link wins redesign contest, *il Foundry* 86:152 F '58

See also

Chain gear**Testing**

Testing large ropes and chains; National coal board's central engineering establishment, *il Engineering* 186:6 Jl 4 '58

CHAINS, Chemical. See Chemical chains**CHAIRS**

New chair concept; reinforced plastics molding method produces one-piece back and seat unit that is flexible, *il Mod Plastics* 36:88 O '58

Painting and finishing

Finishing dining room chairs, D. U. McGuire, *il Ind Finishing* 34:72-4+ Je '58

CHAKSINE

Structure of chaksine, a monoterpene alkaloid, K. Wiesner and others, *Am Chem Soc J* 80:1521-2 Mr 20 '58

CHALCEDONY

Chalcedony-like variety of germania, J. F. White and others, *bibliog il Am Mineralogist* 43:580-4 Mr '58

CHALCONES

Amino derivatives of nitrochalcones; a new synthetic method for 3-aminoquinolines, N. H. Cromwell and G. D. Mercer, *bibliog Am Chem Soc J* 79:6201-3 D 5 '57

CHALKBOARDS. See Blackboards**CHAMFERING**

Tailstock tool-holder for chamfering operations, J. C. Sobkowiak, *diags Mach* 64:158 Ap '58

Three-dimensional contour miller chamfers jet-engine blade roots, *il diag Am Mach* 102:128 Ap 7 '58

CHANNELS

Boundary layer development in open channels, J. W. Delleur, *bibliog diags Am Soc C E Proc* 83 [E M 1 no 11381:1-24 Ja '57; Discussion, 83 [E M 3 no 13111:7-8 Jl '57; 84 [E M 1 no 16201:3-16; Reply, 16-21 Ja '58

Channel blasting at Amherstburg, R. J. Nemmers, *il maps Comp Air Mag* 63:10-15 Mr '58

Flood control system nurses runoff and groundwater recharger, San Bernardino, Calif, *il map Eng N* 160:47-8 Mr 6 '58

Hydraulic design of stilling basins; small basins for pipe or open channel outlets; no tail water required (basin VI), J. N. Bradley and A. J. Peterka, *diags Am Soc C E Proc* 83 [HY 5 no 14061:1-17 bibliog(p-8) O '57; Discussion, J. R. Argue, 84 [HY 2 no 16161:77-91 Ap '58; Reply, 84 [HY 5 no 18321:83-4 O '58

St Lawrence seaway, 27-ft. canals and channels, W. Grothaus and D. M. Ripley, *il maps diag Am Soc C E Proc* 84 [WWV 1 no 15181:1-22 Ja '58

See also

Waterways**CHANUTE, Kansas****Water supply**

Emergency use of reclaimed water for potable supply, *il Arch Rec* 122:9+ D '57

bibliog flow diag *il map Am Water Works Assn J* 50:1021-67; Discussion, C. H. Connel, 1057-60 Ag '58

CHANUTE, Octave, award. See Rewards, prizes, etc.**CHAPELS**

Air academy chapel; professional opinion, W. Becket and others, *il Arch Rec* 122:9+ D '57

Award citation; Meditation chapel for Washington university, St. Louis, *il plan diag Prog Arch* 39:114 Ja '58

Central plan for a college chapel; Stephens college, Columbia, Mo, *il plan diags Prog Arch* 39:132-7 Je '58

Chapel at Ronchamp, Le Corbusier, Review, by G. E. K. Smith, *il Arch Rec* 123:68+ Ap '58

Cool concrete in the desert; China Lake's new All Faith chapel, P. Jenkins and E. Jenkins, *il Concrete* 66:42-3 S '58

Non-sectarian chapel for a mid-western hospital, *il plan diags Arch Rec* 123:190-1 Je '58

Pilgrimage; Ronchamp, Raincy, Vézelay, J. E. Burchard, *il Arch Rec* 123:171-8 Mr '58

CHAPMANITE

Bismutoferrite, chapmanite, and hypochlorite, C. Milton and others, *bibliog il Am Mineralogist* 43:656-70 Jl '58

CHAPPLE, Bennett

P.E.I. founders honored at 26th annual meeting, *Am Cer Soc Bul* 37:106 F 15 '58

CHARACTRON. See Cathode ray tubes**CHARCOAL**

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Fusils

CHARCOAL, Activated. See Carbon, Activated

See also

Corporations—Charities**CHARITIES, Business**. See Corporations—Charities**CHARLOTTE, North Carolina**

See also

Gas, Natural—Charlotte, North Carolina, Supply to

Water supply

Growth of a water system, W. M. Franklin, *il Am Water Works Assn J* 50:197-202 F '58

CHARPY test. See Notched bar testing**CHARTMASTER process**. See Photomechanical processes**CHARTREUSIN**

Degradation of chartreusin (antibiotic X-465A), L. H. Sternbach and others, *bibliog Am Chem Soc J* 80:1639-47 Ap 5 '58

Isolation of antibiotic X-465A and its identification with chartreusin, J. Berger and others, *bibliog Am Chem Soc J* 80:1636-8 Ap 5 '58

CHARTS (calculating)

Amplifier delay charts; reference sheet, J. B. Harrington, *Electronics* 31:88-90 Ag 15 '58

Automatic reading and analysis of charts, F. E. Gaillard, *il diag Instruments & Automation* 31:356 My '58

Bearing heat and dissipation charts, H. W. Hamm, *Product Eng* 29:F 10-11 Mid-S '58

CHARTS (calculating)—Continued

- Calculating force relationships in converting linear to rotary motion; data sheet. D. P. Hanley. *diag Machine Design* 30:147-9 Mr 6 '58
- Chart converts flow units. J. A. Seiner. *Chem Eng* 65:170 O 20 '58
- Chart eases moment-of-inertia calculations; reference book sheet. W. G. Flannelly. *diags Product Eng* 29:95+ F 17 '58
- Chart for condensing film coefficients. Y. P. Varshni. *Chem Eng* 64:296 D '57
- Chart for return loss determination. L. Kitajewski. *Electronic Eng* 30:42-3 Ja '58
- Chart for viscosity-gravity constant. *Pet Eng* 30:B 1s My '58
- Chart gives lengths of sight over highway crests. H. H. Corson. *Civil Eng* 28:351 My '58
- Chart selects centrifugal fans. E. J. Gibbons. *Chem Eng* 65:144 Ja 27 '58
- Chart visualizes heat transfer relations. E. Gibbons. *Chem Eng* 65:129-30 Je '58
- Charts for air and gas drilling. *Pet Eng* 30:B 130-1 Mr '58
- Charts give you percent conversion in each reactor stage. T. M. Jenney. *Chem Eng* 65:166-8 My 19 '58
- Charts make cat cracker balance easier. O. A. Wundenell and E. E. Ivey, jr. *diag Pet Refiner* 37:135-42 F '58
- Charts simplify passive i-c filter design. D. R. J. White. *diags Electronics* 30:160-3 D 1 '57
- Compressibility factor charts for natural gas calculations. C. Gatlin. *bibliog Pet Eng* 29:D31-4 Ag '57; *Correction*. 29:D33 D '57; 30:B 1e Ja '58
- Conversion chart; pressure to pressure level. L. S. Goodfriend. *Noise Control* 4:58 JI '58
- Correction chart for background noise. L. S. Goodfriend. *Noise Control* 4:56 My '58
- Cost of refinery power. W. L. Nelson. *Oil & Gas J* 58:123 Ag 11 '58
- Curves for rapid estimation of gasoline plant investment. B. T. Brady and R. L. Rorschach. *Pet Eng* 30:C7-8 Ap '58
- Departure curves for the self-potential log; with charts. A. E. Worthington and R. F. Meldau. *diags J Pet Tech* 10:Trans 11-16 Ja '58
- Designing stability into transistor circuits; chart and nomographs; reference sheet. S. Schenkerman. *Electronics* 31:122+ F 14 '58
- Dissipation chart for T attenuators. D. T. Geiser. *Electronics* 31:92+ Je 20 '58
- Gas-friction; heat transfer charts for ducted flows. S. V. Manson. A S M E Trans 80:733-5; Discussion. F. Landis. 735; Reply. 735-8 Ap '58
- Generalized charts of the effects of nonlinearities in two-stage electrohydraulic control valves. J. Zaborsky and H. J. Harrington. *bibliog diags Applications & Ind* p401-8; Discussion. 408-9 Ja '58
- Generalized Z chart for low pressures. H. W. Pennig and J. J. McKetta. *Pet Refiner* 36:153-4 D '57
- Ground performance at take-off and landing; chart for estimation of either unstuck or landing roll distance. D. J. Kettle. *Aircraft Eng* 30:2-4 Ja '58
- Here's a handy chart for energy conversion. M. H. Green. *Pet Refiner* 37:244 My '58
- How change in gas pressure affects gas flow; data sheet. P. Hahn. *Power* 102:99 S '58
- How much gas to heat water? data sheet. M. Savage, jr. *Heating-Piping* 30:125 Ag '58
- How much mixing occurs in a pipe? O. Levenspiel. *diags Pet Refiner* 37:191-4 Mr '58
- How to calculate thermal radiation from hot surfaces. G. V. Thompson. *Product Eng* 29:116-17 Mr 31 '58
- Limited deflection of beam by chart. T. D. Y. Fok. *Civil Eng* 28:525 JI '58
- New, fast, accurate method to find tubewise heat transfer coefficient. N. H. Chen. *bibliog Chem Eng* 65:110-12 Je 30 '58
- New tool for use in selecting the right gas-ket. E. M. Smoley. *diag S A E J* 66:76-8 My '58; Same cond. *Product Eng* 29:F2-3 Mid-S '58
- Parallel resistance chart. R. Wellsand. *Radio Electronics* 29:61 O '58
- Pipe chart for water friction; to get pipe size, chart the rate of flow and friction loss. W. W. Gaylord. *Plant Eng* 12:89 F '58
- Plant operations are easier to visualize when you use a yield and capacity chart. J. B. Charlton. *flow diag Chem Eng* 65:142-4 Mr 24 '58
- Pole embedment to resist lateral load. D. Patterson. *diag Civil Eng* 28:527 JI '58
- Potential divider design chart. J. Willis. *diags Wireless World* 64:452-3 S '58
- Practical aspects of ultimate strength design; design charts for selection of critical-load-factor combination. A. L. Parme. *Am Soc C E Proc* 84 (ST 5 no 1757):1-22 S '58
- Radiation charts for paraboloidal antennas; reference sheet. L. W. Lechtreck. *Electronics* 31:104+ S 12 '58
- Rate of temperature change of simple shapes. V. Paschakis and J. W. Hlinka. *bibliog A S M E Trans* 79:1742-8; Discussion. 1748-50 N '57
- Reactance charts. *Electronic Ind* 17:563 Je '58
- Refractivity intercept-density chart for the determination of total naphthenes in gasoline. S. Groennings. *bibliog A S T M Bul* 164:7 Ja '58
- Rhombic aerials; design charts for high frequencies. F. J. Norman and J. F. Ward. *bibliog diags Electronic & Radio Eng* 34:398-403 N '57
- Save time in heat exchanger design. N. H. Chen. *bibliog Chem Eng* 65:153-6 O 20 '58
- Selected crude-evaluation charts. *Oil & Gas J* 56:109-56 Mr 24 '58
- Servo analysis charts; reference sheet. E. Biser and S. Adler. *Electronics* 30:173-4+ D 1 '57
- Simplified construction of reel capacity charts. W. J. Owens, jr. *Wire & Wire Prod* 33:890-2 Ag '58
- Solve transmission sag problems; engineering reference sheet. F. J. Hubert. *diag Elec World* 149:58 Je 18; 58 Je 30 '58
- Speed heat exchanger computations. N. H. Chen. *bibliog Chem Eng* 65:149-52 O 6 '58
- Spring design charts; data sheets. H. J. Boll. *diags Machine Design* 30:137-45 Ap 17; 12-22 My 1 '58
- Standing-wave ratio conversion chart; reference sheet. J. Lory. *diag Electronics* 31:56 Ja 31 '58
- Thermal data for chlorine and HCl. C. J. Dobratz. *bibliog Chem Eng* 65:144-6 F 10 '58
- This chart converts pressure units. J. A. Seiner. *Chem Eng* 65:150 My 5 '58
- Tilt chart for displaced antenna feed. R. B. Macaskill. *Electronics* 31:80+ JI 4 '58
- Tolerance charts aid dimensioning for machining; Utica drop forge & tool co. W. K. Wood. *Am Mach* 101:81-4 D 30 '57
- Toroidal core winding chart. T. J. Maxey. *diag Electronics* 31:121-2+ S 12 '58
- Tropo-scatter system design charts. L. P. Yeh. *Electronics* 31:91-3 Ja 17 '58
- Tube noise factor chart; reference sheet. L. P. A. DeBacker. *Electronics* 31:84 JI 18 '58
- Use this chart for water content of natural gases. J. J. McKetta and A. H. Wehe. *bibliog Pet Refiner* 37:153-4 Ag '58
- Use this chart to quickly determine pump output, annular velocity, tank volume and mud gradient. L. M. Crane and A. C. Ferricone. *Oil & Gas J* 56:112-13 Ap 14 '58
- Vickers-Knoop hardness conversion; with data sheet. L. Emond. *il Metal Prog* 74:96B 97 S '58
- See also
Nomographs
Smith diagram

CHATTANOOGA, Tennessee

Streets

Chattanooga's electronic traffic control system. M. J. Hensley. *il diags Pub Works* 88:115-16 D '57

CHAULMOOGRA oil

Chaulmoogra oil; abstract. H. K. Dean and F. V. Wells. *Drug & Cosmetic Ind* 82:509 Ap '58

CHEBYCHEFF polynomial. See Polynomials

CHECKS

Automatic reading and sorting of intermixed random-size checks. *il diags Machine Design* 30:114-16 Ag 21 '58

Magnetic reader speeds travelers-check processing. K. R. Eldredge and others. *il diags Control Eng* 5:79-83 JI '58

CHEESE

Kraft cheeses make debut in aluminum cans. *il Food Eng* 29:84-5+ N '57

CHEESE—Continued

Manufacture

- British robotize cheese-making process. F. V. Kosikowski, *il* *diag Food Eng* 29:94-6 D '57
 Cottage cheese, without guessing; curd cutting test and a firmness indicator that take trial-and-error out of processing. D. B. Emmons and W. V. Price, *il* *Food Eng* 30:117-18 Mr '58

Storage

- Radical design departure characterizes cheese warehouse insulation. *il* *Refriger Eng* 66:66+ Ag '58

CHEESE factories

Equipment

- British robotize cheese-making process. F. V. Kosikowski, *il* *diag Food Eng* 29:94-6 D '57

Waste

- Aeration of whey wastes; nitrogen supplementation and sludge oxidation. L. Jasevics and N. Porges, *bibliog Sewage & Ind Wastes* 30:555-61 Ap '58

CHELATION

- Acid dissociation constants of diethylene-triaminepentaacetic acid and the stability constants of some of its metal chelates. E. J. Durham and D. P. Ryskiewicz, *bibliog Am Chem Soc* J 80:4812-17 S 20 '58
 Bidentate chelate compounds. F. Lions and K. V. Martin, *Am Chem Soc* J 80:1591-2 Ap '58
 Bod determinations in wastes containing chelated copper or chromium. G. B. Morgan and J. B. Lackey, *bibliog Sewage & Ind Wastes* 30:233-6 Mr '58

- Chelate compounds of nickel(II) with picolinic acid. R. W. Green, *bibliog Am Chem Soc* J 79:5608-11 N 5 '57
 Chelating agents in water treatment. *il* *Plant* 17:42 Je '58

- Chelating properties of 8-mercaptopropionic acid. Q. Fernando and H. Freiser, *bibliog Am Chem Soc* J 80:4928-31 S 20 '58
 Chelating tendencies of aminomethylenephosphonic-N,N-diacetic acid. N. Ockerbloom and A. E. Martell, *bibliog Am Chem Soc* J 80:2351-4 My 20 '58

- Chelating tendencies of N,N'-ethylenebis-(2-(o-hydroxyphenyl)-1-glycine. A. E. Frost and others, *Am Chem Soc* J 80:530-6 F 6 '58
 Chloroform-bearing chelates. J. F. Steinbach and J. H. Burns, *bibliog diags Am Chem Soc* J 80:1839-41 Ap 20 '58

- Determination of double-bond character in cyclic systems; tetrahydronaphthalene; steric facilitation of chelation. I. M. Hunsberger and others, *bibliog Am Chem Soc* J 80:3294-300 J1 5 '58
 Heat stability studies on chelates from Schiff bases of salicylaldehyde derivatives. S. Marvel and N. Tarkov, *bibliog Am Chem Soc* J 79:6000-2; 80:332-5 N 20 '57, F 20 '58

- Hydrolysis and olation of Th(IV) chelates of polyaminopolycarboxylic acids. R. F. Bogucki and A. E. Martell, *bibliog diags Am Chem Soc* J 80:4170-4 Ag 20 '58
 Hydrolytic tendencies of metal chelate compounds; effect of metal ion. R. C. Courtney and others, *bibliog Am Chem Soc* J 80:2121-8 My 5 '58

- Magnetic and thermodynamic properties of copper(II) acetonylacetone. J. J. Fritz and R. G. Taylor, *Am Chem Soc* J 80:4434-7 S 5 '58
 Phenyl α -pyridyl ketoxime as a chelating agent. B. Sen, *Chem & Ind* p562 My 10 '58

- Properties and infrared spectra of ethylenediaminetetraacetic acid complexes; alkaline earth chelates. D. T. Sawyer and P. J. Paulsen, *bibliog Am Chem Soc* J 80:1597-600 Ap 5 '58
 Redox behavior of cobalt chelates of nitrilotriacetic acid. K. L. Cheng, *bibliog Anal Chem* 30:1035-9 Je '58

- Sexadentate chelate compounds. F. Lions and K. V. Martin, *bibliog diags Am Chem Soc* J 80:3358-65 Ag 5 '58
 Spectrophotometric studies of chelates of 8-quinolinol in some water-miscible organic solvents. W. G. Boyle, Jr. and R. J. Robinson, *bibliog Anal Chem* 30:958-61 My '58

- Stability and aromatic character in boron chelates. W. Gerrard and others, *Chem & Ind* p722 Je 14 '58
 Stability of metal chelates of compounds related to anthranilic acid. A. Young and T. R. Sweet, *bibliog Am Chem Soc* J 80:800-3 F 20 '58

- Syntheses and infrared spectra of α,β -unsaturated- β -ketamines and their copper chelates. H. F. Holtzclaw, Jr. and others, *Am Chem Soc* J 80:1100-3 Mr 5 '58
 Treatment of exposure to thorium and uranium with a chelating agent and supportive measures. W. N. Young and H. A. Tebbrock, *bibliog Ind Med* 27:229-32 My '58

CHELOMETRIC titrations. See Volumetric analysis

CHEMICAL abstracts (periodical)

- CA's perennial decennial. E. J. Crane, *il* *Chem & Eng N* 35:100-2 N 18 '57
 Fifth decennial index got off at Westchester. R. H. Belknap, *il* *Chem & Eng N* 36:72-5 Mr 17 '58

- CHEMICAL and engineering news (periodical)
 C&EN joins the rotary club; new high speed rotary press means later news deadlines, earlier deliveries of weekly issues. *il* *Chem & Eng N* 36:74-5+ Je 2 '58

CHEMICAL apparatus

- Apparatus for the continuous delivery of small volumes of liquid. G. C. Ware, *diag Sewage & Ind Wastes* 30:121-2 S '58
 Differential thermal analysis apparatus for heating and cooling data. D. D. Williams and others, *bibliog diags Anal Chem* 30:492-4 Ap '58

- Economical safe hand-controlled device for raising small quantities of liquids by compressed air. W. S. Sebborn, *diag J Sci Instr* 35:149 Ap '58

- Inert-gas tungsten-arc welding of titanium for nuclear and chemical industries. G. M. Adamson and W. J. Leonard, *il* *diag Welding J* 37:673-82 J1 '58

- Instrument for the determination of potassium in sodium chloride. G. H. Laycock, *diags J Sci Instr* 35:171-3 My '58

- Isothermal catalytic-conversion unit; test unit for catalyst screening. W. J. Cervený and W. C. Pfefferle, *diags Ind & Eng Chem* 50:1255-6 S '58

- New products. *il* Published in monthly numbers of Analytical chemistry

- Selection of internals important to column operations. M. L. Roach and W. F. Swanton, *il* *Ind & Eng Chem* 50:sup57A-8A J1 '58

- Vapor-liquid equilibria; microsampling technique applied to a new variable-volume cell. T. J. Rigas and others, *il* *diags Ind & Eng Chem* 50:1297-300 S '58

See also

Absorption apparatus

Balances

Baths (chemical apparatus)

Bombs (chemical apparatus)

Centrifuges

Chemical engineering—Apparatus and supplies

Chemical laboratories—Equipment

Chemical plants—Equipment

Chemistry, Analytic—Apparatus

Crucibles

Distillation apparatus

Evaporators

Extraction apparatus

Gases—Apparatus

Glassware, Laboratory

Microchemistry—Apparatus

Pipets

Scrubbers

Spectrometers

Stirrers

Thermobalances

Turbidimeters

Vaporizers

Viscosimeters

Volumetric analysis—Apparatus

Directories

- Advertised products guide and list of manufacturers and distributors. *il* *Anal Chem* 30:sup35A-84A pt 2 Ap '58

CHEMICAL bonds

- Addition of silicon hydrides to olefinic double bonds; the addition to non-terminal olefins in the presence of chloroplatinic acid. J. C. Saam and J. L. Speier, *Am Chem Soc* J 80:4104-6 Ag 5 '58

- Alkoxides of silicon containing silicon-hydrogen bonds. W. S. Miller and others, *bibliog Am Chem Soc* J 79:5504-6 N 5 '57

- Bond refractions and the nature of phosphorus-oxygen bonds. R. G. Gillies and others, *bibliog Am Chem Soc* J 80:2999-3002 Je 20 '58

- Bond structure of diphenylene. W. Baker and others, *Chem & Ind* p 1236 S 20 '58

CHEMICAL bonds—Continued

- Calculation of association constants for complex formation from spectral data; infrared measurements of hydrogen bonding between ethanol and ethyl acetate, and ethanol and acetic anhydride. E. Grunwald and W. C. Cohn, Jr. *bibliog Am Chem Soc J* 80:1322-5 Mr 20 '58
- Cleavage of C-S bond during oxidation of thiol. E. R. Cole. *Chem & Ind* p 1511 N 16 '57
- Complex ions of chromium; kinetics of decomposition of diol bonds in chromium(III) solutions. D. M. Grant and R. E. Hamn. *bibliog Am Chem Soc J* 80:4166-9 Ag 20 '58
- Contribution to the anthrasteroid problem; the location of the aromatic C-methyl group and the position of the conjugated double bond. A. W. Burgstahler. *bibliog Am Chem Soc J* 79:6047-50 N 20 '57
- Crosslinking efficiencies in the methyl methacrylate-ethylene dimethacrylate and ethyl methacrylate-ethyl dimethacrylate systems; degradative analysis by electron irradiation. A. R. Shultz. *bibliog Am Chem Soc J* 80:1854-60 Ap 20 '58
- Crosslinking of oriented rubber. A. Charlesby and E. von Arnim. *Rubber Chem & Tech* 31: 98-104 Ja '58
- Determination of double-bond character in cyclic systems; tetrahydronaphthalene; steric facilitation of chelation. I. M. Hunsberger and others. *bibliog Am Chem Soc J* 80:3294-300 J1 '58
- Determination of proton affinity and bond dissociation energy by ion impact method. V. L. Tal'rose and E. L. Frankovitch. *Am Chem Soc J* 80:2344-5 My 5 '58
- Dipole moment of the carbon-carbon bond. A. J. Petro. *bibliog Am Chem Soc J* 80: 4230-2 Ag 20 '58
- Double-bond formation in paraffinic hydrocarbons on exposure to ionizing radiation. R. M. Black. *bibliog J Ap Chem* 8:159-63 Mr '58
- Effect of binding of ions and other small molecules on protein structure; two electrophoretically distinguishable types of interaction of bovine serum albumin with acidic media. J. R. Cann. *bibliog Am Chem Soc J* 80:4263-4 Ag 20 '58
- Effect of structure on the stereochemistry of electrode reactions; unsaturated C-dibasic acids and esters; stereospecific reduction of the double bond. I. Rosenthal and others. *bibliog Am Chem Soc J* 80: 3050-5 Je 20 '58
- Further observations on the mechanism of chlorinolysis of sulfur-carbon bonds; the chlorinolysis of 4-benzylthio-7-chloroquinoline. H. Kwart and J. L. Miller. *bibliog Am Chem Soc J* 80:884-7 F 20 '58
- Heats of hydrogenation; relative stabilities in certain exocyclic olefin pairs. R. B. Turner and R. E. Garner. *bibliog Am Chem Soc J* 80:1424-30 Mr 20 '58
- Hydrogen bonding of phosphoryl compounds with chloroform and other solvents. M. W. Hanson and J. B. Bouck. *Am Chem Soc J* 79:5631-2 N 5 '57
- Improving the carbon-rubber bond. H. A. Braendle. *bibliog flow diag Rubber Chem & Tech* 31:147-55 Ja '58
- Infrared absorption by the CEN bond in addition compounds of nitriles with some inorganic halides. H. J. Coerver and C. Curran. *bibliog Am Chem Soc J* 80:3522-3 J1 20 '58
- Intermolecular metal-metal bonds and absorption spectra of some nickel(III) and palladium(II) complexes of vic-dioximes. C. V. Banks and D. W. Barnum. *bibliog Am Chem Soc J* 80:4767-72 S 20 '58
- Intermolecular metal-metal bonds and solubility of some nickel and palladium complexes of vic-dioximes. C. V. Banks and D. W. Barnum. *bibliog Am Chem Soc J* 80:3579-82 J1 20 '58
- Interpretation of the beating process of paper based on the hydrogen-bond theory of the mechanical properties of cellulose sheets. A. H. Nissan. *Tappi* 41:131-4 Mr '58
- Intramolecular aromatic ring-hydrogen bonding. D. S. Trifan and others. *bibliog diags Am Chem Soc J* 79:6566-7 D 20 '57
- Intramolecular hydrogen bonding in O-nitroanilines. L. K. Dvally and others. *Chem & Ind* p262-3, 1206 Mr 1, S 13 '58
- Ionic fission of the O-O bond in *t*-butyl arylpersulfonates. P. D. Bartlett and B. T. Storey. *bibliog Am Chem Soc J* 80:4954-61 S 20 '58
- Meerwein reactions on isolated olefinic bonds; free radical addition reactions on vinylsilanes. R. A. Benkeser and others. *bibliog Am Chem Soc J* 79:6253-6 D 5 '57
- New mechanism of bond formation; quinone-iron carbonyl complex gives new synthetic route of some Reppe reactions; abstracts. H. W. Sternberg and others. *Chem & Eng N* 36:43-4 My 5 '58; *Am Chem Soc J* 80: 1009-10 F 20 '58
- Nitrogen analogs of ketenes; formation of the peptide bond. C. L. Stevens and M. E. Munk. *bibliog Am Chem Soc J* 80:4069-71 Ag 5 '58
- Optical rotatory dispersion studies; detection of conformational alterations; effects of alkyl groups and double bonds in polycyclic systems. C. Djerassi and others. *bibliog Am Chem Soc J* 80:4001-15 Ag 5 '58
- O₂ pegs double bond. *Chem & Eng N* 36:41 O 20 '58
- Reactions of 1,1-dihalo-cyclopropanes with electrophilic reagents; synthetic route for inserting a carbon atom between the atoms of a double bond. P. S. Skell and S. R. Sandler. *Am Chem Soc J* 80:2024-5 Ap 20 '58
- Steroid-protein interactions; comparison of spectrophotometric and equilibrium-dialysis procedures for determination of binding constants. U. Westphal and others. *bibliog Am Chem Soc J* 80:5135-8 O 5 '58
- Structure and bonding of cyclopentadienylium and bis-cyclopentadienylium-magnesium. F. A. Cotton and L. T. Reynolds. *bibliog diags Am Chem Soc J* 80:269-73 Ja 20 '58
- Studies in hydrogen-bond formation; the role of hydrogen bonds in dyeing processes. D. S. E. Campbell and others. *bibliog* (36 ref) *Soc Dyers & Col J* 73:546-53 D '57
- Sulfur at work; new technique gives wool-like cotton, limp gelatin. *il Chem & Eng N* 36:4 Je 2 '58
- CHEMICAL chains
- Acid-catalyzed disproportionation reactions of the 17:21-dihydroxylated cortical side chain. R. Hirschmann and others. *Chem & Ind* p682 Je 7 '58
- Branched-chain higher sugars. R. Schaffer and H. S. Isbell. *bibliog Am Chem Soc J* 80:756-7 F 5 '58
- Chain length breakdown of cellulose by acetic acid solutions of water and sulfuric acid. C. J. Malm and others. *bibliog Ind & Eng Chem* 50:103-6 Ja '58
- Deuterium isotope effect in the side chain halogenation of toluene. K. B. Wiberg and H. S. Schlauch. *bibliog Am Chem Soc J* 80:3033-9 Je 20 '58
- Ethylene oxide addition to long-chain alcohols. H. F. Drew and J. R. Schaeffer. *bibliog Ind & Eng Chem* 50:1253-4 S '58
- Heat capacities of sodium tetraborate on the basis of the theory of the specific heat of chain structures. V. V. Tarassov. *bibliog Am Chem Soc J* 80:5052-5 O 5 '58
- Homolytic reactivity of aromatic sidechains. K. M. Johnston and C. H. Williams. *bibliog Chem & Ind* p328 Mr 15 '58
- Infrared identification of some sulfur derivatives of long-chain fatty acids. H. Susi and others. *bibliog Anal Chem* 80:443-6 Mr '58
- Interaction of human serum albumin with long-chain fatty acid anions. D. S. Goodman. *bibliog Am Chem Soc J* 80:3892-8 Ag 5 '58
- Macro rings; the synthesis and side chain chemistry of [9]paracyclophane. D. J. Cram and M. F. Antar. *bibliog Am Chem Soc J* 80:3109-14 Je 20 '58
- Molecular dimensions and interactions of long-chain polyphosphates in sodium bromide solutions. U. P. Strauss and P. L. Wine-man. *bibliog Am Chem Soc J* 80:2366-71 My 20 '58
- Seroflocculating steroids; reduction of the bile acid side chain. R. T. Blickenstaff and F. C. Chang. *bibliog Am Chem Soc J* 80:2726-30 Je 5 '58
- Solubility of long-chain amines in water. D. J. Brown. *J Colloid Sci* 13:286-7 Je '58
- Some properties of polymer networks formed from oriented chains of natural rubber. D. E. Roberts and L. Mandelkern. *bibliog Am Chem Soc J* 80:1289-97 Mr 20 '58
- Same. *Rubber Chem & Tech* 31:469-84 J1 '58
- Steroidal sapogenins; effect of side chain isomerism on rate of conversion to pseudosapogenins. M. E. Wall and S. Serota. *bibliog Am Chem Soc J* 79:6481-3 D 20 '57

CHEMICAL chains—Continued

- Steroidal sapogenins; side chain structure of 20-isosapogenins. M. E. Wall and H. A. Walsens. *bibliog Am Chem Soc J* 80:1984-7 Ap 20 '58
- Steroids; introduction of the cortical hormone side-chain. H. J. Ringold and G. Stork. *bibliog Am Chem Soc J* 80:250 Ja 5 '58
- Synthesis of long chain fatty acid amines of sphingosine and dihydrosphingosine. B. Weiss and P. Raizman. *bibliog Am Chem Soc J* 80:4657-8 S 5 '58
- Theory of molecular chain crystals and its application to high polymers. W. Brandt. *Ind & Eng Chem* 50:1022 Jl '58
- Thiol esters of long-chain acids and long-chain alkanethiols. R. Sasin and others. *bibliog Am Oil Chem Soc J* 35:192-4 My '58
- Variations in crystal structure within certain isologous series of long-chain compounds; a review of some basic features. E. S. Lutton. *bibliog Am Oil Chem Soc J* 35:sup 11-13 My '58

CHEMICAL compounds

See also

Chelation

- CHEMICAL consolidation of soils.** See Soils—Chemical consolidation

CHEMICAL constants

- Electrophilic substituent constants. H. C. Brown and Y. Okamoto. *bibliog Am Chem Soc J* 80:4979-87 S 20 '58
- Ion $\text{Fe}(\text{CNS})_3^{2+}$; its association constant and absorption spectrum. D. D. Perrin. *bibliog Am Chem Soc J* 80:3852-6 Ag 5 '58
- Simultaneous evaluation of the stability constant for the CdCl^+ ion and the standard state potential of the cell $\text{Cd-Hg}/\text{CdCl}_2(\text{m})/\text{AgCl}/\text{Ag}$ at 25°. W. B. Treumann and L. M. Ferris. *bibliog Am Chem Soc J* 80:5048-50 O 5 '58
- Statistical factors in the correlation of rate constants and equilibrium constants. S. W. Benson. *bibliog Am Chem Soc J* 80:5151-4 O 5 '58

See also

Van Laar constants**CHEMICAL consultants.** See Consultants**CHEMICAL development association, Commercial.** See Commercial chemical development association**CHEMICAL education**

See also

- Chemical engineering—Study and teaching
Chemistry—Study and teaching
Metallurgical education

Russia

- Training of engineers for the chemical industry at the Leningrad technological institute. V. B. Aleskovskii. *bibliog Can J Chem Eng* 36:131-5 Je '58

CHEMICAL elements

- Thermal-neutron data for the elements; data sheet. M. V. Davis and D. T. Hauser. *bibliog Nucleonics* 16:87-9 Mr '58
- Variation of gamma radiation rates for different elements following an underwater nuclear detonation. W. J. Heiman. *bibliog diag J Colloid Sci* 13:329-36 Ag '58

See also

- Atomic weights
Isotopes
Periodic system
Transition elements

Atomic no. 102

- Recent advances in physics; nobelium and the new heavy isotopes. D. Park. *bibliog Am J Phys* 26:210-13 Ap '58

Isotopes

- Different method, isotope; California researchers make short-lived isotope of 102. *il Chem & Eng N* 36:35-6 My 19 '58
- Newest element has a sister; existence of an isotope of nobelium has been confirmed. *il Product Eng* 29:10 Je 2 '58
- Paternity dispute; isotope of elements 102. *Nucleonics* 16:111-4 Ag '58

CHEMICAL engineering

- American reports on chemical engineering in nuclear technology. F. Roberts. *Ind Chem* 34:253-4 My '58
- Chemical engineering process dynamics. E. F. Johnson. *bibliog Chem Eng Prog* 54:38-9 S '58
- Chemical engineering refresher. S. Donatos, ed. *Chem Eng* 65:135-9 Ja 27 '58
- Chemical engineers take molecular approach. *Chem & Eng N* 36:46 Ja 20 '58

- Control systems engineering. E. F. Johnson; E. W. James. *il Chem Eng Prog* 54:41-8 Mr '58

- Disclose how electronics aids chemical engineering. R. W. Olson. *Ind Lab* 9:14-18 F '58
- Domestic developments likely to affect your future. *il diag Chem Eng Prog* 54:77-93 My '58

- Engineering aspects of polymer processes; symposium. *bibliog il diag Ind & Eng Chem* 49:1796-882 N '57

- European congress of chemical engineering 1958 meetings. R. Landau. *Chem Eng Prog* 54:24-6-4 Ag '58

- Flow through packings and beds (cont.). M. Leva and C. Y. Wen. *bibliog diag Chem Eng* 64:267-71 D '57

- Fundamentals of chemical engineering; annual review. *bibliog il Ind & Eng Chem* 50:485-558 pt 2 Mr '58

- High pressure chemistry. A. Gilchrist. *Ind Chem* 34:423-30, 545-9 bibliog (p 547-9) Ag, O '58

- High pressure; symposium. *bibliog il diag Ind & Eng Chem* 49:1945-2050 D '57

- Human achievement and the free society. C. H. Greenewalt. *Chem Eng Prog* 54:6-4 S '58

- Molecular physics in chemical engineering; symposium. *bibliog il diag Ind & Eng Chem* 50:1021-40 Jl '58

- Organisation of chemical engineering projects; abstracts of symposium papers. *Engineering* 186:121-2 Jl 25 '58; *Chem & Ind* p 1193-5 S 13 '58

- Process control, major factor in chemical engineering. J. B. Roberts. *Chem Eng Prog* 54:37-8 S '58

- Putting chemical products to work. C. F. Rassweiler. *Chem & Ind* p 1463-9 N 9 '57

- Review and preview; findings back feedback control. *il Chem & Eng N* 36:90-3 Ja 6 '58

- Sorption processes. G. P. Monet and others. *bibliog flow diag il diag Chem Eng Prog* 53:513-19, 601-12 N-D '57

- Ten top technical trends of the year. *Chem Eng* 65:138-44 Ja 13 '58

See also

- Aeration
Agglomeration
Chemical plants—Design
Drying
Evaporation
Flotation process
Fluidization
Leaching
Mixing
Plastics engineering
Sampling
Sedimentation
Sewage disposal
Sublimation
Unit processes
Water purification

Apparatus and supplies

- Chemical engineering; 4th industry issue. *il plans diag Chem Eng* 64:3-520 Mid-N '57

- New instruments and apparatus. *il Manuf Chem* 29:15-20 Ja '58

- What's ahead in process equipment? A. F. Langlands. *il Can Chem Process* 42:44-6-4 Ja '58

See also

- Atomizers
Autoclaves
Chemical industries—Exhibitions
Chromatographic analysis—Apparatus
Concentrators
Condensers
Extraction apparatus
Feeders
Filters and filtration (technical chemistry)
Flow regulators
Heat exchangers
Homogenizers
Mixers
Pressure vessels
Proportioning equipment
Reactors, Chemical
Vacuum apparatus

Bibliography

- Technical bookshelf. Published in bi-weekly numbers of Chemical engineering
Your design reference file (cont). R. Cushing. *Chem Eng* 64:275-80 D '57

CHEMICAL engineering—Continued

Estimates

- Accuracy considerations for capital cost estimation. H. C. Bauman, *diag Ind & Eng Chem* 50:sup55A-8A Ap '58
- Analytical approach to high accuracy short-cut estimation of fixed capital projects. H. C. Bauman, *Ind & Eng Chem* 50:sup55A-7A Je '58
- Computer speeds economic evaluations. J. F. Adams and others, *bibliog Chem Eng* 65:99-104 Je 30 '58
- Dynamic cost estimating. W. Copulsky and R. Cziner, *Ind & Eng Chem* 50:sup73A-6A S '58
- Economics of process development. K. M. Watson, *bibliog diags Ind & Eng Chem* 50:594-8 Ap '58
- Estimation of direct operating labor requirements for new manufacturing processes. R. S. Wobus, *Chem Eng Prog* 63:581-5 D '57
- Process evaluation. W. S. Gilfoil and E. L. Mongan, *diag Chem Eng Prog* 54:62-4 Mr '58
- Project cost control. E. A. Stallworthy, *Ind Chem* 34:340-2, 442-4-, 502-4 Je-Jl. S '58

History

- Our professional heritage, *il Chem Eng Prog* 54:49-76 My '58

Study and teaching

- Chemical engineering in a university. P. V. Dankwerts, *Chem & Ind* p 3606-11 D 14 '57
- Chemical engineering in the U.S.S.R. J. G. Tolpin, *bibliog Chem Eng Prog* 54:70-6 Ag '58
- Teaching horizons broadened by industry schools, *il Chem Eng Prog* 54:110-+ S '58
- Teaching is fun. K. A. Kobe, *Ind & Eng Chem* 50:sup7A-8A+ Je '58
- Training of engineers for the chemical industry at the Leninrad technological institute. V. B. Aleskovskij, *bibliog Can J Chem Eng* 36:131-5 Je '58

Tables, calculations, etc.

- Achieving top plant efficiency; Carbide Chemicals use a computer to derive optimum operation of ethylene oxide unit, *il Can Chem Process* 42:91-2+ Je '58
- Calculate adequate rupture disk size. J. G. Lowenstein, *Chem Eng* 65:157-8 Ja 13 '58
- Chemical engineering kinetics. W. F. Stevens, *bibliog Ind & Eng Chem* 50:591-3 Ap '58
- Chemical proportioning calculations. J. R. Heffler, *Chem Eng* 65:129-30 Ja 27 '58
- Computer speeds economic evaluations. J. F. Adams and others, *bibliog Chem Eng* 65:99-104 Je 30 '58
- Computers and the future, *il Chem & Eng N* 36:32-+ Ap 28 '58
- Correction factor for axial mixing in packed beds. N. Epstein, *bibliog Can J Chem Eng* 36:210-12 O '58
- Digital differential analyzers, the chemical engineer's computer. R. W. Rutishauser, *il diag Ind & Eng Chem* 50:sup52A-4A Jl '58
- How to calculate adequate spring-loaded relief valves. J. E. Bingham, *diag Chem Eng* 65:133-6 F 10 '58; Discussion, 65:152-4 Je 2 '58
- How to estimate engineering properties. W. R. Gambill, *bibliog Chem Eng* 64:261-6 D '57; 65:159-62 Ja 13, 137-40 F 10, 147-9 Mr 10, 146-50 Ap 7; 143-6 My 5, 125-8 Je 2, 113-16 Je 30; 121-4 Ag 25; 169-72 S 22; 157-62 O 20 '58
- How to scale up pilot plant data and equipment. E. L. Clark, *bibliog Chem Eng* 65:129-40 O 6 '58
- How to use mass transfer coefficients. J. O. Osburn, *diags Chem Eng* 65:169-72 My 19 '58
- Identification and estimation of variation in process measurements. F. H. Tingey, *bibliog Ind & Eng Chem* 50:1017-20 Jl '58
- Least squares. C. H. Chou, *bibliog Ind & Eng Chem* 50:799-802 My '58
- Limiting velocities in packed columns; abstract. V. V. Kavarov and Y. I. Dymner-sky, *Ind Chem* 34:457-8 Ag '58
- Multiple-effect evaporator calculations. K. N. Leibovic, *diag Chem Eng Prog* 54:71-4 Mr '58
- New coding system enables engineers with no computer experience to instruct UNIVAC, *il Chem Eng Prog* 54:88-9 My '58
- Old trick averts error in figuring dilution. W. H. Fischer, *diags Chem Eng* 65:149-50 S 8 '58

- Phase equilibria in binary and multicomponent systems; modified van Laar-type equation. C. Black, *bibliog* (38 ref) *diags Ind & Eng Chem* 50:403-12 Mr '58
- Problem solving by computers; stimulant to creative engineering. C. K. Buell and L. W. Pollock, *il Chem Eng* 65:147-9 O 20 '58
- Process characteristic analyzer. B. White, *il diags Instruments & Automation* 31:862-5 My '58
- Solve second-order linear equations. W. E. Ball and R. C. Johnson, *Chem Eng* 65:145-50 F 24 '58
- Speed pressure drop calculations. N. H. Chen, *bibliog Chem Eng* 65:160-2 S 22 '58
- Use graph to design for optimum economic extraction. R. S. Olson, *bibliog Chem Eng* 65:142-5 O 6 '58
- Use of computers in reactor design. D. S. Billingsley and others, *bibliog diags Ind & Eng Chem* 50:741-52 My '58
- See also
- Heat transmission—Tables, calculations, etc.
- Vapor pressure

Argentina

- Chemical engineering around the world. R. Garcia and T. G. Krenkel, *il Chem Eng Prog* 54:102-3 My '58

Australia

- Chemical engineering around the world. J. P. Baxter, *il Chem Eng Prog* 54:105 My '58

Belgium

- Chemical engineering around the world. C. J. Guillissen and A. Quets, *il Chem Eng Prog* 54:104-5 My '58

Brazil

- Chemical engineering around the world. F. C. Williams and A. S. Moggi, *il Chem Eng Prog* 54:100 My '58

Burma

- Chemical engineering around the world. S. Tun, *il Chem Eng Prog* 54:102-3 My '58

Canada

- Chemical engineering around the world. G. Page, *il Chem Eng Prog* 54:101 My '58

France

- Chemical engineering around the world. J. Cathala, *Chem Eng Prog* 54:102 My '58

Germany

- Chemical engineering around the world; West Germany. R. Landau, *il Chem Eng Prog* 54:99 My '58
- Chemical engineering in West Germany. R. Landau, *bibliog il Chem Eng Prog* 54:64-8+ Jl '58

Great Britain

- Chemical engineering around the world; Britain. H. Hartley, *il Chem Eng Prog* 54:105 My '58

Iceland

- Chemical engineering around the world. B. Lindall and H. B. Kristinsson, *il Chem Eng Prog* 54:97 My '58

India

- Chemical engineering around the world. M. D. Parekh, *Chem Eng Prog* 54:98-9 My '58

Israel

- Chemical engineering around the world. R. Neuberger, *il Chem Eng Prog* 54:98 My '58

Italy

- Chemical engineering around the world. L. Morandi and G. Marullo, *il Chem Eng Prog* 54:95 My '58

Japan

- Chemical engineering around the world. S. Uchida and S. Fujita, *il Chem Eng Prog* 54:104 My '58

Mexico

- Chemical engineering around the world. C. Duhne and others, *il Chem Eng Prog* 54:106 My '58

Netherlands

- Chemical engineering around the world. H. Hoog, *il Chem Eng Prog* 54:100 My '58

New Zealand

- Chemical engineering around the world. G. M. Smith, *il Chem Eng Prog* 54:97 My '58

Norway

- Chemical engineering around the world. S. G. Terjesen, *il Chem Eng Prog* 54:98 My '58

CHEMICAL engineering—Continued

- Poland**
Chemical engineering around the world. J. W. Ciborowski. *Chem Eng Prog* 54:101 My '58
- Russia**
Chemical engineer visits the USSR. E. L. Piret. *Chem Eng Prog* 53:sup 19-22 D '57
Chemical engineering around the world; Soviet Union. N. M. Zhavoronkov and A. N. Planovsky. *Chem Eng Prog* 54:96-7 My '58
Chemical engineering in the U.S.S.R. J. G. Tolpin. *bibliog Chem Eng Prog* 54:70-6 Ag '58
- South Africa**
Chemical engineering around the world. O. B. Volckman. *Chem Eng Prog* 54:106 My '58
- Spain**
Chemical engineering around the world. A. Riús. *Chem Eng Prog* 54:96 My '58
- Switzerland**
Chemical engineering around the world. A. Guyer. *Chem Eng Prog* 54:103 My '58
- CHEMICAL engineering laboratories**
Chemical engineering at Manchester; new building of the Manchester college of science and technology. *Chem Eng Prog* 54:373-4 J1 '58
Manchester college of science and technology; new chemical engineering building. *Chem & Ind* p 1134-6 Ag 30 '58
New chemical engineering building at the Manchester college of science and technology. *Chem Eng Prog* 54:763-4 Je 13 '58
- CHEMICAL engineers**
Britain's output of chemical engineers. *Chem & Ind* p435-6 Ap 12 '58
Career opportunities for chemists and chemical engineers. *Chem Eng Prog* 54:133-5 Ja '58
Chemical engineers and missiles. *Chem Eng Prog* 54:133-5 Ja '58
Chemical engineers continue to lose ground; open letter to the career guidance committee of AICHE. R. Fremed. *Chem Eng Prog* 54:161-2+ Mr 24 '58
Demand for engineers exceeds supply in 1957, but gap is lessening. *Chem Eng Prog* 54:98+ Mr '58
Employment opportunities. *Chem Eng Prog* 54:478-82+ Mid-N '57
Engineering assistance to research and development. W. S. Gilfoil and L. E. Rasmussen. *Chem Eng Prog* 50:sup62A-4A S '58
How chemical engineers serve Uncle Sam. R. R. Freeman. *Chem Eng* 65:161-2+ My 5 '58
More push-buttons, more engineers. W. M. Cooper. *Chem Eng Prog* 53:sup8 D '57
Nationwide job pools place professionals. *Chem Eng* 65:133-4 Ag 25 '58
Process control engineers, much in demand, but supply short. *Chem Eng Prog* 54:133 F '58
Production man in chemical industry. W. E. Fisher. *Ind & Eng Chem* 50:sup81A-2A+ Mr '58
There is no undue shortage of engineers. *Chem Eng* 65:131-2 Je 2 '58
What makes a successful chemical engineer. R. S. Schultz. *Chem Eng* 65:171-2+ Mr 10 '58
You have a key spot in the rocket age. R. F. Fremed. *Chem Eng* 65:187-8 My 19 '58
- See also*
Breitung, Charles Adelbert
Chemical engineering—Study and teaching
- Salaries**
Salary picture uncertain. *Chem & Eng* N 36:35-6 J1 7 '58
Starting salaries still rising. D. A. H. Roethel. *Chem & Eng* N 36:94-7 O 20 '58
- CHEMICAL engineers, American institute of.**
See American institute of chemical engineers
- CHEMICAL equations**
Modernized equation writing. R. J. Baker and A. E. Griffin. *Pub Works* 89:122 F '58
- CHEMICAL equilibrium**
Acid-base equilibria in glacial acetic acid; the effect of water on potentiometric and indicator end-points in acid-base titrations in acetic acid. S. Euckenstein and I. M. Kolthoff. *bibliog Am Chem Soc* J 79:5915-21 N 20 '57
Acid-base equilibrium constants for 2,4-dinitrophenol and some aliphatic amines in non-aqueous solvents. R. G. Pearson and D. C. Vogelsong. *bibliog Am Chem Soc* J 80:1038-43 Mr 6 '58
Calculation of association constants for complex formation from spectral data; infrared measurements of hydrogen bonding between ethanol and ethyl acetate, and ethanol and acetic anhydride. E. Grunwald and W. C. Coburn, Jr. *bibliog Am Chem Soc* J 80:1322-5 Mr 20 '58
cis-trans equilibria in *o*-halophenols. A. W. Baker. *Am Chem Soc* J 80:3598-600 J1 20 '58
Conformational analysis; bimolecular displacement rates of cyclohexyl *p*-toluenesulfonates and the conformational equilibrium constant of the *p*-toluenesulfonate group. E. L. Eliel and R. S. Ro. *bibliog Am Chem Soc* J 79:5995-6000 N 20 '57
Correlation of equilibrium data for the system $\text{SO}_2\text{-H}_2\text{O-CaO}$. W. A. Dickens and A. W. Plummer. *bibliog Tappi* 40:895-9 N '57
Determination of the equilibrium temperature of a plasma. P. J. Dickerman. *bibliog J Ap Phys* 29:598 Mr '58
Environmental control of sedimentary iron minerals. N. K. Huber. *bibliog Econ Geol* 53:123-40 Mr '58
Equilibria in the fibrinogen-fibrin conversion; kinetics of the conversion of fibrinogen to fibrin monomer. S. Ehrenpreis and others. *bibliog Am Chem Soc* J 80:4255-63 Ag 20 '58
Equilibrium data now available for cyclohexane. D. S. Hoffman and J. H. Weber. *Pet Refiner* 37:173-5 F '58
Equilibrium solubility of sodium chloride in concentrated sodium hydroxide; data sheet. *Tappi* 41:sup 140A Mr '58
Equilibrium studies of the copper(II) oxalate complex between an aqueous solution and an anion exchange resin. L. D. Cockerell and P. H. Woods. *bibliog Am Chem Soc* J 80:3856-8 Ag 5 '58
Estimate of the conformational equilibrium in cyclohexanol from infrared spectra. R. A. Fickering and C. Price. *bibliog Am Chem Soc* J 80:4931-3 S 20 '58
Eyring's model of flow applied to thixotropic equilibrium. S. E. Dahlgren. *bibliog J Colloid Sci* 13:151-8 Ap '58
Iterative method of determining equilibrium compositions of reacting gases. S. T. Chu. *Jet Propulsion* 28:252-4 Ap '58
Mode of action of non-ionic levelling agents. W. Luck. *bibliog* (36 ref) *Soc Dyers & Col J* 74:221-34; Discussion, 234-5 Ap '58
Predicting convergence pressure. J. M. Lenoir and G. A. White. *bibliog* (45 ref) *diags Pet Refiner* 37:173-81 Mr '58
Statistical factors in the correlation of rate constants and equilibrium constants. S. W. Benson. *bibliog Am Chem Soc* J 80:5151-4 O 5 '58
Uranyl sulfate complexes from tri-*n*-octylamine extraction equilibria. K. A. Allen. *bibliog Am Chem Soc* J 80:4133-7 Ag 20 '58
- See also*
Phase rule and equilibrium
- CHEMICAL finishing.** See Metal finishing
- CHEMICAL formulas**
Chemical structures by computer. A. Opler and N. Baird. *Chem & Eng* N 36:108-9 Ap 28 '58
Determination of the formulas of aqueous ruthenium(III) species by means of anion exchange resin; Ru^{3+} , RuCl^{2+} and RuCl^+ . H. H. Cady and R. E. Connick. *bibliog Am Chem Soc* J 80:2646-52 Je 5 '58
- CHEMICAL grouting.** See Soils—Chemical consolidation
- CHEMICAL industries**
Brisk first half seen for chemicals. *Chem & Eng* N 36:21-3 Mr 10 '58
Budget no panacea for chemicals. *Chem & Eng* N 36:26-7 Ja 20 '58
Building blocks of the chemical industry in 1955. maps *Ind & Eng Chem* 50:sup 105A-6A+ Ja '58
Business climate improves, but. *Chem & Eng* N 36:26-7 O 20 '58
Calendar of meetings and events of chemical interest scheduled for 1958. *Chem & Eng* N 36:34-90 F 10 '58
Chemical growth slowing down? *Chem Eng* 65:72+ S 8 '58
Chemical industry cuts work force. *Chem & Eng* N 36:25-6 F 24 '58
Chemical world 1957-1958; review and preview. *Chem & Eng* N 36:64-8+ Ja 6 '58
Consumers; the chemical industry's future. J. R. Strickland and J. E. R. Carrier. *Chem Eng Prog* 54:64-5 Ja '58

CHEMICAL industries—Continued

- Cresap complex moving; Mountaineer Carbon and Ormet plants on stream. *il Chem & Eng N 36:27-8 My 26 '58*
- Debate in 1958 on Reciprocal trade agreements acc renewal will involve rubber and chemical industries. *Rubber World 137:258 N '57*
- Detroit puts on the brakes. *diag Chem & Eng N 36:21-2 Ap 14 '58*
- Expansion by joint venture. R. S. Morse. *Chem & Eng N 36:62-7 Ag 18 '58*
- Expansion in the chemical industry. Published in weekly numbers of Chemical and engineering news
- Exports may hit \$1.2 billion. *Chem & Eng N 36:36 Ja 13 '58*
- Factors in market research. L. F. Marek. *il Chem & Eng N 36:56-9 JI 14 '58*
- House style in industry; abstract. A. Davis. *Chem & Ind p 1614 D 14 '57*
- Impact of nuclear energy on the chemical process industries; time for more data, fewer prophecies. R. E. Vener. *Chem Eng Prog 54:57-62 F '58*
- International collaboration in the chemical industry. R. Landau. *il map Chem Eng Prog 53:531-6 N '57*
- Long range growth of chemical industries. H. J. Barnett and F. T. Moore. *Chem & Eng N 36:78-82+ Ap 7 '58*
- Nuclear power development. W. K. Davis. *Chem Eng Prog 54:8+ F '58*
- Outlook brighter for 1959. *Chem & Eng N 36:31-2 S 29 '58*
- Partners in propulsion: Stauffer and Aerojet, Calvary and Thiokol, Phillips and North American. *il Chem & Eng N 36:28-9 Ja 20 '58*
- Petrochemicals, the boom continues! K. L. Bateman. *Pet Refiner 36:197-8 N '57*
- Role of the chemical company; importance of mining as a major source of the raw materials. O. A. Power. *il Min Cong J 44: 36-7 JI '58*
- Trustbusters bomb CPI. *Chem & Eng N 36:24 Je 16 '58*
- Value distorts state lines. *map Chem & Eng N 36:36-7 Ja 20 '58*
- See also*
- Anti-freeze solutions
- Ceramic industries
- Ceramics
- Chemicals
- Commercial chemical development association
- Drug trade
- Fertilizer industry
- Gas industry
- Manufacturing chemists association
- Paper industry and trade
- Potash industry and trade
- Pottery
- Rubber

Accounting

- Cost control; panel discussion. *Chem Eng Prog 54:154+ F '58*
- Cost reduction, a program that works. R. Gutoff. *Chem Eng Prog 54:74-6 S '58*
- Depreciation; there'll be some changes made. *Chem Eng 65:70+ JI 28 '58*
- Factoring costs of chemical plant installations. H. C. Bauman. *Ind & Eng Chem 50: sup69A-71A Ag '58*
- Project cost control. E. A. Stallworthy. *Ind Chem 34:340-2, 442-4+ 502-4 Je-JI. S '58*
- Profit estimating. E. J. Stallworthy. *il Ind Chem 34:3-6 66-70 Ja-F '58*
- Rate economic factors by importance. K. Finlayson. *Chem Eng 65:151-4 Ja 13 '58*
- Size your plant for growth, but how much? economic balance can help you decide. J. B. Weaver and W. H. Greist. *bibliog Ind & Eng Chem 50:sup69A-62A JI '58*

Benelux union

- Chemical industry in the Benelux countries. P. Ferrero. *Can J Chem Eng 36:119-22 Je '58*

Directories

- Chemical buyers guide, 1958-1959. *Can Chem Process Buyers Guide p 1-336 '58*
- Chemical engineering; 4th inventory issue. *il plans Chem Eng 64:3-520 Mid-N '57*
- Construction digest 1957; company and location, products and remarks. *Ind & Eng Chem 50:sup67A-70A+ Ja '58*
- Inventory of new processes and technology. *Chem Eng 65:126-38 My 5 '58*
- 1958 buyers' guide; chemicals, chemical plant, laboratory equipment. *Chem & Ind sup C1-58, P3-66, L3-56 D 7 '57*

Exhibitions

- Achema congress and exhibition. 12th. Frankfurt, Germany. *il diags Engineer 206: 71-2, 109-11, 151-4 JI 11-26 '58; Chem & Eng N 36:23-5 Je 23 '58; Ind Chem 34:367-9 JI '58; Control Eng 5:21-2+ Ag '58*
- Analimatic on view at Achema international chemical exposition. Frankfurt, Germany. *il Chem & Eng N 36:43 Je 9 '58*
- Canada's biennial chemical exhibition; list of exhibitors. *il Can Chem Process 42:sup3A-4A+ My '58*
- Chemical and petroleum engineering exhibition. London, June 18-28. *il Engineer 205: 935-8, 977-80; 206:23-6 Je 20-JI 4 '58; Engineering 186:10-11, 70-1 JI 4, 18 '58*
- Chemical and petroleum engineering exhibition. London, June 18-28; preview. *il Ind Chem 34:7, 294-302, 375-87 Ja, Je-JI '58; Chem & Ind p704-16 Je 14 '58; Manuf Chem 29:240-8 Je '58*
- Chemical industries exposition, 26th. New York, Dec. 2-6; with list of exhibitors and floor plans. *il Chem & Eng N 35:105-16 N 4; 25-6 D 9; 25, 48+ 52+ D 16 '57; Chem Eng 64:39-46+ Mid-N '57; Chem Eng Prog 53:sup90-2+ N '57; Ind Chem 34:71-5 F '58; Rubber World 137:583-4 Ja '58*
- National chemical exposition, 10th. Chicago, Sept. 9-12, list of exhibitors, floor plans. *Chem & Eng N 36:79-82 Ag 11 '58*
- Pacific chemical exposition, San Francisco; with list of exhibitors and floor plan. *Chem & Eng N 36:87-9 Mr 17 '58*

Finance

- Business hits bumper weather. *Chem & Eng N 36:21-2 F 10 '58*
- Business news shows brighter tone. *Chem & Eng N 36:19-21 Ag 4 '58*
- Capital outlays level out. *Chem & Eng N 36: 31-2 S 15 '58*
- Capital spending, dividends hit highs. *Chem & Eng N 35:17-18 D 23 '57*
- Capital spending drops again. *Chem & Eng N 36:23 Mr 24; 25 Je 16 '58*
- Capital spending; substantial carry-over in new construction. *il Can Chem Process 42: sup 11A-13A Ja '58*
- Chemical profits; harder to keep a buck. W. H. Chartener. *Chem Eng 65:86+ Ap 7 '58*
- Chemical spending; firms retrench and wait. W. H. Chartener. *Chem Eng 65:86+ My 19 '58*
- Credit eases a bit more. *Chem & Eng N 36: 27 F 3 '58*
- Dividends in doubt? *Chem & Eng N 36:17 My 19 '58*
- Earnings set motley pattern. *Chem & Eng N 36:28-9 Mr 17 '58*
- Facts and figures for the chemical process industries; finance and financial report of 105 firms. D. M. Kiefer. *Chem & Eng N 36:61-78 S 1 '58*
- New plant construction hits plateau. *il maps Chem & Eng N 36:17-19 Ja 27 '58*
- Plant building takes a breather. W. H. Chartener. *Chem Eng 65:108+ Ja 13 '58*
- Process industry results still mixed. *Chem & Eng N 35:30 N 18 '57*
- Profits sag; spirits don't. *Chem & Eng N 36:21-3 My 12 '58*
- Progress under pressure. *Chem & Eng N 35: 23-4 N 4 '57*
- Symposium on chemical financing. *Chem & Eng N 36:80-4+ Je 2 '58*

See also

- Chemical industries—Securities
- Chemical plants—Costs

Laws and regulations

- Chemical marketing, too many laws? H. H. Fowler. *Chem & Eng N 35:44-8 D 23 '57*
- Recess is over for Congress. *Chem & Eng N 36:36-7 Ap 21 '58*

Public relations

- Chemical public relations program starts. *Chem & Eng N 35:23 D 30 '57*
- Selling a technical program to the public. C. L. Black. *Chem Eng Prog 54:148+ F '58*

Salesmen

- Technical sales and service. J. C. Pullman. *Ind & Eng Chem 50:sup99A-100A Ap '58*
- See also*
- Salesmen's association of the American chemical industry

Securities

- Chemical firms rate high. *Chem & Eng N 36:23-4 JI 14 '58*
- For investors, management rates high. *Chem & Eng N 36:34-6 F 3 '58*

CHEMICAL industries—Securities—Continued

Heavy weight over Wall Street; Du Pont proposes to keep General Motors stock, transfer voting rights to its stockholders. *Chem & Eng N 36:25-6 My 28 '58*
 Process industry stocks in 1957; tables. *Chem & Eng N 36:75 Ja 6 '58*
 Stocks poised on a pinnacle. *Chem & Eng N 36:29-30 S 29 '58*

Statistics

Canadian chemical processing; annual statistical review. *Can Chem Process 42:sup 1-24 Je '58*

Facts and figures for the chemical process industries. *Il Chem & Eng N 36:53-116 S 1 '58*

New chemical facilities for 1958-59. *Pet Refiner 37:291-2+ Mr '58*
 Recession's effect mixed in chemical industry. *Il maps Chem & Eng N 36:54-63 My 19 '58*
 Where are petrochemicals headed? W. E. Kuhn. *bibliog Oil & Gas J 56:95-9 Mr 3 '58*

Australia

Aussie chemicals make gains. *Chem & Eng N 36:106 Ja 6 '58*

Belgium

Belgian chemical industry. A. Guilmot. *Chem & Eng N 36:98-9 Ja 6 '58*

California

In California; petrochemical boom? I. Bergsteinsson and M. J. Laituri. *Pet Refiner 37:119-22 F '58*

Canada

Annual business and market review, preview. *Il map Can Chem Process 42:sup 1A-31A Ja '58*

Canada; industrial integration is the aim. *Il map Chem & Eng N 36:80-8 O 20 '58*
 Canada's petrochemical industry. *Chem & Ind p510 My 3 '58*

Canadian chemical industry. S. J. Cook. *Chem & Eng N 36:95-6 Ja 6 '58*
 Canadian chemical processing; annual statistical review. *Can Chem Process 42:sup 1-24 Je '58*

Carbide's stake in petrochemicals. *Il Can Chem Process 41:55-7 N '57*

Chemical industry. *Il Eng J 41:116-18 Ap '58*
 Chemical industry goes looking for trouble. *Il Can Chem Process 42:50-2+ S '58*

Chemical industry in our economy. H. G. Smith. *Chem & Ind p 1242-7 S 27 '58*

Chemical investment grows. S. J. Cook. *Chem & Eng N 36:102 Ap 28 '58*

Chemical tradewinds, rough but steady. *Can Chem Process 42:20-48 Mr '58*

Chemicals' next quarter century. J. Davis. *Can Chem Process 41:22-4+ D '57*

Chemicals to market. S. J. Cook. *Chem & Eng N 35:84 N 13 '57*

Chemistry and the chemical industry in Canada. H. G. Smith. *Chem & Ind p 1552-6 N 30 '57*

Petrochemicals; gaps to be filled in Canada. *Il Can Chem Process 42:24-6+ My '58*

Surfactants consolidating a Canadian base. *flow diag Il Can Chem Process 41:50-3 D '57*
 TiO₂ process taps Sorel slag for savings; process flowsheet; Canadian Titanium Pigments. *Il Chem Eng 65:98-101 Ja 27 '58*

Cuba

Allied takes on a Latin flavor. *Il Chem & Eng N 36:86-7 F 17 '58*

Eastern states

Recession's effect mixed in chemical industry; chemical inventories high in East. *Il map Chem & Eng N 36:54-7 My 19 '58*

Egypt

Egyptian chemicals inch ahead. *Chem & Eng N 36:75-6 F 3 '58*

Europe

Chemical industry in Europe today; symposium. *flow sheet diag Can J Chem Eng 36:89-135 Je '58*

Common market lures U.S. investments. *Il maps Chem & Eng N 36:72-7 Je 16 '58*

Developments and trends in process control in Europe. A. J. Young. *bibliog Chem Eng Prog 54:47-9 S '58*

European chemicals growing fast. *Chem & Eng N 36:73-4 My 5 '58*
 European petrochemicals; special report. *Il Chem & Eng N 35:84-8, cover D 9 '57*

Review and preview: Europeans eye politics. *Il map Chem & Eng N 36:97-8 Ja 6 '58*

France

Chemical industry in France. J. J. Desportes. *Can J Chem Eng 36:108-13 Je '58*

French chemical industry. M. Brulter. *Chem & Eng N 36:99-100 Ja 6 '58*

French crisis. *Chem & Eng N 35:31-2 N 11 '57*
 French newsletter. Y. Prax. *Chem & Ind p 1540-1 N 23 '57; p253-4, 1139, 1192 Mr 1, Ag 30, S 13 '58*

What will happen in the French and European chemical industry with de Gaulle in power? *Chem & Eng N 36:23 Je 16 '58*

Germany

Chemical industry in Western Germany. K. Winnacker. *flow sheet diag Can J Chem Eng 36:91-100 Je '58*

German chemical industry. *Chem & Eng N 36:101 Ja 6 '58*

Great Britain

British chemical industry. B. Hickson. *Chem & Eng N 36:99-100 Ja 6 '58*

Chemical industry in the United Kingdom. R. Holroyd. *Can J Chem Eng 36:101-7 Je '58*

Development of the petroleum chemical industry in Britain. R. Holroyd. *flow sheet Il diag Chem & Ind p900-9 J 19 '58*

Industrial organic intermediates; past, present and future. D. A. W. Adams. *Chem & Ind p 1428-33 N 2 '57*

International trade in chemicals. G. Abrahamson. *Ind Chem 34:163-8 Ap '58*
See also

British chemical plant manufacturers association

Gulf Coast region

Gulf Coast future looks strong. *Chem & Eng N 35:23-4 D 2 '57*

India

India nears DDT independence. *Il Chem & Eng N 36:86-8 Ap 7 '58*

Italy

Formaldehyde grows abroad; Montecatini builds third air-oxidation formaldehyde plant. *Il diag Chem & Eng N 36:58+ My 26 '58*

Italian chemical industry. L. Sessa. *Il Chem & Eng N 36:101-2 Ja 6 '58*

Italian newsletter. G. Pastonesi. *Chem & Ind p20, 323, 999 Ja 4, Mr 15, Ag 9 '58*

Present situation and prospects of the Italian chemical industry, high polymer developments. G. Natta. *Can J Chem Eng 36: 114-18 Je '58*

Japan

Japan's government declines to protect young petrochemical industry. *Oil & Gas J 56:86-7 Ap 14 '58*

Mitsui enlarging petrochemical facilities; completion is due in 1959. *Oil & Gas J 56:87 Je 23 '58*

Latin America

No change planned in Latin America; investment climate unchanged. *Chem & Eng N 36:17-19 Je 9 '58*

Mexico

Mexican chemical industry grows. *Chem & Eng N 36:83-8 Ap 21 '58*

Mexico chemical surprise. J. Sperling. *Il map Chem & Eng N 36:54-9 Ag 4 '58*

Middle western states

Recession's effect mixed in chemical industry; auto slump hits Midwest. *map Chem & Eng N 36:60-1 My 19 '58*

Netherlands

Chemical industry in the Netherlands; symposium. *Chem & Ind p454 Ap 19 '58*

Netherlands chemical industry. G. A. Van Haeften. *Il Chem & Eng N 36:102-3 Ja 6 '58*

News from the Dutch chemical front. (cont.) P. W. Hofst. *Chem & Ind p 1477-8 N 9 '57; p93, 968 Ja 25, Ag 2 '58*

New Zealand

New Zealand newsletter. S. G. Brooker. *Chem & Ind p430, 823, 1082-3, 1258 Ap 12, Je 28, Ag 16, S 27 '58*

Ontario

Southern Ontario, favored ground for chemicals. *Il map Can Chem Process 42:20-2+ Ag '58*

CHEMICAL industries—Continued**Philippine Islands**

Philippine chemical industry, young and promising. W. J. Schmitt and M. M. Varela. *il map Chem & Eng N 36:56-60, cover Ja 13 '58*

Poland

Recent developments in the Polish chemical industry. B. Trepka. *il Ind Chem 34:417-19+ Ag '58*

Russia

Certain trends in the development of chemistry and the chemical industry in the U.S.S.R. N. N. Melnikov. *Can J Chem Eng 36:123-30 Je '58*

Little know-how for Russia; American chemical producers are not too interested in selling important chemical processes and related know-how to the Soviet Union. *il Chem & Eng N 36:27-9 S 8 '58*

Russia to build 157 plants to step up production of synthetic rubber and petrochem products. Oil & Gas J 56:85 Je 16 '58

Russian chemicals: strength, weakness. *Chem Eng 65:70 Ag 25 '58*

U.S.S.R. eyes coal chemicals. D. Carney. *Chem & Eng N 36:70-1 F 10 '58*

Scotland

Chemical industry in Scotland. W. M. Cumming. *Chem & Ind p455-6 Ap 19 '58*

South Africa

SASOL; chemical engineering abroad; South African gasoline-from-coal plant. *il Chem Eng Prog 53:sup 113 D '57*

Southern states

More petrochemicals in the South. *Chem & Eng N 36:29 O 6 '58*

Recession's effect mixed in chemical industry; South's chemical industry steady. *il map Chem & Eng N 36:58-9 My 19 '58*

Switzerland

Bicentenary of the Geigy organization. *il Chem & Ind p873-5 Je 7 '58*
Geigy's 200 years; Swiss firm celebrates its bicentenary. *il Chem & Eng N 36:78-9 Je 16 '58*

Swiss chemical industry. E. Ganzoni. *Chem & Eng N 36:103-4 Ja 6 '58*

Switzerland avoids recession. *Chem & Eng N 36:65-6 Je 2 '58*

United States

European common market? for U.S. chemicals. *Chem & Eng N 36:23 F 17 '58*

Venezuela

Petrochem scandal is exposed by new Venezuelan junta. Oil & Gas J 56:86-7 Je 23 '58

Petrochemicals with a tropical bent; Morón, Venezuela. *il map Chem & Eng N 35:76-7 D 2 '57*

Public support sought for revamping Venezuela's scandal-ridden petrochem program. C. Perez de la Cova. Oil & Gas J 56:71 S 22 '58

Western states

Recession's effect mixed in chemical industry; spending shows West's optimism. *il map Chem & Eng N 36:62-3 My 19 '58*

CHEMICAL institute of Canada**Division of rubber chemistry**

Annual meeting, Toronto, May 28; program and abstracts of papers. Rubber Age 83:128-7 Ap '58; Rubber World 138:275-6 My '58

CHEMICAL laboratories

Atlas opens lab. *il Chem & Eng N 36:24-5 Je 2 '58*

Chessington research centre; Borax consolidated ltd. *il Chem & Ind p 1448-9 N 2 '57*

Columbia-Southern boosts research; new Barberton lab. *il Chem & Eng N 36:25 My 12 '58*

Design and construction of three new laboratories; Organic chemical laboratories of Ilford ltd. *il plan diags Manuf Chem 29: 137-40 Ap '58*

Design and construction of three new laboratories; Plant Protection's new laboratories. *il Manuf Chem 29:142-3 Ap '58*

Extension at Wall's Godley factory; modern laboratories. *il Chem & Ind p356-8 Mr 22 '58*

Laboratory of the month. Published in monthly numbers of Analytical chemistry
New laboratory block at Yalding. *il Chem & Ind p324-5 Mr 15 '58*

New laboratory controls production operations; Texas Butadiene and Chemical's manufacturing and control laboratory. *il Anal Chem 30:sup71A-3A F '58*
Research goldfish bowls. F. Chilson. *Drug & Cosmetic Ind 83:345+ S '58*
Service takes planning; Dow's new tech service lab. *il Chem & Eng N 36:38-9 Ag 11 '58*

See also

Agricultural laboratories
American cyanamid company—Research center
Chemical engineering laboratories
Chemical plants—Experimental plants
Metallurgical laboratories
Pharmaceutical laboratories
Radiochemical laboratories
Rubber laboratories

Air conditioning

Petrochem lab needs adequate area temperature control. W. R. Shoaff, Jr. *Ind Lab 9:30 Je '58*

Equipment

British equipment performs routine chemical analyses; Analmatic. *Automation 5:16 Ag '58*

Exposition of modern laboratory equipment. Pittsburgh, March 3-7; preview. *Anal Chem 30:sup53A-6A+ F '58*

Glass piping solves corrosion problem. *il Ind Lab 9:40-1 Ap '58*

Laboratory automation system. Franklin Inst J 266:31-2 J1 '58

Plant and laboratory equipment. Published in monthly numbers of Industrial chemist and chemical manufacturer

Robots at work; control temperature, pressure, level, reaction time. *il Chem & Eng N 36: 70 D 9 '57*

See also

Crucibles
Volumetric analysis—Apparatus

Heating and ventilation

Plastic compound roof ventilator; Research laboratory for Monsanto chemical company's Inorganic chemicals div. *il diag Air Cond Heat & Ven 54:60-2 D '57*

Safety measures

Educators need educating; academic safety practices lag far behind industrial, say experts. *Chem & Eng N 36:97-8 S 29 '58*

Safety at high pressures, features of an eight-cubicle laboratory; Hoffmann-LaRoche Inc. J. C. Bowen and R. L. Jenkins, *il plan diag Ind & Eng Chem 49:2019-21 D '57*

Safety in small-scale high pressure experiments. H. R. Stephens and K. E. Walker. *il diags Ind & Eng Chem 49:2022-5 D '57*

See also

Radiochemical laboratories—Safety measures
CHEMICAL literature
Literature problems in organic chemistry. G. P. Ellis, *biblog Research 11:276-8 J1 '58*

See also

Chemical and engineering news (periodical)
Chemistry—Periodicals

CHEMICAL milling. See Metal finishing

CHEMICAL models
Model magnified billion times; model of ferrocene. *Franklin Inst J 266:46 J1 '58*

CHEMICAL patents
Du Pont gets patent on linear polyethylene. Materials in Design *Eng 47:247-8+ Ap '58*

New patents. Published in monthly numbers of Manufacturing chemist and pharmaceutical and fine chemical trade journal

New patents. Published in monthly numbers of Soap and chemical specialties

Review patent fundamentals. R. G. Crooks. *Chem Eng 65:121-36 F 24 '58*

What chemists should do about patents. R. Calvert. *Chem & Eng N 35:70-5 N 25 '57*

See also

Drugs—Patents
Lubrication and lubricants—Patents

CHEMICAL plant manufacturers association. British. See British chemical plant manufacturers association

CHEMICAL plants
Construction and the consultant. *Ind Chem 34:318-20 Je '58*

Construction boxscore; refineries, natural gasoline and petrochemical plants. *Pet Refiner 37:234+ Ja; 232+ Ap; 205-6+ J1 '58*

Construction digest 1957; company and location, products and remarks. *Ind & Eng Chem 50:sup7A-70A+ Ja '58*

Cosden has new polystyrene plant. *il Pet Refiner 37:170+ Ag '58*

CHEMICAL plants—Continued

- Dixon charts expansion. Chem & Eng N 36: 21-2 Ja 27 '58
 Ethylene oxide plant, major Wyandotte unit. *il* Chem Eng Prog 54:72 J1 '58
 Fuel-fabrication services, experience and capabilities of U.S. companies; tables. Nuclonics 16:102-4 Ag '58
 •Humble completes benzene plant. *il* Oil & Gas J 56:110 Mr 3 '58
 Integrated polystyrene plant built. *il* Oil & Gas J 56:84 J1 7 '58
 Lendrie expands in Britain. *il* Chem & Eng N 36:72 My 5 '58
 Magnolia up with lube plant at Beaumont. *il* Pet Refiner 37:229 Je '58
 Midyear report on plant construction; refining, petrochemical, and field processing in United States and Canada. Oil & Gas J 56:166+ J1 23 '58
 More plastic from new Grace plant in Baton Rouge. *il* Pet Refiner 37:219 Ja '58
 New Conoco plant will make line of alcohol products from petroleum. Oil & Gas J 56:49 S 29 '58
 New polyethylene plant for bakelite at Institute, West Virginia. Pet Refiner 37:225+ Je '58
 Now a new methylamines plant for Commercial solvents corp. flow diag *il* Pet Refiner 37:373-4 S '58
 Open first Canadian Ti pigment plant. *il* Light Metal Age 15:6+ O '57
 Protective coatings standardization in a multi-plant chemical operation. S. W. McIlrath. Corrosion 14:93-4+ Ap '58
 Richfield on stream with Watson plant. *il* Pet Refiner 37:183+ J1 '58
 Unit loads trim cost of moving construction materials to chemical maker's new plant site; Union carbide chemicals co. *il* Chem Eng 65:64-5 My 19 '58
 What computers can and cannot do. *il* Can Chem Process 42:103-6 Mr '58

See also

- Drug factories
 Fertilizer factories
 Metallurgical plants
 Petroleum refineries
 Water supply for chemical plants

Accidents

- Explosion, but no confusion; Union Carbide's Texas City plant. *il* Chem & Eng N 36:58 Ap 14 '58
 Stauffer has Cl₂ mishap. Chem & Eng N 36: 22 J1 7 '58

Accounting**See Chemical industries—Accounting****Control**

- All-electronic control for distillation plant; Truland chemical co. Control Eng 5:42+ Ja '58
 Analysis and control by dielectric constant. R. F. Wall. diag Ind & Eng Chem 50: sup69A-70A Je '58
 Automatic controls for batch processing in the chemical industry; abstract, K. Hengst. diags Control Eng 5:152-4 J1 '58
 Automation of batch processes; problems involved and their solution relative to the use of equipment; abstract, H. Sartorius and H. Kaltenecker. diags Control Eng 5: 138+ Ag '58
 Chromatography in the plant, from monitoring to control. flow chart *il* Can Chem Process 41:108-10 D '57
 Computations in the field of engineering chemistry. T. J. Williams and others. bibliog diags Instruments & Automation 31:90-4 Ja '58
 Control and automatic regulation of step processes. W. Oppelt. diags Control Eng 5: 264-7 S '58
 Control systems are being perfected; petrochemicals. A. Upfold. Can Chem Process 42:97-8 S '58
 Control systems engineering. E. F. Johnson; E. W. James. *il* Chem Eng Prog 54:41-8 Mr '58
 Controlling fluid processes with continuous viscometers. A. Beerbower. diags Control Eng 5:107-12 Je '58
 Data logging. W. J. A. Donnelly. Ind Chem 34:126-7 Mr '58
 Design by logic; automatic chemical batching; Boolean algebra. J. P. Laird. diags Mech Eng 80:38-41 Ja '58; Discussion. 80:89 J1 '58
 Economic justification of advanced process controls. E. Wall. Ind & Eng Chem 49:sup 67A-8A+ N '57

- Electrochemical methods for process-stream analysis and control. T. C. Wherry and D. D. DeFord. *il* diags Control Eng 5:115-21 Mr '58
 Getting the most out of analytical control. R. Wall. Ind & Eng Chem 50:sup73A-4A F '58
 pH controls up output and lower cost in nitrate processing. C. G. Campbell and others. diags I S A J 5:52-5 J1 '58
 Installing and maintaining process stream analyzers. Can Chem Process 42:87-9 J1 '58
 Instrumentation trends in 1957. R. Wall. Ind & Eng Chem 50:sup 125A-6A Ja '58
 Mass spectrometry in process control. R. Wall. *il* diags Control Eng 5:113-18 Ap '58
 New business in chemicals; electronic controls. *il* Electronics 31:15-16 J1 25 '58
 On-stream control with an infrared analyzer. L. W. Adams and others. diags Control Eng 5:84-5 J1 '58
 Process control for tomorrow's plants; symposium. bibliog *il* diags Chem Eng Prog 54:37-67 S '58
 Progress and trends in chemical and petroleum instrumentation; symposium. Control Eng 5:23 Ap '58
 Reliability in plant process control. R. F. Wall. diag Ind & Eng Chem 50:sup73A-4A Ag '58
 Review and preview; findings back feedback control. *il* Chem & Eng N 36:90-3 Ja 6 '58
 Search for continuous control. G. B. Hall. *il* Can Chem Process 42:82-3 Ja '58
 Team work between design and process; synthetic fibres. J. A. McGowan and F. J. Parcher. *il* Can Chem Process 42:109-10 S '58
 Three ways to estimate instrumentation costs of process plants. J. W. Bernard. diag Control Eng 5:88-91 F '58

See also**Flow regulators****Costs**

- Chemical cost and profitability estimation. 1957; annual review. J. B. Weaver. Ind & Eng Chem 50:753-62 bibliog(p758-62) My '58
 Chemical Engineering cost fle. H. Gushin. Chem Eng 65:141-2 S 8 '58
 Cost control, two-way radio's newest bonus; Monsanto chemical co. H. G. Weiss. *il* Mod Materials Handling 13:83-5 Ja '58
 Costs. W. L. Hardy. Published in monthly numbers of Industrial and engineering chemistry
 Design for low construction costs. R. C. Rohrdanz. *il* Chem Eng 65:133-7 Mr 24 '58
 Direct operating labor costs. C. F. Prutton and others. flow sheet diags Chem Eng Prog 53:461-75. 556-62. 581-5 O-D '57
 Economic justification of advanced process controls. R. Wall. Ind & Eng Chem 49:sup 67A-8A+ N '57
 Equipment costs continue upward. Chem Eng 65:143-4 F 24 '58
 Estimate cost of graphite equipment. J. Reys. Chem Eng 65:137-42 F 24 '58
 How to allocate process steam costs. S. Katoll and T. J. Joyce. Chem Eng 65:152-4 Mr 10 '58
 How to get more accurate plant cost estimates. N. G. Bach. diag Chem Eng 65: 155-9 S 22 '58
 Major cost analysis methods yield equivalent answers. F. C. Jelen. Chem Eng 65: 116-18 J1 23 '58
 Remember all three in cost analyses; return on investment, income tax and inflation. F. C. Jelen. Chem Eng 65:123-9 Ja 27 '58
 Three ways to estimate instrumentation costs of process plants. J. W. Bernard. diag Control Eng 5:88-91 F '58

Design

- Computations in the field of engineering chemistry. T. J. Williams and others. bibliog diags Instruments & Automation 31:90-4 Ja '58
 Corrosion prevention starts with design. H. P. Godard. bibliog *il* Ind & Eng Chem 49: sup79A-81A N '57
 Cost analysis in new-plant construction. W. L. Hardy. Ind & Eng Chem 50:sup 121A-2A Ja '58
 Designing in 3-D, models for plant and piping design. E. Holmes. *il* Manuf Chem 29: 370-3 S '58
 How to scale up pilot plant data and equipment. E. L. Clark. bibliog Chem Eng 65: 129-40 O 6 '58
 How work study helps in the design of chemical plants. E. H. Salisbury. *il* Manuf Chem 29:199-203 My '58

CHEMICAL plants—Design—Continued

- Leas try dynamics for process design. C. D. Giese. I S A J 6:12-14 My '58
- Nuclear criticality; factor in the design and operation of chemical plants. C. M. Nicholls and A. H. C. P. Gillieson. Engineer 205: 128-9 Ja 24 '58
- Optimum design capacity. T. W. Timpe. Chem Eng Prog 54:56-9 Ja '58
- Piping and plant design can linear programming help? A. Battersby. bibliog diags Manuf Chem 29:368-70+ S '58
- Simulation answers a process stability question. D. Barlow. II Control Eng 5:34+ Ap '58
- There's a system: designing an entire chemical process plant as a unit and operating it in dynamic balance. Chem & Eng N 36: 38-9 My 12 '58
- Use of models in design and construction. A. E. Michel. II Chem Eng Prog 54:86-8 Mr '58
- Work study and models speed chemical process design. Engineering 185:83 Ja 17 '58

Directories

- Inventory of new plants and facilities. Chem Eng 64:145-6+ Mid-N '57
- Survey of petrochemical plants. Oil & Gas J 56:129-38+ S 1 '58

Electric equipment

- Automatic sorting technique slashes handling costs; photoelectric cells and microswitches; Lever Brothers' process lines. E. F. Hanford. II diag Plant 18:45-7 O '58
- Inventory of new equipment and accessories; new electrical equipment. II Chem Eng 64: 237-40+ Mid-N '57
- Safety in the chemical industry; safety in the use of electricity with particular reference to the chemical industry. S. I. Emerson. diags Chem & Ind p424-30, 448-54, 472-9 Ap 12-26 '58

Employees

See Chemical workers

Equipment

- Brantham film base factory. flow diag II Chem & Ind p 1222-4 S 20 '58
- Chemical plant in titanium. R. J. Watkins. bibliog II Ind Chem 34:282-6 Je '58
- Commercial equipment for molecular distillation. J. J. Garner and H. D. Macmurray. bibliog II diags Ind Chem 34:310-117 Je '58
- Considerations for controlling dust and fumes. R. F. O'Mara and C. R. Flodin. bibliog II diags Chem Eng 65:139-42 My 5 '58
- Constructional details of a Petersen tower sulphuric acid plant. J. P. A. Macdonald. flow diag plans diags Chem & Ind p338-45 Mr 22 '58
- Copper alloys for corrosion resistance. R. V. L. Hall. II Chem Eng Prog 54:51-5 Je '58
- Corrosion and its manifestations. M. G. Fontana. diags Chem Eng Prog 53:525-30 N '57
- Corrosion; problem solving methods and materials. J. Halbig. bibliog(30 ref) II Chem Eng Prog 53:520-4 N '57
- Corrosion problems at an alkali-chlorine plant; Diamond alkali co. J. F. Bosich. II Ind & Eng Chem 50:sup69A-70A Jl '58
- Corrosion; refresher on cause and cure. R. V. Jelinek. Chem Eng 65:114-15 Jl 28 '58
- Derivatives of acrolein and peracetic acid. J. Sanders and others. bibliog flow sheets II Ind & Eng Chem 50:854-60 Je '58
- Design of plastic towers. P. L. McWhorter. II diags Chem Eng 65:164+ Ap 1 '58
- Electrodes give any suction pressure. F. D. Berkeley. II diags Chem Eng 64:255-60 Ap '57; Same cond. Product Eng 29:32-4 Mid-S '58
- Electric surface heating of glass plant. J. Carmichael. II diag Ind Chem 34:230-7 My '68
- Equipment and design. Published every other month in industrial and engineering chemistry
- Equipment can now do polyethylene coat. Chem Eng 65:152+ S 8 '58
- Equipment costs continue upward. Chem Eng 65:143-4 F 24 '58
- Equipment for miniature pilot plants is available. C. H. Stockman and R. E. Lynn. Jr. II diags Ind & Eng Chem 50:585-90 Ap '58
- Estimate cost of graphite equipment. J. Reys. Chem Eng 65:137-42 F 24 '58
- Flow measurement in the chemical industry. II Manuf Chem 29:9-14 Ja '58

- For moderate temperatures and severe conditions, use nonmetallic inorganics. M. D. Robbins. II diags Chem Eng 65:123-34 S 8 '58
- High-temperature nonmetallics. R. W. Brown. bibliog II diags Chem Eng 65:135-50 Ap 21 '58
- How to start a standards program. D. C. Erand and C. W. Sisler. Chem Eng 65:141-3 F 10 '58; Same. II Mag of Stand 29:96-100 Ap '58
- Infra-red, an indispensable tool. flow diags II Can Chem Process 41:134-6+ N '57
- Instrumentation. Published in monthly numbers of Analytical chemistry
- Instrumentation. R. Wall. Published in monthly numbers of Industrial and engineering chemistry
- Instrumentation in a small fine chemical works. D. E. B. Greensmith. flow sheet II Manuf Chem 29:5-8 Ja '58
- Inventory of new commercial equipment. II Chem Eng 64:237-40+ Mid-N '57
- Is instrumentation up-to-date in your plant? II diag Can Chem Process 42:95-116 S '58
- Kachkaroff sulphuric acid plant; constructional and operational details. F. C. Snelling. diags Chem & Ind p300-6 Mr 15 '58
- Laboratory instrumentation moves into plant. A. Savitzky. bibliog II diags Anal Chem 30:sup 17-22A Mr '58
- Large-scale fermentations; a practical system for pH control. F. W. Denison, Jr. and others. bibliog II diags Ind & Eng Chem 50:1260-2 S '58
- Longer life for monoethanolamine reboilers. L. Resen. diags Oil & Gas J 56:32-3 Jl 21 '58
- Materials of construction for chemical engineering; 12th annual review. bibliog II Ind & Eng Chem 50:1426-98 pt 2 S '58
- Monsanto's Tred copolymers plant. II Chem & Ind p 1592-3 D 7 '58
- Narda to branch out; ultrasonics firm introduces chemical processing equipment. II Chem & Eng N 36:104 O 6 '58
- New chemical facilities for 1958-59. Pet Refiner 37:291-2+ Mr '58
- New methylamines plant uses high pressure; Terre Haute facilities of commercial solvents. flow sheet II Chem Eng Prog 54:78 S '58
- Packaged unit wrings sulfur from acid gas. diags Chem Eng 65:78+ My 19 '58
- Performance of equipment for control of fluoride emissions. K. E. Lunde. bibliog II Ind & Eng Chem 50:293-8 Mr '58
- Pipework for the chemical industry. II Manuf Chem 29:376-81 S '58
- Plant and equipment. Published in monthly numbers of Manufacturing chemist and pharmaceutical and fine chemical trade journal
- Plant and laboratory equipment. Published in monthly numbers of Industrial chemist and chemical manufacturer
- Plastic pipe in the chemical process industry. R. E. Seymour. II Plastics Tech 4:46-50, 59 Ja '58
- Plastics in refining and petrochemicals plants. R. B. Seymour. II Pet Eng 30:C46+ F '58
- Preparation and properties of uranium dioxide powder. C. D. Harrington and A. E. Ruehle. bibliog flow sheet II diags Chem Eng Prog 54:65-70 Mr '58
- Process characteristic analyzer. B. White. II diags Instruments & Automation 31:862-5 My '58
- Process heating in the chemical and allied industries. F. Barrett. II diags Ind Chem 34: 321-4 Je '58
- Progress in process instrumentation. bibliog Ind Chem 34:35-6, 87-8, 135-6, 197-9, 250-2, 388-90, 447-8, 505-6, 561-2 Ja-May, Jl-O '58
- Protective coatings limit corrosion. R. V. Jelinek. bibliog Chem Eng 65:163-8 O 20 '58
- Refining engineer's buyer's guide, 1958. Pet Eng 30:C20-2+ Ap '58
- Selection of furnace tubes for refinery and petrochemical service. T. M. Krebs. bibliog II Pet Eng 30:C54-5+ F; C36-7+ Mr '58
- Show visitors view new equipment during New York chem show. II Chem & Eng N 35:52-2 D 16 '57
- Solve batch liquid metering problems with a volumetric tank. M. Bass. diags Chem Eng 65:150-2 O 20 '58
- Some problems in the use of glass reinforced laminates in the chemical industry. F. F. Jaray. bibliog II diag Brit Plastics 31:342-7 Ag '58
- South western tar distilleries Ltd. II Chem & Ind p804-5 Je 28 '58
- Stainless steels for corrosion resistance. L. R. Honnaker. bibliog II diags Chem Eng Prog 64:79-82 Ja '58

CHEMICAL plants—Equipment—Continued

Survey reveals most popular analyzer types. B. W. Thomas. I S A J 5:46-7 F '58
 Texas butadiene & chemical corp. plant makes good use of process analyzers. D. M. Wreyford and N. Richey. flow diag il diags Oil & Gas J 56:76-8+ Je 30 '58
 Three ways to estimate instrumentation costs of process plants. J. W. Bernard. diag Control Eng 5:83-91 F '58
 Trends in equipment and design. il Ind & Eng Chem 50:sup81A-6A Ja '58
 Weather eye guides plant layout and design; Dow chemical co. il Chem Eng 65:64+ Ap 7 '58

See also

Chemical engineering—Apparatus and supplies
 Chemical industries—Exhibitions
 Concentrators
 Extraction apparatus
 Filters and filtration (technical chemistry)
 Heat exchangers
 Mixers
 Piping
 Pressure vessels
 Pulverizers
 Pumps, Centrifugal

Experimental plants

Equipment and safety; keys to pilot plant success. E. L. Clark. bibliog Chem Eng 65:119-22 J 23 '58
 High intensity and process solubilizes domestic manganese silicate ores. il Chem Eng Prog 54:78 My '58
 How washer doubles as pilot extractor. S. Seltzer and R. Paxton. il Chem Eng 65:158 Ap 7 '58
 Instrumentation for process development. R. F. Wall. Ind & Eng Chem 50:sup65A-6A Ap '58
 Interconnected pilot plant-laboratory system; Dow Corning corp. H. J. Fletcher and others. il diags Chem Eng Prog 54:73-5 Je '58
 Pilot plant at Boulder. K. D. Timmerhaus and others. flow diag il Chem Eng Prog 54:36-9 Je '58
 Pilot plant development of a polyethylene process. M. E. Cines and others. il Chem Eng Prog 54:95-8 F '58
 Pilot plant fermentor with continuous platinum electrode potential measurement. R. W. Squires and P. Hosler. diag Ind & Eng Chem 50:1263-6 S '58
 Pilot-plant production of ground serrata marcescens. V. F. Pfeifer and others. bibliog flow sheet il Ind & Eng Chem 50:1143-8 Ag '58
 Pilot plants in process technology. E. L. Clark. il Chem Eng 55:155-60 Ap 21 '58
 Report on pilot plant synthesis of liquid fuels. C. T. Yu and others. bibliog flow diag il Chem Eng Prog 54:55-8 Mr '58
 Selecting the kind and size of pilot plants. N. Fragen and others. il diags Chem Eng Prog 54:65-7 Ag '58
 Small scale engineering data; symposium. bibliog il diags Ind & Eng Chem 50:577-610 Ap '58
 Sulfonation with sulfur trioxide; operation in a batch pilot plant. E. J. Carlson and others. bibliog il diags Ind & Eng Chem 50:276-84 Mr '58
 Toxic area semi-works. C. J. Prizer and A. S. West. il plans Chem Eng Prog 54:49-53 Ja '58
 Unit operations in the pilot plant. E. L. Clark. bibliog il Chem Eng 65:119-24 Je 2 '58
 Versatile semi-plant at Dow. il Chem & Eng N 36:60-1 S 29 '58
 When to contract for pilot plant work. J. F. Thornton. il Ind & Eng Chem 50:sup58A-61A Ag '58

See also

Petroleum refineries—Experimental plants

Fires and fire protection

Fire prevention and control. S. M. MacCutcheon. Ind & Eng Chem 49:sup81A-3A D '57
 Houston ship channel industries disaster aid organization tests disaster aid. il Chem & Eng N 35:56 N 25 '57

Maintenance and repair

Du Pont tells how it's fighting rising maintenance costs; abstract. O. S. York. Oil & Gas J 55:72-3 O 28 '57
 Effective maintenance. F. D. Macy. diags Chem Eng Prog 54:103-6 F '58
 Inventory of new equipment and accessories; maintenance tools and supplies. Chem Eng 64:315-16 Mid-N '57

Map your protective coating program; Dow chemical co. il Chem Eng 65:125-8 F 10 '58
 Modern maintenance program for process instrumentation. W. H. Matthews. il I S A J 5:38-41 My '58
 Optimize your maintenance stores. R. E. Bley. Chem Eng 65:174+ O 20 '58
 Preventive maintenance by nondestructive testing methods pays off; Spencer chemical co. L. W. Zing. il Ind & Eng Chem 50:sup81A-2A F '58
 Reduce your maintenance costs. G. C. Der-rick. Chem Eng 65:132+ J 28 '58
 Special coatings will resist spillage. R. Cushing. Chem Eng 65:156+ F 24 '58
 Where maintenance welding often entails production problems; Dow chemical co. J. Fairlie. il Welding Eng 43:30-1 J 1 '58

Management

Analysis of the alternatives. J. B. Weaver and R. H. Caplan. Ind & Eng Chem 50:sup65A-6A F '58
 Estimation of direct operating labor requirements for new manufacturing processes. R. S. Wobus. Chem Eng Prog 53:581-5 D '57
 How top management evaluates its research program. T. T. Miller. Chem & Eng N 36:33-92+ F 24 '58
 Make or buy? Chem & Eng N 36:41 F 17 '58
 Operator rotation pays; training program at Spencer's polyethylene plant. il Chem & Eng N 36:54-5 Ag 11 '58
 Organization and functions of an operations analysis group. H. W. Schulz. Chem Eng Prog 53:548-50 N '57
 Plan for growth; Stanford research institute's Industrial economics conference. 3d. Los Angeles. Chem & Eng N 36:36+ F '58
 Protecting the profitability of new products. T. T. Miller. Chem Eng Prog 54:56-60 Je '58
 Stay with science and math; technically trained people at Magnolia Petroleum have a nonadministrative advancement route. Chem & Eng N 36:34 Ap 21 '58
 These factors affect project success; special report on costs. J. Tielrooy. Pet Refiner 37:164-70 Je '58
 When to contract for pilot plant work. J. F. Thornton. il Ind & Eng Chem 50:sup58A-61A Ag '58

See also

Drug factories—Management

Power

Design and operation of waste heat boilers in the chemical industry; abstract. E. A. Seaman and W. Gregson. Chem & Ind p34-5; Discussion. 35-6 Ja 25 '58
 Drivers, controls and accessories. R. Hancock. il diags Chem Eng 53:227-38 Je '58; Excerpts. Product Eng 28:H20-1. Mid-O '57
 Gas turbines up process efficiency. J. E. Parker. diags Chem Eng 65:123-4 J 28 '58
 Niagara change-over marks time. Chem & Eng N 36:26 Ja 13 '58
 United saves by burning marginal fuels. E. J. Miller. flow diag il Power Eng 61:81-2 N '57

Protection

Planning for disaster. L. J. Grossheim. il Chem Eng Prog 53:sup 120+ N '57

Quality control

Quality control in antifreeze production. R. R. Bennett. Soap & Chem Spec 34:97+ My '58
 Electrical safety in chemical industry; abstract. E. J. Meyers. Safety Maint 115:33-3 Mr '58
 Quality control in chemical industry; abstract. L. A. Bedford. bibliog Rubber Age 33:310-12 My '58

Radio communication

Cost control, two-way radio's newest bonus; Monsanto chemical co. H. G. Weiss. il Mod Materials Handling 13:53-5 Ja '58
 Radio scores assist in materials handling at J. T. Baker Chemical. il Chem Eng 65:68+ Ja 27 '58

Safety measures

Chemical industry goes looking for trouble. il Can Chem Process 42:50-2+ S '58
 Electrical safety in chemical industry; abstract. E. J. Meyers. Safety Maint 115:32-3 Mr '58
 Equipment and safety; keys to pilot plant success. E. L. Clark. bibliog Chem Eng 65:119-22 J 28 '58
 Evaluate your chemical safety program. L. A. Baker, Jr. il Safety Maint 115:22-4 F '58
 Gather safety know-how in boron handling; Calvery chemical co. W. H. Schechter. Ind Lab 9:6-8 Ja '58

CHEMICAL plants—Safety measures—Cont.

- How Victor Chemical's safety program reduces accidents, cuts costs. *Il Eng & Min J* 158:116-17+ N '57
- Industrial hygiene show-how; group of physician and engineer students visit Bridgeville, Pa. chemical plant of American cyanamid co. *Il Safety Maint* 114:39 O '57
- Injury rates hit new lows. *Chem & Eng N* 36:56 Ja 20 '58
- MCA awards to 46 firms. *Chem & Eng N* 36:46 Je 9 '58
- Operators report on safety in air and ammonia plants; panel discussion. *Il diags Chem Eng Prog* 54:35-44 JI; 52-64 Ag '58
- Organize for safety. *J. Bedford. Chem Eng* 65:180-4 S 22 '58
- Rupture disk installations. *J. E. Bigham. diags Chem Eng* 65:143-5 Ap 7 '58
- Safeguards encircle new insecticide plant. *Il Chem Eng* 65:76-8 Mr 10 '58
- Safety in pesticide plants. *Il J Agri & Food Chem* 6:335-6 My '58
- Safety in the chemical industry. *J. Evers. Il diags Chem & Ind* p204-11; Discussion. 211-12 F 22 '58
- Safety in the chemical industry. *G. G. Lanharn. Il Chem & Ind p* 373-7 Mr 29 '58
- Safety in the chemical industry; medical aspects of safety in the chemical industry. *A. J. Amor. Chem & Ind* p570-2 My 17 '58
- Safety in the chemical industry; safety aspects in the design of an organic insecticide plant. *K. M. Curwen. plan diags Chem & Ind p* 1096-101 Ag 23 '58
- Safety in the chemical industry; safety in plant operation and maintenance. *S. E. Chaloner. Chem & Ind* p538-43; Discussion. 543-4 My 10 '58
- Safety in the chemical industry; safety in the handling of radioactive substances. *R. J. Sherwood. bibliog Il Chem & Ind* p988-94 Ag 9 '58
- Safety in the chemical industry; safety in the manufacture of explosives. *B. A. Weston and T. Wardle. diags Chem & Ind* p239-45 Mr 1 '58
- Safety in the chemical industry; safety in the transport and storage of chemicals. *A. Webster. Chem & Ind* p502-6; Discussion. 506-7 My 3 '58
- Safety in the chemical industry; safety in the use of electricity with particular reference to the chemical industry. *S. J. Emerson. diags Chem & Ind* p424-30, 448-54, 472-9 Ap 12-26 '58
- Safety in the chemical industry; symposium abstracts. *Chem & Ind p* 1585-7 D 7 '57
- Safety in the factory. *Il Manuf Chem* 29:322-9 Ag '58
- Safety records set. *Chem & Eng N* 36:63 Ag 11 '58
- Toxic area semi-works. *C. J. Prizer and A. S. West. Il plans Chem Eng Prog* 54:49-53 Ja '58
- Which record do you want? *J. A. DeLuca. Il Chem & Eng N* 36:96-7 S 29 '58

Waste

- Air pollution control at a nylon intermediates plant. *H. R. L. Streight. bibliog map plan diags Eng J* 41:69-78; Discussion. 79 Ja '58
- Basic data for chemical waste disposal. *R. W. Haywood, Jr. Sewage & Ind Wastes* 30:1156-9 S 58
- Biochemical oxygen demand of organic chemicals. *A. C. E. Oberton and V. T. Stack, Jr. Sewage & Ind Wastes* 29:1267-72 N '57
- Cleans makeup water and cuts steam pollution; Shell chemical corp. *J. B. Mackie. Il Power Ind* 74:9 JI '58
- Computer checks out pH control before plant is built; Union carbide and chemical co. *Il I S A J* 5:24 JI '58
- Deep sea disposal of industrial wastes. *D. W. Hood and others. bibliog Il Ind & Eng Chem* 50:885-8 Je '58
- Design and operation of an effluent disposal system; Canadian chemical co. *J. C. Langford. Il Eng J* 41:65-6+ Je '58
- Highlights of research in sanitary engineering; Monsanto chemical co.; toxicity investigations on aquatic and marine life. *J. T. Garrett. Pub Works* 38:95-6 D '57
- New look in waste treatment; Chemstrand's development of nylon waste process. *Eng N* 160:56+ My 29 '58
- Phenol recovery by use of isopropyl ether. *N. H. Kirchgessner. bibliog flow diags Sewage & Ind Wastes* 30:191-8 F '58
- Sewage gets treatment; American Cyanamid and New Jersey communities work together on waste problems. *Il Chem & Eng N* 36:27 Je 16 '58

There's profit in preventing pollution; Ansul chemical co. reclaims sodium bisulfate. *Il Safety Maint* 115:45 Ap '58

See also

Acid waste
Paper and pulp mills—Waste

Bibliography

- Review of the literature of 1957 on sewage, waste treatment, and water pollution; fermentation, chemical and pharmaceutical wastes. *Sewage & Ind Wastes* 30:723-4 Je '58
- CHEMICAL pumps.** See Pumps, Centrifugal
- CHEMICAL reaction**
Chemical evidence for the structure of the diammoniate of diborane; a tracer study of the reaction between sodium and the diammoniate of diborane. *S. G. Shore and others. bibliog Am Chem Soc J* 80:20-4 Ja 5 '58
- Electrophilic displacement reactions; effects of substituents on rates of reactions between hydrogen peroxide and benzenesboronic acid. *H. G. Kuivila and A. G. Armour. Am Chem Soc J* 79:5659-62 N 5 '57
- Heat transfer to a gas-phase chemical reaction. *W. Schotte. bibliog diags Ind & Eng Chem* 50:683-90 Ap '58
- Highlights of research in sanitary engineering; University of North Carolina; rates and mechanisms of reactions involving oxy-chloro compounds. *M. L. Granstrom and G. F. Lee. Il Pub Works* 38:90-2 D '57
- Increased chemical reactivity of the surface compared with that in the bulk volume of Britton-Robinson universal buffers. *R. G. Pike and D. Hubbard. bibliog Il Res Nat Bur Stand* 59:411-14 D '57
- Inter-phase exchange of material; abstract. *M. L. Hellinckx. Ind Chem* 34:151-2 Mr '58
- Mechanism of chemical reactions. *C. Hinshelwood. Chem & Ind p* 1642-6 D 21 '57
- Mechanism of the iron-hydrogen sulfide reaction at elevated temperature; abstract. *R. Hügl and others. Pet Refiner* 37:182 My '58
- New factor affecting reactivity in bimolecular nucleophilic displacement reactions. *J. F. Bunnett. bibliog Am Chem Soc J* 79:5969-74 N 20 '57
- Novel organic reactions of the intermediate from the two-electron oxidation of 1,1-dialkylhydrazines in acid. *W. H. Urry and others. Am Chem Soc J* 79:6568-9 D 20 '57
- Preparation of high-ortho novolak resins; the course of the reaction. *D. A. Fraser and others. bibliog diag J Ap Chem* 7:689-700 D '57
- Reaction of portland cement with carbon dioxide. *C. M. Hunt and others. bibliog diag J Res Nat Bur Stand* 60:441-6 My '58
- Reactions in silica-alumina mixtures. *R. R. West and T. J. Gray. bibliog (29 titles) Am Cer Soc J* 41:132-6 Ap 1 '58
- Selectivity in chemical reactions. *H. I. Waterman and A. E. R. Weber. bibliog Inst Pet J* 43:315-22 D '57
- Some chemical reactions of Colorado oil shale kerogen. *F. M. Brower and E. L. Graham. bibliog Ind & Eng Chem* 50:1059-60 JI '58
- Studies of chemical reactions which occur in an engine prior to knock; abstract. *K. J. Pipenberg and others. Pet Eng* 30:C9-10 Je '58; Same cond. *Pet Refiner* 37:200 My '58
- See also
Addition compounds
Alkylation
Bromination
Catalysis
Chugaev reaction
Combustion
Decomposition
Disproportionation
Friedel-Crafts reaction
Hydrolysis
Mannich reaction
Meerwein reaction
Molecular compounds
Neutralization
Nitration
Oxidation
Oxo process
Pechmann reaction
Perkin reaction
Polymerization
Precipitation (chemistry)
Prevost reaction
Reactors, Chemical
Reduction, Chemical

CHEMICAL reactions—See also—Continued

- Sandmeyer reaction
Schmidt reaction
Substitution (chemistry)
Sulfonation
Wittig reaction
Wurtz reaction
- Velocity
- Carbon-steam reaction kinetics from pilot plant data. W. G. May and others. *bibliog diags Ind & Eng Chem* 50:1289-96 S '58
- Carbonyl reactions; the kinetics of the acid-catalyzed reaction of anisaldehyde with methyl ethyl ketone. D. S. Noyce and L. E. Snyder. *bibliog Am Chem Soc J* 80:4033-7 Ag 5 '58
- Chemical engineering kinetics. W. F. Stevens. *bibliog Ind & Eng Chem* 50:591-3 Ap '58
- Diffusion of tungsten in nickel and reaction at interface with SrO. H. W. Allison and G. E. Moore. *bibliog il diags J Ap Phys* 29: 842-8 My '58
- Effect of solvent on spectra; the use of Z-values in connection with kinetic data. E. M. Kosower. *bibliog Am Chem Soc J* 80:3267-70 Ji 5 '58
- Electronic transmission through condensed-ring systems; the kinetics of methoxydechlorination of some 6- and 7-substituted 1-aza-4-chloronaphthalenes. G. Illuminati and G. Marino. *bibliog Am Chem Soc J* 80:1421-4 Mr 20 '58
- Equilibria in the fibrinogen-fibrin conversion; kinetics of the conversion of fibrinogen to fibrin monomer. S. Ehrenpreis and others. *bibliog Am Chem Soc J* 80:4255-63 Ag 20 '58
- Experiments on chemical kinetics in a supersonic nozzle. P. P. Wegener and others. *bibliog J Aeronautical Sci* 25:205-6 Mr '58
- Isotopic exchange reactions; evidence for the tetrachlorophosphate anion from kinetic studies. R. H. Herber. *bibliog Am Chem Soc J* 80:5080-3 O 5 '58
- Kinetic and equilibrium measurements of the regeneration of acid-denatured horse ferric hemoglobin. J. Steinhardt and others. *bibliog Am Chem Soc J* 80:4634-44 S 5 '58
- Kinetic studies of formation of atmospheric oxidants. B. E. Saltzman. *bibliog(35 titles) diag Ind & Eng Chem* 50:677-82 Ap '58
- Kinetic studies of the reaction of phenyl isocyanate with alcohols in various solvents. S. Ephraïm and others. *bibliog Am Chem Soc J* 80:1326-8 Mr 20 '58
- Kinetic study of aromatic nucleophilic substitution under high pressure; bromoquinolines and bromonaphthalenes. K. R. Brower. *Am Chem Soc J* 80:2105-7 My 5 '58
- Kinetic study of the ortho-Claisen rearrangement. H. L. Goering and R. R. Jacobson. *bibliog diag Am Chem Soc J* 80:3277-85 Ji 5 '58
- Kinetic study of the reactivity of some dibenzofulvenes toward free radicals. J. L. Kice. *bibliog Am Chem Soc J* 80:348-52 Ja 20 '58
- Kinetic study of the ultraviolet decomposition of biochemical derivatives of nucleic acid; purines. M. J. Kland and L. A. Johnson. *bibliog Am Chem Soc J* 79:6187-92 D 5 '57
- Kinetics and mechanism of alkyl photo-oxidation. C. D. Miller. *diags Ind & Eng Chem* 50:125-8 Ja '58
- Kinetics and mechanism of chlorination of triethylphosphorothioate in dilute aqueous media at 25°. N. G. Lordi and J. Epstein. *Am Chem Soc J* 80:509-15 F 5 '58
- Kinetics and mechanism of solvolysis of steroid hydrogen sulfates. S. Burstein and S. Lieberman. *bibliog Am Chem Soc J* 80:5235-9 O 5 '58
- Kinetics and mechanism of the reactions between chloroaquachromium(III) ions and silver ion. P. J. Elving and B. Zemel. *Am Chem Soc J* 79:5855-9 N 20 '57
- Kinetics and mechanism of the reactions of β -isovalerolactone in water. H. T. Llang and P. D. Bartlett. *bibliog Am Chem Soc J* 80:3585-90 Ji 20 '58
- Kinetics of aromatic halogenation; the iodination of 2,4-dichlorophenol and anisole with iodine monochloride. E. Berliner. *bibliog Am Chem Soc J* 80:856-61 F 20 '58
- Kinetics of ethylene glycol nitration. J. Roth and others. *bibliog Ind & Eng Chem* 50: 1283-8 S '58
- Kinetics of β -glucosidase on the basis of immediate enzyme-glucoside formation. E. H. J. Hofstee. *bibliog Am Chem Soc J* 80: 3966-9 Ag 5 '58
- Kinetics of reaction of steel with hydrogen sulfide-hydrogen mixtures. A. Dravnieks and C. H. Samans. *bibliog(29 ref) il diags Electrochem Soc J* 105:183-91 Ap '58
- Kinetics of some metal ion-catalyzed hydrolyses of isopropyl methylphosphonofluoride (GB) at 25°. J. Epstein and D. H. Rosenblatt. *bibliog Am Chem Soc J* 80:3596-8 Ji 20 '58
- Kinetics of the chromic acid oxidation of benzaldehyde. G. T. E. Graham and F. H. Westheimer. *bibliog diag Am Chem Soc J* 80:3030-3 Je 20 '58
- Kinetics of the chromic acid oxidation of benzaldehyde. K. B. Wiberg and T. Mill. *bibliog Am Chem Soc J* 80:3022-9 Je 20 '58
- Kinetics of the condensation of anilines with nitrosobenzenes to form azobenzenes. Y. Ogata and Y. Takagi. *bibliog Am Chem Soc J* 80:3591-5 Ji 20 '58
- Kinetics of the disproportionation of plutonium(V). S. W. Rabideau. *bibliog Am Chem Soc J* 79:6350-3 D 20 '57
- Kinetics of the exchange reaction between carbon-14-labeled carbonate and carbonate-bis-(trimethylene)diamine-cobalt(III) complex in aqueous solution; effect of steric hindrance in a ligand substitution process. J. E. Boyle and G. M. Harris. *bibliog Am Chem Soc J* 80:782-6 F 20 '58
- Kinetics of the formation of the ferric thio-cyanate complex. J. F. Below, Jr. and others. *bibliog il diag Am Chem Soc J* 80: 2961-7 Je 20 '58
- Kinetics of the Friedel-Crafts sulfonylation of aromatics with aluminum chloride as catalyst and nitrobenzene as solvent. F. R. Jensen and H. C. Brown. *bibliog Am Chem Soc J* 80:4038-41 Ap 5 '58
- Kinetics of the Friedel-Crafts sulfonylation of benzene, chlorobenzene and toluene with aluminum chloride as catalyst and benzene-sulfonyl chloride as solvent. F. R. Jensen and H. C. Brown. *bibliog Am Chem Soc J* 80:4042-5 Ag 5 '58
- Kinetics of the hydrogen peroxide-sulfite reaction in alkaline solution. P. M. Mader. *bibliog Am Chem Soc J* 80:2634-9 Je 5 '58
- Kinetics of the neptunium(III)-neptunium(V) reaction in neutral solution. J. C. Hindman and others. *bibliog Am Chem Soc J* 80:1812-14 Ap 20 '58
- Kinetics of the o-semidine rearrangement of *p*-hydrazotoluene and of the accompanying disproportionation and reduction reactions. R. E. Carlin and G. S. Wich. *bibliog Am Chem Soc J* 80:4023-33 Ag 5 '58
- Kinetics of the reaction of dicobalt octacarbonyl with hexyne-1 and hexyne-2. M. R. Tirpak and others. *Am Chem Soc J* 80: 4265-9 Ag 20 '58
- Kinetics of the reaction of human erythrocyte carbonic anhydrase; basic mechanism and the effect of electrolytes on enzyme activity. R. P. Davis. *bibliog Am Chem Soc J* 80:5209-14 O 5 '58
- Kinetics of the reversible Michaelis-Menten mechanism and the applicability of the steady-state approximation. W. G. Miller and R. A. Alberty. *bibliog Am Chem Soc J* 80:5146-51 O 5 '58
- Kinetics of the Sandmeyer and Meerwein reactions. C. Dickerman and others. *bibliog Am Chem Soc J* 80:1904-11 Ap 20 '58
- Kinetics of the silver(I)-silver(II) exchange reaction. B. M. Gordon and A. C. Wahl. *bibliog diags Am Chem Soc J* 80:273-6 Ja 20 '58
- Kinetics of the thermal decomposition of pentachloroethane. T. J. Houser and R. B. Bernstein. *bibliog Am Chem Soc J* 80: 4439-42 S 5 '58
- Kinetics of the thermal reactions of ethylene. G. Dahlgren, Jr. and E. L. Douglas. *bibliog Am Chem Soc J* 80:5108-10 O 5 '58
- Kinetics of the thiosulfate-bromoacetate reaction in the presence of electrolytes. G. Corsaro and others. *bibliog Electrochem Soc J* 105:229-35 Ap '58
- Kinetics of the vapor phase photochlorination of trifluorochloroethylene. D. L. Bunbury and others. *bibliog Am Chem Soc J* 80:5104-7 O 5 '58
- Measurement of very slow reaction rates; decarboxylation of alanine. D. Conway and W. F. Libby. *bibliog diag Am Chem Soc J* 80:1077-84 Mr 5 '58
- Metal-water reactions; kinetics of the reactions of water vapor with strontium and barium. H. J. Svec and H. G. Staley. *Electrochem Soc J* 105:121-5 Mr '58
- Oxidation of unsaturated compounds; the effects of structure on the rates and products of oxidation of unsaturated compounds. F. R. Mayo and others. *bibliog Am Chem Soc J* 80:2500-7 My 20 '58

CHEMICAL reactions—Velocity—Continued

- Polypeptides; a kinetic study of the polymerization of amino acid N-carboxyanhydrides initiated by strong bases. M. Idelson and E. R. Blout. *Biblog Am Chem Soc J* 80:2387-93 My 20 '58
- Rate studies on complex reaction systems in a stirred flow reactor; the alkaline hydrolysis of diethyl succinate. R. L. Burnett and L. F. Hammett. *Biblog diag Am Chem Soc J* 80:2415-20 My 20 '58
- Reaction kinetic studies; synthesis of ethyl chloride. G. Thodos and L. F. Stutzman. *diag Ind & Eng Chem* 50:413-16 Mr '58
- Reaction kinetics by the matrix isolation method; diffusion in argon; *cis-trans* isomerization of nitrous acid. G. C. Pimentel. *diags Am Chem Soc J* 80:62-4 Ja 5 '58
- Reaction rate of solid sodium with air. W. H. Howland and L. F. Epstein. *diag Ind & Eng Chem* 49:1931-2 N '57; Correction. 50: 58 Ja '58
- Reaction rates of polyelectrolyte derivatives; effect of neighboring carboxyl on the reactivity of *p*-nitroanilide groups. E. W. Westhead, Jr. and H. Morawetz. *Biblog Am Chem Soc J* 80:237-42 Ja 5 '58
- Shock waves in chemical kinetics; the decomposition of N_2O_4 at high temperatures. G. Schott and N. Davidson. *biblog II Am Chem Soc J* 80:1941-53 Ap 20 '58
- Some aspects of the kinetics of oxidation of coal. T. Wood. *biblog J Ap Chem* 8:565-71 S '58
- Some reactivity ratios of esters of acrylic acid. C. S. Marvel and R. Schwen. *biblog Am Chem Soc J* 79:6003-5 N 20 '57

CHEMICAL reactors. See Reactors, Chemical

CHEMICAL reagents

- Direct introduction of the diazonium group into aromatic nuclei; $\text{N}_2\text{O}_4\text{-BF}_3$ complex as reagent. J. M. Tedder. *Am Chem Soc J* 79: 6090 N 20 '57
- Effect of chemical reagents on the motion of single air bubbles in water. D. W. Fuerstenau and C. H. Wayman. *biblog II diag Min Eng* 10:Trans 694-9 Je '58
- New reagent for the colorimetric determination of aluminum. H. Green. *Metallurgia* 57:157-8 Mr '58

See also

- Fischer reagent
Grignard reagents
Indicators and test papers

CHEMICAL reduction. See Reduction, Chemical

CHEMICAL research

- Appraising projects for research. R. J. Hengstebeck and W. W. Sanders. *II Chem & Eng N* 36:34-7 Ag 11 '58
- Chemicals does its own research and development. *Chem & Eng N* 36:34 Je 9 '58
- Contract research for chemical engineers; open day at Sondes Place. *II Engineering* 186:150 Ag 1 '58
- Engineering assistance to research and development. W. S. Gilfoil and L. E. Rasmussen. *II Ind & Eng Chem* 50:sup62A-4A S '58
- Give and take; army's new industrial liaison program. *II Chem & Eng N* 36:54-5 Jl 21 '58
- New Atlas technical center; chemical research department. *II Drug & Cosmetic Ind* 82:776 Je '58
- Polymer research moves fast. *Chem & Eng N* 36:100-1 Jl 21 '58
- Productivity in research and development; panel discussion. *Chem Eng Prog* 54:154- F '58
- Research and engineering progress, 1957; chemical and metallurgical. *II Gen Elec R* 61:55-6 Ja '58
- Researchers take to the hills; Monadnock research institute. *II Chem & Eng N* 36:32-4 Ag 25 '58
- Sondes research institute; performs sponsored research in the fields of applied chemistry, chemical engineering and mechanical engineering. *II Engineer* 206:104 Jl 18 '58
- Steroid research. N. Applezweig. *II Drug & Cosmetic Ind* 82:780-1-4: 83:36-7-4 Je-Jl '58
- Sulfur at work; new technique gives wool-like cotton, limp gelatin. *II Chem & Eng N* 36:44 Je 2 '58

See also

- Biochemical research
Ceramic research
Chemical laboratories
Chemical plants—Experimental plants
Dye research
Electron microscope
Gas research

- Industrial research
Metallurgical research
Paper research
Petroleum research
Pharmaceutical research
Pittsburgh university. Mellon institute of industrial research
Plastic research
Rubber. Artificial—Research
Rubber research
Textile research
Wood research

Bibliography

- Annual research roundup. *Chem Eng Prog* 54:75-8 Ja '58

Costs

- Cut risks in research and development spending. R. E. Burgess. *Chem & Eng N* 46:34 Je 2 '58

Finance

- Budgeting for research. N. B. Tucker. *II Soap & Chem Spec* 34:43-6-4 Je '58
- Research budgets continue climb. *Chem & Eng N* 36:52-4 Mr 17 '58

Australia

- Industrial chemical research in Commonwealth scientific and industrial research organization; 9th annual report. *Chem & Ind* p222-3 F 22 '58

Canada

- Canadian research at a disadvantage. F. K. Rogers. *Can Chem Process* 42:73-4-4 Ja '58

Europe

- Contract chemical research in Europe. F. C. Croxton and M. A. W. Barnick. *II Chem Eng Prog* 54:59-63 Ja '58

Great Britain

- Chemistry research in U.K. *Chem & Eng N* 36:52-3 Jl 28 '58
- Chemistry research, 1957. *Chem & Ind* p973 Ag 2 '58

Russia

- Soviet polymer science today. H. F. Mark. *Mod Plastics* 35:111-13-4 Jl '58; Excerpts. *Plastics World* 16:6 S '58

CHEMICAL societies

See also

- American institute of chemical engineers
Electrochemical society
CHEMICAL specialties manufacturers association
Annual meeting, 44th, Hollywood, Fla. Dec. 9-12; with program. *Soap & Chem Spec* 33: 81-2 D '57; 34:75-81 Ja '58
- Annual midyear meeting, 44th, Cincinnati, May 20-21; with program and abstracts of papers. *Soap & Chem Spec* 34:83-6 My; 65-72-4 Je '58; *Drug & Cosmetic Ind* 82:791-2 Je '58

CHEMICAL stability

- Acid dissociation constants of diethylenetriaminepentaacetic acid and the stability constants of some of its metal chelates. E. J. Durham and D. P. Ryskiewicz. *Biblog Am Chem Soc J* 80:4812-17 S 20 '58
- Basic factors in the formation and stability of nonsoap lubricating greases. G. J. Young and others. *Biblog J Colloid Sci* 13:358-82 S '58
- Cyclohepta[*k*lm]benz[*l*]indene; further considerations on the stability of complex polynuclear systems. P. D. Gardner and others. *Biblog Am Chem Soc J* 80:143-8 Ja 5 '58
- Degradation of hydrophilic cross-linked resins; empirical determination of order of stability of sulfonated styrene copolymers. J. J. Collins and others. *Biblog Ind & Eng Chem* 49:1343-8 N '57
- Glass effect in distillate fuel stability. J. G. Christian and others. *Ind & Eng Chem* 50: 1153-6 Ag '58
- Ion exchange resin catalyst stability in in-situ epoxidation. W. Wood and J. Termini. *Biblog II Am Oil Chem Soc J* 35:331-5 Jl '58
- Isomeric dichlorotetraaquo chromium (III) ions; their separation spectra and relative stabilities. E. L. King and others. *Biblog Am Chem Soc J* 80:5015-18 O 5 '58
- Polarographic study of mercuric cyanide and the stability of cyanomercurate ions. L. Newman and others. *Biblog Am Chem Soc J* 80:1814-19 Ap 20 '58
- Relation $x+y=136$ between the nuclear and chemical stability numbers. D. E. Lynch. *Biblog Am J Phys* 26:198-9 Mr '58

CHEMICAL stability—Continued

- Relative stabilities of metal derivatives of *oo*-dihydroxyazo dyes. F. A. Snavely and others. *bibliog Soc Dyers & Col J* 73:491-5 N '57
- Relative stability of bridged hydrocarbons; norbornene and nortricyclene. P. V. Schleyer. *bibliog Am Chem Soc J* 80:1700-4 Ap '58
- Spectrophotometric study of the stability of lead(IV) in hydrochloric acid solutions. H. G. Heal and J. May. *Am Chem Soc J* 80:2374-7 My '58
- Stabilities and absorption spectra of complexes of some divalent metal ions of the first transition series with the thioglycolate ion. D. L. Leussing. *bibliog Am Chem Soc J* 80:4180-3 Ag '58
- Stability of condensed phosphates in very dilute solutions. E. Karl-Kroupa and others. *bibliog Ind & Eng Chem* 49:2061-2 D '57
- Stability of metal chelates of compounds related to anthranilic acid. A. Young and T. R. Sweet. *bibliog Am Chem Soc J* 80:800-3 F '58
- Stability of metal-tetraethylenepentamine complexes. C. N. Reilly and J. H. Holloway. *bibliog Am Chem Soc J* 80:2917-19 Je '58
- Synthesis and stability of acyl radicals: some reactions of diacyl dimides. R. Cramer. *bibliog Am Chem Soc J* 79:6215-19 D '57

CHEMICAL warfare

- Army permits peek at nerve gas facilities. *il Chem Eng* 65:74 S 22 '58
- Brainstorming in the search for chemical warfare agents. E. A. Metcalf. *A M A Archives Ind Health* 17:371-6 My '58

See also

- Gases, Asphyxiating and poisonous
- CHEMICAL workers**
- It's true; the man can make the job! *Chem Eng* 65:179-80 Ap '58
- Roundup on a trilogy of controversy; what salary should you expect to receive? H. Bartz. *Chem Eng* 65:163-4 F '58

See also

- Chemical engineers
- Chemists
- International chemical workers union
- Oil, chemical and atomic workers international union
- Women as chemists

CHEMICALS

- Chemical utilization of lignins: chemicals from lignosulfonates. I. A. Pearl. *Paper Ind* 40:30-1 Ap '58
- Chemicals from Quebec peat bogs, flow sheet. *Can Chem Process* 42:85-6+ S '58
- Chemicals in ore processing; a fifty-year review. R. E. Byler. *il Ind & Eng Chem* 50:sup50A-3A S '58
- Cost of refinery chemicals. W. L. Nelson. *Oil & Gas J* 56:126-7 F '58
- Inventory of new commercial chemicals. *il Chem Eng* 64:171-4+ Mid-N '57
- New trade marks. Published in monthly numbers of Manufacturing chemist and pharmaceutical and fine chemical trade journal
- Oil uses more chemicals. *il Chem & Eng N* 36:35-7 Ap '58
- Problems in supplying laboratory chemicals: abstract and discussion. K. G. A. Hammer. *Chem & Ind p* 180-1 F '58; Same cond. *Manuf Chem* 29:153+ Ap '58
- Purveyors of exotic organics: Eastman organic chemicals catalogs. *il Chem & Eng N* 36:56-8 JI '58
- Using bulk chemicals in water treatment. D. B. Ward; C. R. Harvill. *Pub Works* 89:143-4 JI '58

See also

- Agricultural chemicals
- Alcohols
- Catalysts
- Chemical industries
- Cleaning compositions
- Deodorants
- Drugs
- Emulsifiers
- Indicators and test papers
- Insecticides
- Paper chemicals
- Petroleum chemicals
- Plasticizers
- Propellants
- Rubber chemicals
- Sanitary chemicals
- Solvents
- Surface active substances
- Textile chemicals
- Wetting agents

Manufacture

- British drug houses ltd.; Laboratory chemicals div. *il Chem & Ind* p752-3 Je '58

Prices

- Quarterly chemical price survey of Canadian-made products. *Can Chem Process* 42:sup22-4 Je '58
- Quarterly report on current prices. *Chem & Eng N* 35:39-68 D '57; 36:63-86 Mr '58; 47-70 Je '58; 75-102 O '58

Safety measures

- Carbon tet. poisoning case. *Soap & Chem Spec* 34:95+ Je '58
- CSMA's model labeling act. *Soap & Chem Spec* 33:71+ N '57
- Color labels for hot chemicals. *il Chem & Eng N* 36:56 Je '58
- Firemen up data standards. *Chem & Eng N* 36:55 F '58
- Keeping up with chemical handling developments. *il Safety Maint* 115:50-5 Mr '58

Statistics

- Facts and figures for the chemical process industries; organic and inorganic chemicals; chemical specialties. J. H. Hibben and others. *Chem & Eng N* 36:93-8, 104-16 S '58

Storage

- Safety in the chemical industry; safety in the transport and storage of chemicals. A. Webster. *Chem & Ind* p502-6; Discussion. 506-7 My '58

Transportation

- Packaging and the chemical industry; conference. Buxton, Derbyshire, March 17-20; abstracts of papers. *Chem & Ind* p676-9 Je '58
- Packaging, handling and transport of chemicals; abstracts of papers. *Manuf Chem* 29:204-5 My '58
- Safety in the chemical industry; safety in the transport and storage of chemicals. A. Webster. *Chem & Ind* p502-6; Discussion. 506-7 My '58
- Tankcars cut shipping costs for crystals. *il diat Chem Eng* 65:80+ F '58

CHEMISORPTION. See Adsorption**CHEMISTRY**

- Rising tide of chemistry; Priestley medal address. E. H. Volwiler. *Chem & Eng N* 36:96-9 Ap '58
- Structure and odour; abstract. M. G. J. Beets. *bibliog Manuf Chem* 29:388+ S '58
- See also*
- Basicity
- Catalysis
- Chemicals
- Chemists
- Crystallography
- Dissociation
- Dyes and dyeing—Chemistry
- Electrolysis
- Evaporation
- Geochemistry
- Molecules
- Oxidation
- Periodic system
- Photochemistry
- Textile chemistry

Bibliography

- Abstracts. Published in monthly numbers of *Journal of applied chemistry*
- Book reviews (cont). *Chem & Ind p* 186-8, 256-7, 311-20 F '58, Mr '58
- Foreign press abstracts. Published in monthly numbers of *Industrial chemist* and *chemical manufacturer*
- Our bookshelf. Published in monthly numbers of *Industrial chemist* and *chemical manufacturer*
- Some recent and forthcoming books. *Chem & Ind* p321-2 Mr '58

History

- Conversations on chemistry; Mrs Jane Marcet (1769-1858). K. R. Webb. *Chem & Ind p* 1225 S '58

Nomenclature

- Nomenclature. L. T. Capell. *Chem & Eng N* 35:28 JI '58; 102 S '58; 50 N '57; 36:44 Ja '58; 52 Ap '58; 44 Je '58

CHEMISTRY—Continued

Periodicals

- Applied publications. W. J. Murphy. *Il Chem & Eng N 36:100-3+ F 17 '58*
 Fundamental journals. R. H. Belknap. *Chem & Eng N 36:78-9 F 10 '58*
See also
 Chemical and engineering news (periodical)

Statistical methods

- Interpretation of experimental results. W. J. Youden. *Ind & Eng Chem 49:sup73A-4A D '57*
 Review of fundamental developments in analysis: statistical methods in chemistry. J. Mandel and F. J. Linnig. *Anal Chem 30: 739-47 bibliog(p743-7) pt 2 Ap '58*

Study and teaching

- Chemistry film shooting starts. *Il Chem & Eng N 36:120 Mr 3 '58*
 Columbia speeds Ph.D.'s; new chemistry program. *Chem & Eng N 36:94+ F 17 '58*
 High school chemistry on film. *Chem & Eng N 35:88 N 18 '57*
 High school labmobile in Oklahoma. *Il Chem & Eng N 35:88-9 Je 9 '58*
 McGill university and the teaching of chemistry in Canada. R. V. V. Nicholls. *Chem & Ind p 1106-8 Ag 23 '58*
 New films tailor made: MCA's aid-to-education program offers films specially designed for the classroom. *Chem & Eng N 36:101 S 22 '58*
 Personal approach pays dividends; small colleges win students for chemistry. J. B. Culbertson. *Chem & Eng N 35:91-2 N 11 '57*
 Pretesting chemistry freshmen. *Il Chem & Eng N 36:104-5 Ap 28 '58*
 Scouts publish chemistry pamphlet. *Il Chem & Eng N 35:90-1 D 2 '57*
 Students like filmed chemistry; color and sound movies substitute for lab sessions in general chemistry at Akron university. *Il Chem & Eng N 36:96 S 22 '58*
 University of Exeter Department of chemistry. H. N. Rydon. *Il Chem & Ind p711-2 Je 28 '58*

See also

Chemistry students

Textbooks

- Conversations on chemistry; Mrs Jane Marcet (1769-1858). K. R. Webb. *Chem & Ind p 1255 S 20 '58*

Canada

- Chemistry and the chemical industry in Canada. H. G. Smith. *Chem & Ind p 1552-6 N 30 '57*

Russia

- Analytical chemist visits Soviet Union. I. M. Kolthoff. *Il Anal Chem 30:sup31A+ Mr '58*
 Certain trends in the development of chemistry and the chemical industry in the U.S.S.R. N. N. Melnikov. *Can J Chem Eng 36:123-30 Je '58*

CHEMISTRY, Analytic

- A.C.S. Division of analytical chemistry. 133d national meeting, San Francisco, April 13-18; program. *Anal Chem 30:sup 25A-6A+ Mr '58*
 ACS national meeting. 133d, San Francisco, April 13-18. *Anal Chem 30:sup31A-4A+ Je '58*

- Analysis for industry: Complexones. T. S. West. *bibliog Ind Chem 34:37-9, 89-91 Ja-F '58*

- Analytical chemistry. W. I. Stephen. *bibliog Manuf Chem 29:77-9+, 158-61, 297-300 F, Ap, Ji '58*

- Analytical chemistry and the satellite. *Il Anal Chem 30:sup 15A-17A+ Ap '58*

- Analytical chemists fight evils of narcotics trade. *Il Anal Chem 30:sup 19A-22A+ Ag '58*

- Annual conference on analytical chemistry in nuclear reactor technology, 1st, Gatlinburg, Tenn. Nov. 4-6. *Anal Chem 29:sup 33A+ D '57*

- Annual symposium on modern methods of analytical chemistry, 11th, Baton Rouge, Jan. 27-30. *Anal Chem 30:sup38A+ Ap '58*

- Conference on analytical chemistry in nuclear reactor technology, 2d, Gatlinburg, Tenn. Sept. 29-Oct. 1; program. *Anal Chem 30: sup39A-40A+ S '58*

- Dialysis as an analytical tool. H. Hoch and R. C. Williams. *bibliog diags Anal Chem 30:1258-62 Ji '58*

- Introduction to analytical spectroscopy. T. H. Zink. *Il Ind Lab 9:15-18 S; 116-20 O '58*
 Modern analytical chemistry in the service of pharmacy and medicine; abstract. G. E. Foster. *Ind Chem 34:549 O '58*
 New uses for ring-oven analysis. *Chem & Eng N 36:92-3 Mr 3 '58*
 Nucleonics and analytical chemistry ten years after; symposium. *bibliog Il plans diags Anal Chem 29:1726-56 D '57*

- Physicochemical research on flavor; symposium. *Anal Chem 30:sup 17A-20A+ F '58*
 Pittsburgh conference on analytical chemistry and applied spectroscopy, March 3-7; with program. *Anal Chem 30:sup12A-50A F; sup31A-2A+ Ap '58*

- Review of fundamental developments in analysis. *bibliog diags Anal Chem 30:553-872 pt 2 Ap '58*

See also

- Biological assay
 Chromatographic analysis
 Colorimetric analysis
 Combustion analysis
 Dye analysis
 Electrochemical analysis
 Fluorometric analysis
 Gas analysis
 Indicators and test papers
 Metallurgical analysis
 Microanalysis
 Mineralogical analysis
 Oil analysis
 Plants—Chemical analysis
 Precipitation (chemistry)
 Radiochemical analysis
 Sampling
 Soil analysis
 Spectrum analysis
 Sugar analysis
 Textile analysis
 Trace analysis
 Turbidimeters
also subdivision Analysis under special subjects, e.g.

- Ashes
 Benzenesulfonates
 Carbon dioxide
 Cellulose
 Chlorides
 Flue gas
 Formaldehyde
 Fuel
 Gasoline
 Glass
 Hydrocarbons
 Niobium
 Oil fuel
 Paper
 Pentosans
 Petroleum
 Sewage
 Silver solder
 Steel
 Sulfur oxides
 Sulfuric acid
 Tantalum
 Trade waste
 Uranium
 Urine
 Water
 Wood
 Wood pulp

Apparatus

- Analmatic on view at Achema international chemical exposition, Frankfurt, Germany. *Il Chem & Eng N 36:48 Je 9 '58*

- Automatic colorimetric analyzer eliminates need for many analytical procedures. R. H. Müller. *Il Anal Chem 30:sup53A-4A+ Ja '58*

- Automatic equipment for determination of amino acids separated on columns of ion exchange resins. D. H. Simmonds. *bibliog Il diags Anal Chem 30:1043-9 Je '58*

- Chemists like it automatic. *Il Chem & Eng N 36:27 S 22 '58*

- Continuous chemical analyzers for analytical process control. R. F. Wall. *diag Ind & Eng Chem 50:sup65A-6A Ji '58*

- Instruments and techniques for analyzing products. C. M. Albright, jr. *Product Eng 28:A 18-19 Mid-O '57*

- Push-button analysis; Norelco Autrometer. *Il Mech Eng 79:1052-3 N '57*

- Review of fundamental developments in analysis: instrumentation. R. H. Müller. *bibliog Anal Chem 30:735-9 pt 2 Ap '58*

- Review of fundamental developments in analysis: polarographic theory, instrumentation, and methodology. D. N. Hume. *Anal Chem 30:675-81 bibliog(p679-81) pt 2 Ap '58*

CHEMISTRY, Analytic—Apparatus—Continued
Semimicro gas permeability apparatus for sheet material. W. R. R. Park. diags Anal Chem 29:1897-9 D '57
Trends in laboratory instrumentation for analysis. S. Z. Lewin. II diags Anal Chem 30:sup 19A-22A+ Je; sup 17A-18A+ JI '58

Bibliography

New books. Published in monthly numbers of Analytical chemistry

Quantitative

Fluoride analysis of glasses and silicate materials by pyrohydrolysis separation. P. B. Adams and J. P. Williams. bibliog II diags Am Cer Soc J 41:377-80 S I '58
Infrared quantitative analysis data. Anal Chem 29:1551-4, 1717-18, 1895-6; 30:155-6, 304-5, 454, 549-60, 1016, 1162, 1303, 1441, 1577 O '57-S '58
Perspectives in quantitative organic microanalysis. J. A. Kuck. bibliog II diags Anal Chem 30:1552-6 S '58
Quantitative determination of strontium-89 and strontium-90 in water. J. Kool. Anal Chem 30:532-5 Ap '58
Quantitative X-ray analysis of silica minerals. S. B. Holmquist and others. bibliog Am Cer Soc Enl 37:317-21 JI 15 '58
Quantitative X-ray diffraction analysis. L. E. Copeland and R. H. Bragg. bibliog Anal Chem 30:196-201 F '58
Rapid quantitative determination of sulfur in organic compounds. I. Lysyj and J. E. Zarembo. bibliog II Anal Chem 30:428-30 Mr '58

See also

Gravimetric analysis
Mass spectrometric analysis
Volumetric analysis

Records

Analytical laboratory operation and control; utilizing business machine punched card procedures. L. M. Addison and others. flow sheets II Anal Chem 30:885-91 My '58
Punched card storage of gas chromatographic data. C. F. Spencer and J. F. Johnson. bibliog Anal Chem 30:893-4 My '58

Study and teaching

Teaching analytical thinking in chemical analysis. S. Siggia. Anal Chem 30:sup 19A-22A+ Ja '58

Tables, calculations, etc.

Application of computers to the work of the analyst. Anal Chem 30:sup 19A-21A+ My '58
Application of machine computation to petroleum research; symposium. diags Anal Chem 30:874-85 My '58
Data plotter; multipoint recording potentiometer. R. H. Müller and F. D. Lonard. diags Anal Chem 30:891-3 My '58
Rapid method for applying vacuum corrections to weights. P. K. Faure and J. A. Gledhill. Anal Chem 30:1304 JI '58
Solution of systems of linear equations in analytical chemistry. D. J. Wilson. Anal Chem 30:1578-9 S '58

CHEMISTRY, Inorganic

Fifty years of inorganic chemistry. J. C. Bailar, Jr. II Ind & Eng Chem 50:sup40A-4A Je '58
Inorganic complex compounds containing polydentate groups; reaction of complexes of cobalt(II) and quadridentate amines with hydroxide ions. H. B. Jonassen and G. T. Strickland. bibliog Am Chem Soc J 80:312-15 Ja '58
New inorganic chemicals. bibliog II Ind & Eng Chem 49:sup44A-55A N '58
Review of fundamental developments in analysis; inorganic gravimetric and volumetric analysis. F. E. Beamish and A. D. Westland. Anal Chem 30:805-22 bibliog(p820-2) pt 2 Ap '58
Review of fundamental developments in analysis; inorganic microchemistry. P. W. West. Anal Chem 30:748-59 bibliog(p754-9) pt 2 Ap '58
Separation of fluoride from inorganic compounds by pyrolysis. R. H. Powell and O. Menis. bibliog diags Anal Chem 30:1546-9 S '58
Separation of xylenes, cumenes, methylnaphthalenes and other isomers by clathration with inorganic complexes. W. D. Schaeffer and others. Am Chem Soc J 79:5870-6 N 20 '57

Stereochemistry of complex inorganic compounds; the resolution of racemic substances through optically active complex inorganic compounds. S. Kirschner and others. bibliog diags Am Chem Soc J 79:5877-80 N 20 '57

See also

Chlorides

CHEMISTRY, Medical and pharmaceutical

Bibliography

Abstracts of current literature. Published in bi-monthly numbers of American Journal of clinical nutrition
Chemical abstracts. Am Perfumer & Aromatics 71:47+ My; 72:18+ Ag; 38+ S '58
Industry's books. Published in monthly numbers of Drug and cosmetic industry

Nomenclature

See also

Drugs—Terminology

CHEMISTRY, Organic

Adsorption and retention of an organic material by montmorillonite in the presence of water. G. W. Brindley and M. Rustom. bibliog Am Mineralogist 43:627-40 JI '58
Characteristic vibrational frequencies of organic liquid compounds. D. W. Scott and J. P. McCullough. bibliog Am Chem Soc J 80:3554-8 JI 20 '58
Classification of organic compounds; based on behavior of a solvchromic and thermochromic indicator system. S. Soloway and P. Rosen. bibliog Anal Chem 29:1820-3 D '57
Determination of fluorine in quantitative organic microanalysis. T. S. Ma. bibliog Anal Chem 30:1557-60 S '58
Determination of mercury in organic compounds; a micro and semimicro method. B. C. Southworth and others. Anal Chem 30:1152-3 Je '58
Differential thermal analysis of organic solids. M. C. P. Varma. J Ap Chem 8:117-21 F '58
Direct flame photometric determination of boron in organic compounds. B. E. Buell. bibliog Anal Chem 30:1514-17 S '58
Direct titration method for determining chlorine in organic compounds after Carius combustion. S. Makinen and others. bibliog J Ap Chem 8:310-13 My '58
Free radicals put to work. II Chem & Eng N 36:44 Ap 21 '58
Investigation of the electrochemical properties of organic compounds. R. Glicksman and C. K. Morehouse. bibliog Electrochem Soc J 105:299-306 Je '58
Kekulé symposium on theoretical organic chemistry. London, Sept. 15-17. Research 11:408 O '58
Micro-Kjeldahl method for nitrogen in certain organic compounds containing nitrogen-nitrogen and nitrogen-oxygen linkages. A. Steyermark and others. bibliog Anal Chem 30:1561-3 S '58
Micro-Parr bomb assembly suitable for microdetermination of fluorine in organic compounds. A. Steyermark and F. P. Blava. bibliog diags Anal Chem 30:1579-80 S '58
Multipurpose standard for microchemical analysis. W. H. Smith. Anal Chem 30:149-50 Ja '58
Organic deposits on precious metal contacts. H. W. Hermance and T. F. Egan. bibliog II diags Bell System Tech J 37:739-76 My '58
Organic peroxides and their industrial uses; abstract and discussion. J. G. E. Hawkins. Manuf Chem 29:348 Ag '58
Polyphosphoric acid as a reagent in organic chemistry; civilization to diaminoacridines. H. R. Snyder and M. S. Konecky. bibliog Am Chem Soc J 80:4388-90 Ag 20 '58
Quantitative determination of organic disulfides. R. L. Hubbard and others. bibliog Anal Chem 30:91-3 Ja '58
Radioassay by gas chromatography of tritium- and carbon-14-labeled compounds. R. Wolfgang and F. S. Rowland. bibliog diags Anal Chem 30:903-6 My '58
Relative strengths of forty aromatic carboxylic acids in benzene at 25° C. M. M. Davis and H. B. Hetzer. J Res Nat Bur Stand 60:569-92 bibliog(p591-2) Je '58
Review of fundamental developments in analysis; organic microchemistry. T. S. Ma. Anal Chem 30:760-5 bibliog(p764-5) pt 2 Ap '58
Review of fundamental developments in analysis; organic polarography. S. Wawzonek. Anal Chem 30:661-74 bibliog(p670-4) pt 2 Ap '58

CHEMISTRY, Organic—Continued

Review of fundamental developments in analysis; volumetric and gravimetric analytical methods for organic compounds.

W. T. Smith, Jr. and others. *Anal Chem* 30: 822-9 bibliog(p827-9) pt 2 Ap '58
Science for electroplaters; organic chemistry. L. Serota. *il diag Metal Finishing* 56:93-6 My; 76-7 Je '58

Some applications of metal carbonyls in organic chemistry; abstract and discussion. P. O. Lenel. *Chem & Ind* p249 Mr 1 '58

Variations in crystal structure within certain isologous series of long-chain compounds; a review of some basic features. E. S. Lutton. *bibliog Am Oil Chem Soc J* 35:sup 11-13 My '58

See also

Acids, Organic
Alcohols
Alkaloids
Amines
Aromatic compounds
Carbohydrates
Carbon
Cyclic compounds
Diaz compounds
Essential oils
Esters
Hydrocarbons
Methyl group
Organometallic compounds
Proteins
Sugars

Bibliography

Literature problems in organic chemistry. G. P. Ellis. *bibliog Research* 11:276-8 J1 '58

History

One hundred years of diazo-compounds; their impact and importance in the chemical industry. W. H. Cliffe. *bibliog Chem & Ind* p 1248-55 S 27 '58

Tables, calculations, etc.

Composition/anticomposition calculator for use in organic chemical analyses. W. D. Crow and Y. M. Greet. *il diags Chem & Ind* p 1618-21 D 14 '57

CHEMISTRY, Physical and theoretical

Molecular key to dielectric properties; a capsule physical chemistry for the design engineer. T. D. Callinan and A. E. Javitz. *il diags Elec Manuf* 62:73-92 J1 '58

Molecular physics in chemical engineering; symposium. *bibliog il diags Ind & Eng Chem* 50:1021-40 J1 '58

Physical chemistry in the dyestuffs industry; abstract. D. S. Davies. *Chem & Ind* p86 Ja 25 '58

Theoretical chemistry; looking before and after. D. P. Craig. *Chem & Ind* p3-7 Ja 4 '58

See also

Adhesion
Azeotropes
Catalysis
Chemical equilibrium
Colloids
Compressibility
Coordination (chemistry)
Crystallization
Crystallography
Diffusion
Dissociation
Equation of state
Evaporation
Flocculation
Ions
Liquids
Mass (chemistry)
Molecular volume
Molecular weights
Phase rule and equilibrium
Photochemistry
Precipitation (chemistry)
Solids
Solubility
Stoichiometry
Thermodynamics
Thixotropy
Valence
Vapor pressure
Wave mechanics

CHEMISTRY, Technical

See also

Alcohol
Alkalies
Bleaching

Calcination

Cellulose

Chemical industries

Chemicals

Clay

Corrosion and anti-corrosives

Cosmetics

Cotton—Chemistry

Dyes and dyeing—Chemistry

Electrochemistry

Extraction processes

Filters and filtration (technical chemistry)

Fuel

Glass manufacture

Paper

Paper making

Pesticides

Petroleum—Chemistry

Petroleum distillation

Petroleum refining

Pottery

Refractory materials

Rubber

Rubber—Chemistry

Rubber, Artificial

Sampling

Soap

Textile chemistry

Textile fibers, Synthetic

Textile industry

Unit processes

Vulcanization

Bibliography

Abstracts. Published in monthly numbers of *Journal of applied chemistry*

Chemical press abstracts. *Ind Chem* 34:348-51

Je '58

Technical bookshelf. Published in bi-weekly

numbers of *Chemical engineering*

Technical literature. Published in bi-weekly

numbers of *Chemical engineering*

CHEMISTRY students

All Americans all; football honor roll shows that scholarship and intercollegiate athletics can mix. *il Chem & Eng N* 35:80-2

D 2 '57

Earning while learning. R. Jones and J. Dannemiller. *Ind & Eng Chem* 49:sup89A-90A D '57

CHEMISTS

Bright outlook for chemists; panel discussion.

Chem & Eng N 35:72-4 D 16 '57

Career opportunities for chemists and chemical engineers. *il maps diags Chem & Eng N* 36:1-80 pt 2 Ja 27 '58

You have a key spot in the rocket age. R. F. Fremed. *Chem Eng* 65:187-8 My 19 '58

See also

Chemical engineers
Kimberlin, Charles N.
Women as chemists

Salaries

Starting salaries still rising. D. A. H. Roethel. *Chem & Eng N* 36:94-7 O 20 '58

CHEM-MILL process. See Metal finishing**CHEMOTHERAPY**

Better antidiabetic; new oral drug. Diabinese.

Chem & Eng N 36:32 O 6 '58

Cancer; challenge from antibiotics. *Chem & Eng N* 36:19-20 O 27 '58

Cancer gets a new foe; Upjohn's U-8344.

il Chem & Eng N 36:47 S 22 '58

Cancer only a symptom. R. D. Coghill. *Chem & Eng N* 36:42-3 Ja 13 '58

Drugs and pharmaceuticals. T. G. Klumpp

and C. M. Suter. *Ind & Eng Chem* 50:

sup38A-41A Mr '58

Expectations in cancer chemotherapy. R. D.

Coghill. *il Drug & Cosmetic Ind* 82:604-5+

My '58

Hope gains for radiation poisoning survival;

chemical treatment may prevent irradiated

cells from producing abnormal genes. *Ind*

& *Eng Chem* 50:sup33A My '58

New rules spur cancer research. *Chem & Eng N*

36:34 Ag 18 '58

Symposium on advances in chemotherapy.

bibliog diags A M A Archives Ind Health

17:390-407 My '58

CHEMSTRAND corporation

Career opportunities. *il Chem & Eng N* 36:

26-7 pt 2 Ja 27 '58

Record year. *il Chem & Eng N* 36:28 F 10 '58

CHERRIES

Aid content of cherries and strawberries.

A. C. Hulme and L. S. C. Woollorton.

Chem & Ind p659 My 31 '58

CHERRIES—Continued

Causes of scald in red tart cherries. R. L. Labelle and others. bibliog *il Food Tech* 12:94-8 F '58

Studies on cherry scald. R. L. Pollack and others. bibliog *Food Tech* 12:102-8 F '58

CHERRIES, Frozen

Time-temperature tolerance of frozen foods; retail packs of frozen red sour pitted cherries. D. G. Guadagni and others. bibliog *Food Tech* 12:36-40 Ja '58

CHERUBINI, Luigi

Unsmiling Cherub. H. Lawrence. por *Audio* 42:80-2 Mr '58

CHESAPEAKE bay

Raydist locates boring sites for Chesapeake crossing; proposed bridge-tunnel project. A. L. Comstock and P. Z. Michener. *il map diag Civil Eng* 28:512-15 Jl '58

CHESS

Computer v. chess-player. A. Bernstein and M. D. Roberts. *il diags Sci Am* 198:96-8+ Ju '58

CHEST

Differential diagnosis of chest pain. W. J. Hand. *Ind Med* 27:287-91 Je '58

CHEST roentgenography. See **Diagnosis, Radio-scopic**

CHEYENNE, Wyoming**Water supply**

Filtered mountain water augmented by battery of untreated upland wells. J. M. Hunter, jr. *il Water Works Eng* 111:750-1 Ag '58

CHI square test

Mixing solids; chi square as a criterion. J. E. Gayle and others. bibliog *diags Ind & Eng Chem* 50:1279-82 S '58

CHICAGO

Big urban renewal project is approved by Chicago's conservation board. *il Arch Forum* 108:9+ Ap '58

Chicago moves to revamp its core. *il Eng N* 161:23-4 S 4 '58

Engineer to help run Nation's second largest city. *Power Eng* 62:59 Mr '58

See also

Airports—Chicago

Gas, Natural—Chicago, Supply to

Architecture

Famous house rescued; Roble house. *il Arch Forum* 108:69 F '58

Inland's steel showcase. *il plans diag Arch Forum* 108:88-93 Ap '58

Bridges

Heavy-duty asphalt pavement for Chicago's Calumet skyway. A. G. Avedisian. *il diag Roads & Sts* 101:119-20+ Jl '58

\$101 million skyway opens; Calumet skyway toll bridge. *il map Eng N* 160:26 Ap 24 '58

Harbor

Port of Chicago. A. E. Brant, jr. *Am Soc C E Proc* 84 [WW 4 no 1768]:1-11 S '58

Hotels, restaurants, etc.

Where to eat. A. E. Meamor. *Product Eng* 29:13-15 pt 2 Mr 31 '58

Sewerage

Organization and equipment for sewer maintenance. T. S. Ford and F. J. O'Donnell. *il Pub Works* 89:107-10 My '58

Streets

Chicago's fifty million dollar municipal parking program. P. M. Linscott. 2pls *Traffic Q* 12:124-31 Ja '58

Water supply

Design of central filtration plant. F. G. Gordon. *Am Soc C E Proc* 84 [SA 5 no 1778]:1-7 S '58

Largest experimental waterworks ever; South district filtration plant on Lake Michigan. *il Eng N* 160:124-5+ Ap 17 '58

Planning the future for water system. W. W. DeBers. *Am Soc C E Proc* 84 [SA 5 no 1782]:1-6 S '58

Studies of radioactivity in the water supply. J. C. Vaughn and others. *il Am Water Works Assn J* 50:581-9 My '58

World's largest filtration plant; Central district filtration plant. D. Van Gorp. flow diag *il map plan diags Civil Eng* 28:180-3 Mr '58

CHICKENS. See Poultry

CHILD health conferences. See **Children—Care and hygiene**

CHILD psychiatry

Evaluation of psychiatric consultation service for a public agency. L. Eisenberg. bibliog *Am J Pub Health* 48:742-9 Je '58

CHILD study

Epidemiological study of behavior characteristics in children. R. Lapouse and M. A. Monk. bibliog *Am J Pub Health* 48:1134-44 S '58

Psychological aspects of obesity in adolescence. H. Bruch. *Am J Pub Health* 48:1349-53 O '58

CHILD welfare

Activities of the International children's center. E. Berthet. *Am J Pub Health* 48:458-67 Ap '58

CHILDBIRTH

Measurement of uterine forces in obstetrical labor; tokodynamometers. T. I. Marx and C. A. Hunter, jr. *diags R Sci Instr* 29:585-7 Jl '58

Progesterone. A. Csapo. *il diags Sci Am* 198:40-5 Ap '58

CHILDREN**See also**

School children

Youth

Care and hygiene

Administrative phases of a child amputee program. C. Dean. *Am J Pub Health* 48:750-3 Je '58

Care of children with nephrosis and cystic fibrosis of the pancreas in a crippled children program. S. G. Dodd and V. Shannon. bibliog *Am J Pub Health* 48:15-21 Ja '58

Community survey to determine the need for a child health conference. A. Jensen. *Am J Pub Health* 48:765-70 Je '58

Health problems of infants and preschool children; report of a study. H. M. Wallace and others. *Am J Pub Health* 48:1145-52 S '58

Programs and activities of the National institute of mental health relevant to children and child care. R. H. Felix. *Am J Pub Health* 48:133-8 F '58

Reciprocal benefits from combining academic pediatrics with the child health programs of a health department. J. A. Lichty. bibliog *Am J Pub Health* 48:898-902 Jl '58

Social stratification and health practices in child-bearing and child-rearing. A. Yankauer and others. bibliog *Am J Pub Health* 48:732-41 Je '58

Valerio's story; special picture story from Panama. *Am J Pub Health* 48:498-502 Ap '58

Diseases

Fatty liver in children. kwashiorkor. S. Frenk and others. *il Am J Clinical Nutrition* 6:298-307 bibliog(p305-7); Discussion. 307-9 Mr '58

Protein metabolism in chronic infantile malnutrition (kwashiorkor). J. Cravioto. bibliog *Am J Clinical Nutrition* 6:495-503 S '58

Growth**See Growth****Mortality**

Health problems of infants and preschool children; report of a study. H. M. Wallace and others. *Am J Pub Health* 48:1145-52 S '58

Nutrition

Nutritional status of selected adolescent children; vitamin A nutrition assessed by dietary intake and serum levels; biometric and gross observations. E. A. Donaid and others. *Am J Clinical Nutrition* 6:126-35 bibliog(41 titles, p 133-5) Mr '58

Nutrition status survey of the sixth grade school population of Cuba. N. Jolliffe and others. map *J Nutrition* 64:855-98 bibliog(p396-8) Mr '58

Nutritional status of selected adolescent children; ascorbic acid nutrition assessed by serum level and subclinical symptoms in relation to daily intake. M. M. Hard and others. bibliog *Am J Clinical Nutrition* 6:401-8 Jl '58

Serum cholinesterase levels of Central American children in relation to nutritional status. G. Arroyave and others. bibliog *Am J Clinical Nutrition* 6:164-8 Mr '58

Study of the nutritive value of proteins from different sources in the feeding of African children. E. M. DeMaeyer and H. Vanderborght. bibliog *J Nutrition* 65:335-52 Jl '58

CHILDREN, Backward

New program for mentally retarded children. A. J. Lesser. bibliog *Am J Pub Health* 48:9-14 Ja '58

CHILDREN, Photography of. See Photography of children

CHILDRENITE

Optics of the eosphorite-childrenite series.
H. Winchell. *Am Mineralogist* 43:765-8 J1 '58

CHILDRENS homes

Cottage-type scheme developed as home for retarded children. *Il Arch Rec* 124:342-4 S '58

CHILDRENS toiletries. See Toilet goods**CHILE**

See also

Copper mines and mining—Chile
Petroleum pipe lines—Chile

CHILI con carne

Flip-lid can lets housewife season to taste; broadcast chili. *Il Food Eng* 30:82-3+ Mr '58

CHILLED iron

Gray iron milling practice. V. Pulsifer. *diags Foundry* 86:66-72 S '58

CHIMNEYS

Design criteria for stacks and breechings; an extract from a descriptive specification by the engineering staff of Orr & Sombower, Inc. *diags Air Cond Heat & Ven* 55:68-72 Ap '58

Earthquake design criteria for stack-like structures. J. E. Rinne. *bibliog Am Soc C E Proc* 84 [ST 4 no 1696]:1-25 J1 '58

Foundation design handbook for stacks and towers. V. O. Marshall. *diags Pet Refiner* 37:sup 1-16 My '58 (reprints \$1)

Why do stack temperatures get so high? answers. *Il Power* 101:134-5 N '57

See also

Fireplaces

CHIMNEYS, Concrete

Frame bootstraps forms 613 feet up; reinforced concrete chimney. *Il Eng N* 160:51 My '58

New Albany puts stack, crib house and water facilities in one structure. A. R. LeBailly. *Il diag Power Eng* 62:78-80 S '58

CHIMNEYS, Steel

Erection time, three hours. *Il Eng N* 161:70 Ag 21 '58

CHINA

See also subdivision China under special subjects, e.g.

Automobile industry and trade

Electronics industry

Machine tool industry

Mines and mineral resources

Moving picture industry

Petroleum

Petroleum industry and trade

Public health

Television broadcasting

Industries and resources

Industrialization of China moves ahead. R. Westgate. *Il Automotive Ind* 118:46-8 My 1 '58

New fragrances of an old nation; recent progress in the perfumery industry. C. Hsi-chang. *Am Perfumer & Aromatics* 71:31-4 Ap '58

CHINAWARE. See Tableware**CHINESE cookery**. See Cookery, Chinese**CHITIN**

Adsorption at organic surfaces; adsorption of sulphonated azo dyes by chitin from aqueous solution. C. H. Giles and others. *bibliog Soc Dyers & Col J* 74:632-3 O '58

Adsorption at organic surfaces; some observations on the constitution of chitin and on its adsorption of inorganic and organic acids from aqueous solution. C. H. Giles and others. *bibliog Soc Dyers & Col J* 74:647-54 S '58

CHLORAL

Reaction of chloral hydrate with semicarbazides and the synthesis of semicarbazide-C¹⁴ and 6-azauracil-2-C¹⁴. P. K. Chang and T. L. V. Ulbricht. *bibliog Am Chem Soc J* 80:976-9 F 20 '58

CHLORAMPHENICOL. See Chloromycetin**CHLORANILIC acid**

Ultraviolet spectrophotometric determination of sulfate, chloride, and fluoride with chloranilic acid. R. J. Bertolacini and J. E. Barney. *2d. bibliog Anal Chem* 30:202-5 F '58

CHLORATES

Bleaching of pulps with activated chlorate. P. Marpillero. *diags Tappi* 41:sup213A-16A My '58

Oxygen exchange between oxy-anions and water; chlorite, chlorate and perchlorate ions. T. C. Hoering and others. *bibliog Am Chem Soc J* 80:3876-9 Ap '58

Semichemical pulps obtained by the use of ACI salt. P. Marpillero. *diag Tappi* 41:sup224A-8A My '58

CHLORELLA. See Algae**CHLORIC acid**

Estimation of serum phospholipid and total phosphorus using chloric acid. J. F. Goodwin and others. *bibliog Anal Chem* 30:1097-9 Je '58

CHLORIDES

Chemical microscopy; metal chloride-quinoline compounds. J. M. Mutchler and H. B. Bradley. *bibliog Il Anal Chem* 30:1371-4 Ag '58

Condensation of benzene with unsaturated chlorides. L. Schmerling and others. *bibliog Am Chem Soc J* 80:576-9 F 5 '58

Corrosion resistance of five stainless alloys in nitric acid containing chloride. I. I. Tingley. *Il diag Corrosion* 14:31-2 Je '58

Ion fractionation by permselective membranes; factors affecting relative transfer of ynicine and chloride ions. A. T. Di Benedetto and E. N. Lightfoot. *bibliog diags Ind & Eng Chem* 50:591-6 Ap '58

Mechanism of stress corrosion of austenitic stainless steels in hot aqueous chloride solutions. K. W. Lu and J. N. Helle. *bibliog Il Corrosion* 14:59-64 My '58

Preparation of esters and anhydrides from long chain fatty acid chlorides. C. G. Youngs. *Am Oil Chem Soc J* 35:416-17 Ag '58

Rates of solvolysis of *p*-substituted benzylidimethylcarbinyl chlorides. A. Landis and C. A. VanderWerf. *bibliog Am Chem Soc J* 80:5277-80 O 5 '58

Rates of solvolysis of phenylidimethylcarbinyl chlorides containing meta directing substituents. Y. Okamoto and others. *bibliog Am Chem Soc J* 80:4969-72 S 20 '58

Rates of solvolysis of phenylidimethylcarbinyl chlorides containing substituents (-NM₂, -CO₂) bearing a charge. Y. Okamoto and H. C. Brown. *bibliog Am Chem Soc J* 80:4976-9 S 20 '58

Rates of solvolysis of substituted phenylidimethylcarbinyl chlorides in methyl, ethyl and isopropyl alcohols; influence of the solvent on the value of the electrophilic substituent constant. Y. Okamoto and others. *bibliog Am Chem Soc J* 80:4972-6 S 20 '58

Rates of solvolysis of the *m*- and *p*-phenyl-, *m*- and *p*-methylthio-, and *m*- and *p*-trimethylsilylphenylidimethylcarbinyl chlorides; steric inhibition of resonance as a factor in electrophilic substituent constants. H. C. Brown and others. *bibliog Am Chem Soc J* 80:4964-8 S 20 '58

Reaction of neutral esters of trivalent phosphorus acids with inorganic acid chlorides. A. C. Poskus and J. E. Herweh. *bibliog Am Chem Soc J* 79:6127-9 D 5 '57

Reaction of neutral esters of trivalent phosphorus acids with inorganic acid chlorides; the reaction of triphenyl phosphite with acid chlorides of sulfur acids. A. C. Poskus and others. *bibliog Am Chem Soc J* 80:5022-7 O 5 '58

Simultaneous synthesis of aromatic acid chlorides and metal chlorides. R. C. Schreyer. *Am Chem Soc J* 80:3483-4 J1 5 '58

Stereochemistry of the conversion of organic chlorides to acids by carbonylation of the Grignard reagents. H. L. Goring and F. H. McCarron. *bibliog Am Chem Soc J* 80:2287-91 My '58

Study of the effect of chloride ion on films formed on iron in sodium nitrite solutions. G. W. Mellors and others. *bibliog Il Electrochem Soc J* 105:332-8 Je '58

See also

Alkali metal chlorides

Aluminum chloride

Benzoyl chloride

Bismuth chlorides

Boron chlorides

Cadmium chloride

Calcium chloride

Carbon tetrachloride

Carbonyl chlorides

Cesium chloride

Chromium chlorides

Chromyl chlorides

Copper chlorides

Europium chloride

Gallium chlorides

Germanium chlorides

Lead chloride

Lithium chloride

Magnesium chloride

Rare earth chlorides

Thallium chlorides

CHLORIDES—Continued

Analysis

- Automatic titration of micro amounts of chloride by convection amperometry. A. L. Julard, bibliog diag Anal Chem 30:136-40 Ja '58
- Determination of small amounts of iodide in the presence of chloride by potentiometric titration. R. H. Stokes and L. A. Woolf, Anal Chem 29:1383-5 D '57
- Direct spectrophotometric determination of chloride ion in water. P. W. West and H. Coll. Am Water Works Assn J 49:1485-92 N '57
- New tool probes process streams; Beckman metallic electrode for chloride ion analyzer. Chem & Eng N 36:50 Ja 13 '58
- New way to determine chlorides in charge to catalytic reformer. C. Petty and R. Kung, diags Oil & Gas J 56:94-5 Ag 25 '58
- Potentiometric measurement of pCl; application to the determination of chloride in sweat, urine, and miscellaneous solutions. M. Stern and others, bibliog Anal Chem 30:1506-10 S '58
- Spectrophotometric determination of chloride in sweat and serum with diphenylcarbazone. J. L. Gerlach and R. G. Frazier, bibliog Anal Chem 30:1142-6 Je '58
- Ultraviolet spectrophotometric determination of sulfate, chloride, and fluoride with chloranilic acid. R. J. Bertolacini and J. E. Barney, 2d, bibliog Anal Chem 30:202-5 F '58

CHLORINATION

- Chlorination of euxenite concentrates. A. W. Henderson and others, diag Ind & Eng Chem 50:611-12 Ap '58
- Destruction of cyanide wastes by electrolytic chlorination. J. T. Byrne and others, bibliog Electrochem Soc J 105:607-9 O '58
- Effect of nitrides in silicon iron on the determination of oxygen by chlorination, and the possible direct determination of aluminum nitride. F. J. Armonson and H. L. Bennett, bibliog Iron & Steel Inst J 188:132-7 F '58
- Further observations on the mechanism of chlorinolysis of sulfur-carbon bonds; the chlorinolysis of 4-benzylthio-7-chloroquinoline. H. Kwart and J. L. Miller, bibliog Am Chem Soc J 80:884-7 F 20 '58
- Kinetics and mechanism of chlorination of triethylphosphorothioic acid in dilute aqueous media at 25°. N. G. Lordi and J. Epstein, Am Chem Soc J 80:509-15 F 5 '58
- Rates of chlorination of polymethylbenzenes in acetic acid. E. Baciocchi and G. Illuminati, bibliog Chem & Ind 90:17-18 J 19 '58
- Solvent effects in free radical reactions of free radicals and atoms; effects of solvents on the position of attack of chlorine atoms upon 2,3-dimethylbutane, isobutane and 2-deuterio-2-methylpropane. G. A. Russell, bibliog Am Chem Soc J 80:4987-96 S '58

See also

- Sewage disposal—Chlorination
Water pipes—Sterilization
Water purification—Chlorination

CHLORINATION of water. See Water purification—Chlorination

CHLORINE

- Addition reaction of phosphorus trifluoride with chlorine. J. N. Wilson, Am Chem Soc J 80:1338 Mr 20 '58
- Chemical damage in pool; effects of aqueous chlorine. W. H. Houff and others, bibliog Textile Res J 27:961-5 D '57
- Chlorine additions for high-quality inert-gas metal-arc welding of aluminum alloys. M. B. Kasen and A. E. Pfuger, II, diag Welding J 37:sup269-76 Je '58; Excerpts, Metal Prog 74:145-6+ S '58
- Chlorine in serpentinized dunite. J. W. Earley, diag Am Mineralogist 43:148-55 Ja '58
- Chlorine sanitizing compounds. E. M. Petrie and D. P. Roman, II Soap & Chem Spec 34:87-8+ Ag '58
- Combine chlorine and peroxide for better cotton bleaching. Textile World 108:69 Ag '58
- In-process chlorine fluxing improves billet properties; Kaiser's flux bay cleaning and degassing process. II Mod Metals 14:40 Je '58
- Kinetics of the exchange of chlorine between hydrogen chloride and acetyl chloride in the vapor phase. W. J. Neill and M. Kahn, bibliog Am Chem Soc J 80:2111-12 My 5 '58
- Rates of reaction of chlorine with alkyl-substituted diphenyls and related compounds. P. B. D. de la Mare and others, bibliog Chem & Ind p 1086-7 Ag 16 '58

Refining of benzole by chlorine treatment. O. W. Molony and D. Hughes, bibliog diag J Ap Chem 8:690-700 O '58

Replacement of bromine by chlorine in aromatic compounds. W. B. Hardy and R. B. Fortenbaugh, bibliog Am Chem Soc J 80:1716-18 Ap 5 '58

Report of the chlor-alkali committee of the industrial electrolytic division for the year 1957. Electrochem Soc J 105:550-2 S '58

Reversible chlorine electrode for the measurement of electromotive force in molten salt cells. S. Senderoff and G. W. Mellors, bibliog R Sci Instr 29:151-2 F '58

Stauffer has Cl₂ mishap. Chem & Eng N 36:22 J 17 '58

Thermal data for chlorine and HCl. C. J. Dobratz, bibliog Chem Eng 65:144-6 F 10 '58

Use of chlorine in the attack of noble metals; quantitative recovery of micro amounts of platinum, ruthenium, and osmium. A. D. Westland and F. E. Beamish, bibliog diags Anal Chem 30:414-38 Mr '58

Viability of E₂Cl₂ treated with heat or chlorine. A. H. Walters, Manuf Chem 29:210-4 My '58

See also

- Chlorination
Sewage disposal—Chlorination
Water purification—Chlorination

Analysis

- Determination of total chlorine in pesticides by reduction with a liquid anhydrous ammonia-sodium mixture. H. F. Beckman and others, bibliog diag J Agri & Food Chem 6:104-5 F '58
- Direct titration method for determining chlorine in organic compounds after Carius combustion. S. Makineni and others, bibliog J Ap Chem 8:310-13 Mr '58
- Measurement of microgram amounts of chlorine in plant materials. C. M. Johnson and others, bibliog II J Agri & Food Chem 6:114-18 F '58

Costs

How to calculate chlorine cost. Water & Sewage Works 105:R208 S 15 '58

Isotopes

Decomposition of hexachloro-*u*-trichlorodifluorostate(III) ion and exchange of radioactive chlorine between this ion and chlorine ion in aqueous solution. G. L. Hawkins and C. S. Garner, bibliog Am Chem Soc J 80:2946-50 Je 20 '58

Manufacture

- Chlorine manufacture. W. L. Hardy, Ind & Eng Chem 49:sup55A-6A S '57; Correction, 50:sup87A My '58
- Interrelationship between soda ash and the chlor-alkali industry. M. E. Clark and G. F. Gerlach, Chem Eng Prog 53:587-40 N '57

CHLORINE, Liquid

Tentative AWWA standard for liquid chlorine. diag Am Water Works Assn J 50:237-302 F '53

CHLORINE fluorides

Action of chlorine trifluoride on trichloroacetic acid. F. Cuthbertson and others, bibliog J Ap Chem 8:390-3 Je '58

CHLORINE handling

Safe practices in chlorine handling; from a report by the joint committee on chlorine supply. Water & Sewage Works 105:R209 S 15 '58

Use of tank car chlorine. R. M. Harwood and R. Haw, II diag Water & Sewage Works 105:267-9 J 1 '58

CHLORINE oxides

Essential fatty acid retention during certain oxidative flour and dough treatments and in bread-baking. N. Fisher and others, Chem & Ind p720-2 Je 14 '58

Highlights of research in sanitary engineering; University of North Carolina; rates and mechanisms of reactions involving oxy-chloro compounds. M. L. Granström and G. F. Lee, II Pub Works 88:90-2 D '57

Manufacture

New process for the manufacture of chlorine dioxide. W. H. Rapson, diag Tappi 41:181-5 Ap '58

CHLORINOLYSIS. See Chlorination

CHLORITE (mineral)

Effects and geologic significance of potassium fixation by expanded clay minerals derived from muscovite, biotite, chlorite, and volcanic material. C. E. Weaver, Am Mineralogist 43:839-61 bibliog(p859-61) S '58

CHLORITE (mineral)—*Continued*

- Structural and chemical variation in chromite chlorite. D. M. Lapham. *Il diag Am Mineralogist* 43:921-56 bibliog(p954-6) S '58
- Synthesis of the chlorites and their structural and chemical constitution. B. W. Nelson and R. Roy. *bibliog Il diag Am Mineralogist* 43:707-25 J '58
- White chlorite from Cobargo, N.S.W. F. C. Loughnan and G. T. See. *bibliog Am Mineralogist* 43:671-6 J '58

CHLORITES

- Oxygen exchange between oxy-anions and water; chlorite, chlorate and perchlorate ions T. C. Hoering and others. *bibliog Am Chem Soc J* 80:3876-9 Ag '58

CHLOROANILINE

- N-(substituted aminoacyl)-chloroanilines. E. Epstein and D. Kaminsky. *bibliog Am Chem Soc J* 80:1892-5 Ap '58

CHLOROAZIRIDINE

- New hazard found; under right conditions, 1-chloroaziridine can explode violently. *Chem & Eng N* 36:52 O 27 '58

CHLOROBENZENE

- Effect of amines on the catalytic hydrogenation of chlorobenzene. E. R. A. Peeling and D. K. Shipley. *Chem & Ind* p362-3 Mr '58
- Kinetics of the Friedel-Crafts sulfonylation of benzene, chlorobenzene and toluene with aluminum chloride as catalyst and benzenesulfonyl chloride as solvent. F. R. Jensen and H. C. Brown. *bibliog Am Chem Soc J* 80:4042-5 Ag '58
- Micellar dispersion of α -monoglycerides in benzene and chlorobenzene. P. Debye and W. Prins. *bibliog J Colloid Sci* 13:86-98 F '58
- Partition of picric acid between 0.5N aqueous perchloric acid and chlorobenzene; the molecular ratio of picric acid in chlorobenzene. J. W. Bayles and A. Chetwyn. *Chem & Ind* p 1204-5 S 13 '58
- Process control methods in the chlorination of benzene. R. A. Troupe and J. J. Golner. *bibliog flow sheet Anal Chem* 30:129-31 Ja '58
- Thermodynamics of ion pair dissociation; tetrabutylammonium picrate in chlorobenzene, o- and m-dichlorobenzene. P. H. Flaherty and K. H. Stern. *bibliog Am Chem Soc J* 80:1034-8 Mr '58

Analysis

- Infrared quantitative analysis data; determination of benzene and chlorobenzenes in chlorinated benzene. L. R. Kiley. *Anal Chem* 29:1896 D '57

CHLOROCYCLOHEXANOL

- Intramolecular substitution reactions; the hydrolysis of trans-4-chlorocyclohexanol. H. W. Heine. *bibliog Am Chem Soc J* 79: 6268-70 D '57

CHLORODIFLUOROMETHANE

- Azeotrope of monochlorodifluoromethane and dichlorodifluoromethane. B. J. Eiseeman, Jr. *Am Chem Soc J* 79:3087 N 20 '57
- Heat capacity, heat of fusion, heat of transition and heat of vaporization of chlorodifluoromethane between 16°K. and the boiling point. E. F. Neilson and D. White. *bibliog Am Chem Soc J* 79:5618-21 N 5 '57
- Reaction of chlorodifluoromethane with Linde molecular sieve 5A. P. Cannon. *Am Chem Soc J* 80:1768-7 Ap '58
- Safety practices with Freon; repair a refrigeration unit containing Freon-22. *Welding Eng* 43:50 Ag '58

Testing

- Behavior of refrigerants 12 and 22 in sealed-tube tests. D. E. Kvalnes and H. M. Parmelee. *bibliog Refrig Eng* 65:40-2+ N '57

CHLORODINITROBENZENE

- Nucleophilic displacement reactions in aromatic systems; catalysis of the reaction of 2,4-dinitrochlorobenzene and n-butylamine by triethylamine in chloroform. S. D. Ross and R. C. Petersen. *Am Chem Soc J* 80: 2447-9 My '58
- Nucleophilic displacement reactions in aromatic systems; the rates of reaction of 2,4-dinitrochlorobenzene with n-butylamine and with hydroxide ion in 50 per cent dioxane-50 per cent water. S. D. Ross. *bibliog Am Chem Soc J* 80:5319-22 O '58
- Nucleophilic reactivity of aniline, hydrazine and phenoxide ion toward 2,4-dinitrochlorobenzene. J. F. Bunnett and G. T. Davis. *bibliog Am Chem Soc J* 80:4337-9 Ag '58

- Rates, products and salt effects in the reactions of 2,4-dinitrochlorobenzene with amines in chloroform and in ethanol. S. D. Ross and M. Finkelstein. *bibliog Am Chem Soc J* 79:6547-54 D '57

CHLORODIPHENYL METHANE

- Rates of solvolysis of m-alkylbenzhydriyl chlorides. E. Berliner and M. M. Chen. *bibliog Am Chem Soc J* 80:343-7 Ja '58

CHLOROETHANE

- Kinetics of the thermal decomposition of pentachloroethane. T. J. Houser and R. B. Bernstein. *bibliog Am Chem Soc J* 80:4439-42 S '58
- Reaction kinetic studies; synthesis of ethyl chloride. G. Thodos and L. F. Stutzman. *diag Ind & Eng Chem* 50:413-16 Mr '58

Manufacture

- Ethyl chloride. flow diag *Pet Refiner* 36:238 N '57
- Ethyl chloride; Shell development co. flow diag *Pet Refiner* 36:237 N '57

CHLOROETHYLENE

- See also
Trichloroethylene
Vinyl chloride

CHLOROFLUOROMETHANES

- Freons; potential greases; abstract. D. H. Buckley and J. H. Johnson. *Chem & Eng N* 36:48-9 S 22 '58
- Pattern for progress; Freon and the development of the dry ice industry. *Ind & Eng Chem* 49:sup29A D '57
- Use of Freons in bubble chambers. D. V. Burg. *R Sci Instr* 29:587-9 J '58

CHLOROFORM

- Chloroform-bearing chelates. J. F. Steinbach and J. H. Burns. *bibliog diag Am Chem Soc J* 80:1839-41 Ap '58
- Chromatography of a mixture of hexane, chloroform, and benzene on silica gel. J. W. Blair and E. S. Amis. *Anal Chem* 30:329-32 Mr '58
- Hydrogen bonding of phosphoryl compounds with chloroform and other solvents. M. W. Hanson and J. B. Bouck. *Am Chem Soc J* 79:5631-2 N 5 '57
- Rates, products and salt effects in the reactions of 2,4-dinitrochlorobenzene with amines in chloroform and in ethanol. S. D. Ross and M. Finkelstein. *bibliog Am Chem Soc J* 79:6547-54 D '57

CHLOROGENIC acid

- Chlorogenic acid isomers in black Alicante grapes. C. Weurman and C. de Rooij. *bibliog Chem & Ind* p72 Ja '58
- Chlorogenic acids in plant materials; abstracts of papers. *Chem & Ind* p213-17 F '58

CHLOROMETHANE**Manufacture**

- Chlorinated methanes. flow diag (p228) *Pet Refiner* 36:229 N '57

CHLOROMETHYL PROPANE

- Carbon-14 kinetic isotope effects; the hydrolysis of 2-chloro-2-methylpropane-2-C¹⁴. M. L. Bender and G. J. Buist. *bibliog Am Chem Soc J* 80:4304-11 Ag '58

CHLOROMYCETIN

- Basic chloramphenicol esters. F. Lauria and A. Defranceschi. *Chem & Ind* p 1002 Ag '58
- Chloramphenicol; 2,4,8-substituted-1-aza-3,7-dioxabicyclo[3.3.0]octanes. W. H. Edgerton and others. *bibliog Am Chem Soc J* 79: 6487-90 D '57

CHLOROPHENYL dimethylurea

- Control of algae with chlorophenyl dimethyl urea. T. E. Maloney. *bibliog Il Am Water Works Assn J* 50:417-22 Mr '58

Physiological effect

- Chronic toxicity of 3-(p-chlorophenyl)-1,1-dimethylurea (Monuron). H. C. Hodges and others. *A M A Archives Ind Health* 17:45-7 Ja '58

CHLOROPHYLL

- Chlorophyll contamination of wool and its effect on the lightfastness of dyed shades. *Am Dyestuff Rep* 47:118-24 F '58
- Determination of the conversion of chlorophyll to pheophytin. *Food Tech* 12:428 Ag '58
- Green thumb; synthesis of chlorophyll. R. B. Woodward. *Chem & Eng N* 36:35 Je '58
- Preservation of chlorophyll derivatives in sediments off southern California. W. L. Orr and others. maps diag *Am Assn Pet Geologists Bul* 42:925-62 bibliog(p956-8) My '58

CHLOROPHYLL—Continued

Analysis

Radial paper chromatography; application to analysis of mixtures of chlorophyll derivatives. M. J. Hendrickson and others. *bibliog* *Anal Chem* 29:1810-15 D '57

Spectra

Absorption spectra and decay kinetics of the metastable states of chlorophyll A and B. H. Linschitz and K. Sarkanen. *bibliog* *diag* *Am Chem Soc J* 80:4826-32 S 20 '58

CHLOROPRENE

Syntheses by free-radical reactions; the reaction of 2,6-di-*t*-butyl-4-methylphenol and 2,6-di-*t*-butyl-4-isopropylphenol with chloroprene. W. R. Hatchard. *bibliog* *Am Chem Soc J* 80:3640-2 J 20 '58

CHLOROTHENE. See Trichloroethane

CHLOROTOLUENE

Production of benzyl chloride; abstract. L. Klahr. *Ind Chem* 34:204-5 Ap '58
Solvent effects in the reaction of *p*-substituted α -chlorotoluenes with thiosulfate. R. Fuchs. *bibliog* *diag* *Am Chem Soc J* 79:6531-3 D 20 '57

CHLOROTRIFLUOROETHYLENE

Ignition of Kel-F and Teflon. L. Greenspan. *R Sci Instr* 29:172-3 F '58
Kinetics of the vapor phase photochlorination of trifluorochloroethylene. D. L. Bunbury and others. *bibliog* *Am Chem Soc J* 80:5104-7 O 5 '58

Specific volume and degree of crystallinity of semicrystalline poly(chlorotrifluoroethylene), and estimated specific volumes of the pure amorphous and crystalline phases. J. D. Hoffman and J. J. Weeks. *bibliog* *J Res Nat Bur Stand* 60:465-79 My '58

CHLOROTRIPHENYLMETHANE

Mechanism of methanolysis of triphenylmethyl chloride in benzene solution. C. G. Swain and E. B. Pegues. *bibliog* *Am Chem Soc J* 80:812-19 F 20 '58

CHLOROTROPANE. See Tropanyl chloride

CHLOROUS acid

Chlorous acid oxidation of periodate oxidized cornstarch. B. T. Hofreiter and others. *bibliog* *Am Chem Soc J* 79:6457-60 D 20 '57

CHLORTETRACYCLINE. See Aureomycin

CHOLESTANONE

Leukart reduction of cholestan-3-one. R. R. Sauers. *bibliog* *Am Chem Soc J* 80:4721-3 S '58

Studies in the synthesis of the antirachitic vitamins; the synthesis of 2-cholestanylidene-ethan-1-ol. N. A. Milas and C. P. Priesing. *bibliog* *Am Chem Soc J* 80:2189-94 Mv 5 '58

CHOLESTANYL halides

5 α -Cholestan-6 α -yl halides. C. W. Shoppee and M. E. H. Howden. *bibliog* *Chem & Ind* p44-15 Ap '58

CHOLESTEROL

Carotene utilization and cholesterol metabolism as influenced by added choline and vitamin B₁₂ to diets containing yeast or a synthetic vitamin mixture. H. L. Mayfield and R. R. Roehm. *J Nutrition* 64:571-86 *bibliog* (p585-6) Ap '58

Cholesterol in blood and tissues of adult pantothenic acid-deficient rats. M. O. Osborn and others. *bibliog* *J Nutrition* 64:313-19 F '58

Cholesterol in skin fats; abstract. D. B. Windhorst and C. Oster. *Drug & Cosmetic Ind* 82:378 Mr '58

Effect of altitude and diet on hematopoiesis and serum cholesterol. I. R. Payne. *bibliog* *J Nutrition* 64:433-46 Mr '58

Effect of dietary fat on the fatty acid composition of cholesterol esters in rat liver. S. Mukherjee and others. *bibliog* *J Nutrition* 65:469-79 J 1 '58

Effect of dietary protein and fat on changes of serum cholesterol in mature birds. M. Kokatnur and others. *bibliog* *J Nutrition* 64:177-84 F '58

Effect of low-protein diets upon serum cholesterol in man. R. E. Olson and others. *11 Am J Clinical Nutrition* 6:310-21 *bibliog* (p320-1); Discussion. 322-4 My '58

Effects of feeding wool-fat sterols on the sterol content of serum and liver of the rat. C. H. Duncan and others. *J Nutrition* 64:425-31 Mr '58

Effects of the esterification of supplemental cholesterol and sitosterol in the diet. M. M. Best and C. H. Duncan. *bibliog* *J Nutrition* 65:169-81 Je '58

Fatty acids and their relationship to cholesterolemia. D. M. Rathmann. *11 A M Archives Ind Health* 17:402-7 My '58

Formation of five- and six-membered rings by the acyloin condensation; cyclization of the cholesterol α -ring via a 2,3-secoester. J. C. Sheehan and W. F. Erman. *bibliog* *Am Chem Soc J* 79:6050-5 N 20 '57

Further aspects of the Wittig reaction in the steroid series; 20-dehydrocholesterol and 20-isocholesterol. F. Sondheimer and R. Mechoulam. *bibliog* *Am Chem Soc J* 80:3087-90 Je 20 '58

Incorporation of acetate-2-C¹⁴ into liver and carcass lipids and cholesterol in biotin-deficient rats. M. R. Gram and R. Okey. *bibliog* *J Nutrition* 64:217-23 F '58

Influence of autooxidation on the chemical assay of cholesterol. L. N. Norcia. *bibliog* (32 ref) *Am Oil Chem Soc J* 35:25-7 Ja '58

Stereochemistry of 7 α -hydroxylation in the biosynthesis of cholic acid from cholesterol. S. Bergstrom and others. *bibliog* *Am Chem Soc J* 80:2337-8 Mv 5 '58

Transmission of electrical effects through homoallylic systems; the synthesis and physical properties of a series of 6-arylcholesteryl and of 6-arylcholesteryl *p*-toluenesulfonate esters. R. A. Sneed. *bibliog* *Am Chem Soc J* 80:3971-6 Ag 5 '58

CHOLESTERYL compounds

Transmission of electrical effects through homoallylic systems; kinetics of solvolysis of some 6-arylcholesteryl *p*-toluenesulfonate esters. R. A. Sneed. *bibliog* *Am Chem Soc J* 80:3977-8 Ag '58

Transmission of electrical effects through homoallylic systems; synthesis and kinetics of solvolysis of 6-methylcholesteryl *p*-toluenesulfonate. R. A. Sneed. *Am Chem Soc J* 80:3982-6 Ag 5 '58

Transmission of electrical effects through homoallylic systems; the synthesis and physical properties of a series of 6-arylcholesteryl and of 6-arylcholesteryl *p*-toluenesulfonate esters. R. A. Sneed. *bibliog* *Am Chem Soc J* 80:3971-6 Ag 5 '58

Analysis

Cholesteryl esters of long-chain fatty acids; infrared spectra and separation by paper chromatography. J. A. Labarrère and others. *bibliog* *Anal Chem* 30:1466-70 S '58

CHOLIC acid

Stereochemistry of 7 α -hydroxylation in the biosynthesis of cholic acid from cholesterol. S. Bergstrom and others. *bibliog* *Am Chem Soc J* 80:2337-8 My 5 '58

CHOLINE

Biosynthesis of choline and betaine. J. A. Stekol. *diags* *Am J Clinical Nutrition* 6:200-14 *bibliog* (p212-14); Discussion. 214-15 My '58

Biosynthesis of methyl groups of choline from formaldehyde by liver preparations. R. Veit, K. Ataraman and D. M. Greenberg. *Am Chem Soc J* 80:2025 Ap 20 '58

Carotene utilization and cholesterol metabolism as influenced by added choline and vitamin B₁₂ to diets containing yeast or a synthetic vitamin mixture. H. L. Mayfield and R. R. Roehm. *J Nutrition* 64:571-86 *bibliog* (p585-6) Ap '58

Compounds related to α -glycerophosphoric acid, phosphorylcholine and phosphoryl-ethanolamine. A. F. Rosenthal and R. P. Gever. *bibliog* *Am Chem Soc J* 80:5240-1 O 5 '58

Effect of dietary protein, fat, and choline upon the serum lipids and lipoproteins of the rat. R. E. Olson and others. *bibliog* *Am J Clinical Nutrition* 6:111-18 Mr '58

Effects of ionizing radiation on choline chloride and its analogs. R. M. Lemmon and others. *bibliog* *Am Chem Soc J* 80:2730-3 Je 5 '58

Polymorphism and radiation decomposition of choline chloride. R. L. Collin. *Am Chem Soc J* 79:6086 N 20 '57

Reflections upon some lipotropic facts and fantasies. C. C. Lucas. *Am J Clinical Nutrition* 6:504-12 *bibliog* (p510-12) S '58

Renal lesions in choline deficiency. W. H. Griffith. *11 Am J Clinical Nutrition* 6:263-70 *bibliog* (p269-70); Discussion. 270-3 My '58

Role of choline and methionine antagonists in metabolism. I. C. Wells. *Am J Clinical Nutrition* 6:254-60 *bibliog* (p259-60); Discussion. 260-2 My '58

Role of choline in the hepatic oxidation of fat. C. Artom. *Am J Clinical Nutrition* 6:221-33 *bibliog* (p232-3); Discussion. 234 My '58

CHOLINE—Continued

Role of choline in the turnover of phospholipids, D. B. Zilversmit and N. R. DiLuzio, *bibliog Am J Clinical Nutrition* 6:235-40; Discussion, 240-1 My '58

Vascular disease associated with choline deficiency in the rat, G. F. Wilgram, *bibliog il Am J Clinical Nutrition* 6:274-8; Discussion, 278-9 My '58

Analysis

Determination of choline in egg products, flour, and noodles, H. Salwin and others, *bibliog J Agri & Food Chem* 6:475-9 Je '58

CHOLINESTERASE

Blood cholinesterase activity, J. H. Wolfsie, *bibliog A M A Archives Ind Health* 16:403-10 N '57

Hair follicle cholinesterases; abstract, W. Montagna and R. A. Ellis, *Drug & Cosmetic Ind* 82:232 F '58

Serum cholinesterase levels of Central American children in relation to nutritional status, G. Arroyave and others, *bibliog Am J Clinical Nutrition* 6:164-3 Mr '58

Stereochemistry of asymmetric phosphorus compounds; stereospecificity in the irreversible inactivation of cholinesterases by the enantiomorphs of an organophosphorus inhibitor, H. S. Aaron and others, *bibliog Am Chem Soc J* 80:456-8 Ja 20 '58

See also

Anticholinesterase

CHONDRODITE

Calcium analogue of chondrodite, E. R. Buckle and H. F. W. Taylor, *bibliog il Am Mineralogist* 43:818-23 S '58

CHONDROMUCOPROTEIN

Electrophoretic behavior of chondromucoprotein, R. C. Warner and M. Schubert, *bibliog diags Am Chem Soc J* 80:5166-8 O 5 '58

CHOPPING circuits. See Electronic circuits**CHRISTMAS gifts**

Ingenious ideas for Christmas, *il Product Eng* 28:32-3 D 2 '57

CHRISTMAS lighting

Christmas lighting around the world, *il Elec World* 148:32-3 D 23 '57

Christmas tree is many things; illustrations with text, M. Fahs Bender, *illum Eng* 52:598-9 N '57

Year-round business of Christmas lamps, G. F. Pridaux, *il Gen Elec R* 60:24-7 N '57

CHRISTMAS tree decorations

Teen age glass blowers in business, H. H. Slawson, *Glass Ind* 39:484+ S '58

CHROMALIZING. See Chromizing**CHROMALLOY process. See Steel—Protection****CHROMATES**

Chemical films lick parts corrosion; chromate coatings, W. E. Pocock, *Aviation Age* 29:48-50+ Ap '58

Chromates as applied to hot dip zinc coated wire, M. S. Siddall, *Wire & Wire Prod* 33:763-9+ J '58

Determination of trivalent chromium in the presence of chromate, R. W. Cline and others, *Anal Chem* 30:1117-18 Je '58

Electrically conductive chromate surface conversion coatings, R. Stricklen, *il Elec Manuf* 61:106-10 F '58

Electrode potential studies on iron in dilute phosphate-chromate solutions, R. N. Ride, *bibliog J Ap Chem* 8:175-83 Mr '58

CHROMATOGRAPHIC analysis

Accuracy of quantitative paper chromatography in amino acid determination using direct photometry, H. R. Roberts and M. G. Kolor, *bibliog Anal Chem* 29:1800-2 D '57

Amino acid analysis by reactor-gas chromatography, A. Zlatkis and J. F. Oro, *Anal Chem* 30:1156 Je '58

Analysis of the nonvolatile acids in cigarette smoke by gas chromatography of their methyl esters, L. D. Quin and M. E. Hobbs, *bibliog Anal Chem* 30:1400-5 Ar '58

Analytical separation of the methyl esters of the C₈-C₂₄ straight-chain fatty acids and the detection of odd-carbon-number acids in commercial mixtures of fatty acids by gas chromatography, M. A. Khan and B. T. Whitham, *bibliog J Ap Chem* 8:549-52 S '58

Application of ion-exchange chromatography to the analysis of commercial triphosphate, W. G. Spangler and others, *bibliog diag A S T M Bul* 661-5 F '58

Ascending chromatography of polyphosphates, G. G. Berg, *bibliog Anal Chem* 30:213-16 F '58

Behaviour of katharometers for gas chromatography in carrier gases of low thermal conductivity, J. Bohemen and J. H. Purnell, *bibliog J Ap Chem* 8:433-40 JI '58

Butadiene-vinyl acetylene analysis by gas chromatography, H. R. Kaufman and A. Zlatkis, *Chem & Ind* p 1001 Af 9 '58

Changes in the properties of an asphalt during the blowing operation, L. R. Kleinschmidt and H. R. Snoko, *J Res Nat Bur Stand* 60:169-72 Mr '58

Cholesteryl esters of long-chain fatty acids; infrared and separation by paper chromatography, J. C. Labarre and others, *bibliog Anal Chem* 30:1466-70 S '58

Chromatographic analysis of gas mixtures containing nitrogen, nitrous oxide, nitric oxide, carbon monoxide, and carbon dioxide, R. N. Smith and others, *diags Anal Chem* 30:1217-18 JI '58

Chromatographic analysis of pulps utilizing direct densitometry, D. F. Durso and J. C. Paulson, *il diag Anal Chem* 30:919-22 Mr '58

Chromatographic determination of steam-volatile acids in cigarette smoke, L. D. Quin and others, *Anal Chem* 30:546-7 Ar '58

Chromatographic identification and determination of organic acids in water, H. F. Mueller and others, *bibliog Anal Chem* 30:41-4 Ja '58

Chromatographic recovery of vitamin B₁₂; patent, *Drug & Cosmetic Ind* 82:764+ Je '58

Chromatographic separation of phosphonitrilic chlorides by vapour phase techniques, F. G. R. Gimblett, *Chem & Ind* p365-6 Mr 22 '58

Chromatography has become a valuable tool as a guide to fractionation operation, A. B. Alton, *Oil & Gas J* 56:122 Ap 21 '58

Chromatography of a mixture of hexane, chloroform, and benzene on silica gel, J. W. Blair and E. S. Amlis, *Anal Chem* 30:329-32 Mr '58

Chromatography of amino acids on sulfonated polystyrene resins, S. Moore and others, *bibliog diag Anal Chem* 30:1185-90 JI '58

Chromatography of aromatic constituents of urine, P. Smith, *bibliog Chem & Ind* p758-9 Je 21 '58

Chromatography of esters on Florisil; detection as ferric hydroxamates, F. B. O'Neal and J. Carlton, *Anal Chem* 30:1051-3 Je '58

Correlation of chromatographic absolute loss determinations with the A.O.C.S. cup refining method in soybean oil, E. Sipsos, *Am Oil Chem Soc J* 35:233-6 My '58

Detection of phenylthiohydantoins on paper chromatograms, K. R. Hanson and D. R. Whitaker, *Chem & Ind* p43 Ja 11 '58

Determination of carbon-14 steroids on paper chromatograms, D. L. Berliner and others, *bibliog il Anal Chem* 29:1797-800 D '57

Determination of five- to seven-carbon saturated by gas chromatography, F. T. Eggerston and S. Groenings, *bibliog Anal Chem* 30:20-5 Ja '58

Determination of glycerine in polyol mixtures by paper chromatography, C. F. Smullin and others, *bibliog il Am Oil Chem Soc J* 35:179-82 Ap '58

Determination of nitrogen dioxide by gas-solid chromatography, S. A. Greene and H. Pust, *Anal Chem* 30:1039-40 Je '58

Development of paper chromatographic techniques, A. D. Clarke and G. Bazill, *bibliog il Brit Plastics* 31:16-19 Ja '58

Enzyme action on partition chromatographic columns, E. T. Reese and M. Mandels, *Am Chem Soc J* 80:4625-7 S 5 '58

Estimation of trace and major quantities of lower alcohols, ethers, and acetone in aqueous solutions by gas liquid partition chromatography, S. J. Bodnar and S. J. Mayeux, *diags Anal Chem* 30:1384-7 Ar '58

Evaluation of vanilla extracts; tentative procedures by paper chromatography, H. P. Burchfield and others, *bibliog il Am Perfumer & Aromatics* 71:49-50+ Ap '58

Evidence of chromatographic effect during flow of gases through oilfield cores, W. A. Roper and others, *bibliog J Pet Tech* 10:61-3 Mr '58

Exploratory studies of high temperature gas-liquid chromatography, J. L. Ogilvie and others, *bibliog flow diag il Anal Chem* 30:25-7 Ja '58

Faster amino acid analysis; abstract, J. B. Himes and L. D. Metcalfe, *il Chem & Eng N* 36:80 S 22 '58

Future possibilities of gas chromatography, V. J. Pichelmair and S. T. Preston, *il Gas* 34:119-20+ F '58

Gas chromatographer versatile analytical tool in refining-petrochemical operations, G. K. Chadd and G. White, *Pet Eng* 30:C44 Ja '58

CHROMATOGRAPHIC analysis—Continued

- Gas chromatographic analysis of engine exhaust and atmosphere; determination of C₁ to C₈ hydrocarbons. F. T. Eggerfsen and F. M. Nelsen. *diag Anal Chem* 30:1040-3 Je '58
- Gas chromatography; abstract G. A. P. Tuey. *Drug & Cosmetic Ind* 82:661 My '58
- Gas chromatography; determination of constituents in the study of azeotropes. J. F. Haskin and others. *bibliog Anal Chem* 30:217-19 F '58
- Gas chromatography, effect of type and amount of solvent on analysis of saturated hydrocarbons. F. T. Eggerfsen and H. S. Knight. *bibliog Anal Chem* 30:15-20 Ja '58
- Gas chromatography for trace analysis. J. D. Boggus and N. G. Adams. *bibliog diags Anal Chem* 30:1471-3 S '58
- Gas chromatography of olefins; determination of pentenes and hexenes in gasoline. H. S. Knight. *bibliog Anal Chem* 30:9-15 Ja '58
- Gas chromatography; powerful new tool for chemical analysis. H. H. Hausdorff and N. Brenner. *bibliog li diags Oil & Gas J* 56:73-5 Ja 30; 122-4+ J14; 86-3 J1 21; 89-90+ Ag 4 '58
- Gas chromatography widens range. *li Chem & Eng N* 36:59+ Mr 17 '58
- Gas-liquid chromatographic analysis applied to air pollution; sampling. P. W. West and others. *bibliog diags Anal Chem* 30:1390-7 Ag '58
- Gas-liquid chromatographic resolution of *m*- and *p*-xylene; tetrahalophthalate liquid phases. S. H. Langer and others. *bibliog Chem & Ind p* 1145-7 Ag 30 '58
- Gas-liquid chromatography; analysis of the alkali extract of a low-temperature coal tar. L. Irvine and T. J. Mitchell. *J Ap Chem* 8:425-32 J1 '58
- Gas-liquid chromatography; effect of support size and proportion of liquid phase on column efficiency. J. D. Cheshire and R. P. W. Scott. *bibliog Inst Pet J* 44:74-9 Mr '58
- Gas-liquid chromatography; retention-volume data of certain tar acids. L. Irvine and T. J. Mitchell. *J Ap Chem* 8:3-6 Ja '58
- Gas-liquid partition chromatography of fluorocarbons. T. Reed, 3d. *bibliog Anal Chem* 30:221-8 F '58
- Gas-liquid partition chromatography of mixtures of aryl methyl ethers. W. Carruthers and others. *Chem & Ind* p331 Mr 15 '58
- Gas-liquid partition chromatography of mixtures of the three isomeric methylcyclohexenes and methylenecyclohexane. E. Gil-Av and others. *Chem & Ind p* 1483-4 N 9 '57
- Gas odorants analysis by gas chromatography. C. F. Spencer and others. *bibliog Anal Chem* 30:1473-4 S '58
- High frequency technique for continuous recording in chromatographic analysis of bile acids. G. Johansson and others. *bibliog diag Anal Chem* 30:1397-400 Ag '58
- How gasoline plants are using gas chromatography. A. J. Miller. *li diag Oil & Gas J* 56:88-91 Mr 3 '58
- Identification of mixed plasticizers by a combination of chromatography and infrared spectroscopy. M. Cachia and others. *J Ap Chem* 8:291-3 My '58
- Ion exchange chromatography of amino acids; effect of resin particle size on column performance. P. B. Hamilton. *bibliog Anal Chem* 30:914-19 My '58
- Material deposited along path of chromatographed sugar spot. C. K. Hordis and G. N. Kowabany. *bibliog diag Anal Chem* 30:1210-13 J1 '58
- Nature of the fixed phase or of the carrier in gas-liquid chromatography of essential oils and aromatics. Y. E. Neves. *Am Perfumer & Aromatics* 71:38 My '58
- Observations on the chromatographic heterogeneity of normal adult and fetal human hemoglobin; a study of the effects of crystallization and chromatography on the heterogeneity and isoleucine content. D. W. Allen and others. *bibliog Am Chem Soc J* 80:1628-34 Ap 5 '58
- Paper chromatography as applied to refrigeration sludge analysis. G. D. Stevens and J. D. Bopp. *li diag Refrig Eng* 66:41-3 My '58
- Paper chromatography of 2,4-dinitrophenylhydrazones of saturated aliphatic aldehydes. R. Ellis and others. *bibliog Anal Chem* 30:475-9 Ap '58
- Partition separation of carotenoids by silica-methanol columns. A. B. Purcell. *bibliog Anal Chem* 30:1049-51 Je '58
- Preparation of high-ortho novolak resins; the course of the reaction. D. A. Fraser and others. *bibliog diag J Ap Chem* 7:689-700 D '57
- Process control by gas chromatography. R. Wall. *Ind & Eng Chem* 50:su:11A-2A Mr '58
- Programmed temperature gas chromatography. S. D. Nogue and C. E. Bennett. *bibliog Anal Chem* 30:1157-8 Je '58
- Punched card storage of gas chromatographic data. C. F. Spencer and J. F. Johnson. *bibliog Anal Chem* 30:893-4 My '58
- Pure vanilla extract. D. Jorysch. *Food Eng* 30:117 S '58
- Quantitative determination of traces of free gossypol in fats, oils, and fatty acids by paper chromatography. G. Schramm and J. H. Benedict. *bibliog Am Oil Chem Soc J* 35:371-3 J1 '58
- Radio paper chromatography; application to analysis of mixtures of chlorophyll derivatives. M. J. Hendrickson and others. *bibliog li diags Anal Chem* 29:1810-15 D '57
- Radioassay by gas chromatography of tritium- and carbon-14-labeled compounds. R. Wolfgang and F. S. Rowland. *bibliog diags Anal Chem* 30:903-6 My '58
- Rapid chromatographic analysis of soap-thickened lubricating greases. G. W. Powers, Jr. and E. J. Piehl. *bibliog diag Anal Chem* 30:28-31 Ja '58
- Rapid method for the determination of the aromatic contents of petroleum fractions boiling above the kerosene range. B. M. Brook and B. T. Whitman. *diag Inst Pet J* 44:212-16 J1 '58
- Rapid spot test methods for the evaluation of used transformer oil; paper chromatographic test methods. R. E. Reinhard and others. *bibliog Power Apparatus & Systems* p893-4 O '58
- Reactions of methylhydrazine and unsymmetrical dimethylhydrazine with esters and anhydrides of carboxylic acids; the application of paper chromatography to problems in synthetic organic chemistry. R. L. Hinman and D. Fulton. *bibliog Am Chem Soc J* 80:1395-900 Ap 20 '58
- Recent developments in gas chromatography. R. P. W. Scott. *bibliog diags Manuf Chem* 29:411-16 O '58
- Resolution in gas-liquid chromatography. D. Brennan and C. Kemball. *bibliog Inst Pet J* 44:74-17 Ja '58
- Resolution of isomeric hexanes by gas-liquid chromatography. A. Zlatkis. *Anal Chem* 30:332-3 Mr '58
- Review of fundamental developments in analysis; chromatography; analysis by differential migration. H. H. Strain. *diags Anal Chem* 30:620-9 *bibliog* (p627-9) p 2 Ap '58
- Selectivity of various liquid substrates used in gas chromatography. H. M. Tenney. *bibliog Anal Chem* 30:2-8 Ja '58
- Separation by paper chromatography and spectrophotometric determination of trace amounts of cobalt, nickel, copper, and zinc. W. J. Frierson and others. *bibliog li Anal Chem* 30:468-71 Ap '58
- Separation of allylic bromides without isomerization by gas chromatographic techniques. R. F. Nyström and C. R. A. Berger. *Chem & Ind* p559-60 My 10 '58
- Separation of halogenated acetic and propionic acids by paper chromatography. J. W. Chittum and others. *bibliog Anal Chem* 30:1213-14 J1 '58
- Separation of isomeric polyphenyls by adsorption chromatography. M. Hellman and others. *bibliog Anal Chem* 30:1206-10 J1 '58
- Separation of mixtures of biphenyl, cyclohexylbenzene, and bicyclohexyl by vapour-phase chromatography. W. J. Hendriks and others. *Inst Pet J* 43:288-91 O '57
- Separation of platinum, palladium, rhodium, and iridium by paper electrochromatography. W. M. MacNevin and M. L. Dutton. *bibliog diags Anal Chem* 29:1806-9 D '57
- Separation of polyunsaturated fatty acid methyl esters by gas chromatography. C. H. Orr and J. E. Callen. *Am Chem Soc J* 80:249 Ja 5 '58
- Some factors influencing the efficiency of gas-liquid partition chromatography columns. W. J. DeWet and V. Pretorius. *diags Anal Chem* 30:325-9 Mr '58
- Spectrophotometric method for the chromatographic analysis of sugars. C. V. Piper and L. J. Bernardin. *Tappi* 41:16-18 Ja '58
- Two-stage gas-liquid chromatography. M. C. Simmons and L. R. Snyder. *flow diags li Anal Chem* 30:32-5 Ja '58
- Urea phosphate reagent as a specific test for heptoses on paper chromatograms. F. L. Greene. *Anal Chem* 30:1164 Je '58

CHROMATOGRAPHIC analysis—Continued

- Use of mixed stationary liquids in gas-liquid chromatography. W. H. McFadden. bibliog Anal Chem 30:479-81 Ap '58
- Uses of gas-liquid chromatography. A. J. P. Martin and A. T. James. Manuf Chem 29:203 My '58
- Vapor-phase chromatography. A. P. Gifford. II diag Instruments & Automation 30:2264-5 D '57

Apparatus

- Amino acid analyzer coming. II Chem & Eng 36:60-2 My '58
- Analyzer aims for sensitivity; process chromatograph uses catalytic combustion cell. Chem & Eng N 36:58+ Ag '58
- Apparatus for continuous electrochromatography. H. H. Strain. bibliog diags Anal Chem 30:223-31 F '58
- Automatic recording apparatus for use in the chromatography of amino acids. D. H. Spackman and others. bibliog diags Anal Chem 30:1190-206 J '58
- Chromatography has quick payout at Snyder plant. E. Denny. diag Oil & Gas J 56:117-18 Ap 21 '58; Same. Pet Eng 30:C 17-18 My '58
- Chromatographic analyzer for determining trace hydrocarbons in air separation plants. C. A. Gaulin and others. bibliog flow diag II diags Chem Eng Prog 54:49-53 S '58
- Chromatographic analyzer used to control debutanizer. diag Pet Eng 30:C22 My '58
- Chromatography; a lab and process instrument. J. R. Irving. II Ind Lab 9:21-6 S '58
- Chromatography in the plant from monitoring to control. II flow chart Can Chem Process 41:108-10 D '57
- Chromatography is a plant workhorse; Humble's Baytown refinery laboratory. J. F. Hickerson. Oil & Gas J 56:119-20 Ap 21 '58
- Compact and versatile fraction collector. A. Snow and others. II diags J Sci Instr 35: 243-4 J '58
- Device for measuring B_v values. R. L. Clements. diag Anal Chem 30:160-1 Ja '58
- Fraction cutter for gas chromatography. A. Weinstein. bibliog diags Anal Chem 29:1899-900 D '57
- Gas chromatography. P. Day. bibliog diags Research 11:39-42 Ja '58
- High temperature gas chromatography apparatus. S. D. Nogare and L. W. Safranski. bibliog diags Anal Chem 30:894-8 My '58
- How gas chromatography works in the laboratory. L. N. Locke. Oil & Gas J 56:120-1 Ap 21 '58
- Monitoring and control with automatic chromatographic analyzers. M. M. Fourroux. flow plan II diags Oil & Gas J 56:114-16 Ap 21 '58
- Recording dielectrometric method for column chromatography. R. A. Grant. diags J Ap Chem 8:136-40 F '58
- Reservoir for paper chromatography for use inside a rectangular glass container. A. L. Sims. diags J Sci Instr 34:461 N '57
- Sample depositors for paper chromatography. J. P. DuRuisseau. II Anal Chem 30:455-6 Mr '58
- Switch unit for collecting small fractions from chromatographic columns. K. Blau and M. F. Fordom. diag Chem & Ind p 1112 Ag 23 '58
- Thermistor detectors in gas chromatography. A. D. Davis and G. A. Howard. bibliog diags J Ap Chem 8:183-6 Mr '58
- Trace analyses by gas chromatography. C. E. Bennett and others. bibliog diags Anal Chem 30:898-902 My '58
- Water-curtain enclosure for spraying paper chromatograms. E. C. Flebig and H. Siegel. diag Anal Chem 30:161 Ja '58

CHROMATOPHORES

- Photoreduction of triphosphopyridine nucleotide by chromatophores of rhodospirillum rubrum. L. P. Vernon. Am Chem Soc J 80: 246-7 Ja '58
- Simultaneous reduction of diphosphopyridine nucleotide and oxidation of reduced flavin mononucleotide by illuminated bacterial chromatophores. A. W. Frenkel. bibliog Am Chem Soc J 80:3479-80 JI 5 '58

CHROMIC acid

- Kinetics of the chromic acid oxidation of benzaldehyde. C. T. E. Graham and F. H. Westheimer. bibliog diag Am Chem Soc J 80:3030-3 Je 20 '58
- Kinetics of the chromic acid oxidation of benzaldehyde. K. B. Wiberg and T. Mill. bibliog Am Chem Soc J 80:3022-9 Je 20 '58

- Mechanism of chromic acid oxidations; oxidation of formaldehyde by chromic acid. A. C. Chatterji and S. K. Mukherjee. bibliog Am Chem Soc J 80:3600-4 JI 20 '58

CHROMIUM

- Bod determinations in wastes containing chelated copper or chromium. G. B. Morgan and J. E. Lackey. bibliog Sewage & Ind Wastes 30:233-6 Mr '58
- Carbide precipitation in several steels containing chromium and vanadium. A. K. Seal and R. W. K. Honeycombe. bibliog 3pls Iron & Steel Inst J 188:9-15 Ja '58
- Chromium, 1957. W. McInnis. Eng & Min J 159:155+ F '58
- Exchange reactions of chromium(II) ion and certain chromium(III) complex ions. D. L. Ball and E. L. King. bibliog Am Chem Soc J 80:1091-4 Mr 5 '58
- New engineering metals. J. P. Denny and L. F. Kendall. Jr. Mech Eng 80:67-71 Ag '58
- New investigation of anomalies in chromium. H. Pursey. bibliog Inst Metals J 86:362-8 Ap '58
- Organic oxidations with hexavalent chromium; abstract. R. Slack. Chem & Ind p247-8 Mr 1 '58
- Tempering of low-alloy creep-resistant steels containing chromium, molybdenum, and vanadium. E. Smith and J. Nutting. bibliog II Iron & Steel Inst J 187:314-29 D '57
- Tensile and stress-rupture properties of chromium; abstract. J. W. Pugh. Metal Prog 72:174+ D '57

Analysis

- Absorptiometric determination of traces of chromium in nickel and vanadium, of vanadium in chromium, and of nickel in chromium and vanadium. J. T. McAloren and G. P. Reynolds. bibliog Metallurgia 57:52-6 Ja '58
- Determination of trivalent chromium in the presence of chromate. R. W. Cline and others. Anal Chem 30:1117-18 Je '58
- Extraction and colorimetric determination of chromium with 1,5-diphenylcarbohydrazide. J. A. Dean and M. L. Beverly. bibliog Anal Chem 30:977-9 My '58
- Extraction of chromium with triethylphosphine oxide from acidic solutions of alkali metal salts; determination in situ as chromium-diphenylcarbazide complex. C. K. Mann and J. C. White. Anal Chem 30:989-92 My '58
- Microdetermination of chromium with 1,5-diphenylcarbohydrazide. T. L. Allen. bibliog Anal Chem 30:447-50 Mr '58
- Photometric determination of chromium in nickel. C. L. Luke. Anal Chem 30:359-61 Mr '58
- Photometric determination of vanadium and chromium. C. E. Bricker and S. S. Schonberg. bibliog diags Anal Chem 30: 922-3 My '58
- Proposed standard method for total-chromium determination. Am Water Works Assn J 50:832-4 Je '58

CHROMIUM alloys

- Cr-based alloy breakthrough? II Chem Eng 65: 160+ O 6 '58
- Influence of prolonged service at elevated temperatures and pressures on high-temperature strength of chromium-molybdenum alloy tubing; abstracts. J. F. Ewing. Pet Eng 30:C 10+ Je '58; Pet Refiner 37:190 My '58
- New trays cut-treat cost; Inconel nickel-chromium alloy. II Iron Age 181:105 F 6 '58
- New way to iodide chromium; for use in high-temperature, chromium-containing alloys. Chem & Eng N 36:92 O 20 '58
- Tensile and stress-rupture properties of chromium; abstract. J. W. Pugh. Steel 141:134+ N 4 '57

See also

Iron alloys—Chromium nickel alloys

CHROMIUM chlorides

- Study of the equilibria in acidic chromium(III) chloride solutions. H. S. Gates and E. L. King. bibliog Am Chem Soc J 80:5011-15 O 5 '58

CHROMIUM compounds

- Acetylenic π -complexes of chromium in organic synthesis. H. H. Zeiss and W. Herwig. Am Chem Soc J 80:2913 Je 5 '58
- Calorimetric determination of the values of ΔH for certain chromium(III)-chloride complex ion reactions. K. Schug and E. L. King. bibliog Am Chem Soc J 80:1089-91 Mr 5 '58
- Complex ions of chromium: kinetics of decomposition of diol bonds in chromium(III) solutions. D. M. Grant and R. E. Hamm. bibliog Am Chem Soc J 80:4166-9 Ag 20 '58

CHROMIUM compounds—Continued

- Complex ions of chromium; mechanism of reaction of organic acid anions with chromium(III). R. E. Hamm and others. *bibliog* Am Chem Soc J 80:4469-71 S 5 '58
- Complexone-type metallochromic indicators. J. Körbl and others. *bibliog* Chem & Ind p 1232-3 S 20 '58
- Halides as bridging groups for electron transfer in the systems $\text{Cr}^{++} + (\text{NH}_3)_x\text{CrX}^{++}$. A. E. Ogard and H. Taube. *bibliog* diag Am Chem Soc J 80:1084-9 Mr 5 '58
- Indophenol complexes; a new group of metallochromic indicators. J. Körbl and V. Svoboda. *Chem & Ind* p 1233-4 S 20 '58
- Isomeric dichlorotetraaquo chromium(III) ions; their separation, spectra and relative stabilities. E. L. King and others. *bibliog* Am Chem Soc J 80:5015-18 O 6 '58
- Kinetics and mechanism of the reactions between chloroaquochromium(III) ions and silver ion. P. J. Elving and B. Zemel. *Am Chem Soc J* 79:5855-9 N 20 '57
- Mechanism of substitution reactions of complexes; acid and base hydrolysis of *cis*- and *trans*-dichloro-bis-(ethylenediamine)-chromium(III) ion. R. O. Pearson and others. *Am Chem Soc J* 80:504 Ja 20 '58
- New inorganic chemicals; new compounds of chromium. W. H. Hartford. *bibliog* Ind & Eng Chem 49:sup47A-9A N '57
- Preparation and properties of hexamminecobalt(III) borohydride, hexamminechromium(III) borohydride and ammonium borohydride. R. W. Farry and others. *bibliog* diag Am Chem Soc J 80:1-3 Ja 5 '58
- See also
Triphenyl chromium
- CHROMIUM molybdenum steel**
- Effect of heating and cooling on the mechanical properties of an alloy steel; craze cracking of chromium-molybdenum steel. A. S. Kenneford and T. Williams. *diag Inst Mech Eng Proc* 71 no 80:823-8 '57
- Heating technique minimizes distortion; process for hardening large gas turbine parts of Chromalloy steel. R. E. Wright and C. Schulenberg. *II Steel* 142:102-3 My 28 '58
- Selection, welding of Cr-Mo alloy steel pipe. J. Eland. *II diag Welding Eng* 43:34-6 Ji 42-4+ Ag '58
- Stress-relaxation behaviour of chromium-molybdenum and chromium-molybdenum-vanadium bolting materials. J. A. Stafford and M. G. Gemmill. *bibliog* diag Inst Mech Eng Proc 171 no 31:834-42; Discussion. 859-70 '57
- CHROMIUM molybdenum vanadium steel**
- Experience with chromium-molybdenum-vanadium steel in high-temperature bolting applications. R. G. Matters and C. D. Dickinson. *bibliog* II diag A S M E Trans 80:330-4 F '58
- Stress-relaxation behaviour of chromium-molybdenum and chromium-molybdenum-vanadium bolting materials. J. A. Stafford and M. G. Gemmill. *bibliog* diag Inst Mech Eng Proc 171 no 31:834-42; Discussion. 859-70 '57
- Welding metallurgy of Cr-Mo-V steels for high-temperature steam-turbine components. R. J. Christoffel and others. *bibliog* II diag Welding J 37:sup295-303 Ji '58
- CHROMIUM nickel manganese steel**
- How the 200 series compares with 18-8 stainless steel. G. A. Sands and M. B. Keady. *II Materials in Design Eng* 47:120-3 Ap '58
- CHROMIUM nickel steel**
- Carbide precipitates and brittleness in austenitic stainless steels; abstracts. A. Kramer and W. M. Baldwin, jr. *Metal Prog* 72:218 N '57; *Steel* 141:134 N 4 '57
- Chemical factors affecting stress corrosion cracking of 18-8 stainless steels. H. H. Uhlig and J. Lincoln, jr. *bibliog* II diag Electrochem Soc J 105:325-32 Je '58
- Effect of cold work on the creep-rupture properties of a series of simple 18-8 stainless steels. F. B. Cuff, jr. and N. J. Grant. *bibliog* diag Iron & Steel Inst J 136:188-97 Je '57; Discussion. II 183:165 F '58
- Effect of phosphorus and manganese on temper brittleness in chromium-nickel steel; abstract. N. V. Tolstoguzov and A. D. Kramarov. *Metal Prog* 73:172-4 My '58
- How the 200 series compares with 18-8 stainless steel. G. A. Sands and M. B. Keady. *II Materials in Design Eng* 47:120-3 Ap '58
- Influence of nickel on intergranular corrosion of 18 per cent chromium steels; abstracts. J. R. Upp and others. *Metal Prog* 72:142 N '57; *Steel* 141:134 N 4 '57

- Intercrystalline corrosion tests on austenitic chromium-nickel steels; abstract. H. Zitter. *Engineer* 204:603 O 25 '57
- Magnetic analysis of ferromagnetic inclusions found in 18/8 stainless steel. S. Yamaguchi. *II diag Iron & Steel Inst J* 136:351-2 Ap '58
- New stainless steel to beat heat barrier; modified 18-8. *II Materials in Design Eng* 47:104-5 My '58
- Scaling of 18-8 stainless steel in reheating furnace atmospheres. J. O. Edström. *bibliog* (45 ref) II diag Iron & Steel Inst J 135:450-56 Ap '57; Abstract. *Metal Prog* 73:171-2 Ja '58
- Some creep properties of 18-8 stainless steels at room temperature, 250°C., 400°C., and 500°C.; abstract. L. W. Larke and R. A. Whittaker. *Metal Prog* 73:150-4 Ja '58

CHROMIUM ores

- Manganese and chrome ore outlook. J. M. Wardle and E. F. Burke. *II maps Min Eng* 10:868-73 Ag '58

CHROMIUM oxides

- Oxidation of secondary alcohols by chromium(VI) oxide. J. Røcek and J. Krupicka. *bibliog* Chem & Ind p 1668-9 D 28 '57
- Phase equilibrium studies in the system $\text{CaO}-\text{Cr}_2\text{O}_3-\text{SiO}_2$. F. P. Glasser and E. F. Osborn. *bibliog* diag Am Cer Soc J 41:358-67 S 1 '58

CHROMIUM plating

- Barrel chromium plating continuous bulk processing; International business machines corp.'s electric typewriter plant. H. Mahlstedt. *II diag Metal Finishing* 56:58-60 F '58
- Bright crack-free chromium plating at Cadillac. H. Mahlstedt. *II Automotive Ind* 118:48-50 My 15 '58
- Cold chromium plating in Russia. A. J. Steiger. *diag Metal Finishing* 56:56-7 Ap '58
- Corrosion studies with nickel-chromium plate; influence of the porosity pattern and thickness of the chromium plate. H. Brown and others. *bibliog* II diag Plating 45:144-50 F '58
- Covering power of chromium plating baths; abstract. R. Rousselot. *Metal Finishing* 55:82 N '57
- Developments in decorative plating. C. H. Sample. *bibliog* II Plating 45:721-7 Ji '58
- Double copper bath improves chrome plate. *Product Eng* 29:20 Ji 28 '58
- Dull nickel undercoat best for chrome plating; abstract. C. H. Sample. *S A E J* 66:90 F '58
- Finishing pointers; chromium plating thickness. J. B. Mohler. *Metal Finishing* 56:58-60 Ap '58
- New Japanese hard chromium plant. Y. Hirasawa and M. Rubenstein. *II Metal Finishing* 56:55-7 F '58
- New plating methods offer improved decorative parts. H. Mahlstedt. *II Automotive Ind* 117:65-6 D 1 '57
- Phenomena occurring during electrolytic reduction of aqueous sulfate-containing chromic acid solutions; abstract. M. Frey. *Metal Finishing* 56:79 S '58
- Plating by ultrasonics. *Chem & Eng* N 35:50-1 N 4 '57
- Properties of materials; chromium electroplates. *Materials in Design Eng* 48:260-1 Mid-O '58
- Protection of molybdenum from oxidation at elevated temperatures. D. E. Couch and others. *bibliog* II Electrochem Soc J 105:450-6 Ag '58
- Protective coatings for titanium; abstract. *Metal Prog* 72:200 D '57
- Repair of worn motor parts with chromium; abstract. A. W. Rykova. *Metal Finishing* 56:80 Ap '58
- Stretching crankshaft life by chroming. *II Diesel Power* 36:16-18 O '58
- Stripped parts are ready for replating; rejected auto bumpers. *II Steel* 142:112-13 F 3 '58
- Testing**
- Internal testing for microhardness solves a tough inspection problem. *II Mill & Factory* 61:137 N '57
- CHROMIUM poisoning**
- Chronic toxicity studies; hexavalent and trivalent chromium administered in drinking water to rats. R. D. MacKenzie and others. *bibliog* A M A Archives Ind Health 18:232-4 S '58

CHROMIUM steel

New five per cent chromium steel; Vascojet 1000. J. C. Hamaker, jr. S A E J 66:68-73 J1 '58

See also

Chromium nickel steel**CHROMIUM vanadium steel**

Properties of materials. Materials in Design Eng 48:46-7 Mid-O '58

CHROMIZING

Adhesive bonding of magnesium, incorporating a corrosion resistant hot alkaline chromate treatment as the surface preparation. R. J. E. Hunter. J. Metal Prog 73:130+ My '58

At 3000 F, CRS + chrome-case outlasts stainless steel five to one; Arma searchlight. W. M. Stocker, jr. J. Am Mach 101:162-3 N 18 '57

Chromalized steel; Chromalloy process. R. P. Seelig. J. S A E J 66:42-4 My '58

Chromalloy; abstract. E. K. Flatter. Glass Ind 39:381+ J '58

Chromized steel replaces stainless. J. Materials in Design Eng 47:200+ F '58

Chromizing makes molybdenum usable above 2000 F. J. Materials in Design Eng 47:157 F '58

Moly gets 2300-F coating. J. Product Eng 29:21 Ja 13 '58

Process upgrades steel parts; Chromalizing. J. Steel 142:90-1 Je 9 '58

CHROMOGENS

Synthesis of *m*-methoxynaphthylamines as precursors for chromogenic substrates. D. H. Rosenblatt and others. J. Am Chem Soc J 80:2463-5 My 20 '58

CHROMOPHORES

Fungichromin; determination of the structure of the pentaene chromophore. A. C. Cope and H. E. Johnson. J. Am Chem Soc J 80:1504-6 Mr 20 '58

CHROMOSOMES

Duplication of chromosomes. J. H. Taylor. J. diags Sci Am 198:36-42 Je '58

CHROMYL chloride

New preparation for chromyl fluoride and chromyl chloride. G. D. Flesch and H. J. Svec. Am Chem Soc J 80:3189-91 J1 5 '58

CHROMYL fluoride

New preparation for chromyl fluoride and chromyl chloride. G. D. Flesch and H. J. Svec. Am Chem Soc J 80:3189-91 J1 5 '58

CHRONIC diseases. See Diseases, Chronic**CHRONOPOTENTIOMETRY.** See Voltammetry**CHRONOTRON**

Fast read-out chronotron system. R. Meunier and G. Davidson. diags R Sci Instr 28:1010-15 D '57

CHUCKING machines

Brake control for drive motor. diags Ap Hydraulics 11:82 J1 '58

Clutch operation; National acme co. K. Schubert. diags Ap Hydraulics 11:34 J1 '58

CHUCKS

Chuck for prestressing features instant grip. J. Concrete 66:45 My '58

Chucks hold rings without distortion. J. Tool Eng 40:96 Ja '58

Cost cutter for automatics; spring type chucking system; Timken roller bearing co. diags Steel 142:87 F 24 '58

Crawford hydraulic chuck and expandable collets. J. diags Automobile Eng 48:136 Ap '58

Eccentric turning with a three-jaw chuck. M. Barash. diags Mach 64:158-9 Je '58

Hand-operated collet chuck easily adapts to many uses. A. K. Das. diags Am Mach 102:130 S 22 '58

Integral precision work chuck. J. diags Engineer 205:224 F 7 '58

Jaw thread sections formed on lathe. J. C. Sobkowak. diags Mach 64:197-8 N '57

1958 production preview; tools and accessories. J. Am Mach 102:153-4 Ja 27 '58

Precision chucking with simplicity; Everac hydrostatic chuck. J. Engineering 185:328 Mr 14 '58

Six spring-loaded chucks and holding fixtures; drawings with text. S. Rappaport. Product Eng 29:86-7 Ja 20 '58

Time-saving chuck wrench. B. Sullivan. diags Mach 64:200 D '57

Truing chuck jaws. R. Hill. diags Tool Eng 40:81 Mr '58

Walker differential sine table and vacuum chuck. J. Mach 65:206 O '58

CHUCKS, Magnetic

Automatic feeders load magnetic chucks. L. Le Grand. J. diags Am Mach 102:157 Ap 21 '58

Ceramic magnets make compact chuck. J. diags Product Eng 28:96 N 11 '57

Testing

New testing method for magnetic chucks. J. Safety Maint 116:19-20 Ap '58

Test for magnetic chucks. J. Steel 142:150 Ap 14 '58

CHUGAEV reaction

Elimination reactions; a *trans* Chugaev elimination. F. G. Bordwell and P. S. Landis. J. Am Chem Soc J 80:2453-5 My 20 '58

CHURCH architecture

Architects and clergymen criticize church design. Arch Forum 108:16 Ap '58

Art and architecture exhibit; the Patron church. J. Arch Rec 123:18 Mr '58

Brilliant canopy for worship; First Presbyterian church, Stamford, Conn. J. plan Arch Forum 108:104-7 Ap '58

Churches. J. plans Prog Arch 39:119-30 Je '58

Churches; building types study. J. plans diags Arch Rec 122:171-89 J1 '57

Church's design dilemma. E. Raskin. Arch Forum 109:153-4 Ag '58

Europe's great new churches; gallery of color photographs. plans Arch Forum 107:106-11 D '57

Modern church; abstract. T. A. Gill. Arch Forum 108:162+ Je '58

Precast sections form monolithic concrete whale; First Presbyterian church in Stamford, Conn. J. Arch Rec 122:221-2 N '57

Reinforced concrete church stands on Swedish coast. J. Arch Rec 123:13 My '58

Religion; design awards and citations. J. plan diags Prog Arch 39:112-13 Ja '58

Religious buildings, building types study. J. plans diags Arch Rec 123:175-202 Je '58

Religious buildings for today. J. K. Shear, ed. Review, by J. O. Nelson. J. Arch Rec 122:58+ D '57

Two churches. J. plans diags Arch Rec 123:176-7 My '58

See also

Acoustics, Architectural

Basilicas

Chapels

Synagogues

CHURCH decoration and ornament

Progressive architecture selected details; chancel fittings and screen. J. plans diags Prog Arch 39:131-7 Je '58

CHURCHES

Brick gardens spanning 65 feet; St Hedwig's church, St. Louis. J. diags Eng N 161:39-40 J1 31 '58

Church grows with congregation; St Matthews Episcopal church of San Mateo, Calif. J. Eng N 160:23 Je 5 '58

New church building looks like a fish; First Presbyterian church in Stamford, Conn. J. Eng N 160:33 Ap 3 '58

Precast-concrete facets enclose piscine-form sanctuary; First Presbyterian church, Stamford, Conn. J. plans diags Prog Arch 39:104-7 A '58

Precast its 152 panels; Stamford, Conn. First Presbyterian church. J. Concrete 66:28, cover Je '58

Temple's construction demands met by variations of volcanic material; Fairmount temple, Beechwood Village, Cleveland. diags Air Cond Heat & Ven 55:76 Ja '58

See also

Church architecture

Air conditioning

Church air conditioning needs can be met in many ways. D. C. Briggs and W. R. Woolrich. J. Heating-Piping 30:30-3 F '58

Duct system built into arches to air conditioning new church; Church of tomorrow in Oklahoma City. J. Heating-Piping 30:131 Mr '58

Heating and ventilation

Church puts electric heat in building additions; with cost data. Elec World 149:88 F 24 '58

Lighting

Calculating coefficients for a church dome; White memorial church (Seventh day adventist) in Los Angeles. H. Strahn. J. Illum Eng 52:615 D '57

Church relighted; Memorial church of the Holy Cross, in Reading, Pa. W. F. Rosacker. J. Illum Eng 52:611-12 D '57

Lighting a church; St Luke's church; lighting data sheet. J. Illum Eng 53:203-4 Ap '58

CHURCHES—Lighting—Continued

Modernization of New England church includes objective lighting plan. *il Elec Constr & Maint* 57:87-9 F '58
Seven buildings, seven ways to light a church. *il diags Illum Eng* 53:113-20 Mr '58
See also

Cathedrals—Lighting**CHYMOTRYPSIN**

Catalytic activity of dimeric α -chymotrypsin. R. B. Martin and C. Niemann. *bibliog Am Chem Soc J* 80:1473-7 Mr 20 '58

α -Chymotrypsin-catalyzed hydrolysis of a series of hydrazides; evaluation of the kinetic constants for aqueous systems at 25° and at the optimum pH for each specific substrate. R. Lutwack and others. *bibliog Am Chem Soc J* 79:5690-3 N 5 '57

α -Chymotrypsin-catalyzed hydrolysis of acetyl-, chloroacetyl- and benzoyl-L-valine methyl ester. T. H. Applewhite and others. *bibliog Am Chem Soc J* 80:1465-9 Mr 20 '58

α -Chymotrypsin-catalyzed hydrolysis of α -N-benzoyl- β -(4-pyridyl-1-oxide)-L-alanine methyl ester and of α -N-(nicotinyl-1-oxide)-L-phenylalanine methyl ester. R. L. Bixler and C. Niemann. *bibliog Am Chem Soc J* 80:2716-19 Je 5 '58

α -Chymotrypsin-catalyzed hydrolysis of methyl hippurate in aqueous solutions at 25° and pH 7.9, its inhibition by indole and its dependence upon added non-aqueous solvents. T. H. Applewhite and others. *bibliog Am Chem Soc J* 80:1457-64 Mr 20 '58

Dependence of the α -chymotrypsin-catalyzed hydrolysis of α -N-nicotinyl-L-tyrosinamide upon the concentration of the buffer. R. J. Kerr and C. Niemann. *bibliog Am Chem Soc J* 80:1469-73 Mr 20 '58

Effect of various salts on the α -chymotrypsin-catalyzed hydrolysis of two acylated α -amino acid esters. R. B. Martin and C. Niemann. *bibliog Am Chem Soc J* 80:1481-6 Mr 20 '58

Kinetics of the α -chymotrypsin-catalyzed hydrolysis of α -N-carbethoxy-L-tyrosinamide and its inhibition by α -N-carbethoxy-D-tyrosinamide. D. T. Manning and C. Niemann. *bibliog Am Chem Soc J* 80:1478-81 Mr 20 '58

Precise potentiometric method for measuring reaction rates; application to the α -chymotrypsin-catalyzed hydrolysis of methyl hippurate. J. H. Lang and others. *bibliog Am Chem Soc J* 80:4923-8 S 20 '58

CIDER

Determination of chlorogenic acid in cider-apple juices and ciders using a silica gel column; abstract. G. C. Whiting. *Chem & Ind* p214 F 22 '58

New dihydroxy-acid (2-methyl-2,3-dihydroxybutyric acid) in apple juices and ciders. G. C. Whiting. *bibliog Chem & Ind* p720 Je 14 '58

CIGAR factories**Lighting**

Lighting for grading and packaging cigars; D. W. G. cigar co.; lighting data sheet. *il Illum Eng* 53:163-4 Mr '58

CIGARETTE factories

Here's how cooling towers solved plant's water problems; Philip Morris, Inc. B. H. Griesbach. *il diag Plant Eng* 12:90-3 O '58

Employees

Smoking habits and mortality among workers in cigarette factories. H. B. Haag and H. R. Hanmer. *bibliog Ind Med* 26:559-62 D '57

CIGARET filters

Filter burns smoke, contains activated charcoal. *Chem & Eng N* 36:38 Ag 18 '58

CIGARET industry and trade**Advertising**

Filter tip ads scored. *Chem & Eng N* 36:43-4 Mr 3 '58

CIGARET smoke. See Tobacco smoke**CIGARETS**

Machine sells at four prices; cigaret vending machine made by the Rowe manufacturing co. *il diags Product Eng* 28:90-1 N 25 '57

See also

CINCINNATI

See also

Building—Cincinnati

Water supply

Taste and odor research tools for water utilities. F. M. Middleton and others. *bibliog Am Water Works Assn J* 50:21-8 Ja '58

CINCINNATI milling machine company

New developments disclosed at technical activities seminar. J. Geschelin. *Automotive Ind* 117:166+ O 15 '57

CINDERS

Gives better distribution, less fuel bed disturbance with cinder return. *il diag Power Ind* 74:16-17 O '58

CINEMASCOPE

Progress committee report for 1957. *SMPTTE J* 67:290 My '58

CINNAMIC acid

Decarboxylative condensation; α -alkylcinnamic acids from aromatic aldehydes and alkylmalonic acids. W. J. Gensler and E. Berman. *bibliog Am Chem Soc J* 80:4949-54 S 20 '58

CINNOLINE

Cinnolines; synthesis of *bs*-substituted 3-nitro- and 3-amino-cinnolines and 3-acetyl- and 3-carbethoxycinnolines. H. E. Baumgardner and others. *diag Am Chem Soc J* 80:1977-84 Ap 20 '58

CIRCLE-squaring

See also

Pi (π)

CIRCLES

Dividing a circle. A. Szelle. *diag Machine Design* 30:135 S 18 '58

Equations for finding tangent circles; data sheet. J. D. Rutter. *diags Machine Design* 29:111-12 O 31 '57

CIRCUIT breakers, Electric. *See Electric circuit breakers*

CITIES and towns

City; economic problem no. one. A. Hart City and others. *Arch Forum* 103:76-8+ F '58

Highway and the city. L. Mumford. *il Arch Rec* 123:179-86 Ap '58

Memories of the city; abstract. K. Lynch and A. K. Lukashok. *Arch Forum* 108:163-4+ Ap '58

See also

Metropolitan districts

Growth

City's threat to open land; round table report. *il Arch Forum* 108:86-90+ Ja '58

Utility problems resulting from municipal annexations; panel discussion. *Am Water Works Assn J* 50:899-911 Ji '58

Vermont

Town and village consolidation in Vermont. R. F. Cahill. *Pub Works* 89:136-7 Ja '58

CITIES service company

Cities Service builds custom research center. *il plans Ind Lab* 9:57-60, cover Ap '58

CITRIC acid

Citric roams the rigs; citric acid's role in secondary oil recovery. *il Chem & Eng N* 36:25-7 Ji 21 '58

Mechanism of browning of ascorbic acid-citric acid-glycine systems. T. Lalkainen and others. *bibliog diag J Agri & Food Chem* 6:135-9 F '58

See also

Isocitric acid

CITRONELLA oil

Structure of the crystalline cadinol from citronella oil. M. D. Soffer and others. *bibliog Chem & Ind* p 19-20 Ja 4 '58

CITROVORUM factor. See Liver extracts**CITRUS fruit**

See also

Lemons

CITRUS fruit industry

Activated citrus sludge; vitamin content and animal feed potential. M. E. Dougherty and R. R. McNary. *bibliog Sewage & Ind Wastes* 30:1151-5 S '58

Elevated temperature effect on citrus waste activated sludge. M. H. Dougherty and R. R. McNary. *diag Sewage & Ind Wastes* 30:1263-5 O '58

Florida freeze; concentrators map way out. C. E. Wright. *il Food Eng* 30:94-5 F '58

Getting sharper competition? you may need a label change; Dole label. C. R. Havighorst. *il Food Eng* 29:76-8 D '57

CITRUS fruit juices, Frozen

Enterococcus-like organisms in citrus juices. E. Patrick and E. C. Hill. *bibliog Food Tech* 12:337-40 Ji '58

Refrigerating equipment for the citrus industry. H. E. Rex. *flow diags il diag Refrig Eng* 65:43-6+ N '57

CITRUS fruits*See also*

Grapefruit

CITY Halls. *See* Municipal buildings**CITY improvement.** *See* Municipal improvement**CITY planning**Award citation; Ferry Park project. *il* plan Prog Arch 89:124 Ja '58

City plans of Harland Bartholomew. map Arch Forum 108:88-91+ F '58

Detroit is taming its traffic. R. Cantwell. *il* plans Arch Forum 108:96-101+ Mr '58Louis Kahn and the living city. *il* plan diags Arch Forum 108:114-19 Mr '58

Planning of recent new towns in Canada. S. D. Lash. bibliog maps plans Eng J 41:43-53+ Mr '58

Some aspects of urban planning; Urban planning seminar, Syracuse. S. N. Grimm. Am Soc C E Proc 84 [CP 1 no 1620:1-25 Ap '58; Discussion. 84 [CP 2 no 1885:1-3-9; Reply. 9-12 D '58

Why city planning is obsolete. N. Glazer. *il* Arch Forum 109:96-8+ Jl '58*See also*

Business districts

Industrial districts

Metropolitan districts

Regional planning

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Streets

Suburban development

Water fronts

Zoning systemKey to open cities; new concept of bulk zoning. *il* diags Arch Forum 108:94-7 F '58**CIVIL centers.** *See* Municipal centers**CIVIL engineering**

Application of aerial photographic interpretation to engineering soils studies. D. K. Lueder. Pub Works 89:179-81 My '58

Civil engineering aspects of the Dresden nuclear power station. J. B. Love and others. *il* plans diags Am Soc C E Proc 84 [PO 2 no 1600:1-21 Ap '58

Civil engineering aspects of the Fermi atomic power station. P. C. Burg and J. G. Feldes. maps plans diags Am Soc C E Proc 84 [PO 2 no 1602:1-13 Ap '58

Civil engineering in 1957. *il* Engineer 205:17-18, 45-6 Ja 3-10 '58

Display of civil engineering developments. Engineer 206:21-2 Jl 4 '58

Electronic devices for the civil engineering field. *il* Pub Works 89:113-17+ Mr '58

Miracles just ahead. G. B. Earnest. Civil Eng 28:83 F '58

NSF promotes basic research in civil engineering. G. M. Nordby and R. N. Fairman. *il* Civil Eng 28:260-3 Ap '58

Organisation and progress in civil engineering. A. Whitaker. Engineer 204:666-7 N 8 '57

Our professional responsibility; development of new knowledge. M. A. Mason. Civil Eng 28:410-12 Je '58

Revolution in design practice. N. M. Newmark. Civil Eng 28:315 My '58

Small-scale honor for big jobs. *il* Eng N 160:36-7 Je 26 '58

Tabular summary of civil engineering contracts, 1957. Engineer 204:sup 1-63 D 20 '57

See also

Airports

American society of civil engineers

Aqueducts

Arches

Blasting

Breakwaters

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Cofferdams

County engineering

Dams

Docks

Drainage

Dredging

Drilling and boring (earth and rocks)

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Embankments

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Flood control

Foundations

Highway engineering

Hydraulic engineering

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Railroad engineering

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Sanitary engineering

Sewerage

Soil mechanics

Strains and stresses

Structural engineering

Surveying

Tunnels and tunneling

Underground construction

Water supply engineering

Bibliography

Recent books added to the Engineering societies library. Published in monthly numbers of civil engineering

Laws and regulations

Congressional regulation of engineering. J. R. Wilcox. bibliog Civil Eng 28:664-5 S '58

Study and teaching

Construction's engineers go to school; special summer programs. Eng N 160:21-2 My 22 '58

Report of Task committee on professional education. Civil Eng 28:111-23 F '58

See also

Structural engineering—Study and teaching

Tables, calculations, etc.Civil engineering slide-chart. *il* Engineering 185:63 Ja 10 '58

Computer checks as-driven pile groups. P. T. Gavaris. diag Eng N 160:54 My 22 '58

Computers in the profession. E. K. Timby. *il* Civil Eng 28:324-6 My '58

Electric analog for level-net adjustment. H. L. Su. diags Am Soc C E Proc 83 [SU 2 no 1443:1-11 N '57

Finding depth of footing for a pole subject to lateral load. I. M. Nelidov. diag Civil Eng 28:196 Mr '58

Here's a simple way to interpret data; use an ogive. N. FitzSimons. Eng N 160:47-9+ Je 12 '58

Limited deflection of beam by chart. T. D. Y. Fok. Civil Eng 28:525 Jl '58

Nomograph for intermediate stiffener spacing. A. S. Milgram. Civil Eng 28:268 Ap '58

Nomograph solves superelevation equation. L. C. Allen. Civil Eng 27:877 D '57

Short methods in adjustment of observations. M. V. Smirnoff and P. E. Wylie. diags Am Soc C E Proc 84 [SU 1 no 1695:1-8 Ap '58

CIVIL engineers

Are you interested in working overseas? architect-engineer firm building airbases in England. Eng N 161:45-6+ Jl 3 '58

Civil engineers and the law of supply and demand. R. T. Howe. Civil Eng 28:515-17 Jl '58

Engineer-contractor relationship. H. R. Falk. Civil Eng 28:427 Je '58

Obtain engineering services by negotiation. Civil Eng 28:569 Ag '58

See also

American society of civil engineers

Ammann, Othmar Hermann

Hazelet, Craig F.

Spahr, Charles E.

Upson, Maxwell Mayhew

Woods, Kenneth B.

Registration

Registration; first step toward professional recognition. N. L. Freeman. Civil Eng 27:859 D '57

Salaries

Professional earnings and satisfaction survey of civil engineers. Am Soc C E Proc 83 [BD 2 no 1486:1-14 D '57

CIVIL engineers, American society of. *See* American society of civil engineers**CIVIL service**

Electronic engineering positions with the U.S. government. maps Electronic Ind 17:453-6 Je '58

Problems of professional engineers in federal jobs. R. W. Johnson. Eng N 160:42-3 Mr 6 '58; Discussion. 160:6+ My 1 '58

See also

Public officials

CIVILIAN defenseCivil defense can help to awaken civic interest. E. S. Brandt. *il* Pub Works 89:158+ F '58

CIVILIAN defense—Continued

- Civil defense; \$6.7 million. *Electronics* 31:35 Ja 24 '58
 Civil defense tests alarm. *il Electronics* 31:16+ Je 6 '58
 Communications center self-contained truck trailers. *Elec Eng* 76:116-17 D '57
 Mobile light and power for street maintenance and civil defense. B. R. Paris. *il Pub Works* 89:178 Ag '58
 Operation alert, 1958; symposium of amateur participation. G. Hart. *il Q S T* 42:70-3 O '58

See also

- Air raids—Protective measures

CIVILIZATION

See also

- Progress

- CLAD metals. See Metals, Clad

- CLAD steel. See Steel, Clad

CLAIMS

See also

- Damages

CLAMPS

- Better rope clamp cuts downtime, boosts shovel range; Hanna coal co.'s Mountaineer shovel. *il Coal Age* 63:88+ Je '58
 Clamp for difficult-to-hold planer work. B. Sullivan. *diag Mach* 64:179 F '58
 Clamp speeds live-line splicing. G. H. Funk. *il Elec World* 50:54 S 1 '58
 Eccentric clamp computations simplified. K. Heber. *diags Mach* 65:154-5 S '58
 Jig-clamp dimensions; reference book sheet. G. R. Tindale. *diags Am Mach* 101:171+ N 18 '57
 Jig clamp that prevents distortion of thin work-pieces. W. M. Halliday. *diags Mach* 64:197-8 D '57
 Milling clamp with rubber release. F. C. Elmo. *diags Mach* 64:200 D '57
 Pressure-regulated clamping prevents piston distortion; F. Jos. Lamb co. *il Tool Eng* 41:58-9 Ag '58
 Quick-frozen water clamps honeycomb for machining. H. H. Powell. *il diags Am Mach* 102:102-3 F 24 '58
 Transistorized ac microammeter uses clamp-type pickup probe. *il diag Machine Design* 30:160-1 F 20 '58
 Two-way clamping and automatic work-centering fixtures. W. M. Halliday. *diags Mach* 64:154-7 N '57

Maintenance and repair

- Don't scrap damaged cable clamps, salvage them. *il Elec World* 149:64-5 My 12 '58

CLARIFICATION

- For beverage clarity. PVP. *Food Eng* 30:104-5 Je '58
 Use of additives in the clarification of white liquor. F. G. Paylick and J. McPherson. *Tappi* 41:sup208A-10A Je '58

CLASS distinction

- Social class and mental illness; a community study. A. B. Hollingshead and F. C. Redlich. Review. by R. W. White. *Sci Am* 199:155-6+ N '58

CLASSES, Social. See Class distinction**CLASSIFICATION**

- Classification system for lantern slides and other visual aids in occupational health. C. P. McCord and W. A. Cook. *Ind Med* 27:46-9 Ja '58
 Should there be a standard classification system for engineering literature? W. F. Swanton. *Chem Eng Prog* 54:12 Ap '58; Discussion. 54:12+ Ap; 10 My '58

See also

- Files and filing (documents, etc.)

- CLASSIFIED information. See Security classification (government documents)

CLASSIFIERS

- Cyclone classification at Chuquicamata. D. S. Sanders. *il diags Min Cong J* 44:55-8+ Mr '58
 New force comb helps classifier. *Chem & Eng* N 38:53 O 13 '58
 Problem; rigid specs, no water; solution; unusual classifier, new lakeside plant; Stouffville sand and gravel, ltd. E. Meschter. *il Rock Prod* 61:78-9+ Ag '58

See also

- Centrifuges

CLASSROOMS

- Classrooms in fairs for economy. *il plans Arch Forum* 108:102-4 Mr '58
 Educator's view of need for good classroom environment. G. B. Wadzeck. *il plans Heating-Piping* 80:135-8 Ap '58
 Three-walled classroom beats protest. *il Arch Forum* 108:9+ Mr '58

- CLATHRATE compounds. See Molecular compounds

- CLAUS process. See Sulfur—Manufacture

CLAY

- Alteration of clay minerals in Illinois till by weathering. J. B. Droste and J. C. Tharin. *bibliog Geol Soc Bul* 69:61-7 Ja '58
 Application of a multiple Guinier camera (after F. M. De Wolf) in clay mineral studies. D. H. Porrenga. *bibliog il diag Am Mineralogist* 43:770-4 J1 '58
 Argillation and direct bauxitization in terms of concentrations of hydrogen and metal cations at surface of hydrolyzing aluminum silicates. W. D. Keller. *bibliog (26 titles) il Am Assn Pet Geologists Bul* 42:233-45 F '58
 Calcined clays in paints. H. B. Naylor. *diags Paint Oil & Chem R* 121:6-8 My 29 '58
 Cement and clay grouting of foundations; symposium. *bibliog il diags Am Soc C E Proc* 84 [SM 1 nos 1544-1552] '58; Discussion. 84 [SM 2 no 1557]:47-51 My; [SM 4 no 1828]:23-38 O '58
 Chrome mica-clay. Temple mountain. Utah. P. F. Kerr and P. K. Hamilton. *il diag Am Mineralogist* 43:34-47 bibliog(p46-7) Ja '58
 Clay-carbonate-soluble salt interaction during differential thermal analysis. R. T. Martin. *Am Mineralogist* 43:649-55 J1 '58
 Clays grip hot wastes. *Chem & Eng N* 36:40 O 20 '58
 Concept of diagenesis in argillaceous sediments. R. E. Grim. *bibliog (23 titles) Am Assn Pet Geologists Bul* 42:246-53 F '58
 Effect of source and environment on clay minerals. I. H. Milne and J. W. Earley. *maps Am Assn Pet Geologists Bul* 42:328-38 F '58
 Engineering behavior of compacted clay. T. W. Lambe. *diags Am Soc C E Proc* 84 [SM 2 no 1655]:1-35 bibliog(p34-5) My '58; Discussion. 84 [SM 4 no 1828]:47-50 O '58
 English clays Lovering Pochin & co.; production of china clay. *il Chem & Ind* p787-8 Je 28 '58
 Fractional resistance of steel H-piling in clay. E. Vev. *bibliog diags Am Soc C E Proc* 83 [SM 1 no 1160]:1-31 Ja '57; Discussion. 83 [SM 2 no 1228]:49-52 Ap; [SM 3 no 1319]:25-30 J1; [SM 4 no 1430]:15-17 N '57; Reply. 84 [SM 2 no 1657]:7-8 My '58
 Geotechnical properties of glacial lake clays. T. H. Wu. *bibliog il map diags Am Soc C E Proc* 84 [SM 3 no 1732]:1-34 Ag '58
 Importance of clay particle size. W. E. Gruver. *il Foundry* 86:94-6 J1 '58
 Increased resistance to deformation of clay caused by repeated loading. H. B. Seed and others. *bibliog Am Soc C E Proc* 84 [SM 2 no 1645]:1-28 My '58; Discussion. 84 [SM 5 no 1881]:3-7 D '58
 Review of the theories for sand drains. F. E. Richart, Jr. *bibliog diags Am Soc C E Proc* 83 [SM 3 no 1301]:1-38 J1 '57; Discussion. 84 [SM no 1559]:7 F; [SM 2 no 1657]:15-20 My '58
 Structure of compacted clay. T. W. Lambe. *diags Am Soc C E Proc* 84 [SM 2 no 1654]:1-34 bibliog(p32-4) My '58; Discussion. 84 [SM 4 no 1828]:39-46 O '58
 Thixotropic characteristics of compacted clays. H. B. Seed and C. K. Chan. *bibliog diags Am Soc C E Proc* 83 [SM 4 no 1427]:1-36 N '57; Discussion. 84 [SM 1 no 1559]:11-12 F; [SM 2 no 1657]:21-31 My '58; Reply. 84 [SM 4 no 1828]:5-7 O '58

See also

- Bentonite
 Kaolin
 Kaolinite
 Laterite
 Montmorillonite
 Slips (ceramics)

Analysis

- Geologic interpretation of argillaceous sediments. C. E. Weaver. *bibliog maps diags Am Assn Pet Geologists Bul* 42:254-309 F '58
 Spectrophotometric determination of iron in clay and limestone. P. F. Lott and K. L. Cheng. *Anal Chem* 29:1777-8 D '57

Testing

- High-temperature reactions in domestic ceramic clays. R. R. West. *diags Am Cer Soc Bul* 37:262-8 Je 15 '58
 Practical particle-size analysis of clays. G. W. Phelps and S. G. Maguire, Jr. *bibliog il diag Am Cer Soc J* 40:399-409 D 1 '57

CLAY—Continued

Central states

Geologic interpretation of argillaceous sediments; clay petrology of upper Mississippian-lower Pennsylvanian sediments of central United States, T. E. Weaver, bibliog maps diags Am Assn Pet Geologists Bul 42:272-309 F '58

CLAY drying

Effective tunnel kiln drier, T. W. Garve, diags Am Cer Soc Bul 37:229-31 My 15 '58

CLAY industries

See also

Pottery

CLAY mines and mining

Mining by use of mechanical scrapers, J. H. Wooten, Am Cer Soc Bul 37:198 Ap 15 '58

Pit operation using power shovels and trucks; clay pit, L. C. Gresham, Jr., Am Cer Soc Bul 37:197-8 Ap 15 '58

Watts, Blake, Bearne & co.; producers of South Devon ball clays, il Chem & Ind p806-7 Je 28 '58

CLAY pipes. See Pipes, Vitrified clay

CLAY products

Lightweight structural clay products made with vermiculite, G. C. Robinson, bibliog il Am Cer Soc J 41:74-80 F 1 '58

Relationship of design to development in structural clay products, P. V. Johnson, il Am Cer Soc Bul 37:156-7 Mr 15 '58

See also

Efflorescence

Pottery

Sanitary ware

Tiles

Manufacture

Candy & co.; oxides produce coloured glazes, il Chem & Ind p794-5 Je 28 '58

Fly ash as a raw material for structural clay products, D. J. Bowers and M. J. Snyder, Am Cer Soc Bul 37:220-1 My 15 '58

Role of water in extrusion and its modification by a surface-active chemical, G. C. Robinson and J. J. Kellen, bibliog Am Cer Soc Bul 36:422-30 N 15 '57

Tumbling mills and structural clay products, F. C. Bond, bibliog Am Cer Soc Bul 37:361-3 Ag 15 '58

Testing

Efflorescence resulting from sulfates in clay raw materials, W. E. Brownell, bibliog Am Cer Soc J 41:310-14 Ag 1 '58

CLAY products plants

Harbison-Walker opens new refractories plant at Hammond, il Glass Ind 39:291 My '58

See also

Refractory materials—Manufacture

Equipment

Autoramics; machines and processes to make ceramic manufacture more efficient, il Cer Ind 71:87-106 S '58

Dust control keeps refractory plant as clean as a home; Harbison-Walker refractories co.'s new basic firebrick plant, il Plant 18: 48-9 O '58

New basic refractories plant; Harbison-Walker's latest unit in ten-year program, flow diag il Pit & Quarry 50:68-70+ Je '58

New testing equipment for quality control, D. J. Weintritt and A. C. Perricone, bibliog il diag Am Cer Soc Bul 36:401-5 N 15 '57

Experimental plants

How liquid-solids blender improves body preparation; United Clay Mines pilot plant, il Cer Ind 70:78-9 Mr '58

Management

Joint optimization of long-range planning and short-range programming; ceramics firm that manufactures refractory heat-resistant products, M. Verhulst, diags Op Res 6:580-90 Jl '58

Quality control

New testing equipment for quality control, D. J. Weintritt and A. C. Perricone, bibliog il diag Am Cer Soc Bul 36:401-5 N 15 '57

CLEANING

Application of resin finishes to cotton garments using drycleaning plant equipment, R. T. Graham and others, bibliog Textile Res J 28:252-6 Mr '58

Discoloration of Orlon sweaters in drycleaning; abstract, C. H. Bayley and A. S. Tweedie, Am Dyestuff Rep 46:980 D 16 '57

Two new drycleaning test methods, Am Dye-stuff Rep 46:359-60+ N 18 '57

Wet drycleaning; abstract, C. M. Aebi, Chem & Eng N 36:51 Ap 21 '58

See also

Car cleaning

Cotton cleaning

Dyes and dyeing

Laundry

Metal cleaning

Sewer cleaning

Vacuum cleaning

also subdivision Cleaning under special subjects, e.g.

Aggregates

Air preheaters

Airplanes

Airports—Runways

Automobiles

Bearings, Ball

Belting, Conveyor

Blowers

Boiler cleaning

Castings

Crystals

Electronic apparatus and appliances

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Motor trucks

Moving picture films

Petroleum refineries

Pipes

Printing plates

Relays

Reservoirs

Sewage tanks

Spinning machinery

Transistors

Tunnel cleaning

CLEANING compositions

Automotive parts cleaners, I. Shafiroff, il

Soap & Chem Spec 34:57-60+ My '58

Bar form synthetic detergents, J. K. Weil and others, bibliog il Soap & Chem Spec 33:49-52+ D '57

Biological oxidation of sugar-based detergents, P. C. G. Isaac and D. Jenkins, bibliog Chem & Ind p776-7 Ag 2 '58

Choose the right skin cleaner, il Safety Maint 115:42-4+ Ad '58

Cleaners for building maintenance, J. L. Barron and A. J. Burner, il Soap & Chem Spec 33:55-8+ D '57

Cleaning electric motors with solvents, G. F. Walters, il Plant 18:54-5 S '58

Defoaming of synthetic detergent solutions by soaps and fatty acids, H. Peper, bibliog J Colloid Sci 13:199-207 Je '58

Detergent bars from salts of α -sulfonated tallow acids, J. K. Weil and others, bibliog il Am Oil Chem Soc J 35:461-5 S '58

Detergents and detergency, L. Raphael, bibliog Manuf Chem 29:340-3+ Ag '58

Detergents and detergency, R. C. Tarring, Chem & Ind p606-8 My 24 '58

Detergents foul wells, halt homebuilding, Eng N 161:25 S 4 '58

Detergents, sewage and water supplies; first report of Cremer committee, Chem & Ind p 185 F 15 '58

Domestic detergents, N. Pilpel, bibliog il diag Research 11:292-300 Ag '58

Dutch soap stamps spur sales, il Soap & Chem Spec 34:65-6 My '58

Electron microscope study of certain dispersions of detergents in oil, J. B. Peri, il Am Oil Chem Soc J 35:37-41 Ja '58

Evaluation of the detergency value of a series of alkylbenzene sulfonates by ultrasonic technique, H. A. Ludeman and others, diag Am Oil Chem Soc J 35:5-8 Ja '58

Fall meeting, 31st, Cincinnati, Sept. 30-Oct. 2; with abstracts of papers, Soap & Chem Spec 33:48-50+ N '57

Fifty years of detergent progress, F. D. Snell and C. T. Snell, il Ind & Eng Chem 50: sup48A-51A Ag '58

Growth of the anionics, O. M. Morgan and L. C. Wizemann, Soap & Chem Spec 34: 51-3 S '58

Household detergent sales, A. C. Nielsen, Jr. Soap & Chem Spec 34:54-8+ Mr; 53-44 Ad '58

Lectures of the 1958 short course on syndets and soaps, bibliog flow diag il diags Am Oil Chem Soc J 35:519-80 O '58

Liquid detergent in pouches, il Soap & Chem Spec 34:167+ Mr '58

CLEANING compositions—Continued

Mode of operation of antideposition agents in detergent solutions. H. S. Stillo and R. S. Kolat. *bibliog* Textile Res J 27:949-61 D '57

Nonionic surface active agents; industrial applications. L. Raphael. *bibliog* *Manuf Chem* 29:237-8 Je '58

Nonionics, detergents with a very bright future. J. W. McCutcheon. *il Soap & Chem Spec* 34:54-5+ S '58

Soap and detergent containers. E. G. Astolfi and others. *il Soap & Chem Spec* 34:47-9+ Je; 101-3 Ji '58

Soap plant observer; detergent buying habits of our northern neighbors. J. W. McCutcheon. *Soap & Chem Spec* 34:175 S '58

Soaps and detergents; Canadian alkylates for surfactants. H. Lomas. *Can Chem Process* 42:sup26A-7A Ja '58

Soaps vs. synthetics for stain removal. *Soap & Chem Spec* 34:137 Ji '58

State of dispersion of detergent additives in lubricating oil and other hydrocarbons. J. B. Peri. *bibliog* *il diags* Am Oil Chem Soc J 35:110-17 Mr '58

Syndets and soaps; annual review 1957. F. D. Snell. *il Ind & Eng Chem* 50:sup41A-3A Ja '58

Syndets in hydrocarbons. *Soap & Chem Spec* 34:197 My '58

Synthetic detergent toilet bars rival soap; abstract. J. W. McCutcheon. *Soap & Chem Spec* 34:51 Ji '58

Synthetic detergents and emulsifiers up to date; with list of trade names. J. W. McCutcheon. *Soap & Chem Spec* 33:59-68+ D '57; 34:44-50+ Ja; 52-70 F; 58-74 Mr; 54-67 Ap '58

Synthetic detergents as a factor in water softening economies. W. W. Aultman. *bibliog* Am Water Works Assn J 50:1353-62; Discussion. T. E. Larson. 1363-4 O '58

Synthetic detergents from petroleum chemicals. F. D. Snell. *Pet Refiner* 36:205 N '57

See also

Hand cleaners

Sewage disposal—Cleaning compositions effect

Shampoos

Solvents

Advertising

Soap association announces its new book on building maintenance and sanitation. *il Soap & Chem Spec* 33:41-2; Discussion. 42-3+ N '57

Analysis

Determination of synthetic detergent content of raw-water supplies. *bibliog* *diag* Am Water Works Assn J 50:1343-52 O '58

Test for nonionic in soap mixtures. *Soap & Chem Spec* 34:147 Je '58

Bibliography

Literature review committee; 24th annual review of the literature on fats, oils, and detergents. *Am Oil Chem Soc J* 35:208-25, 288-316 My-Je '58

History

Draft led the way; P&G's first synthetic detergent sparked soap industry revolution. *il Soap & Chem Spec* 34:47-50+ S '58

Manufacture

Alkyl aryl sulfonates; Continental oil co. flow *diag* *Pet Refiner* 36:210 N '57

Detergents by nuclear process; use of gamma rays to trigger sulfoxidation reaction with most of the liquid paraffins. J. F. Black and E. F. Baxter. *il bibliog* *il Soap & Chem Spec* 34:43-6+ O '58

Fundamentals of spray-drying detergents. J. H. Chaloud and others. *il diag* *Chem Eng Prog* 53:593-6 D '57

New home for Adell's Lestoil. *il Soap & Chem Spec* 33:37-40+ N '57

Review of ethylene oxide condensation with relation to surface-active agents. R. D. Fine. *bibliog* Am Oil Chem Soc J 35:542-7 O '58

Soap plant observer; automation in the detergent industry. J. W. McCutcheon. *Soap & Chem Spec* 34:141+ Ji '58

Soap plant observer; mixing and blending of detergents and household chemical specialties. J. W. McCutcheon. *Soap & Chem Spec* 34:161+ O; 145+ N '58

Perfuming

Spray dried perfumes. R. T. Maleeny. *bibliog* *diags* *Soap & Chem Spec* 34:136+ Ja '58

Statistics

Changing scenes of syndets and soaps. R. W. Peet. *Am Oil Chem Soc J* 35:537-42 O '58

Detergent, soap sales up in second quarter; with table. *Soap & Chem Spec* 34:53+ S '58

European soap, detergent sales. *Soap & Chem Spec* 34:51-2+ Ap '58

Liquid syndets continue sales gain; with table. *Soap & Chem Spec* 34:173 Je '58

Record soap and detergent sales in 1958; with table. *Soap & Chem Spec* 34:207-8 Mr '58

Soap and syndet sales reach record high in first nine months of 1957 and 1958; with table. *Soap & Chem Spec* 34:163 Ja '58

Testing

Effectiveness of soaps and detergents. F. Ebbmkrantz and E. H. Jebel. *il Soap & Chem Spec* 34:47-50+ Ap '58

Error in the sampling of soap and detergent bars for moisture determination. L. Goldenberg and E. W. Black. *diag* Am Oil Chem Soc J 35:102-3 F '58

CLEARANCE of bridges. *See* Bridges—Clearance

CLEARING of land
Big axe makes short work of stumps; *Bles Stump-Axe*. *il Eng'g N* 160:55 My 8 '58

CLEVELAND**Sewerage**

Big sewerage plan. *Eng'g N* 160:26 Mr 27 '58

Water supply

Mobile pumping units assure water while lines are laid. *il Pub Works* 89:132 Je '58

New Clague filter plant is fourth for Cleveland. *il Water Works Eng'g* 111:483 My '58

CLIMATE

Circulation of the winds; currents in the ocean depths are a major force in determining world climate. H. Stommel. *il diags* Sci Am 199:85-90 Ji '58

Clues to Antarctic climate. *Elec Eng'g* 77:375 Ap '58

Glaciers and climate, nature's heat and mass transfer problem. P. A. Schoeck. *Heating-Piping* 30:185-6 My '58

Influence of climate on irrigation agriculture. W. D. Criddle. *Am Soc C E Proc* 80 (IR 1 no 1504):1-5 Ja '58

See also

Tropics

CLIMATOLOGY

Effect of local weather on air-pollution problems. A. L. Danis. *il diags* Am Soc C E Proc 83 [SA 6 no 1463]:1-10 D '57; Discussion. J. F. Dias. 84 [SA 3 no 1688]:13-20 Je '58

Meeting on radio climatology, 1st. Jan. 15. *Inst Radio Eng Proc* 46:1425-6 Ji '58

See also

Paleoclimatology

Rain and rainfall

CLINICS

Health insurance and outpatient clinic; Group health office and clinic building. St Paul, Minn. *il plans* Arch Rec 123:214-15 Mr '58

Large clinic screened from traffic noise; Woodley medical center, Los Angeles. *il plan* Arch Rec 123:200-1 Mr '58

Medical clinic with non-medical look; Hoyt street clinic, Portland, Ore. *il plan* Arch Rec 123:196-7 Mr '58

Pressure valves in a dental clinic; Dental arts building, Gainesville, Fla. *il plan* Arch Rec 123:198-9 Mr '58

Psychiatric group clinic, Seattle. *il plan* Prog Arch 39:136-9 Ap '58

Service to industry

Industry sends work to doctors; clinic treats patients by day, industrial work is checked by night. *il Steel* 141:116 N 11 '57

CLINKERS, Cement. *See* Cement clinkers

CLOCKS

Horological accuracy; its limits and implications. J. J. Baruch. *Am Scientist* 46:188A+ S '58

See also

Time clocks

Atomic clocks

Clocks for space time. *Elec Eng'g* 77:275 Mr '58

Gas cell atomic clock using optical pumping and optical detection; abstract. M. Arditi and T. R. Carver. *il Elec Eng* 77:571 Je '58

CLOCKS, Electric

Carrier frequency clock control; U.S. military academy, West Point, N.Y. *il plan* diags *Elec Constr & Maint* 57:98-101 Je '58

CLOCKS, Electric—Continued

Clock has built-in night light, *il* diags Machine Design 29:102 O 31 '57
Determining arrival time of radioactive fallout; Geiger-counter detection circuit causes clock to stop, R. W. Farmer and O. Reiner, *jr.* *il* diags Electronics 31:69-71 Ag 1 '58

See also

Watches, Electric

CLOCKS, Electronic

Electronic clock reads related time-of-events, R. Winfield and others, *il* diags Electronics 31:74-7 P 23 '58
Electronic clock ushers in wireless time-keeping, R. Williams, *il* diag Gen Elec R 61:11-13 My '58

Regenerative divider drives precision clock, D. P. Henderson, *il* diags Electronics 31:77-9 Ag 1 '58

Transistor chopper drives accurate clock, R. H. Williams, *il* diags Electronics 31:64-5 My 23 '58

Transistor clock drive; patent, *diag* Radio-Electronics 29:138-9 O '58

Transistor drives clock, C. H. McShan, *diag* Electronics 31:74-5 Ja 3 '58

Transistorized clock, *diag* Electronic Ind 17:80 Ja '58

CLOSED circuit television. *See* Television—Closed circuit

CLOSTRIDIUM

Characteristics of heat-resistant clostridium welchii in carcase meat; abstract, B. C. Hobbs, Chem & Ind p88-9 Ja 25 '58

CLOSURES (containers)

Indestructible flip-flop lid; urethane foam filling, *il* Plastics Tech 4:736 Ag '58

Latest container materials and closing units, *il* Food Eng 30:78-9 Ap '58

CLOTHES dryers**Control**

What the serviceman should know about gas clothes dryer controls, E. W. Wechsler, *il* diags Gas 34:51-5 Jl; 75-8 Ag '58

Manufacture

Producing dryer components at Hotpoint, H. Chase, *il* Mach 64:161-3 N '57

CLOTHING, Protective

Aluminized suit to protect fire-fighters, Franklin Inst J 266:77-8 Jl '58

Aluminum coated shell developed by AF may revolutionize fire fighting methods, *il* Gas Age 122:74-4 O 2 '58

Heat-resistant clothing; Silvestro, *il* Safety Maint 118:54 Ag '58

How to walk into 1400 F; aluminum-coated, glass-fiber-insulated suits, *il* Power 102:142 F '58

Man in the glass fiber suit, *il* Safety Maint 115:27 F '58

Neoprene as an ingredient of steel; clothing protects workers in Lukens steel co, *il* Safety Maint 115:13 Ja '58

Safety equipment and protective clothing, *il* Manuf Chem 29:326-9 Ag '58

See also

Gloves, Safety
Helmets, Welders
Shoes, Safety

CLOTHING and dress

Man-made fibers in apparel, J. Campbell, *il* Mod Textiles Mag 39:50-60 S '58

See also

Costume

Standards

New standards for women's clothing sizes, Mag of Stand 29:151-2 My '58

CLOUD chambers

Advanced laboratory project; construction of a Wilson cloud chamber, R. L. Tanner, *il* Am J Phys 26:12-19 Ja '58

Cloud chamber, *il* diag Electronic & Radio Eng 34:447-50 D '57

Electric sweeping field in a diffusion cloud chamber, N. D'Angelo, R Sci Instr 29:433-4 My '58

Flash photography of a deep field of view of Wilson cloud chamber, F. D. Barros and others, *il* diags J Sci Instr 35:129-31 Ap '58

See also

Bubble chambers

CLOUD seeding. *See* Rain making

CLOUDS

Theory of turbulent evaporating clouds, R. H. Milburn, bibliog J Colloid Sci 13:114-24 Ap '58

CLOVE

Clove oils, S. Arctander, *il* Drug & Cosmetic Ind 82:602-3+ My '58

CLOVER

Free reducing, acid-hydrolyzable, and total sugars and total available carbohydrates in Ladino clover, nutritionally significant chemical components of forage legumes, E. L. Wilkins and others, bibliog J Agri & Chem 6:369-73 My '58

Isolation of a new estrogen from ladino clover, E. M. Bickoff and others, bibliog J Agri & Food Chem 6:536-9 Jl '58

New estrogen synthesized, *il* Chem & Eng N 36:49-50 S 22 '58

CLUB newspapers

Do-it-yourself club newspapers, J. N. Jablin, *il* Q S T 42:54-6 Mr '58

CLUBHOUSES

Lodge headquarters, Philadelphia, *il* plans Prog Arch 39:92-3 Jl '58

Officers' club, Andrews air force base, Washington, D.C., *il* plans diags Prog Arch 39:102-11 Jl '58

See also

Country clubs

CLUBS

See also

4-H clubs

CLUTCHES

Applications of sprag-type clutches; drawings with text, W. T. Cherry, Product Eng 29: E 18-19 Mid-S '58

Big boost for geared-Diesel drive, *il* diag Marine Eng/Log 63:76 My '58

Centrifugal clutches for motor drives, Product Eng 28:E5-7 Mid-O '57

Clutch disengages at predetermined position, *il* diag Product Eng 29:87 My 26 '58

Clutch locks out automatically at predetermined torque value, *il* diags Machine Design 30:125 S 4 '58

Clutch operation; National acme co, K. Schubert, diags Ap Hydraulics 11:84 Jl '58

Controlled acceleration devices, J. E. Eastman, diags Product Eng 29:75-80 Mr 3 '58

Design and application of spring clutches, diags Product Eng 28:E20-2 Mid-O '57

Drive delivers constant horsepower; variable speed control for machine tools is based on use of planetary differentials and hydraulic clutches, *il* Steel 142:154-4 Ap 14 '58

Electric clutches and brakes permit toggle-switch operation of paver, *il* diags Machine Design 30:110-11 My 1 '58

Industrial know-how handbook, *il* diags Mill & Factory 62:PT21-2 My '58

Miniature clutches, brakes have no brushes, *il* diag Eng 29:49 F 17 '58

Multi-function overrunning clutches, W. E. Mulholland and J. L. King, Jr. diags Product Eng 29:78-9 F 3 '58

Overrunning clutch reduces mill stress, *il* Iron Age 181:17-18 Ap 3 '58

Sliding load braked by opposed hydraulic clutches, *il* diags Machine Design 30:146-7 S 18 '58

Spring clutches for faster response, E. V. Leonard, diags Product Eng 29:57-9 Ap 14 '58

Ten ways to apply overrunning clutches; drawings with text, W. E. Mulholland and J. L. King, Jr. Product Eng 28:118-19 N 25 '57

Tiltman Langley roller clutch for smaller mechanisms, *diag* Engineering 186:62 Jl 11 '58

Timing clutch operates at high speed without slipping, diags Product Eng 29:40 Ap 7 '58

Two-revolution clutch, E. B. Schell, diags Mach 64:148-9 Mr '58

Two-speed wash-spin drive uses sprag clutches, J. C. Smith, *il* Elec Manuf 61:116 Jw '58

Voice coil actuates clutch or clutch-brake, *il* diags Product Eng 29:103-4 My 12 '58

You can whip the backlash in spring clutches, J. Kaplan, diags Product Eng 29:62-3 Ag 18 '58

See also

Automobiles—Clutches
Friction materials

CLUTCHES, Magnetic

Design characteristics of magnetic steel castings, W. C. Pierce, *il* Mech Eng 80:64-6 Ap '58

COACERVATION

Fractionation of polystyrene by coacervate formation, J. H. C. Green and M. F. Vaughan, bibliog Chem & Ind p829-30 Je 28 '58

COAGULANTS

Experimental studies and operations use of synthetic organic coagulants for digested sludge filtration at Hyperion; abstract, R. D. Bargman and others, Water & Sewage Works 104:559 D '57

COAGULANTS—Continued

- High-order flocculant activity spans wide pH; Polyox coagulant. *il Chem Eng* 65:74 Mr 24 '58
- Sludge filtration and use of synthetic organic coagulants at Hyperion. R. D. Bargman and others. *bibliog flow diag Sewage & Ind Wastes* 30:1079-100 S '58; Abstract. *Water & Sewage Works* 104:559 D '57

COAGULATION

See also

Water purification—Coagulation

COAL

- Anthraccitic coal from Precambrian upper Huronian black shale of the Iron River district, northern Michigan. S. A. Tyler and others. *bibliog maps Geol Soc Bul* 68:1293-304, pl 1-4 O '57
- Canadian consumption of industrial coals. G. M. Hutt and E. Swartzman. *map Can Min & Met Bul* 51:19-26 Ja '58
- Coal; annual review. R. Q. Shotts and H. W. Ahrenholz, ed. *il Min Eng* 10:235-8 F '58
- Coal for electric power. 1958-75. W. A. Raleigh, jr. *il Coal Age* 63:84-9 F '58
- Combustion of coal. A. C. Monkhouse. *bibliog il diags Chem & Ind* p52-64 Ja 18 '58
- Contact angle measurements of water on coal. R. Bailey and V. R. Gray. *bibliog diags J Ap Chem* 8:197-202 Ap '58
- Limiting factors imposed on coal for use in central Canada. G. P. Cooper and W. J. Moroz. *maps Can Min & Met Bul* 51:27-33 Ja '58
- Look at raw materials for steel industry. *il Steel* 143:152-4 S 15 '58
- Low-ash graphite prepared from anthracite. M. G. Boobar and others. *bibliog Ind & Eng Chem* 50:27-32 Ja '58
- Prediction of future demands in coal quality by the electric utility industry. E. H. Wollin. *diag Min Cong J* 44:39-42 My '58
- Present and potential uses for coal in the Canadian metallurgical industry. J. H. Walsh and others. *flow sheet diags Can Min & Met Bul* 51:81-3 *bibliog* (82 ref, p87-8) F '58
- Reflectance of oxidized coals. D. Chandra. *bibliog il Econ Geol* 53:102-8 Ja '58
- Shale, coal gas to supplement natural. M. A. Elliott. *Oil & Gas J* 56:110-11 Ap 7 '58
- Some aspects of the kinetics of oxidation of coal. T. Wood. *bibliog J Ap Chem* 8:565-71 S '58
- Studies on the oxidation of Assam coal; decarboxylation reaction. M. M. Roy. *J Ap Chem* 7:626-9 N '57
- We have plenty of good coking coal. P. S. Savage. *il Steel* 142:73-+ F 24 '58
- See also*
- Coal distillation
- Coal preparation
- Coal trade
- Coke
- Lignite

Analysis

- Automatic unit for determination of volatile matter in coal, coke, and char. R. P. Hensel and S. A. Jones. *diag Anal Chem* 30:402-4 Mr '58
- Petrologic methods for application to solid fuels of the future. J. M. Schopf. *bibliog map diags Min Eng* 8:Trans 629-33 Je '56; Discussion. G. H. Cady. 10:Trans 591 My '58

Blending

- Making the best of coking coals; Bursstein process. Hecce for Woodall-Duckham. *Metallurgia* 57:30 Ja '58

Carbonization

See Coal distillation

Desulfurization

See Coal—Sulfur content

Freezing

- Gas is used in infrared car thawing. *il Am Gas Assn Mo* 40:22-3 F '58

Geology

- Coal geology and the coal industry. G. H. Cady. *Econ Geol* 53:511-20 Ag '58

Prices

- Stretch coal dollars. J. S. Cole. *diag Power Ind* 74:11-12+ Mr '58
- What is true cost of coal? with cost data. H. G. Lammers and others. *diag Elec World* 148:39-40 D 23 '57

Purchasing

See Coal purchasing

Sulfur content

- Coal desulfurization in a fluidized carbonizer. J. K. Jacobs and J. D. Mirkus. *bibliog diag Ind & Eng Chem* 50:24-6 Ja '58

Testing

- Apparatus for the measurement of the velocities of sonic pulses in flawed materials. R. F. Seadome and N. B. Terry. *bibliog il diags Brit Inst Radio Eng J* 18:371-80 Je '58

Transportation

- Influence of the St Lawrence seaway on the marketing of coal. J. R. Frith. *Can Min & Met Bul* 51:16-18 Ja '58
- Shuttle cars from face to intermediate haulage; Itmann mine of the Pocahontas fuel co. M. M. O'Brien. *diags Min Cong J* 44:29-31 Ja '58

See also

Coal pipe lines

Weighing

See Coal weighing

Alberta

- Utilization of Alberta sub-bituminous coal. W. A. Lang. *bibliog map Can Min & Met Bul* 51:557-63 S '58

Canada

- Coal; source of Canadian energy. C. L. O'Brien. *bibliog map Can Min & Met Bul* 51:3-15 Ja '58

France

- From coal to coke. R. Cheradame. *Metallurgia* 56:236+ N '57

Rhode Island

- Rank of coal and metamorphic grade of rocks of the Narragansett basin of Rhode Island. A. W. Quinn and H. D. Glass. *bibliog maps Econ Geol* 53:563-76 Ag '58

COAL, Irradiated

- Nuclear irradiation of coal for use with Diesel fuel. R. McErian. *il Min Cong J* 44:32-4 Ag '58; Abstract. *Mech Eng* 80:75 S '58

COAL, Pulverized

See also

Boilers—Pulverized coal firing

Preparation

- Cleaning fine coal with newly developed jig. E. H. Citron. *Min Eng* 10:Trans 488-9 Ap '58
- Convertoil process; efficient method removes usable coal from high ash slurries. A. H. Brisse and W. L. McMorris, jr. *il diags Min Eng* 10:Trans 258-61 F '58
- Discussion of fine coal recovery equipment. W. C. McCulloch. *il Min Cong J* 44:52-4 Mr '58
- Fine-coal cleaning; abstract. T. P. Rhodes. *Coal Age* 62:85+ D '57
- Fine coal cleaning with the feldspar jig; Northern Pacific railway co. E. R. McMillan. *il Min Cong J* 44:44-7 Ja '58
- Wet tables and fine coal rheos. J. Griffen. *Min Eng* 9:1328 D '57
- When you crush and pulverize coal. U. B. Yeager. *il Power Eng* 62:61-4+ J1 '58

See also

Coal drying

COAL ash**Analysis**

- Determination of ferrous iron in pulverized fuel ash and slags from pulverized fuel-fired boilers. P. J. Jackson. *bibliog J Ap Chem* 7:605-10 N '57
- Determination of trace elements in pulverized-fuel ash. A. C. Smith. *bibliog il diag J Ap Chem* 8:636-45 O '58

COAL association, National. *See National coal association*

COAL bins

See also

Coal bunkers

COAL bunkers

- Bunker grating improved. V. C. Fay. *diag Elec World* 148:84 D 9 '57
- Fight against fuel clogging in bunkers. M. S. Maslennikov. *diags Combustion* 29:51-3 Je '58
- Multi-bunker weight measurements. W. D. Hamilton. *il diags Instruments & Automation* 31:466-7 Mr '58

COAL chemicals. *See Coal products*

COAL cleaning

- Advances in the art of dense media cleaning. E. O. Milligan. *il Min Cong J* 44:72-4 Je '58
- Dense medium units. H. E. Steinmann. *Min Eng* 9:1327 D '57

COAL cleaning—Continued

- Dry tables. W. C. McColloch. *Min Eng* 9:1328 D '57
- How Amigo uses dual units for three-product separation; Amigo smokeless coal co. flow diag *il map Coal Age* 63:122-5 Ap '58
- Low-cost heavy-media cleaning. *il diags Coal Age* 63:180-2 J1 '58
- Pumping coal and refuse. P. Levin. *il Min Cong J* 44:38-41 J1 '58
- Raw-coal storage bins lead to increased daily output. *il diags Coal Age* 63:74-6 J1 '58
- Selection of cleaning units. W. M. Bertholf. *Min Eng* 9:1326-7 D '57

See also

- Coal, Pulverized—Preparation
- Coal preparation
- Coal washing
- COAL cutters**
- Coal cutting and loading machine. *il Engi-neer* 205:142 Ja 24 '58
- New bit designs contribute to lower-cost coal cutting. J. C. Leighton. *diags Coal Age* 63:108-10 My '58
- New continuous miner especially designed for pitches; Borecut. H. H. Gardner. *il diags Coal Age* 63:122-3 Ja '58

COAL distillation

- Britain's most modern carbonization plant. J. Grindrod. *il Gas Age* 121:16-19 Je 26 '58
- Chemical engineering unit processes; pyrolysis of coal and shale. C. H. Fries and M. Perch. *bibliog il Ind & Eng Chem* 50:1401-5 pt 2 S '58
- Coal carbonization research. J. D. Price and M. E. Mador. *bibliog* (33 titles) *Ind & Eng Chem* 50:17-20 Ja '58
- Coke, gas, and coal chemicals; fiftieth anniversary feature. A. R. Powell and C. C. Russell. *il Ind & Eng Chem* 50:sup46A-9A J1 '58
- Low-temperature fluidized carbonization in relation to energy production. C. Moreland. *bibliog flow diags diag Can Min & Met Bul* 51:415-19 J1 '58
- Minimum fluidizing velocities for coal in air. G. C. Sinclair and D. B. Robinson. *bibliog il Can J Chem Eng* 36:51-8 Ap '58
- New coal-char plant; Kool-Krudes, inc. *Coal Age* 63:28+ Mr '58

COAL drying

- Centrifuges. W. L. McMorris. *Min Eng* 9:1332-3 D '57
- Dewatering screens. O. T. Barrett. *Min Eng* 9:1332 D '57
- Selecting dewatering and drying equipment. G. H. Kennedy and J. L. Walker, jr. *Min Eng* 9:1329-32 D '57
- Thermal driers. E. R. McMillan. *Min Eng* 9:1333 D '57

COAL dust

- Long-running thermal precipitator for mine dust. *Mech Eng* 80:99 F '58
- Plant to make coal dust from waste water sludge. *Eng N* 180:106 My 15 '58
- Sampling programmes and sampling instruments in coal mines; abstract. R. C. Tomlinson. *J Sci Instr* 34:425-6 N '57
- Some instrument techniques in use at the Safety in mines research establishment; abstract. C. A. A. Wass. *il diags J Sci Instr* 34:427-9 N '57
- Tipple dust control; Amherst coal co. A. S. J. Hopkins. *il Coal Age* 63:154-6 F '58

COAL exporters association of the United States, inc.

- Annual meeting. 13th. Chicago. June 4-5. *Coal Age* 63:104-6+ J1 '58

COAL handling

- Automatic car-loading at South-East Coal. *il diags Coal Age* 63:94-5+ Je '58
- Detroit Edison's River Rouge coal handling system moves 2500 tph. *il diag Plant* 17:42-3 My '58
- Double chute cuts coal stocking time. *il Elec World* 149:70 Ap 14 '58
- Electronic conveyor controls. flow diag *il diags Coal Age* 63:106-7 Ag '58
- Flow of coal in bins. F. D. Cooper and J. R. Garvey. *bibliog il diags Combustion* 29:45-9 N '57; Excerpts. *Mech Eng* 80:58-60 My '58; Discussion. P. Rogers. *Combustion* 29:60 Ja '58
- Handling coal in industrial plants. A. J. Stock. *il diags Power* 102:85-7 My '58; Abstract. *Combustion* 29:64-5 My '58
- Mechanised coal depot. Palace Gates. Wood Green. *il Engineer* 206:145-6 J1 25 '58
- Mechanised depot for domestic coal. *il Engineering* 186:126 J1 25 '58
- Pulverized coal transport through pipes. R. C. Patterson. *il diags Combustion* 30:47-57 J1 '58

- Slurry handling at Barony power station. *diag Engineer* 204:607 O 25 '57
- Ways of handling coal in freezing weather. *Power Eng* 62:90 Mr '58
- What is true cost of coal? with cost data. H. G. Lammers and others. *diag Elec World* 148:39-40 D 23 '57

COAL liquefaction

- Hydrogenated coal at 800°C. R. W. Hiteshew and others. *bibliog diags Ind & Eng Chem* 49:2008-10 D '57

COAL loading machines

- Coal cutting and loading machine. *il Engi-neer* 205:142 Ja 24 '58

COAL measurement

- How many tons in coal barge? B. Block. *il diags Power Eng* 62:70-2 Mr '58

COAL mine gasification. See Gas manufacture**—Coal mine gasification****COAL miners**

- Finding and training mine mechanics. W. C. Schott. *il Min Cong J* 43:50-2 N '57
- Foremen's forum. Published in monthly numbers of *Coal Age*

See also

- United mine workers of America

Diseases and hygiene

- Medical indices of coal workers' pneumoconiosis; abstract. F. J. Chapman. *diag J Sci Instr* 34:429-30 N '57

Training

- Coal age mining guidebook; training guidebook. *diag Coal Age* 63:175-80 Mid-J1 '58

COAL mines and mining

- AIME Central Appalachian section meeting. White Sulphur Springs, W.Va. Nov. 8-9; with abstracts of papers. *Coal Age* 62:83-9+ D '57
- AIME Central Appalachian section spring meeting. Lexington, Ky. June 13-14; abstracts of papers. *Coal Age* 63:110-1 J1 '58
- American mining congress. Coal division annual meeting. Cincinnati. May 4-7; abstracts of papers. *Coal Age* 63:124-9+ Je '58; *Min Cong J* 44:59-69 Je '58
- American mining congress Coal division annual meeting. Cincinnati. May 5-7; program. *Min Cong J* 44:137-9 F '58
- Bump symposium; progress in control. *bibliog il plans diags Min Eng* 10:Trans 877-91, 982-1004B Ag-S '58
- Coal age mining guidebook. *il plans diags Coal Age* 63:3-180 Mid-J1 '58
- Illinois mining institute 66th annual meeting. Springfield. Oct. 18; with abstracts of papers. *Coal Age* 62:84-5+ D '57
- Independent mineral producers association of Pennsylvania. annual meeting. Pittsburgh. Nov. 14. *Coal Age* 62:90 D '57
- Indiana coal mining institute annual meeting. Vincennes. April 12; with abstracts of papers. *Coal Age* 63:73-4 My '58
- Kentucky mining institute 18th annual meeting. Lexington. Oct. 31-Nov. 1; with abstracts of papers. *Coal Age* 62:86-7+ D '57
- Mining society of Nova Scotia 71st annual meeting. Ingonish Beach, N.S. July 3-5; with abstracts of papers. *Coal Age* 63:133-4 Ag '58
- 1957 developments in mining and preparation. *il Coal Age* 63:1-2 F '58
- Rocky Mountain coal mining institute 54th annual meeting. Glenwood Springs, Colo. June 29-July 2; abstracts of papers. *Coal Age* 63:126-7+ Ag '58
- Southern coal producers association 16th annual meeting. Huntington, W.Va. Nov. 1; with abstracts of papers. *Coal Age* 62:79-81+ D '57
- Trends in coal mining today and tomorrow. *Coal Age* 63:104-6+ F '58
- West Virginia coal mining institute spring meeting. Huntington, W.Va. June 27-28; abstracts of papers. *Coal Age* 63:122-3 Ag '58

See also

- American institute of mining, metallurgical and petroleum engineers—Coal division
- Coal cutters

Accidents and explosions

- Emergency action. *il diag Coal Age* 63:114+ J1 '58
- Poahontas mine explosion. *Coal Age* 63:30+ Ap '58
- Some instrument techniques in use at the Safety in mines research establishment; abstract. C. A. A. Wass. *il diags J Sci Instr* 34:427-9 N '57

- COAL mines and mining—Accidents and explosions—Continued**
 U.S. coal-mine fatalities in 1957 and 1956; table. Coal Age 62:111 F '58
 Weather and explosions; abstract. C. B. McIntosh. Coal Age 62:84-5 D '57
See also
 Coal mines and mining—Safety measures
- Blasting**
 How to handle blast-damage problems. S. Hammon. il Coal Age 62:76-8 D '57
 Overburden drilling and blasting with ammonium nitrate explosives; Peabody coal co. F. Horne. il Min Cong J 43:46-51 D '57
- Costs**
 Coal Age mining guidebook; cost control. Coal Age 63:22-3 Mid-J '58
 Cost control. il Coal Age 63:78-85 Ap '58
 Industrial engineering to reduce coal mining cost. W. L. Zeller. il Min Eng 9:1338-40 D '57
- Drainage**
See Mine drainage
- Electric equipment**
 Belmos gate-end box. il Engineer 204:872 D 13 '57
 Characteristics of a-c mining equipment. F. R. Hugus and others. il diags Min Cong J 44:53-9 JI; 66-71 Ag '58
 Coal Age mining guidebook; deep-mining guidebook. diags Coal Age 63:88-99 Mid-JI '58
 Current-carrying capacity, portable power cables on reels. J. J. McNiff and A. H. Shepherd. diag Coal Age 63:98-9+ Je '58
 Electrification of three large hoists at nos. 12 and 20 collieries, Dominion coal co. J. A. Russell and others. il diags Can Min & Met Bul 51:360-76 Je '58
 Operating man's guide to ac for deep mining; what it is, how it is used. D. Jackson, jr. diags Coal Age 63:81-3 My '58
 Use of a-c power on conventional mining sections; Pittsburgh consolidation coal co. C. S. Conrad. bibliog il diags Min Eng 10:71-5 Ja '58
See also
 Coal mines and mining—Power
 Electric locomotives, Mine
- Equipment**
 Bluefield coal show. il Coal Age 63:122+ JI '58
 Bulldozers and scrapers in anthracite stripping; J. Robert Bazley, inc. H. H. Hughes. il diags Min Cong J 44:35-7 Ja '58
 Coal Age mining guidebook; buying directory. Coal Age 63:185+ Mid-JI '58
 Eight-step contour mining at Pettito pits; Pettito bros. il plan diag Coal Age 63:90-1+ Mr '58
 Equipment developments. Published in monthly numbers of Coal age
 Getting equipment you want. il Coal Age 63:132+ My '58
 How Amiko uses dual units for three-product separation; Amiko smokeless coal co. flow diag il map Coal Age 63:122-5 Ap '58
 How Kaiser is rebuilding Koehler for continuous mining. W. K. Dennison, jr. il Coal Age 62:60-3 N '57
 How Truax-Traer built for efficiency at nos. 7 and 8 mines. il plans diags Coal Age 63:78-86 Je '58
 Hydraulic coal mining experiments in South Wales. Engineer 204:23 JI '58
 Inspection guide for deep mine equipment. D. Jackson, jr. il diags Coal Age 62:84-9 O; 64:71 N; 66-71 D '57
 Lafayette Springs strips, deep mines mountain top seams. il Coal Age 62:58-63 D '57
 Mine car replacement at Wheelwright and Price no. one mines. E. M. Pace and E. H. Roberts. il Min Cong J 44:75-7+ Ag '58
 \$1 million modernization pays off at Har-mar's Oakmont mine. il diags Coal Age 63:66-73. cover JI '58
 Operation of ligs. A. P. Massmann. Min Eng 9:1327 D '57
 Raw-coal storage bins lead to increased daily output. il diags Coal Age 63:74-6 JI '58
See also
 Coal loading machines
 Coal mining machinery
 Mine cars
- Explosives**
 Ammonium-nitrate blasting agents; abstract. F. W. Parrott. Coal Age 62:166+ D '57
 Explosives for stripping; abstract. J. D. Reilly. Coal Age 62:89 D '57

Hanna ammonium nitrate blasting system. J. Hyslop. il Min Cong J 44:39-41 Ag '58
 Overburden drilling and blasting with ammonium nitrate explosives; Peabody coal co. F. Horne. il Min Cong J 43:46-51 D '57

Fires and fire protection

Cost keeps fire-resistant fluids out of mines. S. P. Polack. Ag Hydraulics 11:86+ F '58
 Mine fire hazards and fire fighting equipment; Pittsburgh coal co. J. S. Whittaker. il Min Cong J 44:31-2 Ap '58
 Mine fires get the works; maneuverable fire truck; Pittsburgh consolidation coal co. il Safety Maint 15:49+ Mr '58
 Progress in developing fire-resistant hydraulic fluids. S. P. Polack. Iron & Steel Eng 35:87-92 Ag '58

Gas generation

See also
 Gas manufacture—Coal mine gasification

Gas well protection

Designs for gas-well pillars to support gas wells which pierce coal seams. G. J. Donaldson, jr. and J. G. Tilton. diags Coal Age 63:96-7+ JI '58

Haulage

See Mine haulage

Longwall system

Longwall stoping at the Radon mine. W. H. Love and P. M. Lindstrom. il map diags Min Cong J 44:34-8 Ag '58

Management

Industrial engineering; what can it do? E. B. Leisnering, jr. il Min Cong J 43:74-7 N '57
 New approach to conventional coal mining problems; queue theory. E. Koenigsberg and S. R. Neuberger. diags Min Cong J 44:64-8 Mr '58

Methods

Coal Age mining guidebook; deep-mining guidebook. il plans diags Coal Age 63:29-99 Mid-JI '58
 Continuous miner offers higher production but experience with the boring-type unit shows that mistakes can be costly. S. Krickovic. il plans diags Min Eng 9:Trans 1345-55; Discussion. J. W. Woomer. 1355 D '57
 Continuous mining; American mining congress Coal division annual meeting; abstracts of papers. Coal Age 63:129+ Je '58; Min Cong J 44:66-8 Je '58
 Continuous mining in various seam conditions. W. Laird. il Min Cong J 43:56-8 N '57
 Continuous mining productivity; production statistics. R. Anderson. Min Cong J 44:54-7+ My '58
 Control of mountain bumps in the Pocahontas no. 4 seam. W. G. Talman and J. L. Schroder, jr. plans diags Min Eng 10:Trans 983-91 Ag '58
 How Rainbow contour mines. L. A. Engstrom. il maps Coal Age 62:54-7 D '57
 Humphrey no. seven; Christopher's new two million-ton producer of quality coal. A. E. Flowers. il plans diags Coal Age 63:86-92+ Ar '58
 Mechanical coal mining, 1957. R. E. Kirk. il Min Cong J 44:64-6+ F '58
 Possibilities of continuous mining in the pitching coal seams of western Canada. H. H. Gardner. il plans diags Can Min & Met Bul 51:266-9 My '58
 Productive continuous mining under difficult conditions; Viking coal corp. il plan Coal Age 63:86-9 JI '58

See also

Coal mines and mining—Longwall system
 Coal mines and mining—Stripping operations

Power

Ac for deep mining; Jay mfg. co. J. D. Russell. Coal Age 63:129 Ap '58
 A-c power for face machines; coal mines. C. C. Conway. il diag Min Cong J 44:46-51 Mr '58
 Bethlehem's designs for distributing ac power. D. Jackson, jr. il plans diags Coal Age 63:78-85 Ag '58
 Centralized supervision of a 65-kilovolt power network in the Lorraine region of France. L. R. Gillon. il maps diags Elec Com 36 no 1-3:12 '58
 Coal Age mining guidebook; deep-mining guidebook. diags Coal Age 63:88-99 Mid-JI '58

COAL mines and mining—Power—Continued

- Design of a power installation for a continuous operation; three coal mines of Kaiser steel corp. W. C. Wright. plan diags Min Cong J 43:38-41 D '57
- How Princess Elkhorn distributes ac power. il map Coal Age 63:116-17+ Mr '58
- More economical power conversion; substation installation at Barnes & Tucker co. il Coal Age 63:100-1+ Je '58
- Operating man's guide to ac for deep mining; what it is, how it is used. D. Jackson, Jr. diags Coal Age 63:78-88 My '58
- Portable power systems for strip mines. L. E. Briscoe. il diags Min Cong J 43:30-5; Discussion. B. E. Rector. 35-7 N '57
- Safety advantages in the use of a-c power underground. R. M. Hunter. il diags Min Cong J 44:46-9 Ap '58
- Underground power. American mining congress Coal division annual meeting; abstracts of papers. Coal Age 63:127-8 Je '58; Min Cong J 44:63 Je '58

Rock dusting

- Rock dusting in multiple-shift operations; Island creek coal co. E. Linkous. il diags Min Cong J 44:47-9 My '58

Safety measures

- Cementing coal-mine roof; epoxy resins. E. R. Maize. il plan diags Coal Age 63:116-17+ Ja '58
- Coal age mining guidebook; safety guidebook. il Coal Age 63:170-4 Mid-Jl '58
- Constant accent on safety; record made by mine employees of Republic steel corp. J. L. Coyer. il Coal Age 63:100-2 Ag '58
- National safety council Coal mining section annual meeting, Chicago, Oct. 21-23; with abstracts of papers. Coal Age 62:82-3+ D '57
- Prevention of accidents in and around coal mines. H. F. Weaver. Can Min & Met Bul 51:406-14 Jl '58
- Rock dusting in multiple-shift operations; Island creek coal co. C. E. Linkous. il diags Min Cong J 44:47-9 My '58
- Safety advantages in the use of a-c power underground. R. M. Hunter. il diags Min Cong J 44:46-9 Ap '58
- Safety; American mining congress Coal division annual meeting; abstracts of papers. Coal Age 63:136 Je '58; Min Cong J 44:64-5 Je '58
- Safety aspects of underground transport in coal mines; abstract. A. E. Crook. Engineering 186:90 Jl 18 '58
- Safety in 1957. il Coal Age 63:110-11 F '58
- Tipple dust control; Amherst coal co. A. S. J. Hopkins. il Coal Age 63:154-6 F '58
- Weather and coal-mine safety. C. E. McIntosh. map Coal Age 63:164+ F '58
- See also

Coal mines and mining—Blasting**Statistics**

- Continuous mining productivity; production statistics. R. L. Anderson. Min Cong J 44:54-7+ My '58
- 50 biggest bituminous mines ranked by 1957 tonnage; tables. Coal Age 63:127 Ap '58

Stores systems

- Coal Age mining guidebook; supply guidebook. il plan diags Coal Age 63:161-9 Mid-Jl '58

Stripping operations

- Better boom supports for big shovels; Hanna coal co. il diags Coal Age 63:96-7 Ag '58
- Better drill cuts cost at 40 to 1 strip mine; Robbins coal co. il diags Coal Age 63:92-4 Jl '58
- Better rope clamp cuts downtime, boosts shovel range; Hanna coal co. 5 Mountaineer shovel. il Coal Age 63:88+ J '58
- Bulldozer stripping, highwall auger net 1,000 tpd at Egyptian Mining. il Coal Age 63:116-18 Ap '58
- Bulldozers and scrapers in anthracite stripping; J. Robert Bazy. in. E. H. Hughes. il diags Min Cong J 44:35-7 Ja '58
- Coal age mining guidebook; strip-mining guidebook. il diags Coal Age 63:100-25 Mid-Jl '58
- Continuous mining in strip highwalls; Powhatan mining co. A. D. Henry. il plans Min Cong J 44:70-3 Ap '58
- Current practices in anthracite stripping. A. E. Coddington. il Min Cong J 44:26-9; Discussion. J. R. Bazley. 30+ J '58
- Deep stripping overseas; Acorn Bank, near Newcastle, England. il Coal Age 62:74-9 N '57

- Eight-step contour mining at Pettito pits; Pettito bros. il plan diag Coal Age 63:90-1+ Mr '58
- Explosives for stripping; abstract. J. D. Reilly. Coal Age 62:89 D '57
- Improved bucket teeth cut costs; Peabody coal co. il Coal Age 63:114-15 Je '58
- Lafayette Springs strips, deep mines mountaintop seams. il Coal Age 62:58-63 D '57
- 1957 annual review of strip coal mining. G. H. Utterback. il Min Cong J 44:78-9 F '58
- Overburden drilling and blasting with ammonium nitrate explosives; Peabody coal co. F. Horne. il Min Cong J 43:46-51 D '57
- Percussion unit drills hard rock; Sullivan trail coal co. il Coal Age 63:114-15 My '58
- Portable power systems for strip mines. L. E. Briscoe. il diags Min Cong J 43:30-5; Discussion. B. E. Rector. 35-7 N '57
- Ripping coal for loading. R. F. Mueller. il diag Coal Age 63:148-50 F '58
- 70-yd King of spades; pacesetter at new River King mine, Peabody coal co. A. E. Flowers. il map diag Coal Age 63:76-81 Ja '58
- Side line booms into a full time job; limestone mining was a side line, Hanna coal co. il Rock Prod 60:96-9+ N '57
- Slope stability in open pit mines. W. A. Vine. il diags Min Cong J 44:78-81 Ag '58
- Strip mining; American mining congress Coal division annual meeting; abstracts of papers. Coal Age 63:125-7 Je '58; Min Cong J 44:61-3 Je '58
- Super shovel hefts tons of earth in a quest for coal; River queen coal co. T. Learmont. il diags Welding Eng 43:116+ Ap '58
- Two seam stripping and parting removal; River queen mine, Peabody coal co. F. Gilbert. il Min Cong J 44:27-8+ My '58

Waste disposal

- Acid drainage controls coming; Ohio Valley stream pollution. W. A. Raleigh, Jr. il Coal Age 63:72-7 Je '58
- Automatic refuse pumping. il diags Coal Age 62:72-3 N '57
- Flocculation improves vacuum filtration. P. S. Jacobsen and J. E. Mauser. diag Coal Age 62:74-5 D '57
- How Youghiogheny & Ohio controls stream pollution. il Coal Age 62:84-6 N '57
- Waste problem can be licked; Pennsylvania reports notable success in controlling mine acid waste. Eng N 160:29 My 15 '58
- Water-powered device treats acid water automatically; Tasa coal co. il Coal Age 63:148 Mr '58

Alabama

- Better drill cuts cost at 40 to 1 strip mine; Robbins coal co. il diags Coal Age 63:92-4 Jl '58

Alberta

- Utilization of Alberta sub-bituminous coal. W. A. Lang. bibliog map Can Min & Met Bul 51:557-63 S '58

Canada

- Coal in western Canada and its uses. M. M. Williams. bibliog map Can Min & Met Bul 51:468-75 Ag '58
- Ground stress investigations in Canadian coal mines. A. Brown. bibliog Min Eng 10:Trans 879-87 Ag '58
- Possibilities of continuous mining in the pitching coal seams of western Canada. H. H. Gardner. il plans diags Can Min & Met Bul 51:266-9 My '58

Far East

- Industrial progress in Far Eastern mining villages. il Coal Age 63:43-4 Ja '58

Germany

- West German brown coal. il map diags Engineering 205:867-8, 906-8, 945-8, 988-9 Je 6-27 '58

Great Britain

- Coal, iron and steel. Engineer 205:100-1 Ja '58
- Deep stripping overseas; Acorn Bank, near Newcastle, England. il Coal Age 62:74-9 N '57
- Modern collieries; illustrations with text. Engineer 205:pl 6 Ja 3 '58

Illinois

- Bulldozer stripping, highwall auger net 1,000 tpd at Egyptian Mining. il Coal Age 63:116-18 Ap '58

COAL mines and mining—Illinois—Continued

Planning a new mine; mine layout, haulage, production; Freeman coal mining corp. F. E. Snarr, il plans Min Cong J 44:84-7 Ap '58
70-yd King of spades; pacesetter at new River King mine, Peabody coal co. A. E. Flowers, il map diag Coal Age 63:76-81 Ja '58

Indiana

Productive continuous mining under difficult conditions; Viking coal corp. il plan Coal Age 63:86-9 Jl '58

Kentucky

How Princess Elkhorn distributes ac power, il map Coal Age 63:116-17+ Mr '58
Two seam stripping and parting removal; River queen mine, Peabody coal co. F. Gilbert, il Min Cong J 44:27-8+ My '58

New Mexico

How Kaiser is rebuilding Koehler for continuous mining, W. K. Dennison, Jr. il Coal Age 62:60-3 N '57

Nova Scotia

Electrification of three large hoists at nos. 12 and 20 collieries, Dominion coal co. J. A. Russell and others, il diags Can Min & Met Bul 51:360-76 Je '58

Ohio

Continuous mining in strip highwalls; Powhatan mining co. A. D. Henry, il plans Min Cong J 44:70-3 Ap '58
Hanna developments cut shaft-sinking costs at Ohio and West Virginia mines, il plans diags Coal Age 63:106-10 Je '58

Pennsylvania

All-conveyor anthracite mining; Hanover coal co. il plan Coal Age 63:92-3+ My '58
More tons per man with large mine cars; Harmar coal co. J. E. Palin, il plans Min Cong J 43:64-7 D '57
\$1 million modernization pays off at Harmar's Oakmont mine, il diags Coal Age 63:66-73, cover Jl '58
Percussion unit drills hard rock; Sullivan trail coal co. il Coal Age 63:114-15 My '58

Russia

New Zealander looks at hydrauliclicking coal in the USSR, W. B. Watson, bibliog il diags Min Eng 10:463-5 Ap '58
Russian developments in continuous mining, C. E. McWhorter, il Min Cong J 44:84-7 Je '58
We're losing the coal war; USSR is catching up to us in production, map Coal Age 63:41+ Ap '58

Utah

Design of a power installation for a continuous operation; three coal mines of Kaiser steel corp. W. C. Wright, plan diags Min Cong J 43:38-41 D '57

Washington (state)

Coal in the Northwest? energy source for steam plants, K. M. Robinson, il Elec World 150:58-9 S 8 '58

West Virginia

Control of mountain bumps in the Pocahontas no. 4 seam, W. G. Talman and J. L. Schroder, Jr. plans diags Min Eng 10:Trans 883-91 Ag '58
Hanna developments cut shaft-sinking costs at Ohio and West Virginia mines, il plans diags Coal Age 63:106-10 Je '58
How Island Creek uses thin aluminum tubing for air and water; centralized air systems for roof bolting, il diag Coal Age 63:110-12 Ap '58
How Truax-Traer built for efficiency at nos. 7 and 8 mines, il plans diags Coal Age 63:73-86 Je '58
Humphrey no. seven; Christopher's new two million-ton producer of quality coal, A. E. Flowers, il plans diags Coal Age 63:86-92+ Ap '58
Lafayette Springs strips, deep mines mountain top seams, il Coal Age 62:58-63 D '57
Shuttle cars from face to intermediate haulage; Itmann mine of the Pocahontas fuel co. M. M. O'Brien, diags Min Cong J 44:29-31 Ja '58
Use of a-c power on conventional mining sections; Pittsburgh consolidation coal co. C. S. Conrad, bibliog il diags Min Eng 10:71-5 Ja '58

Wyoming

How Rainbow contour mines, L. A. Engstrom, il maps Coal Age 62:54-7 D '57

COAL mining institute of America

Annual meeting, 71st, Pittsburgh, Dec. 12-13; with abstracts of papers, Coal Age 63:38-40+ Ja '58

COAL mining machinery

Bulldozer stripping, highwall auger net 1,000 tpd at Egyptian Mining, il Coal Age 63:116-18 Ap '58
Coal age mining guidebook; deep-mining guidebook, plans diags Coal Age 63:49-58 Mid-Jl '58
Coalface machines; illustrations with text, Engineer 205:pl 8 Ja 3 '58
Continuous miner offers higher production but experience with the boring-type unit shows that mistakes can be costly, S. Krickovic, il plans diags Min Eng 9:Trans 1345-55; Discussion, J. W. Woerner, 1355 D '57
Continuous mining in various seam conditions, W. Laird, il Min Cong J 43:56-8 N '57
Continuous mining machine, il Engineer 206:27 Jl 4 '58
Engineering industries; coal and electricity, Engineering 185:54-5 Ja 10 '58
Mechanics, coal mining, 1957, R. E. Kirk, il Min Cong J 44:64-5+ F '58
Pillar extraction with continuous miners; United States steel corp. E. D. Slone, plans Coal Age 63:92-4+ Ja '58
Productive continuous mining under difficult conditions; Viking coal corp. il plan Coal Age 63:86-9 Jl '58
Progress in developing fire-resistant hydraulic fluids, S. P. Polack, Iron & Steel Eng 35:87-92 Ag '58
Ripping coal for loading, R. F. Mueller, il diag Coal Age 63:148-50 F '58
Roof support with continuous mining equipment, G. C. Dyar, il Min Cong J 44:45-7 Jl '58
Russian developments in continuous mining, C. E. McWhorter, il Min Cong J 44:84-7 Je '58

See also

Coal cutters
Coal loading machines
Shoveling machines

Conveyors

All-conveyor anthracite mining; Hanover coal co. il plan Coal Age 63:92-3+ My '58
Beltman's guide, Coal Age 63:122-3+ Mr '58
Current trends in heavy conveyor belts, A. C. Guadagnoli, il Min Cong J 44:85-9; Discussion, M. Vander Laan, 88-90 Ag '58
Major factors in belt conveyor haulage, R. E. Spoerl, il Min Cong J 44:49-51 Ja '58
Major factors in belt conveyor haulage; West Kentucky coal co., J. W. Bassett, il Min Cong J 44:75-6 Mr '58
New roller conveyor solves side loading problem; Buckheart mine, il Coal Age 63:136 My '58
New-type belt conveyor moves 1,500 tpd at Peabody dock, il plan diags Coal Age 63:82-7 Ja '58
Rope belts boost efficiency at Peabody Coal, A. E. Flowers, il plans Coal Age 63:124-8+ F '58
Today's conveyor-belt picture, il Coal Age 62:64-5 D '57

Lubrication

Special lubricant boosts gear life, Coal Age 62:98 D '57

Maintenance and repair

Coal age mining guidebook; maintenance guidebook, il diags Coal Age 63:148-74 Mid-Jl '58
Improved bucket teeth cut costs; Peabody coal co. il Coal Age 63:114-15 Je '58
Inspection guide for deep mine equipment, D. Jackson, Jr. il diags Coal Age 62:84-9 O; 64-71 N; 66-71 D '57
Organizing for maintenance, E. W. Fair, Coal Age 63:133 Ag '58
Training; foundation of better maintenance at Stonea Coke & Coal, il Coal Age 63:110-12+ Ja '58
Welding is efficient as a maintenance tool, il Welding Eng 43:49 Mr '58

Statistics

1957 sales of mining equipment, W. H. Young and R. L. Anderson, Coal Age 63:114-15+ F '58; Same, Min Cong J 44:133-6 F '58

COAL mixing

Automatic coal proportioning system. *il* *diags*
Min Cong J 44:65-6 J1 '58
Coal mixed en route to ovens. *il* *diag* Steel
143:104+ Ag 18 '58

COAL patents

Current coal patents. O. S. North. Published
in monthly numbers of Coal Age

COAL pipe lines

Dry pipelining of coal. T. Nagel. *diag* Coal
Age 63:118 My '58
Pipeline slurry worry nearly over at East-
lake. *il* *Elec* World 149:46-7 My 5 '58

COAL preparation

Coal Age mining guidebook; preparation
guidebook. *il* *diags* Coal Age 63:126-47 Mid-
J1 '58

Coal preparation; American mining congress
Coal division annual meeting; abstracts of
papers. Coal Age 63:128-9 Je '58; Min Cong
J 44:63-4 Je '58

Coal preparation, 1957. R. E. Joslin. *il* Min
Cong J 44:90-2 F '58

Good preparation design; Christopher coal
co. F. R. Zachar. *il* Coal Age 63:100-3 Mr
'58

Humphrey no. seven; Christopher's new two
million-ton producer of quality coal. A. E.
Flowers. *il* *diag* Coal Age 63:102+ Ap '58

Improved preparation solidifies Knight Ideal
market position. *il* *diags* Coal Age 63:100-2+
My '58

1957 developments in mining and prepara-
tion. *il* Coal Age 63:96-102 F '58

Planning a coal preparation plant; sym-
posium. Min Eng 9:1326-35 D '57

Trends in coal preparation. J. M. Bishop.
Min Cong J 43:56-7 D '57

See also

Coal, Pulverized—Preparation

Coal drying

Coal washing

COAL products

Britain's most modern carbonization plant.
J. Grindrod. *il* Gas Age 121:16-19 Je 26 '58

Coal chemicals, no price rise seen. Chem &
Eng N 36:23-4 J1 21 '58

Coke, gas, and coal chemicals; fiftieth an-
niversary feature. A. R. Powell and C. C.
Russell. *il* Ind & Eng Chem 50:sup46A-9A
J1 '58

New coal-char plant; Koal-Krudes, Inc. Coal
Age 63:28+ Mr '58

U.S.S.R. eyes coal chemicals. D. Carney.
Chem & Eng N 36:70-1 F 10 '58

See also

Coal distillation

Coal tar

Coal tar products

Coke

Coke manufacture—By-products

Analysis

Mass spectrometric analysis of high-boiling
coal-hydrogenation products using low-
ionizing voltage. A. G. Sharkey, Jr. and
others. *bibliog* Chem & Ind p833-4 Je 28
'58

COAL products plants**Corrosion**

Controlling corrosion in coal-chemical plants.
C. P. Larrabee and W. L. Mathay. *bibliog*
il Corrosion 14:37-40 Ap '58

COAL purchasing

It pays us to use computers to figure coal
purchases; digital computers used by Com-
monwealth Edison co., Chicago. L. A.
Evers. *il* Power Ind 74:9-11 S '58

COAL research

Apparatus for the measurement of the veloc-
ities of sonic pulses in flawed materials.
R. F. Seaborn and N. B. Terry. *Engineering*
136:179 Ag 8 '58

Coal carbonization research. J. D. Price and
M. E. Mador. *bibliog* (33 titles) Ind & Eng
Chem 50:17-20 Ja '58

Coal research and development bills argued.
Chem & Eng N 36:39-40 Ap '58

Coal research in 1957. H. W. Nelson and
R. B. Engdahl. *il* Min Cong J 44:110-14+
F '58

From coal to coke. R. Cheradame. *Metal-
lurgia* 56:236+ N '57

New look for coal research. *il* Chem & Eng N
36:28+ J1 28 '58

Present status of coal research. A. A. Potter.
il Min Cong J 44:46-9 Je '58

See also

Bituminous coal research, inc.

COAL sampling

How do you inventory your coal? F. M.
Reiter. *diags* Power Eng 61:72-5 N '57

How New York city transit authority keeps
tabs on power output. *il* Power Ind 74:17 Je
'58

Improving the accuracy of coal sample prepa-
ration. R. L. Corvett and F. J. Schwerd.
diags Combustion 29:47-50 S '57

Mechanical coal sampling. E. Ingle. *il* *diags*
Combustion 30:47-8 O '58

Modern practice in design and testing of
mechanical coal samplers. R. L. Corvett
and F. J. Schwerd. *diags* Power Eng 62:
83-5 S '58

Reduction of errors of coal sample-prepara-
tion. R. A. Mott. *bibliog* *diags* Combustion
29:47-50 Ap '58

Simple and inexpensive coal sampler auto-
matic in operation. A. H. Gesell. *diags*
Power Eng 62:91 I '58

See also

COAL stokers. *See* Stokers, Mechanical

COAL storage

How to use CO₂ for coal bunker fire pro-
tection. H. V. Williamson. *flow* *diag* *il*
Power Eng 62:78-80 J1 '58

Raw-coal storage bins lead to increased daily
output. *il* *diags* Coal Age 63:74-6 J1 '58

See also

Coal bunkers

COAL supply

See also

Coal trade

COAL tar

Chemistry of coal tars; preliminary examina-
tion of the neutral, pentane-soluble frac-
tion from down-jet tar. M. Vahrman. *J* Ap
Chem 8:485-92 Ag '58

Gas-liquid chromatography; analysis of the
alkali extract of a low-temperature coal
tar. L. Irvine and T. J. Mitchell. *J* Ap
Chem 8:428-32 J1 '58

Resinous acid esters in low temperature coal
tars. M. Vahrman. *Chem & Ind* p462-3 Ap
19 '58

Analysis

Identification and determination of low-boil-
ing phenols in low temperature coal tar.
C. Karr, Jr. and others. *bibliog* Anal Chem
30:1413-16 Ag '58

See also

COAL tar pitch. *See* Pitch

See also

COAL tar products

Coal tar-epoxy resin coating used by Avon-
dale. *il* Marine Eng/Log 63:69 My '58

Guide to selection of coal tar coatings for
protection of metals underground. N. T.
Shideler. *bibliog* *il* *diag* Pet Eng 30:D31-5
Mr '58

Report on thermoplastic coal tar base lin-
ings. Corrosion 14:35-7 J1 '58

South western tar distilleries ltd. *il* Chem &
Ind p804-5 Je 28 '58

Thin-film coatings finding greater use on
pipelines; coal tar-epoxy resin coatings.
N. T. Shideler and F. C. Whittier. Oil &
Gas J 56:135 My 12 '58

See also

Pitch

Analysis

Ultraviolet spectrophotometric determination
of total pyridines and quinolines in low
temperature coal-tar distillates. T. C. L.
Chang and C. Karr, Jr. *bibliog* Anal Chem
30:971-2 My '58

See also

COAL trade

Betting on retail pays off for Princess Coal
Sales. D. Jackson, Jr. *il* map Coal Age
63:70-5 Ja '58

Bituminous coal. L. C. Campbell. *il* Min
Cong J 44:54 F '58

Coal geology and the coal industry. G. H.
Cady. *Econ Geol* 53:511-20 Ag '58

Feat in '57 and goal for '58. *il* Coal Age
63:76-82 F '58

Joint fuels group meeting, 20th, Quebec, Oct.
10-11. Coal Age 62:126+ N '57

Look at coal. J. L. Lewis. Min Cong J 44:
55-7+ Je '58

Pennsylvania anthracite in 1957. F. W.
Earnest. *il* Min Cong J 44:123-4 F '58

Selling your company and your industry. Coal
Age 63:74-82+ Mr '58

See also

National coal association

Canada

Coal in western Canada and its uses. M. M.
Williams. *bibliog* map Can Min & Met Bul
51:468-75 Ag '58

COAL washing

New approach to coal cleaning efficiency; better comparison of washing units with revised evaluation of sharpness index. G. G. Sarkar. *bibliog Min Eng* 9:Trans 1361-5 D '57

Twin-deck suspension type coal washing table. F. S. Ambrose and D. H. Davis. *il diags Min Cong J* 43:41-4 N '57

COAL waste**Bibliography**

Review of the literature of 1957 on sewage, waste treatment, and water pollution; coal wastes. *Sewage & Ind Wastes* 30:724-5 Je '58

COAL weighing

Multi-bunker weight measurements. W. D. Hamilton. *il diags Instruments & Automation* 31:466-7 Mr '58

COALBROOKDALE. See Iron industry and trade—History**COALINGA, California****Water supply**

City orders saline water plant. *Eng N* 160:23 Je '58

First demineralization plant for a U.S. municipal supply. R. O. Phelps. *il Water Works Eng* 111:752 Ag '58

COAST

See also

Inlets**COAST changes**

Stability of coastal inlets. P. Bruun and F. Gerritsen. *il maps Am Soc C E Proc* 84 [WW 3 no 1644]:1-49 *bibliog*(p47-9) My '58; Discussion. R. E. Hickson. 84 [WW 4 no 1785]:11-16 S '58

COASTAL engineering. International conference on. See International conference on coastal engineering**COAT hangers. See Hangers, Coat, dress, etc.****COATED abrasives. See Abrasives****COATED paper. See Paper, Coated****COATES, Jesse**

Professor of chemical engineering at LSU receives the Louisiana engineering society's technological accomplishment medal. *pers Chem Engr* 65:180-1 My '58

COATINGS. See Finishing materials**COAXIAL cables. See Electric cables; Radio lines; Telephone cables—Coaxial cables****COBALT**

AIME metallurgical society. Institute of metals division annual meeting. Feb. 16-20; abstracts of papers. *J Metals* 10:103-4 F '58

Cobalt metal as a low-temperature heat reservoir. C. V. Heer and R. A. Erickson. *bibliog R Sci Instr* 29:440 My '58

Cobalt. 1957. H. W. Davis. *Eng & Min J* 159:153 F '58

Combination of manganous and cobaltous ions with imidazole. R. B. Martin and J. T. Edsall. *bibliog Am Chem Soc J* 80:5033-5 O '58

Effect of cation vacancies on the magnetic annealing of cobalt-substituted magnetite. L. R. Bickford, Jr. and others. *J Ap Phys* 29:441-2 Mr '58

Effect of cobalt on the relaxation frequency of nickel-zinc ferrite. F. J. Schnettler and F. R. Monforte. *J Ap Phys* 29:477-8 Mr '58

Origin of magnetic anisotropy in Co-Fe₃O₄. J. C. Slonczewski. *J Ap Phys* 29:448-9 Mr '58

Properties of materials; cobalt and its alloys. *Materials in Design Eng* 48:92 Mid-O '58

Raney cobalt hydrogenation catalysts; applications and promoter effects. E. V. Aller. *bibliog J Ap Chem* 8:492-5 Ag '58

Raney cobalt hydrogenation catalysts; the physical and chemical properties of the catalyst. B. V. Aller. *bibliog J Ap Chem* 8:163-7 Mr '58

Silver, cobalt, and positive-grid corrosion in the lead-acid battery. J. J. Lander. *bibliog Electrochem Soc J* 105:289-92 Je '58; Discussion. J. F. Schaefer and H. R. Karas. *il* 105:761 D '58

See also

Steel—Cobalt content**Analysis**

Cobalt determination in soils and rocks with 2-nitroso-1-naphthol. L. J. Clark. *bibliog Anal Chem* 30:1153-6 Je '58

Separation by paper chromatography and spectrophotometric determination of trace amounts of cobalt, nickel, copper, and zinc. W. J. Frierson and others. *bibliog il Anal Chem* 30:468-71 Ap '58

Isotopes

Cobalt therapy. *il diag Engineering* 185:360 Mr 21 '58

Cobalt therapy. *il Engineer* 204:798 N 29 '57

Is cobalt harmful in stainless steel? J. R. Lane. *Metal Prog* 72:86-7 D '57

Primary cobalt-60 radiolysis yields in heavy water. H. A. Mahlmann and J. W. Boyle. *bibliog Am Chem Soc J* 80:773-4 F 20 '58

Radioactive coke-level indicators increase delayed-coker capacity. P. G. Wright. *diags Oil & Gas J* 56:93-4 Ag 11 '58

Refining team uses radiation; abstract. F. T. Barr and others. *Oil & Gas J* 56:117 S 1 '58

Physiological effect

Early metabolic changes following cobalt exposure. H. E. Stokinger and W. D. Wagner. *bibliog A M A Archives Ind Health* 17:273-9 Ap '58

COBALT alloys

Cobalt alloys best for hydraulic equipment. *Materials in Design Eng* 47:160+ Je '58

High cobalt alloy ups product life. *il Iron Age* 180:156+ N 21 '57

Precipitation and magnetic annealing in a copper-cobalt alloy. J. J. Recker. *J Ap Phys* 29:313-18 S '58

Properties of materials; cobalt and its alloys. *Materials in Design Eng* 48:92 Mid-O '58

Study of precipitate particles in Cu-Co employing ferromagnetic resonance. D. S. Rodbell. *bibliog J Ap Phys* 29:311-12 Mr '58

Vacuum cast nickel alloy vs best cobalt alloy. J. J. Eisenhauer and J. Preston. *il Materials in Design Eng* 47:116-17 F '58

See also

Alnico**Iron alloys—Cobalt alloys****COBALT carbonyls**

Complex formed from cobalt hydrocarbonyl and butadiene. H. B. Jonassen and others. *bibliog Am Chem Soc J* 80:2586-7 My 20 '58

Kinetics of the reaction of dicobalt octacarbonyl with hexyne-1 and hexyne-2. M. R. Tirpak and others. *Am Chem Soc J* 80:4265-9 Ag 20 '58

Simple metal orbital treatment of the binding of the hydrogen atom in cobalt carbonyl hydride. F. A. Cotton. *bibliog Am Chem Soc J* 80:4425-6 Ag 20 '58

COBALT compounds

cis-trans isomerization of dichlorobis(ethylene-diamine)-cobalt(III) chloride and dichlorobis(propylenediamine)-cobalt(III) chloride in alcohols. R. C. Brasted and C. Hirayama. *bibliog Am Chem Soc J* 80:788-94 F 20 '58

Cis-trans isomerization of dihydroxo- and diaqua-bis-ethylenediamine-cobalt(III) ions. J. Y. Tong and P. E. Yankwich. *bibliog Am Chem Soc J* 80:2664-7 Je 5 '58

Inorganic complex compounds containing polydentate groups; reaction of complexes of cobalt(III) with quadridentate amines with hydroxide ions. H. B. Jonassen and G. T. Strickland. *bibliog Am Chem Soc J* 80:312-15 Ja 20 '58

Intermediate cobalt hydrocarbonyl-olefin complex in the oxo reaction. L. Kirch and M. Orchin. *bibliog Am Chem Soc J* 80:4428-9 Ag 20 '58

Ion-exchange and solvent-extraction studies on Co(II) and Zn(II) complexes of some organic acids. J. Schubert and others. *bibliog Am Chem Soc J* 80:4799-802 S 20 '58

Kinetics of the exchange reaction between carbon-14-labeled carbonate and carbonato-bis-(trimethylenediamine)-cobalt(III) complex in aqueous solution; effect of steric hindrance in a ligand substitution process. J. E. Boyle and G. M. Harris. *bibliog Am Chem Soc J* 80:782-6 F 20 '58

Manganese-54, uranium-233 and cobalt-60 complexes of some organic acids. N. C. Li and others. *bibliog Am Chem Soc J* 79:5864-70 N 20 '57

Peroxo-dicobalt(III) complexes. Intermediates in the catalytic decomposition of hydrogen peroxide. R. G. Yalman and M. B. Wurga. *bibliog Am Chem Soc J* 80:1011 F 20 '58

Photochemical decomposition of the halides of tris-(ethylenediamine)-cobalt(III) in the solid state. D. Klein and others. *bibliog Am Chem Soc J* 80:266-9 Ja 20 '58

Polarography of histidine complexes of cobalt(II) and cobalt(III). B. Jaselskis. *bibliog Am Chem Soc J* 80:1283-5 Mr 20 '58

Preparation and properties of hexammine-cobalt(II) borohydride, hexamminechromium(III) borohydride, and ammonium borohydride. R. W. Parry and others. *bibliog diag Am Chem Soc J* 80:1-3 Ja 5 '58

COBALT compounds—Continued

Redox behavior of cobalt chelates of nitrilotriacetic acid. K. L. Cheng. *bibliog Anal Chem* 30:1035-9 Je '58

Reduction of water to hydrogen by a complex cyanide of cobalt. N. K. King and M. E. Winfield. *bibliog Am Chem Soc J* 80:2060-5 My '58

Resolution of the quinquedentate cobalt(III) complexes with ethylenediaminetetraacetic acid. F. P. Dwyer and F. L. Garvin. *bibliog Am Chem Soc J* 80:4480-3 S '58

Spectrophotometric investigation in the near ultraviolet of the cobalt(II) monothiocyanato complex. P. Senise and M. Perrier. *bibliog Am Chem Soc J* 80:4194-6 Ag '58

See also

Vitamins—Vitamin B₁₂

COBALT ferrates

Magnetization processes in heat-treated single crystal cobalt ferrite. S. Foner and J. O. Artman. *bibliog diags J Ap Phys* 29:443-4 Mr '58

COBALT metallurgy

Calera Mining installs electro-winning setup. *Eng & Min J* 159:144+ Ja '58

Leach licks arsenic bugaboo in metal ore; Sill process of recovering cobalt. *il diags Chem Eng* 65:80-2 Ja 13 '58

Progress report on roasting copper-cobalt concentrates. L. F. Theys. *J Metals* 10:476 JI '58

Sulfate roasting copper-cobalt sulfide concentrates. L. F. Theys and L. V. Lee. *bibliog il J Metals* 10:134-6 F '58

COBALT oxides

Heat contents above 298.15°K. of oxides of cobalt and nickel. E. G. King and A. U. Christensen, Jr. *bibliog Am Chem Soc J* 80:1800-1 Ap '58

COBALT thiocyanates**Spectra**

Spectra of solutions of cobalt(II) thiocyanate complexes in 4-methyl-2-pentanone. C. H. Brubaker, Jr. and C. E. Johnson. *bibliog Am Chem Soc J* 80:5037-40 O '58

COBALTAMMINES

Dissociation constant of the cobalt(III) hexammine-sulfate ion pair from spectrophotometry. E. W. Davies and C. E. Monk. *bibliog Am Chem Soc J* 80:5032-3 O '58

X-ray powder diffraction data of several cobalt ammine azides. T. B. Joyner and others. *bibliog Anal Chem* 30:194-6 F '58

COCCOLITHOPHORIDS. See Flagellata

COCKCROFT-WALTON accelerators. See Accelerators (particles)

COCKPITS. See Airplanes—Cockpits

COCKROACHES

Residual effectiveness of certain insecticides in German cockroach control. J. M. Grayson and F. E. Jarvis. *il Soap & Chem Spec* 34:91-2+ Mr '58

COCOA, Florida**Water supply**

New water supply requires 30-mile pipe line. T. B. Jensen. *il map Pub Works* 89:82-3 F '58

COCOA butter

Cocoa butter-like fats from domestic oils. R. O. Feuge and others. *bibliog Am Oil Chem Soc J* 35:194-9 My '58

Some raw materials of the confectionery industry; abstract. E. H. Harbard. *Chem & Ind* p575; Discussion. 675-6 My 17 '58

CODEINE

Origin of the methyl groups in morphine, codeine and thebaine. A. R. Battersby and E. J. T. Harper. *bibliog Chem & Ind* p365 Mr 22 '58

COEFFICIENT of restitution. See Restitution, Coefficient of

COENZYMES

Coenzyme Q. D. E. Wolf and others. *Am Chem Soc J* 80:4752-3 S '58

Coenzyme Q, a new group of quinones. R. L. Lester and others. *bibliog Am Chem Soc J* 80:4751-2 S '58

Coenzyme Q debuts; new quinone compound is an electron carrier in the citric acid cycle. *Chem & Eng N* 36:48-50 S '58

Determination of rate constants for coenzyme mechanisms. R. A. Alberty. *bibliog Am Chem Soc J* 80:1777-82 Ap '58

Effect of ethionine feeding on liver and kidney coenzyme A content in the rat. A. S. Wennerker and L. Recant. *bibliog J Nutrition* 64:127-36 Ja '58

Rôle for coenzyme A in phosphorylations associated with electron transport. W. C. McMurray and H. A. Lardy. *bibliog Am Chem Soc J* 79:6568 D 20 '57

COFFEE

Chlorogenic acids in coffee; abstract. R. F. Smith. *Chem & Ind* p 215-16 F 22 '58

COFFEE, Soluble

Effective label redesign gives you multi-benefits; Nestlé Decaf. *il Food Eng* 30:84-5 F '58

Nutritional study of instant coffee powder. L. J. Teply. *bibliog Food Tech* 12:485-6 S '58

Manufacture

Kroger develops instant coffee process. *il Food Eng* 30:57-8 Ap '58

COFFEE handling

Airborne coffee beans; they fly across street from storage to roaster. E. Rasmussen. *il Plant Eng* 12:147 Ja '58

Coffee beans take to the air. *Comp Air Mag* 63:26 Mr '58

Most automated coffee plant; J. A. Folger & co. *il Plant Eng* 12:114-15+ F '58

COFFEE percolators, Electric

Steam jet jumps hot water through coffee grounds. *il diags Machine Design* 30:136 Mr '58

COFFEE trade

See also

New York coffee and sugar exchange

COFFERDAMS

Building a foundation through a foundation; lift span bridge. J. H. Thornley. *il diags Eng N* 161:40-2+ Ag 28 '58

Cellular cofferdams and docks; theory of design against failure by tilting, substantiated by model tests. E. M. Cummings. *bibliog il diags Am Soc C E Proc* 83 [WW 3 no 1366]: 1-4 S '57; Discussion. 84 [WW 2 no 1576]: 3-12 Mr '58; Reply. 84 [WW 4 no 1785]: 3-6 S '58

Cofferdam problems plague Harvey tunnel constructors. C. L. Sloan. *il diags Civil Eng* 27:870-3 D '57

Flood tops Kariba cofferdam. *il Eng N* 160:31 Mr '58

Horizontal piles brace cofferdam wall. *il diags Eng N* 160:55+ Ap 24 '58

Kariba cofferdam is in business. *il Eng N* 161:107 S 11 '58

Lock job moves fast with water borne equipment; Markland dam on the Ohio river. *il Eng N* 160:23-9, cover Ap 24 '58

St Lawrence River diversion by a rockfill cofferdam. J. V. Danys. *il maps diags Eng J* 41:77-84 S '58

See also

Bridges—Foundations and piers

COFFIN, Charles A., award

Duquesne Light receives Coffin honor. *il Elec World* 149:42 Je 16 '58

COFFINITE

X-ray studies of synthetic coffinite, thorite and uranophorites. L. H. Fuchs and E. Gebert. *bibliog Am Mineralogist* 43:243-8 Mr '58

COFFINS

Metal caskets. P. C. Bardin. *il Ind Finishing* 34:108-11 Ag '58

COILS, Electric. See Electric coils

COILS, Induction. See Induction coils

COILS, Pipe

Before specifying steam coil controls. W. G. Young. *diags Air Cond Heat & Ven* 55: 61-3 Ja '58

Economics of coils vs fan or blower units in combination freeze and hold freezers; abstract. B. C. McKenna. *Refrig Eng* 66: 61-2 Ja '58

Panel coils make rapid gains on assembled pipe coils. W. F. Schaphorst. *il Plant* 17: 50-1 Mr '58

Studs take off heat; welded to outside of a large cooling coil. *il Steel* 142:80 F 24 '58

Weld copper cooling coils for fast production. *il Iron Age* 180:135 D 12 '57

What's the best material to use for steam coils? answers. *diags Power* 102:136+ F '58

Why steam coils freeze. H. W. Alvea. *diags Heating-Piping* 30:104-7 Ap; 127-9 My '58; Discussion. 30:98+ S; 82-4 D '58

COINCIDENCE counting

Apparatus for measuring the energy spectra of mass-selected particles in coincidence with fission. *bibliog diags R Sci Instr* 29:61-4 Ja '58

Double γ -ray spectrometer for coincidence counting of positrons. J. W. Weale. *bibliog diags J Sci Instr* 35:297-9 Ag '58

Two-dimensional pulse-height analyzer. M. Birk and others. *bibliog diags R Sci Instr* 29:203-9 Mr '58

COINS

Coin thickness gauged; unique X-ray gauge. *Islec Eng* 77:768-9 Ag '58

COKE

Coke, gas, and coal chemicals; fiftieth anniversary feature. A. R. Powell and C. C. Russell, *Il Ind & Eng Chem* 50:sup46A-9A J1 '58

From coal to coke. R. Cheradame. *Metallurgia* 56:236+N '57

See also

Coal

Petroleum coke

Analysis

Automatic unit for determination of volatile matter in coal, coke, and char. R. P. Hensel and S. A. Jones, *diag Anal Chem* 30:402-4 Mr '58

Carbon-hydrogen analysis of coke on catalysts. S. G. Hindin and others, *diag Anal Chem* 29:1850-2 D '57

Testing

Carbon-pickup in the cupola. M. Perch and C. C. Russell, *bibliog Foundry* 55:70-5 D '57

COKE industry**Statistics**

Coke and by-products in 1956. I. E. Madsen. *Iron & Steel Eng* 34:124-9 O '57

COKE manufacture

Britain's most modern carbonization plant. J. Grindrod, *Il Gas Age* 121:16-19 Je 26 '58

Coking methods and products; symposium. *bibliog Il diags Ind & Eng Chem* 50:17-46 Ja '58

Coking properties of Scottish coking coals used at Clyde iron works; abstract. W. Bland, Jr., and V. Gledroyc, *Engineering* 185:179 P 7 '58

Controlled atmosphere calcining makes gilsonite coke. G. M. Fekula and C. H. Case, *flow diag Il Pet Eng* 30:C20+ Je '58

Iron-coke process. H. Barkling and C. Eymann, *Il diags J Metals* 10:24-6 Ap '58

Making the best of coking coals; Burslein process licence for Woodall-Duckham. *Metallurgia* 57:30 Ja '58

Treat flue dust to recover iron; ferro coke. J. Mitchell and A. C. Sedlachek, *Il Iron Age* 182:96-7 S 25 '58

By-products

Coke and by-products in 1956. I. E. Madsen. *Iron & Steel Eng* 34:124-9 O '57

Colliery plant for coke and chemicals. *Il Engineering* 185:509-10 Ap 18 '58

Manvers Main carbonisation and by-product plant. *Il Engineer* 205:545-7 Ap 11 '58

See also

Coke oven gas

COKE oven gas

NH₃ and the steel industry. *J Agri & Food Chem* 6:18 Ja '58

Removal of sulphur from coke oven gas. *Metallurgia* 57:278 Je '58

Storage

Underground gas storage at Beynes. *Il diags Engineer* 204:613-14 O 25 '57

Sulfur content

Combined desulphurizing and sulphuric acid plant; Appleby-Frodingham steel co. *Il Chem & Ind* p 1137-8 Ag 30 '58

Fluid bed desulfurizes fuel gas; Appleby-Frodingham steel co. *Il diag Chem Eng* 65:74 O 20 '58

Recovery of sulphur from coke-oven gas; new Appleby-Frodingham process. *Il Engineering* 186:223 Ag 15 '58

COKE ovens

See also

Coke oven gas

Safety measures

Coke oven safety device. *Metallurgia* 57:151 Mr '58

COKE plants**Equipment**

Carbon plant gives coal producer entree to integrated process complex. *Il Chem Eng* 65:54-6 Je 30 '58

Colliery plant for coke and chemicals. *Il Engineering* 185:509-10 Ap 18 '58

Waste

Biological treatment of carbonisation effluents. J. W. Abson and K. H. Todhunter, *bibliog Ind Chem* 34:303-8 Je '58

Chemical-type coke plant solves waste problems by cooperative efforts; Donner-Union coke corp. P. S. Savage, *Il Sewage & Ind Wastes* 29:1363-9 D '57

Elimination of a coke oven light-oil waste problem. E. E. Haney and R. J. Bendure. *Sewage & Ind Wastes* 30:1071-2 Ag '58

Bibliography

Review of the literature of 1957 on sewage, waste treatment, and water pollution; coke oven wastes. *Sewage & Ind Wastes* 30:725-7 Je '58

COKE plants. By-product

Manvers Main by-products plant. *Il Ind Chem* 34:225-9 My '58

Manvers Main carbonisation and by-product plant. *Il Engineer* 205:545-7 Ap 11 '58

Scrubber ends coker's naphthalene woes; U.S. steel corp. *diags Chem Eng* 65:68+N My 19 '58

See also

Coke manufacture—By-products

COKE research

From coal to coke. *Engineering* 184:584 N 8 '57

COLCHICINE

Experiments in the colchicine field; the stereochemistry of the tricyclic keto esters obtained from the cyclization of β -carbo-methoxy- β -(2-phenylcyclohexane)-propionic acid. C. D. Gutsche and others, *bibliog Am Chem Soc J* 80:3711-14 J1 20 '58

Oxycolchicine. G. L. Buchanan and J. K. Sutherland, *Chem & Ind* p418 Ap 5 '58

Structures of β - and γ -lumicolchicine; ring-D elaboration products. F. D. Gardner and others. *Am Chem Soc J* 79:6334-7 D 5 '57

COLD

See also

Freezing

Refrigeration and refrigerating machinery

Temperature—Physiological effect

Physiological effect

Body cooling and hand cooling; abstracts. J. P. Meehan and H. I. Jacobs, *Mech Eng* 79:1032-3 N '57; *Am Soc Naval Eng J* 70:335-6 My '58

Therapeutic use

Hypothermia. R. J. Hoek and B. G. Covino. *Il diags Sci Am* 198:104-6+N Mr '58

COLD (disease)

Antibiotics for the common cold; abstract. J. M. Ritchie, *Drug & Cosmetic Ind* 82:801 Je '58

Common cold; what is being done about it? Y. Kneeland, Jr., and M. N. Newquist, *Ind Med* 27:37-8 Ja '58

See also

Influenza

COLD cathode lamps. See Electric lamps,

Fluorescent—Cold cathode

COLD cathode tubes. See Vacuum tubes—Cold

cathode tubes

COLD power spinning. See Metal work**COLD storage**

Moisture condensation and cold stored military rations. E. K. Heaton and J. G. Woodroof, *bibliog Il diags Food Tech* 12:24-9 Ja '58

Precise temperature control preserves roses in bud form. *Refrig Eng* 65:71 N '57

Roses in bud form maintained perfectly up to seven days at constant 31 deg. *Il Air Cond Heat & Ven* 54:124 N '57

See also

Refrigeration and refrigerating machinery

COLD storage warehouses

Influence of insulation on moisture-condensation aspects of a steel-framed cold-storage warehouse structure. C. F. Kayan and R. G. Gates, *diags Refrig Eng* 66:39-44 Jn '58

Radical design departure characterizes cheese warehouse insulation. *Il Refrig Eng* 66:66+N Ag '58

Safety measures

Exhaust purifier puts freeze on fumes from cold-storage truck. *Il Safety Maint* 115:59-60 My '58

COLD treatment of aluminum. See Aluminum,

Cold treatment of

COLD treatment of metals. See Metals, Cold

treatment of

COLD treatment of rubber. See Rubber, Cold

treatment of

COLD treatment of steel. See Steel, Cold

treatment of

COLD welding. See Welding—Cold welding

COLD working of metals. See Metals, Cold working of; Steel, Cold working of

COLISEUMS. See Amphitheaters

COLLAGEN

Effect of various parameters on the rate of formation of fibers from collagen solutions. H. B. Bensusan and B. L. Hoyt, bibliog. Am Chem Soc J 80:719-24 F 5 '58

Fibrosis and collagen in rats' lungs produced by etched and unetched free silica dusts. F. M. Englebrecht and others, bibliog. J. F. M. A Archives Ind Health 17:287-94 Ap '58

Phase transitions in collagen and gelatin systems. P. J. Flory and R. R. Garrett, bibliog diag Am Chem Soc J 80:4836-45 S 20 '58

COLLECTING of accounts

There's a hole in your pocket: one way to save money is to get customers to enclose that stub when paying. C. F. Wahli. Am Gas Assn Mo 40:29-30 Jl-Ag '58

See also

Billing

COLLECTIVE bargaining

Outlook for the bargaining table; panel discussion. Chem & Eng N 36:40 Mr 3 '58

Should the engineering profession adopt collective bargaining techniques? points of view. E. L. Chandler; J. Amann. Product Eng 29:36-7 Ap 21 '58

Wage bargaining to be tougher in 1958. Am Mach 101:139 D 2 '57

What it takes to bargain with labor. H. R. Shepherd. Pet Refiner 37:282+ Mr '58

COLLEGE architecture

Amphitheaters; college arena, University of Illinois. il plan diags Arch Rec 123:210-11 My '58

Chemistry building, unit one University of California, Berkeley. il plans diags Arch Rec 124:172-3 S '58

Design award; Student center, University of California, Berkeley. il plan Prog Arch 39:120-1 Ja '58

Educational work of Edward D. Stone. il plans Arch Rec 123:177-91, 196 F '58

Floor and roof beams glamorize campus building; community center at Wayne state university. il plan diags Eng N 160:42-4 Je 12 '58

French architects design Pakistani university. il plan Arch Rec 124:34 Ag '58

Harvard builds eighth house. il plans Prog Arch 39:46 S '58

Inverted umbrella roof designed for Hunter college library; illustration with text. Civil Eng 28:147 F '58

School for grownups; conference center at the University of Georgia. il plan Arch Forum 108:100-5 Ja '58

Wright designs an elementary school teaching laboratory for Wichita university. il Arch Forum 109:9 Jl '58

Yamasaki's serene campus center; Detroit's Wayne university. il plans Arch Forum 109:78-83 Ag '58

See also

Dormitories

Mexico university

Princeton university

COLLEGE buildings

High activity in prospect for schools, colleges, hospitals. R. M. Cunningham, jr. Arch Rec 122:167-70 D '57

Music building for Florida southern college. il plan diag Arch Rec 123:172-3 My '58

Outside frame skeleton on all-welded building gives clean inner area, cuts cost; Crown Hall at the Technology center of Illinois institute of technology. R. Zeh. il diag Welding J 37:136-7 F '58

See also

College architecture

Dormitories

Engineering colleges

Housing projects, College

Costs

College building 1956-1970; survey yields preliminary cost and structural data with tabulations, by region and state. E. Mickel. Arch Rec 122:32+ N '57

Community college takes flexible bids; unit prices. il Eng N 160:86 Ap 3 '58

Electric equipment

New college campuses feature up-to-date power utilities. il Power Eng 62:77 My '58

20-year power to grow payoff; Penn State U ups 2.4 kv to 4.16 for distribution. il Power 102:100-2 F '58

Heating and ventilation

Forced warm air reheat system designed for student service building; Michigan state university. il plan diag Air Cond Heat & Ven 55:83-4 My '58

New college campuses feature up-to-date power utilities. il Power Eng 62:77 My '58

New college heating plant switches to BCR Coal-Pak units. S. A. Frye. il Power Eng 62:72-3 Ag '58

Revise steam lines, improve metering to keep abreast of heating needs; Harvard university. C. M. Holden and N. Goodwin, jr. il plan Heating-Piping 30:119-21 My '58

Way Wake Forest chose coal firing. J. O. LaPrade. il diag Power 102:84-5 S '58

Lighting

Control of daylighting, with reflecting jalousies. T. Carson. il diags Illum Eng 53:337-40 Je '58

Lighting is architecture; Memorial union building for University of New Hampshire. il plans Prog Arch 39:154-9 S '58

COLLEGE chapels. See Chapels

COLLEGE education

See also

Liberal education

COLLEGE education, Cost of
College costs go up. Chem & Eng N 35:87-8 N 4 '57

COLLEGE graduates

Gas industry goes to college campus for most recruits; AGA survey on recruiting, salaries. il Am Gas Assn Mo 40:12-14 S '58

Recruiting dips, but. Chem & Eng N 36:33-4 Mr 31 '58

See also

Engineering graduates

COLLEGE housing projects. See Housing projects, College

COLLEGE libraries

University of Louisville library planned for efficient control. il Arch Rec 123:374 My '58

COLLEGE professors and instructors

Academic opportunities. H. R. Snyder and R. Adams. Chem & Eng N 36:66-9 pt 2 Ja 27 '58

College teaching is deteriorating. Chem & Eng N 35:70+ D 16 '57

Faculty health appraisal, University of Michigan. C. J. Tupper and M. B. Beckett, bibliog Ind Med 27:328-32 Jl '58

Teaching horizons broadened by industry schools. il Chem Eng Prog 54:110+ S '58

See also

Engineering colleges—Professors and instructors

Salaries

Pay of college teachers; where the Russians are the capitalists; editorial. Product Eng 28:99-100 D 23 '57 [reprinted in other McGraw-Hill publications]

Salary hikes proposed; Purdue university. Chem & Eng N 36:80 Ag 25 '58

Russia

Pay of college teachers; where the Russians are the capitalists; editorial. Product Eng 28:99-100 D 23 '57 [reprinted in other McGraw-Hill publications]

COLLEGE students

Do college students benefit from high school laboratory courses? S. C. Brown. Am J Phys 26:334-7 My '58

Principles and practices of college recruiting. Refrig Eng 65:66-7+ N '57

See also

Chemistry students

COLLEGES and universities

Personal approach pays dividends; small colleges win students for chemistry. J. B. Culbertson. Chem & Eng N 35:91-2 N 11 '57

See also

Agricultural colleges

California university

College architecture

College graduates

Engineering colleges

Exeter university, England

Medical colleges

Scholarships and fellowships

Curriculum

Unified approach to physics at the university level. J. R. Shepanski and others, bibliog Am J Phys 26:179-82 Mr '58

COLLEGES and universities—Continued

Enrollment

College rolls bulge again. Chem & Eng N 36:74 Ja 20 '58

Entrance requirements

Are you sure you can go to college? Gen Elec R 61:42-3 Mr '58
Three steps to college admission. Gen Elec R 61:41-2 My '58

Finance

AEC cancels contracts, makes grants. Chem & Eng N 36:47-8 Ja 20 '58
Education costs to soar. Chem & Eng N 36:68 Ag 18 '58

Relations with business

Houston teachers learn the oil story. Oil & Gas J 56:66 Je 10 '58
Principles and practices of college recruiting. Refrig Eng 65:66-7+ N '57

Research

Academic institution's concern with future patterns of research. R. G. Folsom. Am Scientist 46:159-75 Je '58
AEC cancels contracts, makes grants. Chem & Eng N 36:47-8 Ja 20 '58
Education and research in American universities; some candid comments. J. C. Warner. Chem & Eng N 36:64-5 D 16 '57
Encouragement of science. W. Weaver. Il Sci Am 199:170-6+ S '58
Highlights of research in sanitary engineering; research by universities and experiment stations. Pub Works 88:78-92 D '57
Industrial research programs and academic research. H. Gershinowitz. Am Scientist 46:24-32 Mr '58
Our universities' research-associate positions in physics. J. H. McMillen. Phys Today 11:14-15 Ag '58
Research and higher education. R. G. Folsom. Il Mech Eng 80:34-7 JI '58
Support and direction of research at academic institutions. L. V. Berkner. Am Scientist 46:159-63 Je '58
Who owns the results of basic research underwritten at a university? points of view. Product Eng 29:32-3 Ja 13 '58

See also

Engineering colleges—Research

Canada

Universities of Canada. Il Chem & Ind p 1030-8 Ag 16 '58
See also
McGill university

Colombia

See also
Andes university

Germany

Building for research reactor at Munich technical university. diag Engineer 204:915 D 20 '57

Great Britain

Methods of teaching mechanical engineering subjects at British universities. A. F. Burstall. bibliog Inst Mech Eng Proc 171 no 12:463-8 '57

United States

College crowding still to come. Chem & Eng N 36:13-15 JI 28 '58

COLLETS

Crawford hydraulic chuck and expansible collets. Il diag Automobile Eng 48:136 Ap '58
Hand-operated collet chuck easily adapts to many uses. A. K. Das. diags Am Mach 102:130 S 23 '58
Wide working range collets. diags Engineer 205:553 Ap 11 '58

COLLIMATORS

New instrument for precise measurement of fine wire diameters. L. Walter. Il diags Wire & Wire Prod 33:543+ My '58
X-ray collimator for single-crystal goniometers. E. N. Masien. Il diag J Sci Instr 35:110-11 Mr '58

COLLIS, Edgar Leigh

Obituary. P. Drinker. pors A M A Archives Ind Health 17:257 Mr '58

COLLISION phenomena

Classification of collisions; elastic collisions on a macroscopic scale. G. Barnes and others. diags Am J Phys 36:122-7 F '58
Diffusion and elastic collision losses of the fast electrons in plasmas. G. Medicus. bibliog diags J Ap Phys 29:903-8 Je '58

Focusing in collision problems in solids; sputtering and radiation damage of solids. R. H. Slesbee. bibliog diag J Ap Phys 28:1246-50 N '57
Formation of negative ions in gases by secondary collision processes. E. E. Muschitz, Jr. bibliog diag J Ap Phys 28:1414-18 D '57
Mass spectrometer for the study of ion-molecule collision processes. G. T. Wells and C. E. Melton. bibliog diag R Sci Instr 28:1065-9 D '57
Study of collisions. G. Barnes. bibliog diags Am J Phys 26:5-12 Ja '58

COLLOIDS

Anomalous behavior of polymer solutions; viscosity behavior of rubber solutions at high dilutions. S. L. Kaur and S. Gundiah. bibliog J Colloid Sci 13:170-8 Ap '58
Basic factors in the formation and stability of nonsoap lubricating greases. G. J. Young and others. bibliog J Colloid Sci 13:858-82 Ag '58
Behavior of ammonium aurintricarboxylate as a colloidal electrolyte. A. K. Mukherji and A. K. Dey. bibliog J Colloid Sci 13:99-102 F '58
Colloids and surface behavior; annual review. A. L. Dreyer. Ind & Eng Chem 50:503-11 bibliog (p508-11) D 2 Mr '58
Electroviscous effect in sols of silver iodide. A. J. Rutgers and P. Nagels. J Colloid Sci 13:148-50 Ap '58
Erosive burning of a colloidal solid propellant. J. A. Vandenberg. bibliog diag Jet Propulsion 28:599-603 S '58
Experimental investigations on the light scattering of colloidal spheres. R. M. Tabibian and W. Heller. bibliog diag J Colloid Sci 13:3-23 F '58
Formation of silver halide sols in the presence of cationic detergents. E. Matijević and R. H. Ottewill. bibliog J Colloid Sci 13:242-56 Je '58
Preparation of colloidal gold. E. C. Stathis and A. Fabrikano. Chem & Ind p860-1 JI 5 '58
Relation between colloid pattern and permanent magnet precipitate during the magnetization reversal in Alnico V. K. J. Kronenberg and R. K. Tenzer. bibliog Il J Ap Phys 29:299-301 Mr '58
Structure of the double layer surrounding the particles of the sol of silver iodide. A. J. Rutgers and P. Nagels. bibliog Il J Colloid Sci 13:140-7 Ap '58
Structure of tungstate oxide in the colloidal state. S. N. Chatterjee. bibliog Il J Colloid Sci 13:61-6 F '58
Transgel condensates of unsaturated compounds; by reaction of massive doses of halides of S(Se, Te) with organic molecules containing two or more unsaturated components. L. Akobjanoff. bibliog Rubber Age 83:993-5 S '58

See also

Aerosols
Coacervation
Collagen
Dispersion
Electrophoresis
Films
Flocculation
Gelatin
Hesegang rings
Micelles
Particles
Silica gel
Surface active substances
Suspensions
Thixotropy

COLOGNE, Germany

Architecture

Cologne builds a new home for its opera to replace a wartime casualty. Il Arch Rec 123:18 Ap '58

COLOMBIA

Fortune beckons from Colombia. E. Adams. Il map Pot Eng 30:A26-32 F '58
See also subdivision Colombia under special subjects, e.g.

Electronics industry
Geology
Oil companies
Petroleum equipment industries
Petroleum industry and trade
Petroleum pipe lines
Radio communication

COLOR

Color accidents; portfolio of color photographs. W. Evans. Arch Forum 108:110-15 Ja '58

COLOR—Continued

Colour formation with *para* phenylene diamine inhibitors. G. E. Mapstone and A. Hay. Inst Pet J 44:257-8 Ag '58

Colors, odors for fertilizers. II J Agri & Food Chem 6:574-6 Ag '58

Development of color in fats stabilized with amino-hexose-reductones. P. M. Cooney and others. bibliog diag Am Oil Chem Soc J 35:167-71 Ap '58

Relationships among impurity contents, color centers and lattice constants in quartz. A. J. Cohen and G. G. Sumner. bibliog Am Mineralogist 43:58-68 Ja '58

See also

Colorimeters and colorimetry

Dichroism

Discoloration

Dyes and dyeing

Light, Colored

Phototropy

Piping—Identification

Pigments

Red

Water purification—Color removal

also subdivision Color under special subjects, e.g.

Concrete

Cotton

Enamel and enameling

Food

Glass

Lacquering and lacquering

Oils and fats

Paper

Television

Water

Wool

COLOR blindness**Testing**

Are your inspectors color blind? II Cer Ind 71:64-5 Ag '58

COLOR cards

Color cards that really sell. II Paint Oil & Chem R 121:12-16 S 18 '58

COLOR codes

Color-coding facilitates setup. II Tool Eng 41:112 S '58

Color coding; markings on electronic components and wiring. diags Electronic Ind 17:51+ Je '58

Color standards for panel tubing. Franklin Inst J 265:436 My '58

COLOR codes, Safety

Color-coded work shirts. II Safety Maint 116:18 J1 '58

Identification of piping systems; data sheet. Air Cond Heat & Ven 55:73-4 Ap '58

See also

Color in safety engineering

COLOR filters. See Light filters

COLOR in architecture

Building colour patterns. Engineering 185:256 F 21 '58

COLOR in industry

Color engineering gives plant big lift; Westchester county bottling co. A. V. Gemmill. II Food Eng 30:91-2 S '58

Functions. Color pays off. Miller brewing co. J. V. Ziemba. II Food Eng 30:41-2 Je '58

COLOR in newspapers

New hi-fidelity color process developed for newspaper use. S. S. Larmon. Inland Ptr 141:106 Ag '58

COLOR in plastics

Color coloring for injection molding. II diags Plastics Tech 4:447 My '58

Dry colouring high density polythene. II diag Brit Plastics 31:254 Je '58

Dry-coloring methods for injection molding of polyethylene. J. N. Scott and others. II diags Plastics Tech 4:552-5 Je '58

Miniature intensive mixer gives color dispersions. M. S. Sheffel and G. E. Berlyn. II diag Mod Plastics 35:140+ Je '58

COLOR in safety engineering

Color and highway safety; new fleet painting plans based on color perception. diags Safety Maint 115:23+ My '58

COLOR in the ceramic industry

Are your inspectors color blind? II Cer Ind 71:64-5 Ag '58

Repeat discolor of selected zircon bodies. W. J. Smothers and P. G. Herold. Am Cer Soc J 40:442 D 1 '57

See also

Enamel and enameling—Color

Glazes

COLOR in the textile industry

Applications of colour physics to textiles. J. C. Guthrie and P. H. Oliver. bibliog(33 ref) 2pls diags Soc Dyers & Col J 73:533-42 D '57

See also

Dyes and dyeing

COLOR matching

Application of the Davidson color matching method. F. Bryant. Textile Res J 28:811-12 S '58

Lighting factors to be considered in textile color matching. W. B. Reese. bibliog II diags Am Dyestuff Rep 47:49-56 Ja 27 '58

See also

Color measurement

COLOR measurement

Color measurements of foods. A. C. Little and others. bibliog Food Tech 12:403-9 Ag '58

Measurement and specification of color rendition properties of light sources. D. Nickerson. bibliog Illum Eng 53:77-86; Discussion. 87-9; Reply. 89-90 F '58

Measurement of light and color. D. B. Judd. bibliog Illum Eng 53:61-70; Discussion. 70-1 F '58

Procedures for conversion of color data from one system into another. P. Esau. bibliog Food Tech 12:167-8 Mr '58

Rapid graphical computation of small color differences. F. T. Simon and W. J. Goodwin. bibliog diags Am Dyestuff Rep 47:105-12 F 24 '58

See also

Color matching

Colorimeters and colorimetry

COLOR mixing

Observer differences in color-mixture functions studied by means of a pair of metameric grays. K. L. Kelly. bibliog J Res Nat Bur Stand 60:97-103 F '58

COLOR of food. See Food—Color

COLOR photography

Aerial photos in color; two views of their worth. D. R. Lueder; K. E. Hunter. Eng N 150:34-5 Ap 10 '58

Are you using the right color film? N. Rothschild. II Mod Phot 22:66-71 J1 '58

Choose the right filter for color. Mod Phot 22:61 Ag '58

Color in ultraminiature. J. D. Cooper. Mod Phot 22:38 Je '58

Color photography; a new technical language. II Product Eng 29:34-7 My 5 '58

Color photography knows no bounds! Polaroid color pictures in three minutes. L. E. Varden. diag Mod Phot 22:36+ Ag '58

Early morning, a new time for color. D. Farber. II Mod Phot 22:46-51 Ap '58

Full color process using only red and white light. L. E. Varden. Mod Phot 22:20+ F; 44+ Mr '58

Here's a new oil-finding tool; it's aerial color photography. II Oil & Gas J 56:122-4 Mr 17 '58

Ideal color film; Super Anscochrome, tungsten type. II Mod Phot 22:50-3 Mr '58

Life goes to a tri-color party; Simmon Omega tri-color computer. R. Seitzer. II Ind Phot 7:26+ Ag '58

Method for the evaluation of the spectral characteristics of color screens. K. Weiss. diags SMPTE J 67:605 S '58

Modern color. N. Rothschild. Published in monthly numbers of Modern photography

New color timer for motion-picture films; determination of the correct printing exposures. J. W. Stafford and H. L. Baumbach. II diag SMPTE J 67:81-3 F '58

Report on Ektacolor type L. A. Rothstein. Mod Phot 22:98 Je '58

Some considerations of Eastman color print film dye stability. F. Horowitz and W. R. Weller. II SMPTE J 67:401-4 Je '58

35 mm Kodacolor. II Mod Phot 22:42-5+ Ag '58

See also

Moving pictures. Colored

Television—Color

COLOR printing

Color printing; electronics applied to block-making. II diags Electronic & Radio Eng 35:26-8 Ja '58

Computer in darkroom simplifies color printing; Tricolor computer. II Machine Design 30:12+ Ap 17 '58

High-speed electronic color separator introduced. II Inland Ptr 141:75 J1 '58

Lithographic technical foundation survey indicates color is complicated business. F. M. French. II diags Inland Ptr 140:56-8 Mr; 141:58-9+ Ap '58

New I.T.F. color program reached full pace in '57. M. H. Bruno. Inland Ptr 140:56-7 Ja '58

Which is better no-offset mix; liquid or powder? J. A. West. II Inland Ptr 140:50+ Ja '58

See also

Color in newspapers

Color photography

Silk screen printing

COLOR sense

Color and the human eye. Paint Oil & Chem R 121:10-11 My '58

Observer differences in color-mixture functions studied by means of a pair of metameric grays. K. L. Kelly, bibliog J Res Nat Bur Stand 60:97-103 F '58

COLORADO

See also subdivision Colorado under special subjects, e.g.

Electric plants (central stations)

Gas, Natural

Geology

Hydroelectric plants

Mines and mineral resources

Oil shales

Petroleum

Petroleum industry and trade

Petroleum laws and regulations

Public health

Roads

Sulfur plants and mining

COLORADO river

Flaming Gorge goes for \$30 million; Upper Colorado River project. *il map Eng N* 160:26-7 Je 19 '58

Pebbles in the lower Colorado river, Texas; a study in particle morphogenesis. E. D. Sneed and R. B. Folk, bibliog *il map diags J Geol* 66:114-50, pl 1 Mr '58

Recreational development on the lower Colorado river. R. K. Coote, *il Am Water Works Assn J* 50:1201-10 S '58

COLORADO River aqueduct

Colorado River aqueduct system of southern California. R. B. Diemer, *map Am Water Works Assn J* 50:1121-6 S '58

Monitoring of stream water quality; Colorado River aqueduct system. L. Streicher, *Am Water Works Assn J* 50:1223-6 S '58

COLOR glass. See Glass, Colored

COLOR light. See Light, Colored

COLOR moving pictures. See Moving pictures, Colored

COLORIMETERS and colorimetry

Analyzer seen at show; Milton Roy exhibits low-cost colorimetric analyzer that has no moving parts. *Chem & Eng N* 36:82-3 S 22 '58

Analyzing and controlling products from color measurements. L. G. Glasser, *il diag Control Eng* 5:93-8 F '58

Color measurement with the stream colorimeter. J. C. Coss and N. L. Nemerow, *il diags Sewage & Ind Wastes* 30:304-11 Je '58

Colorimetry of baby foods. G. E. Livingston and others. *Food Tech* 12:273-5 Je '58

New equipment automatically analyzes water and controls treatment. G. Schneider, *il diag Power Eng* 62:76-71 Ja '58

Recording colorimeter for microchemical determinations. A. K. Solomon and D. C. Caton, *diags Anal Chem* 30:291-3 F '58

See also

Colorimetric analysis

COLORIMETRIC analysis
Analysis for industry colorimetric determination of silver. R. Goulden, bibliog(56 ref) *Ind Chem* 34:137-8, 200-2 Mr-Apr '58

Apparatus and technique for multiple tests by the confined-spot method of colorimetric analysis; application to field estimation of nickel and copper. J. H. McCarthy, Jr. and R. E. Stevens, bibliog *il diags Anal Chem* 30:535-8 Ap '58

Automatic analysis for silica and hardness. G. Schneider, *il diag Water & Sewage Works* 105:270-2 Jl '58

Cobalt determination in soils and rocks with 2-nitroso-1-naphthol. L. J. Clark, bibliog *Anal Chem* 30:1153-6 Je '58

Colorimetric determination of acetylcholinesterase activity. D. N. Kramer and R. M. Gamson, bibliog *Anal Chem* 30:251-4 F '58

Colorimetric determination of carboxylic acid derivatives as hydroxamic acids. V. Goldenberg and P. E. Spoerri, bibliog *Anal Chem* 30:1327-30 Ag '58

Colorimetric determination of cyanide; tris (1,10-phenanthroline)-iron(II) ion as a selective and sensitive reagent. A. A. Schlitt, *Anal Chem* 30:1409-11 Ag '58

Colorimetric determination of molybdenum in the presence of tungsten; modified mercaptoacetate method. D. A. Otterson and J. W. Grab, *Anal Chem* 30:282-3 Jl '58

Colorimetric determination of nitrates. J. M. Pappenhausen, bibliog *Anal Chem* 30:282-4 F '58

Colorimetric determination of organic nitro compounds used as vasodilators. F. J. Bandelin and E. Pankratz, bibliog *Anal Chem* 30:1435-7 Ag '58

Colorimetric determination of phosphorus in gasolines containing triethyl phosphate. F. F. Hoffman and others, *Anal Chem* 30:1334-6 Ag '58

Colorimetric determination of residual perchloroethylene in fumigated wheat. J. H. Brumbaugh and D. E. Stallard, bibliog J Agri & Food Chem 6:465-8 Je '58

Colorimetric determination of tetramethylphosphonium ion. J. Kolmerten and J. Epstein, *Anal Chem* 30:1536-7 S '58

Colorimetric estimation of D-glucose and 2-deoxy-D-glucose with glucose oxidase. R. B. McComb and W. D. Yushok, bibliog *Franklin Inst J* 265:417-22 My '58

Colorimetric estimation of malathion residues in animal products. M. V. Norris and others, J Agri & Food Chem 6:111-14 F '58

Colorimetric estimation of tertiary and quaternary amines. S. Sass and others, bibliog *Anal Chem* 30:559-61 Ap '58

Colorimetric method for determining dialdehyde content of periodate-oxidized starch. C. S. Wise and C. L. Mehlretter, *Anal Chem* 30:174-5 F '58

Determination of coumarin in the presence of sterols. R. C. Clopton, J Agri & Food Chem 6:457-9 Je '58

Determination of dihydroquercetin in Douglas fir and western larch wood. G. M. Barton and J. A. F. Gardner, bibliog *Anal Chem* 30:273-5 F '58

Determination of mononitrothiophene and dinitrothiophene in nitrobenzene. W. Leibmann and J. T. Woods, *Anal Chem* 29:1845-6 D '57

Determination of pyrrolic nitrogen in petroleum distillates. M. A. Muhs and F. T. Weiss, bibliog(33 ref) *Anal Chem* 30:259-66 F '58

Determination of trace amounts of selenium in sulfuric acid; colorimetric method using 3,3'-diaminobenzidine. T. Danzuka and K. Ueno, *Anal Chem* 30:1370-1 Ag '58

Determining serum protein-bound iodine. R. D. Strickland and C. M. Maloney, bibliog *Anal Chem* 29:1870-3 D '57

Extraction and colorimetric determination of chromium with 1,5-diphenylcarbohydrazide. J. A. Dean and M. L. Beverly, bibliog *Anal Chem* 30:977-9 My '58

Fluorometric and colorimetric estimation of cyanide and sulfide by demasking reactions of palladium chelates. J. S. Hanker and others, bibliog *Anal Chem* 30:93-5 Ja '58

Indigo-carmin method for the colorimetric determination of low concentrations of dissolved oxygen in water. G. P. Alcock and K. B. Coates, *diag Chem & Ind* p554-5 My 10 '58

Investigations on colorimetric methods of metallurgical analysis. G. V. L. Murty, bibliog *Metallurgia* 4:52-4 Jl '58

Microdetermination of the medicaments furazolidone and nitrofurazone. H. F. Beckman, J Agri & Food Chem 6:130-2 F '58

New reagent for the colorimetric determination of aluminum. H. Green, *Metallurgia* 57:157-8 Mr '58

Quantitative determination of peroxidase in sweet corn. J. L. Vetter and others, bibliog J Agri & Food Chem 6:39-41 Ja '58

Silicon determination in tool steels, high alloys. W. B. Sobers, *Foundry* 86:206 Ja '58

Simple colorimetric method for the determination of nitrates in forage crops. M. P. Morris and A. González-Más, bibliog J Agri & Food Chem 6:456-7 Je '58

See also

Indicators and test papers

COLORING matter in food

Detection of color-add dye in cold pressed orange oil. J. W. Kesterson and others, bibliog *il Am Perfumer & Aromatics* 72:29-31 Ag '58

Timely tips on using FD&C colors. S. Zuckerman, *Food Eng* 30:88-9 Ag '58

COLORS

Mixed red, white light makes all other colors. R. C. Toth, *illum Eng* 53:sup 18A Ja '58

See also

Gray

Green

Pigments

COLUMBIA, South Carolina

Water supply

Designing a water system for the future. G. B. Arthur, *il Pub Works* 89:87-94 Mr '58

COLUMBIA gas system, inc.

Columbia to expand through purchase of Gulf Interstate in stock deal. Oil & Gas J 56:70 My 26 '58

COLUMBIA river

Coexistence of fish and dams; salmonoid fishery. H. A. Preston and L. E. Rydell. map Am Soc C E Proc 83 [PO 5 no 1414]:1-21 O '57; Discussion, M. H. Benson. 84 [PO 2 no 1618]:7-8 Ap '58; Reply. 84 [PO 5 no 1830]:13-14 O '58

Columbia Basin streamflow routing by computer. D. M. Rockwood. diag Civil Eng 28:348-51 My '58

Columbia river controlled. L. H. Foote. Am Soc C E Proc 84 [WW 1 no 1514]:1-20 Ja '58; Discussion, R. F. Bessey. 84 [WW 3 no 1653]:11-16 My '58

Hydraulic design of Columbia River basin navigation locks. G. C. Richardson and M. J. Webster. il map plans diags Am Soc C E Proc 84 [WW 4 no 1773]:1-24 S '58

Navigation on the Columbia river. R. E. Holmes. il maps plans diags Am Soc C E Proc 84 [WW 4 no 1789]:1-37 S '58

Power utilization

Power is slipping through our fingers. R. L. Neuberger. il map Power Ind 74:14-15 F '58

Rockfall dams: The Dalles closure dam. R. J. Pope. il diags Am Soc C E Proc 84 [PO 4 no 1738]:1-17 Ag '58

Warns of northwest threat. J. E. Corette. Elec World 149:44 Je 16 '58

COLUMBIA university

Columbia speeds Ph.D.'s; new chemistry program. Chem & Eng N 36:944 F 17 '58

COLUMBIAN carbon company

Career opportunities. il diag Chem & Eng N 36:25 pt 2 Ja 27 '58

COLUMBIUM. See Niobium**COLUMBUS, Ohio****Sanitary affairs**

Making Columbus garbage free. H. R. Paterson. diag Pub Works 89:107-8 F '58

Water supply

Big Walnut plant. il plan Water & Sewage Works 105:87-91 Mr '58

COLUMNS

Bottomless column base give full continuity. il Eng N 161:100-4 S 11 '58

Creep deflections and stresses of beam-columns. T. H. Linn. bibliog diag J Ap Mech 26:75-8 Mr '58

Lateral bracing of columns and beams. G. Winter. bibliog il diags Am Soc C E Proc 84 [ST 2 no 1561]:1-22 Mr '58; Discussion. 84 [ST 3 no 1656]:89-90 Mr; [ST 5 no 1787]:25-40 O '58

Lateral load analysis of two-column bents. J. E. Goldberg. bibliog diags Am Soc C E Proc 84 [ST 3 no 1638]:1-17 My '58; Discussion. 84 [ST 7 no 1857]:43-62; [ST 8 no 1882]:13-16 D '58

Optimum design of round tubing. W. L. Poesch. J Aeronautical Sci 26:215-16 Mr '58

Reduction of maximum loads in nonlinear viscoelastic columns. H. H. Hilton. bibliog J Aeronautical Sci 25:399-400 Je '58

Tall heavy columns carry long spans; Crown Zellerbach headquarters. il diag Eng N 160:37-84 My 29 '58

COLUMNS (chemical apparatus). See Chemical apparatus

COLUMNS. Concrete

Adjustable forms for 149 bridge columns; Bridgeport Harbor bridge, Connecticut turnpike. J. L. Calderella. il diags Civil Eng 28:123-4 F '58

Compressive strength and ultrasonic pulse velocity relationships for concrete in columns. M. F. Kaplan. il Am Concrete Inst J 29:675-83 F '58; Discussion. 30:1259-62; Reply. 1262-3 pt 2 S '58

Design of long reinforced concrete columns. B. Broms and I. M. Viest. bibliog Am Soc C E Proc 84 [ST 4 no 1694]:1-28 J1 '58

Design of symmetrical reinforced concrete columns with small eccentricities in one or two directions. F. P. Wiesinger. diags Am Concrete Inst J 30:273-83 Ag '58

Illinois toll highway; piles double as columns on tollway structures. M. Van Buren. il diags Civil Eng 28:420-2 Je '58

Infrared speeds finishing of concrete columns. R. G. Scott. il Elec World 149:114 Je 9 '58

Lift-slab construction for college dorm features precast concrete columns; Arizona state college. W. E. Riley. il plans diags Civil Eng 28:193-5 Mr '58

Ultimate strength analysis of long hinged reinforced concrete columns. B. Broms and I. M. Viest. bibliog diags Am Soc C E Proc 84 [ST 1 no 1510]:1-38 Ja '58; Discussion. 84 [ST 2 no 1576]:59 Mr; [ST 4 no 1721]:11-19 J1; [ST 5 no 1787]:19-20 S '58

Ultimate strength analysis of long restrained reinforced concrete columns. B. Broms and I. M. Viest. bibliog diags Am Soc C E Proc 84 [ST 3 no 1635]:1-30 My '58

Ultimate strength design charts for columns controlled by tension. T. Au. Am Concrete Inst J 29:471-80 D '57; Discussion. 29:1213-14 Je '58

COLUMNS, Steel

Effect of initial eccentricities on column performance and capacity. J. M. Hayes. il diags Am Soc C E Proc 83 [ST 6 no 1440]:1-40 N '57

52 ton columns readied for skyscraper; Chase-Manhattan bank building. il Eng N 160:26 Mr 20 '58

Inelastic buckling in steel. G. Haaijer and B. Thürlimann. bibliog il diags Am Soc C E Proc 84 [EM 2 no 1581]:1-48 Ap '58

Solving the secant formula for structural steel columns. A. Gordon. Civil Eng 28:439-40 Je '58

COLUMNS, Wooden

Turning large wooden spiral columns. il Engineer 205:841-2 Je 6 '58

COMANCHEAN series. See Geology, Stratigraphic—Cretaceous

COMBINATION packages. See Package goods—Combination packages

COMBUSTION

Advisory group on aeronautical research and development to N.A.T.O. 3d combustion and propulsion colloquium meeting, Palermo, March 17-21; abstracts of papers. Aircraft Eng 30:233-5 Ag '58

Aerodynamic combustion ups afterburner performance. J. Bertin and E. Salmon. bibliog il diags Aviation Age 29:464-4 My '58

Combustion in the laminar boundary layer of chemically active sublimating surfaces. M. R. Denison and D. A. Dooley. diag J Aeronautical Sci 25:271-2 Ap '58

Combustion instability in solid propellant rocket motors. E. W. Price and J. W. Soifer. il diags Jet Propulsion 28:190-2 Mr '58

Combustion of coal. A. C. Monkhouse. bibliog il diags Chem & Ind 552-64 Ja 18 '58

Combustion of metals in oxygen. A. V. Grosse and J. B. Conway. bibliog (35 ref) il diag Ind & Eng Chem 50:663-72 Ap '58

Combustion rates in spherical reactors; effects of inlet temperature and fuel type. M. A. Weiss and others. Ind & Eng Chem 50:257-64 F '58

Conference on combustion of solid and pulverized fuels, Paris, 1957. Combustion 30:53-7 S '58

Erosive burning of a colloidal solid propellant. J. A. Vandenkerckhove. bibliog diag Jet Propulsion 28:599-603 S '58

Evaluation of combustion-control; load-control tie-in equipment at Niles station of Ohio Edison co. R. L. Travers and others. il diags Power Apparatus & Systems p417-25 Ag '58

Evidence for the wrinkled continuous laminar wave concept of turbulent burning. J. K. Richmond and others. bibliog il Jet Propulsion 28:393-9 Je '58

50 per cent recovery by fire drive; situ combustion. V. S. Swaminathan. il Oil & Gas J 56:129-9 Je 2 '58

Flow visualization techniques applied to combustion problems through transparent models, in which water takes the place of air. E. F. Winter. il diags Roy Aeronautical Soc J 62:268-76 Ap '58

Fluid dynamics during an underground combustion process; abstract. L. A. Wilson and others. J Pet Tech 10:60A J1 '58

Influence of pressure on the combustion of liquid spheres. G. A. Agoston and others. bibliog il diag Jet Propulsion 28:181-8 Mr '58

Laminar burning velocities of methane-oxygen-diluent gas mixtures. S. A. Weil and others. bibliog Ind & Eng Chem 50:1101-4 J1 '58

New waste disposal process; continuous method of combustion with air at high pressures which oxidizes organic matter dissolved or suspended in water. F. J. Zimmermann. flow diag il Chem Eng 65:117-20 Ag 25 '58

COMBUSTION—Continued

- Optimum variation of exhaust velocity during burning. R. H. Olds. *Jet Propulsion* 28: 405-6 *Je* '58
- Preliminary study of the application of steady-state detonative combustion to a reaction engine. R. Dunlap and others. *diags Jet Propulsion* 28:451-6 *Jl* '58
- Process variables of in situ combustion. W. L. Martin and others. *bibliog flow sheet J Pet Tech* 10: Trans 28-35 *F* '58
- Pyrolysis accounts for disappearance of burning hydrocarbons, ketones, and alcohols. S. R. Smith and A. S. Gordon. *Chem & Eng N* 36:44+ *Je* 2 '58
- Some effects of charge configuration in solid propellant combustion. L. Green, jr. *bibliog diags Jet Propulsion* 28:453-5 *Jl* '58
- Some effects of oxidizer concentration and particle size on resonance burning of composite solid propellants. L. Green, jr. *bibliog J Jet Propulsion* 28:169-64 *Mr* '58
- Some properties of a simplified model of solid propellant burning. L. Green, jr. *bibliog diags Jet Propulsion* 28:386-92 *Je* '58
- Surface combustion in dissociated air. S. M. Scala. *diags Jet Propulsion* 28:340-1 *My* '58
- Survey of available literature on the rapid combustion of metals in air: metal pyrotechnics; abstract. S. Hafner. *Metal Prog* 73:172+ *F* '58
- Terminology in rocket combustion instability. E. W. Price. *Jet Propulsion* 28:197 *Mr* '58
- Thermal recovery process: analysis of laboratory combustion data. A. L. Benham and F. H. Foettmann. *J Pet Tech* 10:23-5 *S* '58
- Tracer studies on the mechanism of combustion of carbon, sulfur and mercuric sulfide. J. H. Wang and E. B. Fleischer. *Am Chem Soc J* 80:3874-5 *Ag* 5 '58
- See also*
 Boilers—Firing
 Detonation
 Flames
 Fuel
 Gas burners
 Ignition
 Inflammable mixtures
 Oxidation
- COMBUSTION, Heat of**
 Estimating combustion heats of aviation gasoline. Oil & Gas *J* 56:118 *Ap* 28 '58
- Heats of combustion and formation of two manganese nitrides, Mn_3N_2 and Mn_2N . A. D. Mah. *Am Chem Soc J* 80:2954-5 *Je* 20 '58
- COMBUSTION analysis**
 Combustion microanalysis of volatile liquids. J. M. Corliss. *diags Anal. Chem* 29:1902 *D* '57
- Microdetermination of carbon and hydrogen by a rapid combustion procedure. G. I. Robertson and others. *bibliog J Anal. Chem* 30:132-5 *Ja* '58
- Microdetermination of carbon and hydrogen in pyrolytic and hygroscopic organic compounds. W. P. Pickhardt and others. *bibliog J Anal. Chem* 30:1298-301 *Jl* '58
- Microdetermination of sulfur and halogens by rapid automatic combustion. E. J. Asazzi and others. *diags Anal. Chem* 30:1566-8 *S* '58
- New silver-containing catalysts for elemental combustion analysis. J. Horáček and J. Kórb. *Chem & Ind p* 101-2 *Ja* 25 '58
- Rapid and precise carbon-hydrogen determination: automatic macrocombustion apparatus. T. T. White and others. *bibliog J diags Anal. Chem* 30:409-14 *Mr* '58
- Wet combustion of organic materials. L. C. Flinn and R. H. Farmer. *bibliog Chem & Ind p* 19-20 *Jl* 19 '58
- COMBUSTION research**
 Analogue for high-intensity steady-flow combustion phenomena. D. B. Spalding. *bibliog diags Inst Mech Eng Proc* 171 no 10:383-96; Discussion. *il* 396-407; Reply. 408-11 '57
- Burning rate studies; correlation of experimental results with the thermal model. D. L. Hildenbrand and W. F. Reid. *Jet Propulsion* 28:194-6 *Mr* '58
- Calculation of theoretical flame temperatures in furnaces. J. W. Myers and others. *bibliog A S M E Trans* 80:202-16 *Ja* '58
- Diesel combustion chamber deposit formation. P. D. Hobson. *bibliog J diags Ind & Eng Chem* 50:337-40 *Mr* '58
- Flame drop; how fire burns without gravity. *il Gen Elec R* 61:42 *Jl* '58
- Hydrocarbon synthesis in combustion. B. D. Tebbens and others. *bibliog J diags A M A Archives Ind Health* 18:567-73; 17:162-60 *Je* '56, *F* '58

- Theory of spray combustion. C. C. Miesse. *bibliog diags Ind & Eng Chem* 50:1803-4 *S* '58
- See also*
 Internal combustion engines—Combustion research
- COMETS**
 Tails of comets. L. F. Biermann and R. Lüst. *il diags Sci Am* 199:44-50 *O* '58
- Spectra**
 Radio emission from Comet 1956 h on 600 mc. R. Coutrez and others. *bibliog diags Inst Radio Eng Proc* 46:274-9 *Ja* '58
- COMMERCIAL**
See also
 Export trade
- COMMERCIAL buildings**
 Commerce; design award and citations. *il map plans diags Pros Arch* 39:96-101 *Ja* '58
- Commercial buildings. c. 1850-1870. Boston. A. L. Huxtable. *il Prog Arch* 39:105-6 *Ag* '58
- COMMERCIAL chemical development association**
 Annual meeting. 14th. New York, March 27; with abstracts of papers on synthetic rubber. *Rubber Age* 83:318-24 *My* '58; *Rubber World* 138:266-74 *My* '58
- COMMERCIAL correspondence**
 How to be a man of letters. *Pet Refiner* 73:202-2 *Ag* '58
- COMMERCIAL law**
See also
 Patent laws and regulations
- COMMERCIAL photography.** *See* Photography, Commercial
- COMMERCIAL policy**
 East-West trade barriers relax. *Am Mach* 102:88 *Ag* 11 '58
- COMMERCIAL treaties and agreements**
 Government wire production information; proposals on renewal of the Trade agreements act. *Wire & Wire Prod* 33:187-9 *F* '58
- COMMUNITOR.** *See* Sewage disposal plants—Equipment
- COMMITTEES (in management)**
 Operations research through committee action; abstract. D. Lichty. *Pet Eng* 30:E37 *Je* '58; *Tappi* 41:sup 127A-8A *F* '58
- See also*
 Safety committees
- COMMON market.** *See* European economic community
- COMMUNICABLE diseases.** *See* Infectious diseases
- COMMUNICATION**
 Man-machine communications to be new center studies. *Machine Design* 30:41-2 *My* 29 '58
- Selling a technical program. C. L. Black and others. *Chem Eng Prog* 54:148+ *F*; 138+ *Mr* '58
- Training device shows poor communications are the rule. *il diags Machine Design* 30: 27-3 *Je* 26 '58
- COMMUNICATION, Electric.** *See* Electric communication
- COMMUNICATION, International**
See also
 International telecommunication union
- COMMUNICATION, Military**
 Air force automatic message system will glide globe. *Machine Design* 30:41-2 *Mr* 6 '58
- Electronic message-switching speeds air force communications. *il Product Eng* 28:23 *D* 30 '57
- Heat of North American air defense: Combat operations center. *il Radio-Electronics* 29:50, cover *Mr* '58
- Link-length minimization in networks. W. Miehl. *bibliog J diags Op Res* 6:232-43 *Mr* '58
- See also*
 Military telephone
- Radio communication, Military**
- COMMUNICATION, Theory of**
 Bits of information. A. S. Zamanakos. *bibliog Com & Electronics p* 197-201 *My* '58
- Character reading is a signal/noise problem. C. D. G. Bailey. *il diags Control Eng* 5:137+ *My* '58
- Data communications feel the impact of information theory. A. F. Culbertson. *bibliog diags Electronic Ind* 17:supO 2-3+ *Ag* '58
- Design of multivariable optimum filters. J. H. Westcott. *diags A S M E Trans* 80:463-7 *F* '58
- Entering the machine domain; human-to-machine information transfer problem. S. L. Seaton. *bibliog diags Elec Eng* 77:289-92 *Ap* '58

COMMUNICATION, Theory of—Continued

- Estimates of entropy of a message source. C. N. Campopiano. *Inst Radio Eng Proc* 46:1652 S '58
- Experimental study of a binary code. W. W. Peterson. *bibliog Com & Electronics* p388-92 J '58
- Gray codes and paths on the n -cube. E. N. Gilbert. *Bell System Tech J* 37:815-26 My '58
- Measurement of power spectra from the point of view of communications engineering. R. B. Blackman and J. W. Tukey. *diags Bell System Tech J* 37:185-282 bibliog (52 titles. p281-2). 485-569 Ja-Mr '58
- Non-binary error correction codes. W. Ulrich. *bibliog diags Bell System Tech J* 36:1341-83 N '57
- Semantic constraints in the analysis of communication systems. A. Hauptschein and L. S. Schwartz. *Inst Radio Eng Proc* 45:1284-5 S '57
- Some graphical approaches to coding problems. J. Dutka. *diags RCA R* 13:466-74 D '57
- What's behind Sputnik? Soviet advances in information theory. *Electronics Bsns Ed* 30:27 N 10 '57
- Zeros of Gaussian noise. G. M. White. *bibliog diags J Ap Phys* 29:722-9 Ap '58

Terminology

- IRE standards on information theory; definitions of terms, 1958. *Inst Radio Eng Proc* 46:1646-8 S '58 (reprints 50c)

COMMUNICATION and traffic

- See also
Radio communication
Telephone
- COMMUNICATION in industry.** See Communication in management

COMMUNICATION in management

- Authoritarian barriers to communication. Z. M. T. Tarkowski. *bibliog diag Engineering* 185:721-2 Je 6 '58
- Communication, key to company survival; how Chevrolet, Cummins Engine, Thompson Products, Dana, Clark Equipment, and International Harvester organize for co-ordination of engineering and manufacturing. J. Geschelin. *S A E J* 66:82-6 Ag '58
- Communications, a job for top management. R. A. Harper. *Min Cong J* 44:61-5 Ap '58
- Communications can be improved and here's how. H. E. Turner. *Pet Refiner* 37:239-42 Je '58
- Coordination between engineering and manufacturing. J. Geschelin. *Automotive Ind* 118:65-4 My 15 '58
- Criticism and plain speaking. Z. M. T. Tarkowski. *bibliog diags Engineering* 185:177 F '58

- Do you use word magic? J. E. Bedford. *Pet Refiner* 37:193-4+ Ag '58
- How can you communicate with workers? I. C. Miller. *Food Eng* 29:61-2 D '57
- How to communicate. J. O. Dibbs; R. F. Philip. *diags Product Eng* 28:64-6 D 23 '57
- Informed employees can aid in federal power fight; abstract. C. E. Oakes. *Elec World* 149:98-9 Je 23 '58
- Listening, the missing link in communication. C. J. Dover. *Gen Elec R* 61:7-10+ My '58
- Personal side of engineering; improving communications. C. Nevils. *Machine Design* 30:136 Ap 17 '58
- Secrets may be a stumbling block. *Pet Eng* 30:E8-9 My '58
- What Joanna did to improve management-employee communications. *Textile Ind* 122:126-7 Mr '58

- See also
Bulletin boards
- COMMUNICATIONS and electronics association.** Armed forces. See Armed forces communications and electronics association

COMMUNISM and democracy

- Management and the world struggle. F. R. Barnett. *Mech Eng* 80:50-1 Ag '58

- COMMUNITY antenna television.** See Television antennas—Multiple outlet system

COMMUNITY centers

- Community hall. Niederurnen, Switzerland. *plan diag Arch* 38:116-19 J '58
- Floor and roof beams glamorize campus building; community center at Wayne state university. *plan diag Eng N* 160:42-4 Je 12 '58
- Milwaukee's living memorial; War memorial building. *plan diag Arch Forum* 107:90-5 D '57
- Winners named in community center competition. J. C. Smith. *plan Arch Rec* 123:36 My '58

See also

- Recreation centers

COMMUTATORS

- Analysis of d-c machine commutation; abstract. J. R. M. Alger and D. T. Bewley. *Elec Eng* 76:1052 D '57
- Catching commutation criminals. J. W. Dobson and D. R. Dobson. *il Elec Constr & Maint* 57:92-5 F '58
- Commutating switches critical for high performance telemetry. G. P. Bentley and S. Ackerman. *il diags Aviation Age* 29:70-2+ Ap '58
- Communication clinic. G. H. Gunnoe. *rl Plant* 17:69 Ja; 55 F; 66 Mr; 55 Ap; 55-6 My '58
- Commutation switch developments. G. P. Bentley and S. Ackerman. *il diags Instruments & Automation* 31:1368-70 Ag '58
- Commutator plating with rhodium reduces wear and static. *Power Eng* 62:84 O '58
- Cut costs of grinding large commutators; using a lathe and portable rotor-turner. F. B. Nye. *il Elec World* 149:85 My 19 '58
- Develop high accuracy electronic commutator. *Product Eng* 29:28 Ag 11 '58
- Digital automation; high-speed commutator. R. K. Bunce. *il diags Instruments & Automation* 30:2064-5 N '57
- Finished commutators plated for longer wear. *il Elec Manuf* 61:152+ Ap '58
- How can you reduce commutator threading and grooving? questions and answers. G. H. Gunnoe. *rl Power Eng* 62:106+ Ap '58
- Improve your commutation with split brushes. R. L. Tauscher. *il Mill & Factory* 62:119 Mr '58
- Location and causes of motor failure; commutation problems of the paper mill. D. E. Bivins. *rl Tappi* 41:sup 163A-6A F '58
- New commutator alloy takes the heat; zirconium-copper alloy. W. Hodge. *Iron Age* 182:102-3 J 10 '58
- Solves motor problem; rhodium plating commutator segments. *il Steel* 142:100 Mr 3 '58

See also

- Brushes (electric machinery)
Electric motors

Manufacture

- Small commutators plunge-ground on new lathe. *il Elec Manuf* 62:116 J 1 '58
- COMPACTS (metallurgy).** See Metal powders
- COMPANY presidents.** See Corporations—Presidents
- COMPANY towns**
- Planning of recent new towns in Canada. S. D. Lash. *bibliog maps plans Eng J* 41:43-53+ Mr '58
- Unamerican cities; abstract. E. R. Purves. *Arch Forum* 108:156 Mr '58

See also

- Mining towns

COMPARATORS

- Analog comparator for production testing of potentiometer-type pressure-sensing instruments. C. N. Boode and C. E. Calahan. *il diags Electronics* 31:47-9 Mr 28 '58
- D.c. and square wave a.c. resistance and voltage comparator. T. M. Dauphinee and H. Preston-Thomas. *bibliog il diags J Sci Instr* 35:21-3 Ja '58
- Experiments using a simple thermal comparator for measurement of thermal conductivity, surface roughness and thickness of foils or of surface deposits. R. W. Powell. *bibliog diags J Sci Instr* 34:485-92 D '57
- Jones & Lamson optical section comparators. *il Mach* 64:166 Ag '58
- Mechanical thread comparators; how they monitor output of close-tolerance fasteners. J. L. Harris. *il Mach* 64:137-9 F '58
- New magnetic core loss comparator. R. E. Tompkins and others. *diag J Ap Phys* 29:502-3 Mr '58
- COMPASS**
- Automatic dip-component computer for use with Brunton compass. R. L. Threet. *diags Am Assn Pet Geologists Bul* 41:2752-3 D '57
- Electronic compass to guide you home; combining transistor superhet radio and marching compass. J. E. Pugh, jr. *il diag Radio-Electronics* 29:28-31 Je '58
- For boat or car; major components of compass are molded of butyrate and acrylic. *il Mod Plastics* 35:117 D '57
- Hall-effect compass. I. M. Ross and others. *il diags J Sci Instr* 34:479-84 D '57
- Improved sun compass. *Franklin Inst J* 265:336 Ap '58
- Ultraprecise compass for DC-8 ocean and polar flights. *il Elec Eng* 77:368 Ap '58

COMPENSATORS

Heise Burdon new compensator aids pressure measurements. *Ind Lab* 9:21 Mr '58
 Thermal compensator for Bourdon gauges. O. W. Heise. *il diag Instruments & Automation* 31:473 Mr '58

COMPETITION

Effects of competition on companies and men. J. L. Gillis. *Chem & Eng N* 36:2-3 pt 2 Ja 27 '58
 Has foreign competition affected the design of your products? points of view. *Product Eng* 29:32-3 JI 28 '58

COMPOSING rooms. See **Printing offices**—Composing rooms

COMPOSITION (photography)

Find verticals. See **Verticals**, shoot verticals. D. Jackson. *il Mod Phot* 22:66-8 Ja '58
 Get the most from your 2½; using the square. *il Mod Phot* 22:58-9 My '58

COMPOSTS. See **Refuse** as fertilizer

COMPOUNDS, Aromatic. See **Aromatic compounds**

COMPRESSED air

Air and gas drilling. M. M. Brantly. *Oil & Gas J* 55:93-4 N 25 '57
 Air drill rig cuts oil well drilling time. *il Diesel Power* 36:36 Ap '58
 Air placed concrete trims curb repair costs. M. E. Rader. *il Pub Works* 89:136-7 My '58
 Air-source heat pumps prove practical and economical. J. R. Harnish and R. C. Niess. *bibliog il diag Power Eng* 62:72-4 Je; 58-60 JI '58

Air springs; panel discussion. *Rubber World* 158:111 Ap '58

Air starting motors reduce electrical maintenance. *il Comp Air Mag* 63:34-5 Ja '58

Air-stream pulverizers. *diag Comp Air Mag* 63:22 Mr '58

Air systems in connection with the utilization of heat in paper mills. C. E. Blanchard. *il diag Tappi* 41:sup 137A-3A Ag '58
 Another use for oil-free air; aeration of milk in truck tanks. *il Comp Air Mag* 63:30-1 F '58

Blend dry, pulverized materials accurately; aeration system developed by Fuller co. *Iron Age* 180:162+ N 21 '57

Compressed air applications in sewage and water works. J. L. Hylton. *il diag Water & Sewage Works* 104:514-18 N '57

Compressed air turns copter rotor. *il Product Eng* 29:38 Ja '58

Fresh air for shipboard repairs. *il Safety Maint* 115:40-1 Ap '58

Growing use for oil-free air; milk displacement. *il Comp Air Mag* 63:26-7 Ja '58

Here are fundamentals of conditioning compressed air. F. D. Ross. *il diag Heating-Piping* 30:99-102 JI '58

How to convert free air volumes to compressed air equivalents; nomograph; data sheet. J. F. Waters. *Heating-Piping* 30:131-2 Ap '58

How to send energy by compressed air. B. G. A. Skrotzki. *il diag Power* 101:112-15+ D '57

Increase compressed air efficiency through mechanical refrigeration. F. D. Ross. *diag Heating-Piping* 30:122-4 Ag '58

Making the best use of compressed air; abstracts of papers. *Engineering* 185:671-2 My 23 '58

Packaging air starts turbines. *il diag Product Eng* 29:70 JI 21 '58

Specialist in air devices; C. A. Norgren co. C. H. Vivian. *il diag Comp Air Mag* 62:335-8 N '57

Testing jet engine components; air supply aids research; Aircraft gas turbine div. of General electric co. R. W. Sabora. *il diag Comp Air Mag* 62:339-41 N '57

See also

Electric plants (central stations)—Compressed air distribution
 Pneumatic conveyors
 Pneumatic machinery
 Spraying apparatus

Moisture content

Dry air, for better tool performance; General electric co. J. Vonderheide. *il Plant Eng* 12:100-1 JI '58

How to keep water out of air lines. A. N. Gustafson. *il diag Rock Prod* 61:133-4 F '58

Refrigerated aftercoolers, one way to kill compressed air moisture. D. H. McCuaig and R. B. Schumacher. *il Plant Eng* 12:109-10 Ap '58

Use these suggestions for dry compressed air. A. N. Gustafson. *il diag Eng & Min J* 158:96-7 D '57

Why you need and how to have clean dry compressed air. A. N. Gustafson. *il diag Ind Finishing* 34:66+ Ap '58; Same cond. *Textile World* 108:170+ Je '58

Physiological effect

Acute decompression illness. S. I. Koopstein and B. J. Schuman. *bibliog Ind Med* 26:492-6 N '57

Medical aspects of recent trends in diving. G. J. Duffner. *A M A Archives Ind Health* 18:208-13 S '58

COMPRESSED air lines

How can we keep moisture, oil out of our compressed-air lines? answers. *il diag Power* 101:158-9 D '57

How to keep water out of air lines. A. N. Gustafson. *il diag Rock Prod* 61:133-4 F '58

Mechanism of explosions in starting air lines; fire resistant lubricants for internal combustion engines. R. S. Ridgway. *diag Pet Refiner* 37:171-4 Je '58

Snubbers solve air line pulsation problem. *il Diesel Power* 36:26 F '58

Use these suggestions for dry compressed air. A. N. Gustafson. *il diag Eng & Min J* 158:96-7 D '57

Tables, calculations, etc.

How to find pressure drop, select best pipe size for compressed air piping; data sheet. J. F. Waters. *Heating-Piping* 30:106-6 F '58

COMPRESSED gases. See **Gases**, **Compressed**

COMPRESSED water. See **Water**, **Compressed**

COMPRESSED wood. See **Wood**, **Compressed**

COMPRESSIBILITY

Compressibility factors at low pressures. H. W. Pfennig and J. J. McKetta. *bibliog Pet Refiner* 36:309-12 N '57

Compressibility of sandstones at low to moderate pressures. I. Fatt. *bibliog diag Am Assn Pet Geologists Bul* 42:1924-57 Ag '58

Compressibility rule for drag of airfoil noses. R. T. Jones and M. D. Van Dyke. *bibliog diag J Aeronautical Sci* 25:171-2+ Mr '58

Effective compressibility of reservoir rock and its effects on permeability. A. S. McLatchie and others. *bibliog diag J Pet Tech* 10:49-51 Je '58

Generalized Z chart for low pressures. H. W. Pfennig and J. J. McKetta. *Pet Refiner* 36:153-4 D '57

Pore volume compressibilities of sandstone reservoir rocks. I. Fatt. *bibliog diag J Pet Tech* 10:64-6 Mr '58

Subsonic compressibility correction for propellers and rotors. S. Pivko. *J Aeronautical Sci* 25:395-7 Je '58

Watch out for compression loads. L. A. Yerkovich. *il diag Product Eng* 28:72-5 D 9 '57

See also

Elasticity

COMPRESSION

Applied hydrocarbon thermodynamics; polytropic compression and expansion. W. C. Echmister. *bibliog Pet Refiner* 37:113-22 Ag '58

Incremental compression test for cement research. A. Hrennikoff. *il diag Am Soc C E Proc* 84 [EM 2 no 1604]:1-13 Ap '58; Correction. 84 [EM 3 no 1724]:3-7 J '58; Discussion. K. Jones. 84 [EM 4 no 1891]:13-14 O '58

Stress-strain relation of pure-gum rubber vulcanizates in compression and tension. L. A. Wood. *bibliog J Res Nat Bur Stand* 60:193-9 Mr '58

COMPRESSOR stations. See **Gas**, **Natural**—**Pipe lines**—**Compressor stations**

COMPRESSORS

Compressor crankcase heaters reduce oil foaming. B. T. Neubauer. *il Refrig Eng* 66:52-3 Je '58

Diesels fuel missiles. *il Diesel Power* 36:28-9 Ja '58

Fabricating titanium cases for jet engine compressors. *il Automotive Ind* 119:52-4 Ag 1 '58

General Motors refrigerator compressors. *il diag Engineering* 184:829 D 27 '57

Hermetic compressor motor speed indicator. W. W. Sutherland. *il diag Refrig Eng* 66:45-3 Ja '58

Inventory of new equipment and accessories; pumps, blowers and compressors. *il Chem Eng* 64:449-50+ Mid-N '57

COMPRESSORS—Continued

- Large, hermetic reciprocating compressors. H. R. Goddell and K. M. Gertels. *diags* *Refriger Eng* 66:44-8+ My '58
- New rotary compressor is positive displacement unit. *Eng N* 160:145 Je 19 '58
- Operation of compressors. *diag Oil & Gas J* 56:175 Ap 7; 131 Ap 14; 119 Ap 28; 143 My 12; 122 Je 9; 99 Ji 21; 105 Ag 4 '58
- Skewed boundary-layer flow near the end walls of a compressor cascade. R. W. Moore, Jr. and D. L. Richardson. *bibliog diags* *A S M E Trans* 79:1789-97; Discussion. 1797-800 N '57
- Spot refrigeration troubles fast. *diags Power* 102:120-2 Ja '58
- Spring compressor removes poppet valve. W. F. Fry and W. D. Winedrenner. *il Elec World* 149:70 Ap 14 '58
- What to consider when selecting a centrifugal refrigeration compressor. H. Griese, Jr. *il Heating-Piping* 30:192-5 Ja '58
- What you should know to design a compressor foundation. W. F. Swiger. *bibliog diags* *Pet Eng* 30:D23-7 Ag '58
- Why does refrigeration compressor run continuously without reducing chilled-water temperature? answers. *diags Power* 102:146-7 Mr '58

See also

Air compressors
Gas compressors

Control

Snubbers minimize pulsation on two 1100 hp compressor units. *il Plant* 17:46 Je '58

Vibration

Airliner's vibration problem solved; wire inserts make vibration-free connections in aluminum compressor castings for refrigeration systems. *il Mod Metals* 14:46+ Je '58

Self-excited vibration of axial-flow compressor blades. A. D. S. Carter and D. A. Kilpatrick. *bibliog diags* *Inst Mech Eng Proc* 171 no 7:245-62, pl 1-2; Discussion. 262-77, pl 3-6; Reply. 278-81 '57

COMPRESSORS, Gas. See Gas compressors

COMPTROLLERS. See Controllers

COMPUTATION, Approximate. See Approximate computation

COMPUTERS. See Calculating devices; Calculating machines

COMPUTING tables. See Tables, Computing

COMPUTREATER. See Textile machinery

CONCENTRATED fruit. See Fruit, Concentrated

CONCENTRATED milk. See Milk, Concentrated

CONCENTRATION of ores. See Ore treatment

CONCENTRATORS

Concentrating advances bring superior flavors. A. F. Murch co. A. F. Murch and J. V. Ziemba. *il Food Eng* 29:90-2 D '57

Concentrating GR-S latex by a continuous column. R. C. Stell and others. *il diags Ind & Eng Chem* 49:1835-7 N '57

Humphreys spiral concentrator; its place in ore dressing. Henry, J. Kaiser co. J. V. Thompson. *bibliog flow sheet* *il Min Eng* 10:84-7 Ja '58

See also

Evaporators

CONCRETE

Concrete for sewage works. E. C. Wenger. *bibliog Am Concrete Inst J* 29:733-8 Mr '58

High-density concrete for shielding atomic energy plants. H. S. Davis. *bibliog Am Concrete Inst J* 29:965-77 My '58; Discussion. 30:1411-13 pt 2 D '58

Storybook characters become real for retarded children; playground at Utah state training school for the mentally retarded. M. B. Bennett. *il Concrete* 65:23 D '57

See also

American concrete institute
Cement
Concrete, Reinforced
Concrete construction
Grouting
Gunite
Pavements, Concrete
Roads, Concrete
Sewers, Concrete

Aggregate

Adding metallic iron to concrete? if so, proper control and application are important. L. Liberthson. *il Plant Eng* 12:150-1 Ja '58

A.I.M.E. annual meeting, New York, Feb. 16-20; with abstracts of papers on cement, lightweight aggregates, gravel, Pit & Quarry 50:130-2+ Ap '58

Bucket drill pinpoints aggregates in deposit for Glen Canyon dam. J. M. Wells. *il Rock Prod* 61:86-8+ Ji '58

Cement and clay grouting of foundations; the use of admixtures in cement grouts. A. Klein and M. Polivyk. *bibliog diags Am Soc C E Proc* 84 [ISM 1 no 1547]:1-24 F '58

Concrete aggregate added to products of Ohio coal concern. *il Pit & Quarry* 50:129-30 F '58

Great Western Aggregates producing 750 cu. yd. daily. H. F. Utley. *il Pit & Quarry* 50:138-40+ Ap '58

Hard shell aggregate invades Chicago area; expanded shale finds ready acceptance. E. Meschter. *il Rock Prod* 61:78-81+ Ji '58

Heavy media processing of gravels in New Brunswick. I. D. MacKenzie. *il Am Concrete Inst J* 30:133-8 Ji '58

Lesson in how to make good use of poor materials; Dow air force base, Bangor, Me. *il Eng N* 159:40-2+ N 14 '57; Discussion. 160-12 Ap '58

Lightweight-aggregate concrete for structural use. J. J. Shideler. *bibliog il Am Concrete Inst J* 29:239-328 O '57; Discussion. E. W. Bauman. 29:1165-7 Je '58

Lightweight structural concrete proportioning and control. G. H. Nelson and O. C. Fred. *Am Concrete Inst J* 29:605-21 Ja '58; Discussion. 30:1243-8; Reply. 1249 pt 2 S '58

Mighty construction plant faces unique rock problem; Glen Canyon dam. *il plan Eng N* 161:28-31 Ji 31 '58

Miles co. adds crushing department to handle oversize. H. F. Utley. *il Pit & Quarry* 51:92-3 Ji '58

More dams abuilding, more rock markets opening. W. B. Lenhart. *il Rock Prod* 61:84-6+ Je '58

Native aggregates, natural pozzolan used in Priest Rapids Dam concrete. H. F. Utley. *il Pit & Quarry* 50:156-8 Ja '58

New aglite plant serving New York area. R. F. Leftwich. *il Pit & Quarry* 50:138-40+ Mr '58

Proposed recommended practice for selecting proportions for structural lightweight concrete. *bibliog Am Concrete Inst J* 30:305-14 S '58

Second Dayton plant of American Aggregates. B. C. Herod. *flow diag* *il Pit & Quarry* 50:110-14+ Ap '58

Separate plants provide aggregates, drain rock at Swift Dam project. H. F. Utley. *il Pit & Quarry* 51:181-2+ Ji '58

Shale aggregate; illustrations with text. *Engineer* 205:144 Ja 24 '58

Specific surface of aggregates related to compressive and flexural strength of concrete. R. G. Singh. *Am Concrete Inst J* 29:897-907 Ap '58; Discussion. 30:1375-8; Reply. 1378-81 pt 2 D '58

Stone plant meets twin needs. R. Day. *il Rock Prod* 61:90-2+ Ji '58

Structural properties of magnetite concrete; engineering test reactor biological shield. J. M. Raphael. *bibliog diags Am Soc C E Proc* 84 [IST 1 no 1511]:1-26 Ja '58

TVA uses non-specification fly ash; Johnsonville steam plant and Wilson Dam lock. G. K. Leonard and P. A. Schwab. *il Civil Eng* 28:188-92 Mr '58

That cement-alkali-aggregate reaction again. N. C. Rockwood. *Rock Prod* 60:18+ D '57

Uniform structural lightweight aggregate concrete through careful proportioning and control. P. J. Fluss. *il Am Concrete Inst J* 29:1059-62 Je '58

Utilization of Pennsylvania slate for expanded aggregate. F. D. Hoyt. *il Min Eng* 10:874-6 Ag '58

Why wash aggregates? W. A. Rundquist. *il Rock Prod* 61:74-5+ Ag '58

See also

Gravel

Air entrainment

Origin, evolution, and effects of the air void system in concrete. R. C. Mielenz and others. *bibliog il Am Concrete Inst J* 30:95-121, 261-72, 359-75, 507-17 Ji-O '58

Re-proportioning of concrete mixtures for air entrainment. H. J. Gilkey. *Am Concrete Inst J* 29:633-45 F '58

Bibliography

Current reviews of significant contributions in foreign and domestic publications. Published in monthly numbers of *Journal of the American concrete institute*

CONCRETE—Continued

Color

Use of color in concrete, G. W. Schmidt, *il* Concrete 66:40-2 My; 29-30 Je; 33-40, 44-5 JI; 24-5+ O '58

Cracks

Flexural cracks in reinforced concrete beams. M. Chi and A. F. Kirstein, *ibid* *il* diags Am Concrete Inst J 29:865-78 Ap '58; Discussion, 30:1347-67; Reply, 1368-72 pt 2 D '58
NBS study measures crack widths in reinforced concrete, Arch Rec 123:254 Mr '58

Curing

Accelerated curing tests on concrete, N. N. B. Ordman and N. G. Bondre, *ibid* *il* Engineering 185:24-5 F '58; Discussion, T. N. W. Akroyd, 185:666-7 My '58
Curing concrete, Am Concrete Inst J 30:161-72 *ibid* (p 171-2) Ag '58
Curing concrete units, W. Grant, *il* diags Concrete 65:30+ O; 24-7+ N '57
Effect of mixing and curing temperature on concrete strength, P. Klieger, *Am Concrete Inst J* 29:1063-81 Je '58
Hot oil to produce steam; Schnelder concrete products, *il* diags Concrete 66:34-5 F '58
How to cure concrete in winter, Eng & Min J 158:118 D '57

Cutting

Calcrete finds profits in selling split block, G. C. Gill, *il* Concrete 66:32-3 Ja '58
Powder lance cuts concrete, *il* Am Concrete Inst J 29:sup9-1 Mr '58
Powder-lancing, *il* Mech Eng 79:1149 D '57
Powder lancing clears way for new radiation lab, *il* Welding J 37:237-8 Mr '58
Powder lancing cuts cost of difficult concrete demolition job, *il* Roads & Sts 101:158 Ap '58

Durability

Effect of a waterproof coating on concrete durability, W. G. Mitchell, *il* Am Concrete Inst J 29:51-7 JI '57; Discussion 29:797-8 Mr '58

Expansion and contraction

Modified British shrinkage test, Concrete 65:31 N '57
Warping of reinforced concrete due to shrinkage, A. L. Miller, *il* diags Am Concrete Inst J 29:939-50 My '58; Discussion, 30:1393-400; Reply, 1400-2 pt 2 D '58

Failure

Effect of range of stress on fatigue strength of plain concrete beams, J. W. Murdock and C. E. Kesler, *ibid* *il* diags Am Concrete Inst J 30:221-31 Ag '58
Fatigue behavior of reinforced concrete beams, R. S. Chang and C. E. Kesler, *ibid* *il* diags Am Concrete Inst J 30:245-54 Ag '58
Fatigue of concrete, a review of research, G. M. Nordby, *ibid* *il* diags Am Concrete Inst J 30:191-219 *ibid* (p215-19) Ag '58
Fatigue properties of concrete beams, T. E. Stelson and J. N. Cernica, *il* diags Am Concrete Inst J 30:255-9 Ag '58
Probability of fatigue failure of plain concrete, J. T. McCall, *ibid* *il* Am Concrete Inst J 30:233-44 Ag '58
Strength of concrete under combined stresses, B. Bresler and K. S. Pister, *ibid* *il* diags Am Concrete Inst J 30:321-45 S '58

See also
Concrete—Cracks

Finishing

Better bonding of cement-type materials, D. J. Goeke, *il* Safety Maint 115:18-20 F '58

Freezing

Resistance of portland blast furnace slag cement concrete to ice removal action, W. C. Hansen and others, *il* Am Concrete Inst J 30:285-8 Ag '58

See also
Concrete construction in winter

Mixing

See Concrete mixing

Moisture content

Tentative method for the determination of the original water/cement ratio of hardened concrete, A. W. Brown, *ibid* *il* J Ap Chem 7:565-72 O '57

Prestressing

American Marietta's prestressing plant, *il* Concrete 66:24-7 Mr '58
Big prestressed beams easy for Strad-Krane, *il* Concrete 66:38 Ag '58
Big prestressed tank rises in Texas, *il* diags Eng N 160:33 My '58
Bull. with 12,000 precast pieces; Reynolds metals co.'s aluminum reduction plant in Listerhill, Ala, *il* Eng N 161:34-6+ JI 17 '58
Cable-supported roof cuts cost; stadium at Montevideo, Uruguay, M. Schupack, *il* diags Civil Eng 28:248-50 Ap '58
Chuck for prestressing features instant grip, *il* Concrete 66:45 My '58
Composite construction combats roof deflection, *il* diags Arch Rec 123:250-1 My '58
Consultant designs in economics; East Providence expressway, R. L. Pare, *ibid* *il* diags Eng N 161:63-4 Ag 21 '58
Economic factors in prestressed lift-slab construction, E. K. Rice, *il* diags Am Concrete Inst J 30:347-57 S '58
Elk River's prestressing facilities, G. Eull, *il* Concrete 66:32-4 O '58
Erection study of prestressed bridges; illustrations with text, Engineer 206:92 JI 18 '58
Experience gained on 65 prestressed concrete bridges, I. O. Jahistrom, *il* Pub Works 89:94-7+ Mr '58
Fatigue and static tests of steel strand prestressed beams of expanded shale concrete and conventional concrete, G. M. Nordby and W. J. Venuti, *il* diags Am Concrete Inst J 29:141-60 Ag '57; Discussion, A. M. Ozell, 29:803-4; Reply, 804-7 Mr '58
Fire resistance of prestressed concrete, A. W. Hill and L. A. Ashton, *Eng J* 41:81-2 Ja '58
Gantries set prestressed bridge beams; road system of U.S. air force academy, A. J. Brown and F. R. Khan, *il* diags Eng N 160:43-4+ Ja '58
Growing pains in prestressed concrete buildings, A. H. Brownfield, *il* Civil Eng 28:96-9 F '58
Heavy post-tensioned concrete girders for second Narrows bridge, C. Stanwick, *il* diags Roads & Sts 101:95-6+ My '58
Illinois toll highway; bold planning results in efficient production of prestressed girders, C. C. Zollman, *il* diags Civil Eng 28:423-6, cover Je '58
International federation of prestressing congress, 33, Berlin, Civil Eng 28:708-12 S '58
Large hollow prestressed concrete piles, *il* Roads & Sts 101:72-3 Mr '58
Load factors for prestressed concrete bridges, T. Y. Lin, *ibid* *il* diags Am Soc C E Proc 53 [ST 4 no 1315] 1-18 JI '57; Discussion, E. N. W. Lane, 84 [ST 1 no 1522] 55-8 Ja '58; Reply, 84 [ST 3 no 1656] 27-8 My '58
Load test of 120-ft precast, prestressed bridge girder, F. R. Khan and A. J. Brown, *il* diags Am Concrete Inst J 30:339-50 JI '58
New use of prestressed concrete, parca wall costs; St Vitus school auditorium in Cleveland, *il* Arch Rec 122:234 N '57
Next five years of prestressing, H. H. Edwards, Concrete 66:31-4 Ap '58
Offsite prestressing solves tunnel approach problems; Manhattan approach to Lincoln tunnel, F. C. Lowy, *il* diags Civil Eng 28:242-5 Ap '58
Pioneers in prestressed concrete, J. J. Polivka, *il* Am Concrete Inst J 29:sup5-7+ My '58
Portfolio of prestressed bridges, *il* Roads & Sts 100:83-90 N '57
Precast concrete girders reinforced with high strength deformed bars, J. R. Gaston and E. Hognestad, *il* diags Am Concrete Inst J 30:469-84 O '58
Pre-cast concrete jetty, Eng J 41:83 My '58
Pre-cast concrete jetty, *il* plan diags Engineering 185:47-8 Ja 10 '58
Pre-cast prestressed factory construction, *il* Engineering 184:733 D 6 '57
Prestressed, arched roof of block, *il* Concrete 65:26-7 D '57
Prestressed beams make skyscraper debut; Norton building in Seattle, *il* Eng N 160:25 Ap 17 '58
Prestressed bridge girders span 151 ft, T. Y. Lin, *il* Eng N 160:63 Mr 6 '58; Discussion, 161:7 Ag 21 '58
Prestressed bridge on the river Trent, 275 ft span, *il* Engineering 185:349-50 Mr 14 '58
Prestressed concrete, T. Y. Lin, *il* diags Sci Am 199:25-31, cover JI '58
Prestressed concrete; its properties and uses, F. E. Rowe, *il* diags Research 11:221-6 Je '58

CONCRETE—Prestressing—Continued

- Prestressed piers steel's bridge market. *il map Eng N 160:21-2 Ja '58*
- Prestressed pressure pipelines for Athens aqueduct. *P. J. Doandis. il map plan diags Civil Eng 28:653-7 S '58*
- Prestressing joints concrete pipe sections to form tall floodlighting towers. *il Am Concrete Inst J 20:sup 10-11 Mr '58*
- Progress with prestressed concrete; abstracts of papers. *Engineering 185:735-6 Je '58*
- Segmental construction for an aircraft hangar; Gatwick airport. *il diags Engineer 205:373-5 Je 27 '58*
- Shearing strength of prestressed lift slabs. A. C. Scordelis and others. *bibliog il plans diags Am Concrete Inst J 30:485-506 O '58*
- Soviet prestressing impressive. *Eng N 161:23 J1 '58*
- Tentative recommendations for prestressed concrete. *Am Concrete Inst J 29:545-78 Ja '58*; Discussion. *bibliog diags 30:1217-36, 1291-9 pt 2 S, pt 2 D '58*
- Tentative recommendations for prestressed concrete; report of the joint ACI-ASCE committee on prestressed reinforced concrete. *Am Soc C E Proc 84 (IST 1 no 1519): 1-39 Ja '58*; Discussion. *bibliog 84 (IST 3 no 16561):79-85 My; (IST 4 no 1:211):21-2 J1; (IST 5 no 17871):21-3 S; (IST 8 no 18821):3-11 D '58*
- Tests of full-sized prestressed concrete bridge beams. I. Lyse. *diags Am Concrete Inst J 29:979-85 My '58*
- Texas town builds giant water tank of prestressed concrete. *R. E. Pix. il diags Water Works Eng 111:337-9 O '58*
- 3,453 bridge girders cast. *il Concrete 66:19+ Ag '58*
- Two-storey prestressed concrete structure. *il diags Engineer 205:694-5 My 9 '58*
- Why prestressed concrete cuts costs. J. Makaretz. *diags Pet Refiner 37:343-5 S '58*
- See also*
- Pavements, Concrete—Prestressing

Protection

- Simplified method for lining concrete surfaces. W. W. Clarke. *il Plating 45:255-6 Mr '58*

Setting

- Concrete set slowed down to step up bridge construction; Wolcott Avenue bridge, Hartford. *C. G. Linberg and M. Schupack. il diags Civil Eng 28:167-71, cover Mr '58*

Shrinkage

- See Concrete—Expansion and contraction*

Specifications

- Concrete specifications cover all phases. *Elec World 150:118 S 22 '58*

Strength

- Compressive strength and ultrasonic pulse velocity relationships for concrete in columns. M. F. Kaplan. *il Am Concrete Inst J 29:675-88 F '58*; Discussion. *30:1259-62*; Reply. *1262-3 pt 2 S '58*
- Effect of length to diameter ratio on compressive strength of concrete; discussion. N. G. Zoldners and others. *A S T M Bul 673-6 Ap '58*
- Effect of mixing and curing temperature on concrete strength. P. Klieger. *Am Concrete Inst J 29:1063-81 Je '58*
- Effects of revibrating concrete. C. A. Vollick. *Am Concrete Inst J 29:721-32 Mr '58*; Discussion. *30:1267-71 pt 2 S '58*
- Long-time study of cement performance in concrete; progress report on strength and elastic properties of concrete. P. Klieger. *bibliog Am Concrete Inst J 29:481-504 D '58*
- Proposed recommended practice for evaluation of compression test results of field concrete. *Am Concrete Inst J 28:561-79 D '56*; Discussion. *28:1277-83*; *29:1-19, 775-7 Je-J1 '57, Mr '58*
- Shear strength of lightweight reinforced concrete beams. J. A. Hanson. *bibliog il diags Am Concrete Inst J 30:387-403 S '58*
- Shearing strength of prestressed lift slabs. A. C. Scordelis and others. *bibliog il plans diags Am Concrete Inst J 30:485-506 O '58*
- Specific surface of aggregates related to compressive and flexural strength of concrete. B. G. Singh. *Am Concrete Inst J 29:897-907 Ap '58*; Discussion. *30:1373-8*; Reply. *1378-81 pt 2 D '58*
- Static and fatigue strength in shear of beams with tensile reinforcement. T. S. Chang and C. E. Kesler. *bibliog diags Am Concrete Inst J 29:1033-57 Je '58*; Discussion. *30:1425-6 pt 2 D '58*

- Strength of concrete under combined stresses. B. Bresler and K. S. Pister. *bibliog il diags Am Concrete Inst J 30:321-45 S '58*
- Strength of concrete under combined tensile and compressive stress. D. McHenry and J. Karni. *il diags Am Concrete Inst J 28:829-39 Ap '58*; Discussion. *30:1301-6*; Reply. *1307-8 pt 2 D '58*
- Transverse strength of concrete block walls. F. W. Cox and J. L. Bnenga. *il Am Concrete Inst J 29:951-60 My '58*; Discussion. *30:1403-9 pt 2 D '58*
- Ultimate shear strength of reinforced concrete flat slabs, footings, beams, and frame members without shear reinforcement. C. S. Whitney. *bibliog diags Am Concrete Inst J 29:255-58 O '57*; Discussion. *29:1157-62*; Reply. *1162-4 Je '58*
- Ultimate strength analysis of long hinged reinforced concrete columns. B. Broms and I. M. Viest. *bibliog diags Am Soc C E Proc 84 (IST 1 no 1510):1-38 Ja '58*; Discussion. *84 (IST 2 no 1576):59 Mr; (IST 4 no 17211):1-19 J1; (IST 5 no 17871):19-20 S '58*
- Ultimate strength analysis of long restrained reinforced concrete columns. B. Broms and I. M. Viest. *bibliog diags Am Soc C E Proc (IST 3 no 16351):1-30 My '58*
- Ultimate strength design of rectangular concrete members subject to unsymmetrical bending. T. J. Hsu. *il diags Am Concrete Inst J 29:657-74 F '58*; Discussion. *30:1253-7 pt 2 S '58*
- Use of the Swiss hammer for estimating the compressive strength of hardened concrete. W. E. Grieb. *il Pub Roads 30:45-50 Je '58*

Temperature effect

- Effect of mixing and curing temperature on concrete strength. P. Klieger. *Am Concrete Inst J 29:1063-81 Je '58*
- Elevated temperatures of portland cement mixtures related to surface removal. R. H. Heiskell and others. *bibliog diags Am Concrete Inst J 29:591-603 Ja '58*
- Some physical properties of concrete at high temperatures. R. Philo. *il Am Concrete Inst J 29:857-64 Ap '58*
- Stresses in reinforced concrete sections subject to transient temperature gradients. H. Samelson and A. Tor. *diags Am Concrete Inst J 30:377-86 S '58*
- Temperature stresses in continuous frames. S. Hassid. *diags Am Concrete Inst J 29:415-20 N '57*
- Variation of mortar and concrete properties with temperature. J. C. Saemann and G. W. Washa. *il Am Concrete Inst J 29:385-95 N '57*

Testing

- Accelerated curing tests on concrete. N. N. B. Ordman and N. G. Bondre. *bibliog il Engineering 185:243-5 F 21 '58*; Discussion. *T. N. W. Akroyd. 185:666-7 My 23 '58*
- Application of gamma radiography to concrete; abstract. J. A. Forrester. *Eng J 41:85 My '58*
- Bearing capacity of concrete. W. Shelton. *bibliog il diags Am Concrete Inst J 29:405-14 N '57*; Discussion. *29:1183-9 Je '58*
- Below strength concrete. A. T. Klassen. *diags Concrete 66:36-7+ S '58*
- Compressive strength and ultrasonic pulse velocity relationships for concrete in columns. M. F. Kaplan. *il Am Concrete Inst J 29:675-88 F '58*; Discussion. *30:1259-62*; Reply. *1262-3 pt 2 S '58*
- Corrosion of concrete by sulfuric acid. W. C. Hansen and others. *il A S T M Bul 685-8 J1 '58*
- Creep and creep recovery of concrete under high compressive stress. A. M. Freudenthal and F. Holl. *bibliog il diags Am Concrete Inst J 29:1111-42 Je '58*; Discussion. *30:1433-7*; Reply. *1437-8 pt 2 D '58*
- Creep of concrete under variable stress. A. D. Ross. *bibliog diags Am Concrete Inst J 29:739-58 Mr '58*; Discussion. *R. D. Davies. 30:1279-80 pt 2 S '58*
- Creep of plain and reinforced concrete. P. G. Fluck and G. W. Washa. *Am Concrete Inst J 29:879-95 bibliog (p891-5) Ap '58*
- Dynamic testing of concrete evaluated. E. A. Whitehurst. *bibliog Civil Eng 27:863-5 D '57*
- Effect of a waterproof coating on concrete durability. W. G. Mitchell. *il Am Concrete Inst J 29:51-7 J1 '57*; Discussion. *29:797-8 Mr '58*
- Effects of revibrating concrete. C. A. Vollick. *Am Concrete Inst J 29:721-32 Mr '58*; Discussion. *30:1267-71 pt 2 S '58*

CONCRETE—Testing—Continued

- Field inspection of concrete. C. E. Proudley. *il Pub Works* 89:92-6 Je '58
- Field sampling of concrete. H. R. Craig and others. *il Pub Works* 89:77-30+ Je '58
- Incremental compression test for cement research. A. Hrennikoff. *il diags Am Soc C E Proc* 84 [EM 2 no 1604]:1-13 Ap '58
- Lightweight-aggregate concrete for structural use. J. J. Shideler. *bibliog il Am Concrete Inst J* 29:298-298 O '57; Discussion. E. W. Bauman. 29:1165-7 Je '58
- Long-time study of cement performance in concrete; progress report on strength and elastic properties of concrete. P. Klieger. *bibliog Am Concrete Inst J* 29:481-504 D '57
- New concrete beam testing machine for third-point loading. H. F. McDonell. *il Roads & Sts* 100:73-80 N '57
- Proposed recommended practice for evaluation of compression test results of field concrete. *Am Concrete Inst J* 28:561-79 D '56; Discussion. 28:1277-83; 29:1-19, 775-7 Je-Jl '57, Mr '58
- Strength of concrete under combined stresses. B. Bresler and K. S. Pister. *bibliog il diags Am Concrete Inst J* 30:321-45 S '58
- Strength of concrete under combined tensile and compressive stress. D. McHenry and J. Karni. *il diags Am Concrete Inst J* 29: 829-39 Ap '58; Discussion. 30:1301-6; Reply. 1307-3 pt 2 D '58
- Structural properties of magnetite concrete, engineering test reactor biological shield. J. M. Raphael. *bibliog il diags Am Soc C E Proc* 84 [ST 1 no 151]:1-28 Ja '58
- Tentative method for the determination of the original water/cement ratio of hardened concrete. A. W. Brown. *bibliog J Ap Chem* 7:565-72 O '57
- Use of the Swiss hammer for estimating the compressive strength of hardened concrete. W. E. Grieb. *il Pub Roads* 30:45-50 Je '58

Vibration

- Effects of revibrating concrete. C. A. Vollick. *Am Concrete Inst J* 29:721-32 Mr '58; Discussion. 30:1267-71 pt 2 S '58
- Shox concrete vibrators. *il diags Engineer* 204:873 D 13 '57
- Vibration waves in concrete. N. S. Farrar. *Engineer* 206:378-80 S '58

Waterproofing**See Waterproofing**

- CONCRETE, Effect of alkalis on**
Destructive alkali-aggregates reaction in concrete. *Concrete* 66:31 Mr '58
- CONCRETE, Effect of sea water on**
Use of concrete in marine environments. C. M. Wakeman and others. *il Am Concrete Inst J* 29:841-56 *bibliog*(p854-6) Ap '58; Discussion. *bibliog* 30:1309-39; Reply. 1339-46 pt 2 D '58

CONCRETE, Insulating**Testing**

- Thermal conductivity of refractory insulating concrete. W. C. Hansen and A. F. Livovich. *Am Cer Soc Bul* 37:322-8 Jl 15 '58
- CONCRETE, Porous**
Goff-Kirby produces foam concrete. R. J. Crouse. *il Concrete* 66:30-1+ F '58
- CONCRETE, Ready-mixed.** See Concrete mixing—Ready-mixed concrete
- CONCRETE, Refractory**

Testing

- Effects of high-conductivity gases on the thermal conductivity of insulating refractory concrete. J. F. Wygant and M. S. Crowley. *bibliog diags Am Cer Soc J* 41:183-8 My '58
- CONCRETE, Reinforced**
Chicago skyline rises on rebar. *il Iron Age* 182:25 Jl 17 '58
- Design of long reinforced concrete columns. B. Broms and I. M. Viest. *bibliog Am Soc C E Proc* 84 [ST 4 no 1694]:1-28 Jl '58
- Design of symmetrical reinforced concrete columns with small eccentricities in one or two directions. F. P. Wiesinger. *diags Am Concrete Inst J* 30:273-83 Ag '58
- Designing in reinforced concrete. B. A. Wasil. *il diags Plant Eng* 12:73-4 F; 77-8 Ap; 77-8 Je; 79-30 Ag; 81-2 O '58
- Flexural cracks in reinforced concrete beams. M. Chi and A. F. Kirstein. *bibliog il diags Am Concrete Inst J* 29:865-78 Ap '58; Discussion. 30:1347-67; Reply. 1368-72 pt 2 D '58

- Floor lath forms utility floor system; Span-form system. D. H. Butler. *il Arch Rec* 123:231 F '58
- Heavy wire reinforcing is used in concrete pipe. *il Eng N* 160:128 Je 19 '58
- Method of design of reinforced concrete sections. P. D. Molitoris. *bibliog diags Am Soc C E Proc* 84 [ST 1 no 1609]:1-25 Ja '58; Discussion. J. Flaehna. 84 [ST 6 no 1827]:11-21 O '58
- More steel or better concrete for cheaper designs: economic approach to reinforced concrete. J. R. Lawrence. *Engineering* 184: 564-5 N 1 '57; Discussion. K. Hajnal-Konyi. 184:708-9 D 6 '57
- Precast concrete girders reinforced with high strength deformed bars. J. R. Gaston and E. Hognestad. *il diags Am Concrete Inst J* 30:469-34 O '58
- Precast reinforced concrete slab bridges with stiffened edges. A. Gallia. *bibliog diags Am Concrete Inst J* 29:1083-91 Je '58; Discussion. 30:1427-9 pt 2 D '58
- Reinforced concrete core main structural element in 22-story office tower. O. Sahr. *il diags Am Concrete Inst J* 30:461-8 O '58
- Reinforced concrete structure for bulk storage. *il diags Engineer* 206:136 Jl 25 '58
- Reinforcement of press foundations by post-tensioning. F. Kramlich. *plan diags Am Concrete Inst J* 29:961-3 My '58
- Shear, diagonal tension and bond stresses in reinforced concrete beams; discussion. I. F. Morrison. *Eng J* 41:74; Reply. E. M. Rensaa. 74-6 F '58
- Spacing of vertical U-shaped stirrups in concrete beams. W. I. Barrows. *diags Civil Eng* 28:522-4 Jl '58
- Ultimate resisting moment of beams with compression reinforcement. E. Guillard. *diags Am Concrete Inst J* 29:759-65 Mr '58; Discussion. 30:1281-8; Reply. 1288-90 pt 2 S '58
- Ultimate shear strength of reinforced concrete flat slabs, footings, beams, and frame members without shear reinforcement. C. S. Whitney. *bibliog diags Am Concrete Inst J* 29:265-98 O '57; Discussion. 29:1157-62; Reply. 1162-4 Je '58
- Ultimate strength analysis of long hinged reinforced concrete columns. B. Broms and I. M. Viest. *bibliog diags Am Soc C E Proc* 84 [ST 1 no 1510]:1-35 Ja '58; Discussion. 84 [ST 2 no 1576]:59 Mr; [ST no 1721]:11-19 Jl; [ST 5 no 1787]:19-20 S '58
- Ultimate strength design of rectangular concrete members subject to unsymmetrical bending. T. Au. *diags Am Concrete Inst J* 29:657-74 F '58; Discussion. 30:1253-7 pt 2 S '58
- Ultimate torsional properties of rectangular reinforced concrete beams. G. C. Erki. *bibliog il diags Am Concrete Inst J* 29:341-56 O '57; Discussion. 29:1173-5 Je '58
- Warping of reinforced concrete due to shrinkage. A. L. Miller. *il diags Am Concrete Inst J* 29:939-50 My '58; Discussion. 30:1393-400; Reply. 1400-2 pt 2 D '58
- Will ultimate strength design of reinforced concrete beams simplify stress calculations? discussion. J. G. MacGregor. *bibliog Eng J* 41:72-3; Reply. E. M. Rensaa. 73-4 F '58

Standards

- Review of changes in the ACI building code requirements for reinforced concrete. P. Kerekes. *Am Concrete Inst J* 29:185-95 S '57; Discussion. J. de las Cases. 29:809-10 Mr '58
- Tentative recommendations for thin-section reinforced precast concrete construction. *Am Concrete Inst J* 29:821-8 My '58; Discussion. 30:1383-7 pt 2 D '58

Testing

- Behavior of one-story reinforced concrete shear walls. J. R. Benjamin and H. A. Williams. *bibliog il diags Am Soc C E Proc* 83 [ST 3 no 1254]:1-49 My '57; Discussion. D. A. Matteson, Jr. 83 [ST 6 no 1442]:27-9 N '57; Reply. 83 [ST 3 no 1661]:17-21 My '58
- Creep of plain and reinforced concrete. P. G. Fluck and G. W. Washa. *Am Concrete Inst J* 29:879-95 *bibliog*(p891-5) Ap '58
- Destructive impulse loading of reinforced concrete beams. F. T. Mavis and M. J. Greaves. *il diags Am Concrete Inst J* 29: 233-52 *bibliog*(96 titles, p248-52) S '57; Discussion. 29:811-20; Reply. 820-3 Mr '58

CONCRETE, Reinforced—Testing—Continued

- Fatigue and static tests of steel strand prestressed beams of expanded shale concrete and conventional concrete. G. M. Nordby and W. J. Venuti. *diags Am Concrete Inst J* 29:141-60 Ag '57; Discussion. A. M. Ozeil. 29:803-4; Reply. 804-7 Mr '58
- Fatigue behavior of reinforced concrete beams. T. S. Chang and C. E. Kesler. *diags Am Concrete Inst J* 30:245-54 Ag '58
- Shear strength of lightweight reinforced concrete beams. J. A. Hanson. *bibliog diags Am Concrete Inst J* 30:387-403 S '58
- Spacing of spliced bars in beams. S. J. Chamberlin. *diags Am Concrete Inst J* 29:689-97 F '58
- Static and fatigue strength in shear of beams with tensile reinforcement. T. S. Chang and C. E. Kesler. *bibliog diags Am Concrete Inst J* 23:1033-57 Je '58; Discussion. 30:1425-6 pt 2 D '58
- Stresses in reinforced concrete sections subject to transient temperature gradients. H. Samelson and A. Tor. *diags Am Concrete Inst J* 30:377-86 S '58
- Ultimate strength analysis of long restrained reinforced concrete columns. E. Broms and J. M. Viest. *bibliog diags Am Soc C E Proc* 84 (ST 3 no 1635):1-30 My '58
- Under-reinforced concrete beams under long-term loads. H. A. Sawyer, Jr. and J. E. Stephens. *diags Am Concrete Inst J* 29:21-9 Jl '57; Correction. 29:sup26-7 N '57; Discussion. S. Soretz. 29:773-84; Reply. 784-5 Mr '58

CONCRETE arches. See Arches, Concrete**CONCRETE blocks**

- Calcrite finds profits in selling split block. G. C. Gill. *diags Am Concrete* 66:32-3 Ja '58
- Concrete block comes of age. *il Arch Rec* 123:241 Ap '58
- Fork lift spots block. *diags Am Concrete* 66:26-7 O '58
- How to use color in split block and brick. G. W. Schmidt. *diags Am Concrete* 66:29-30 Je '58
- National concrete masonry association 38th annual meeting, Chicago, Feb. 17-20; with abstracts of papers. *Concrete* 66:32-8 Ap '58
- Prestressed, arched roof of block. *diags Am Concrete* 65:26-7 D '57
- Standard block & supply co. *diags Am Concrete* 66:32-6 My; 32-5 Je; 34-6 Jl '58
- Transverse strength of concrete block walls. F. W. Cox and J. L. Ennenga. *diags Am Concrete Inst J* 29:951-60 My '58; Discussion. 30:1403-9 pt 2 D '58

Manufacture

- A.B.C. Mankato's automatic batching control system. *diags Am Concrete* 66:38-40 F '58
- Automation of the block plant; Standard block & supply co. *diags Am Concrete* 66:32-6 My '58
- Cement slurry builds stronger block. H. Clegg. *diags Am Concrete* 65:24-5 D '57
- Considerations in determining size, layout, and details of autoclaves. J. B. Maher. *diags Am Concrete* 66:28-31 My '58
- Curling concrete units. W. Grant. *diags Am Concrete* 65:30-4 O; 24-7+ N '57
- Cylinder-operated metering valve controls acceleration of heavy load. L. B. Lloyd. *diags Am Hydraulics* 11:102-3 My '58
- Hartley has new moisture control for block plants. *diags Am Concrete* 66:38+ Mr '58
- Hot oil to produce steam; Schneider concrete products. *diags Am Concrete* 66:34-5 F '58
- Plant modernization increases economy; J. E. Asbell block co. B. B. Ritchey. *diags Am Concrete* 65:34-5 N '57
- Supplying the replacement market; rockface block. *diags Am Concrete* 66:33 Jl '58
- Why produce colored concrete units? G. W. Schmidt. *diags Am Concrete* 66:40-2 My '58

Testing

- Modified British shrinkage test. *Concrete* 65:31 N '57
- CONCRETE breakwaters.** See Breakwaters, Concrete
- CONCRETE bricks**
How to use color in split block and brick. G. W. Schmidt. *diags Am Concrete* 66:29-30 Je '58

Manufacture

- Manufacturing concrete brick. G. W. Schmidt. *diags Am Concrete* 66:30-4 S '58
- Plywood pallets weather cycle longer. *diags Am Concrete* 66:36-7 F '58
- CONCRETE bridges.** See Bridges, Concrete
- CONCRETE buildings**
AF barracks to get a new look; Mather air force base near Sacramento. *diags Am Concrete* 117 Mr 12 '58

- ACI headquarters presented a challenge in concrete. M. Yamasaki. *il Am Concrete Inst J* 30:418-26 O '58
- Apartment building from the inside out. *diags Arch Forum* 109:120-2 Ag '58
- Assembled concrete building. *il plan diags Arch Rec* 123:171-4 Je '58
- Brilliant canopy for worship; First Presbyterian church, Stamford, Conn. *il plan Arch Forum* 108:104-7 Ap '58
- Building a cement factory in a swamp. *il Eng N* 160:50+ Mr 13 '58
- Chicago skyline rises on rebar. *il Iron Age* 182:25-31 Jt '58
- Construction for ACI. J. Strang. *il Am Concrete Inst J* 30:431-8 O '58
- Contrasts in concrete; Unesco headquarters, Paris. M. G. Salvadori. *diags Arch Rec* 123:165-9 F '58
- Cool concrete in the desert; China Lake's new All Faith chapel. F. Jenkins and E. Jenkins. *il Concrete* 66:42-3 S '58
- Deep space truss gives plant room for air equipment; Texas Instruments, inc. plant in Dallas. *il Eng N* 160:46-8 My 8 '58
- Design and construction of a motion-picture production sound stage. J. A. Larsen. *il SMPTE J* 67:260-3 Ap '58
- Engineering of a monument; Milwaukee war memorial. *diags Arch Forum* 107:144 D '57
- Floor and roof beams glamorize campus building; community center at Wayne state university. *il plan diags Eng N* 160:42-4 Je 12 '58
- Growing pains in prestressed concrete buildings. A. H. Brownfield. *il Civil Eng* 28:96-9 F '58
- José Luis Sert. *il plan diags Arch Rec* 123:125-40 Ja '58
- Laboratory gets unusual facade. *il Eng N* 159:41-2 D 12 '57
- New church building looks like a fish; First Presbyterian church in Stamford, Conn. *il Eng N* 160:33 Ap 3 '58
- Panoramic curved, City Hall designed as an eye-catcher; San Jose, Calif. *il Eng N* 159:30-1 N 28 '57
- Precast concrete facets enclose piscine-form sanctuary; First Presbyterian church, Stamford, Conn. *il plans diags Prog Arch* 39:104-7 Ap '58
- Precast concrete grille shields building walls; men's dormitory, University of South Carolina. *il Eng N* 160:30 Ap 3 '58
- Precast sections form monolithic concrete whale; First Presbyterian church in Stamford, Conn. *il Arch Rec* 122:221-2 N '57
- Prestressed bars wind-brace new hotel; Queen Elizabeth hotel in Montreal. *il diags Eng N* 159:33-4+ N 14 '57
- Reinforced concrete church stands on Swedish coast. *il Arch Rec* 123:18 My '58
- Spiral art museum is built like a work of art; Solomon R. Guggenheim museum in New York city. *il plans diags Eng N* 159:42-5 D 5 '57
- Storage building entirely precast. J. H. Skillman. *il Eng N* 160:55-6 Je 5 '58
- TWA's graceful new terminal; New York international airport. *il plans diags Arch Forum* 108:78-83 Ja '58
- Three-in-one structure for city services; Caen, France combines water tower, government offices and municipal market. *il diags Eng N* 160:93-4 My 15 '58
- Two-hinged frames cover three-acre oval basilica, Lourdes, France. *il plan diags Eng N* 160:28-9+ My 22 '58
- Two-storey prestressed concrete structure. *il diags Engineer* 205:694-5 My 9 '58

See also

- Concrete construction
- CONCRETE cattle guards.** See Cattle guards, Concrete
- CONCRETE chimneys.** See Chimneys, Concrete
- CONCRETE columns.** See Columns, Concrete
- CONCRETE conduits.** See Conduits, Concrete; Water conduits, Concrete
- CONCRETE construction**
Advanced structure for flexibility; Texas Instruments semiconductor-components plant. *il plans diags Arch Rec* 124:238-41 S '58
- Aluminium reduction plant at Baie Comeau, Que. C. Miller and W. G. Street. *il Eng J* 41:41-9 Jl '58
- Artesian aquifer is held down in spillway cut. *il plan diags Eng N* 160:42-4 F 27 '58

CONCRETE construction—Continued.

- Construction of the Dallas memorial auditorium. J. E. Rosenlund. *il* diags Am Concrete Inst J 29:329-39 O '57; Discussion. E. C. Moike. 29:1169-70; Reply. 1170-1 Je '58
- Constructional progress at Bradwell. *il* Engineer 205:84-6 Ja 17 '58
- Coordinating a master building plan; how Universal Oil's add-a-building plan worked out. *il* Plant Eng 12:113-14 My '58
- First slip-formed apartment building in the United States. J. H. Dorsett. *il* diags Am Concrete Inst J 29:767-72 Mr '58
- Florida's parasol motel. *il* plan Arch Forum 108:114-17 My '58
- Large storage shed built of in situ concrete. *il* Engineering 186:191 Ag 8 '58
- Low cost is promised with Dutch "linked tunnel"; sections of reinforced concrete tubing. diags Eng N 160:56-8 Ja 23 '58; Discussion. E. A. Foster. 160:83-4 F 20 '58
- New Portland cement association laboratory is a huge testing machine for concrete. *il* diags Eng N 161:24-5 S 11 '58
- Plant with an upstairs basement; Texas instruments, Inc. *il* diags Arch Forum 109:132-5 S '58
- Precast concrete factory construction; illustrations with text. Engineer 204:786 N 29 '57
- Precast its 152 panels; Stamford, Conn. First Presbyterian church. *il* Concrete 66:28, cover Je '58
- Pre-cast prestressed factory construction. *il* Engineering 184:733 D 6 '57
- Prestressed concrete. T. Y. Lin. *il* diags Sci Am 199:26-31, cover Ji '58
- Refrigerated meat supports building during re-foundationing. J. R. Pelikan. *il* Refrig Eng 65:51-2 D '57
- Reinforced concrete structure for bulk storage. *il* diags Engineer 206:136 Ji 25 '58
- Segmental construction for an aircraft hangar; Gatwick airport. *il* diags Engineer 205:973-5 Je 27 '58
- Tentative recommendations for prestressed concrete. Am Concrete Inst J 29:545-78 Ja '58; Discussion. bibliog diags 30:1217-36, 1291-9 pt 2 S, pt 2 D '58
- Tentative recommendations for prestressed concrete; report of the Joint ACI-ASCE committee on prestressed reinforced concrete. Am Soc C E Proc 84 [ST 1 no 1519]; 1-39 Ja '58; Discussion. bibliog 84 [ST 1 no 1656]:79-85 My; [ST 4 no 1721]:21-2 Ji '58
- This basement must be dry; special construction protects computer. R. Isett. *il* diags Plant Eng 12:146 My '58
- Uniform structural lightweight aggregate concrete through careful proportioning and control. P. J. Fluss. *il* Am Concrete Inst J 29:1059-62 Je '58

See also

- Breakwaters, Concrete
Bridges, Concrete
Concrete—Finishing
Concrete, Reinforced
Concrete linings
Concrete mixing
Concrete piling
Concrete placing
Concrete slabs
Conduits, Concrete
Dams, Concrete
Footings, Concrete
Grain elevators, Concrete
Piers, Concrete
Retaining walls, Concrete
Roofs, Concrete
Sewers, Concrete
Stairways, Concrete
Steel construction—Concrete composite
Walls, Concrete
Water pipes, Concrete

Bibliography

- Current reviews of significant contributions in foreign and domestic publications. Published in monthly numbers of Journal of the American concrete institute

Costs

See also

- Walls, Concrete—Costs

Design

- Adventure in structure; sea shell roof for George Nakashima. *il* diags Arch Rec 122:133-8 N '57
- Circular stairway for University City in El Salvador. M. Schulz. bibliog *il* diags Am Concrete Inst J 29:699-705 F '58

- Critical look at slab design methods. K. E. McKee and E. I. Fiesenhiser. diags Am Concrete Inst J 29:397-404 bibliog (p403-4) N '57; Discussion. 29:1177-82 Je '58
- Current structural research. Engineering 185:350 Mr 14 '58
- Design of concrete floors on ground for warehouse loadings. F. F. Rice. plans diags Am Concrete Inst J 29:106-13 Ag '57; Discussion. H. S. Heaps. 29:799-801; Reply. 801-2 Mr '58
- Design of long reinforced concrete columns. B. Broms and I. M. Viest. bibliog Am Soc C E Proc 84 [ST 4 no 1694]:1-28 Ji '58
- Design of symmetrical reinforced concrete columns with small eccentricities in one or two directions. F. P. Wiesinger. diags Am Concrete Inst J 30:273-83 Ag '58
- Designing in reinforced concrete. B. A. Wasil. *il* diags Plant Eng 12:73-4 F; 77-8 Ag; 77-9 Ag; 81-3 O '58
- Effect of column width on continuous beam moment. H. C. Hepp and T. Germundsson. diags Am Concrete Inst J 29:1143-6 Je '58
- Folded slab construction. F. J. Samuely. *il* plan diags Am Concrete Inst J 30:447-60 S '58
- Hyperbolic paraboloids and other shells of double curvature. A. L. Parme. bibliog diags Am Soc C E Proc 82 [ST 5 no 1057]:1-32 S '56; Discussion. 83 [ST 2 no 1192]:1-10 My '57; Reply. 84 [ST 3 no 1656]:5-10 My '58
- Method of design of reinforced concrete sections. P. D. Molitoris. bibliog diags Am Soc C E Proc 84 [ST 1 no 1509]:1-25 Ja '58; Discussion. J. Flaeh. 84 [ST 6 no 1827]:11-21 O '58
- Military personnel records center built without expansion joints. E. B. Cohn and W. A. Wall. *il* plans Am Concrete Inst J 29:1103-10 Je '58; Discussion. 30:1431-2 pt 2 D '58
- Metal steel on better concrete for cheaper designs; economic approach to reinforced concrete. J. R. Lawrence. Engineering 184:564-5 N 1 '57; Discussion. K. Hajnal-Könyi. 184:708-9 D 6 '57
- Out of this world dining place said to look the part. *il* Concrete 66:21 Ji '58
- Project, a post-tensioned shell beam; design and construction project of architectural students at the University of Utah. T. Sparks. *il* diags Concrete 66:22-3 Je '58
- Temperature stresses in continuous frames. S. Hassid. diags Am Concrete Inst J 29:415-20 N '57
- Thermal considerations in the design of concrete shields. H. S. Davis. bibliog diags Am Soc C E Proc 84 [ST 5 no 1756]:1-25 S '58
- Ultimate resisting moment of beams with compression reinforcement. E. Gullard. diags Am Concrete Inst J 29:759-65 Mr '58; Discussion. 30:1281-8; Reply. 1288-90 pt 2 S '58
- Ultimate shear strength of reinforced concrete flat slabs, footings, beams, and frame members without shear reinforcement. C. S. Whitney. bibliog diags Am Concrete Inst J 29:265-98 O '57; Discussion. 29:1157-62; Reply. 1162-4 Je '58
- Ultimate strength design of rectangular concrete members subject to unsymmetrical bending. T. Au. diags Am Concrete Inst J 29:657-74 F '58; Discussion. 30:1253-7 pt 2 S '58
- Ultimate torsional properties of rectangular reinforced concrete beams. G. C. Ernst. bibliog *il* diags Am Concrete Inst J 29:341-56 O '57; Discussion. 29:1173-5 Je '58
- Umbrella for foundations, inverted umbrella for roof features of new Pennsylvania school. *il* Concrete 66:20 Ap '58

See also

- Columns, Concrete
Footings, Concrete

Failure

- Big lift span job hits snag. Eng N 159:23 N 28 '57
- Defects delay job; prestressed bridge beams crack, ordered removed; Hampton Roads bridge-tunnel approaches. Eng N 160:24-5 F 20 '58
- 11 story building turns over in Rio de Janeiro. *il* Eng N 160:44 F 13 '58; Discussion. G. E. Hayes. 160:12-4 Mr 27 '58
- Failures of concrete structures. J. Feld. *il* diags Am Concrete Inst J 29:449-70 bibliog (p469-70) D '57; Discussion. 29:1197-210; Reply. 1210-12 Je '58
- Lessons from cold-weather concrete failures. H. J. Racey. *il* Civil Eng 27:787-9 N '57

CONCRETE construction—Failure—Continued

Synopsis of first progress report of committee on factors of safety. O. G. Julian. *Am Soc C E Proc* 83 [ST 4 no 1316]:1-22 J1 '57; Discussion. 83 [ST 6 no 1442]:41-3 N '57; 84 [ST 1 no 1522]:59-70 Ja '58

Fire resistance

Fire resistance of prestressed concrete. A. W. Hill and L. A. Ashton. *Eng J* 41:81-2 Ja '58

Forms

Adaptable forms for prestressed concrete. *diags Eng N* 160:102 Ap 17 '58
Adjustable forms for 149 bridge columns; Bridgeport Harbor bridge, Connecticut turnpike. J. L. Calderella. *il diags Civil Eng* 28:123-4 F '58
Built with 12,000 precast pieces; Reynolds metals co.'s aluminum reduction plant in Listerhill, Ala. *il Eng N* 161:34-6+ J1 17 '58
Concrete hangars spread folded slab wings. *il diags Eng N* 160:46-51 F 20 '58
Fastener cuts forming time. *il diag Roads & Sts* 101:86 Ag '58
Floodwall holds new ideas for foundations, forms. G. B. Skinner. *il diags Eng N* 161:42-4 J1 17 '58
For this steel mill under construction in India, prefab forms turn the trick at Tata. *il Eng N* 159:51-2 D 5 '57
Form speeds lining drifts with concrete. *il diags Eng & Min J* 158:118 D '57
Forms score concrete to hold tiles better; Pittsburgh's Fort Pitt tunnel. *Eng N* 161:102 S 11 '58
Insulated forms protect winter pour. *il Eng N* 161:56 J1 3 '58
Lower construction costs with fiber forms; Long Island lighting co. J. J. Fauls. *il Elec World* 150:48 Ag 11 '58
New concrete form holds lock wall armor; Greenup Lock job on the Ohio river. *il Eng N* 160:58 Ap 24 '58
Polythene film for concrete moulds. *il Brit Plastics* 31:72 F '58
Pressures on formwork, bibliog *Am Concrete Inst J* 30:173-90 Ag '58
Radial shores support arch bridge forms. *il Eng N* 160:105-6 My 15 '58
Rubber-plastic blend for cement form liners. *il Materials in Design Eng* 46:202+ D '57
Support without falsework; specially designed steel forms. *il Am Concrete Inst J* 29:sup8-9+ F '58

Lift-slab method

Concrete tilt-up construction for savings; with cost data. R. Stone. *il Civil Eng* 28:258-9 Ap '58
Economic factors in prestressed lift-slab construction. E. K. Rice. *il diags Am Concrete Inst J* 30:347-57 S '58
Growing pains in prestressed concrete buildings. A. H. Brownfield. *il Civil Eng* 28:96-9 F '58
Height record goes up again for lift-slabs in the U.S.; Tower parking garage in Columbus. P. J. Ford. *il plan diag Eng N* 161:30-2 J1 3 '58
Jacks on columns erect two-acre roof at air force academy. A. J. Brown and W. Teng. *il diags Eng N* 160:26-8 Ja 23 '58
Lift-slab construction for college dorm features precast concrete columns; Arizona state college. W. E. Riley. *il plans diags Civil Eng* 28:193-5 Mr '58
Multistory lift-slab construction. W. Sefton. *il diags Am Concrete Inst J* 29:579-89 Ja '58; Discussion. R. M. Gensert. 30:1237-41; Reply. 1241-2 pt 2 S '58
Roof at Air force academy raised as one unit; illustration with text. *Civil Eng* 28:148 F '58
Shearing strength of prestressed lift slabs. A. C. Scordelis and others, bibliog *il plans diags Am Concrete Inst J* 30:485-506 O '58

Rapid construction

Building a factory fast with steel and concrete; Boeing developmental center, Seattle *il Eng N* 160:48-50+ Ja 23 '58
Flat-plate floors gain time and space; Miami Beach's new 670 room Carillon hotel. J. Feld. *il Eng N* 160:51-2 Ap 24 '58
Precast walls slide into place on greased track; laboratory for Goodyear research and development center at Akron, Ohio. *il diags Eng N* 160:36-7 Ap 10 '58
Ten stories concreted in nineteen days; Birkenhead, England. *il Eng N* 160:67-8 Ja 16 '58

Safety measures

Safety rules for shoring concrete. *il diag Safety Maint* 115:24-5 Ja '58; Same, without diag. *Roads & Sts* 100:78 N '57

Standards

Permissible concrete shear stresses of the 1957 British code of practice. C. E. Wilby. *Am Concrete Inst J* 29:1148-8 Je '58
Review of changes in the ACI building code requirements for reinforced concrete. F. Kerkes. *Am Concrete Inst J* 29:185-95 S '57; Discussion. J. de las Casas. 29:809-10 Mr '58
Tentative recommendations for thin-section reinforced precast concrete construction. *Am Concrete Inst J* 29:921-8 My '58; Discussion. 30:1383-7 pt 2 D '58

Tables, calculations, etc.

Concept of elastic parameters. V. Leontovich. *diags Am Concrete Inst J* 29:987-1003 My '58; Discussion. 30:1415-24 pt 2 D '58
Method of design of reinforced concrete sections. P. D. Molitios. bibliog *diags Am Soc C E Proc* 84 [ST 1 no 1509]:1-25 Ja '58; Discussion. J. Flaehn. 84 [ST 6 no 1827]:11-21 O '58
Spatial analysis of vertical U-shaped stirrups in concrete beams. W. I. Barrows. *diags Civil Eng* 28:522-4 J1 '58

Terminology

Glossary of concrete masonry terms. *Concrete* 66:29-33 Ag '58

Bibliography

Glossary of concrete masonry terms. *Concrete* 66:33 Ag '58

Europe

Winter concreting trends in Europe. E. G. Swenson. bibliog *il Am Concrete Inst J* 29:369-84 N '57

CONCRETE construction, Subaqueous**See also**

Bridges—Foundations and piers
Bridges, Concrete
Concrete, Effect of sea water on
Sea walls, Concrete
Wharves, Concrete

CONCRETE construction, Underground

Stresses in reinforced concrete sections subject to transient temperature gradients. H. Samelson and A. Tor. *diags Am Concrete Inst J* 30:377-86 S '58

See also

Concrete construction in mines
CONCRETE construction in mines
Reinforced concrete headgears in South Africa. *il Engineer* 204:723-4 N 15 '57

CONCRETE construction in winter

Circus tent, plastic sheeting, helped bridge contractor defy winter. J. R. Cummings. *il Roads & Sts* 101:68-9+ J1 '58
Concrete power dam goes under wraps for winter; Rapide Beaumont development. *il map diags Eng N* 160:42-4, cover Ja 23 '58
Insulated forms protect winter pour. *il Eng N* 161:56 J1 3 '58
Lessons from cold-weather concrete failures. H. J. Racey. *il Civil Eng* 27:787-9 N '57
Manual to aid in writing specs for cold weather concrete work. *Arch Rec* 124:220 J1 '58
Winter concreting trends in Europe. E. G. Swenson. bibliog *il Am Concrete Inst J* 29:369-84 N '57
Winter construction. C. R. Crocker. *il Eng J* 41:46-9 F '58

CONCRETE curbs. See Curbs, Concrete**CONCRETE dams. See Dams, Concrete****CONCRETE domes. See Domes, Concrete****CONCRETE finishing. See Concrete—Finishing****CONCRETE floors. See Floors, Concrete****CONCRETE footings. See Footings, Concrete****CONCRETE grain elevators. See Grain elevators, Concrete****CONCRETE industry**

Expanding markets are key to cement industry growth, 1957. J. S. Young. *il Min Cong J* 44:75-7 F '58

Statistics

1957 ready mixed concrete totals. K. E. Tobin, Jr. *Concrete* 66:41-5 J1 '58

CONCRETE laboratories**See also**

Portland cement association—Laboratory

CONCRETE lining

- Faster work with concrete tunnel linings. *il Engineering* 185:24-9 F 21 '58
 Liner rings of concrete wedges; London's water tunnel. *il diag Eng N* 160:62-4+ My 8 '58; Discussion. 161:8+ Ag 28 '58
See also

Concrete placing

CONCRETE masonry association, National. *See* National concrete masonry association

CONCRETE mixers

- Aluminum alloy for mobile concrete mixer. *il Engineering* 186:159 Ag 1 '58
 Four wheel drive auto co. introduces new truck mixer carriers at Chicago show. *il Concrete* 66:35-6 Mr '58
 How to do box culverts? (this sub used portable plant and truck mixers. *il Roads & Ssts* 101:95+ J1 '58
 Pan mixer for concrete; Millars' machinery co. *il Engineer* 206:343 Ag 29 '58
 Tax exclusions of truck-mixer components. *Concrete* 66:37 J1 '58

Manufacture

- Aluminum diet reduces concrete mixer. *il Welding Eng* 43:60 Ap '58

CONCRETE mixing

- Automatic batching system combines flexibility and portability. A. G. Bale, jr. *il diag Automation* 5:76-7 My '58
 Effect of mixing and curing temperature on concrete strength. P. Klieger. *Am Concrete Inst J* 29:1063-81 Je '58
 Lightweight structural concrete proportioning and control. G. H. Nelson and O. C. Frel. *Am Concrete Inst J* 29:605-21 Ja '58; Discussion. 30:1243-8; Reply 1249 pt 2 S '58
 Proportioning concrete mixtures using fly ash. C. E. Lovewell and G. W. Wascha. *bibliog Am Concrete Inst J* 29:1093-101 Je '58
 Proportioning, control, and field practice for lightweight concrete. T. R. Jones, jr. and H. K. Stephenson. *Am Concrete Inst J* 29:527-35 D '57
 Proposed recommended practice for selecting proportions for structural lightweight concrete. *bibliog Am Concrete Inst J* 30:306-14 S '58
 Re-proportioning of concrete mixtures for air entrainment. H. J. Gilkey. *Am Concrete Inst J* 29:633-45 F '58
 Uniform structural lightweight aggregate concrete through careful proportioning and control. P. J. Juss. *il Am Concrete Inst J* 29:1059-62 Je '58

Ready-mixed concrete

- Below strength concrete. A. T. Klassen. *diag Concrete* 66:36-7+ S '58
 Branching out on repeat business; Jennings ready-mix, inc. *il Concrete* 66:38-40 S '58
 Electronic longhand controls ready-mix. D. F. Smith. *il Concrete* 66:28-30 Mr '58
 Field inspection of concrete. C. E. Proudley. *il Pub Works* 89:92-6 Je '58
 Labor, fuels, and merchandising; Ohio ready mixed concrete association meeting, Cleveland. *Concrete* 66:20-1+ Ag '58
 Marietta combines material storage, handling for one-man ready mix operation. *il Concrete* 66:45 Ap '58
 Merchandising quality ready mixed concrete. M. E. Sundt. *Concrete* 66:24-7 Ag '58
 1957 ready mixed concrete totals. K. E. Tobin, jr. *Concrete* 66:41-5 J1 '58
 Pros and cons of ready-mix for highway paving; session of the American concrete institute's Chicago convention. *il Roads & Ssts* 101:151-2 Ap '58
 Ready-mix in the highway program. *il Roads & Ssts* 101:73-4+ My; 71-2 Je; 40+ J1 '58
 Ready-mixed concrete plant; Hall and co. *il diag Engineer* 205:740-2 My 16 '58
 Redi-Mix's truck-purchase plan makes salesmen of drivers. H. J. Miller. *il Concrete* 66:34-6 Ja '58
 Selling more ready-mixed with sales promotion. G. E. Paris. *il Concrete* 66:24-7 Je '58
 Stabilized base mix plant-produced by M. J. Grove lime co. W. E. Trauffer. *il Pit & Quarry* 50:148-50 Ap '58
 Truck cleaning time halved by Aquablast. *il Concrete* 66:41 Ap '58

See also

National ready mixed concrete association
CONCRETE pavements. *See* Pavements, Concrete

CONCRETE piers. *See* Piers, Concrete

CONCRETE piling

- Large hollow prestressed concrete piles. *il Roads & Ssts* 101:72-3 Mr '58

Look at old and new in methods and material; Pier A, Key West naval station. Fla. J. W. Schwartz. *il Eng N* 160:44-5 Je '58
 Use of concrete in marine environments. C. M. Wakeman and others. *il Am Concrete Inst J* 29:841-56 *bibliog*(p854-6) Ap '58; Discussion. *bibliog* 30:1309-39; Reply. 1339-46 pt 2 D '58

Steel encasement

- Cast-in-place piles for toll road bridges. *il Roads & Ssts* 101:177 Ap '58

CONCRETE pipe association, American. *See* American concrete pipe association

CONCRETE pipes. *See* Pipes, Concrete

CONCRETE placing

- Air-placed concrete for miniature railroad tunnel. *il Pub Works* 88:144 N '57
 Mechanization speeds tunnel lining; Los Angeles' north central outfall sewer. *il Eng N* 160:43-4 Ap 3 '58
 Proportioning, control, and field practice for lightweight concrete. T. R. Jones, jr. and H. K. Stephenson. *Am Concrete Inst J* 29:527-35 D '57
See also

CONCRETE plants

- Batch plant handles two mixes at once. *il Eng N* 160:81 Mr 6 '58
 Communication; greater plant efficiency; O'-Laughlin ready mix concrete co. *il Concrete* 65:28-30 N '57
 Marietta combines material storage, handling for one-man ready mix operation. *il Concrete* 66:45 Ap '58
 Mighty construction plant faces unique rock problem; Glen Canyon dam. *il plan Eng N* 161:28-31 J1 31 '58

See also

Concrete mixing—Ready-mixed concrete
 Concrete products plants
 Roads, Concrete—Construction equipment

Control equipment

- Automatic batching system combines flexibility and portability. A. G. Bale, jr. *il diag Automation* 5:76-7 My '58

Employees

- Employees object, don't want union; Morse brothers decision by the National labor relations board. *Concrete* 65:28-9 D '57
 Redi-Mix's truck-purchase plan makes salesmen of drivers. H. J. Miller. *il Concrete* 66:34-6 Ja '58

Equipment

- Combines high output with accurate mixing. L. Albertson. *il Elec World* 149:148 Ja 27 '58
 Electronic longhand controls ready-mix. D. F. Smith. *il Concrete* 66:28-30 Mr '58
 Loads six aggregates with ease; illustrations with text. *Concrete* 66:31 Je '58
 Look for this brand new equipment; sand and gravel, ready-mix show. *il diag Rock Prod* 61:126-30 Ja '58
 Ready-mixed concrete plant; Hall and co. *il diag Engineer* 205:740-2 My 16 '58
 Southern concrete co. heats its water with LP-gas. *il Concrete* 66:29 S '58

Finance

- Plan your working capital requirements. E. F. Reiter. *Concrete* 65:35-6+ D '57

Radio communication

- Two-way radio and the recent FCC regulations. *Concrete* 66:20+ O '58

CONCRETE plants, Portable

- Branching out on repeat business; Jennings ready-mix, inc. *il Concrete* 66:38-40 S '58
 Challenge batching plant is also conveyor for stockpiling materials; is towed from job to job. *il Concrete* 66:44 F '58
 How to do box culverts? (this sub used portable plant and truck mixers. *il Roads & Ssts* 101:95+ J1 '58
 New Johnson portable transit mix plant. *diag Concrete* 66:41 Ap '58
 Portable combination plant by Heltzel. *il Concrete* 66:35 Ag '58
 This batcher can be set up or taken down in hours. *il Eng N* 160:61 Ja 23 '58

CONCRETE products

- New water meter boxes developed by Columbia. *il Concrete* 66:36-7 Ag '58

See also

Concrete slabs
 Pipes, Concrete
 Sewer pipes, Concrete

CONCRETE products—Continued**Manufacture**

3,458 bridge girders cast. *Il Concrete* 66:19+ Ag '58

CONCRETE products industry

Southeastern concrete masonry association annual meeting, Memphis, Nov. 3-5. *Concrete* 65:33-4 D '57

CONCRETE products plants

American Marietta's prestressing plant. *Il Concrete* 66:24-7 Mr '58
Plant modernization increases economy; J. R. Asbell block co. B. E. Ritchey. *Il Concrete* 65:34-5 N '57

Standard block & supply co. *Il diag Concrete* 66:32-6 My; 32-5 Je; 34-6 Jl '58
See also

Concrete blocks—Manufacture**Equipment**

A.B.C. Mankato's automatic batching control system. *Il Concrete* 66:38-40 F '58

Automation of the block plant; Standard block & supply co. *Il diag Concrete* 66:32-6 My '58

Bow-legged beast moves huge pipe; United concrete pipe corp. *Il Concrete* 66:35 S '58
Considerations in determining size, layout, and details of autoclaves. J. B. Maher. *Il diag Concrete* 66:28-31 My '58

Fork trucks cut beam handling costs; Pre-cast industries, inc. *Il Concrete* 66:28-9 S '58
Hartley has new moisture control for block plants. *Il Concrete* 66:38+ Mr '58

Plywood pallets weather cycle longer. *Il Concrete* 66:36-7 F '58

CONCRETE research

Further study of solution effects on concrete and cement in pipe. M. E. Flentje and R. J. Sweitzer. *Il Am Water Works Assn J* 49:141-51 N '57

Long-time study of cement performance in concrete; progress report on strength and elastic properties of concrete. P. Klieger. *bibliog Am Concrete Inst J* 29:481-504 D '57

Long-time study of cement performance in concrete; report on the condition of three test pavements after 15 years of service. F. H. Jackson. *bibliog Am Concrete Inst J* 29:1017-32 Je '58

CONCRETE roads. *See Roads, Concrete*

CONCRETE roofs. *See Roofs, Concrete*

CONCRETE sewer pipes. *See Sewer pipes, Concrete*

CONCRETE sewers. *See Sewers, Concrete*

CONCRETE slabs

Critical look at slab design methods. K. E. McKee and E. I. Fiesenhiser. *diags Am Concrete Inst J* 29:397-404 *bibliog* (p40-4) N '57; Discussion. 29:1177-82 Je '58

Folded slab construction. F. J. Samuely. *Il plan diags Am Concrete Inst J* 30:447-60 O '58

Industrial floor slabs; design and construction; with time-saver standards. J. L. Staunton. *diags Arch Rec* 123:245-9+, 257+ My '58

Model helps on a tough foundation job; Crown-Zellerbach building in San Francisco. *Il Eng N* 160:55-6+ Mr '58

Pier slab foundation system prevents failures, cuts construction costs. *Il Arch Rec* 124:199-200 Jl '58

Stiffening effects of edge beams on a right slab bridge. J. A. N. Lee. *bibliog Il diags Engineering* 185:539-42 Ap '58

Ultimate shear strength of reinforced concrete flat slabs, footings, beams, and frame members without shear reinforcement. C. S. Whitney. *bibliog diags Am Concrete Inst J* 29:265-98 O '57; Discussion. 29:1157-62; Reply. 1162-4 Je '58

Wafer slab bridge decks. P. W. Abeles. *diags Engineer* 205:342-3 Je '58

Walls and roof deck quilted for strength, insulation. *Il Arch Rec* 122:238 N '57

See also

Concrete construction—Lift slab method

Testing

Bonding agent can make or break floor repair job; tests conducted by the Haller testing laboratories. *diags Plant* 17:58 Mr '58

General method for analysis of flat slabs and plates. J. F. Brochie. *bibliog diags Am Concrete Inst J* 29:31-50 Jl '57; Discussion. J. Chinn. 29:787-91; Reply. 791-5 Mr '58

Shearing strength of prestressed lift slabs. A. C. Scordellis and others. *bibliog Il plans diags Am Concrete Inst J* 30:435-506 O '58

CONCRETE stairways. *See Stairways, Concrete*

CONCRETE tanks. *See Tanks, Concrete*

CONCRETE towers. *See Towers, Concrete*

CONCRETE walls. *See Walls, Concrete*

CONCRETE water pipes. *See Water pipes, Concrete*

CONCRETE water tanks. *See Water tanks, Concrete*

CONCRETE wharves. *See Wharves, Concrete*

CONCRETE window frames. *See Window frames, Concrete*

CONCRETE workers. *See Concrete plants—Employees*

CONDEMNATION of land. *See Eminent domain*

CONDENSATE wells. *See Gas, Natural—Condensate wells*

CONDENSATION

Chart for condensing film coefficients. Y. P. Varshni. *Chem Eng* 64:296 D '57

Laminar film condensation of pure saturated vapors on inclined circular cylinders. K. E. Hassan and M. Jakob. *bibliog diags A S M E Trans* 80:387-94 My '58

Make a nomograph to find condensate film temperature. F. Rodriguez and J. C. Smith. *Chem Eng* 65:150-1 Mr '58

Nucleation and growth in a photosensitive glass. R. D. Maurer. *bibliog Il (cover) J Ap Phys* 29:1-8 Ja '58

Relaxation theory of transport problems in condensed systems. F. H. Ree and others. *bibliog diag Ind & Eng Chem* 50:1036-40 Jl '58

CONDENSATION, Chemical

Condensation of nitromethane with D-erythrose, D-arabinose, D-mannose and D-glycero-D-gala-heptose in aqueous alkali. J. C. Sowden, and R. R. Thompson. *Am Chem Soc J* 80:2236-7 My '58

Transgel condensates of unsaturated compounds; by reaction of massive doses of halides of S(Se, Te) with organic molecules containing two or more unsaturated components. L. Akobjanoff. *bibliog Rubber Age* 83:993-5 S '58
See also

Phenol condensation products

CONDENSERS

Economic evaluation of condensing methods. J. L. Wolf. *diags Heating-Piping* 30:135-6 Ar '58

Evaporative condensers. D. D. Wile. *Il diags Heating-Piping* 30:153-7 Ag '58

Refrigerant control in air cooled condensers. D. E. Kramer. *bibliog diags Refrig Eng* 66:41-5+ Jl '58

Why and when we use air-cooled condensers in Hawaii. F. H. Kohloss. *Air Cond Heat & Ven* 55:89-90 F '58

CONDENSERS (electricity). *See Electric capacitors*

CONDENSERS (steam)

Butterfly valve controls condenser siphon; power plant of the St Joseph lead co. T. H. Seitz. *flow diag Il Power Eng* 62:82-4 Mr '58

Circulating water systems of steam power plants. R. T. Richards. *plan diag Am Soc C E Proc* 83 [PO 6 no 1483]:1-11 D '57; Same. *Combustion* 29:45-9 Ja '58; Discussion. *Am Soc C E Proc* 84 [PO 2 no 1618]:13-15 Ap; [PO 3 no 1689]:9-10 Je '58

Droptwise condensation of steam. L. C. F. Blackman. *bibliog Il diags Research* 11:394-400 O '58

Effective condenser operation keeps it on the line. E. A. Bernhardt. *Il diags Power Ind* 74:18-19+ O '58

Experimental air condenser in Hungary; Heller system for steam condensation. *flow diag diags Combustion* 30:47-52 S '58

Follow these methods for condenser testing and operation. D. Swift. *Power* 102:98-9+ Mr '58

How to design finned tube shell and tube heat exchangers. E. H. Young and D. J. Ward. *bibliog Pet Eng* 29:C32-4+ N '57

How to organize your new power plant; starting and running your condenser's circulating-water system. D. Swift. *Power* 102:84-5+ Ja '58

Large a-c welded-tube a-c condensers started. *Il Elec World* 160:122+ S 22 '58

Welding copper-base alloy tubes. J. F. Sebold and L. H. Hawthorne. *Il diags Power* 102:94-7+ Mr; 92-5+ Ap; 108-11+ Je '58

What's new in condensers. *Il Power Eng* 62:78-9 O '58

See also

Steam plants—Equipment

Steam turbines

CONDENSERS (steam)—Continued**Cleaning**

To clean your condenser, backwash is cheapest! T. E. Hitzeman and H. W. Feist. *Ind* **diag**s Power Eng 62:72-4 J1 '58

CONDUCT of life

See also

Human relations

CONDUCTIMETRIC analysis. See Volumetric analysis

CONDUCTIVITY, Electric. See Electric conductivity

CONDUCTIVITY, Heat. See Heat conductivity

CONDUITS

See also

Manholes

CONDUITS, Concrete

Machine extrudes concrete conduit. H. C. Persons. *Ind* Concrete 66:28-32 J1 '58

See also

Water conduits, Concrete

Water pipes, Concrete

CONDUITS, Electric. See Electric conduits

CONDUITS, Water. See Water conduits

CONE arc welding. See Electric welding, Arc

CONELRAD. See Radio broadcasting stations—War measures

CONES

Experiments on effects of yaw on boundary-layer development in supersonic cone flow.

D. G. DeCoursin and W. S. Bradfield. *bibliog* J. Aero/Space Sci 25:592-4 O '58

CONESSINE

Structure of conessine. R. D. Haworth and J. McKenna. *bibliog* Chem & Ind p 1510 N 16 '57

CONFECTIONERY

Some applications of the Karl Fischer reagent to sugar confectionery analysis; abstract. A. G. Sansone and M. J. Phillips. *Chem & Ind* p 146-7; Discussion. 147-8 F 8 '58

Some raw materials of the confectionery industry; abstract. E. H. Harbard. *Chem & Ind* p575; Discussion. 575-6 My 17 '58

CONFERENCE rooms**Lighting**

Conference room from a beauty parlor and from a parking garage. *Ind* Illum Eng 53:352-4 Je '58

CONFERENCES

See also

Scientific conferences

CONFERENCES, Employees. See Employees conferences

CONFIGURATION (chemistry). See Stereochemistry

CONGLOMERATE

Petrology and origin of the Poway conglomerate, San Diego county, Calif. G. J. Belenkin and R. Merriam. *bibliog* maps Geol Soc Bul 69:199-220 F '58

CONGO, Belgian**Industries and resources**

Citriodora (eucalyptus citriodora). S. Arc-tander. *Ind* Drug & Cosmetic Ind 82:28-30-4 Ja '58

CONGRESS. See United States—Congress

CONHYDRINE. See Alkaloids

CONIFERS

See also

Douglas fir

CONIUM maculatum

Stereochemistry of the hemlock alkaloids. R. K. Hill. *bibliog* Am Chem Soc J 80:1609-13 Ap 5 '58

CONJUGATION (chemistry)

Absence of hyperconjugative effects on the structure of malononitrile. N. Muller and D. E. Pritchard. *Am Chem Soc J* 80:3483 J1 5 '58

Conjugative effects in cyclopropane systems. E. N. Trachtenberg and G. Odian. *bibliog* Chem & Ind p490 Ap 26 '58

Conjugative transmission in cyclopropane systems. E. N. Trachtenberg and G. Odian. *bibliog* Am Chem Soc J 80:4018-22 Ag 5 '58

Hyperconjugation correlation and calculation of molar volumes of alkenes. C. W. Beck and L. V. Beck. *bibliog* Ind & Eng Chem 50:1301-2 S '58

Micro-method for differentiating between conjugated aldehydes and ketones. J. P. Critchley and others. *bibliog* Chem & Ind p596-7 My 17 '58

Strong or isovalent hyperconjugation in some alkyl radicals and their positive ions. N. N. Muller and R. S. Mulliken. *bibliog* Am Chem Soc J 80:3489-97 J1 20 '58

CONNECTICUT

See also

Architecture, Domestic—Connecticut

Bridges—Connecticut

Electric utilities—Connecticut

Floods—Connecticut

Roads—Connecticut

Industries and resources

Regional planning, the next step to the future. R. P. Lee and W. Blakey. *Traffic Q* 12:58-68 Ja '58

CONNECTING rods**Manufacture**

Work-centering drill jig for connecting-rods R. Minser. *diag*s Mach 64:153 Mr '58

CONNECTORS, Electric. See Electric connectors

CONNOLLY, Peter F.

1958 Moles awards. *por* Comp Air Mag 62:371 D '57

CONOLEX. See Plastic films**CONOVER, Harvey**

Tribute. B. P. Mast. *por* Mill & Factory 62:83 Mr '58; Same. *Aviation Age* 28:6 Mr '58

CONSERVATION of resources

See also

Forests and forestry

CONSOLIDATIONS, Business. See Business consolidations

CONSTRUCTION battalions. See United States—Navy—Construction battalions

CONSTRUCTION equipment

Impact of modern equipment on irrigation and drainage. E. A. Braker. *Ind* Civil Eng 28:506-9 J1 '58

New rig lays heaviest precast pipe; Pipe-mob. *Ind* Eng N 160:30-1+, cover Ja 9 '58

Taller crawler is coming; Harnischfeger corp. *Ind* Eng N 160:113 My 15 '58

Trends in the construction equipment industry. K. Rose. *Ind* Automotive Ind 118:87+ Ja 15 '58

See also

Associated equipment distributors

Cranes, derricks, etc.

Excavating machinery

Motor trucks in construction work

Roads—Construction equipment

Lubrication

Good advice on the selection of lubricants. Roads & Sls 100:161 N '57

Maintenance and repair

Equipment servicing; big problem on big job. R. G. Dymont. *Ind* Diesel Power 35:32-4 D '57

Specifications

Heavy-duty and off-highway trucks specifications; tables. *Automotive Ind* 118:276-85 Mr 15 '58

Transportation

Army makes construction items take-apartable for air transit. *Ind* Machine Design 30:34+ Ja 9 '58

CONSTRUCTION specifications institute

Annual meeting, 2d, Cleveland, July 5-7. *Arch* Rec 124:20 S '58

Booming Construction specifications institute puts a new spotlight on specs. *Arch* Rec 123:40+ Je '58

CONSULTANTS

Functions of a chemical consultant. B. T. Brooks. *Ind & Eng Chem* 50:sup97A-9A Ag '58

Medical consultant in the Bell telephone system; editorial. K. D. Gardner. *Ind* Med 27:311-12 Je '58

CONSULTING engineers

Computer applications for a small consulting firm. E. G. Brander and others. *Ind* Pub Works 89:67-9 J1 '58

Construction and the consultant. *Ind* Chem 34:318-20 Je '58

Construction supervision; consultants look for more of it. *Eng N* 160:25-7 Mr 6 '58

Consultant held not subject to Fair labor standards act. *Civil Eng* 28:146 F '58

Consulting firm's centenary; Messrs. Freeman, Fox and partners. *Ind* Engineer 204:939 D 27 '57

Cooperation among engineers builds New York thruway. C. H. Lang. *Civil Eng* 27:854-5 D '57

CONSULTING engineers—Continued

Highway consultants; their work load is growing. Roads & Sts 101:164-5+ Ap '58
 Responsibility of the consulting engineer in water plant construction. M. A. Wilson. Am Water Works Assn J 50:179-84 F '58
 Role of the systems engineering firm in prototype and consultation work. J. Bylo. II Instruments & Automation 31:96-7 Ja '58
 Will the consultant steal your job? Interview with C. E. Evanson. Mod Materials Handling 13:108-9 F '58

See also

National society of professional engineers

CONSULTING engineers council
 Annual meeting, 2d. San Francisco. Eng N 160:30 My 15 '58

CONSUMER surveys
 Consumer survey versus panel testing for acceptance evaluation of Maine sardines. E. F. Murphy and others. bibliog Food Tech 12:222-6 My '58

Factors influencing consumer opinion of canned Bartlett pears. R. M. Pangborn and S. J. Leonard. Food Tech 12:234-90 Je '58
 Good design is not enough; consumer preference studies needed. J. R. Gulden. Am Cer Soc Bul 37:416 S 15 '58
 Sampling method for household surveys. F. Filippello and others. Food Tech 12:387-90 Ag '58

CONSUMERS

Consumers; the chemical industry's future. J. R. Strickland and J. E. R. Carrier. Chem Eng Prog 54:64-5 Ja '58
 Must the consumer have a new model every year? points of view. Product Eng 29:30-1 Je 2 '58

CONTACT angle

Contact angle measurements of water on coal. R. Bailey and V. E. Gray. bibliog diags J Ap Chem 8:197-202 Ap '58
 Wetting of Alclad by aluminum. R. D. Carnahan and others. II diags Am Cer Soc J 41:343-7 S 1 '58

CONTACT lenses. See Lenses. Contact

CONTACTS, Electric. See Electric contacts

CONTAINER industry

See also

Paper board industry

CONTAINER system (freight handling)
 Standard sizes of shipping containers for cargo interchange. H. H. Hall. II diags Mech Eng 80:44-50 Ja '58

CONTAINERS

1958 equipment buyers' guide; containers, racks and storage equipment. II Mod Materials Handling 13:279-306 My '58
 Packaging today; containers and materials. II Manuf Chem 29:68-71 F '58
 Soap and detergent containers. E. G. Astolfi and others. II Soap & Chem Spec 34:47-9+ Je; 101:3-11 '58

See also

Beer containers
 Bins
 Bottles
 Capsules
 Closures (containers)
 Food containers
 Gas containers
 Helium, Liquid—Storage
 Hoppers
 Labels
 Milk containers
 Package design
 Package goods
 Packing for shipment
 Paper boxes
 Paper containers
 Trays (containers)

Manufacture

See also

Pails—Manufacture

CONTAINERS (for shipping)

Automatic stacking adds third dimension to package conveying system. J. W. Stiles. flow diag II diag Automation 5:60-3 Je '58
 Be sure all containers are properly labeled. J. J. Whalen. Ind Finishing 34:91-3 D '57
 Containers acquiring a new look? II Marine Eng/Log 63:57-9 Ag '58
 Continental Can Fibre drum and corrugated box div. Tappi 41:sup 143A-6A Ap '58
 Corrugated for heavyweights. II Mod Materials Handling 13:117 Mr '58
 Feed alloy pigs in packaged form. II Iron Age 181:101 Mr 20 '58
 Fins for sure! radioactive materials transportation casks. II Welding Eng 43:55 JI '58

Flexible oil barge. II Engineer 206:485-6 S 26 '58

Getting the most from your shipping cases. J. V. Ziemba. II Food Eng 30:62-5+ Ag '58
 Latest in liners; shipping problem materials through use of fabricated and molded plastics liners. II Mod Plastics 36:106-7 S '58
 New container for packaging, handling, storing styrene rubber; Flotainer. II Rubber Age 83:287-8 My '58
 New lug cuts shipping cost. II Food Eng 30:78 Ja '58

Perma-Flex fiber drum; Hedliner inner container. Am Dyestuff Rep 47:13 F 24 '58
 Shipping container for glass sheets; patent. diag Glass Ind 38:631 N '57
 Staples strengthen corrugated boxes. II Steel 142:128-9 F 3 '58
 Trims thousands off packaging; Diamond Crystal Salt. D. MacDonald. II Food Eng 30:78-9 Mr '58

See also

Containers, Steel
 Crates
 Packing for shipment

Manufacture

Seam welding paces high-speed drum fabrication; Dow chemical co.'s Midland (Mich.) div. II Welding Eng 43:33 Ja '58

Standards

Standard sizes of shipping containers for cargo interchange. H. H. Hall. II diags Mech Eng 80:44-50 Ja '58

CONTAINERS, Aluminum

Aluminum cans gain. II Chem & Eng N 35:34 N 11 '57
 Beer in aluminum cans; Hawaii brewing corp. K. Darby. II Mod Metals 14:50+ Ag '58
 Bulk handling; Beattie carpet and rug co. II Plant Eng 12:107 O '58
 Differential annealing makes aluminum fish boxes stronger; often cheaper; Northern aluminum limited. II diags Mod Metals 14:44+ My '58
 Machine to mark containers. II Engineering 184:648 N 22 '57

CONTAINERS, Carry home

Multi-pack units move into high gear; food products. II Food Eng 30:76-7 Mr '58

CONTAINERS, Dispensing

Molded styrene dispensers for cellophane tape. II Mod Plastics 35:166-7 Ag '58
 Self-measuring carton; adds convenience. II Food Eng 30:80-1 Ja '58
 Trims thousands off packaging; Diamond Crystal Salt. D. MacDonald. II Food Eng 30:78-9 Mr '58

Pressurized containers

Aeropak's new filling line. II diag Paint Oil & Chem R 121:12-16 Je 12 '58
 Aeroscripts. J. Pickthall. Published in monthly numbers of American perfumer and aromatics
 Aerosol emulsions. M. J. Root. II Am Perfumer & Aromatics 71:63-4+ Je '58
 Aerosol package contest winners. II Soap & Chem Spec 33:198-9 D '57
 Aerosol protective coatings. L. J. Hecht. II Soap & Chem Spec 34:93-6 Mr '58
 Aerosol statistics. Drug & Cosmetic Ind 82:749+ Ju '58
 Aerosols at Sargent-Gerke. II diags Paint Oil & Chem R 120:8-11 N 14 '57
 Aerosol's little brother pressure-packing grows up; Colgate's pressure-packed toothpaste. diag Ind & Eng Chem 50:sup26A Ap '58
 Aerosols; methods of fill, types, problems. B. J. Whitmire. diags Soap & Chem Spec 34:89+ S '58
 Coast aerosol loader; Western filling corp. II Soap & Chem Spec 34:100-4 Ap '58
 Diethyltoluamide in aerosol repellents. H. F. Pierce. Soap & Chem Spec 34:80-1+ Je '58
 Du Pont reports more pressure packaged drugs. II Soap & Chem Spec 34:167 S '58
 Food processor in the pressurized food field. V. DiRocco. Food Tech 12:335-6 JI '58
 Formulation of aerosol cosmetics. Manuf Chem 29:232 Je '58
 Heat preservation of pressure dispensed food products. E. D. Gizard and P. B. Gottschall. bibliog Food Tech 12:324-9 JI '58
 History and background of pressurized foods. W. E. Graham. bibliog Food Tech 12:317-19 JI '58
 How a food manufacturer can start and complete a pressurized food program. R. C. Webster. bibliog Food Tech 12:330-4 JI '58
 Improved method of loading aerosol containers. F. A. Bower and R. G. Appenzeller. Soap & Chem Spec 34:92+ F '58

CONTAINERS, Dispensing—Pressurized containers—Continued

- Instrumentation for aerosols. W. B. Leighton. *il Soap & Chem Spec* 34:79-81+ Ag '58
- Low pressure aerosol insecticides. R. A. Fulton. *il Soap & Chem Spec* 33:65-7+ N '57
- Method for determining discharge rates from aerosols. *Soap & Chem Spec* 33:36-8 D '57
- Microbiological aspects of pressure packaged foods. G. L. Hays and D. W. Riester. *bibliog il Soap & Chem Spec* 34:113+ S '58
- Nitrogen aerosols. F. A. Mina. *il Drug & Cosmetic Ind* 82:321+ Mr '58
- Nitrogen and other inert gases as propellant in pressurized packaging; abstract. S. Prussin. *Soap & Chem Spec* 34:51 JI '58
- Nitrogen in pressure packaging. C. Haas. *il Soap & Chem Spec* 34:107-8+ My '58
- Nonfood aerosols ride high. *Chem & Eng N* 36:32 Je '58
- Packaging requirements for pressure propelled foods. D. W. Riester and others. *Food Tech* 12:320-4 J '58
- Pharmaceutical aerosols. *Drug & Cosmetic Ind* 82:78 Ja '58
- Pharmaceutical aerosols. M. Barr. *il Soap & Chem Spec* 34:86-7+ Ja '58
- Pressure dispensed food packaging. P. B. Gotschall and E. D. Giggard. *Food Tech* 12:sup+ Ja '58
- Pressure packaging. Published in monthly numbers of *Soap and chemical specialties*
- Pressure packaging with compressed gas propellants. M. J. Root. *diag Soap & Chem Spec* 34:77+ J '58
- Pressurized packages for cosmetics. M. J. Root. *il Am Perfumer & Aromatics* 71:35-7 Ap '58
- Propellants; how much capacity? *Chem & Eng N* 35:31 D 2 '57
- Pushbutton foods: fad or trend? T. C. Taylor. *il diag Food Eng* 30:64-7 My '58
- Role of glycerine in aerosols. S. Prussin and H. R. Shepherd. *il Soap & Chem Spec* 34:87+ O '58
- Silicones and their use in aerosols. T. H. Reilly and D. V. Brown. *bibliog il Soap & Chem Spec* 34:113-15+ F '58
- What's hot for aerosols. A. Gaines. *Paint Oil & Chem R* 121:8-10 Je 12 '58

CONTAINERS, Floating

- Flexible oil barges. *Research* 11:410 O '58
- Floating containers for use on narrow canals. *il Engineer* 105:480 Mr '58

CONTAINERS, Food. See Food containers**CONTAINERS, Glass. See Glass containers****CONTAINERS, Paint. See Paint containers****CONTAINERS, Paper. See Paper containers****CONTAINERS, Plastic**

- High-density polyethylene shampoo containers. *il Mod Plastics* 35:158 JI '58
- Hinges for plastic containers; drawings with text. W. B. Brown. *Product Eng* 28:G 12-13 Mid-O '57
- Ipana Plus brainstorm. M. L. Rittenhouse. *il Drug & Cosmetic Ind* 82:173+ F '58
- Plant problems eased; vulcanized fibre cartons. *il Electronics* 31:52 Mr '58
- Thermoformed plastics add new food-packaging values. *il Food Eng* 29:74-7+ N '57
- Tomorrow's plastics packages. *il Mod Plastics* 35:95-101+ My '58

*See also***Bottles, Plastic****Testing**

- End-use correlation of styrene container testing. E. Nathanson. *diags Plastics Tech* 4:433-8 My '58

CONTAINERS, Steel

- Canned energy for the atomic age. *il Welding J* 37:808-9 Ag '58
- Cylinder getting bigger. *Mill & Factory* 62:258+ Mr '58
- Painting steel pails. H. L. Cerniak. *il Ind Finishing* 34:62-4 F '58
- Protective linings for steel shipping containers. L. J. Nowacki. *il Corrosion* 14:60-2 F '58
- Radioisotopes canned for industrial use in double-walled stainless steel container. *il Ind Lab* 9:33 Je '58
- Rust break-through in repainted steel drums. *Ind Finishing* 34:100-1 Je; 90+ JI '58

See also

- Pressure vessels
- Tanks, Steel

CONTESTS. See Prize contests**CONTINENTAL shelf**

- Geomorphology of continental shelves off Norway, Labrador, and southeast Alaska. H. Holtehaug. *bibliog maps diags J Geol* 66:461-71 JI '58

CONTRACTORS

- Beating the odds when building abroad. *il Eng N* 160:31-2+ Mr 27 '58
- Contractors must be qualified to perform municipal work. L. R. Kuiper. *Pub Works* 39:126 Ap '58
- Engineer-contractor relationship. H. R. Falk. *Civil Eng* 28:427 Je '58
- Role of the general contractor; mining operation for the production of industrial minerals. J. V. Otter. *il Min Cong J* 44:32-5 JI '58
- Why accident prevention is important to a general contractor. W. G. Hawkins. *Roads & Ss* 101:68 Ag '58
- See also*
- Associated general contractors of America
- Electric contractors
- Engineering contracts
- Estimates
- Petroleum—Well drilling—Contractors
- Petroleum pipe lines—Contractors
- Pipe line contractors association
- Pipe line contractors association of Canada
- Road contractors
- Water supply for contractors

Accounting

- Machines in home office make payrolls and keep costs for remote jobs; F. H. McGraw and co. F. J. McClean. *il Civil Eng* 28:327-9 My '58

Taxation

- Contractors face added tax burden. *Eng N* 160:24 Mr 13 '58

CONTRACTS

- When to contract for pilot plant work. J. F. Thornton. *il Ind & Eng Chem* 50:sup58A-61A Ag '58

See also

- Arbitration
- Engineering contracts
- Heating contracts
- Labor contracts
- Petroleum—Well drilling—Contracts
- Petroleum refining—Contracts
- Roads—Contracts

CONTRACTS, Government

- Air force expansion will be a big market. *il map Eng N* 159:21-2 D 19 '57
- AF's \$1½ billion to small firms. D. C. Sharp. *il Electronics* 31:84- Ja 31 '58
- Air force outlines projects. *Electronics* 31:42-3 Mr 21 '58
- Contracting criticized. *Electronics* 31:9 Mr 21 '58
- Cost-plus bonus; air force Doppler radar contract. *Electronics* 31:5 Ag 22 '58
- Defense secretary spells out financing plans. *Electronic Ind* 16:5+ D '57
- Deplores by-passing small firms. *Product Eng* 29:19 Ag 25 '58
- General Dynamics is top defense prime; Pentagon's latest listing of top defense contractors. *Am Mach* 102:98 Mr 10 '58
- Government contract awards for 1957; electronic equipment. *Electronic Ind* 17:21 Je '58
- How government work affects your employees. R. D. Stevens. *Foundry* 86:278+ My '58
- If they shake up Pentagon; consolidation of activities in electronic procurement and research and development. *Electronics* 31:18-19 F 21 '58
- Import lawsuit argued by Eastern States in bid for jet fuel contract. *Oil & Gas J* 58:102 JI 28 '58
- Industry to get space work. *Electronics* 31:36 My 16 '58
- IRAM's new role, new dollars. *Electronics* 30:32 D 10 '57
- Long Island feels pinch. *Electronics Bsns ed* 30:33 N 20 '57
- Managing defensework for profit; special report. *Steel* 142:125-32 Ap 14 '58
- Military backlog \$4.9 billion; Office of naval material sixth annual survey of electronics industry capabilities. *Electronics* 31:8 My 23 '58
- Military; the chill is off. *Electronics* 30:17-18 D 10 '57
- Missiles pace defense sales. *Electronics* 31:19 Ja 10 '58
- Money on the way. *Electronics* 31:36 F 21 '58
- Navy plans heavy buying. *Electronics* 31:34 Mr 7 '58
- New procurement methods for AF's ballistic missiles; AMC's ballistic missiles office. J. Stambler. *il diag Aviation Age* 29:18-19+ Je '58
- NATO sparks production. *Electronics* 31:34 Ja 10 '58

CONTRACTS, Government—Continued

- Plea for maximum utility in government contract reports covering research and development. *E. W. Harold. Inst Radio Eng Proc* 46:360 Ja '58; Discussion. 46:1879-80 N '58
- Production and sales; military's \$4 billion to set record. *Electronics* 31:19 F 21 '58
- Reveals missile money facts. *Electronics* 31:20 My 30 '58
- Shares and prices; anti-missile contracts. *Electronics* 30:5 D 20 '57
- SAC's weapons timetable. *Electronics* 31:26 Ag 8 '58
- Switch to West coast ups ship-making costs. *Product Eng* 29:26 F 24 '58
- USAF buys more missiles. *Electronics Bsns* ed 30:25 N 20 '57
- Urge joint bidding. *Electronics Bsns* ed 30:11 N 10 '57
- Wants maintainability clauses in government contracts. *E. J. Engoron. Machine Design* 30:14 Ja 9 '58
- What is the proper balance between government and commercial work within a company? points of view. *Product Eng* 29:28-9 Ag 25 '58

Renegotiation

- Renegotiation policies are unfair and stifling. *W. M. Allen. Aviation Age* 29:15 Ap '58

Subcontracting

- Government, prime contractors show subcontracting opportunities. *Product Eng* 29:22 Jl 7 '58
- Primes give small firms 20 per cent. *Electronics* 31:26 Je 13 '58
- CONTRACTS, Letting of**
- Competitive bidding for professional work should not be tolerated. *W. G. Murphy. Pub Works* 89:95-6 O '58
- Construction specifications; taking construction bids. *R. E. Wallin. Plant Eng* 12:128-30 O '58

CONTRACTS, Maintenance. See Maintenance contracts**CONTRACTS, Municipal**

- Contractors must be qualified to perform municipal work. *L. R. Kuiper. Pub Works* 89:136 Ap '58

CONTROL, Electric. See Electric control**CONTROL boards**

- Control boards help the boss keep tab. *Il Roads & Sts* 101:70-1 Ap '58

CONTROL charts

- Control charts for log-normal universes. *E. B. Ferrell. Ind Quality Control* 15:4-6 Ag '58
- How control charts helped knitting operations; abstract. *H. F. Littleton. Textile World* 108:51-1 Ap '58
- Properties of control chart zone tests. *S. W. Roberts. bibliog Bell System Tech J* 37:83-114 Ja '58
- Use of the control chart in checking anion-cation balances in water. *A. E. Greenberg and R. Navone. bibliog Am Water Works Assn J* 50:1365-70 O '58

CONTROL equipment

- Abstracts. Published in monthly numbers of *Control engineering*
- Actuator and power feed device; Numation. *ltd. Il Engrneer* 206:342 Ag 29 '58
- Algebraic approach to design of automatic controls. *R. Oldenburger. bibliog A S M E Trans* 80:433-41; Discussion. 441-3 F '58
- Analysis of the transient response of nonlinear control systems. *P. E. W. Grensted. bibliog diags A S M E Trans* 80:427-32 F '58
- Automatic control in board-lath plant, use latest techniques; gypsum products plant of Fibreboard paper products corp. *Il Pit & Quarry* 50:84-6+ My '58
- Automatic control in pipeline systems. *K. Kridner. plan Gas Age* 121:36-8+ Mr 20 '58
- Automatic control of bodies at Fisher plant in Flint. *Il Automotive Ind* 119:48-9 Ag 15 '58
- Automatic controls guarantee top-quality carburizing; Timken roller bearing co.'s railroad bearing plant. *P. M. Unterweiser. Il Iron Age* 182:61-3 Jl 3 '58
- Automatic pouring ups yield. *Il Steel* 143:104+ Ag 4 '58
- Automatic resin content control in high-pressure laminate manufacture. *H. R. Levine. diags Mod Plastics* 35:133-6+ My '58

- Automatic setting of the flexible walls of a large wind tunnel. *T. Barnes and C. E. Dugham. Il diags Inst E E Proc* 105 pt A: 218-28; Discussion. 229-32 Je '58
- Automation of filtration equipment. *J. F. Zievers and C. W. Riley. diags Chem Eng Prog* 54:53-5 Jl '58
- Better controller memory improves control of difficult processes. *L. D. Kleiss. diags Control Eng* 5:131 Mr '58
- Calculating open loop transfer functions from closed loop measurements. *N. R. Goodman and S. Katz. diags Assn for Computing Mach J* 5:289-97 Jl '58
- Combined analog-digital control systems. *M. H. Neithman. diags Elec Manuf* 61:78-86 Je '58
- Control earning index. *W. E. Vannah. flow charts Il Control Eng* 5:67-71 Ag; 84-7 O '58
- Control in man-machine systems. *G. W. Hisover. Il diags Control Eng* 5:81-4 Mr '58
- Control system provides for lower costs; Hancock Telecontrol. *Il Elec Eng* 77:567-8 Je '58
- Controls help shatter production records; controls of air-flow distribution. *Il I S A J* 5:550-1 Ag '58
- Correlation functions and noise patterns in control analysis. *H. Thal-Larsen. diags A S M E Trans* 80:479-85; Discussion. 485-8; Reply. 488-9 F '58
- Crossbar switch applications. *K. Enslin. Il diags Elec Manuf* 61:56+ Ap '58
- Design digest issue; motor, engines and controls. *diags Product Eng* 29:H 1-33, Mid-S '58
- Design digest issue; motors, engines and controls. *Il diags Product Eng* 28:H 1-56 Mid-O '57
- Design of a self-optimizing control system. *R. E. Kalman. bibliog Il diags A S M E Trans* 80:468-77; Discussion. 477-8 F '58
- Designer's sketchbook for hand-control design. *D. R. Witt. Il diags Machine Design* 29:78-80 D 26 '57
- Drivers, controls and accessories. *R. Hancock. Il diags Chem Eng* 63:227-38 Je '56; Excerpts. *Product Eng* 28:H20-1 Mid-O '57
- Effects of limiting error in feedback analysis. *P. E. Straight and F. Michaels. diags I S A J* 5:44-9 My '58
- Fewer pipes in control systems; Baldwin instrument co. *Il Engineering* 184:712 D 6 '57
- Fifty years of automatic control. *D. J. Bergman. Chem Eng Prog* 54:45 S '58
- Fitting computers into control systems; panel discussion. *Elec Eng* 77:396-401 My '58
- Here are latest machines for updating your plant; automatic control. *Il Food Eng* 30: 68-9 O '58
- How to understand automatic control. *G. H. Amber and P. S. Amber. Il Am Mach* 102: 100-12 S 106-3 O 6 '58
- Instrumentation: the combined tools of measurement and control. *M. B. Newell. diags Tappi* 41:sup216A-22A Je '58
- Inventory of new equipment and accessories; instruments and controls. *Il Chem Eng* 64: 289-92+ Mid-N '57
- Natural gasoline: how this plant went automatic. *Playa Del Rey. J. A. Gordon. flow sheet Il Pet Refiner* 37:136-9 Ap '58
- New components. Published in monthly numbers of *Automation*
- New products. Published in monthly numbers of *Control engineering*
- New products. Published in monthly numbers of *I S A Journal*
- New solenoid relay for industrial controls. *Il Elec Manuf* 61:154 Je '58
- 1958 production preview; automatic machine control. *Il Am Mach* 102:150-2 Ja 27 '58
- Optimization of time-varying linear systems with nonstationary inputs. *M. Shinbrot. bibliog A S M E Trans* 80:457-62 F '58
- Optimizing process operations by automatic experimentation. *A. Kerstukas and R. I. Van Nice. Il diags Automation* 5:71-4 My '58
- Patchable time sequence system. *S. E. Dorsey. Il diags Electronic Ind* 17:supO 8-10+ Jl '58
- Phase-space method for analysis of nonlinear control systems. *Y. H. Ku. bibliog diags A S M E Trans* 79:1897-903 N '57
- Place of instrument technology in control engineering; abstract. *H. Hartley. Engineering* 185:698 My 30 '58
- Process control and automation; annual review. *T. J. Williams. Il Ind & Eng Chem* 50:520-4 bibliog (p520-4) pt 2 Mr '58
- Production control equipment saves time at parts maker's plant; Hancock manufacturing co. *Il Automotive Ind* 118:70-1+ Je 1; 119:104 Jl 15 '58

CONTROL equipment—Continued

- Recent developments in telemetering and remote control equipment and its application to pipeline stations. G. C. Wilson. *il* diags Gas Age 122:30-3 O 16 '58
- Remote control of mechanisms. *il* Engineering 185:820 Je 27 '58
- Report on Russian technology; industrial control. G. W. Heumann. *Gen Elec R* 61:15-16 Mr '58
- Robotry in water and sewage works operation. D. E. Dickson and C. H. Billings. *il* diags Pub Works 89:104-12 O '58
- Robots at work; control temperature, pressure, level, reaction time. *il* Chem & Eng N 35:70 D 9 '57
- Role of the systems engineering firm in prototype and consultation work. J. Bylo. *il* Instruments & Automation 31:96-7 Ja '58
- Scanning the field of instrumentation, automatic control and automation; illustrations with text. Published in monthly numbers of ISA journal
- Society of instrument technology annual general meeting; presidential address. H. Hartley. *Ind Chem* 34:388-90 J1 '58
- System controls flow rates; Jones & Laughlin steel corp.'s sintering plant. *il* Steel 143:188 S 15 '58
- Talk with the Russians during the automation show. L. H. Young. *il* Control Eng 5:30-4 Ag '58
- Telestepped well supply for the clay city of the world; Brazil. Ind. G. P. Huntington. *il* diags Water Works Eng 111:928-32 O '58
- Trouble spotting control system speeds maintenance; British motor corp. automobile assembly plant. *il* Automation 5:14 J1 '58
- What and where is the systems engineering market? A. C. Brodie. *Instruments & Automation* 31:80-3 Ja '58
- What is ahead in process control. W. E. Vannah. *Chem Eng Prog* 54:44- S '58
- Who specifies control systems? L. R. Driskell. *Instruments & Automation* 31:88-9 Ja '58
- Yield-tension control improves draw forming. R. Humiston. *il* diags Control Eng 5:129 F '58
- ZETA**; main recording and monitoring equipment. A. E. Cawkill and R. Reeves. *il* diags Electronic Eng 30:115-20 Mr '58
- ZETA**; the control room monitoring and recording instruments. E. P. Butt. *il* diags Electronic Eng 30:110-14 Mr '58
- See also*
- Electric control
 - Electrohydraulic control
 - Electropneumatic control
 - Governors (machinery)
 - Graphic panels
 - Hydraulic control
 - Liquid level control
 - Machinery, Automatic
 - Magnetic control
 - Pneumatic control
 - Servomechanisms
 - Telemetering
 - Temperature—Regulation
 - Vacuum tubes—Control uses
 - also* subdivisions Control and Control equipment under special subjects, e.g.
 - Air conditioning equipment
 - Airplane engines
 - Airplanes
 - Airplanes, Military
 - Atomic power plants
 - Barges, Oil well drilling
 - Blast furnaces
 - Blancheries
 - Boilers
 - Carpet factories
 - Cars, Subway
 - Chemical plants
 - Concrete plants
 - Cranes, derricks, etc.
 - Digesters (paper making)
 - Electric furnaces, Steel making
 - Electric motors, Alternating current
 - Electric motors, Direct current
 - Electric plants (central stations)
 - Elevators
 - Feeders
 - Furnaces, Forging
 - Gas burners
 - Gas stoves
 - Gas turbines
 - Gear cutting machines
 - Guided missiles
 - Heat treatment shops
 - Helicopters
 - Lapping machines
 - Lathes
 - Machine tools
 - Machinery
 - Magnetic instruments
 - Milling machines
 - Nailing machines
 - Nuclear reactors
 - Open hearth furnaces
 - Paper making machinery
 - Petroleum refineries
 - Power plants
 - Presses
 - Printing presses
 - Pumping machinery
 - Pumping machinery, Electric
 - Punching machinery
 - Radio telescope
 - Reactors, Chemical
 - Refrigeration and refrigerating machinery
 - Rolling mills
 - Steam turbines
 - Textile machinery
 - Textile mills
 - Traffic signals
 - Typesetting machines
 - Valves
 - Valves, Hydraulic

Bibliography

New books. Published in monthly numbers of Control engineering

Cooling

Liquid cools inertial components. *Electronics* 31:24 S 19 '58

Design

Custom-designing controllers for time-based routines. E. E. Muehlner. *diags Control Eng* 5:92-7 Ap; 107-10 My '58

Design of cascade control systems; abstract. R. L. Day. *Control Eng* 5:168-4 Ap '58

How to design control loops from frequency response data. B. E. Powell. *diags I S A J* 5:32-6 Ap '58

Human-factors engineering; design of controls. J. D. Vandenberg. *bibliog diags Machine Design* 30:123-6 Je 12 '58

Maximizing control performance and economy with analog simulation. R. G. E. Franks. *bibliog diags I S A J* 5:80-4 S '58

Optimizing control systems. R. L. Cosgriff and R. A. Emerling. *diags Applications & Ind p* 13-16 Mr '58

Stability and physical realizability considerations in the synthesis of multiple control systems. H. Freeman. *diags Applications & Ind p* 1-5 Mr '58

Statistical approach to design of optimizing controls. W. Arrott. *Elec Manuf* 61:11 My '58

Exhibitions

European chemical engineering exhibition and congress, Frankfurt-on-the-Main; process control equipment. *il* Control Eng 5:21-2-4 Ag '58

Failure

Expanding reliability to system effectiveness; symposium. *bibliog Control Eng* 5:105-12 Ap '58 (reprints 20c)

Man-machine balance holds key to system reliability. W. P. Chase. *Aviation Age* 29:72-4-4 My '58

Maintenance and repair

Expanding reliability to system effectiveness; symposium. *bibliog Control Eng* 5:105-12 Ap '58 (reprints 20c)

Trouble shooting pneumatic control systems. W. C. Virbila. *il* diags I S A J 5:60-5 Je '58

Specifications

Dynamic in-system specifications for control components. D. D. Pidhayny. *il* diags Elec Manuf 62:72-8 Ag '58

Study and teaching

Control specialists' training school. *il* Power 102:113-15 Ag '58

Testing

Northern states power co. sidesteps carrier trouble. L. C. LaFourette and K. K. Dols. *il* diags Elec World 149:51-3 F 10 '58

CONTROL rods. See Nuclear reactors—Control rods

CONTROLLED-access highways. See Expressways

CONTROLLERS

Controller's role in an industrial funded military installation. V. E. Day. *Am Soc Naval Eng J* 70:121-6 F '58

CONTROLLERS, Electric. See Electric controllers

CONVECTION. See Heat convection

CONVENTIONS

How can engineering conventions be improved? points of view. *Product Eng* 29: 34-5 Ap '58

CONVENTS

Hospital, nursing school, convent; Blackwell general hospital, School of practical nursing, and convent. *il plans Prog Arch* 39:128-31 Ap '58

CONVERSION charts. See Charts (calculating)

CONVERSION tables

Conversion of refractive dispersions. H. M. Eby and R. A. Klett. *Anal Chem* 30:100-3 Ja '58

Conversion table for mud weights. *Pet Eng* 30:E 1h J1 '58

Conversion tables and factors. *Elec Constr & Maint* 57:22-4 Mid-S '58

Conversions in English and metric systems. H. A. Magnus. *Product Eng* 28:A30-1 Mid-O '57

Decimal and millimeter equivalents of parts of an inch; data sheet. F. Koenig, comp. *Mach* 64:223 Mr '58

Fahrenheit-centigrade conversion; data sheet. *Air Cond Heat & Ven* 55:57-8 J1 '58

Inch-millimeter conversion tables; reference book sheet. G. Hirsch. *Am Mach* 101:107 D 30 '57; *Correction*. 102:135 F 24 '58

Still quicker temperature conversions. *Chem Eng* 65:176 My '58

Temperature conversions. R. Wellsand. *Electronic Ind* 17:65 Ag '58

CONVERTIBLEPLANES. See Airplanes—Design—Convertibleplanes

CONVEYING machinery

Australian lap conveyor cuts handling costs \$5,000 a year; Bradley cotton mills ltd. A. Groblich. *il Textile World* 108:60 Ag '58

Automatic conveyor press. *il Engineer* 206: 17 J1 4 '58

Automatic operation in package sorting; a Railway Express terminal. *il plan diags Elec Manuf* 62:118-20+ Ag '58

Automatic paper roll handling; a result of recent conveyor developments. W. G. Engler. *il diag Paper Ind* 39:681-3 N '57

Automatic sorting technique slashes handling costs; photoelectric cells and microswitches; Lever Brothers' process lines. E. F. Hanford. *il diag Plant* 18:45-7 O '58

Automatic stacking adds third dimension to package conveying system. J. W. Stiles. *flow diag il diag Automation* 5:60-3 Je '58

Better flow from plant to warehouse; specially designed conveyor system. L. Phillips. *il Food Eng* 30:99 S '58

Broke handling system speeds pulp recovery; P. H. Glatfelter co. *il diag Automation* 5:70 Ag '58

Cardboard model selects conveyor. P. C. Noy. *il diags Am Mach* 102:106-7 Ap '58

Compact and complete product painting system; Hoffman engineering co. *il diag Ind Finishing* 34:22-4 J1 '58

Conveying flowable materials. L. S. Metcalf. *il diags Water & Sewage Works* 105: 76-9 F '58

Conveyor allows random choice of anodizing treatment. R. Nyquist. *il diag Iron Age* 182: 51-3 J1 '58

Conveyor bypasses obstacles in interplant handling; Atlantic steel co. *il Iron Age* 181: 97 My 29 '58

Conveyor drives. R. G. Zilly. *il diags Mod Materials Handling* 13:92-7 J1: 102-5 Ag; 123-8 S '58 (reprints \$1)

Conveyor kneads as it pushes. *il diag Product Eng* 29:77 Je 23 '58

Conveyor solved space problem at Highland cotton mills. *il Textile Ind* 122:173 O '58

Conveyor sorts vari-sized packages. *il Plant Eng* 12:107 S '58

Conveyor system eases screen printing problem; Tech-Graphic, Inc. *il Inland Ptr* 141: 65 J1 '58

Conveyor system saves \$144 a day; Kaiser aluminum & chemical corp. *il Steel* 143: 111 Ag 18 '58

Conveyorized forging line speeds hot billet handling; Oldsmobile forge plant. *flow diag il Automation* 5:75-7 Ja '58

Conveyorized painting layout combines continuous flow and flexibility; Ebco mfg. co. *flow diag il Automation* 5:57-9 Ap '58

Conveyorized press line increases productivity by 17 per cent. L. J. Kevitt and A. Weigl. *il diag Am Mach* 102:74-5 Ag 25 '58

Custom finishing furniture on a conveyor; John Widdicombe co. T. Burba. *il Ind Finishing* 34:64-6+ Ag '58

Cuts handling costs; transfer conveyor moves sheet steel from shear to press brake. *il Steel* 142:150 Ap 14 '58

Dewatered sludge handled by conveyor. W. C. Tims. *il Pub Works* 89:100 J1 '58

Diversified furniture finished on a conveyor; Lenoir furniture corp. F. Abel. *il plans Ind Finishing* 34:8-10+ Ja '58

Extending automatic handling to the small parts store room; Western electric co. H. G. Weiss and others. *il Mod Materials Handling* 13:102-7 F '58

Floating conveyors help recover lost gravel; A. Braithwaite & co. L. Walter. *il Rock Prod* 61:98+ Je '58

Fluidized conveying streamlines processing; Pine Grove canning co. *il Food Eng* 29:90 N '57

Gigantic log- and chip-handling system serves Abitibi's new Alpena mill. R. E. Place. *il Paper Ind* 40:362-3, 365 S '58

Handles fragile items safely; Thomas J. Lipton co. *il Food Eng* 30:91 Ag '58

Helical conveyor drives shot-peening nozzle carrier. *il Tool Eng* 41:61 Ag '58

How to design conveyor rolls for drive or drag. L. H. Austin. *diags Product Eng* 29: 78-9 S '58

How to use conveyors in porcelain enameling. *il Cer Ind* 71:72-5 O '58

Industrial know-how handbook; roller conveyors, chain conveyors, belt conveyors, miscellaneous conveyors. *il diags Mill & Factory* 62:MH 12-17 My '58

Liquid-extraction press with automatic conveyor. *il Engineering* 186:32 J1 13 '58

Loader speeds plating line; Eaton mfg. co.'s Cleveland stamping div. *il diag Steel* 141: 108+ D 2 '57

Loads six aggregates with ease; illustrations with text. *Concrete* 66:31 Je '58

Low-cost conveyor units speed forging lines; Lefere forge and machine co. R. H. Eshelman. *il plan Iron Age* 182:110-12 J1 10 '58

Machine-to-machine parts handling. A. T. Gaudreau. *il diags Plant Eng* 12:88-91 Ap '58

Magnetic holders for conveyor line. *il Comp Air Mag* 63:30 Mr '58

Magnets cut conveyor costs; Metallurgical products dept. General electric co. *il Steel* 142:120 Ap 7 '58

Making gravity conveyors in an upgraded manufacturing plant. *flow diag il Automation* 5:40-5 Je '58

Materials handling problems; Westinghouse 6th biennial materials handling conference. *il Automotive Ind* 117:114+ N 1 '57

Materials-handling system combines two cotton mills; Abney mills plant. J. L. Burris. *il Textile World* 108:70-1 Ap '58

Mechanized finishing boosts profits; Hoffman engineering co. Anoka, Minn. *il diag Steel* 142:92-3 Je 23 '58

Mechanized handling trims plant labor cost; Sylvania electric co. W. F. Hutchins. *il Elec World* 148:80 D 30 '57

Modern conveyor components provide versatile interfloor handling. W. E. Engler. *il diag Automation* 5:69-72 Ap '58

Modern conveyor types for automated or semi-automated paint finishing processes. A. S. Dawe and J. A. Kinn. *il Plant* 18: 45-7 S '58

Most automated coffee plant; J. A. Folger & co. *il Plant Eng* 12:114-15+ '58

Multi-level conveyor speeds stuffed-line assembly; Minneapolis-Honeywell regulator co. H. Greenwald. *il diags Am Mach* 102: 122-4 F 10 '58

New coil conveyor saves money; Kaiser aluminum & chemical corp. *il Iron Age* 182: 14 J1 26 '58

New production line speeds painting; Dana corp.'s Parish div. *il Iron Age* 182:109-10 S 4 '58

New twist to twisting trick; conveyors work with mechanical cups to perform a special bakery operation. *il diag Product Eng* 29:91 S 15 '58

1958 equipment buyer's guide; conveyors and conveying equipment. *il Mod. Materials Handling* 13:169-216 My '58

No waiting in this line; Reliance electric & engineering co. *il Steel* 143:108-9 Ag 4 '58

Plastics and mechanical handling. *il diag Brit Plastics* 31:238-40 Je '58

Preassembly cuts painting and handling cost; Janitrol heating & air conditioning div., Surface combustion corp. *il diag Steel* 143: 80-1 Ag 25 '58

CONVEYING machinery—Continued

- Relays bar collision damage on conveyor. L. Albertson. *il Elec World* 149:95 F 17 '58
- Shop conveyor system speeds meter handling. M. E. Holley. *il Elec World* 150:98-9 S 22 '58
- Sinter treating apparatus; patent. *il Iron & Steel Eng* 35:30+- S '58
- Six ways to save handling; illustrations with text. *Steel* 143:64-6 Ag 11 '58
- Special conveyor system automates anodizing equipment; Electric Auto-Lite. *il diag Automotive Ind* 118:104+- Je 15 '58
- Surface treating and protectively coating aluminum windows. R. J. Anen. *il Ind Finishing* 34:28-30+- Ja '58
- Switching; new tool in order picking; Western electric co. roller conveyor systems. E. A. Funk. *il Mod Materials Handling* 13:86-9 Ja '58
- System straps and weighs paper rolls. *il Automation* 5:49 Je '58
- This conveyor looks and remembers; electro-automated sorter-conveyor at Railway Express terminal. *il Mill & Factory* 63:132+- S '58
- This 180-deg. stainless conveyor solves package-transfer problem. *il Food Eng* 30:105 O '58
- Transfer of materials between material-handling systems; cranes, conveyor junctions. A. T. Gaudreau. *il diag Plant* 17:39-41 Ap '58
- Trolley-roller conveyor moves drums; Shell oil co. *il Mod Materials Handling* 13:112-13 O '58
- United parcel service sorts from moving storage! package sorting and distributing center. J. Joseph. *il Mod Materials Handling* 13:100-3 J '58
- Vibrating conveyors. R. G. Zilly. *il diags Mod Materials Handling* 13:101-8 N '58
- See also*
- Coal handling
- Cranes, derricks, etc.
- Feeders
- Hoisting machinery
- Loading and unloading
- Mechanical handling
- Mine haulage
- Monorail conveyors
- Ore handling
- Pneumatic conveying
- Sheet metal handling

Automatic switching

See Conveying machinery—Switching

Belt conveyors

- Automation ends shoe production bottlenecks; Skippy footwear corp. T. Ballots. *il Elec World* 149:96 My 26 '58
- Berkeley pit crushing-conveying plant designed to handle 1800 tons per hour. J. B. Hurl. *il diags Eng & Min J* 158:102-4 D '57
- Conveyor belts speed scarfing; Connors Steel. *Welding Eng* 43:52 Ja '58
- Conveyor chute dust seal improved. O. Molmen. *diags Elec World* 149:76 Mr 17 '58
- Conveyor controls. N. Peach. *diags Power* 102:116-17 J1 '58
- Conveyor drives. R. G. Zilly. *il Mod Materials Handling* 13:102-5 Ag '58
- Conveyor operation in Michigan wilderness; White pine copper co. F. B. Speaker. *il diags Min Eng* 9:1324-5 D '57
- Conveyor system spans river to connect pit. plant; Basic construction materials co. *il diag Rock Prod* 61:102-4 F '58
- Conveyor system speeds loading of New York Trap Rock barges. *il Pit & Quarry* 51:118-19 Ag '58
- Conveyors spur handling of corrugated waste. J. J. Deutsch. *il Elec World* 150:130 Ag 4 '58
- 80-ft conveyor and infra-red oven speed cushion production. *il Elec World* 150:94 S 15 '58
- Grain belt in the grain belt. *il Mill & Factory* 62:148 Mr '58
- Machine sampling from a conveyor belt. A. H. Blyth. *il diags Min Cong J* 43:59-61 N '57
- Magnetic belt prevents part damage. *Iron Age* 180:194-5 N 14 '57
- New link design cuts belt down time. *diags Product Eng* 29:23 Ap 21 '58
- Open pit conveyors at Stoeck rock iron mines. E. H. Mulligan. *il map Min Cong J* 44:24-8 Ja '58
- Operating experience with steel cable-supported conveyors; International minerals & chemical corp. potash mine in New Mexico. E. C. Skinner. *il Min Cong J* 43:38-40+- N '57

- Pneumatic weigh cells improve automatic weighing and blending. W. E. Milligan. *diags Automation* 3:94-6 Mr '58
- Remote-controlled shuttle conveyor serves five discharge points; Pen oreille mines & metals co. *diags Eng & Min J* 159:99 Ja '58
- Rubber conveyor belt with special cover saves tons of sand daily. *il Mill & Factory* 62:149 F '58
- Steel belt conveyor creates integrated production line. *il Automation* 5:56 Ap '58
- Unusual belt system rescues drought-stricken sand plant; West Des Moines plant of Concrete materials co. E. Meschter. *flow diag il Rock Prod* 60:70-2+- D '57
- Waiting; 10,000,000 tons of limestone and Warner co.'s going after it with stope mining methods and belt conveyors. E. Meschter. *il diags Rock Prod* 61:132-4+- Ja '58

See also

Beltting, Conveyor

Coal mining machinery—Conveyors

Chain conveyors

- Conveyor drives. R. G. Zilly. *il Mod Materials Handling* 13:102-3 Ag '58
- Put wheels on your shipments; GE Blooming-ton plant chain conveyor tows carts through warehouse. *il Mill & Factory* 62:95 Ap '58

Control

- Conveyor controls. N. Peach. *diags Power* 102:116-17 J1 '58
- Demand control of power-conveyor operation for automatic processing. *il diag Machine Design* 30:115 Ja 23 '58
- Electronic conveyor controls. *flow diag il diags Coal Age* 63:106-7 Ag '58
- Synchronized conveyors; Chrysler corporation's Plymouth assembly plant. G. E. Mathias. *il diags Elec Constr & Maint* 57:78-81 Ap '58

Lubrication

- Lubricate your conveyor but prevent drippings. *Ind Finishing* 34:81 Je '58

Manufacture

- Upstairs with inert-gas metal-arc welding. *il Welding J* 36:1197-8 D '57

Safety measures

- Up-to-date safety for modern conveyors. J. C. Webb. *il Mag of Stand* 29:192-5 J1 '58

Supports

- Floor stanchions hold conveyors, here; AirResearch industrial div. of Garrett corp. *il Plant Eng* 12:109-11 F '58

Switching

- Switching automatically from a tow conveyor; Merrimack valley works, Western electric co. H. G. Weiss and others. *il diags Mod Materials Handling* 13:104-7 S '58
- Switching; new tool in order picking; Western electric co. roller conveyor systems. E. A. Funk. *il Mod Materials Handling* 13:86-9 Ja '58

CONVEYOR beltting. *See* Beltting, Conveyor

COOK electric company

- Cook Electric; how to make money on research and development. R. M. Loebelson. *il Aviation Age* 29:16-17+- Je '58

COOKERY, Chinese

- Chinese chefs say gas best. *il Am Gas Assn Mo* 40:12-13 Ap '58
- Modern gas range shows its flexibility; Chinese flame-cooking techniques. *il Gas Age* 121:18-19 My 15 '58

COOLANTS. *See* Lubrication and lubricants (cutting and grinding)

COOLING

- Chilled and hot water system for commercial and industrial buildings; detail sheet. *diag Air Cond Heat & Ven* 65:100 My '58
- Church air conditioning needs can be met in many ways. D. C. Briggs and W. R. Woolrich. *il Heating-Piping* 30:80-3 F '58
- Cooling system for gas target entrance windows. M. J. Scott and R. Lindgren. *diag R Sci Instr* 28:1090-1 D '57
- Cooling the Lockheed Electra. B. L. Mesinger. *diags S A E J* 66:46-8 F '58
- Cooling time of strong glass fibers. O. L. Anderson. *biblog diag J Ap Phys* 29:19-12 Ja '58
- Critical study of the optical and mechanical properties of glass fibers. S. Bateson. *biblog J Ap Phys* 29:13-21 Ja '58

COOLING—Continued

- Dehumidification serves comfort air conditioning; Aluminum co. of America district office building in Atlanta, T. F. Rockwell and J. A. Sheahan, *il* diag Heating-Piping 30:115-18 My '58
- Ettingshausen effect and thermomagnetic cooling, B. J. O'Brien and C. S. Wallace, *diags J Ap Phys* 29:1010-12 J1 '58
- Fan-coil system completes cooling of existing office building; Mercantile exchange building, Chicago, M. F. Stearn and others, *il* Heating-Piping 30:76-8 J1 '58
- Gas cooling challenge is cited, J. T. Wolfe, *Am Gas Assn Mo* 39:9 N '57
- Gas cooling role vital, J. C. Hamilton, *Am Gas Assn Mo* 39:17+ N '57
- Greenhouse climate control, R. S. Ash, *bibliog il* plan *diags Refrig Eng* 66:41-6 F '58
- How not to design plant cooling, Heating-Piping 30:129 Ap '58
- How to cut cooling costs; data sheet, W. Hammer, Heating-Piping 30:109-10 J1 '58
- Huge hthw system supplies cooling of heating-cooling operation at New York International airport, W. T. O'Reilly, *il* plan (cover) Heating-Piping 30:75-8 F; 132-3 Mr '58
- Influence of rate of cooling on the zeros of mercury-in-glass thermometers, S. Van Dijk and others, *J Sci Instr* 35:334-8 S '58
- Large room evenly cooled with three centrifugal chillers; Stone manufacturing plant, *Refrig Eng* 66:94+ Ja '58
- Lighting and cooled air effects on panel cooling, L. F. Schutrum and T. C. Mine, *bibliog il* diag Heating-Piping 29:177-84 N '57
- Mass transfer cooling at Mach number 4.8, B. M. Leadon and others, *J Aeronautical Sci* 25:67-8 Ja '58
- Mass-transfer cooling of a laminar boundary layer by injection of a light-weight foreign gas, E. R. G. Eckert and others, *bibliog Jet Propulsion* 28:34-9 Ja '58
- Mechanical engineering critique; heating and cooling with purchased steam, W. J. McGuinness, *Prog Arch* 39:9 J1 '58
- Panel heating, cooling system simulates variety of load conditions; laboratory of Barber-Colman co., W. G. Young, *il* diag Heating-Piping 30:115-16 Ag '58
- Producing cold air; simplicity of the vortex tube method, E. H. Otten, *il* *diags Engineering* 186:154-6 Ag '58
- Research house to test heating-cooling systems for split levels, *plans Arch Rec* 124:218 Ag '58
- Rockefeller Center takes lead with 15,832 ton of cooling, *il* *Refrig Eng* 65:70-1 N '57
- Solar energy utilization for heating, cooling, distillation and drying; ASHAE technical advisory committee on solar energy utilization discussion and decimal-divided outline, to show broadly the technical information needed in the solution for solar utilization problems, *il* Heating-Piping 30:147-52 Je '58
- Study of the extraction of heat from fluorescent luminaires in air cooled rooms, W. Sturrock and L. F. Schutrum, *il* plan *diags Illum Eng* 52:569-74; Discussion, 575-6 N '57
- Water-cooled luminaire in a panel-air system, W. F. Spiegel, *bibliog diags Heating-Piping* 30:139-46 Je '58
- Water stored off-peak can heat and cool space, J. M. Turnbull and G. C. Jamison, *il* diag *Elec World* 148:66-7 N 11 '57
- Why and when we use air-cooled condensers in Hawaii, R. H. Kohloss, *Air Cond Heat & Ven* 55:89-90 F '58

See also

- Air conditioning
Cold storage
Cooling from central stations
Cooling towers
Cryostats
Heat convection
Heat pump
Refrigeration and refrigerating machinery
Supercooling

Tables, calculations, etc.

- Calculation of residential cooling loads, G. Conklin, *il* *Prog Arch* 39:127-31 My '58
- Cooling degree-days, E. C. Thom, maps *Air Cond Heat & Ven* 55:65-72 J1 '58
- Cooling load from pretabulated impedances, H. Buchberg, *bibliog diags Heating-Piping* 30:115-20 F '58
- Cooling loads due to sol-air temperatures; time-saver standards, *Arch Rec* 124:211+ Ag '58

Development of a system of cooling degree days; abstract, J. J. Drummond, *Air Cond Heat & Ven* 55:81 J1 '58

COOLING, Industrial

- Controlled cooling of hot ingots in a single-ingot pit at Appleby-Frodingham, A. Jackson and others, *diags Iron & Steel Inst J* 183:114-18 F '58
- Cooling towers, cold water piping serve process cooling applications, J. C. Bishop, *diags Heating-Piping* 30:99-103 Ap '58
- Cooling wind control for glass forehearths, P. M. Spatz and R. Post, *il* *diags Glass Ind* 39:265-8 My '58
- Double cooling bed for rod mill; Colorado fuel and iron corp., Pueblo plant, D. H. Driscoll and C. Renberg, *Iron & Steel Eng* 35:141-3 Mr '58
- Horizontal grate cools efficiently, *Iron Age* 180:183-4 N 14 '57
- Inventory of new equipment and accessories; heaters and coolers, *il* *Chem Eng* 64:273-4 Mid-N '57
- Quick-frozen water clamps honeycomb for machining, H. H. Powell, *il* *diags Am Mach* 102:102-3 F 24 '58
- Radiant cooling boosts quality, volume of product while saving valuable space, C. A. Mills, *il* *Food Eng* 30:94-5 Je '58
- Sensible vs latent heat removal in radiant cooling, C. A. Mills, *diags Refrig Eng* 66:43-6+ Mr '58

See also

- Cooling towers
Cooling water
Metals, Cold treatment of
Quenching
also subdivision Cooling under special subjects, e.g.
Automobile engines
Brakes, Airplane
Control equipment
Diesel engines
Diesel engines, Marine
Electric equipment
Electric generators
Electric generators, Alternating current
Electric machinery
Electric transformers
Electronic apparatus and appliances
Gas compressors
Gas engines
Internal combustion engines
Klystron
Motor truck engines
Moving picture machines
Nuclear reactors
Rocket engines
Shrinkage of metals
Steel, Quenching of
Transistors
Vacuum tubes

COOLING equipment

- Design engineering of B-47 air cycle air conditioning, G. E. Gregg, *il* *diags Refrig Eng* 65:35-9 N '57
- Du Pont study sees increase in number of commercial-industrial cooling systems within next twelve months, *il* *Air Cond Heat & Ven* 55:132-3 Je '58
- Finishing Chrysler Airtemp cooling and heating units, P. C. Bardin, *il* *Ind Finishing* 34:20-2+ Ja '58
- Natural convection cooling and dehumidifying, L. G. Seigel and W. L. Bryan, *bibliog il* diag Heating-Piping 29:129-34 D '57
- Portable cooler slashes maintenance costs, *il* *Chem Eng* 65:78+ J1 28 '58
- Refrigerated aftercoolers, one way to kill compressed air moisture, D. H. McCuaig and R. B. Schumacher, *il* *Plant Eng* 12:103-10 Ap '58

COOLING from central stations

- Central heating-cooling system saves costs for group of nine buildings; Civic center buildings in Los Angeles, J. Joseph, *il* *diags Power Eng* 61:67-9 N '57

COOLING of fruits and vegetables

- Evaporative cooling safeguards potatoes in storage, R. S. Ash, *il* *diags Air Cond Heat & Ven* 55:79-82 Je '58

COOLING of meat

- Beef carcass chilling and holding, R. Retrum, *Refrig Eng* 66:63-4+ Ja '58

COOLING of roofs. See Roofs—Water cooling**COOLING of water**

- Chiller minimizes cooling water usage, F. Savaglio, *il* *Plant Eng* 12:103 Ag '58
- Fluid cooler sends 12,000 gpm to research reactor, *il* diag *Power Eng* 62:81-2 J1 '58
- How to cool water in your plant, S. D. George, *il* *Mill & Factory* 63:85-8 J1; 97-100 Ag '58

COOLING of water—Continued

Remote coolers, an economical source of good drinking water; Caterpillar's Peoria, Ill. plant. *Il Plant* 18:32 *Jl* '58

See also

Cooling towers

COOLING towers

Cooling tower design and performance. J. Engaltcheff, jr. *diags Heating-Piping* 30: 145-9 *Ag* '58

Cooling tower for shopping center served by stored run-off water. F. H. Kluckhuhn. *flow diag Il Air Cond Heat & Ven* 54:61-4 *N* '57

Cooling tower has innovation. *Il Oil & Gas J* 56:65 *S* 22 '58

Cooling towers. E. E. Goltin. *bibliog Il diags Mech Eng* 80:74-8 *My* '58; *Abstract. Power Eng* 62:62 *Mr* '58

Cooling towers, cold water piping serve process cooling applications. J. C. Bishop. *diags Heating-Piping* 30:99-103 *Ap* '58

Freezing in towers, condensers poses serious problem during winter operation. S. Sussman. *Heating-Piping* 30:98 *F* '58

Here's how cooling towers solved plant's water problems; Philip Morris, Inc. B. H. Griesbach. *Il diag Plant Eng* 12:90-3 *O* '58

How to cool water in your plant. S. D. George. *Il Mill & Factory* 63:97-100 *Ag* '58

Hyperbolic cooling towers invade United States power field. J. O. Kadel. *Il diag Power Eng* 62:75-6 *O* '58

Induced-draught cooling tower. *Il Engineer* 204:721 *N* 15 '57

Natural gasoline; slime control, what you should know. M. C. Forbes. *Pet Refiner* 37: 141-4 *Ap* '58

1957 industrial wastes forum; solving the cooling tower blowdown pollution problem. *Sewage & Ind Wastes* 30:539-54 *Ap* '58

Organization and equipment in cooling-tower water treatment. W. J. Gossom and J. O. Johnson. *Il diags Oil & Gas J* 55:91-5 *D* 9 '57

Plastics packings increase efficiency of cooling towers; receives citation in *Materials in design engineering competition*. *Il diags Materials in Design Eng* 47:147-8 *Ap* '58

Selection and application of cooling towers in steam-electric stations. E. E. Goltin. *bibliog Il diag Combustion* 29:38-44 *N* '57; *Discussion*. P. Rogers. 29:60 *Ja* '58

Tower supplements river cooling. H. J. Nickel. *Il diag Elec World* 149:73-5 *F* 17 '58

Two cooling towers cut water consumption; McCall manufacturing co. M. Boté. *Il Plant* 17:37-8 *F* '58

Two ways to feed acid to cooling towers. F. E. Ziegelmann. *diags Power* 101:132 *N* '57

Corrosion

Controlled pH halts fouling, corrosion. B. Fader and E. S. Kennedy. *Il diag Power Ind* 74:114 *Ag* '58

Design

Effect of operating variables on cooling tower performance. M. Brooke. *diag Pet Eng* 30: C40-2 *My* '58

Failure

Cooling towers rotting? here's how to find out; microbiological examination. M. M. Fetkovich. *Il Plant Eng* 12:102-4 *F* '58; *Same. Air Cond Heat & Ven* 55:94-5 *Ap* '58

Maintenance and repair

Cooling tower care. *Il Plant Eng* 12:136 *Je* '58

Noise

Are your cooling towers noisy? *Il Power Eng* 61:78-9 *D* '57

Tables, calculations, etc.

Tables speed cooling tower calculations. M. Brooke. *Pet Eng* 29:C23-4 *N* '57

Winter operation

Winter operation of cooling towers without freeze-up. S. Sussman. *Air Cond Heat & Ven* 54:67-8 *D* '57

COOLING water

Cooling-system maintenance pays off. D. Haack. *Oil & Gas J* 55:168-4-*N* 4; 251-3 *N* 18; 123-4-*D* 2 '57

18 questions and answers on treating cooling water. E. H. Marks. *Il Power* 101: 148-9 *D* '57

How 31 refineries condition cooling-water systems. J. D. Helwig and H. F. McConomy. *Oil & Gas J* 55:101-4 *D* 2 '57

How to extend cooling tower life; addition of sulfuric acid. *diags Textile Ind* 122:103 *Jl* '58

Laboratory testing of railroad Diesel cooling system corrosion inhibitors. J. I. Bregman and D. E. Boies. *Il Corrosion* 14:83-7 *Je* '58

New dynamic test facility for aqueous corrosion studies. S. Greenberg and others. *flow diag diags Corrosion* 14:46-6 *Ap* '58

Operations of compressors; open vs. closed cooling-water systems. *diags Oil & Gas J* 56:131 *Ap* 14 '58

Pond surface cooling for chemical plant cooling water; Union carbide chemicals co. R. L. Wright and D. E. Kirsopp. *Il plan Chem Eng Prog* 54:99-103 *F* '58

Process costimating; cost of cooling-tower water. W. L. Nelson. *Oil & Gas J* 56: 139 *Je* 2 '58

Quarter century of cooling water treatment for naval Diesel engines. F. E. Clarke. *Il diags Am Soc Naval Eng J* 70:261-77 *My* '58

Recirculation system speeds Diesel engine tests. *Il Power Ind* 74:19-21 *Ap* '58

Stop your cooling-water troubles. W. A. Martin. *diag Power* 102:112-13 *S* '58

Ten large submarine pump supplies test cell cooling water. J. Steward. *Il diag Plant Eng* 12:126-7 *Ap* '58

To keep air conditioning systems operating, combat tower water dirt buildup through good housekeeping. H. J. Shuidener, jr. *Heating-Piping* 30:86-7 *Jl* '58

Treat cooling water for compressor and engine jackets. O. H. Preis. *Il Plant* 18:86-8 *Jl* '58

Trouble-shooting an unusual water problem; Schick, Inc. S. Sussman. *Il Power Ind* 74:17

Water-cooled luminaire in a panel-air system. W. F. Spiegel. *bibliog diags Heating-Piping* 30:139-46 *Je* '58

See also

Cooling towers

COOPERATION

See also

Electric service, Rural—Cooperative lines

Intellectual cooperation

COOPERATION, International. See International cooperation

COOPERATIVE advertising. See Advertising, Cooperative

COOPERATIVE apartment houses. See Apartment houses, Cooperative

COOPERATIVE associations

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Electric service, Rural—Cooperative lines

National rural electric cooperative association

Topco associates, Inc.

COOPERATIVE education. See Engineering education—Cooperative plan

COOPERATIVE electric plants. See Electric plants, Cooperative

COORDINATES

Conservation equations for multicomponent gas mixtures in arbitrary coordinate systems. F. A. Williams. *J Aeronautical Sci* 25:343-4 *My* '58

Co-ordinates which uncouple the equations of motion of damped linear dynamic systems. K. A. Foss. *J Ap Mech* 25:361-4 *S* '58

COORDINATION (chemistry)

Colour isomerism and structure of some copper co-ordination compounds. T. N. Waters and others. *Chem & Ind* p 1203-4 *S* 13 '58

Co-ordinated derivatives of 2-phenyliso-phthalidine. F. G. Mann and H. R. Watson. *Chem & Ind* p 1264 *S* 27 '58

Coordination complexes and catalytic properties of proteins and related substances; effect of cupric and zinc ions on the hydrolysis of *p*-nitrophenyl acetate by imidazole. W. L. Kohn and others. *bibliog Am Chem Soc J* 80:4188-94 *Ag* 20 '58

Coordination compounds of uranium with organic bases in aqueous solution. P. S. Gentile and L. H. Talley. *bibliog Am Chem Soc J* 79:5889-90 *N* 20 '57

Infrared absorption spectra of inorganic coordination complexes; infrared studies of glycino-metal complexes. A. J. Saraceni and others. *bibliog Am Chem Soc J* 80: 5018-21 *O* 5 '58

Infrared absorption spectra of inorganic coordination complexes; infrared studies of some metal thiourea complexes. A. Yamaguchi and others. *bibliog Am Chem Soc J* 80:527-9 *F* 5 '58

New six-coordinate cation; abstract. S. Kirschner *Chem & Eng N* 36:49 *Ap* 28 '58

COORDINATION (chemistry)—Continued

Polymerization through coordination. K. V. Martin. bibliog Am Chem Soc J 80:233-6 Ja 5 '58

Studies in coordination chemistry; a paramagnetic form of bis-(N-methylsallylaldimine)-nickel(II) complex. L. Sacconi and others. bibliog Am Chem Soc J 80:3553-4 Ji 20 '58

Synthesis and infrared study of some rhodium coordination compounds. J. P. Collman and H. F. Holtzclaw, jr. bibliog Am Chem Soc J 80:2054-6 My 5 '58

COOVER, Mervin S.

Electrical engineer in education. por Elec Eng 76:1101 D '57

COPOLYMERIZATION. See Polymerization**COPPER**

Abundances of copper, zinc, and lead in some sulfide deposits. R. L. Stanton. bibliog diags J Geol 66:484-502 S '58

Analysis of films on copper by coulometric reduction. R. H. Lambert and D. J. Trevo. bibliog diags Electrochem Soc J 105:18-23 Ja '58

Bod determinations in wastes containing chelated copper or chromium. G. B. Morgan and J. B. Lackey. bibliog Sewage & Ind Wastes 30:283-6 Mr '58

Continuous dissolution of copper by nitric acid. R. L. Johnson and others. bibliog Ind & Eng Chem 50:1194 Ag '58

Continuous process for etching copper. P. D. Garn and L. H. Sharpe. Bell Lab Rec 36:161 My '58; Same abr. Chem & Eng N 36:58-9 Ap 21 '58; Abstract. Electronics 31:24-5 My 2 '58

Continuously cast copper cakes; Asarco casting technique. il diags Mech Eng 80:90-1 Ap '58

Convection and film instability; copper anodes in hydrochloric acid. R. S. Cooper and J. H. Bartlett. bibliog Electrochem Soc J 105:15-16 Mr '58

Coordination complexes and catalytic properties of proteins and related substances; effect of cupric and zinc ions on the hydrolysis of p-nitrophenyl acetate by imidazole. W. L. Koltun and others. bibliog Am Chem Soc J 80:4188-94 Ag 20 '58

Copper and copper alloys; a survey of technical progress during 1957. E. Voce. Metallurgia 57:13-15 bibliog(309 titles, p 12-15) Ja '58

Copper ion displacement test for screening corrosion inhibitors. W. B. Hughes. J Pet Tech 10:54-6 Ja '58

Copper is temporary base for inlay circuits. il diags Electronics 31:110-4 Ag 15 '58

Copper sweetening; Linde co., div. of Union carbide corp. flow diags Pet Refiner 37:294 S '58

Crimp of annealed nickel, copper, and two nickel-copper alloys. W. D. Jenkins and C. R. Johnson. bibliog J Res Nat Bur Stand 60:173-91 Mr '58

Effect of iron and copper contaminants on cotton degradation in peroxide bleaching. bibliog Am Dyestuff Rep 47:79-83 F 10 '58

Effect of neutron irradiation on the mechanical properties of copper and nickel. M. J. Makin. bibliog Inst Metals J 86:449-55 Je '58

Electrical contact resistance of copper-copper junctions at low temperatures. R. L. Powell and A. A. Aboud. diags R Sci Instr 29:248-9 Mr '58

Electroluminescence of zinc sulfoselenide phosphors with copper activator and halide coactivators. I. J. Hegyl and others. bibliog Electrochem Soc J 104:717-21 D '57

Electropolishing copper, brass and aluminum. K. F. Lorking. bibliog Metal Finishing 56:64-7 Mr '58

Filler metals for joining; with engineering data sheet. O. T. Barnett. il Welding Eng 43:56-7 Ja '58

Fluoride complexes of zinc, copper and lead ions in aqueous solution. R. E. Connick and A. D. Paul. bibliog Am Chem Soc J 80:2069-71 My 5 '58

Formation of growth spirals on cuprous oxide grown on copper single crystals. G. T. Miller, jr. and K. R. Lawless. il J Ap Phys 29:863-4 My '58

How to get more for your machining dollar; tips on machining copper and copper-base alloys. il diags Iron Age 181:122-6 Ap 24 '58

Influence of copper and vanadium on the sintering of magnesium-iron ferrites. L. C. F. Blackman. J Ap Phys 28:1511-12 D '57

Interaction of 2-methyl-2-amino-3-butanone oxime with nickel(II) and copper(II) ions. R. K. Murrmann. bibliog Am Chem Soc J 80:4174-80 Ag 20 '58

Low-temperature thermal conductivity of some commercial coppers. R. L. Powell and others. bibliog diags J Ap Phys 28:1282-8 N '57

Luminescence of self-coactivated ZnS:Cu. M. H. Aven and R. M. Potter. bibliog Electrochem Soc J 105:134-40 Mr '58

Measurement of iron and copper losses in transformers. T. R. Specht and others. Power Apparatus & Systems p 470-6 Ag '58; Abstract. Elec Eng 77:402 My '58

Mechanism of copper catalysis in insulating oil oxidation. C. N. Thompson. bibliog Inst Pet J 44:295-310; Discussion. il diags 310-17 S '58

New process for regenerating copper etch baths. il Iron Age 181:138 My 22 '58

Nickel, copper and some of their alloys as catalysts for the hydrogenation of carbon dioxide. L. E. Craty, jr. and W. V. Russell. bibliog Am Chem Soc J 80:767-73 F 20 '58

Oxidation of copper to Cu₂O and CuO. D. W. Bridges and others. bibliog Electrochem Soc J 103:475-8 S '56; Discussion. 104:749-50 D '57

Patina coatings on copper and copper alloys; abstract. Metal Finishing 56:76 Ja '58

Polymerization of copper. F. W. Young, jr. il diags J Ap Phys 29:760-4 My '58

Properties of materials; coppers and brass. Materials in Design Eng 48:94-5 Mid-O '58

Schlieren studies of concentration gradients at a Cu/HCl anode. R. S. Cooper. bibliog diags Electrochem Soc J 105:506-12 S '58

Simultaneous distillation of ammonia and separation of copper from nickel-bearing solutions. V. N. Mackiw and others. bibliog flow diags il diags Chem Eng Prog 54:79-85 Mr '58

Some addition compounds of bis-sallylaldimide-ethylenediamine-copper. T. Tanaka. bibliog Am Chem Soc J 80:4108-10 Ag 5 '58

Staining of copper and brass. E. Mattsson. bibliog(37 ref) il Corrosion 14:48-52 F '58

Thermal properties of tungsten vs copper for electron tube delay lines. R. A. Paananen. Inst Radio Eng Proc 46:500 F '58

Twinned epitaxy of copper on copper. T. H. Orban. bibliog il diags J Res Nat Bur Stand 60:597-608 Je '58

See also**Steel—Copper content****Analysis**

Analysis for zinc, cadmium and copper in electroplating waste effluents. F. Stevens and L. E. Lancy. bibliog Plating 45:832-4 Ag '58

Anomalous copper results with the use of porcelain crucibles. H. Zeitlin and others. Anal Chem 30:1284-6 Ji '58

Apparatus and technique for multiple tests by the confined-spot method of colorimetric analysis; application to field estimation of nickel and copper. J. H. McCarthy, jr. and R. E. Stevens. bibliog il diags Anal Chem 30:535-8 Ap '58

Complexometric titration of copper and other metals in mixture; 1-(2-pyridylazo)-2-naphthol (dye) as indicator. K. L. Cheng. Anal Chem 30:243-5 F '58

Controlled potential coulometric determination of uranium and copper in homogeneous reactor fuels. L. G. Farrar and others. bibliog Anal Chem 30:151-4 S '58

Electroanalysis with controlled cathode potential of metallic copper applied to fabrics as metallo-organic fungicides. J. Bubernak and A. D. Baskin. bibliog diags Textile Res J 27:878-82 N '57

Fast sulphon black F as an indicator for the EDTA titration of copper. R. Belcher and others. Chem & Ind p 1647 D 21 '57

Separation by paper chromatography and spectrophotometric determination of trace amounts of cobalt, nickel, copper, and zinc. W. J. Frierson and others. bibliog il Anal Chem 30:468-71 Ap '58

Spectrophotometric determination of copper and zinc in animal tissues. T. J. McCall and others. Anal Chem 30:1345-7 Ag '58

Spectrophotometric microdetermination of copper in copper oxides using oxalyldihydrazide. G. R. Stark and C. R. Dawson. bibliog Anal Chem 30:191-4 F '58

COPPER—Continued

Cleaning

Cleaning and preparation of metals prior to electroplating: effect of oxide films. H. B. Linford and others. *bibliog* *il* *diag* *Plating* 45:349-59, 728-33 *Ap*, *Jl* '58

Corrosion

Corrosion of metals in buildings; the behaviour of copper in buildings. S. Baker and E. Carr. *Chem & Ind* p 1332-6 *O* 12 '57; *Discussion*, p 1439-41 *N* 2 '57

Investigation of chemical variables affecting the corrosion of copper. W. D. Robertson and others. *bibliog* *diag* *Electrochem Soc J* 105:569-73 *O* '58

Salt spray testing of tinplated copper. M. S. Frant. *bibliog* *diag* *Plating* 45:157-60, 734-8 *P*, *Jl* '58

Some basic corrosion research at NBS: single copper crystals in the shape of spheres used in fundamental studies. J. Kruger. *il* *Ind & Eng Chem* 50:sup55A-6A *Mr* '58

Stress corrosion cracking in copper alloy weldments. R. T. Phebus. *bibliog* *il* *diag* *Am Soc Naval Eng J* 70:543-9 *Ag* '58

Metallography

Surface structure of slip bands on copper fatigued at 293°, 90°, 20°, and 4-2°K. D. Hull. *bibliog* *il* *diag* *Inst Metals J* 86:425-30 *My* '58

Prices

Commodity price trends; steel, copper and aluminum. D. Williams. *Wire & Wire Prod* 33:277-83+ *Mr* '58

Copper hits bottom. *Electronics* 31:28 *F* 7 '58

Copper outlook is for price upturn. R. H. Glover. *Elec World* 149:68 *Mr* 24 '58

Protection

Thermal shock resistant nickel plating on copper. L. Missel. *il* *Metal Finishing* 56: 49-51 *S* '58

Testing

Behaviour of cold-worked copper in fatigue. D. S. Kemsley. *bibliog* *il* *Inst Metals J* 87: 10-15 '58-59

Strain hardening behaviour of high purity copper; an appraisal of tests by Carreker and Hibbard. E. Voce. *Metallurgia* 57:111-16 *Mr* '58

Welding

How to weld copper and its alloys. L. F. Spencer. *il* *diag* *Steel* 142:86-9 *Ja* 27; 90+ *F* 24; 110-12+ *Mr* 17; 106-8 *My* 5; 122-3 *My* 26 '58

Meaning of weldability. T. B. Jefferson. *il* *Welding Eng* 43:5-8+ *Mid-Je* '58

Weld copper cooling coils for fast production. *il* *Iron Age* 180:135 *D* 12 '57

COPPER, Aluminum clad

New temperature-aging data on aluminum-clad copper wire. C. L. Carlson. *Elec Manuf* 62:11 *S* '58

COPPER, Powdered

Copper strip process saves 80 per cent; powdered metal method. E. W. Bliss *co*. *il* *Steel* 143:114-15 *S* 8 '58

Rolls powder strip. *il* *Iron Age* 182:109-11 *S* 18 '58

COPPER acetate

Organic sulfides and polysulfides; reactions with doctor solution, silver nitrate, cupric acetate and lead acetate. Y. Minoura. *bibliog* *Rubber Chem & Tech* 31:618-20 *Jl* '58

COPPER alloys

Activation of silver-magnesium and copper beryllium dynodes. A. H. Sommer. *J Ap Phys* 29:598-9 *Mr* '58

Alloy selection for brazing. L. V. LaRou. *il* *Machine Design* 29:132-5 *N* 14 '57

Contribution to the theory of stress corrosion in Al-4 per cent Cu alloys. W. H. Colner and H. T. Francis. *bibliog* *il* *Electrochem Soc J* 105:377-84 *Jl* '58

Copper alloys for corrosion resistance. R. V. L. Hall. *il* *Chem Eng Prog* 54:51-5 *Je* '58

Copper and copper alloys; a survey of technical progress during 1957. E. Voce. *Metallurgia* 57:3-15 *bibliog* (309 titles, p 12-15) *Ja* '58

Copper-base alloy compares with nickel silver. C. H. Hannon. *Iron Age* 180:134-6 *N* 21 '57

Creep of annealed nickel, copper, and two nickel-copper alloys. W. D. Jenkins and C. R. Johnson. *bibliog* *J Res Nat Bur Stand* 60:173-91 *Mr* '58

Cunife wire magnets of small size. I. L. Cooter and R. E. Mundy. *bibliog* *J Res Nat Bur Stand* 59:379-82 *D* '57

Cupro-nickels offer corrosion resistance and hot strength. J. L. Everhart. *bibliog* *il* *Materials in Design Eng* 47:114-20 *My* '58

Diffusion bonding below 1000° F; techniques and systems used to obtain joints between beryllium copper and Monel; fabrication of throat blocks for hypersonic wind tunnels. J. T. Niemann and others. *bibliog* *il* *diag* *Welding J* 37:sup337-42 *Ag* '58

Effect of oxide recrystallization on the oxidation kinetics of a 62:38 copper-nickel alloy; abstract. J. A. Sartell and others. *Metal Prog* 72:178-4 *D* '57

Filler metals for joining; with engineering data sheet. O. T. Barnett. *il* *Welding Eng* 43:56+ *Ja* '58

High-temperature effects on nickel-copper tensile properties. *Elec Manuf* 61:9-10 *Ap* '58

How iron affects forgeability of copper alloys. C. H. Hannon. *il* *Iron Age* 180:125-7 *N* 7 '57

How to get more for your machining dollar; tips on machining copper and copper-base alloys. *il* *diag* *Iron Age* 181:122-6 *Ap* 24 '58

How to weld copper and its alloys. L. F. Spencer. *Steel* 142:106-8 *My* 5 '58

Low-temperature thermal conductivity of some commercial coppers. R. L. Powell and others. *bibliog* *diag* *J Ap Phys* 28:1282-8 *N* '57

Martensite transformations of the beta phase in copper-aluminum-nickel alloys. D. Hull and R. D. Garwood. *bibliog* *il* *diag* *Inst Metals J* 86:485-92 *Jl* '58

Meaning of weldability. T. B. Jefferson. *il* *Welding Eng* 43:5-8+ *Mid-Je* '58

Metal selector; copper casting alloys; properties and applications. *Steel* 141:178 *O* 28 '57

Metal selector; copper wrought alloys; properties and applications. *Steel* 141:173 *O* 28 '57

Metalworking. 1962. T. E. Veltfort. *Am Mach* 101:152 *N* 18 '57

Mill and laboratory evaluation of oils for rolling of copper alloys. F. L. Reynolds. *il* *Lub Eng* 14:98-103+ *Mr* '58

New bearing fills railroad need; cartridge-type units of copper alloy. *il* *Iron Age* 181:39 *My* 15 '58

New commutator alloy takes the heat; zirconium-copper alloy. W. Hodge. *Iron Age* 182:102-3 *Jl* 10 '58

Nickel-copper alloy roof promises long, maintenance-free life. R. M. Chapman. *il* *Arch Rec* 123:256 *Mr* '58

Patina coatings on copper and copper alloys; abstract. *Metal Finishing* 56:76 *Ja* '58

Precipitation and magnetic annealing in a copper-cobalt alloy. J. J. Becker. *J Ap Phys* 29:317-18 *Mr* '58

Selection of welding-rod chemical composition through mathematics. G. H. Bohn. *Welding J* 36:sup41-9 *D* '57

Semicontinuous casting of beryllium copper. K. G. Wikle. *il* *diag* *Metal Prog* 73:85-9 *Ap* '58

Stress corrosion cracking in copper alloy weldments. R. T. Phebus. *bibliog* *il* *diag* *Am Soc Naval Eng J* 70:543-9 *Ag* '58

Study of precipitate particles in Cu-Co employing ferromagnetic resonance. D. S. Rodbell. *bibliog* *J Ap Phys* 29:311-12 *Mr* '58

See also

Aluminum bronze

Brass

Bronze

Manganese bronze

Monel metal

COPPER ammonium acetate

Cuprous ammonium acetate butadiene extraction. *diag* *Pet Eng* 30:C38a-38b *My* '58

Making butadiene; feed preparation and finishing by acetone or acetonitrile and cuprous ammonium acetate. H. C. Reidel. *flow sheet* *il* *Oil & Gas J* 55:110+ *D* 16 '57

COPPER carbonates

Determination of ammonia with cupric carbonate. R. C. Blinn and F. A. Gunther. *Anal Chem* 29:1882-3 *D* '57

COPPER chlorides

Preparation of copper (I) chloride. E. C. Stathis. *Chem & Ind* p633 *My* 24 '58

COPPER clad steel. See Steel, Copper clad

COPPER compounds

Colour isomerism and structure of some copper co-ordination compounds. T. N. Waters and others. *Chem & Ind* p 1203-4 *S* 13 '58

Composition of copper complexes in cupro-cyanide solutions. R. E. Rethbaum. *bibliog* *Electrochem Soc J* 104:682-6 *N* '57

COPPER compounds—Continued

- Copper salt catalysis of the air oxidation of reduced uranium compounds in carbonate-bicarbonate solutions. W. E. Clifford. *Am Chem Soc J* 80:245 Ja '58
- Dissociation of copper pyridoxylidenevaline. H. N. Christensen. *bibliog Am Chem Soc J* 80:2305-8 My '58
- Equilibrium studies of the copper(II) oxalate complex between an aqueous solution and an anion-exchange resin. L. D. Cockerell and P. H. Woods. *bibliog Am Chem Soc J* 80:3856-8 Ag '58
- Magnetic and thermodynamic properties of copper(II) acetylacetonate. J. J. Fritz and R. G. Taylor. *Am Chem Soc J* 80:4484-7 S '58
- Metal ion complexes of 2-(2-aminoethylamino)-ethanol; reaction of the copper(II) complexes with sodium hydroxide. J. L. Hall and W. E. Dean. *bibliog Am Chem Soc J* 80:4183-8 Ag '58
- Metallated dye complexes; the stereochemistry of copper(II)-dye complexes. H. B. Jonassen and J. R. Oliver. *bibliog Am Chem Soc J* 80:2347-50 My '58
- Mixed-valence copper complex with thiol compounds. I. M. Klotz and others. *bibliog diag Am Chem Soc J* 80:2920-3 Je '58
- Synthesis and infrared spectra of α,β -unsaturated β -ketoamines and their copper chelates. H. F. Holtzclaw, Jr. and others. *Am Chem Soc J* 80:1100-3 Mr '58

COPPER cyanide

- Composition of copper complexes in cupro-cyanide solutions. H. P. Rothbaum. *bibliog Electrochem Soc J* 104:682-6 N '57

COPPER foil

- Foil clad laminates in printed circuitry. D. K. Rider. *il diags Metal Prog* 74:81-5 S '58
- Study of the effectiveness of a copper foil trap for mercury vapor in vacuum. R. H. McFarland and D. G. McDonald. *R Sci Instr* 29:530-1 Je '58

COPPER founding

- Advance in copper; cakes 25 ft. long, 36 in. wide are cast continuously. *il Steel* 142:120 Ap '58
- Asarco casts giant copper cakes. *Iron Age* 181:163 Mr '58
- Asarco's semi-continuous casting of copper cakes. *il diag Eng & Min J* 159:109 Ap '58
- Continuous casting of tough pitch copper cakes. *il Elec Eng* 77:470-1 My '58
- Copper comes in a bigger cake. *il Chem & Eng N* 35:27 Mr '58
- Tough-pitch copper continuously cast. F. W. Starratt. *il diag J Metals* 10:404-6, cover Je '58

*See also***Brass founding****COPPER in the body**

- Copper in health and disease; editorial. M. M. Wintrobe. *Am J Clinical Nutrition* 6:75-6 Ja '58

COPPER industry and trade

- Copper industry in 1957. J. B. Pullen. *il Min Cong J* 44:56-9 F '58
- Copper, 1957. G. H. Cleaver. *Eng & Min J* 159:113-15+ F '58

COPPER metallurgy

- Cyclone classification at Chuquicamata. D. S. Sanders. *il diags Min Cong J* 44:55-8+ Mr '58
- Flash smelting copper concentrates. P. Bryk and others. *bibliog flow sheet il diags J Metals* 10:395-400 Je '58; *Excerpts, Min Eng* 10:683-4 Je '58
- New techniques for copper refining; use of oxygen. E. F. Kurzinski. *bibliog il diags J Metals* 10:533-7 Ag '58
- Progress report on roasting copper-cobalt concentrates. L. F. Theys. *J Metals* 10:476 Jl '58
- Sulfate roasting copper-cobalt sulfide concentrates. L. F. Theys and L. V. Lee. *bibliog il J Metals* 10:134-6 F '58
- Suspended basic roofs for copper furnaces. G. Bridgstock and others. *diags J Metals* 10:412-13 Je '58
- Tough-pitch copper continuously cast. F. W. Starratt. *il diag J Metals* 10:404-6, cover Je '58
- Zone refining of impure copper; abstract. E. D. Toimie and D. A. Robbins. *Metal Prog* 73:158+ My '58

*See also***Copper founding****Electrometallurgy**

- Copper melting as furnace starts up. *il Steel* 142:100-1 F '58

COPPER mines and mining

- Here's how we do it; ammonium nitrate for use in blasting at the Utah Copper pit of Kennecott copper corp. L. E. Snow. *il diag Min Cong J* 44:62-4 Jl '58
- World's copper resources. H. J. Miller. *bibliog Inst E E Proc* 104 pt A:522-4 D '57

Arizona

- How scientific exploration found Pima mine; Pima mining co. J. B. Huttli. *flow sheet il map Eng & Min J* 159:100-6 Mr '58
- Ore transportation at San Manuel; flexible haulage system moves large tonnage at high speed. C. F. Cigliana. *il plans diag Min Eng* 10:573-6 My '58
- Pima's new copper mines forge ahead. *il Eng & Min J* 159:102-3 Je '58
- Semi-automatic hoist at Copper Queen proves safe and economical. A. E. Himebaugh. *diag Min Eng* 10:566-7 My '58
- Skip hoisting solves deep pit problem; Pima mining co. *il Eng & Min J* 159:98-9 Mr '58

Chile

- El Salvador reports on Inca adit progress; Andes copper mining co. H. E. Robbins and others. *il diags Min Eng* 10:333-6 Mr '58

Ireland

- Ireland prepares for a renaissance in mining; St Patrick's copper mines, ltd. W. Coughlin. *il map Eng & Min J* 159:82-4 My '58

Michigan

- Conveyor operation in Michigan wilderness; White pine copper co. F. B. Speaker. *il diags Min Eng* 9:1324-5 D '57

Montana

- At Berkeley pit, blasting is an art. J. B. Huttli. *il diags Eng & Min J* 158:107-10 D '57
- Berkeley pit maintenance area is planned for efficiency. *il plan diags Eng & Min J* 159:110-13 Mr '58

Nevada

- Kennecott takes possession of Coppermines pits. *Eng & Min J* 159:22-3 Mr '58

New Mexico

- Estimating data for open pit haulage trucks; Kennecott copper corp. H. A. Wilmeth. *Min Eng* 10:577-80 My '58

North Carolina

- Modern engineering turns abandoned mine into a profit; Appalachian sulphides inc. S. J. Nemeth and N. J. Myers. *il Min Eng* 10:82-3 Ja '58

Peru

- Geology of Toquepala, Peru. K. Richard and J. H. Courtright. *bibliog map diags Min Eng* 10:Trans 262-6 F '58
- Porphyry copper deposit Cuzajone, Peru. W. C. Lacy. *map plans diags Min Eng* 10:Trans 104-7 Ja '58

Tennessee

- Improved pilot hole surveying method aids shaft extension; Tennessee copper co. R. Lee-Aston. *il plans diags Min Eng* 10:346-51 Mr '58

COPPER ores

- Origin of the Manto copper deposits in lower California, Mexico. H. Nishihara. *bibliog Econ Geol* 52:944-51 D '57
- Supergene copper-uranium deposits in northern Nova Scotia. J. J. Brummer. *bibliog il map diags Econ Geol* 53:309-24 My '58
- World's copper resources. H. J. Miller. *bibliog Inst E E Proc* 104 pt A:522-4 D '57

COPPER oxides

- Cleaning and preparation of metals prior to electroplating; effect of oxide films. H. B. Linford and others. *bibliog il diag Plating* 45:349-59, 728-33 Ap, Jl '58
- Excitation of short infrared pulses with high repetition rate by electron bombardment of cuprous oxide. R. Ferichs and F. Weichman. *bibliog il diag J Ap Phys* 29:710-13 Ap '58
- Formation of growth spirals on cuprous oxide grown on copper single crystals. G. T. Miller, Jr. and K. R. Lawless. *il J Ap Phys* 29:863-4 My '58
- Oxidation of copper to Cu₂O and CuO. D. W. Bridges and others. *bibliog Electrochem Soc J* 103:475-8 S '56; *Discussion*. 104:749-50 D '57

COPPER plating

Acid copper plating on aluminum. J. T. N. Atkinson. *bibliog Electrochem Soc J* 105: 24-7 Ja '58

Alloys have field day: corrosive copper plating baths need special handling. *il Chem & Eng N* 36:50 Ja 20 '58

Bright copper plating processes. *Metal Finishing* 56:84 Jl '58

Cast stainless pumps for corrosive electrolytes: copper plating of steel wire. *il Eng J* 41:89 Mr '58

Conductor wire plated continuously: Point Breeze works of Western electric co. *il Steel* 142:118+ Mr 24 '58

Gain growth and flecking in electroplated copper caused by cyclic stress. H. Okubo and N. Nozaki. *il Electrochem Soc J* 105: 384-8 Jl '58

Plating conditions and structure of compact copper coatings; abstract. J. Elze. *Metal Finishing* 55:83 N '57

Research on microthrowing power and leveling of plating baths. E. Raub. *bibliog il diag Plating* 45:486-92 My '58

COPPER sulfates

Control of earthy, musty odors in water by treatment with residual copper. K. A. Bartholomew. *bibliog Am Water Works Assn J* 50:481-6; Discussion. J. K. G. Silvey. 486-8 Ap '58

Copper sulfate electrode. G. N. Scott. *bibliog il Corrosion* 14:36-40 Mr '58

Copper sulfate is in demand. *Chem & Eng N* 36:28+ Jl 14 '58

Copper sulfate: its use for root control in sewers. J. W. Hood. *Water & Sewage Works* 105:R255-6+ S 15 '58

Tentative AWWA standard for copper sulfate. *Am Water Works Assn J* 50:151-8 Ja '58

COPPER sulfides

Conductivity and sulfur activity in liquid copper sulfide. M. Bourgeois and others. *bibliog J Metals* 9:Trans 1454-8 N '57

COPPER tubes. See Tubes, Copper**COPPER wire.** See Wire, Copper**COPPERWORK**

Mill and laboratory evaluation of oils for rolling of copper alloys. F. L. Reynolds. *il Lub Eng* 14:93-103+ Mr '58

COPROPHAGY

Effects of the prevention of coprophagy in the rat. R. H. Barnes and others. *bibliog J Nutrition* 64:533-40; 65:103-14, 251-8 Ap-Je '58

COPYING processes

County court house speeds copy work. *il Pub Works* 89:77 F '58

Integrated data processing yields six figure savings: integrating production information, clerical automation; routing with Flexowriter tapes. Azograph duplication. H. Rodenfels. *il Mill & Factory* 62:120-2 Mr '58

Microfilm copied in ten seconds: 3M brand microfilm reader-printer. *il Ind Lab* 9:95 My '58

See also

Blueprints
Duplicating machines
Microfilms
Photomechanical processes
Photostat
Xerography

COPYING processes (machine work). See Machine work—Copying processes**COPYRIGHT**

Copyright code could crimp translations. *Product Eng* 29:27 Mr 10 '58

CORAL reefs and islands

Cold- and deep-water coral banks. C. Teichert. *maps Am Assn Pet Geologists Bul* 42:1064-82 bibliog (p 1079-82) My '58

Mississippian bioherms in northeast Oklahoma. J. W. Harbaugh. *il map diags Am Assn Pet Geologists Bul* 41:2530-44 N '57

CORAL rubber. See Rubber, Artificial**CORD fabrics.** See Tire fabrics**CORD former.** See Textile machinery**CORDIALS.** See Liquors**CORDS, Nylon.** See Nylon cords**CORDS, Rayon.** See Rayon cords**CORE ovens**

Adapting a core oven to aluminum heat treating. C. Mayer. *diags Foundry* 86:125 O '58

Cast epoxy core driers for dielectric ovens. J. M. Leaman and P. L. Morrison. *il Foundry* 86:84-7 Mr '58

CORE sampling

1000 feet deep at the bottom of the world: deep drilling at the International geophysical year's Byrd station in Antarctica. *Comp Air Mag* 63:20 Mr '58

Paleotemperature analysis of core 280 and pleistocene correlations. C. Emiliani. *bibliog pl J Geol* 66:264-75 My '58

See also

Petroleum—Well drilling—Sampling

CORES

Controlling the CO₂ process. F. L. Turk and others. *il Foundry* 86:94-7 Ja '58

Dry binder aids core baking. *il Iron Age* 182: 84-5 J 24 '58

Epoxy patterns and coreboxes. J. W. Tierney. *il Foundry* 85:86-90 D '57

How to cut costs on patterns and cores. R. B. Sinclair and W. N. Richards. *diags Iron Age* 180:132-4 D 12 '57

Method of making aluminum driers is said to offer advantages. O. R. Scott. *diags Foundry* 86:144 O '58

New coring method broadens uses of light metal castings. J. L. Everhart. *il Materials in Design Eng* 46:102-5 D '57

One foundry's experience with plastic patterns and coreboxes: Texas steel co. R. E. Grimes. *il diag Foundry* 86:146-8 O '58

Proper use of cores can improve casting production; Krioskar brothers ltd. C. A. Phamnikar. *il Foundry* 86:134+ Ja '58

Shell coremaking. *diags Foundry* 85:138+ N '57

Shell cores for problem jobs. R. M. Ronne. *il Foundry* 86:166+ Je '58

Venting large cores. C. W. Ammen. *diag Foundry* 86:200+ Jl '58

See also

Molds (for casting)

CORIOLIS acceleration. See Coriolis force**CORIOLIS force**

Coriolis acceleration, a force to be reckoned with. N. Chironis. *diags Product Eng* 29:72-5 My 26 '58

Graphic aids for teaching Coriolis force. M. J. Walker. *diags Am J Phys* 26:392-5 S '58

Influence of Coriolis forces on heat transfer in the open thermosyphon. E. W. Martin and D. J. Cresswell. *bibliog il diags Enginereer* 204:926-30 D 27 '57

CORK

Cork gaskets have good oil resistance. *il Materials in Design Eng* 48:138+ Jl '58

CORN

Availability to man of amino acids from foods; valine from corn. H. Linkswiler and others. *J Nutrition* 65:455-68 bibliog (p 456-8) Jl '58

Heat inactivation of sweet corn peroxidase in the temperature range of 210° to 310° F. J. L. Vetter and others. *bibliog Food Tech* 12:244-7 My '58

High amylose corn. *il J Agri & Food Chem* 6:641-2, cover S '58

See also

Cornstarch

Analysis

Quantitative determination of peroxidase in sweet corn. J. L. Vetter and others. *bibliog J Agri & Food Chem* 6:39-41 Ja '58

Diseases and pests

Insect and a plant; studies of how the corn borer adapts to its host (the corn plant). S. D. Beck. *bibliog il diags Sci Am* 198:87-90+ My '58

CORN harvesting machinery

Flugs and recesses in rollers produce positive gripping action. *il Machine Design* 30: 145 S 18 '58

CORN products plants**Equipment**

Efficient dust snatchers; Corn products refining co. J. V. Ziembra. *il diag Food Eng* 30:92-3 Mr '58

CORN products refining company

Best. Corn Products merge under one name: Corn products co. *Chem & Eng N* 36:22 O 13 '58

CORNCOBS

Hydrolysis products from methylated arabinosyloglycan and arabinogalacto-mono-o-methylglucuronosyloglycan of corn cobs. F. L. Whistler and G. E. Lauterbach. *bibliog Am Chem Soc J* 80:1987-90 Ap 20 '58

CORNSTARCH

Chlorous acid oxidation of periodate oxidized cornstarch. B. T. Hofreiter and others. *Biblog Am Chem Soc J* 79:6457-60 D 20 '57
Efficient dust snatchers; Corn products refining co. J. V. Ziemba. *Il diag Food Eng* 30: 92-3 Mr '58

CORONA. See Sun—Corona**CORONA (electricity)**

Corona discharge; falling of dielectrics. C. D. Nall. *diags Electronic Ind* 17:74-7 S '58
Corona-level scanning of high-voltage power cables; abstract. F. H. Gooding and H. B. Slade. *Elec Eng* 77:236 Mr '58
Development of corona shields for suspension assemblies of bundled-conductor transmission lines. J. Kaminski. *Jr diags Power Apparatus & Systems* p89-94; Discussion. 94-5 Ap '58
Experimental study of dc corona at high temperatures and pressures. J. B. Thomas and R. Wong. *biblog diag J Ap Phys* 29: 1226-30 Ag '58
French 380-kv system; measurement of corona losses on transmission lines under normal operating conditions. F. M. Cahen and J. M. Carteron. *Il maps diags Power Apparatus & Systems* p 1525-31; Discussion. P. A. Abetti. 1531-3 F '58
Power separation filter for corona testing. N. P. Sheps. *Il diags A S T M Bul* p30-1 My '58
Short-circuit tests on bundle conductors. A. L. Malmstrom and others. *Il Elec Eng* 77:724-7 Ag '58
Some measurements of abnormal corona. G. W. Penney and J. G. Hewitt. *Jr. biblog Il diags Com & Electronics* p319-27 Jl '58

CORONA bearing rocks. See Coronites**CORONITES**

Coronites from India and their bearing on the origin of coronas. M. V. N. Murthy. *Il Geol Soc Bul* 69:23-37 *biblog* (p36-7) Ja '58

CORPORATIONS**Charities**

Corporate giving big business. *Chem & Eng N* 35:34-5 D 2 '57

Finance

See also
Industrial expansion
Profit

Foreign subsidiaries

Dollar technology in Britain; American strength in pharmaceuticals and cosmetics. *Il Manuf Chem* 29:365-7 S '58
Lederie expands in Britain. *Il Chem & Eng N* 36:72 My 5 '58

Presidents

Company president earns high salary; works for it; survey by the American management association. *Machine Design* 29:5 O 31 '57

Reports and yearbooks

How to understand an annual report. W. Smith. *Mech Eng* 80:79-81 Mr '58

Taxation

Does industry need a tax break? Survey of the month. *Mill & Factory* 62:65-8 Je '58
How you can help your company save tax dollars. H. Bland. *Power Ind* 74:16-17+ F '58
To modernize, industry needs a tax break; House Ways and means committee hearings. *Il diags Mill & Factory* 62:73-6 Je '58

CORPULLENCE

Diet lists; reducing diet. *Am J Clinical Nutrition* 6:443-4 Jl '58
Effects of a late-night caloric supplement upon body weight and food intake in man. J. H. Fryer. *biblog Am J Clinical Nutrition* 6:354-64 Jl '58
Influence of high-fat diets on growth and development of obesity in the albino rat. J. J. Barboriak and others. *biblog J Nutrition* 64:241-9 F '58
Obesity and appetite depression. B. Idson. *Drug & Cosmetic Ind* 83:296-7+ S '58
Obesity in the adolescent. G. H. Lowrey. *biblog Am J Pub Health* 48:1354-8 O '58
Psychological aspects of obesity in adolescence. H. Bruch. *Am J Pub Health* 48: 1349-53 O '58
Stepwise weight reduction in obese young men; nitrogen, calcium and phosphorus balances. C. M. Young and others. *biblog J Nutrition* 64:203-16 F '58

See also
Weight (physiology)

CORRELATION (geology)

Correlation structure of morphometric properties of drainage systems and their controlling agents. M. A. Melton. *biblog diags J Geol* 66:442-60 Jl '58

CORRELATION (statistics)

Application of Larson-Miller correlation to service test data on high-density polyethylene. W. E. Gloor. *biblog Mod Plastics* 36:144+ O '58
Bubble point pressure correlation. J. A. Lasater. *J Pet Tech* 10:65+ My '58
Correlation between laboratory abrasion and road testing. C. Prat. *Il diag Rubber Chem & Tech* 31:387-92 Ap '58
Correlation between the transient and frequency responses in servomechanisms. Z. J. Jelonek and G. L. Boomer. *biblog diags Brit Inst Radio Eng J* 18:101-14 F '58
Correlation of reaction rates with the H-function in concentrated solutions of sodium methoxide. M. F. L. Allison and others. *Chem & Ind* p718-19 Je 14 '58
Correlation of ring size of product with the extent of reduction of diketones by unipositive magnesium anodically generated. W. D. Hoffman and others. *biblog Chem & Ind* p 1202-3 S 13 '58
Correlation of vapor-liquid equilibrium data. J. W. Tierney. *biblog Ind & Eng Chem* 50:707-10 Ap '58
Correlation of vibrational band intensities with electrophilic substituent constants. C. N. R. Rao. *biblog Chem & Ind* p891-2 Jl 12 '58
Effect of correlation on combiner diversity. K. S. Packard. *Inst Radio Eng Proc* 46:362-3 Ja '58
Effect of spectral absorption data with Z-values. E. M. Kosower. *biblog Am Chem Soc J* 80: 3261-7 Jl 5 '58
Experimental determination of system transfer functions from normal operating data. J. G. Henderson and C. J. Pengilly. *biblog diags Brit Inst Radio Eng J* 18:179-86 Mr '58
Measurement of the correlation between flicker noise sources in transistors. E. R. Chenette. *diag Inst Radio Eng Proc* 46:1304 Je '58
Simple digital correlator. C. Collins. *Il diags R Sci Instr* 29:487-90 Je '58
Smooth random functions need not have smooth correlation functions. D. G. Brennan. *Inst Radio Eng Proc* 45:1016-17 Jl '57; Discussion. 45:1740; 46:1758-60 D '57. O '58
Some aspects of the kinetics of oxidation of coal. The correlation of coal oxidation kinetics. T. Wood. *biblog J Ap Chem* 8:565-71 S '58
Statistical factors in the correlation of rate constants and equilibrium constants. S. W. Benson. *biblog Am Chem Soc J* 80:5151-4 O 5 '58
See also
Factor analysis

CORRESPONDENCE schools and courses

Technical training by correspondence. A. De Groot. *Il Pub Works* 38:93-4 N '57

CORROSION, Electrolytic. See Electrolytic corrosion**CORROSION and anti-corrosives**

Anti-corrosion products and services. Engineering 184:583-4 N 8 '57
Aqueous corrosion of uranium fuel-element cores containing 0 to 20 weight percent zirconium. D. R. Grieser and E. M. Simons. *Il diags Corrosion* 14:27-32 Jl '58
Aromatic polycarbonate resins; new rugged plastics. K. B. Goldblum. *diag Corrosion* 14:90+ J '58
Cavity formation in iron oxide. D. W. Juenker and others. *biblog Il Corrosion* 14:57-64 Ja '58
Chemical factors affecting stress corrosion cracking of 18-8 stainless steels. H. H. Uhlig and J. Lincoln. *Jr. biblog Il diags Electrochem Soc J* 105:325-32 Je '58
Chemical films lick parts corrosion; chromate coatings. W. E. Pocock. *Aviation Age* 29:48-50+ Ap '58
Congress of the European corrosion federation. 2d. Frankfurt June 5-8; with abstracts of papers. *Electrochem Soc J* 105: sup209C-11C O '58
Contribution to the theory of stress corrosion in Al-4 per cent Cu alloys. W. H. Colner and E. V. Francis. *biblog Il Electrochem Soc J* 105:377-84 Jl '58
Convention on corrosion, London, Oct. 15-16; abstracts of papers. *Engineer* 205:808-9 My 30 '58
Corrosion. F. W. Fink. Published in monthly numbers of Industrial and engineering chemistry

CORROSION and anti-corrosives—Continued

- Corrosion and its manifestations. M. G. Fontana, *diags Chem Eng Prog* 53:525-30 N '57
- Corrosion and protection of galvanized steel transmission tower footings. J. D. Piper, *il diags Corrosion* 14:19-25 Mr '58
- Corrosion forum. Published in bi-weekly numbers of Chemical engineering
- Corrosion highlights in 1957. R. A. Campbell, *Can Chem Process* 42:51-2 Ja '58
- Corrosion indicator developed for air force. *Franklin Inst J* 265:163 F '58
- Corrosion inhibition by organic amines. H. Kaesche and N. Hackerman, *bibliog diag Electrochem Soc J* 105:191-8 Ap '58
- Corrosion measurement by resistance method; Corrosometer. D. M. McCloud, *il diags Gas* 54:126-7+ Mr '58
- Corrosion of concrete by autotrophes. J. H. Rigdon and C. W. Beardsley, *bibliog Corrosion* 14:60-2 Ap '58
- Corrosion of metals in buildings; performance of zinc and zinc coatings. R. W. Bailey and H. G. Ridge, *bibliog Chem & Ind* p 1222-7 S 14 '57; Discussion, p 1437-9 N 2 '57
- Corrosion of metals in tropical environments. B. W. Forgeson and others, *il Corrosion* 14: 33-41 F '58 (to be cont)
- Corrosion of mild steel in alkaline pulping liquors. R. B. Kester and J. F. Bakken, *bibliog Tappi* 41:97-109 M '58
- Corrosion of spraying and dusting machinery; abstract. R. J. Courshee, *Chem & Ind* p513; Discussion, 513-14 My 3 '58
- Corrosion of stainless steels in boiling acids and its suppression by organic salts. M. A. Streicher, *bibliog diags Corrosion* 14:19-30 F '58
- Corrosion of steel in moist air. J. T. Crennell, *il J Ap Chem* 8:270-2 Ap '58; Discussion, W. H. J. Vernon, 8:469-71 Ap '58
- Corrosion of steel in moist air. U. R. Evans, *Chem & Ind* p681 Je 7 '58
- Corrosion of steel in water by varied ratios of dissolved gases. J. W. Watkins and G. W. Kincheloe, *diags Corrosion* 14:55-8 Jl '58
- Corrosion of superstructure refractories by batch materials. T. S. Busby, *Glass Ind* 38:633-4 N '57
- Corrosion of tinplate by Victoria plum syrup. F. W. Salt and J. G. N. Thomas, *bibliog diag Iron & Steel Inst J* 188:36-45 Ja '58
- Corrosion; problem solving methods and materials. J. Halbig, *bibliog* (30 ref) *il Chem Eng Prog* 53:520-4 N '57
- Corrosion problems in pulp and paper mills, present day answers. D. F. Roberts, *Tappi* 41:sup 140A-2A Ja '58
- Corrosion problems in the manufacture of phosphoric acid from elemental phosphorus. J. C. Barber, *bibliog flow diags il diag Corrosion* 14:21-6 Ag '58
- Corrosion protection of power plants by organic coatings. F. M. Hess, *Corrosion* 14:111-12 My '58
- Corrosion rate of wrought iron. *Product Eng* 29:B5 Mid-S '58
- Corrosion; refresher on cause and cure. R. V. Jelinek, *Chem Eng* 65:114-15 Jl 28 '58
- Corrosion resistance of high strength stainless steels for aircraft. J. Halbig and O. B. Ellis, *bibliog il diag Corrosion* 14:53-9 Ag '58
- Corrosion; special report. H. P. Kallen, *il diags Power* 100:73-8 D '56; Excerpts, *Product Eng* 28:C2-5 Mid-O '57
- Corrosion studied; annual Permian basin corrosion tour. Oil & Gas J 55:95 N 4 '57
- Crystall metal cutters; strange crystal growth as possible cause of stress-corrosion cracking. *il Chem & Eng N* 35:49 N 11 '57
- Dissimilar materials cause corrosion; landing gear of amphibian aircraft, *diags Aviation Age* 29:102 Ap '58
- Early invention for protecting iron against corrosion. H. R. Schubert, *Iron & Steel Inst J* 187:291 D '57
- Effect of inhibitors in fuming nitric acid on corrosion and oxidation. T. B. Yee, *Corrosion* 14:42-4 F '58
- Effect of NO_2 , HNO_3 , and HNO_2 on corrosion of stainless steel by H_2SO_4 . W. F. McKinnell, Jr. and others, *bibliog diags Corrosion* 14:27-30 Ja '58
- Fittings ease field work; installation of inhibitors. R. L. Walker, Jr., *il Elec World* 149:85 F 17 '58
- Foreign corrosion control reports made for '57. *Corrosion* 14:90-2 Ag '58
- Fundamentals of liquid metal corrosion; abstract. W. D. Manly, *Metal Prog* 73:132-4 Mr '58
- Green-up time; Spensol Green ammoniating solutions that help fight corrosion. *il Chem & Eng N* 36:54 F 3 '58
- How corrosion affects AISI 201, 202 steels. R. D. Merrick and C. L. Mantell, *Materials in Design Eng* 47:156-1 Mr '58
- How environment directs corrosion control. R. V. Jelinek, *bibliog diags Chem Eng* 65: 163-8 S 22 '58
- In corrosion mitigation does the inhibitor squeeze method work? E. H. Foetker and others, *il diags Pet Eng* 29:B 102-3+ D '57
- Inhibition of corrosion of steel by tetramethylammonium bromide. R. Macy and others, *bibliog il diags Corrosion* 14:38-40 Je '58
- Intercrystalline corrosion of stainless steel in alkaline solutions. J. N. Ranklyn and D. Jones, *Chem & Ind* p88-9 Jl 12 '58
- Iron-silicate slag network helps wrought iron resist corrosion; abstract. E. P. Best, *bibliog il Corrosion* 14:118+ F '58
- Licking the rust problem; humidity control in steel stock storage. *il Mill & Factory* 63:146 Ag '58
- Measurement of surface moisture. P. J. Sereda, *bibliog diag A S T M Bul* p53-5 F '58
- Mechanism of inhibiting effect of hydrofluoric acid in fuming nitric acid on liquid-phase corrosion of aluminum and steel alloys. D. M. Mason and J. B. Rittenhouse, *Corrosion* 14:59-61 Jl '58
- Mechanism of stress corrosion of austenitic stainless steels in hot aqueous chloride solution. K. W. Lee and N. Helle, *bibliog il Corrosion* 14:59-64 My '58
- National association of corrosion engineers regional meetings; abstracts of papers. *Corrosion* 14:74-4 Ag '58
- New clue in corrosion. Carpenter Steel claims new way to predict corrosion rates; reveals method at new lab opening. *il Chem & Eng N* 36:48 Je 16 '58
- New corrosion index shows Nation's rust pattern. map *Iron Age* 182:54-6 Ag 28 '58
- New gasoline rust inhibitor. C. M. Fings and J. D. Spivack, *bibliog il Pet Eng* 29:C 18-20 N '57
- New pretreatment thwarts rust. H. W. Adams, *il Iron Age* 182:86-7 S 18 '58
- New theory explains stress-corrosion cracking. *il Materials in Design Eng* 47:150 Ja '58
- Nitrite inhibition of corrosion; some practical cases. T. P. Hoar, *bibliog Corrosion* 14:63-4 F '58
- Observations on the physical appearance of chemically attacked glassed steel surfaces. D. K. Priest, *bibliog il diag Am Cer Soc Bul* 36:416-18 N 15 '57
- One plastic solves two problems; Western Electric finds polyvinyl chloride the answer to problems of corrosion and abrasion. D. Hartley, *il Portley* 11:74-2-3 F '58
- Preparation of highly effective rust inhibitors by fractionation of mahogany sulfonates. K. R. Fisch and others, *bibliog diag Lub Eng* 14:64-7 F '58
- Present status of the oil ash corrosion problem. *bibliog Corrosion* 14:33-6 Ag '58
- Prevent rust without coating surfaces. *Ind Finishing* 34:105-6 Jl '58
- Prevention of localized corrosion in sulfuric acid handling equipment. G. A. Nelson, *il diags Corrosion* 14:45-9 Mr '58
- Prevention of rust; cleaning, painting. *Ind Finishing* 34:107-11 Je '58
- Relationship between magnesium content and stress-corrosion susceptibility of aluminum-magnesium alloys. W. J. Vance, *bibliog J Ap Chem* 8:18-23 Je '58
- Rust break-through in repainted steel drums. *Ind Finishing* 34:100-1 Je; 90-1 Jl '58
- Rust index for the U.S. map *Gas Age* 122: 21-4 S 18 '58
- Rust preventives. E. J. Colerick, *Lub Eng* 14:50-4 Ag '58
- Rust trouble in water wash spray booths; question and answers. *Ind Finishing* 34:96-1 N '57
- Solutions to corrosion problems in light hydrocarbon liquids plants; abstract. J. S. Connors and C. L. Seyer, *Pet Eng* 30:C62 Je '58
- Solving a corrosion mystery. *Product Eng* 29: 21-2 Ap 14 '58
- Some observations of the corrosion of UBi and CeBi dispersed in bismuth and UPb in lead. P. J. Barton and G. W. Greenwood, *Chem & Ind* p830-1 Je 23 '58
- Stress-corrosion cracking; abstract and discussion. T. P. Haar and J. G. Hines, *Chem & Ind* p282-3 Mr 8 '58
- Stress corrosion cracking of austenitic stainless steels; abstract. J. G. Hines and T. P. Hoar, *Chem & Ind* p404 Ap 5 '58

CORROSION and anti-corrosives—Continued

Stress corrosion cracking of carbon and low alloy steels; abstract, R. N. Parkins. *Chem & Ind* p404-5 Ap '58

Surface area relationships in polarization and corrosion. M. Stern. *Corrosion* 14:43-6 JI '58

Sweet crude oil failures may be stress cracking. *Corrosion* 14:77-8 Ja '58

Theoretical aspects of corrosion in low water producing sweet oil wells. *il Corrosion* 14: 51-3 Ja '58

Unusual corrosion failure in steam superheater tubes. C. Phillips, Jr. *il Corrosion* 14:17-18 F '58

Unusual corrosion problem. *Engineer* 204:635 N 1 '57

Urethane coatings under tough corrosion conditions. *il Plant Eng* 12:92-3 S '58

Watch out for stress corrosion in metals. E. H. Phelps. *il diag Product Eng* 29:56-8 Ag '58

What you can do to reduce stress corrosion. F. J. Poss. *Chem Eng* 65:140+ JI 28 '58

Where your plant's locale stands in the new rust rate index of the United States; compiled by Rust-Oleum corp. map *Plant* 18:34-5 O '58

Which US city is the rustiest? map *Am Mach* 102:88-9 S 8 '58

See also

Aluminum—Protection

Electrolytic corrosion

Erosion of metals

Galvanizing

Gas, Natural—Condensate wells—Corrosion

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Metal coating

Metal protection

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Tarnishing of metals

Water purification—Corrosion control

Water supply—Corrosiveness

also subdivision Corrosion under special

subjects, e.g.

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Automobiles

Boilers

Cadmium

Chemical plants

Coal products plants

Copper

Heat exchangers

Lead

Magnesium

Nickel

Oil tanks

Petroleum—Well tubing

Petroleum refineries

Pumps

Steam pipes

Steam turbines

Titanium

Water pipes

Zirconium

Bibliography

Bibliography of alkaline digester corrosion; 1956-1957 supplement. R. B. Kesler. *Tappi* 41:sup 170A-1A. Mr '58

Corrosion abstracts. Published in monthly numbers of *Corrosion*

Economic aspects

Economic aspects of corrosion. A. Keynes. *diags Chem & Ind* p398-400 Ap '58

Glossaries

Inter society corrosion committee glossary of corrosion terms. *Corrosion* 14:31-2 F; 33-4 JI '58

Study and teaching

Teaching corrosion science; existing training facilities; abstract. L. W. Stubbs. *Chem & Ind* p515; Discussion. 515-18 My '58

Teaching corrosion science; future requirements; abstract. T. P. Hoar. *Chem & Ind* p518; Discussion. 518-20 My '58

Testing

Accelerated condensation corrosion test for evaluating rust preventives. E. A. Dieman and J. W. Gaynor. *bibliog il diag Corrosion* 14:60-2 Je '58

Accelerated corrosion tests; abstract. W. A. Pinner. *Plating* 45:347 Ap '58

Accelerated salt spray testing of plated parts. G. L. Sukes. *Automotive Ind* 117:64-5+ D 1 '57

Acetic acid salt-spray test; a comparison with other methods of simulating surface breakdown of protected metal surfaces; abstract. J. H. Hooper. *Chem & Ind* p 1640; Discussion. 1640-1 D 21 '57

Acetic acid salt spray test; abstract. J. H.

Hooper. *Metal Prog* 74:142+ JI '58

Aluminum cladding of buildings. E. H. Lathwaite and E. W. Skerrey. *bibliog* (29 titles) *il J Ap Chem* 7:216-31 My '57; Discussion. *Chem & Ind* p 1435-7 N 2 '57

Anodic polarization as a possible rapid method of deciding whether a given solution is corrosive or inhibitive. P. Hancock and J. E. O. Mayne. *bibliog diag J Ap Chem* 7:700-8 D '57

Antifreeze corrosion testing. J. R. Heard and others. *il diags Soap & Chem Spec* 34:97-8+ Mr '58

Application of a systematic scheme for examining corroded metal specimens; abstract. J. B. Cotton and R. J. Watkins. *Metal Prog* 73:146+ Mr '58

Copper ion displacement test for screening corrosion inhibitors. W. B. Hughes. *J Pet Tech* 10:54-6 Ja '58

Corrosion inhibitors in automotive coolant media. M. Levy. *bibliog Ind & Eng Chem* 50:657-62 Ap '58

Corrosion of metals by liquid mixed fertilizers. J. D. Hatfield and others. *bibliog il diag J Agri & Food Chem* 6:524-31 JI '58

Corrosion of metals in ethylene glycol solutions. R. J. Agnew and others. *bibliog diag Ind & Eng Chem* 50:649-56 Ap '58

Corrosion of 2 1/2 per cent Cr-1 per cent Mo steel by liquid bismuth. G. W. Horsley and J. T. Maskrey. *bibliog il diags Iron & Steel Inst* J 189:139-48 Je '58

Corrosion of zinc by differential aeration. G. Bianchi. *il diags Corrosion* 14:55-8 My '58

Corrosion of zinc plated steel. R. H. Wolff. *il Metal Finishing* 56:46-52 Je '58

Corrosion-rate data can be exact. D. J. Evans. *il diags Marine Eng/Log* 63:57-61 My '58

Corrosion rates in Port Hueneme harbor. C. V. Brouillette. *il Corrosion* 14:16-20 Ag '58

Corrosion rates of mild steel in $\text{NH}_4\text{NO}_3 \cdot \text{NH}_3 \cdot \text{H}_2\text{O}$ solutions. N. Hackerman and others. *il Corrosion* 14:57-9 Ap '58

Corrosion resistance of five stainless alloys in nitric acid containing chloride. I. I. Tingley. *il diag Corrosion* 14:31-2 Je '58

Effect of alternate corrosion and abrasion on some ferrous metals. J. Dearden and J. D. Swingale. *bibliog Iron & Steel Inst* J 185:227-34 F '57; Abstract. *Metal Prog* 73: 144+ Ap '58

Effect of temperature variation on composition, fouling tendency, and corrosiveness of combustion gas from a pulverized-fuel-fired steam generator. J. D. Piper and H. Van Vliet. *bibliog il diags A S M E Trans* 80:1251-61; Discussion. 1261-3 Ag '58

Fast corrosion test cuts designing cost of heat exchangers. *Product Eng* 29:26 Je '58

How salt spray tests can mislead you. N. I. Gaynes. *Ind Finishing* 34:84-5 N '57

Influence of bicarbonate ion on inhibition of corrosion by sodium silicate in a zinc-iron system. H. L. Shulender and L. Lehman. *bibliog il diag Am Water Works Assn J* 49:1432-40 N '57

Influence of nickel on intergranular corrosion of 18 per cent chromium steels; abstracts. J. R. Upp and others. *Metal Prog* 72:142 N '57; Steel 141:134 N 4 '57

Laboratory testing of railroad Diesel cooling system corrosion inhibitors. J. I. Erganman and D. B. Boies. *il Corrosion* 14:33-7 Je '58

New dynamic test facility for aqueous corrosion studies. S. Greenberg and others. *flow diag diags Corrosion* 14:45-6 Ap '58

New optical methods spot hidden corrosion; improved borescope takes panoramic photos. J. M. Holman. *bibliog il diag Chem Eng* 65:170-H Ap 21 '58

Potentiostat technique for studying the acid resistance of alloy steels. C. Edeleanu. *bibliog diag Iron & Steel Inst* J 188:122-32 F '58

Research on salt spray test corrosion; influence of the test part shape; abstract. G. Bianchi and U. Gandolfi. *Metal Finishing* 56:80-1 Ap '58

Salt spray testing of tinplated copper. M. S. Frant. *bibliog diags Plating* 45:157-60, 734-8 F, JI '58

Some considerations in the design and application of an electrical resistance corrosion meter. G. A. Marsh and E. Schachtel. *bibliog il diags Corrosion* 14:55-8 Mr '58

Statistical concepts in the testing of corrosion inhibitors. C. C. Nathan and E. Elsner. *bibliog Corrosion* 14:47-53 Ap '58

Stress corrosion of austenitic stainless steel in geothermal steam. T. Marshall. *bibliog diag Corrosion* 14:59-62 Mr '58

CORROSION and anti-corrosives—Testing—*Continued*

- Study of the compatibility of floating-type inhibitors and cathodic protection. E. R. Streed, bibliog il diag Corrosion 14:50-4 Mr '58
- Sulphur dioxide test; abstract. J. Edwards. Chem & Ind p 1640; Discussion. 1640-1 D 21 '57
- Thin metal film corrosion indicators. D. Roller, bibliog il diags Corrosion 14:21-5 Je '58
- Turbine engine in salt atmosphere operation. F. H. Sharp, il Aeronautics Eng R 17:47-9+ Ja '58
- Ultrasonic resonance gaging detects corrosion from outside of tubes and tanks. E. K. Bloch, il diag Plant 18:43-4 Jl '58
- Unique test method gives corrosion rates. Materials in Design Eng 48:154+ Ag '58
- Use of a condensate-corrosion tester for the survey of return-line deterioration. A. A. Berk, il Corrosion 14:41-4 Mr '58
- Use of an improved inert coating for masking corrosion test specimens. G. Butler and E. C. Seabrook, Chem & Ind p 155-6 F 8 '58
- Use of rotogenerative corrosion current detection in corrosion studies; abstract. J. K. Rice, Air Cond Heat & Ven 55:79-80 Jl '58
- Underground corrosion**
- Development of the redox probe field technique. F. E. Costanzo and R. E. McVey, il diags Corrosion 14:26-30 Je '58
- Distribution of soil conductivities and some consequences. G. N. Scott, bibliog Corrosion 14:60-4 Ag '58
- Electrical measurements and their interpretation in underground cable corrosion problems. K. C. Compton, diags Corrosion 14:47-54 Mr '58
- 45-year study of underground corrosion; National bureau of standards, il Gas Age 122: 21-5+ S 4 '58
- Guide to selection of coal tar coatings for protection of metals underground. N. T. Shideler, bibliog il diag Pet Eng 30:D31-5 Mr; D29-31 Ap '58
- Microbiological deterioration of buried pipe and cable coatings. F. E. Kulman, bibliog il Corrosion 14:23-32 My '58
- New light on underground corrosion. Chem Eng 65:154+ S 8 '58
- See also*
- Pipe lines—Corrosion
- Water pipes—Corrosion
- CORROSION engineers, National association of.**
See National association of corrosion engineers
- CORROSION research**
- Activation and inhibition of corrosion of metals by silicic anions. W. C. Buck, 3d, and H. Leidheiser, Jr, bibliog Corrosion 14:22-6 Jl '58
- Basic concepts and practical aspects of field corrosion investigation. M. A. Riordan, diags Corrosion 14:25-8 Ap '58
- Combating corrosion and using waste products; studies in progress at the National chemical laboratory. Engineering 186:178-9 Ag 8 '58
- Committee A-5 celebrates fiftieth anniversary, half century of work in corrosion of iron and steel. H. F. Hornmann, il A S T M Bul p 17-20 F '58
- Compilation and correlation of high temperature catalytic reformer corrosion data. G. Sorell, bibliog Corrosion 14:33-44 Ja '58
- Corrosion and metal transport in fused sodium hydroxide. G. P. Smith and others, bibliog il Corrosion 14:65-70 Ja '58
- Corrosion in amine gas treating solutions. F. S. Lang and J. F. Mason, Jr, bibliog il Corrosion 14:65-8 F '58
- Corrosion products of mild steel in hydrogen sulfide environments. F. H. Meyer and others, bibliog (52 ref) il diags Corrosion 14: 69-75 F '58
- Corrosion research and its industrial background; abstract. W. H. J. Vernon, Chem & Ind p818 Je 28 '58
- Corrosion research; laboratory opened by Carpenter steel co. il Mech Eng 80:73 Ag '58
- Corrosion studies with nickel-chromium plate; influence of the porosity pattern and thickness of the chromium plate. H. Brown and others, bibliog il diags Plating 45:144-50 F '58
- Corrosion test sites needed. il Metal Prog 72: 112+ N '57
- Crystals key in new corrosion theory. E. A. Gulbransen, il Iron Age 180:120 N 14 '57
- Effects of mechanics of flow on corrosion. A. J. Romeo and others, flow diag il diags Am Soc C E Proc 84 (ISA 4 no 17021):1-30 bibliog (21-3) Jl '58
- Exploring the frontiers of corrosion. E. A. Gulbransen, il Steel 143:82-3 Jl 7 '58
- Field conditions simulated for better corrosion-resistance studies; Corrosion research laboratory opened by the Carpenter steel co. il Am Mach 102:97 Je 18 '58
- 45-year study of underground corrosion; National bureau of standards, il Gas Age 122: 21-5+ S 4 '58
- Galvanic corrosion of aluminum-steel and aluminum-lead couples. M. J. Pryor, Corrosion 14:19 Ja '58
- High-temperature hydrogen sulfide corrosion of stainless steels. E. B. Backensto and others, bibliog il Corrosion 14:45-9 Ja '58
- Intergranular corrosion resistance of austenitic stainless steels; ferric sulfate-sulfuric acid test. M. A. Streicher, bibliog il A S T M Bul p77-86 Ap '58
- New corrosion research laboratory opened; Carpenter steel co. il Mach 64:170 Jl '58
- New tools aid corrosion research; Carpenter steel co.'s new laboratory. il Steel 142:98 Je 23 '58
- Quantitative high-temperature oxidation of porcelain enameled iron. H. G. Lefort and A. L. Friedberg, bibliog Am Cer Soc J 41:216-26 Je 1 '58
- Recent research on the corrosion of boiler tubes; abstract and discussion. E. C. Potter, Chem & Ind p647-8 My 31 '58
- Role of minor elements in oxidation of metals; abstract. E. A. Gulbransen, Metal Prog 73:148+ Mr '58
- Steel company opens corrosion research lab; Carpenter steel co. il plan Ind Lab 9:8-11 Ag '58
- Study of corrosion and cavitation-erosion damage. J. Z. Lichtman and others, il diags A S M E Trans 80:1325-39; Discussion. 1339-41 Ag '58
- CORROSION resisting materials**
- Build or repair with epoxy-glass laminates. T. G. Nock and R. A. Coderre, il Chem Eng 65:148+ Ja 2 '58
- Copper alloys for corrosion resistance. R. V. L. Hall, il Chem Eng Prog 54:51-5 Je '58
- Copper and copper silicon. il Air Cond Heat & Ven 55:118 Ag '58
- Corrosion resistant materials; metals and alloys. L. F. Spencer, bibliog il Metal Finishing 55:58-62 O; 62-8 N '57
- Cupro-nickels offer corrosion resistance and hot strength. J. L. Everhart, bibliog il Materials in Design Eng 47:114-20 My '58
- Film thickness versus corrosion resistance. N. Gaynes, Ind Finishing 34:103-4 Ag '58
- For moderate temperatures and severe conditions, use nonmetallic inorganics. M. D. Robbins, il diags Chem Eng 65:123-34 S 8 '58
- High alloys to combat corrosion. E. D. Weisert, Product Eng 29:B 16-17 Mid-S '58
- Materials for corrosion control. F. W. Fink, il diag Ind & Eng Chem 50:sup 129A-31A Ja '58
- Methods for increasing the corrosion resistance of metal alloys. N. D. Tomashov, bibliog diags Corrosion 14:39-46 My '58
- Plastisols combine thickness with chemical resistance. F. L. Scott and W. C. Hosford, il Corrosion 14:126+; Discussion. 128+ Ja '58
- Reinforced (faced-brick/resinous cements) linings. Corrosion 14:33-5 Mr '58
- Some experiments in comparing the resistance of enamels to corrosion by alkaline solutions. H. B. Kirkpatrick and others, bibliog il diag Am Cer Soc J 40:389-95 N 1 '57
- Study of corrosion resistant materials suitable for high temperature service in recovery units. F. E. Hutton, Tappi 41:sup 130A-1A My '58
- What kind of chemical resistance is wanted. Ind Finishing 34:105-6 Ag '58
- See also*
- Acid resisting materials
- Chromium nickel steel
- Corrosion and anti-corrosives
- Monel metal
- Paints—Protective
- Rubber
- Steel, Stainless
- Teflon
- Titanium
- Testing**
- Accelerated testing of protective coatings. J. I. Richardson, il Corrosion 14:124+ Ja '58

CORROSION resisting steel. See Steel, Corrosion resisting
CORRUGATED paper board. See Paper board, Corrugated
CORRUGATED sheet metal. See Sheet metal, Corrugated

CORTES, Henry Cornelius
 Memorial, P. E. Nash. *por* Geophysics 23: 373-5 Ap '58
 Memorial, L. P. Teas. *por* Am Assn Pet Geologists Bul 42:1112-17 My '58

CORTICIDS

Introduction of oxygen into ring B of corticoids. A. L. Nussbaum and others. *bibliog* Am Chem Soc J 80:2722-5 Je 5 '58

CORTICOSTEROIDS

Corticosteroids, S. J. Hopkins. *Manuf Chem* 29:155-6 Ap '58

Corticosteroids from bile acids; Uclaf Ltd. *il* Manuf Chem 29:97-102 Mr '58
 16-alkylated corticoids. E. P. Oliveto and others. *bibliog* Am Chem Soc J 80:4428, 4431 Ag 20 '58

16-methyl cortical steroids, D. Taub and others. *bibliog* Am Chem Soc J 80:4435 Ag 20 '58

Spectra

Fluorescence and absorption spectra of some corticosteroids in sulfuric and phosphoric acids. J. W. Goldzieher and P. K. Besch. *bibliog* Anal Chem 30:962-7 My '58

CORTICOSTERONE

Analysis

Determination of corticosterone and 17-hydroxycorticosterone in human plasma. J. McLaughlin, Jr. and others. *bibliog* Anal Chem 30:1517-21 S '58

CORTICOTROPIN. See ACTH

CORTISONE

Steroids; synthesis of 6 α -methyl-21-desoxycortisone; a new route to 6 α -methylcortisone. A. Bowers and H. J. Ringold. *bibliog* Am Chem Soc J 80:3091-3 Je 20 '58

CORTISONE, Analogs of

16-Methylated steroids; 16 α -methylated analogs of cortisone, a new group of anti-inflammatory steroids. G. E. Arth and others. *bibliog* Am Chem Soc J 80:3160-1, 3161-3 Je 20 '58

CORUNDUM

Origin of the corundum deposits of Renfrew county, Ontario, Can. H. D. Carlson. *bibliog* diags Geol Soc Bul 68:1605-36 D '57

CORYNANTHEINE

Stereochemistry of corynantheine, dihydrocorynantheine and corynantheidine. E. E. van Tamelen and others. *bibliog* Am Chem Soc J 79:6426-30 D 20 '57

COSDEN petroleum corporation

Cosden aims at bigger market. *Oil & Gas J* 56:68-9 S 22 '58

COSMETIC chemists, Society of. See Society of cosmetic chemists

COSMETIC industry and trade

Executive compensation in our industry. P. H. Dutter. *Drug & Cosmetic Ind* 83:300-1 S '58

How public relations helps sell Bristol-Myers products. J. L. MacWithey. *il* Drug & Cosmetic Ind 82:325+ Mr '58
 Outlook for perfumes and cosmetics. F. V. Sinclair. *Drug & Cosmetic Ind* 82:461+ Ap '58

Revlon building sales in 96 foreign countries; sales training program. B. Grauman. *il* Am Perfumer & Aromatics 72:32-6 Ag '58

See also

Bristol-Myers company
 Perfumery

Advertising

Cosmetics on television. *Drug & Cosmetic Ind* 82:756+ Je '58

Statistics

Cosmetics, 1957. *Drug & Cosmetic Ind* 82:729+ Je '58
 Drug and cosmetic operations 1957. J. Kalish. *Drug & Cosmetic Ind* 82:593-5 My '58

COSMETICS

Christmas packaging. *il* Am Perfumer & Aromatics 72:56-8 S '58
 Cosmetic bases, the perfumer's concern. O. L. Marton. *Am Perfumer & Aromatics* 71:40-1 Ap '58

Cosmetics and toilet preparations. W. W. Myddleton. *bibliog* Manuf Chem 29:72-4+, 206-9, 337-9 F, My, Ag '58

Desiderata. M. G. de Navarre. Published in monthly numbers of American perfumer and aromatics

Dollar technology in Britain; American strength in pharmaceuticals and cosmetics. *il* Manuf Chem 29:365-7 S '58

Effect of cosmetic ingredients and preparations on moisture loss from the skin. D. H. Powers and C. Fox. *il* Drug & Cosmetic Ind 82:32-3+, 233-4+ Ja-F '58

Emulsion symposium. *bibliog* *il* Am Perfumer & Aromatics 71:42-3+ Je '58

Eye allure with plastics; plastics eyelashes. *il* Mod Plastics 35:86-7 Mr '58

Eye beauty. M. H. Daniels. *il* Drug & Cosmetic Ind 82:442-3+ Ap '58

Formulation of aerosol cosmetics. *Manuf Chem* 29:232 Je '58

Lecithin; versatile cosmetic ingredient. L. C. Woods. *il* Am Perfumer & Aromatics 71:23-5 My '58

Milk and honey. H. Janowitz. *Am Perfumer & Aromatics* 71:42 F '58

Perfumes for cosmetics. V. Vasic. *bibliog* *Manuf Chem* 29:287-9, 330-2, 431-2 Jl-Ag, O '58

Pollen; new biological principle in cosmetology. H. Luzuy. *Am Perfumer & Aromatics* 71:27-30 F '58

Pressurized packages for cosmetics. M. J. Root. *il* Am Perfumer & Aromatics 71:35-7 Ap '58

Rheological review for cosmetic chemists. A. L. Scarbrough. *bibliog* *Am Perfumer & Aromatics* 72:52+ Ag '58

Rouges. M. H. Daniels. *Drug & Cosmetic Ind* 83:162-3+ Ag '58

Scientific formulation of cosmetics. P. G. I. Laufer. *il* Am Perfumer & Aromatics 72:49-52 S '58

Set-up paper box competition awards. *il* Drug & Cosmetic Ind 82:615+ My '58

Taxable and non-taxable cosmetics. *Am Perfumer & Aromatics* 71:70+ Mr '58

Same. *Drug & Cosmetic Ind* 82:337+ Mr '58

Use of the patch test in estimating hazards to the skin. H. L. Rubenkoenig and R. A. Quisno. *il* Am Perfumer & Aromatics 71:33-5 Ja '58

See also

Hair—Dyeing and bleaching
 Hair preparations
 Toilet goods
 Toilet goods association

Advertising

Bazaar marketing. *Drug & Cosmetic Ind* 82:49-51+ Ja '58

Bibliography

Chemical abstracts. *Am Perfumer & Aromatics* 71:47+ My; 72:18+ Ag; 38+ S '58

Laws and regulations

Cosmetics, chemicals and claims. G. P. Larrick. *Drug & Cosmetic Ind* 83:33-5 Jl '58; Abstract. *Soap & Chem Spec* 34:52+ Jl '58

Physiological effect

Cosmetic dermatitis. F. Reiss. *Drug & Cosmetic Ind* 83:227 Ag '58

Toxicity problems of cosmetics. B. E. Conley. *Am Perfumer & Aromatics* 71:33-4 My '58

Testing

Evaluating antiperspirant and deodorant products. G. W. Fredell and J. Longfellow. *il* Am Perfumer & Aromatics 72:41-2 Jl '58

Evaluation of the inhalation safety of cosmetics. H. J. Horn. *diags* *Drug & Cosmetic Ind* 82:42-3+ Jl '58; Excerpt. *Soap & Chem Spec* 34:50-1+ Jl '58

Pharmacologist delves in cosmetics. J. H. Draize. *bibliog* *il* Am Perfumer & Aromatics 72:45-8 S '58

Testing and evaluating perfume compounds in cosmetic preparations. V. Digiacomo and W. Wynne. *Drug & Cosmetic Ind* 83:44-5+ Jl '58

COSMIC physics

Cosmical electrodynamics. J. H. Piddington. *bibliog*(30 ref) *il* Inst Radio Eng Proc 46:349-55 Ja '58

See also

Universe

COSMIC radio noise. See Radio noise, Cosmic

COSMIC rays

Galactic model for production of cosmic rays and radio noise. L. Marshall. *bibliog* *il* diags Inst Radio Eng Proc 46:215-20 Ja '58

International geophysical year; cosmic rays. D. C. Rose. *il* Eng J 41:54-5 Ag '58

See also

Mesons

COSMIC rays—Continued**Intensity**

Direct observation of periodic variation of primary cosmic-ray intensity. M. A. Pomerantz and others. bibliog Franklin Inst J 265:67-8 Ja '58

Measurement

Fast timing apparatus for measuring the arrival directions of cosmic-ray air showers; four plastic scintillation detectors and fast oscillograph. G. W. Clark. il diags R Sci Instr 28:907-9 N '57

Large scintillator for observation of cosmic rays. J. R. Greene. diags R Sci Instr 29:10-14 Ja '58

Showers

Fast timing apparatus for measuring the arrival directions of cosmic-ray air showers; four plastic scintillation detectors and fast oscillograph. G. W. Clark. il diags R Sci Instr 28:907-9 N '57

COSMOLOGY

Cosmological principle and the cosmological constant. P. Moon and D. E. Spencer. bibliog Franklin Inst J 266:47-58 Jl '58

COSMOTRON. See Synchrotron**COST****See also**

Factory costs
Foundry costs
Labor cost
Mining costs
also subdivision Costs under special subjects, e.g.
Air bases, Military
Atomic power plants
Breakwaters
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Metal working plants
Motor trucks in mining
Moving pictures in industry
Oil companies
Oil tanks
Petroleum refineries
Refuse incinerators
Reservoirs
Roads
Roads, Concrete
Sewage disposal plants
Sewerage
Shipbuilding
Steam plants
Subways
Telephone lines
Tunnels and tunneling
Water distribution
Waterworks
Wharves

COST accounting

Progressive mechanization; economic justification and measurement of actual results. A. J. Dunkle. Mech Eng 80:76-7 Je '58
Remember all three in cost analyses; return on investment, income tax and inflation. F. C. Jelen. Chem Eng 65:123-9 Ja 27 '58

See also

Depletion
Estimates
Foundry accounting
Machinery, Replacement of
also subdivision Accounting under special subjects, e.g.
Cement plants
Factories
Oil companies
Petroleum—Well drilling contractors
Petroleum industry and trade

Standard costs

How standards help control indirect costs. Mag of Stand 29:21 Ja '58

COSTA MESA, California**Water supply**

Rural irrigation district becomes urban water system. il Water Works Eng 111:945 O '58

COSTUME

Art of costume. A. M. Buck. Soc Dyers & Col J 74:329-30 My '58

COSTUME jewelry. See Jewelry**COTIN**

Chemistry of rosewood; isolation and identification of cotin and pinocembrin. O. R. Gottlieb and W. B. Mors. bibliog Am Chem Soc J 80:2263-5 My 5 '58

COTTON

California's 1957 cotton is the best crop yet. F. L. Gerdes. il Textile World 108:93+ Ja '58

Heat evolution during the acetylation of cotton. L. H. Greathouse and others. bibliog Ind & Eng Chem 50:97-102 Ja '58

How rain damage affected Delta cotton properties. R. L. Gerdes. Textile World 108:51-3 My '58

See also

Bleaching—Cotton

Cotton fibers

Dyes and dyeing—Cotton

Bacteriology

Occurrence of myrothecium on field cotton. A. N. J. Heyn. bibliog il Textile Res J 28:444-5 My '58

Bleaching

See Bleaching—Cotton

Blending

Accurate blends; remedy for the variability in cotton. H. C. Laird. il plan Textile Ind 122:68-71 Jl '58

How to improve blending by Micronaire numbers. N. N. Nolen. Textile World 108:62-3 S '58

Indian Head predetermines cotton blends for sheeting. il Textile World 107:125+ D '57

Chemistry

Chemical modification of cotton; progress and current status. C. H. Fisher and F. S. Perkerson. Textile Res J 28:769-78 bibliog(p776-8) S '58

Chemical modification of natural fibers. E. M. Burs. jr. bibliog(28 ref) Am Dyestuff Rep 46:929-30+ D 2 '57

How much will partially acetylating cotton cost? H. K. Gardner, jr. bibliog flow diag plan diag Textile Ind 122:100-4 S '58

Iodine sorption values of some chemically modified cottons. A. V. Bailey and others. bibliog Textile Res J 28:895-6 O '58

Isolation and identification of fumaric acid in raw cotton fiber. L. E. Gregory and G. V. Merola. Textile Res J 28:813-14 S '58

Preparation and properties of partially benzylated cotton. E. Klein and others. bibliog il Textile Res J 28:659-68 Ag '58

Probable absence in cotton of bonds hydrolyzed with particular ease. N. Sanyer and C. B. Purves. bibliog Tappi 41:119-23 Mr '58

Reactivity of cellulose. A. R. Urquhart. bibliog(34 titles) Textile Res J 28:169-69 F '58 Abstracts. Textile World 107:123+ D '57; Am Dyestuff Rep 47:147 Mr 10 '58

Topochemical mechanisms involved in the preparation and deacetylation of partially acetylated cottons. A. V. Bailey and others. bibliog Textile Res J 28:861-73 O '58

Cleaning

See Cotton cleaning

Color

Color change in raw cotton related to conditions of storage. D. Nickerson and J. J. Tomaszewski. bibliog diags Textile Res J 28:485-97 Je '58

Diseases and pests

How to run cavitic cotton; Southern textile association Northern North Carolina-Virginia division meeting. Textile Ind 122:165+ Je '58

Storage

Color change in raw cotton related to conditions of storage. D. Nickerson and J. J. Tomaszewski. bibliog diags Textile Res J 28:485-97 Je '58

Sugar, pH, and strength changes in cotton during storage. D. Nickerson and J. J. Tomaszewski. Textile Res J 28:528-9 Je '58

Testing

Laboratory evaluation of nep potential. R. H. Souther. Textile Res J 28:582-5 Jl '58
Means for measuring neps produced by ginning treatments. J. V. Shepherd. Textile Res J 28:579-82 Jl '58

COTTON—Testing—Continued

- Modified Micronaire predicts both fineness and maturity; abstract. W. E. Chapman, Jr. Textile World 108:91-2 My '58
- Optical measurement of the trash content of ginned cotton. C. Baker and others. *il* diags Textile Res J 28:510-16 Je '58
- Progress reports on use and application of the nepotometer; some factors that affect test results. A. R. Markezich and others. bibliog *il* Textile Res J 28:570-5 Jl '58; Abstract. Textile World 108:92-4 My '58
- Test cotton to cut costs; abstract. W. S. Calkins. Textile Ind 122:82 Jl '58
- Tools urgently needed to quickly evaluate spinning performance of cotton. V. Moore. Textile Ind 122:93 Mr '58
- What you can expect from 1957 cotton. F. L. Gerdes. Textile World 108:86-8, 180-4 Mr '58

COTTON carding

- Air currents in cards pull few fibers from wire. G. Merenyl. Textile World 108:198 F '58
- Card-grinder training, how to grind cards; illustrations with text. P. C. Kochhar. Textile World 108:76-8 Ja '58
- Carding problems feature Alabama TOE meeting. Textile World 107:106-7 D '57
- Carding without flats; a report on the Southern regional research laboratory card. R. A. Rusca and others. Textile Res J 28:597-9 Jl '58; Abstract. Textile World 108:56-4 Ap '58
- Have a lap. Mr Tender: Lydia cotton mills. *il* Textile Ind 122:118-19 F '58
- Investigation of air pressures in the cotton carding machine. A. L. Miller and others. *il* diags Textile Res J 28:593-6 Jl '58; Abstract. Textile World 108:88-9 My '58
- Mill cut can handling 35 per cent; Henderson cotton mills. *il* Textile Ind 122:132-3-4 Ap '58
- Nepotometer studies; use as a mill instrument. L. D. Pryor and J. P. Elting. Textile Res J 28:575-9 Jl '58; Abstract. Textile World 108:56-7-4 Ap '58
- Neps measured by standard photos. G. Nordhammar and K.-E. Erickson. *il* Textile Ind 122:108-10 Ap '58
- Progress reports on use and application of the nepotometer; some factors that affect test results. A. R. Markezich and others. bibliog *il* Textile Res J 28:570-5 Jl '58
- Research aims at higher production. *il* Textile World 108:87-3-4 F '58

COTTON cleaning

- Are the gins ruining cotton? lint cleaners. Textile Ind 122:63-4 Ja '58
- How much opening? J. C. Hubbard and J. S. Graham. Textile Ind 122:150-3 Je '58
- Machine removes one-third of the trash; SRRL opener-cleaner handles mechanically harvested cotton at high production. R. A. Rusca and E. F. Wallace. diags Textile Ind 122:145-4 Ap '58
- Two cleaners better than one; Gold-Tex fabrics corp. *il* Textile Ind 122:81 Mr '58
- Unusual cleaning line cuts cost at Gold-Tex fabric corp. G. B. Peeler. *il* Textile World 108:138-9-4 Mr '58

COTTON combing

- Combing can improve grade and staple of cotton; abstract. D. Brandt. Textile World 108:89-90 My '58
- Effect of comber lap preparation on yarn quality. D. H. Cauble. Textile Res J 28:502-4 Je '58; Same cond. Textile World 108:54-5 Ap '58
- How half-lap needling affects comber efficiency; abstract. P. E. Sperling. Textile World 108:90-1 My '58
- Running cotton combers. E. Z. Cohen. *il* diags Textile Ind 122:119-4 S '58
- Study of cotton combing. C. D. Brandt. *il* diags Textile Res J 28:616-20 Jl '58; Abstract. Textile World 108:89-90 My '58
- Study of the effect of half lap needling on combing efficiency. P. E. Sperling. Textile Res J 28:600-11 Jl '58; Abstract. Textile World 108:90-1 My '58
- This checklist will help you reduce variation at the comber. Rhyno-Houser mfg. co. Textile World 108:80 Ap '58
- Trouble-shooting on cotton combers. M. Gross. *il* Textile Ind 122:118-19 Mr; 141-2 Ap '58

COTTON fabrics

- Spinning tests for predicting yarn and fabric quality as a routine in a cotton spinning mill. H. Brasseur. Textile Res J 28:626-30 Jl '58
- See also*
- Awning fabrics
- Cotton finishing
- Cotton weaving
- Duck (textile)
- Terry fabrics

Creasing

- Acetal reactants produce wrinkle-resistant finishes; abstract. J. B. Irvine and B. H. Kress. Textile World 107:122 D '57
- Application of resin finishes to cotton garments using drycleaning plant equipment. R. T. Graham and others. bibliog Textile Res J 28:552-6 Mr '58
- Durable creasing of wrinkle resistant cotton. J. D. Reid and others. bibliog Textile Res J 28:242-51 Mr '58
- Effect of laundering on chlorine retention and crease resistance; abstract. O. C. Bacon. Textile Ind 122:100-4 Ja '58
- Recurring resin finishes to produce durable creases; abstract. J. D. Reid and others. Textile World 107:120 D '57

Dacron mixtures

See Dacron—Cotton mixtures

Defects

- If cloth is wrong, it's wrong! R. Bayles. *il* Textile Ind 122:97-8 Ja '58

Dynel mixtures

See Dynel—Cotton mixtures

Moisture absorption

- Absorbency of terry towels. B. G. Murphy and A. R. Macormac. bibliog Textile Res J 28:337-42 Ap '58
- How finishes affect water absorbency; abstract. E. Steele. Textile World 107:122 D '57

Nylon mixtures

See Nylon fabrics—Cotton mixtures

Protection

- Oil and water repellent treatments for cotton with fluorochemicals. L. Segal and others. bibliog *il* Textile Res J 28:233-41 Mr '58
- Reliability of the soil burial method for evaluating textile preservative treatments. J. M. Ashcroft. *il* diags Textile Res J 28:422-30 Mr '58

Rayon mixtures

See Rayon fabrics—Cotton mixtures

Shrinkage

- History and development of compressive shrinkage. F. V. Davis. diags Soc Dyers & Col J 74:8-13 Ja '58

Strength

- Comparison of fabric tear tests. R. Steele. bibliog diags Am Dyestuff Rep 47:143-5 Mr '58

Testing

- Dialdehydes as cotton cellulose cross-linkers. M. D. Hurwitz and L. E. Conlon. bibliog Textile Res J 28:257-62 Mr '58; Abstract. Textile World 107:124 D '57
- Effect of silicone softeners on resin treated cottons. B. G. Simpson. Am Dyestuff Rep 46:931-3 D '58; Same. Textile Res J 28:170-3 F '58; Abstract. Textile World 107:121 D '57
- Improved light and weather resistance of cotton resulting from mercerization. C. F. Goldthwait and H. M. Robinson. bibliog Textile Res J 28:120-6 F '58
- Pilot mill helps predict yarn and fabric quality; abstract. H. Brasseur. Textile World 108:57-8-4 Ap '58
- Reliability of the soil burial method for evaluating textile preservative treatments. J. M. Ashcroft. *il* diags Textile Res J 28:422-30 Mr '58
- Topochemical mechanisms involved in the preparation and deacetylation of partially acetylated cottons. A. V. Bailey and others. bibliog Textile Res J 28:861-73 O '58

See also

Cotton fabrics—Strength

Washability

- Effect of laundering and starching on the serviceability of cotton shirts; abstract. E. M. Galloway and others. Am Dyestuff Rep 46:980 D '57

COTTON fabrics—Washability—Continued

New finishing techniques for wash-and-wear cottons. J. D. Reid and R. M. Reinhardt. bibliog (27 ref) *il Mod Textiles Mag* 39:61-8 Mr '58

COTTON fibers

Applications of infrared absorption spectroscopy to investigations of cotton and modified cottons. R. T. O'Connor and others. bibliog *Textile Res J* 28:382-92 My '58

Decrystallization of cotton cellulose. C. H. Haydel and others. bibliog *Ind & Eng Chem* 50:74-5 Ja '58

Fiber length of cotton should be increased; abstract. B. Johnson. *Textile World* 108: 58 Ap '58

Isolation and identification of fumaric acid in raw cotton fiber. L. E. Gregory and G. V. Merola. *Textile Res J* 28:313-14 S '58

Manufacturing performance and the evaluation of fiber quality. B. Johnson. *Textile Res J* 28:620-5 Jl '58

Mechanical properties of cotton fibers and their response to mercerization. L. Rebenfeld. bibliog *Textile Res J* 28:462-6 Je '58

Replacing hydroxyl groups in cotton cellulose. E. Klein and J. E. Snowden. bibliog *Ind & Eng Chem* 50:80-2 Ja '58

Surface of cotton fibers. V. W. Tripp and others. bibliog *il Textile Res J* 27:419-36, 833-45; 28:447-52 Je, N '57, Je '58

Textile world's cotton-fiber table, 1958 revision. W. G. Ashmore. *il Textile World* 108:47-66 Je '58

Measurement

How to save time in measuring cotton fiber length; Suter-Webb array method. *Textile Ind* 122:147 Je '58

Micronaire reading as a close approximation to fiber thickness. K. L. Hertel. *diags Textile Res J* 28:442-4 My '58

Pneumatic method of measuring cotton fiber staple length. H. M. Brown. *diag Textile Res J* 28:516-20 Je '58; Abstract. *Textile World* 108:93 My '58

Tables, calculations, etc.

Changes in the weight distribution of fiber lengths of cotton as a result of random fiber breakage. W. J. Byatt and J. P. Elting. bibliog *Textile Res J* 28:417-21 My '58

Testing

Cotton fiber maturity rapidly predicted with variable volume of sample in Micronaire. W. E. Chapman, Jr. and G. Staten. *il Textile Res J* 27:391-2 D '57

Fiber fineness, how many tests? measurement of cotton fiber properties. F. G. Ernest. *Textile Ind* 122:37-9 S '58

How to improve blending by Micronaire numbers. N. N. Nolen. *Textile World* 108:62-3 S '58

How to select cotton. E. W. S. Calkins. *Textile World* 108:71+ S '58

Influence of weathering prior to harvest on certain properties of cotton fibers. P. B. Marsh and others. bibliog (31 titles) *Textile Res J* 28:95-111 F '58

Microscopic observations on cotton fibers subjected to enzymatic degradation. P. B. Marsh. bibliog *il Textile Res J* 27:913-16 N '57

Physical properties of fibers and yarns of partially acetylated cottons. R. S. Orr and others. bibliog (26 refs) *Textile Res J* 27: 966-75 D '57

Punched-card methods for studying fiber-yarn relationships. H. Wakeham and L. Steward. bibliog *diags Textile Res J* 28: 431-41 My '58

Some relationships between supermolecular structure and mechanical behavior of native and chemically modified cotton cellulose. V. W. Tripp and others. bibliog *il Textile Res J* 28:404-17 My '58

Transmission of cotton fiber strength and extensibility. L. Rebenfeld. bibliog *Textile Res J* 28:585-92 Jl '58

Use fiber-fineness data to improve cotton processing; conversion table for micronaire numbers. N. N. Nolen. *Textile World* 108: 96+ Ja '58

Use of dial gauges in calculating the results of fibrograph length tests. J. T. Rouse. *il Textile Res J* 28:505-10 Je '58

COTTON finishing

Chemical-finishing conference; abstracts of papers. *Textile World* 107:120-4+ D '57

Chemical modification of cotton; progress and current status. C. H. Fisher and F. S. Perkerson. *Textile Res J* 28:769-78 bibliog (p776-8) S '58

Cotton gets a new finish: tris(1-aziridinyl) phosphine oxide. *Chem & Eng N* 36:39 O 13 '58

Cyanoethylation of cotton in aqueous medium. N. M. Bikales and L. Rapoport. bibliog *il Textile Res J* 28:737-43 S '58

Effect of laundering on chlorine retention and crease resistance. abstract. O. C. Bacon. *Textile Ind* 122:100+ Ja '58

Effect of salts on cyanoethylation of cotton. N. M. Bikales and others. bibliog *Ind & Eng Chem* 50:87-90 Ja '58

Effect of silicic acid on resins on resin-treated cottons. B. G. Simpson. *Am Dyestuff Rep* 46:991-8 D 30 '57; Same. *Textile Res J* 28: 170-9 F '58; Abstract. *Textile World* 107: 121 D '57

Fabrics treated with dimethylol ethylene urea; abstract. H. C. Walter and others. *Am Dyestuff Rep* 46:979 D 16 '57

How laundering affects cotton finished with DMEU resins; abstract. O. C. Bacon and others. *Textile World* 108:133+ F '58

How Millville produces polished cottons. *il Textile World* 108:120-1 Mr '58

How we make our sulfated oils and tallow; ingredients in cotton-finishing formulas. W. Frederick. *diag Textile World* 108:88-9 S '58

New finishing techniques for wash-and-wear cottons. J. D. Reid and R. M. Reinhardt. bibliog (27 ref) *il Mod Textiles Mag* 39:61-8 Mr '58

New knowledge concerning the functional properties of formaldehyde in cotton and rayon finishing; abstract. An. J. Hall. *Am Dyestuff Rep* 46:977-8 D 16 '57

New resins for treating white cotton goods. H. C. Borghetty. *Textile World* 108:89+ Ap '58

Nonaqueous carboxymethylation of cotton. R. M. Reinhardt and others. bibliog *il Textile Res J* 27:873-8 N '57

Oil and water repellent treatments for cotton with fluorochemicals. L. Segal and others. bibliog *il Textile Res J* 28:233-41 Mr '58

Oxidizing partially etherified cottons. R. M. Reinhardt and others. bibliog *Ind & Eng Chem* 50:83-6 Ja '58

Paper, cotton respond; chemical treatment enhances cellulosic materials, helps them meet new demands. *il Chem & Eng N* 36:61-2 S 22 '58

Physical properties of chemically modified cottons (cont.). J. N. Grant and others. bibliog *Textile Res J* 28:60-6 Ja '58

Simplified control analyses of solutions used in partial acetylation of cotton. E. M. Bures, Jr. and others. bibliog *diag Anal Chem* 30: 104-7 Ja '58

Topochemical mechanisms involved in the preparation and deacetylation of partially acetylated cottons. A. V. Bailey and others. bibliog *Textile Res J* 28:661-73 O '58

Versatile cotton in high style finishing. G. Heberlein and E. Weiss. bibliog (28 ref) *il pl Textile Res J* 28:227-33 Mr '58

See also

Bleaching—Cotton

Cotton sizing

Mercerizing

COTTON flannel
Large warps and bobbins aid Canton-flannel weaving; Carolina Mills. *il Textile World* 108:80-1 Je '58

COTTON gins
Are the gins ruining cotton? lint cleaners. *Textile Ind* 122:63+ Ja '58

Cotton industry approach to gin damage. C. L. Welch. *Textile Ind* 122:73+ Mr '58

Ginner has his problems, too; J. D. Towery. *il Textile Ind* 122:171-2 O '58

COTTON growing
Cotton insecticides. *il J Agri & Food Chem* 6:173-4 Mr '58

COTTON machinery
Georgia carders analyze SRRL openers in use. *Textile World* 108:64-5 Jl '58

Georgia mill report on SRRL opener and spinning; Textile operating executives of Georgia spring meeting. *Textile Ind* 122: 157-8 Je '58

How Rhine-Houser runs Orion staple on cotton machinery. *il Textile World* 108:48-50 S '58

Machine removes one-third of the trash; SRRL opener-cleaner handles mechanically harvested cotton at high production. R. A. Rusca and E. F. Wallace. *diag Textile Ind* 122:145+ Ap '58

New mill combines worsted and cotton machinery; Rhine-Houser mfg. co. *il Textile World* 108:78-9 Je '58

COTTON machinery—Continued

Opening and picking; improved machinery produces cleaner and heavier laps. *il* Textile World 108:50-2 O '58
 Saved, 400 man-hours a week; pattern preparation mechanized at Joanna cotton mills co. *il* Textile Ind 122:82-4 S '58
 Study of the effect of half lap needling on combing efficiency. P. E. Sperling. Textile Res J 28:600-11 JI '58

Variations in roving weight introduced by the slubber. N. L. Enrick and W. D. Hicks. Textile Res J 28:564-9 JI '58

See also
 Cotton combing
 Cotton gins
 Spooling machines

Lubrication

Avondale mills has central lubrication. J. W. Ward. *il* Textile World 108:93-5 Mr '58

COTTON manufacture

Better blending, heavier laps improve opening and picking. *il* Textile World 108:86-7 F '58

Fact file; cotton. Textile World 108:14-22 Mid-JI '58

How to process 1957 cotton. J. N. Little. Textile World 108:61-+ JI '58

How to run cavtomic cotton; Southern textile association Northern North Carolina-Virginia division meeting. Textile Ind 122:165-+ Je '58

Manufacturing performance and the evaluation of fiber quality. B. Johnson. Textile Res J 28:620-5 JI '58

Now the fourth end keeps running; Woodside mills preparatory processing. *il* Textile Ind 122:96-7 My '58

See also
 Cotton carding
 Cotton combing
 Cotton finishing

COTTON manufacturers institute, American.

See American cotton manufacturers institute

COTTON mills

Better customer service; processing customer orders; Cone mills corp. J. R. Perrin. *il* Textile Ind 122:116-17 F '58

Variety is the spice of success; Gants of Glen Raven mills. J. Campbell. *il* Mod Textiles Mar 39:29-30+ Ja '58

Accounting

Seven pay 2,000; payroll office of Avondale mills. *il* Textile Ind 122:90-3 Mr '58

Cleaning

Cotton mills improve ways to keep weave rooms clean. *il* Textile World 108:52-3+ Ap '58

Costs

How much will partially acetylating cotton cost? H. K. Gardner, jr. bibliog flow diag plan diag Textile Ind 122:100-4 S '58

Employees

Breaking bottlenecks in spinning; high employee morale is needed. M. Chagro. *il* Textile Ind 122:145-7 Je '58

Equipment

Australian lap conveyor cuts handling costs \$5,000 a year; Bradley cotton mills ltd. A. Grobtech. *il* Textile World 108:60 Ag '58

Conveyor solved space problem at Highland cotton mills. *il* Textile Ind 122:173 O '58

Data processing machines in daily report of inventory condition; Fulton bag & cotton mills. *il* Textile Ind 122:92-6+ S '58

Eagle & Phenix cloth room has streamlined layout. *il* Textile World 108:74-5 Ap '58

Have a lap. Mr. Tender. Lydia. cotton mills. *il* Textile Ind 122:118-19 F '58

Instruments help overhaulers; China grove cotton mills. A. B. Roberts. *il* diag Textile Ind 122:129+ Ag '58

Large section beams increase yarn capacity 66 per cent; Carolina mills. *il* diag Textile World 108:56-7+ My '58

Machine cuts mill's cloth packaging time 75 per cent; Pepperell manufacturing co. *il* Textile Ind 122:97 Mr '58

Materials-handling system combines two cotton mills; Abney mills plant. J. L. Burriss. *il* Textile World 108:70-1 Ap '58

Mill cut can handling 35 per cent; Henderson cotton mills. *il* Textile Ind 122:132-3+ Ap '58

Modern machines and methods reduce slashing problems. Textile World 107:115-+ D '57

Nepotometer can be used as a mill-laboratory instrument; abstract. L. D. Fryor and J. P. Eiting. Textile World 108:56-7+ Ap '58

Piedmont cotton mills diversifies production. *il* Textile World 108:89+ Mr '58

See also
 Spooling machines

Maintenance and repair

Instruments help overhaulers; China grove cotton mills. A. B. Roberts. *il* diag Textile Ind 122:129+ Ag '58

Keep downtime cost low; Woods mfg. co. Empire cotton mills div. *il* Textile Ind 122:90-2 Je '58

Maintenance men get the best from old and new equipment; panel discussion. Textile World 107:134-5 D '57

This checklist will help you reduce variation at the comb; Rhyne-Houser mfg. co. Textile World 108:80 Ap '58

Management

They're styling up at Cone Mills. J. Campbell. Mod Textiles Mar 38:32-3+ F '58

What Joanna did to improve management-employee communications. Textile Ind 122:126-7 Mr '58

Quality control

Controlling quality in the weaving department. F. G. Ernest. Textile Ind 122:97-8 Je '58

Simple quality control; Canton cotton mills. J. Wheeler. *il* Textile Ind 122:58-60 JI '58

What quality control has done for our mills; Linn mills co; abstract. L. C. Drye. Textile Ind 122:156-+ O '58

Waste

Current research on textile waste treatment; Cone mills corp. bibliog Sewage & Ind Wastes 30:392-101 Ag '58

How Saylesville handles waste disposal; abstracts. G. C. Bogren. Textile World 108:130 F '58; flow diag Textile Ind 122:137 F '58

How to control waste. J. Middleton. *il* Textile Ind 122:129-31 Ap '58

COTTON openers. See Cotton machinery**COTTON printing. See Calico printing****COTTON research**

Applications of infrared absorption spectroscopy to investigations of cotton and modified cottons. R. T. O'Connor and others. bibliog Textile Res J 28:382-92, 542-54 My, JI '58

Cotton research clinic, Pinehurst, N.C.; abstracts of papers. Textile World 108:54-8+ Ap; 88-93+ My '58

Effects of gamma radiation on cotton. F. A. Blouin and J. C. Arthur, jr. bibliog (48 ref) Textile Res J 28:198-206 Mr '58

Manufacturing performance and the evaluation of fiber quality. B. Johnson. Textile Res J 28:620-5 JI '58

New chemically modified cellulose fibers; symposium. bibliog *il* diag Ind & Eng Chem 50:73-105 Ja '58

Physical properties of chemically modified cottons (cont). J. N. Grant and others. bibliog Textile Res J 28:60-6 Ja '58

Some concepts of cotton research. G. S. Buck, jr. Textile Res J 28:778-83 S '58

COTTON sizing

New slashers prove to be one of the best investments. Textile World 108:60-2 O '58

Potato starch users reply. Textile Ind 122:153-+ Ap '58

COTTON spinning

Breaking bottlenecks in spinning; high employee morale is needed. M. Chagro. *il* Textile Ind 122:145-7 Je '58

Effect of bottom front roll run-out in spinning on yarn quality and processing performance. L. O. Bragg. *il* Textile Res J 28:520-7 Je '58; Abstract. Textile World 108:56 Ap '58

Fiber length of cotton should be increased; abstract. B. Johnson. Textile World 108:58 Ap '58

Georgia mill report on SRRL opener and spinning; Textile operating executives of Georgia spring meeting. Textile Ind 122:157-8 Je '58

How Pittsburgh yarn co. tests roving. V. Saxl. Textile World 108:107 F '58

How one mill stopped thick places in yarn. E. H. Hellwell. *il* Textile World 108:149+ F '58

Modern methods reduce ends down at spinning. *il* Textile World 108:141+ F '58

COTTON spinning—Continued

- Predicting ends down from small lot spinning tests. H. K. C. Woo. Textile Res J 28:612-16 J1 '58
- Quaker Meadows installs large-package spinning. il Textile World 108:80-1 Ja '58
- Spinning tests. H. W. Little and others. bibliog diag Textile Ind 122:107-10+ Mr '58
- Spinning tests for predicting yarn and fabric quality as a routine in a cotton spinning mill. H. Brasseur. Textile Res J 28:626-30 J1 '58
- Study of spinning twist variation. Textile Ind 122:159-60 Ap '58; Discussion. 122:133+; Reply. 135-6 S '58

Tables, calculations, etc.

- How much twist do you put in roving and yarn? J. Duerst. Textile Ind 122:102-4 Mr '58

COTTON trade**Statistics**

- Ten years of cotton textiles, 1947 to 1957; Association of cotton textile merchants of New York survey. Textile Ind 122:122-3 Ja '58

COTTON weaving

- Controlling quality in the weaving department. F. G. Ernest. Textile Ind 122:97-8 Je '58
- How to set filling feelers to make more and better cloth. W. G. Westbrook. diag Textile World 108:140-1 Mr '58
- If cloth is wrong, it's wrong! R. Bayles. il Textile Ind 122:97-8 Ja '58
- Large warps and bobbins aid Canton-flannel weaving; Carolina Mills. il Textile World 108:80-1 Je '58
- Seconds in weaving don't just happen; they are caused! G. Williams. il Textile Ind 122:112-13 My '58
- Stretching yarns too much can cause weaving trouble. Textile World 108:202 F '58
- Warp tag system improves weave room production control; Joanna (S.G.) cotton mills co. diag Textile Ind 122:101 J1 '58

COTTON yarn

- Continuous cyanoethylation of cotton yarns. H. J. Janssen and others. bibliog diag Ind & Eng Chem 50:76-9 Ja '58
- Cotton mill overwaxes carded warp yarns and gets cleaner looms, fewer stops. R. Bayles. il Textile Ind 122:86-7 Je '58
- Effect of comb lap preparation on yarn quality. D. H. Cauble. Textile Res J 28:502-4 Je '58
- Effect of nuclear radiation on fibrous materials; relative order of stability of cellulosic fibers. O. Teszler and others. Textile Res J 28:456-62 Je '58
- Fact file; cotton. Textile World 108:14-22 Mid-J1 '58
- Some practical aspects of the fibrous acetylation of cotton yarn. F. Bryant. bibliog Textile Res J 28:180-1 F '58
- Spinning tests for predicting yarn and fabric quality as a routine in a cotton spinning mill. H. Brasseur. Textile Res J 28:626-30 J1 '58
- Stretching yarns too much can cause weaving trouble. Textile World 108:202 F '58
- Versatile cotton in high style finishing. G. Heberlein and E. Weigs. bibliog (28 ref) il pl Textile Res J 28:227-33 Mr '58

Moisture content

- How dry is this warp? instrument indicates moisture content of yarn from slasher. il Textile Ind 122:117-19 Ap '58

Nylon mixtures**See Nylon yarn—Cotton mixtures****Tables, calculations, etc.**

- How much twist do you put in roving and yarn? J. Duerst. Textile Ind 122:102-4 Mr '58
- Punched-card methods for studying fiber-yarn relationships. H. Wakeham and L. Steward. bibliog diag Textile Res J 28:431-41 My '58
- Tex-cotton count conversion scale. G. L. Louis. Textile Res J 28:716-17 Ag '58
- Testing**
- Comparative mercerization of yarns made from Pima S-1, Peruvian Pima B-B, and Egyptian, Karnak cottons. A. L. Murphy and C. F. Goldthwait. Textile Res J 28:267-9 Mr '58

- Effect of bottom front roll run-out in spinning on yarn quality and processing performance. L. O. Brack. il Textile Res J 28:520-7 Je '58; Abstract. Textile World 108:56 Ap '58

- How to evaluate cotton-yarn quality; abstract. J. M. Heavner. Textile World 108:93+ My '58

- Method for measuring yarn softness and its use to show the effect of single and ply twist on the softness of 31/2 cotton yarns. E. L. Skau and others. diag Textile Res J 28:206-12 Mr '58
- Novel mercerizing technique to establish true length of cotton yarn. C. F. Goldthwait and A. L. Murphy. bibliog Textile Res J 28:15-21 Ja '58
- Pilot mill helps predict yarn and fabric quality; abstract. H. Brasseur. Textile World 108:57-8 Ap '58
- Spinning tests. H. W. Little and others. bibliog diag Textile Ind 122:107-10+ Mr '58

- Vapor phase method for preparation of polyacrylonitrile coated cotton yarn and physical properties of the product. C. H. Haydel and others. bibliog il diag Textile Res J 27:976-82 D '57

COTTONSEED

- Alcohol extraction of vegetable oils; pilot plant extraction of cottonseed by aqueous ethanol. R. K. Rao and L. K. Arnold. bibliog flow diag diag Am Oil Chem Soc J 35:277-81 Je '58

See also**Gossypol****Analysis**

- Improved method for preparing cottonseed for oil content determination. M. E. Whitten. Am Oil Chem Soc J 35:sup 16 Ja '58
- Spectrophotometric determination of total gossypol in cottonseed meal and cottonseed meats. E. H. Smith. bibliog Am Oil Chem Soc J 35:261-5 Je '58

Storage

- Effect of long-term storage on acute oral toxicity and gossypol content of cottonseed pigment glands. E. Eagle and D. L. Davies. Am Oil Chem Soc J 35:36-7 Ja '58

COTTONSEED meal

- Binding of gossypol under conditions of complete rupture of the pigment glands. W. H. King and others. Am Oil Chem Soc J 35:358-60 J1 '58

- Effects of alkali cooking on the yields of crude and neutral oil from cottonseed meals. P. H. Eaves and others. bibliog Am Oil Chem Soc J 35:33-6 Ja '58

- Lysine content of cottonseed meals. W. H. Martinez and V. L. Frampton. J Agri & Food Chem 6:312 Ap '58

- Pilot-plant development of the alkali-cooking process for cottonseed meals; quantitative effect of cooking variables on solubility of meal nitrogen. W. H. King and others. bibliog Am Oil Chem Soc J 35:46-9 Ja '58

- Solubility of cottonseed proteins in hydrochloric acid. G. E. Mann and others. Am Oil Chem Soc J 35:244-6 My '58

Analysis

- Spectrophotometric determination of total gossypol in cottonseed meal and cottonseed meats. E. H. Smith. bibliog Am Oil Chem Soc J 35:261-5 Je '58

COTTONSEED oil

- Cottonseed and competing vegetable oils. L. Smith and D. Hull. Am Oil Chem Soc J 35:14-19 Ja '58

- Effect of gamma radiation on the hydrogenation of cottonseed oil. L. F. Albright and others. bibliog diag Am Oil Chem Soc J 35:240-4 My '58

- Effects of alkali cooking on the yields of crude and neutral oil from cottonseed meals. P. H. Eaves and others. bibliog Am Oil Chem Soc J 35:33-6 Ja '58

- Improvement of color in off-colored cottonseed oils. V. L. Frampton and others. Am Oil Chem Soc J 35:sup 18+ Ag '58

- Leverage at work in cottonseed oil market. R. D. Willemijn. Am Oil Chem Soc J 35:sup 8+ Ap '58

- Positional isomers formed during the hydrogenation of cottonseed oil. M. H. Chahine and others. bibliog Am Oil Chem Soc J 35:396-401 Ag '58

- Preparation of pure palmitic acid and a by-product plasticizer from cottonseed oil. F. C. Magne and others. Am Oil Chem Soc J 35:477-9 S '58

COTTONSEED oil—Continued

Relationship of polymorphism to the texture of margarine containing soybean and cottonseed oils. D. R. Merker and others. *bibliog* *il Am Oil Chem Soc J* 35:130-3 Mr '58

Degumming

Evaluation of continuous degumming of cottonseed oil. J. K. Sikes. *bibliog* *Am Oil Chem Soc J* 35:445-8 S '58

COUETTE flow

Effect of molecular vibration on recovery temperature in plane Couette flow. H. T. Yang. *J Aeronautical Sci* 24:911-12 D '57

Magnetohydrodynamics of hypersonic Couette flow. Z. O. Bleviss. *bibliog* *diags J Aero/Space Sci* 25:601-15 O '58

COULOMETERS. See Voltameters

COULOMETRIC titration. See Volumetric analysis

COUMARAN. See Dihydrobenzofuran**COUMARIN**

Novobiocin; structure of the coumarin moiety. C. H. Stammer and others. *bibliog* *Am Chem Soc J* 80:137-40 Ja 5 '58

See also
Isocoumarin

Analysis

Determination of coumarin in the presence of sterols. J. R. Clopton. *J Agri & Food Chem* 6:457-9 Je '58

COUMESTROL. See Estrogens**COUNCIL BLUFFS, Iowa****Water supply**

Blended well-river waters end ice problem in plant. M. E. Rew. *il diag Water Works Eng* 111:934-6 O '58

COUNTERCURRENT processes

Compact countercurrent distribution apparatus. S. Raymond. *diags Anal Chem* 30:1214-16 Jl '58

Countercurrent distribution of serum albumin. W. Hausmann and L. C. Craig. *bibliog* *Am Chem Soc J* 80:2703-10 Je 5 '58

Countercurrent distribution of sorghum lipids in leaf and stem extract. M. C. Burnett and others. *bibliog* *J Agri & Food Chem* 6:374-7 My '58

Countercurrent distribution studies with ribonuclease and lysozyme. T. P. King and L. C. Craig. *bibliog* *Am Chem Soc J* 80:3366-70 Jl 5 '58

Glyceride structure of vegetable oils by countercurrent distribution. C. R. Scholfield and H. J. Dutton. *Am Oil Chem Soc J* 35:493-6 O '58

Graphical representation of theoretical soluble losses by CCD (countercurrent decantation). R. J. Woody. *diags Min Eng* 10:Trans 786-8 Jl '58

Hydrodynamics of countercurrent flow in wetted-wall columns. W. J. Thomas and S. Portalski. *bibliog* *diags Ind & Eng Chem* 50:1081-3 Jl '58; Correction: 50:1266 S '58

Mechanics of moving vertical fluidized systems. D. L. Struve and others. *bibliog* *diags Can J Chem Eng* 36:141-52 Ag '58

COUNTERS (electrons, ions, etc.)

Absolute assay and study of short-lived radionuclides by a recoil technique. F. S. Rowland and R. L. Wolfgang. *bibliog* *il diag R Sci Instr* 29:210-14 Mr '58

Absolute determination of monoenergetic neutron flux in the energy range 1 to 30 mev; counter telescope system. S. J. Bame, Jr. and others. *bibliog* *diags R Sci Instr* 28:997-1006 D '57

Advances in the standard proportional counter method of fast neutron dosimetry. E. B. Wagner and G. S. Hurst. *il diags R Sci Instr* 29:153-8 F '58

Boron trifluoride proportional counters. W. Abson and others. *bibliog* *diags Inst E E Proc* 105 pt B:357-65; Discussion. 365-9 Jl '58

Combination ion chamber-proportional counter dosimeter for measuring gamma-ray contamination of neutron fields. M. Slater and others. *bibliog* *diag R Sci Instr* 29:601-5 Jl '58

Continuous energy monitor for the external beam of a cyclotron. J. A. Northrop and R. H. Stokes. *diags R Sci Instr* 29:287-90 Ap '58

Counter monitors fuze assemblies: Atomonitor. *il Electronics* 31:16 Jl 13 '58

Cyclops cores simplify earth-satellite circuits; micrometeorite collision counter. D. H. Schaefer and J. C. Schaeffer. *diags Electronics* 31:62-3 F 28 '58

Dekatrions and electro-mechanical registers operated by transistors. G. B. B. Chaplin and R. Williamson. *diags Inst E E Proc* 105 pt B:231-6; Discussion. 266-70 My '58

Design, performance and use of fission counters. W. Abson and others. *bibliog* *diags Inst E E Proc* 105 pt B:349-58; Discussion. 365-9 Jl '58

Fast sodium iodide spectrometer and its application to millimicrosecond time measurement. L. E. Beghian and others. *bibliog* *diag R Sci Instr* 29:753-7 S '58

Fast timing apparatus for measuring the arrival directions of cosmic-ray air showers; four plastic scintillation detectors and fast oscillograph. G. W. Clark. *il diags R Sci Instr* 28:907-9 N '57

Filament scintillation counter. G. T. Reynolds and F. E. Condon. *il R Sci Instr* 28:1095-9 D '57

Free-moving isodose-tracing machine. B. C. Green and J. W. T. Spinks. *il diags Nucleonics* 16:92-4 Ap '58

Gages + computers → sophistication. *diag Nucleonics* 16:15 Ap '58

High-speed pulse amplitude discriminator in fast counting systems. F. J. M. Farley. *diags R Sci Instr* 29:595-6 Jl '58

Instrumentation; Geneva 1958. *il diags Nucleonics* 16:33-5 S '58

Large scintillator for observation of cosmic rays. J. R. Green. *diags R Sci Instr* 29:1014-4 Ja '58

Liquid scintillators for free neutron detection. A. R. Ronzio and others. *R Sci Instr* 29:146-7 F '58

Mobile counters track radiation. *il Electronics* 31:16 F 28 '58

Multi-channel Dekatron scaling unit. F. W. Lovick. *diags Electronic Eng* 30:394-5 Je '58

Neutron detectors for operation at 400°C. S. G. Kaufmann and L. E. Pahis. *il diag Nucleonics* 16:30-1 Mr '58

New chamber for cosmic research; filaments of plastic scintillator material. *Chem & Eng N* 35:58 D 2 '57

Organic-glass scintillators. J. W. Downs and F. L. Smith. *Nucleonics* 16:94-6 Mr '58

Radioassay of low specific activity tritiated water by improved liquid scintillation techniques. C. A. Ziegler and others. *bibliog* *Anal Chem* 29:1774-6 D '57

Response of a liquid scintillator to fast neutrons and γ radiation. J. E. Hardy. *diags R Sci Instr* 29:705-9 Ag '58

Scintillation-counter analysis of experimental boiling water reactor radioactivity. S. J. Goslovich and others. *Nucleonics* 16:94-1 My '58

Scintillation counter symposium. 6th. Washington, Jan. 27-28. *Phys Today* 11:22-3 My '58

Scintillation counting. 1958; scintillation counter symposium. 6th. Washington; abstracts of papers. *Nucleonics* 16:54-62 Je '58

Semiautomatic gap counter for nuclear emulsions. M. V. Klein. *diags R Sci Instr* 28:964-5 N '57

Semiconductor $p-n$ junction radiation counter. B. Salzberg and K. Siegel. *Inst Radio Eng Proc* 46:1536 Ag '58

Sensitive single channel pulse-height analyzer. M. Simhi and M. Birk. *diag R Sci Instr* 29:766-8 S '58

Silicon crystal counters. W. D. Davis. *J Ap Phys* 29:231-2 F '58

Single-channel counter for carbon-14 and tritium. T. S. Hodgson and others. *bibliog* *diags Nucleonics* 16:89-94 Jl '58

Spectral effects in the comparison of scintillators and photomultipliers. R. K. Swank and others. *bibliog* *diags R Sci Instr* 29:279-84 Ap '58

Stable multichannel positive pion detector. W. Imhof and others. *bibliog* *diags R Sci Instr* 29:476-9 Je '58

Teflon sheet as a large-area gas seal for gas flow radioactivity counters. K. A. Bargh. *R Sci Instr* 29:536-7 Je '58

Three-channel alpha-fission counter. F. A. White and J. C. Sheffield. *il diag Nucleonics* 16:86-1 Ap '58

Total-absorption Cerenkov counter for photons of about 100 mev energy. J. Moffatt and M. W. Stringfellow. *bibliog* *diag J Sci Instr* 35:18-20 Ja '58

Transistor count-rate systems. L. E. Welsner. *diags Elec Eng* 77:623-5 Jl '58

Transistorized, portable spark counter. E. Laisk. *il diags Nucleonics* 16:95-7 Jl '58

- COUNTERS** (electrons, ions, etc.)—*Continued*
Trends in radiation instrumentation. J. B. Williams. *diags Instrum & Automation* 31:624-9 Ap '58
Use of isopropylbiphenyl as solvent in liquid scintillators. W. Buck and R. K. Swank. *R Sci Instr* 29:252 Mr '58
Walk-in human counter. E. C. Anderson and others. *il Nucleonics* 16:108 Ag '58
Wavelength-shifter efficiencies for noble gas scintillators. J. A. Northrop. *bibliog diag R Sci Instr* 29:437-8 Mr '58
See also
Bubble chambers
Coincidence counting
Geiger-Müller counters
- COUNTERSINKS**
Countersinks in thin plates. M. Levine. *diags Product Eng* 28:G5-7 Mid-O '57
- COUNTING**. See Numeration
- COUNTING machines and devices**
Casting brushes in continuous strips for an impulse counter. E. Watkins. *il Electronics* 31:145-7 J. R. 14 '58
Counting device shuts down machine automatically. R. T. Stewart. *diags Mach* 65:157 S '58
Counting is still computing. C. Storie. *diags Control Eng* 5:133+ My '58
Electronic counters gain. *il Steel* 141:62 N 11 '57
Hermetic compressor motor speed indicator. W. W. Sutherland. *il diags Refrig Eng* 66:45-8 Ja '58
How good is your welder power supply? electronic voltage-drop counter. A. C. Johnson and F. E. Donathan. *il diags Welding J* 37:692-9 JI '58
Latching counters. W. P. Anderson and N. A. Godel. *diags Electronic & Radio Eng* 35:362-7, 425-36 O-N '58
Linerboard by the foot. W. H. Boatwright and J. F. Turner. *Tappi* 41:sup 151A-2A Mr '58
Magnetic core event counter for earth satellite memory; recording micrometeorite bombardment. D. H. Schaefer. *il diags Elec Eng* 77:52-6 Ja '58
Ring counter has increased count capacity. A. W. Carlson. *bibliog il diags Electronics* 31:89-91 Ap 11 '58
Shot counter uses strobotron. R. L. Ives. *diag Electronics* 31:94+ Ag 15 '58
Spot scanner counts micron-sized particles. H. P. Mansberg and others. *il diags Electronics* 30:142-6 D 1 '57
Stage for macro point counting. D. O. Emerson. *il Am Mineralogist* 43:1000-3 S '58
Swift peek at small particles. *il diag Ind & Eng Chem* 50:sup24A-5A Je '58
Transistorized counting system. *Elec Eng* 77:376 Ap '58
Unilog, a continuous rate computer. C. E. Rogers and J. E. Ake. *diag I S A J* 5:63 F '58
- COUNTRY clubs**
Country club, Austin, Tex. *il plans Prog Arch* 39:92-4 Ag '58
Country club, Gladwyne, Pa. *il plans Prog Arch* 39:112-15 JI '58
- COUNTRY houses**
Formal country house. *il plans diags Arch Rec* 123:80-5 Mid-My '58
See also
Vacation houses
- COUNTY engineering**
Handling the problems of subdivision homes. V. W. Sauer. *il Pub Works* 88:85-9+ N '57
See also
Roads, County
Sewage disposal, County
- COUNTY engineers**
County surveyors then and now. G. E. Neep. *il Pub Works* 89:90-1 Mr '58
- COUNTY officials**
County court house speeds copy work. *il Pub Works* 89:77 F '58
- COUNTY planning**
See also
Sewage disposal, County
- COUNTY roads**. See Roads, County
- COUPLINGS**
Adjustable geared coupling for misaligned shafts. A. L. Sims. *diags J Sci Instr* 35:146 Ap '58
Can hydraulic couplings double as feedwater regulators? I. J. Karassik. *Combustion* 29:34-7 D '57
Controlled acceleration devices. J. R. Eastman. *diags Product Eng* 29:75-80 Mr 3 '58
Industrial know-how handbook. *il Mill & Factory* 62:PT 19-20 My '58
- Limited end float couplings for motor applications. E. B. Mills and J. E. Petermann. *il diags Product Eng* 29:D6-8 Mid-S '58
Operating principles of fluid couplings for automotive engines. O. K. Kelley. *diags Product Eng* 29:E 15-17 Mid-S '58
Ten universal shaft-couplings; drawings with text. F. Strasser. *Product Eng* 29:80-1 Ag 18 '58
13 ways to couple shafts; drawings with text. F. Strasser. *Product Eng* 29:60-1 Ag 4 '58
Tight-grip coupling speeds work. J. H. Krooss. *il Oil & Gas J* 56:101+ Ap 14 '58
Torque of slip couplings; chart; reference book sheet. *diag Product Eng* 28:95+ D 23 '57
See also
Hose couplings
Joints, Universal
- COUPLINGS, Eddy current**
British Thomson-Houston combined a.c. motor and eddy-current coupling. *diag Engineer* 205:550 Ap 11 '58
- COUPLINGS, Electric**
Electric couplings on modern LST's. J. A. Wasmund. *il diag Marine Eng/Log* 63:72-4 My '58
- COUPLINGS, Magnetic**
Ferromagnetic coupling development. *il diag Engineer* 205:703-4 My 9 '58
Hermetic magnetic couplings for sending power through a wall. D. A. Guerdan. *diags Product Eng* 29:98-100 Ap 28 '58
Magnetic particle coupling for industrial drives. *il diag Engineering* 185:630-1 My 16 '58
- COUPONS**
Dutch soap stamps spur sales. *il Soap & Chem Spec* 34:65-6 My '58
New simplified method of handling coupons to cut costs and speed retailer redemption. *Am Perfumer & Aromatics* 72:60 S '58
- COURTAULDS (Alabama), inc.**
Career opportunities. *Chem & Eng N* 36:28 pt 2 Ja 27 '58
- COURTESY**
Courtesy pays off in many ways. E. W. Fair. *Water & Sewage Works* 105:203 My '58
- COURTHOUSES**
Steel frame building to cost \$19 million; Criminal court building for New York city in Queens borough. *il Eng N* 161:99 S 18 '58
- Air conditioning**
- Condition court building three ways; new supreme courts building, Austin, Tex. J. M. Purdy. *il Heating-Piping* 30:128-9 Je '58
- COURTS (architecture)**
Economy in court house design. *il plans Arch Rec* 123:153-63 Mid-My '58
House around an atrium. *il plan diags Arch Rec* 123:92-7 Mid-My '58
Windowless courtyard house. *il plans diag Arch Rec* 123:116-21 Mid-My '58
- COVERLETS**
Bedspreads join carpets as profitable tufted textiles. *Textile World* 108:93-4 F '58
How Minette mills makes woven and tufted bedspreads. *il Textile World* 108:54-5 S '58
Making tufted bedspreads with fast automatic machines. *il Textile World* 108:111-12 F '58
Operation centerline: bedspread patterns printed through aid of two electro-mechanical devices. Control and Edgetrol. *il Textile Ind* 122:101-3 Je '58
Tufted bedspreads; an old home craft gives way to big industry. *il Textile World* 108:110 F '58
- COWAN, Frank A.**
Obituary. *por Inst Radio Eng Proc* 45:1301 S '57
- COWPER stoves**. See Blast furnace stoves
- COWS**
For a new world of pictures, climb under the fence. *il Mod Phot* 22:54+ Mr '58
Metabolism of ruminants. T. A. Rogers. *il diags Sci Am* 198:34-8 F '58
- COX, William Edgerton**
Memorial. W. E. Dougherty. *por Am Assn Pet Geologists Bul* 41:2600-1 N '57
- COXSACKIE viruses**. See Viruses
- CRACKING of concrete**. See Concrete—Cracks
- CRACKING processes**. See Petroleum distillation
- CRANBERRIES**
This streamlined layout assures superior sauces; National cranberry assn. *il diag Food Eng* 30:80-1 My '58

CRANDALLITE

Crandallite (pseudowavellite) from Gardner mine ridge, Lawrence county, Ind. S. S. Greenberg and W. T. Elberty, bibliog Am Mineralogist 43:933-5 S '58

CRANE, Evan Jay

Editor of Chemical Abstracts, por Chem & Eng N 36:80 Ag 4 '58

CRANE hooks

Hook latch prevents crane accidents, P. C. Ziernke, diags Am Mach 102:123 F 10 '58

CRANES, derricks, etc.

Aerial cage aids yard-light maintenance, E. D. Dabney and R. G. Rosebrock, il Elec World 150:48 Ag 11 '58

Big augers, cranes speed lines, J. F. Servis, 150:73-4 Ag 18 '58

Clyde Diesel locomotive crane with hydraulic transmission, il diag Engineer 205:440-1 Mr 21 '58

Clyde 200-ton Goliath crane at Bradwell, il diags Engineer 205:472-4 Mr 28 '58

Communications for overhead cranes; carrier current systems and two-way radio, il diags Mod Materials Handling 13:115-19 F '58

Crane rails installed with hook bolts, il Plant Eng 12:141 Ap '58

Crane sets poles on inaccessible slope, H. Miller, il Elec World 149:68 Ap 14 '58

Fine positioning with modified valves, H. Isaacs, il Ap Hydraulics 11:92-3 Je '58

Fixing rails for overhead cranes, il diag Engineering 185:702-3 My 30 '58

Frame bootstraps forms 613 feet up; reinforced concrete chimney, il Eng N 160:51 My 8 '58

Gantries set prestressed bridge beams; road system of U.S. air force academy, A. J. Brown and R. R. Khan, il diags Eng N 160:43-4 Ja 9 '58

Goliath crane saves erection time at Bradwell, il diag Engineering 185:439 Ap 4 '58

How much does it really cost to operate that yard crane? il Mod Materials Handling 13:94-5 N '58

Hydraulic system simplifies crane control; Clyde crane and Booth limited, il diags Engineering 185:504-5 Ap 18 '58

K & L steelfounders and engineers mobile crane, il Engineering 185:37 Ja 10 '58

Light weight ladle crane trolleys allow larger open hearth heats, F. C. Schoen, il diags Iron & Steel Eng 35:107-13; Discussion, 113-14 S '58

Mobile cranes for the steel industry, il Metallurgia 57:36 Ja '58

Movers of materials; equipment types for yard handling of palletized loads, A. T. Gaudreau, il Plant Eng 12:122-4 Ag '58

New range of mobile cranes, il Engineering 185:679 My 30 '58

Newton Chambers long boom crane, il Engineering 185:4 Ja 3 '58

1958 equipment buyer's guide; hoists and overhead equipment, il Mod Materials Handling 13:243-72 My '58

1958 equipment buyer's guide; yard and outdoor equipment, il Mod Materials Handling 13:217-40 My '58

Plant-built crane for low-headroom area; Marman div. Aeroquip corp, il Plant Eng 12:83 F '58

Portable gantry casts bridge decks, il Eng N 161:64-4 Jl 10 '58

Power company uses mobile cranes to cut maintenance costs, il Power Eng 62:54-5 My '58

R. H. Neal mobile crane, il Engineer 206:29 Jl 4 '58

Rebuilders put more speed into cranes, Iron Age 180:194 D 12 '57

Rock of Ages crane installation has flexibility of mobile equipment, C. Y. Ferris, il Plant 17:46-7 Mr '58

Roving crane with a long reach; Superior tube co, il Plant Eng 12:124-4 Jl '58

Self-propelled crane moves components, il Elec World 150:53 S 1 '58

Sewer department utilizes hydraulic crane, H. Smet, il Water & Sewage Works 105: R364 S 15 '58

Stacker crane built at ASEA, Västerås, Sweden, il Engineer 206:273 Ag 15 '58

Steelfounders mobile crane, il Engineer 204:910 D 20 '57

Torque converter is ideally suited for shovel cranes, F. J. Strand, S A E J 66:95 Mr '58

Transfer of materials between material-handling systems; cranes, conveyor junctions, A. T. Gaudreau, il diag Plant 17:39-41 Ap '58

Vacuum crane speeds mill output; Atlas steels ltd, il Steel 141:102-4 D 2 '57

Vacuum-lift transfer unit positions heavy plate; combined vacuum lift and gantry crane unit, il Iron Age 181:70-1 Ja 9 '58

When do you change wire rope cables? J. E. Grimwood, diags Iron & Steel Eng 35:94-7 Je '58

White Diesel direct drives shovel crane, il Diesel Power 35:42-3 N '57

See also

Buckets

Hoisting machinery

Control

Taped tones control overhead crane, G. V. Sadler, il diags Electronics 31:63-5 Ja 3 '58

Design

Structural design of steelworks electric overhead travelling cranes, D. Buchanan and R. G. Tyler, bibliog il diags Iron & Steel Inst J 188:371-88 Ap '58

Electric equipment

Diesel-electric mobile cranes, il Engineer 205:632 Ap 25 '58

Dual bridge drives for overhead traveling cranes, W. J. Tunny, il plan Iron & Steel Eng 35:125-7 Ap '58

Electric crane has powered down-travel, il Eng N 160:103-4 Ap 17 '58

How to stop d-c downtime; reliable crane service provided by parallel rectifiers, R. E. Ingham, il Plant Eng 12:122-5 Am '58

Huge electric crane; German make crane has long and high reach, il Eng N 160:64 Je 5 '58

New concept for crane control; abstract, C. H. Zweifel, Iron & Steel Eng 35:107 Ja '58

Special a-c crane control for materials handling use, E. A. Bullard, Mod Materials Handling 13:111 O '58

Lubrication

G.E. cuts crane lubrication costs by 87 percent, H. J. Hennel, il Mod Materials Handling 13:114-17 S '58

Safety measures

Power lines and boom accidents, Roads & Sts 100:114 D '57

Standards

Standardized component parts for heavy duty mill type cranes, M. R. Bowerman and E. R. Madison, il diags Iron & Steel Eng 35:104-10; Discussion, 110-11 Jl '58

CRANKCASES

Compressor crankcase heaters reduce oil foaming, E. T. Neubauer, il Refrig Eng 66:52-3 Je '58

Crankcase explosions need not be serious; crankcase safety valve, G. M. Lund, il diag Diesel Power 36:19-20 S '58

Effect of additives on crankcase oil filterability, R. L. Willis and E. C. Ballard, bibliog il diags Lub Eng 14:58-63-4 F '58

CRANKPINS**Manufacture**

Redesign speeds automation, il Product Eng 29:63 Mr 3 '58

CRANKS

Alternate four-bar mechanisms, A. S. Hall, Jr, diags Machine Design 30:133-5 My 1 '58

CRANKSHAFTS

Crankshaft line uses in-line production balancing; Ford motor co, W. M. Gruber, il diags Automation 5:80-3 F '58

Recognize types of crankshaft failures, Diesel Power 36:30 Je '58

Maintenance and repair

Stress relief of weld layers assures quality repair, il Iron Age 181:98-9 Ja 30 '58

Stretching crankshaft life by chroming, il Diesel Power 36:16-18 O '58

Manufacture

Automated crankshaft machining, il Mech Eng 79:1148 D '57

Building-block line handles various shaft sizes, R. H. Eshelman, il diag Iron Age 180:82-4 N 28 '57

Carbide tooling and single-purpose lathes speed machining of forged crankpins, il diags Mach 64:173-6 N '57

Carbides cut forged crankshafts for Pontiac, il diags Am Mach 101:141-3 N 4 '57

Combined machining operations speeds crankshaft production, il Tool Eng 40:153 Jm '58

CRANKSHAFTS—Manufacture—Continued

- Composite arc-welded steel crankshaft devised for portable gang saw. L. W. Johnson. *Il diag Welding* J 37:706-7 JI '58
- Conveyorized forging line speeds hot billet handling; Oldsmobile forge plant. flow diag *Il Automation* 5:75-7 Ja '58
- Crankshaft grinding machines. *Il Engineer* 204:647 N 1 '57
- Crankshaft grinding; Newall machines and techniques. *Il Automobile Eng* 47:442-3 N '57
- Crankshaft heat treatment; equipment by the Incandescent heat co. for the Scottish stamping and engineering co. *Il Automobile Eng* 48:62-3 F '58
- Crankshaft line with a new look. *Il diag Steel* 141:114-15 N 11 '57
- Crankshaft turning; an American in-line transfer machine. *Il diags Automobile Eng* 48:303-5 Ag '58
- Forging huge crankshafts; Park drop forge co. C. H. Wick. *Il Mach* 65:112-16 O '58
- Nitriding of large forgings. C. W. Johnson. *Il Metal Prog* 72:99-101 D '57
- Shell-molded crankshafts require less stock removal. J. R. Vinette. *Il Mach* 64:146-8 F '58
- Special tooling for tractor crankshafts; Caterpillar tractor co. *Il Automotive Ind* 119:57 Ag 1 '58
- Standard machine vs. special machine; a case study. T. W. Black. *Il diags Tool Eng* 40:103-6 Ja '58

CRATERS, Meteorite. See Meteorite craters

CRATES

- Egg-crate inspection system cuts rejects; Parker aircraft co. W. R. Baker. *Il Tool Eng* 41:83-5 S '58
- Use of third dimension; electrical motors lodged in wirebound crates. *Il Mill & Factory* 62:121 Ja '58

CRAZING of plastics. See Plastics—Crazing

CREAMS. See Ointments

CREASING of textiles

- Creasometer, an apparatus for measuring crease and pleat sharpness and retention. P. R. Wilkinson and D. W. Ireland. *Il diag Textile Res J* 28:674-9 Ag '58
- Empirical relations of crease recovery and time. P. R. Wilkinson and H. E. Stanley. *Il Textile Res J* 28:669-73 Ag '58
- Shrink- and creaseproofing textiles; patent. Am Dyestuff Rep 47:201-2 Mr 24 '58
- See also
Cotton fabrics—Creasing
Woolen and worsted fabrics—Creasing

CREATINE

- Raman spectra of amino acids and related compounds; various amino acids derived from proteins and creatine. D. Garfinkel. *bibliog Am Chem Soc J* 80:3827-31 Ag 5 '58

CREATININE

- Lean-body mass creatinine-coefficient deficit and urinary steroids. H. Sobel. *bibliog Am J Clinical Nutrition* 6:531-4 S '58

CREATIVE ability

- Can you spot a creative engineer? F. Lightgarn. *Product Eng* 29:30-1 E 16 '58
- Characteristics of the creative engineer. G. J. Spencer. *Mech Eng* 80:78-80 F '58
- Creative process. J. Bronowski. *Il diags Sci Am* 199:58-65 S '58
- Developing creativity in engineering. D. G. Taylor and R. C. Jordan. *Mech Eng* 80:74-5 F '58
- History gives a lesson in applying creativity to speed engineering development. H. R. Buhl. *bibliog diags Machine Design* 30:98-103 F '58
- Ideal creative supervisor. E. Raudsepp. *Machine Design* 30:26-8 S 18; 28-30+ O 2; 30-2+ O 16 '58

CREATIVE thinking. See Thought and thinking

CREDIT

- Have you checked your credit rating lately? Pit & Quarry 51:133-4 JI '58

See also
Billing

Collecting of accounts

CREDIT, Bank

- Credit rating; how the rubber goods manufacturer can evaluate his chance of getting a bank loan. Rubber Age 83:116-17 My '58

CREED, Frederick George

- Obituary. *por Elec Com* 34:345 D '57

CREELS

- Slasher downtime cut in half; lengthening creel running time did the trick. *Il Textile Ind* 122:120-1 My '58

CREEP forming. See Sheet metal work

CREEP of materials

- Creep and creep recovery of concrete under high compressive stress. A. M. Freudenthal and F. Roll. *bibliog Il diag Am Concrete Inst J* 29:1111-42 Je '58; Discussion. 30:1433-7; Reply. 1437-8 pt 2 D '58
- Creep of concrete under variable stress. A. D. Ross. *bibliog diags Am Concrete Inst J* 29:739-58 Mr '58; Discussion. R. D. Davies. 30:1279-80 pt 2 S '58
- Creep of plain and reinforced concrete. P. G. Fluck and G. W. Washa. *Am Concrete Inst J* 29:879-95 *bibliog*(p891-5) Ap '58
- Prediction of creep in bending from tension- and compression-creep data when creep coefficients are unequal. W. N. Findley and others. *bibliog A S M E Trans* 80:1294-8 Ag '58
- Torsion of cylindrical and prismatic bars in the case of steady creep. S. A. Fand and others. *bibliog diags J Ap Mech* 25:214-18 Je '58

CREEP of metals

- Comparisons of materials; creep strength of metals. *Materials in Design Eng* 48:20 Mid-O '58
- Creep buckling of tubes in torsion. I. Finnie. *bibliog J Aeronautical Sci* 25:66-7 Ja '58
- Creep deflexion and stress distribution in a beam. W. J. Goodey. *Aircraft Eng* 30:170-2 Je '58
- Creep deflections and stresses of beam-columns. T. H. Lin. *bibliog diag J Ap Mech* 25:75-8 Mr '58
- Creep in zinc single crystals. H. P. Stlwe. *bibliog Il J Ap Phys* 29:566-9 Mr '58
- Creep of annealed nickel, copper, and two nickel-copper alloys. W. D. Jenkins and C. R. Johnson. *bibliog J Res Nat Bur Stand* 60:173-91 Mr '58
- Creep tests for materials on gas-cooled reactors. *diag Engineer* 204:759-60 N 22 '57; Same. *Metallurgia* 56:313-14 D '57
- Creep under changing complex stress systems. A. E. Johnson and others. *Engineer* 206:209-16. 251-7. 287-91 Ag 8-22 '58
- Critical strain approach to creep buckling of plates and shells. G. Gerard and A. C. Gilbert. *bibliog Il J Aero/Space Sci* 25:423-34 JI '58
- Discarded weldon controls creep test heating. L. W. McMahon. *Il diag Control Eng* 5:105+ Ag '58
- Effect of cold work on the creep-rupture properties of a series of simple 18-8 stainless steels. F. B. Cuff, Jr. and N. J. Gerard. *bibliog diag Iron & Steel Inst J* 186:183-97 Je '57; Discussion. *Il* 188:155-6 F '58
- How to simplify tests for primary creep data. B. B. Muvdi and C. J. Glemza. *S A E E J* 65:46-8 Ag '58
- Influence of irradiation on creep. G. Schoeck. *bibliog J Ap Phys* 29:112 Ja '58
- Mechanical behavior after creep. G. Gerard. *J Aeronautical Sci* 25:397-8 Je '58
- New approach to the problem of creep. J. Glen. *bibliog diags Iron & Steel Inst J* 189:333-43 Ag '58
- Pure torsion creep tests on magnesium alloy (2 per cent Al) at 20°C., and on 0.2 per cent C steel at 450°C., at low rates of strain (10⁻⁶ to 10⁻⁹ per hour). A. E. Johnson and others. *Metallurgia* 58:109-17 S '58
- Some creep properties of 18-8 stainless steels at room temperature, 250°C., 400°C. and 500°C.; abstract. L. W. Larke and R. A. Whittaker. *Metal Prog* 73:150+ Ja '58
- Tests demand constant temperatures; stress-rupture and creep testing. *Il Steel* 143:17 S '58
- Thermal creep design criteria. R. Goldin. *bibliog Aeronautical Eng R* 16:36-41 D '57
- Variational theorem for creep. T. H. H. Pian. *J Aeronautical Sci* 24:846-7 N '57

See also
Steel—Testing—Temperature effect

CREEP of plastics

- Creep and stress-rupture behavior of polyethylene resins. R. H. Carey. *bibliog Il diag Ind & Eng Chem* 50:1045-8 JI '58
- Creep and stress-rupture behavior of rigid PVC pipe. J. H. Faupel. *Il Mod Plastics* 35:120+ JI; 132+ Ag '58
- Creep characteristics of laminated epoxy plastics; effects of cure conditions, hardener content, and additives. J. Delmonte. *bibliog Il Plastics Tech* 4:913-16 O '58
- Creep of glass-reinforced plastics; discussion. W. F. Simmons. *A S T M Bul* p65-6 Ap '58
- Creep of low density polythene. E. A. W. Hoff and others. *bibliog Il diag Brit Plastics* 31:384-9 S '58

CREEP of plastics—Continued

Determining molecular weights of thermo-plastic materials; the Brabender Plastograph. W. T. Blake. *Plastics Tech* 4:909-12+ O '58

Effect of temperature on the rate of creep failure for 66 nylon. B. D. Coleman and others. *bibliog diag Textile Res J* 28:393-9 My '58

CREOSOTE**Testing**

Coal tar creosote studies. T. R. Sweeney and others. *bibliog Corrosion* 14:53-9 Je; 62-4 Jl '58

CREPE paper

Cross-creped kraft; a new kind of paper. V. R. Piper. *il Materials in Design Eng* 46:138-42 N '57

CRESOL

Paracresol derivatives. M. S. Carpenter. *Drug & Cosmetic Ind* 82:660-1 My '58

Analysis

Determination of *p*-cresol in industrial waste waters. G. R. Tallon and R. D. Hepper. *bibliog Anal Chem* 30:1521-4 S '58

CRETACEOUS period. See *Geology, Stratigraphic—Cretaceous*

CREVASSES. See *Glacial geology*

CRIME and criminals

See also

Racketeering

CRITICAL constants

Effect of soaps and detergents on the critical solution temperature of triethylamine and water. R. J. Kline and A. J. Inde. *bibliog J Colloid Sci* 13:163-9 Ap '58

CRITICAL point

See also

Phase rule and equilibrium

CRITICAL temperature. See *Critical constants*

CROLOY. See *Alloys, Heat resisting*

CROP protection

Crops get smog protection; Ozoban from Pfizer. *Chem & Eng N* 36:46 Ag 18 '58

CROPPING of photographs. See *Photographs—Trimming, mounting, etc.*

CROPS

Crop conservation practice. J. R. O'Callaghan. *bibliog diags Engineering* 184:566-8 N 1 '57
Toward better crop forecasts; operations research. I. J. Agri & Food Chem 6:573-4 Ag '58

See also

Drying (crops)

CROSS bedding (geology). See *Stratification*

CROSS connections. See *Water distribution—Cross connections*

CROSS linkage (chemistry). See *Chemical bonds*

CROSSFIELD, A. Scott

A. S. Crossfield wins 1958 Octave Chanute award. *por Aero/Space Eng* 17:11 Ag '58

CROSSTALK. See *Telephone—Crosstalk*

CROTONALDEHYDE

Free radical displacement processes; reactions of CH₃ and CD₃ radicals with crotonaldehyde and with methyl propenyl ketone. J. N. Pitts, Jr. and others. *bibliog Am Chem Soc J* 80:66-70 Ja 5 '58

CRUCIBLES

Anomalous copper results with the use of porcelain crucibles. H. Zeitlin and others. *Anal Chem* 30:1284-6 Jl '58

Ceramic crucible for melting titanium. B. C. Weber and others. *bibliog il diag Am Cer Soc J* 40:323-73 N 1 '57

Floating crucible technique for growing uniformly doped crystals. W. F. Leverton. *diag J Ap Phys* 29:1241-4 Ag '58

Graphite crucibles give pure potassium chloride; abstract. A. B. Scott and W. J. Fredericks. *Chem & Eng N* 36:57 Ap 28 '58

CRUSHED limestone Institute, National. See *National crushed limestone institute, inc.*

CRUSHED stone. See *Stone, Crushed*

CRUSHED stone association, National. See *National crushed stone association*

CRUSHING

Energy-size reduction relationships in comminution. R. J. Charles. *bibliog Min Eng* 9:Trans 80-3 Ja '57; Discussion. 10:Trans 481-4 Ap '58

Intergranular comminution by heating. J. H. Brown and others. *bibliog Min Eng* 10:Trans 490-6 Ap '58

Miles co. adds crushing department to handle oversize. H. F. Utley. *il Pit & Quarry* 61:92-3 Jl '58

See also

Ore treatment

CRUSHING machinery

Appareils Dragon large jaw crusher. *il En-gineer* 205:298 F 21 '58

Berkeley pit crushing-conveying plant designed to handle 1800 tons per hour. J. B. Hutt. *il diags Eng & Min J* 158:102-4 D '57

Electric plant for limestone products. *il Roads & Sts* 101:118 Mr '58

Heavy-duty rock crusher. *il Mech Eng* 80:80 Ag '58

New method of impact shattering; breaking down solids into extremely fine sizes without the aid of mechanical moving parts. T. Nagel. *il diag Eng & Min J* 159:110-11 Ap '58

Tumbling mills and structural clay products. F. C. Bond. *bibliog Am Cer Soc Bul* 37:361-3 Ar 15 '58

When you crush and pulverize coal. U. B. Yeager. *il Power Eng* 62:61-4+ Jl '58

See also

Ball mills

Pulverizers

Tube mills

Maintenance and repair

Revised work platform eases repairs. L. M. Andersen. *diags Eng & Min J* 159:94 Je '58

CRYOGENICS. See *Temperature, Low*

CRYOLITE

Heats of formation of cryolite and sodium fluoride. J. P. Coughlin. *bibliog Am Chem Soc J* 80:1802-4 Ap 20 '58

High temperature heat contents of cryolite, anhydrous aluminum fluoride and sodium fluoride. C. J. O'Brien and K. K. Kelley. *Am Chem Soc J* 79:5616-18 N 5 '57

Interpretation of the literature on the mechanism of the Hall process; electrolysis of aluminum from cryolite melts; abstract. J. J. Stokes, Jr. *Min Eng* 10:Trans 496 Ap '58

CRYOSCOPE

Cryoscope assembly for precise measurements under controlled atmospheres at temperatures up to 500°C. A. Solomonson and G. J. Janz. *diag R Sci Instr* 29:302-4 Ap '58

CRYOSTATS

Combined liquid nitrogen cryostat furnace and liquid helium bath. M. J. Stubbs and M. W. Thompson. *diag J Sci Instr* 35:68-9 F '58

Cryostat for reactor irradiation. C. C. Sarntain and H. P. Yockey. *bibliog flow diag diags R Sci Instr* 29:118-21 F '58

General purpose immersion cryostat. N. Fuschillo and D. W. Krautkopf. *bibliog diag R Sci Instr* 28:1060-1 D '57

He³ cryostat for measuring specific heat. G. Seidel and P. H. Keesom. *bibliog diags R Sci Instr* 29:606-11 Jl '58

Wide-range cryostat for low-temperature research. *Elec Manuf* 62:10 Ag '58

CRYOTRON

Cryogenic devices in logical circuitry and storage. J. W. Bremer. *diags Elec Manuf* 61:78-83 F '58

Lead powder connects superconducting film. J. A. Kurtz. *il Electronics* 31:92-4 Jl 4 '58

Switching time of the cryotron. A. Aharoni and others. *diags Inst Radio Eng Proc* 46:780 Ap '58

CRYPTOCOCCUS

Precipitation of the specific polysaccharide of cryptococcus neoformans A by types II and XIV antipneumococcal sera. P. A. Rebers and others. *bibliog Am Chem Soc J* 80:1135-7 Mr 5 '58

CRYPTOLEURINE

Aromatic cyclohydratation; the synthesis of (±)-cryptoleurine. C. K. Bradsher and H. Berger. *bibliog Am Chem Soc J* 80:930-2 F 20 '58

CRYSTAL diodes

Application of Zener diodes to expanded scale instruments. A. J. Corson. *il diags Com & Electronics* p535-9 S '58

Carrier-energized bistable circuit using variable-capacitance diodes. E. O. Kelder. *il diags RCA R* 18:475-85 D '57

Diode bridge protects meters. R. L. Ives. *diag Electronics* 31:78 Mr 28 '58

Diode clipper-limiter. R. P. Turner. *diag Radio-Electronics* 29:92 S '58

Diode cuts transistor cutoff-current drift. H. H. Hoge. *diags Electronics* 31:83 Jl 18 '58

Diode reactance modulator; abstract. G. F. Montromery. *diags Elec Eng* 77:615 Jl '58

Diodes offset silicon transistor heat drift. D. H. Bryan. *diags Electronics* 31:176+ Mr 14 '58

CRYSTAL diodes—Continued

- Experimental characteristics of a microwave parametric amplifier using a semiconductor diode. H. Heffner and K. Kotzebue. *diag Inst Radio Eng Proc* 46:1301 Je '58
- Extension of Boolean algebra for analysis of mixed-switch diode circuits. E. Reizer. *diag Inst Radio Eng Proc* 46:779-80 Ap '58
- Field modulation of liquid induced excess surface currents on germanium $p-n$ junctions. W. T. Eriksen. *diags J Ap Phys* 29:730-3 Ap '58
- Forward characteristic of semiconductor diodes. H. L. Armstrong. *bibliog Inst Radio Eng Proc* 46:361 Je '58
- Forward switching transient in semiconductor diodes at large currents. F. S. Barnes. *diag Inst Radio Eng Proc* 46:1427-8 Jl '58
- Gain and noise figure of a variable-capacitance up-converter. D. Lenoy. *diags Bell System Tech J* 37:989-1008 Jl '58
- Gallium arsenide microwave diode. D. A. Jenny. *bibliog diags Inst Radio Eng Proc* 46:717-22 Ap '58
- Gating with diodes. H. B. McKay. *diags Radio-Electronics* 29:23-33 Ag '58
- Harmonic generator by use of the nonlinear capacitance of germanium diode. S. Kita. *diag Inst Radio Eng Proc* 46:1307 Je '58
- Low-noise amplifier for high frequencies uses new semiconductor diodes. *il Bell Lab Rec* 36:250-1 Jl '58
- Low-noise amplifier uses semiconductor diodes. Franklin *Inst J* 266:151-2 Ag '58
- Low-noise amplifier using semiconductor diodes. *Electronic & Radio Eng* 35:267 Jl '58
- Lumped models of transistors and diodes. J. G. Linvill. *diags Inst Radio Eng Proc* 46:1141-52 Je '58
- Matching transistor-diodes. A. Gill. *diags Electronics* 31:75 Ja 17 '58
- Microwave transients from avalanche silicon diodes. J. L. Moll and others. *diags Inst Radio Eng Proc* 46:1306-7 Je '58
- Millimicrosecond switch; abstract. J. H. Forster and P. Zuk. *diags Electronics* 31:26-7 S 19 '58
- Mixer crystal noise. N. Houlding. *diag Inst Radio Eng Proc* 46:917-18 My '58
- Narrow base germanium photodiodes. D. E. Sawyer and R. H. Rediker. *bibliog diags Inst Radio Eng Proc* 46:1122-30 Je '58
- New concepts in microwave mixer diodes. G. C. Messenger. *bibliog diags Inst Radio Eng Proc* 46:1116-21 Je '58
- Noise figure measurements on two types of variable reactance amplifiers using semiconductor diodes. G. F. Herrmann and others. *bibliog diags Inst Radio Eng Proc* 46:1301-3 Je '58
- Potential of semiconductor diodes in high-frequency communications. A. Uhler, jr. *bibliog diags Inst Radio Eng Proc* 46:1099-115 Je '58
- Proposed high-frequency, negative-resistance diode. W. T. Eriksen. *diags Bell System Tech J* 37:401-4 Mr '58
- Protection of sensitive control devices with silicon diodes. P. L. Toback. *diags Control Eng* 5:91-3 Jl '58
- Semiconductor diode provides gain as converter. A. Uhler, jr. and A. E. Bakanowski. *Franklin Inst J* 254:390 N '57
- Semiconductor $p-n$ junction radiation counter. B. Salzberg and K. Siegel. *Inst Radio Eng Proc* 46:1536 Ag '58
- Semiconductor properties of recrystallized silicon in aluminum alloy junction diodes. R. A. Gudmundsen and J. Maserjian, jr. *bibliog il diags J Ap Phys* 28:1308-16 N '57
- Silicon diodes as protective meter shunts. A. S. Penfold and E. L. Garwin. *diag R Sci Instr* 29:252-3 Mr '58
- Silicon diodes improve reactor period meters. W. K. Brookshier. *diags Nucleonics* 16:108-4 Ag '58
- Theory and operation of crystal diodes as mixers. G. C. Messenger and C. T. McCoy. *bibliog diags Inst Radio Eng Proc* 45:1269-83 S '57
- Thermal turnover in germanium $p-n$ junctions. A. W. Matz. *bibliog (27 titles) Inst E E Proc* 104 pt B:555-64 N '57
- Transistors and diodes in strong magnetic fields. H. A. Kampf. *il diag Electronic Ind* 17:71-3 Mr '58
- Zener diode voltage stabilizer; application to small battery motors. S. Weldon. *diags Wireless World* 64:381-3 Ag '58

Electric analogies

- Hyperbolic analogs. M. J. Hellstrom. *diags Inst Radio Eng Proc* 46:502 F '58

Manufacture

- Fast recovery silicon diodes in high-volume production. *il Elec Eng* 77:463-4 My '58
- Outdiffusion as a technique for the production of diodes and transistors. J. Halperin and R. H. Rediker. *bibliog il diags Inst Radio Eng Proc* 46:1068-76 Je '58

Noise

- Bridge method of measuring noise in low-noise devices at radio frequencies. K. S. Champlin. *diags Inst Radio Eng Proc* 46:779 Ap '58
- Theory of junction diode and junction transistor noise. A. van der Ziel and A. G. T. Becking. *diags Inst Radio Eng Proc* 46:589-94 Mr '58

Specifications

- 1958 semiconductor diode specifications; tables. *Electronic Ind* 16:85-4 D '57
- Semiconductor diode specifications; 1958-59 international listings for germanium and silicon types; including type number, manufacturer, forward and inverse currents and voltages, operating temperature. *diags Electronic Ind* 17:71-4 Je '58

Testing

- Reverse-current tester speeds diode checks. J. Levy. *diags Electronics* 31:83-4 Ja 3 '58

CRYSTAL oscillators. See Oscillators, Crystal

CRYSTAL violet

Acetyl violet as a reversible indicator in acetyl chloride. R. C. Paul and others. *bibliog Chem & Ind* p622-3 My 24 '58

CRYSTALLINITY of cellulose. See Cellulose

CRYSTALLIZATION

- Annealing twins in zone-refined lead and lead-silver alloys. G. F. Bolling and W. C. Winegard. *bibliog il diags Inst Metals J* 86:492-6 Jl '58
- Crystal and twin structure of digenite. C. S. G. Donnay and others. *bibliog il diags Am Mineralogist* 43:228-42 Mr '58
- Crystal growth mechanism in cadmium sulfide crystals. D. C. Reynolds and L. C. Greene. *il J Ap Phys* 29:559-62 Mr '58
- Crystalline arrangement in fusion-cast cylinders of 2:4:6-trinitrotoluene and its relationship to colour, density and behaviour on detonation. W. O. Williamson. *bibliog il diags J Ap Chem* 9:367-75 Je '58
- Crystallites and twinning in cold-rolled nickel. A. P. Young. *il J Ap Phys* 29:1127 Jl '58
- Crystallization in natural rubber; chemically modified rubber. A. N. Gent. *bibliog Rubber Chem & Tech* 31:519-25 Jl '58
- Crystallization of amorphous silica. R. M. Carr and W. S. Fyfe. *Am Mineralogist* 43:908-16 S '58
- Crystallization of Indian beef tallow fatty acids from aqueous ethanol. V. V. R. Subrahmanyam and K. T. Achaya. *bibliog Am Oil Chem Soc J* 35:467-9 S '58
- Effect of additives upon the process of crystallization. E. R. McCartney and A. E. Alexander. *bibliog il J Colloid Sci* 13:383-96 Ag '58
- Effect of crystal growth variables on electrical and structural properties of germanium. F. D. Rosi. *bibliog il diags RCA R* 19:349-87 S '58
- Effect of oxide recrystallization on the oxidation kinetics of a 62/38 copper-nickel alloy; abstract. J. A. Sartell and others. *Metal Prog* 72:175-4 D '57
- Effect of temperature, structural state and composition on the albite, periclase and calcite-A twins of plagioclase feldspars. J. V. Smith. *bibliog Am Mineralogist* 43:546-51 My '58
- Extractive crystallization with urea. flow *diag Pet Refiner* 36:296 N '57
- Floating crucible technique for growing uniformly doped crystals. W. F. Leverton. *diag J Ap Phys* 29:1241-4 Ag '58
- Formation of growth spirals on cuprous oxide grown on copper single crystals. G. T. Müller, jr. and K. R. Lawless. *il J Ap Phys* 29:863-4 My '58
- Fractionation and fractional crystallization of xylenes. flow *diag Pet Refiner* 36:300 N '57
- Gray tin single crystals. A. W. Ewald and O. N. Tuffe. *bibliog il diag J Ap Phys* 29:1007-9 Jl '58
- Growing of ferroelectric PbTiO₃ crystals. J. Kobayashi. *bibliog il J Ap Phys* 29:866-7 My '58

CRYSTALLIZATION—Continued

- Growth and defect structure of sapphire microcrystals. W. W. Webb and W. D. Forgens. *bibliog* *il* J Ap Phys 28:1449-54 D '57
- Growth of magnetic garnet crystals. J. W. Nielsen. J Ap Phys 29:390-1 Mr '58
- Growth of MnBi crystals and evidence for subgrains from domain patterns. W. C. Ellis and others. *bibliog* *il* diags J Ap Phys 29:534-6 Mr '58
- Growth of preferentially oriented aluminum single crystals. T. H. Orem. *il* diags J Res Nat Bur Stand 60:547-9 Je '58
- Improved Czochralski crystal-pulling furnace. K. H. J. C. Marshall and R. Wickham. *bibliog* *il* diags J Sci Instr 35:121-5 Ap '58
- Influence of platinum nucleation on crystallization of a lithium silicate glass. G. E. Rindone. *bibliog* *il* Am Cer Soc J 41:41-2 Ja '58
- Inhibition of crystallization in polyethylene subsequent to gamma irradiation. T. F. Williams and others. *Am Chem Soc J* 80: 2595-6 My '58
- Intermetallic crystals grown by new zone-refining technique. J. M. Whelan. *Bell Lab Rec* 36:267 JI '58
- Mechanism of growth of uranium on thermal cycling in the alpha range. S. F. Pugh. *bibliog* *il* diags *Inst Metals J* 86:497-503 JI '58
- Melting of calcite in the presence of water and carbon dioxide. M. S. Paterson. *il* Am Mineralogist 43:603-6 My '58
- Method for growing single crystals of potassium niobate. C. E. Miller. *diag J Ap Phys* 29:233-4 F '58
- Microscopical studies of the system RDX-TNT. W. O. Williamson. *diags J Ap Chem* 8:646-51 O '58
- Microstructures of fusion-cast mixtures of CE and TNT: the absence of molecular compounds therefrom. W. O. Williamson. *bibliog* *il* diag J Ap Chem 8:652-8 O '58
- Microstructures of some fusion-cast mixtures of pentaerythritol tetraniatrate and 2:4:6-trinitrotoluene. W. O. Williamson. *bibliog* *il* J Ap Chem 8:661-5 O '58
- New hydrothermal process for growing cultured sapphires. *Bell Lab Rec* 36:351 S '58
- New light on crystallinity. P. H. Geil, Jr. and others. *il* Chem & Eng N 36:51 Ap 28 '58
- New method for orienting electron microscope replicas applied to twinned quartz. R. V. Rice and A. J. Cohen. *bibliog* *il* diag Am Mineralogist 43:25-33 Ja '58
- (110) [001] secondary recrystallization texture in three percent silicon-iron. H. C. Fiedler. *bibliog* J Ap Phys 29:361-2 Mr '58
- Preventing conductivity fluctuations during growth of a semiconducting crystal. W. C. Pfann and others. J Ap Phys 29:1238-40 Ag '58
- Production of cadmium sulfide crystals by coevaporation in a vacuum. R. J. Miller and C. H. Bachman. *bibliog* *il* diags J Ap Phys 29:1277-35 S '58
- Production of dislocations during growth from the melt. W. A. Tiller. *bibliog* *il* diags J Ap Phys 29:611-18 Ap '58
- Quality of gray tin crystals and their rate of growth. J. H. Becker. *bibliog* *il* diags J Ap Phys 29:1110-21 JI '58
- Recovery of potassium chloride: abstract. H. Autenreith and others. *Ind Chem* 34:205-6 Ap '58
- Recrystallization of iron. F. Haessner and P. Schwaab. *Engineer* 204:820 D 6 '57
- Recrystallization of MnBi induced by a magnetic field: abstract. O. L. Boothby and others. J Ap Phys 29:353 Mr '58
- Recrystallized surfaces of aluminum extrusions. G. V. Bennett. *il* diag Metal Prog 72:102-4 D '57; Discussion. K. F. Thornton. 74:126+ Ag '58
- Shape, size, and growth of some intermetallic compounds in liquid bismuth. P. J. Barton and G. W. Greenwood. *bibliog* *il* diag *Inst Metals J* 86:504-9 JI '58
- Single crystal heater and grower for the precession camera. L. Katz and M. I. Kay. *diags R Sci Instr* 28:968-9 N '57
- Snapshots guide growth of better crystals. *il* diag Chem Eng 66:58+ Je 30 '58
- Thermodynamics of crystallization in high polymers: poly(ethylene). F. A. Quinn, Jr. and L. Mandelkern. *bibliog* Am Chem Soc J 80:3178-82 JI 5 '58
- Twinning in diamond-type structures; a proposed boundary-structure model. J. A. Kohn. *bibliog* (28 ref) *il* diags Am Mineralogist 43:263-84 Mr '58
- Twinning in tabular photographic grains. J. F. Hamilton and L. E. Brady. *il* J Ap Phys 29:394 Je '58
- Unit operations in chemical engineering. H. M. Schoen and C. S. Grove, Jr. *il* Ind & Eng Chem 50:430-4 *bibliog* (p433-4) pt 2 Mr '58
- Whisker growth from iodide titanium wire. A. M. Russell and R. C. Abbott. *il* J Ap Phys 29:1130-1 JI '58
- See also
- CRYSTALLOGRAPHY
- Ceramics in electronics; how crystal chemistry seeks out better electronic materials. E. C. Henry. *Cer Ind* 70:167-8 Ap '58
- Correction for absorption for rod-shaped single crystals. M. J. Buerger and N. Nizicki. *bibliog* diags Am Mineralogist 43:726-31 JI '58
- Crystal habit of alpha alumina in alumina ceramics. H. N. Baumann, Jr. *bibliog* *il* Am Cer Soc Bul 37:179-84 Ap 15 '58
- Crystal structure of barium hydrogen orthophosphate. G. Burley. *bibliog* J Res Nat Bur Stand 60:23-7 Ja '58
- Crystal structure of sanbornite, BaSiO₃. R. M. Douglass. *bibliog* *il* diags Am Mineralogist 43:517-36 My '58
- Crystallographic and magnetic studies of the system (NiFeO₄)_{1-x}(NiMnO₄)_x. E. K. Baltzer and J. G. White. J Ap Phys 29:445-7 Mr '58
- Crystallographic data. Published in monthly numbers of Analytical chemistry
- Crystallographic evidence for the relative configuration of naturally occurring isocitric acid. J. P. Glusker and others. *Am Chem Soc J* 80:1426-7 Ag 20 '58
- Crystallography of cold drawn music wire. H. C. Burnett and C. J. Newton. *il* Wire & Wire Prod 33:66+ Ja '58
- Examination of the validity of the critical resolved twinning stress hypothesis. A. R. Rosenfield. *diags J Ap Phys* 29:227-8 F '58
- Factors influencing the crystal structure of cellulose triacetate. E. S. Sprague and others. *bibliog* *il* diags Textile Res J 28: 275-87 Ap '58
- Influence of crystal orientation on the surface behavior of InSb. M. C. Lavine and others. *diags J Ap Phys* 29:1131-2 JI '58
- Irradiation changes in metal crystals studied. Franklin Inst J 264:430 N '57
- Mg-vermiculite; a refinement and re-examination of the crystal structure of the 14.36 Å phase. A. M. Mathieson. *bibliog* diags Am Mineralogist 43:216-27 Mr '58
- Minerals of the cassiterite-bearing veins at Irish Creek, Va., and their paragenetic relations. J. J. Glass and others. *bibliog* *il* maps Econ Geol 53:65-84 Ja '58
- Orientation dependence of ultrasonic attenuation in zinc. P. C. Waterman. *bibliog* diags J Ap Phys 29:1190-5 Ag '58
- Physical properties and bond type in Mg-Al oxides and silicates. J. Verhoogen. *Am Mineralogist* 43:552-79 *bibliog* (p578-9) My '58
- Relation between crystallite orientation and magnetic properties of elongated single-domain iron particles. F. E. Luborsky and others. *bibliog* *il* diags J Ap Phys 29: 989-93 Je '58
- Relationship between single crystal and effective polycrystalline anisotropy constants in ferrites. C. J. Kriessman and others. J Ap Phys 29:452-3 Mr '58
- Some magnetic and crystallographic properties of the system LaMn₂-NiO₂. A. Wold and others. *bibliog* diags J Ap Phys 29: 387-9 Mr '58
- Specific volume and degree of crystallinity of semicrystalline poly(chlorotrifluoroethylene), and estimated specific volumes of the pure amorphous and crystalline phases. J. D. Hoffman and J. J. Weeks. *bibliog* J Res Nat Bur Stand 60:465-79 My '58
- Structural scheme for sulfide minerals. E. Hellner. *diags J Geol* 66:503-25 *bibliog* (p524-5) S '58
- Ultrasonic measurement of polarization switching processes in barium titanate single crystal. K. Husimi and K. Kataoka. *diags J Ap Phys* 29:1247-51 Ag '58
- Variations in crystal structure within certain isologous series of long-chain compounds: a review of some basic features. E. S. Lutten. *bibliog* Am Oil Chem Soc J 35: sup 11-13 My '58
- See also
- Crystallization
- Pseudomorphs
- Pyroelectricity
- Solutions, Solid

CRYSTALLOGRAPHY—Continued

Models

Jigs for making crystallographic wire models. W. Hughes and C. A. Taylor. *Il diags J Sci Instr* 35:261-4 J1 '58

Neutron diffraction studies

Single crystal goniometer for X-ray and neutron diffraction. G. E. B. Barstad and A. F. Andresen. *Il diags R Sci Instr* 28: 916-18 N '57

Structures of lanthanum dicarbide and sesquicarbide by X-ray and neutron diffraction. M. Atoli and others. *Il diags Am Chem Soc J* 80:1804-8 Ap 20 '58

X ray studies

Alkali feldspars; the cooling history of high-temperature sodium-rich feldspars. J. V. Smith and W. S. MacKenzie. *bibliog il diags Am Mineralogist* 43:872-89 S '58

Alteration of olivine and orthopyroxene in basic lavas and shallow intrusions. H. G. Wilshire. *bibliog il Am Mineralogist* 43: 120-47 Ja '58

Application of a multiple Guinier camera (after P.M. de Wolf) in clay mineral studies. D. H. Porrenga. *bibliog il diags Am Mineralogist* 43:770-4 J1 '58

Detection of screw dislocations in α -Al₂O₃ whiskers. R. D. Draggdorf and W. W. Webb. *bibliog il diags J Ap Phys* 29:817-19 My '58

Direct observation of individual dislocations by X-ray diffraction. A. R. Lang. *bibliog il diags J Ap Phys* 29:597-8 Mr '58

Double layer-line screen for Weissenberg photography. A. W. Hanson. *diags J Sci Instr* 35:180 My '58

Effects of layer faults in diamond structures on X-ray diffraction patterns. O. J. Guentert. *bibliog J Ap Phys* 28:1515-16 D '57

Foshagite; composition, unit cell and dehydration. J. A. Gard and H. F. W. Taylor. *bibliog il diags Am Mineralogist* 43:1-16 Ja '58

Preparation of spherical single crystals for X-ray diffraction work. K. S. Revel and R. W. H. Small. *diags J Sci Instr* 35:73-4 F '58

Single crystal goniometer for X-ray and neutron diffraction. G. E. B. Barstad and A. F. Andresen. *Il diags R Sci Instr* 28:916-18 N '57

Some applications of X-ray crystallography to geologic thermometry. A. J. Frueh, jr. *bibliog diags J Geol* 66:218-23, pl 1-3 Mr '58

Structural and chemical variation in chromium chlorite. D. M. Lapham. *il diags Am Mineralogist* 43:321-56 *bibliog* (p954-6) S '58

Structure of leached gillespite, a sheet silicate. A. Pabst. *bibliog il diags Am Mineralogist* 43:970-80 S '58

Structures of lanthanum dicarbide and sesquicarbide by X-ray and neutron diffraction. M. Atoli and others. *bibliog diags Am Chem Soc J* 80:1804-8 Ap 20 '58

Study of phase transitions in WO₃ with a high-temperature X-ray diffractometer. J. A. Perri and others. *bibliog diags J Ap Phys* 28:1272-5 N '57

Subgrain structure in an Fe-Si crystal as seen by X-ray extinction contrast. J. B. Newkirk. *il diags J Ap Phys* 29:995-8 Je '58

Twinned epitaxy of copper on copper. T. H. Orem. *bibliog il diags J Res Nat Bur Stand* 60:597-608 Je '58

Varied skills solve crystal structures; illustrations with text. *Chem & Eng N* 36: 91-5, cover J1 21 '58

X-ray diffraction by imperfect crystals. M. A. Jaswon. *bibliog il diags Research* 11:227-35 Je '58

X-ray investigation of perfection in tin whiskers. H. G. Smith and R. E. Kundle. *bibliog diags J Ap Phys* 29:679-83 Ap '58

X-ray studies of synthetic coffinite, thorite and uranothorites. L. H. Fuchs and E. Gebert. *bibliog Am Mineralogist* 43:243-8 Mr '58

X-ray study of faults in body-centered cubic metals. O. J. Guentert and B. E. Warren. *bibliog diags J Ap Phys* 29:40-8 Ja '58

X-ray study of titanium tetrabromide, titanium tetraiodide and titanium trisulfide. R. F. Rolsten and H. H. Sisler. *bibliog Am Chem Soc J* 79:5891-3 N 20 '57

CRYSTALS

CsI crystal mounting for high-resolution particle detection. A. E. Souch and D. R. Sweetman. *diags R Sci Instr* 29:794-5 S '58

Cold crystals improve radar. *Il Electronics* Essays ed 30:32 N 10 '57

Creep in zinc single crystals. H. P. Stüwe. *bibliog il J Ap Phys* 29:566-9 Mr '58

Crystal chemistry of hydrous calcium silicates (cont). G. L. Kalousek and A. F. Prebus. *bibliog* (29 ref) *il Am Cer Soc J* 41:124-32 Ap '58

Crystal growth may explain steel failure; abstracts. E. A. Gulbransen. *il Ind Lab* 9:60-1 Ja '58; *Elec Eng* 77:112 Ja '58; *Tool Engr* 40: 207-8 Mr '58

Crystal metal cutters; strange crystal growth as possible cause of stress-corrosion cracking. *il Chem & Eng N* 35:49 N 11 '57

Crystals for masers. *Wireless World* 64:330 J1 '58

Development of preferred orientations in silicon iron. J. R. Brown. *bibliog diags J Ap Phys* 29:359-60 Mr '58

Device for the preliminary cutting of single-crystal metallic rods to a desired orientation. T. E. Vaughan. *bibliog diags J Sci Instr* 35:147-8 Ap '58

Diffusion of indium in tin single crystals. A. Sawatzky. *J Ap Phys* 29:1303-5 S '58

Domain changes during longitudinal magnetization of iron whiskers. G. G. Scott and R. V. Coleman. *il J Ap Phys* 28:1512-13 D '57

Domain observations on iron whiskers. R. W. DeBlois and C. D. Graham, jr. *bibliog il diags J Ap Phys* 29:528-9, 931-9 Mr, Je '58

Double arc goniometer head for crystal orientation, sawing and grinding. A. A. Giardini. *il Am Mineralogist* 43:370-5 Mr '58

Ductile ceramics, a high temperature possibility. R. Parry and others. *bibliog il J Metals* 10:351-3 My '58

Effect of heat treatment upon the electrical properties of silicon crystals. C. S. Fuller and R. A. Logan. *bibliog J Ap Phys* 28:1427-36 D '57

Effect of surface conditions on room-temperature ductility of ionic crystals. A. E. Gorum and others. *bibliog il Am Cer Soc J* 41:161-4 My 1 '58

Effective method for securing electrical contacts to metal whiskers. H. H. Hobbs and E. L. Stillwell. *diags R Sci Instr* 29:653-4 J1 '58

Effects of magnetic fields upon anisotropic iron crystals. J. H. L. Watson and others. *il J Ap Phys* 29:306-8 Mr '58

Efficiencies of sodium iodide crystals. A. L. Stanford, jr. and W. E. Rivers, jr. *diags R Sci Instr* 29:406-10 My '58

Electrical stability of BaTiO₃ single crystals at -195° C. H. L. Stadler. *bibliog J Ap Phys* 29:743-4 Ap '58

Electrostatic potential in crystals; discussion. W. B. Nottingham. *il Am J Phys* 26: 33-5 Ja '58

Etch pitting on single-crystal indium antimonide. R. E. Maringer. *il J Ap Phys* 29: 1261 Ar '58

Ferrimagnetic resonance in single crystals of rare earth garnet materials. R. V. Jones and others. *bibliog J Ap Phys* 29: 434-5 Mr '58

Formation and properties of synthetic thorite crystals. L. H. Fuchs. *Am Mineralogist* 43: 367-8 Mr '58

Generation and recombination noise in intrinsic and near-intrinsic germanium crystals. J. E. Hill and K. M. van Vliet. *bibliog J Ap Phys* 29:177-82 F '58

Geochemistry, crystal structure and mineralogy of the sulfides; discussion. A. J. Frueh, jr. V. Ross. *bibliog Econ Geol* 53:759-64 S '58

Growth of cadmium from the vapor; abstract. J. E. McNutt and R. F. Mehl. *Metal Prog* 72:208-1 N '57

Hardness of single ice crystals. T. R. Butkovich. *il Am Mineralogist* 43:48-57 Ja '58

Hillocks, pits, and etch rate in germanium crystals. B. W. Batterman. *bibliog il diags J Ap Phys* 28:1236-41 N '57

Initiation of cleavage fracture at the intersection of deformation twins in zinc single crystals. R. L. Bell and R. W. Cahn. *bibliog il diags Inst Metals J* 86:433-8 Je '58

Lifetime in pulled silicon crystals; Shockley-Read recombination theory. C. A. Bittmann and G. Bemschl. *bibliog J Ap Phys* 28:1423-6 D '57

Magnetic domain patterns on iron whiskers. R. V. Coleman and G. G. Scott. *il diags J Ap Phys* 29:526-7, cover Mr '58

CRYSTALS—Continued

- Magnetization processes in heat-treated single crystal cobalt ferrite. S. Foner and J. O. Ariman. *bibliog* *diags* J Ap Phys 29:443-4 Mr '58
- Mechanism of secondary electron emission from MgO single crystals. N. R. Whetten and A. B. Laponsky. J Ap Phys 29:1374 S '58
- Melted layer crystal growth and its application to germanium. F. H. Horn. *il diag* Electrochem Soc J 105:393-5 JI '58
- Metals-sprout crystalline whiskers. *il*(cover) Elec Eng 77:866 S '58
- Model for solute diffusion in crystals with the diamond structure. R. A. Swalin. *bibliog* J Ap Phys 29:670-4 Ap '58
- Ohmic probe contacts to CdS crystals. Y. T. Shihonen and D. R. Boyd. *il diags* J Ap Phys 29:1143-5 Ag '58
- Phenomenological theory of polarization reversal in BaTiO₃ single crystals. C. F. Pulvart and W. Kueter. *bibliog* *diags* J Ap Phys 29:1315-21 S '58
- Plastic deformation of ceramic-oxide single crystals. J. B. Wachtman, Jr. and L. H. Maxwell. *bibliog* *il Am Cer Soc* J 40:377-85 N 1 '57
- Point-focusing two-crystal X-ray monochromator for X-ray diffraction. T. C. Furnas, Jr. *bibliog* *il diags* R Sci Instr 28:1042-8 D '57
- Potential applications of solid-state physics in chemical engineering. H. G. Drickamer. *diags* Ind & Eng Chem 50:1023-4 JI '58
- Preparation and properties of crystal-oriented ferroplana samples. A. L. Scuits and H. P. J. Wijn. *il J Ap Phys* 29:468-9 Mr '58
- Preparation of a crystalline high explosive of controlled particle size by precipitation with water from acetone solution. A. M. Pennie. *flow sheet diags* Can J Chem Eng 36:78-81 Ap '58
- Production of graphite single crystals by the thermal decomposition of aluminum carbide. L. M. Foster and others. *bibliog* *il Am Mineralogist* 43:285-96 Mr '58
- Properties and uses of industrial crystals. S. Hahn. *bibliog* *il diag* Product Eng 28:C 18-21 Mid-O '57
- Radiation discrimination with photoconducting crystals. Y. T. Shihonen and D. R. Boyd. *bibliog* *diag* J Ap Phys 29:89-8 Ja '58
- Relationship of wax crystal structure to the water vapor transmission rate of wax films. R. C. Fox. *bibliog* *il diags* Tappi 41:283-9 Je '58
- Square bubbles in irradiated lithium fluoride crystals. *il Metallurgia* 56:245 N '57
- Study of the directional hardness in silicon. A. A. Giardini. *bibliog* *il diag* Am Mineralogist 43:957-69 S '58
- Surface studies on single-crystal germanium. S. G. Ellis. *bibliog* *il diags* J Ap Phys 28:1262-9 N '57
- Temperature dependence of the absorption of ultrasound in a nickel single crystal from 77° to 650° K. F. G. West. *bibliog* J Ap Phys 29:480-2 Mr '58
- Ultra-low-velocity component of spontaneous polarization in BaTiO₃ single crystal. K. Husimi. *diag* J Ap Phys 29:1379-80 S '58
- Whiskers. G. A. Hoffman. *il diags* J Metals 10:591-5 S '58
- Whiskers provide low-temp data. *il Electronics* 31:26 F 7 '58
- Work function and sorption properties of silicon crystals. J. A. Dillon, Jr. and H. E. Farnsworth. *bibliog* *il diags* J Ap Phys 29:1195-202 Ag '58
- Zinc and cadmium whiskers. R. V. Coleman and N. Cabrera. *il J Ap Phys* 28:1360 N '57
- See also
Piezoelectric effect
Oscillators, Crystal
Quartz
- Cleaning**
Crystal's frequency is cleanliness test. E. B. Lewis. *il Electronics* 31:118+ Ag 1 '58
- Cutting**
Crystals where you want them; grinding techniques for the novice. L. G. McCoy. *il diags* Q S T 42:19-22+ Je '58
- Cutting silicon crystal for rectifier production. *il Elec Eng* 77:770 Ag '58
- Electrolytic saw for cutting metallic crystals. M. Metzger. *il diag* R Sci Instr 29:620-1 JI '58
- Simple etching cutter. R. W. Armstrong and R. A. Rapp. *diags* R Sci Instr 29:433 My '58
- Slicing and dicing crystals of silicon and germanium. *il Mach* 65:128-30 O '58
- Dislocations**
Anisotropy of boundary mobility. S. Kohara and others. *bibliog* *il J Ap Phys* 29:1125-6 JI '58
- Arrangements of dislocations in plastically bent silicon crystals. J. R. Patel. *bibliog* *il diags* J Ap Phys 29:170-6 F '58
- Cleavage cracks and dislocations in LiF crystals. J. J. Gilman and others. *bibliog* *il diags* J Ap Phys 29:601-7 Ap '58
- Correlation of thermal etch pits with dislocations in silver. J. P. Hirth and L. Vassalmillet. *bibliog* J Ap Phys 29:595 Mr '58
- Creation of dislocations in LiF crystals at low stresses. J. J. Gilman and W. G. Johnston. J Ap Phys 29:110-11 Ja '58
- Crystals can be stronger; GE eliminates the out-of-line atoms from crystals. *il Chem & Eng N* 36:51-2 S 8 '58
- Decoration of dislocations in α -brass. R. Sun and H. Wilsdorf. *bibliog* *il Franklin Inst* J 265:413-15 My '58
- Detection of screw dislocations in α -Al₂O₃ whiskers. R. D. Dragsdorf and W. W. Webb. *bibliog* *il diag* J Ap Phys 29:817-19 My '58
- Dislocation arrays in germanium. W. W. Tyler and W. C. Dash. *bibliog* *il J Ap Phys* 28:1221-4 N '57
- Dislocation etch pit formation in lithium fluoride. J. J. Gilman and others. *bibliog* *il diags* J Ap Phys 29:747-54 My '58
- Dislocation etch pits in antimony. J. H. Wernick and others. *bibliog* *il J Ap Phys* 29:1013-18 JI '58
- Dislocation mobility and release of cold work in cadmium. R. Kamel and E. A. Attia. J Ap Phys 28:1365 N '57
- Dislocations and selective etch pits in InSb. J. D. Vengles and R. M. Broudy. *bibliog* *il diags* J Ap Phys 29:1025-8 JI '58
- Dislocations, point-defect clusters, and cavities in neutron irradiated LiF crystals. J. J. Gilman and W. G. Johnston. *bibliog* *il J Ap Phys* 29:877-88 Ja '58
- Effect of dislocations on breakdown in silicon $p-n$ junctions. A. G. Chynoweth and G. L. Pearson. *bibliog* *il diags* J Ap Phys 29:1103-10 JI '58
- Effect of rate of stress application and temperature on the upper yield stress of annealed mild steel; abstract. J. A. Hendrickson and D. S. Wood. *Metal Prog* 72:182+ N '57
- Etching studies on photographic grains. J. F. Hamilton and others. *bibliog* *il J Ap Phys* 29:800-3 My '58
- Evidence of dislocation jogs in deformed silicon. W. C. Dash. *bibliog* *il J Ap Phys* 29:705-9 Ap '58
- Flow and fracture. E. R. Parker. *Metal Prog* 72:65-9 N '57
- Growth and defect structure of sapphire microcrystals. W. W. Webb and W. D. Forging. *bibliog* *il J Ap Phys* 28:1449-54 D '57
- Imperfections in nearly perfect crystals. M. A. Jaswon. *bibliog* *diags Research* 11:108-13 Mr '58
- Impurity penetration along dislocation lines in α -Al₂O₃. R. N. Tucker and P. Gibbs. *bibliog* *diags* J Ap Phys 29:1375-6 S '58
- Larger perfect crystals of metal. *Mech Eng* 80:85 O '58
- Movement of dislocation loops in lithium fluoride. S. Amelinckx and W. Dekeyser. *diags* J Ap Phys 29:1000-1 Je '58
- Nucleation of dislocations accompanying electric breakdown in LiF crystals. J. J. Gilman and D. W. Stauff. *bibliog* *il diags* J Ap Phys 29:120-7 F '58
- Observation of dislocation sites in iron. F. W. C. Boswell. *il Metal Prog* 72:92-3 D '57; Same cond. *Engineer* 205:175 Ja 31 '58
- Plasticity of solids explored by new technique. J. J. Gilman. *il diags* Gen Elec R 61:9-12 JI '58
- Polygonization of copper. F. W. Young, Jr. *il diag* J Ap Phys 29:760-4 My '58
- Production of dislocations during growth from the melt. W. A. Tiller. *bibliog* *il diags* J Ap Phys 29:611-18 Ap '58
- Silicon crystals free of dislocations. W. C. Dash. *il J Ap Phys* 29:736-7 Ap '58
- Slip of zinc and cadmium whiskers. R. V. Coleman and others. *diag* J Ap Phys 28:1360-1 N '57

CRYSTALS—Dislocations—Continued

- Thermoelectric dissipation due to high-speed dislocations. J. H. Weiner. *J Appl Phys* 29: 1305-7 S '58
 X-ray diffraction by imperfect crystals. M. A. Jaswon. bibliog *il diags Research* 11:227-35 Je '58
 X-ray study of faults in body-centered cubic metals. O. J. Guentert and B. E. Warren. bibliog *diags J Appl Phys* 29:40-8 Ja '58

Lattices

- Anisotropic effects in geometrically isotropic lattices. Z. A. Kaprielian. *diag J Appl Phys* 29:1052-63 Ji '58
 Crystal stability and elastic constants. G. A. Alers and J. R. Neighbours. bibliog *J Appl Phys* 28:1514 D '57
 Dependence of dissolution on the presence of vacancies in the quartz lattice. J. A. Wadams. bibliog *Research* 11:370-2 S '58
 Effects of layer faults in diamond structures on X-ray diffraction patterns. O. J. Guentert. bibliog *J Appl Phys* 28:1515-18 D '57
 Lattice parameter determination from broad diffraction lines. F. R. Brotzen and E. L. Harmon. Jr. bibliog *J Sci Instr* 34:247-8 Je '57; Discussion. E. R. Pike. 35:34-5 Ja '58
 Relation between lattice constants and composition of the Ca-Mg carbonates. J. R. Goldsmith and others. bibliog *Am Mineralogist* 43:84-101 Ja '58
 Relationships among impurity contents, color centers and lattice constants in quartz. A. J. Cohen and G. G. Sumner. bibliog *Am Mineralogist* 43:58-63 Ja '58
 Size effects and their possible significance for non-propagating cracks in metal fatigue. W. J. Harris. bibliog *Metalurgia* 57:193-7 Ap '58
 Some properties of crystal lattices. M. A. Jaswon. *diags Research* 11:26-32 Ja '58
 Study of order in annealed and irradiated alpha brass by lattice parameter measurements. R. Feder and others. bibliog *J Appl Phys* 29:934-8 Je '58
 Suggestion concerning the role of wave-function symmetry in transition metals and their alloys. J. B. Goodenough. bibliog *diags J Appl Phys* 29:513-15 Mr '58
 Twinning in diamond-type structures; a proposed boundary-structure model. J. A. Kohn. bibliog (28 ref) *il diags Am Mineralogist* 43:263-84 Mr '58

CRYSTALS. Piezoelectric

- Computation of crystal admittance; a comparison of measured and theoretical characteristics. W. J. Lucas and P. B. Barber. *diags Electronic & Radio Eng* 34:454-8 D '57
 Crystals where you want them; grinding techniques for the novice. G. McCoy. *il diags Q S T* 42:19-22+ Je '58
 High-frequency crystal filter design techniques and applications. D. I. Kosowsky. bibliog *il diags Inst Radio Eng Proc* 46:419-29 F '58
 Modulus of rupture *ext* 45 ADP crystals. B. J. Faraday and D. J. G. Gresan. bibliog *diags J Appl Phys* 29:1099-102 Ji '58
 Piezoelectric detector for low-pressure shock waves. H. T. Knight. *diag R Sci Instr* 29:174-5 F '58
 Resin purifies water for washing crystals. *il Electronics* 31:128+ Ap 11 '58
 Safe method for etching crystals. A. J. Newland. *diags Q S T* 42:20-1 Ja '58
 Stable crystal filter is parallel resonant. J. C. Seddon. *diags Electronics* 31:156-7 Mr 14 '58

See also
 Barium titanate
 Oscillators, Crystal

Manufacture

- Trigger circuit controls quartz crystal lap-
 ping. J. F. Brumach and others. *il diags Electronics* 31:66-7, cover Ji 18 '58

Standards

- IRE standards on piezoelectric crystals; determination of the elastic, piezoelectric, and dielectric constants; the electromechanical coupling factor. 1958. bibliog *diags Inst Radio Eng Proc* 46:764-78 Ap '58 (reprints 75c)

Testing

- Plug-in bridge checks vhf quartz crystals. D. W. Robertson. *il diags Electronics* 31: 82-5 My 9 '58

CUBA

See also
 Architecture, Domestic—Cuba
 Chemical industries—Cuba
 Nickel mines and mining—Cuba
 Petroleum industry and trade—Cuba

CUBEX steel. See Silicon steel**CUCUMBERS**

- Inhibition of pectinolytic and cellulolytic enzymes in cucumber fermentations by scuppernong grape leaves. J. L. Etchells and others. bibliog *Food Tech* 12:204-8 My '58

CULBERSON, Olin

- Lauded at Houston dinner; cite efforts toward gas conservation. B. C. Belt. *Gas Age* 121:42 Ap 3 '58

CULTURE mediums. See Bacteriology—Culture and culture mediums; Tubercle bacilli—Culture and culture mediums**CULVERTS**

- How to do box culverts? this sub used portable plant and truck mixers. *il Roads & Sts* 101:95+ Ji '58

CUMENE

- Phenol and acetone via cumene hydroperoxide. P. W. Sherwood. bibliog *Pet Eng* 30:C32+ Je '58 (to be cont)
 Phenol from cumene. flow diag (p272) *Pet Refiner* 36:273 N '57

Manufacture

- Cumene; Universal oil products co. flow diag *Pet Refiner* 36:230 N '57

CUNIFE. See Copper alloys**CUPOLA furnaces**

- Carbon-pickup in the cupola. M. Perch and C. C. Russell. bibliog *Foundry* 85:70-5 D '57
 Cupola melting of brass. C. W. Ammen. *diag Foundry* 86:207-8 Mr '58
 Efficient cupola operation. T. H. Burke. *il diag Foundry* 86:39-93 Ja '58
 Hot-blast cupola finds place in steelworks. bibliog *il diag J Metals* 10:596-8 S '58
 Hot-blast cupola. LD converter steelmaking; Gussstahlwerk Witten. A. Richter and others. *il diags J Metals* 10:599-604 S '58
 New cupola interests foundries. *il Iron Age* 131:70 Mr 6 '58
 Oxygen injection process aids cupola combustion control. J. B. La Pota. *diags Foundry* 86:269-71+ My '58
 Shooting borings into cupola reduces melting cost. R. E. Dixon. *il Foundry* 86:218+ My '58
 Steel plant installs cupolas; Acme steel co. *il diags Steel* 143:94+ S 29 '58

Tapping

- New self-slugging spout design facilitates tapping of a cupola. L. Gabrielli. *diags Foundry* 86:236 My '58

CUPRIC carbonate. See Copper carbonates**CUPROUS ammonium acetate. See Copper ammonium acetate****CUPROUS oxides. See Copper oxides****CURARE**

- Calabash curare of the Piaroa Indians; conversion of C-curarine-I to C-curarine-III. A. Zürcher and others. bibliog *Am Chem Soc J* 80:1500-4 Mr 20 '58

CURARINE

- Calabash curare of the Piaroa Indians; conversion of C-curarine-I to C-curarine-III. A. Zürcher and others. bibliog *Am Chem Soc J* 80:1500-4 Mr 20 '58

CURBS, Bituminous concrete

- Machine placement of durable asphaltic concrete curbs. A. W. Tewes. *il diags Pub Works* 89:104-5 Ap '58

CURBS, Concrete

- Air placed concrete trims curb repair costs. M. E. Rader. *il Pub Works* 89:136-7 My '58
 200,000 foot curb and gutter job. *il Roads & Sts* 100:69 N '57

CURBS, Magnesium

- Magnesium curbs prevent loading dock accidents. *il Mod Metals* 14:85 F '58

CURIE point

- Curie-point writing on magnetic films. L. Mayer. *il J Appl Phys* 29:1003 Je '58
 Effect of manranese on the Curie point of cementite; abstract. E. C. Roberts. *Metal Prog* 72:142+ N '57

- Pyromagnetic effect; a method for determining Curie points. A. G. Chynoweth. *J Appl Phys* 29:568-5 Mr '58

CURIUM fluorides

- Evidence for quadrivalent curium; curium tetrafluoride. L. B. Asprey and others. bibliog *Am Chem Soc J* 79:5825 N 5 '57

CURON. See Plastics**CURTAIN fixtures**

- New design for curtain rail assembly. *il Brit Plastics* 31:333 Ag '58
 Roller coating eases cost; Stanley-Judd div., Stanley works. *il Steel* 142:121 Je 16 '58

CURVATURE

Curvature produced by grinding or milling using a tilted spindle. M. Barash. diags Mach 65:173-4 S '58
Effect of curvature on the Hertz theory for two circular cylinders in contact. T. T. Loo. bibliog diags J Ap Mech 25:122-4 Mr '58

CURVE fitting

Analytical representation of angular distribution data. S. C. Snowdon and others. J Ap Phys 29:950-3 Je '58
Burning rate studies: correlation of experimental results with the thermal model. D. L. Hildenbrand and W. P. Reid. Jet Propulsion 28:194-6 Mr '58
Curve fitting. T. R. Hoffman. diags Product Eng 29:A 15-17 Mid-S '58
Standardised polynomials for curve fitting. M. Fine. Roy Aeronautical Soc J 62:212-15 Mr '58

CURVE plotting

Curve plotting routine for the inverse Laplace transform of rational functions. T. R. Bashkow. Assn for Computing Mach J 5: 52-6 Ja '58
Curves for finding damping ratio and resonant gain of second-order systems. L. R. Axelrod. Instruments & Automation 30:2073 N '57
Distribution curves for sink-and-float separation of iron ores. R. G. Wuerker. bibliog Min Eng 10:Trans 788-91 Jl '58
Free-moving isodose-tracing machine. B. C. Green and J. W. T. Spinks. diags Nucleonics 16:92-4 Ap '58
Here's a simple way to interpret data: use an origami. N. FitzSimons. Eng N 180:47-9+ Ju 12 '58
How to figure odds on a river project. W. B. Langbein and G. N. Alexander. diags Eng N 161:35-6 Ag 28 '58
How to plot and read a carpet curve; reference book sheet. A. Krivetsky. Product Eng 29:127+ Mr 31 '58
Measurement of the capillary curve. D. F. Dempsey. diags Am J Phys 26:89-90 F '58
Two-sided matching design; curve plotted on Smith chart; reference sheet. H. F. Mathis. diags Electronics 31:104 Ap 11 '58

See also
Learning curves

CURVES

100 frequency curves of North American rivers. E. Kuiper. Am Soc CE Proc 83 [HY 5 no 1395]:1-31 O '57; Discussion. 84 [HY 1 no 1558]:61-3 F; [HY 2 no 1616]:19-24 Ap '58
Useful curves and curved surfaces: time-saver standards (cont). S. Howard. diags Arch Rec 123:245+ Ap; 215+ Je '58

See also

Catenary
Curvature
Parabola
Roads—Curves and turnouts

CURVES, Learning. See Learning curves**CURVES in engineering**

Solving spiral bridge geometrics by computer. J. Beizer. diags Civil Eng 28:334-6 My '58
See also
Roads—Curves and turnouts

CUSTOMER relations

See also
Gas companies—Customer relations
Service (in industry)
Water companies—Customer relations

CUTTER, Walter A.

Herbert J. Stack succeeded by W. A. Cutter at N.Y.U. safety center. por Safety Maint 114:18 O '57

CUTTING

See also
Plastics—Cutting

CUTTING, Electric. See Electric cutting**CUTTING, Oxyacetylene. See Oxyacetylene cutting****CUTTING fluids. See Lubrication and lubricants (cutting and grinding)****CUTTING machines**

Billets scalped six times faster: Kaiser aluminum & chemical co. di Steel 142:152 Ap 14 '58
Fundamentals of ultrasonic machining. P. J. Duran. diags Am Mach 101:114-16 Ag 26 '57; Same. Product Eng 29:D 12-13 Mid-S '58
Honeycomb structures machined by ingenious Northrop methods. C. O. Herb. di Mach 64:140-5 Jl '58

Hydraulically positioned cutting wheel controlled in three directions of travel. di Machine Design 30:120 Jl 10 '58
Instrument to trim specimen blocks prior to ultra-microtomy. A. L. Sims. diags J Sci Instr 35:72-3 F '58
Portable frame bevelling machine. di Engineer 204:765 N 22 '57

See also

Rubber cutting
Shears (machines)
Trepanning
Wire cutting machines

Control

British Oxygen Gases computer-controlled flame cutting machine. di Engineer 204:834-5 D 8 '57
Electronic line-tracer guides flame cutter. di Machine Design 30:35-9 My 29 '58
Line-programmed flame cutter. J. S. Cheverton and K. Losch. di diag Control Eng 5: 163-4 S '58

CUTTING of concrete. See Concrete—Cutting**CUTTING of metals. See Metal cutting****CUTTING off machines**

Balanced cut-off knives. J. P. Haas. di diags Tappi 41:sup 149A-55A Ja '58
Cylinder speed and shock. E. F. Heiser. diags Ap Hydraulics 11:73 Jl '58
Feedback controlled steel slab cutoff. T. Filmer and C. C. Roberts. diags Automation 5:72-4 Jl '58
Metalworking, 1962; cutting off. H. V. Allison. Am Mach 101:130 N 18 '57
1958 production preview: cutoff and filing. di Am Mach 102:142-5 Ja 27 '58
Simple setups for high speed miter cutting of extrusions. B. Eldridge. di Mod Metals 14:38+ Mr '58
Which abrasive cut-off wheel is right? E. J. De Witt. di Mach 64:123-7 My '58

See also

Saws, Metal working

CUTTING oils. See Lubrication and lubricants (cutting and grinding)**CUTTING tools**

Chatter of lathe tools under orthogonal cutting conditions. S. A. Tobias and W. Fishwick. diags A S M E Trans 80:1079-87; Discussion. 1087-8 Jl '58
Close tolerances with diamond tools and standard lathes. di Am Mach 102:109 S 22 '58
Controlling tool life. L. V. Colwell. di diag Tool Eng 41:65-9 Jl '58
Device for the preliminary cutting of single-crystal metallic rods to a desired orientation. T. B. Vaughan. bibliog diags J Sci Instr 35:147-8 Ap '58
Formulas for tools that face past center: reference sheet. A. M. Johnson. Tool Eng 39:121-2 D '57
Grooving and facing tool is simple and versatile. W. L. Stein. diags Am Mach 101:158 N 4 '57
Hard facing of cutting tools. di Engineer 205: 513 Ap 4 '58
Homemade tools save time and money. S. J. Meno. di diags Tool Eng 39:109-10 D '57
Industrial know-how handbook. di diags Mill & Factory 62:MW 16-19 My '58
Low-cost flycutters. W. S. Mazar. diags Tool Eng 41:48 Jl '58
Method for studying the behavior of cutting fluids. in wear of tool materials. L. V. Colwell. di diags A S M E Trans 80:1054-8 Jl '58
New grinding process improves diamond tools. di Ind Lab 9:64 Je '58
New cutting tools accelerate machine tool research and development. di Product Eng 29:23 Ag 4 '58
1958 production preview: tools and accessories. di Am Mach 102:164-9 Ja 27 '58
Powder metal shanks reduce chatter. C. G. Erickson. di Tool Eng 40:107-9 Mr '58
Powdered metal tool bodies boost machining efficiency. H. Frommelt. di Iron Age 180: 166-7 N 14 '57
Production nuggets; information from American machinist and other publications: developments to watch: tooling. di diags Am Mach 102:C 1-7 Mid-S '58
Racks boost transfer line's efficiency. di Iron Age 180:158-9 N 7 '57
Radioactive cutting tools determine efficiency of cutting oils; illustrations with text. Am Mach 101:114-15 D 30 '57
Tool design for machining magnesium; reference sheet. diags Tool Eng 40:125-8 Ja '58

CUTTING tools—Continued

Tooling and gaging; forum on technical progress. Steel 142:335-6+ Ja 6 '58
Worm-gear arrangement rotates radius cutter. F. C. Ashton, diags Am Mach 102:122 Ap 7 '58

See also

Grooving
Milling cutters

Failure

Thread inserts reduce cutter failures. Il Tool Eng 40:82 F '58

Maintenance and repair

Maintenance of cutting tools. T. Metaxas. Il diags Mill & Factory 61:88-94 D '57

Testing

Concentrated wear of turning tools. V. Šolaja, bibliog il diags Research 11:152-6 Ap '58
Measuring cutting forces. P. Chiesorin. Il diags Tool Eng 39:114-20 D '57
Speed boost cuts tough metals: Ryan aeronautical co. speeds, tool material and geometry, and machining methods. Il Steel 142:88-9 Je 2 '58

CUTTING tools, Carbide

Building-block line handles various shaft sizes. R. H. Esheiman. Il diag Iron Age 180:82-4 N 28 '57
Carbide chasers open new threading horizons. W. M. Stocker, Jr. Il Am Mach 102:102-3 Je 2 '58
Carbide tooling and single-purpose lathes speed machining of forged crankpins. Il diags Mach 64:173-6 N '57
Carbide tooling improves pin making. Il Wire & Wire Prod 33:422+ Ap '58
Carbide tooling on automatics. Il diag Mach 64:128-31 Ap '58
Carbide wafer inserts reduce reamer cost. P. Casey. Il diags Am Mach 102:104 Je 30 '58
Carbides cut forged crankshafts for Pontiac. Il diags Am Mach 101:141-3 N 4 '57
Change cuts carbide cost. diag Steel 141:77 D 23 '57
Choosing carbides. Il Steel 143:84 JI 7 '58
Expanding dual-carbide tool-bit hurdles tooling obstacle. S. S. Milardo. diags Am Mach 102:124 Ja 13 '58
Milling cutters cut maintenance. Il Mach 64:132-5 My '58
Now, an easier way to find best cutting speed. H. J. Siekmann. Am Mach 102:97-100 F 10 '58
Preset tools cut auto-lathe setup time. J. L. Anderson. Il diags Am Mach 101:116-18 N 4 '57
Solution to a tough boring problem; illustrations with text. Am Mach 101:158 D 16 '57
When and how to use throw-away inserts for cutting tools. C. H. Wick, comp. Il diags Mach 64:161-75 Ja '58

Manufacture

Spark machines become puttin'-on tools; depositing tungsten carbide onto high-speed steel. Il Am Mach 102:110-11 My 5 '58

Sharpening

Sharpening and maintenance of carbide reamers. Mach 65:230 O '58

Testing

Determining tool life on nodular cast iron. G. Hug. Il diags Tool Eng 40:37-103 My '58
Influence of electric current on tool wear. V. Šolaja and H. L. Hughes. Il Research 11:207-8 My '58

CUTTING tools, Ceramic

Cemented oxide points to revolution in machine tool design. Product Eng 29:36 Ap 23 '58
Cemented oxide tools. Il Metallurgia 57:28-9 Ja '58
Ceramic tool for roughing cuts? Il Am Mach 101:180 N 4 '57
Ceramic tool inserts give improved machining. Il Automotive Ind 118:71 Je 15 '58
Ceramic tools for machining steel and cast iron; abstract. H. Opitz and H. Siebel. Tool Eng 40:194-5 My '58
Ceramic tools gather momentum. Il Am Mach 102:122-4 Ap 21 '58
Changes necessitated by higher cutting speeds. N. Zlatin. Tool Eng 40:91 Je '58
How oxide cutting tools are made and what they do. R. R. Van Der Beck and others. Il Cer Ind 69:118-15+ D '57

Machining the supermetals; Ryan aeronautical co. Il Mill & Factory 63:115 S '58
Modern cutting tools save costs at high and low speeds. H. J. Siekmann. Il Iron Age 182:95-7 S 18 '58

New developments in high velocity machining. W. B. Kennedy. Il diags Tool Eng 41:73-5 JI '58
New records for ceramic tools; tests indicate higher production, lower costs. E. J. Egan, Jr. Il Iron Age 181:109 Ap 24 '58
Norton ceramic cutting tool. Mach 64:183-4 F '58

Use of ultra high-speed 150 horsepower lathe for machinability studies. H. J. Siekmann. Il Tool Eng 40:85-8 Ap '58

Utility of cutting tools expanded by new materials; Borg & Beck div., Borg-Warner corp. Il diags Automotive Ind 119:52+ JI 1 '58

Verdict on European ceramics, good. Am Mach 102:83 S 8 '58

Vitrifiable silicate tooling for high-temperature plastics. J. D. Stillman. Il Tool Eng 40:104-6 Ap '58

When and how to use throw-away inserts for cutting tools. C. H. Wick, comp. Il diags Mach 64:161-75 Ja '58

Testing

Cutting tool research department; Wickman, Ltd. Il Engineer 204:908 D 20 '57
Tests reveal performance of ceramic cutting tools; abstract. J. N. Willis. S A E J 68:116+ F '58

CYANAMIDE

Comparison of the reactions of some amines with nitrosoguanidine, cyanamide and 8-methylisothiourea hydrochlorides. J. P. Horwitz and C. C. Rita, bibliog Am Chem Soc J 80:431-7 Ja 20 '58
Electrolytic of cyanamide. K. Odo and others. Il Electrochem Soc J 104:160-2:105:598-603 Mr '57. O '58

CYANATES

Behavior of cyanates in polluted water. J. D. Resnick and others. Ind & Eng Chem 50:71-2 Ja '58

CYANIDES

Cyanide effects on carbon dioxide fixation in chlorella. B. R. Rabin and others, bibliog 2pls diag Am Chem Soc J 80:2528-32 My 20 '58

Cyanide ion catalyzed cleavage of aromatic α -diketones. H. Kwart and M. M. Baevsky, bibliog Am Chem Soc J 80:580-9 F 5 '58

Destruction of cyanide wastes by electrolytic chlorination. J. T. Byrne and others, bibliog Electrochem Soc J 105:607-9 O '58

Ozone counters waste cyanide's lethal punch; Boeing Airplane's Wichita plant. Il diag Chem Eng 65:63-4 Mr 24 '58

Reactions of elemental sulfur; the reaction of alkali cyanides with sulfur, and some single-sulfur transfer reactions. P. D. Bartlett and R. E. Davis, bibliog Am Chem Soc J 80:2513-16 My 20 '58

Recovery of gold, silver and nickel from alkaline cyanide solutions by means of weak-base ion-exchange resins. J. Aveston and others. J Ap Chem 8:77-86 F '58

Science for electroplaters; acidification of cyanide waste. L. Serota. flow sheet Metal Finishing 55:72-5 N '57

Science for electroplaters; cyanide removal by ion exchange. L. Serota, diags Metal Finishing 56:72-5 Mr '58

Science for electroplaters; cyanide waste treatment. L. Serota, diags Metal Finishing 56:61-4+ Ja; 71-4 F '58

Synthesis of indoles by catalytic reduction of o-nitrobenzyl cyanides. H. R. Snyder and others, bibliog Am Chem Soc J 80:4622-5 S 5 '58

See also

Mercury cyanides
Potassium cyanide

Analysis

Colorimetric determination of cyanide; tris(1,10-phenanthroline)-iron(II) ion as a selective and sensitive reagent. A. A. Shilit. Anal Chem 30:1409-11 Ag '58

Coulometric titrations with mercury(I and II); determination of cyanide. E. P. Przybyłowicz and L. B. Rogers, bibliog Anal Chem 30:65-9 Ja '58

Fluorometric and colorimetric estimation of cyanide and sulfide by demasking reactions of palladium chelates. J. S. Harker and others, bibliog Anal Chem 30:93-5 Ja '58

Indirect absorptiometric determination of cyanide. O. A. Ohlweiler and J. O. Meditsch. Anal Chem 30:450-1 Mr '58

CYANO compounds

See also

Vitamins—Vitamin B₁₂

CYANO group

ρ - σ^+ treatment for the bromination of substituted polymethylbenzenes; the kinetic effect of the cyano group. G. Illuminati, *bibliog Am Chem Soc J* 80:4941-5 S 20 '58

CYANOACRYLATES. See Resinous products—Adhesives

CYANOCARBON acids

Cyanocarbon chemistry; cyanocarbon acids and their salts. W. J. Middleton and others. *Am Chem Soc J* 80:2795-806 Je 5 '58

CYANOCARBONS

Cyanocarbon chemistry. T. L. Cairns and others. *bibliog Am Chem Soc J* 80:2775-844 Je 5 '58

CYANOCOBALTATES

Preparation and properties of tetraalkylammonium hexacyanocobaltates(III) and hexacyanoferrates(III). B. Jaselskis and H. Diehl. *Am Chem Soc J* 80:4197-8 Ag 20 '58

CYANOETHYLATION

Continuous cyanoethylation of cotton yarns. H. J. Janssen and others. *bibliog diag Ind & Eng Chem* 50:76-9 Ja '58

Cyanoethylation of cotton in aqueous medium. N. M. Bikales and L. Rapoport. *bibliog I. Textile Res J* 28:737-43 S '58

Effect of salts on cyanoethylation of cotton. N. M. Bikales and others. *bibliog Ind & Eng Chem* 50:87-90 Ja '58

CYANOFERRATES. See Ferricyanides

CYANOGEN

Cyanogen-oxygen flame under pressure. J. B. Conway and A. V. Grosse. *bibliog diag Am Chem Soc J* 80:2972-6 Je 20 '58

CYANONICKELATES

Exchange properties of the tetracyanonickelate ion with certain amino acid complexes of nickel(II). R. C. Calkins and N. F. Hall. *bibliog Am Chem Soc J* 80:5028-31 O 5 '58

Spectra

Infrared spectrum and structure of the $[\text{Ni}(\text{CN})_4]^{4-}$ ion. M. F. A. El Sayed and R. K. Sheline. *bibliog Am Chem Soc J* 80:2047-8 My 5 '58

CYANURIC chloride

Indirect fluorination of cyanuric chloride. A. F. Maxwell and others. *Am Chem Soc J* 80:548-9 F 5 '58

CYBERNETIC association, International. See International cybernetic association

CYCLAZINES

Cyclazines, the synthesis of a new class of aromatic compounds. V. Boekelheide and R. J. Windgassen. *Am Chem Soc J* 80:2020 Ap 20 '58

CYCLIC compounds

Alkylation and cyclization of benzoylacetonides. A. L. Searies and D. Reissler. *bibliog Am Chem Soc J* 80:3656-63 Jl 20 '58

Amine oxides; cyclic quaternary salts and their decomposition. V. Boekelheide and W. Feely. *bibliog Am Chem Soc J* 80:2217-20 My 5 '58

Azo compounds; a seven-membered cyclic azo compound. C. G. Overberger and J. G. Lombardino. *bibliog Am Chem Soc J* 80:2317-21 My 5 '58

Boron-carbon ring; abstract. S. L. Clark. *Chem & Eng N* 36:56-7 Ap 28 '58

Bridged polycyclic compounds. S. J. Cristol and others. *bibliog Am Chem Soc J* 79:6035-41 N 20 '57

Bridged polycyclic compounds: the addition of *p*-thiocresol to norbornadiene: the question of non-classical free radicals. S. J. Cristol and others. *bibliog Am Chem Soc J* 80:635-40 F 5 '58

Bridged polycyclic compounds; the bromination of quadricyclo[2.2.1.0^{2,4}.0^{3,6}]heptane-2,3-dicarboxylic acid. S. J. Cristol and R. F. LaLonde. *bibliog Am Chem Soc J* 80:4355-7 Ag 20 '58

Bridged polycyclic compounds; the photoisomerization of bicyclo[2.2.1]hepta-2,5-diene-2,3-dicarboxylic acid to quadricyclo[2.2.1.0^{2,4}.0^{3,6}]heptane-2,3-dicarboxylic acid. S. J. Cristol and R. L. Snell. *bibliog Am Chem Soc J* 80:1950-2 Ap 20 '58

Chemistry of fumagillin; the presence of a carbocyclic ring in fumagillin. J. G. McNally, Jr. and D. S. Tarbell. *bibliog Am Chem Soc J* 80:3676-9 Jl 20 '58

Cyclic benzeneboronate esters. J. M. Sugihara and C. M. Bowman. *bibliog Am Chem Soc J* 80:2443-6 My 20 '58

Cyclic organosilicon compounds; reactions involving certain functional and related dibenzosilole compounds. H. Gilman and R. D. Gorsich. *bibliog Am Chem Soc J* 80:3243-6 Jl 5 '58

Cyclic organosilicon compounds; synthesis of compounds containing the dibenzosilole nucleus. H. Gilman and R. D. Gorsich. *bibliog Am Chem Soc J* 80:1883-6 Ap 20 '58

Dimerization of double bonds character in cyclic systems; tetrahydronaphthalene; steric facilitation of chelation. I. M. Hunsberger and others. *bibliog Am Chem Soc J* 80:3294-300 Jl 5 '58

Eight-membered and a ten-membered ring system; benzodiazocine and dibenzodiazocine. W. E. Rosen and others. *bibliog Am Chem Soc J* 80:335-9 F 20 '58

Electronic transmission through condensed ring systems; the evaluation of *epi* and *cata* sigma constants from dissociation and methoxydechlorination data on substituted 1-aza-4-chloronaphthalenes. E. Baciocchi and others. *bibliog Am Chem Soc J* 80:2270-3 My 5 '58

Electronic transmission through condensed-ring systems; the kinetics of methoxydechlorination of some 6- and 7-substituted 1-aza-4-chloronaphthalenes. G. Illuminati and G. Marino. *bibliog Am Chem Soc J* 80:1424-4 My 20 '58

Experiments in the colchicine field; the stereochemistry of the tricyclic keto esters obtained from the cyclization of β -carbo-methoxy- β -(2-phenylcyclohexane)- β -propanoic acid. C. D. Gutsche and others. *bibliog Am Chem Soc J* 80:3711-14 Jl 20 '58

Five- vs. six-membered ring formation in the cyclization of 2,3,4-triphenylbutyric acid; the relative importance of stereochemistry. D. Lednicher and C. R. Hauser. *bibliog Am Chem Soc J* 80:3409-12 Jl 5 '58

Formation of five- and six-membered rings by the acyloin condensation; cyclization of the cholesterol a ring via a 2,3-secodiester. J. C. Sheehan and W. F. Erman. *bibliog Am Chem Soc J* 79:6050-5 N 20 '57

General principle for the synthesis of heterocyclic and homocyclic compounds. B. F. Hrutford and J. F. Bunnett. *bibliog Am Chem Soc J* 80:2021-2 Ap 20 '58

Macro rings. D. J. Cram and others. *bibliog Am Chem Soc J* 80:3094-130 Je 20 '58

Many-membered carbon rings; acetylation of 5,5-dimethylcyclononanol tosylate. A. T. Blomquist and Y. C. Meinwald. *bibliog Am Chem Soc J* 80:630-2 F 5 '58

New method for determining the reactivity of a particular ring position in an aromatic system. A. Benkeser and others. *bibliog Am Chem Soc J* 80:5294-7 O 5 '58

New method for the synthesis of bridged ring ketones and medium size ring compounds. C. D. Gutsche and others. *bibliog Am Chem Soc J* 80:4117 Ag 5 '58

New synthesis of small ring cyclic sulfides. S. Searies, Jr. and E. F. Lutz. *Am Chem Soc J* 80:3167 Je 20 '58

Preparation and reactions of α,α' -dibromo- α,α' -dinitrocyclic ketones. H. Feuer and others. *bibliog Am Chem Soc J* 79:5768-70 N 5 '57

Reaction of α -ethoxymethylencarboxylic esters with some cyclic amidines. H. Antaki. *bibliog Am Chem Soc J* 80:3066-9 Je 20 '58

Reactions of diolefins at high temperatures; kinetics of the cyclization of 3,7-dimethyl-1,6-octadiene. W. D. Huntsman and T. H. Curry. *bibliog Am Chem Soc J* 80:2252-4 My 5 '58

Reactions of haloboranes with organocyclosiloxanes; boron chloride with methyl and ethyl trimer and tetramer. F. A. McCusker and T. Ostlick. *bibliog Am Chem Soc J* 80:1103-6 Mr 5 '58

Reductive cyclization of indolylethylisquinolinium salts. J. W. Huffman. *bibliog Am Chem Soc J* 80:5193-5 O 5 '58

Small-ring compounds. E. F. Silversmith and others. *bibliog Am Chem Soc J* 80:4083-9 Ag 5 '58

Solvolysis of *cis*- and *trans*-2-chlorocycloalkyl aryl sulfides in 80 per cent aqueous ethanol. H. L. Goering and K. L. Howe. *bibliog Am Chem Soc J* 79:6542-6 D 20 '57

Studies in organic sulfur compounds: the scope of the Raney nickel desulfurization of cyclic hemithioketals (1,4-oxathiolanes and 1,3-oxathianes). C. Dierassl and others. *bibliog Am Chem Soc J* 80:4723-32 S 5 '58

Studies in the iridomyrmecin series; abnormal ring closure of a 1,6-keto aldehyde. N. L. Wendler and H. L. Slaters. *bibliog Am Chem Soc J* 80:3937-9 Ag 5 '58

CYCLIC compounds—Continued

Synthesis and reactions of some cyclic imides. C. M. Hendry. *bibliog Am Chem Soc J* 80:973-6 F 20 '58

Synthesis of cyclic trimeric and cyclic tetrameric diphenylphosphinic nitride. C. P. Haber and others. *bibliog Am Chem Soc J* 80:2116-17 My '57

Synthesis of nucleoside cyclic phosphates. A. M. Michelson. *bibliog Chem & Ind p70-1 Ja 18 '58*

Synthesis of the four possible methyl 3-amino-3-deoxy-D-xylosides; a novel ring expansion of a furanoside to a pyranoside. R. E. Schaub and M. J. Weiss. *bibliog Am Chem Soc J* 80:4683-92 S 5 '58

Transannular nitrogen-carbonyl interaction in cyclic aminoketones and optical rotatory dispersion. N. J. Leonard and others. *bibliog Am Chem Soc J* 80:455-62 S 20 '58

Unsaturated macrocyclic compounds; synthesis of cyclohexadeca-1,3,9,11-tetrayne by a novel cyclization reaction. F. Sondheimer and Y. Amiel. *bibliog Am Chem Soc J* 79:5817-20 N 5 '57

Unsaturated macrocyclic compounds; the oxidation of terminal diacetylenes to macrocyclic tetraacetylenes. F. Sondheimer and others. *bibliog diags Am Chem Soc J* 79:623-7 D 5 '57

Unusual Eilbs-type reaction observed during a study of the cyclization of ketones. F. A. Vignello and others. *bibliog Am Chem Soc J* 80:1714-16 Ap 5 '58

See also

Cyclohexane

Cyclopropane

CYCLIC welding. See Electric welding

CYCLOALKANONES

Novel rearrangement of two γ -benzoyloxy-cycloalkanes. P. Yates and C. D. Anderson. *bibliog Am Chem Soc J* 80:1264-5 Mr 5 '58

CYCLOBUTADIBENZENE

Bond structure of diphenylene. W. Baker and others. *Chem & Ind p 1236 S 20 '58*

CYCLOBUTADIENE

Structure of Lagidze's cyclobutadiene derivatives; the hydrocarbon produced in the reaction of 2,5-diacetoxy-2,5-dimethyl-3-hexyne with benzene in the presence of aluminum chloride. E. I. Hancock and D. R. Scheuchenpflug. *Am Chem Soc J* 80:3621-3 Jl 20 '58

CYCLOBUTANE

Condensed cyclobutane aromatic systems. M. P. Cava and others. *bibliog Am Chem Soc J* 80:2265-63 My 5 '58

Synthesis of substituted alkylidenecyclobutanes. H. N. Cripps and others. *Am Chem Soc J* 80:751-2 F 5 '58

CYCLOBUTENE

Thermal isomerization of cyclobutene. W. Cooper and W. D. Walters. *bibliog Am Chem Soc J* 80:4220-4 Ag 20 '58

CYCLOBUTENONE

Small-ring compounds; alkali-induced ring opening of some phenylcyclobutenone derivatives. L. Skattehoel and J. D. Roberts. *Am Chem Soc J* 80:4085-8 Ag 5 '58

Small-ring compounds; 2-hydroxy-3-phenyl-2-cyclobutenone and related substances. E. F. Silversmith and J. D. Roberts. *bibliog Am Chem Soc J* 80:4083-5 Ag 6 '58

Small-ring compounds; on the synthesis of cyclobutenones via vinylketenes. E. F. Silversmith and others. *Am Chem Soc J* 80:4088-9 Ag 5 '58

CYCLODECANEDIONE

Transannular reaction products from 3,10-dibenzylidene-1,2-cyclodecanedione. N. J. Leonard and J. C. Little. *bibliog Am Chem Soc J* 80:4111-14 Ag 5 '58

CYCLODECENE

Proximity effects; the reaction of *cis*- and *trans*-cyclodecene oxide with lithium diethylamide. A. C. Cope and others. *bibliog diags Am Chem Soc J* 80:2855-9 Je 5 '58

CYCLODEHYDRASE

Citrovorum factor cyclodehydrase. J. M. Peters and D. M. Greenberg. *bibliog Am Chem Soc J* 80:2719-22 Je 5 '58

CYCLODEHYDRATION. See Dehydration

CYCLOHEPTANEDIOL

Proximity effects; *cis*-1,4-cycloheptanediol from solvolysis of cycloheptene oxide. A. C. Cope and others. *bibliog Am Chem Soc J* 79:6287-92 D 5 '57

CYCLOHEPTATRIENE

Experimental evidence for equivalency of carbon atoms in the tropylium ion. M. E. Volpin and others. *Chem & Ind p 1261-2 S 27 '58*

Isomerization of bicyclo(2.2.1)-2,5-heptadiene to cycloheptatriene. W. M. Halper and others. *bibliog diag Ind & Eng Chem* 50:1131-4 Ag '58

CYCLOHEPTATRIENONE

2,3-Benzo-tropone. G. L. Buchanan and D. R. Lockhart. *Chem & Ind p391 Mr 29 '58*

CYCLOHEPTENE oxide

Proximity effects; *cis*-1,4-cycloheptanediol from solvolysis of cycloheptene oxide. A. C. Cope and others. *bibliog Am Chem Soc J* 79:6287-92 D 5 '57

CYCLOHEXADIENAMINE

Base-catalyzed elimination and aromatization of a cyclohexadienamine and its methiodide. C. R. Hauser and D. N. Van Eenam. *bibliog Am Chem Soc J* 79:6274-7 D 5 '57

CYCLOHEXADIENONE

Structure of 2,6,6-trimethyl-2,4-cyclohexadienone dimer. T. L. Brown and others. *bibliog Am Chem Soc J* 80:4339-41 Ag 20 '58

Synthesis of 2,3,4,5,6-pentachloro-4-pentachlorophenoxy-2,5-cyclohexadienone and some of its reactions. R. Reed, jr. *bibliog Am Chem Soc J* 80:219-23 Ja 5 '58

CYCLOHEXANE

Addition of hydrogen bromide to 1-halocyclohexene and the rearrangement of dihalocyclohexanes in the presence of ferric chloride. H. L. Goering and L. L. Sims. *bibliog Am Chem Soc J* 79:6270-4 D 5 '57

Binary systems benzene-ethyl methyl ketone and benzene-cyclohexane. M. B. Donald and K. Ridgway. *bibliog J Ap Chem* 8:403-7 Jl '58

Diffusion and hot radical kinetics in the photolysis of methyl iodide in cyclohexane. R. F. Portie and others. *bibliog Am Chem Soc J* 80:4224-30 Ag 20 '58

Equilibrium data now available for cyclohexane. D. S. Hoffman and J. H. Weber. *Pet Refiner* 37:143-5 F '58

Mechanism of decomposition of benzoyl peroxide in cyclohexane solution. C. G. Swain and others. *bibliog Am Chem Soc J* 80:5313-19 O 5 '58

Neighboring groups in addition; the benzamido group in 3-benzamidocyclohexene; stereospecific synthesis of trisubstituted cyclohexane derivatives. L. Goodman and others. *bibliog Am Chem Soc J* 80:4812-17 Ag 20 '58

Stereochemistry of bromination of *o*-substituted cyclohexanecarboxylic acids. J. Klein and G. Levin. *bibliog Am Chem Soc J* 80:1707-10 Ap 5 '58

Ternary system benzene-cyclohexane-ethyl methyl ketone. M. B. Donald and K. Ridgway. *bibliog J Ap Chem* 8:408-15 Jl '58

Ternary vapour-liquid equilibrium system; acetone-ethyl methyl ketone cyclohexane. K. V. Kurmanadha Rao and others. *bibliog J Ap Chem* 7:535-43 O '57

Ternary vapour-liquid equilibrium; system ethyl methyl ketone-benzene-cyclohexane. P. Dakshinamurti and C. Venkata Rao. *bibliog J Ap Chem* 7:654-9 D '57

CYCLOHEXANEDIOL

Base-catalyzed cleavage reactions of *cis*- and *trans*-cyclohexane-1:3-diol monotosylates. F. V. Brutcher, jr. and H. J. Cenci. *bibliog Chem & Ind p 1625-6 D 14 '57*

Role of neighboring groups in replacement reactions; the acetoxy group; preparation and reactions of the ketene acetal of *cis*-1,2-cyclohexanediol (2-methylene-*cis*-4,6-tetramethylenedioxolane). R. M. Roberts and others. *bibliog Am Chem Soc J* 80:1247-54 Mr 5 '58

CYCLOHEXANO

Conformational analysis; epimerization equilibria of alkylcyclohexanols. E. L. Eliel and R. S. Ro. *bibliog Am Chem Soc J* 79:5992-4 N 20 '57

Conformational analysis; esterification rates of cyclohexanols. E. L. Eliel and C. A. Lukach. *bibliog Am Chem Soc J* 79:5986-92 N 20 '57

Estimate of the conformational equilibrium in cyclohexanol from infrared spectra. R. A. Pickering and C. C. Price. *bibliog Am Chem Soc J* 80:4931-3 S 20 '58

CYCLOHEXANONE

Chemical reductions of substituted cyclohexanones. K. D. Hardy and R. J. Wicker. *Am Chem Soc J* 80:640-2 F 5 '58

Intramolecular rearrangement of 4-benzoyloxycyclohexanone. R. L. Clarke and W. T. Hunter. *Am Chem Soc J* 80:5304-6 O 5 '58

CYCLOHEXANONE—Continued

Steric effects on the nuclear magnetic resonance spectra of some cyclohexanone, indanone and camphor compounds, W. D. Kummer and others, *bibliog Am Chem Soc J* 80:2533-6 My 20 '58

CYCLOHEXENE

Addition of hydrogen bromide to 1-halocyclohexene and the rearrangement of dihalocyclohexanes in the presence of ferric chloride, H. L. Goering and L. L. Sims, *bibliog Am Chem Soc J* 79:6270-4 D 5 '57

Acidic acid by ozonolysis of cyclohexene, P. S. Bailey, *bibliog Ind & Eng Chem* 50:393-6 J1 '58

Chemical properties of the reaction product of cyclohexene with phosphorus and oxygen, C. Walling and others, *Am Chem Soc J* 80:4546-9 S 5 '58

Configurations of the 3-methoxycyclohexene oxides; a novel application of proton magnetic resonance spectroscopy to the determination of structure and configuration, R. U. Lemieux and others, *bibliog Am Chem Soc J* 80:2237-42 My 5 '58

3-Cyclohexene-1-glycine, an isoleucine antagonist, J. Edelson and others, *Am Chem Soc J* 80:2698-700 Je 5 '58

Epoxidation of 1-acetoxycyclohexene and the rearrangement of 1-acetoxy-1,2-epoxycyclohexane, H. J. Shine and G. E. Hunt, *bibliog Am Chem Soc J* 80:2434-5 My 20 '58

Mineral acid-catalyzed reaction of cyclohexene with formaldehyde, A. T. Blomquist and J. Wolinsky, *bibliog diags Am Chem Soc J* 79:6025-30 N 20 '57

Oxidation of hydrocarbons; the oxidation of cyclohexene in acetic and propionic anhydride solutions, H. J. Shine and R. H. Snyder, *Am Chem Soc J* 80:3064-6 Je 20 '58

Thermocouple method of studying oxidation reactions; photosensitized oxidation of cyclohexene, J. C. Robb and M. Shahn, *bibliog diags Inst Pet J* 44:283-90 S '58

CYCLOHEXENE oxide

Derivatives of cyclohexene oxide as plasticizers and stabilizers for vinyl chloride resins, R. Van Cleve and D. H. Mullins, *bibliog Ind & Eng Chem* 50:873-6 Je '58

Rearrangement of cyclohexene oxides with magnesium bromide etherate, S. M. Naqvi and others, *bibliog Am Chem Soc J* 79:6283-6 D 5 '57

CYCLOHEXYL

Conformational analysis; bimolecular displacement rates of cyclohexyl *p*-toluenesulfonates and the conformational equilibrium constant of the *p*-toluenesulfonate group, E. L. Eliel and R. S. Ro, *bibliog Am Chem Soc J* 79:5995-6000 N 20 '57

Separation of mixtures of biphenyl, cyclohexylbenzene, and bicyclohexyl by vapour-phase chromatography, W. J. Hendriks and others, *Inst Pet J* 43:288-91 O '57

CYCLOHEXYLAMINE

Quantitative determination of cyclohexylamine in rayon spin baths, M. Matell, *Textile Res J* 27:993 D '57

Reductions with ruthenium catalysts; preparation of some cyclohexylalkylamines, M. Freifelder and G. R. Stone, *bibliog Am Chem Soc J* 80:5270-2 O 5 '58

Thermal behavior of *dl*-*trans*- and *dl*-*cis*-2-iodo-N,N-dimethylcyclohexylamines, T. Taguchi and M. Ito, *bibliog Am Chem Soc J* 80:4075-9 Ag 5 '58

CYCLOHEXYLBENZENE. See Phenyl cyclohexane**CYCLOHEXYL bromide**

Conformational equilibrium in cyclohexyl bromide, E. L. Eliel and R. G. Haber, *bibliog Chem & Ind* p264-5 Mr 1 '58

CYCLOHEXYL compounds

Preparation of cyclohexyltriphenylsilane, H. Gilman and D. H. Miles, *bibliog Am Chem Soc J* 80:611-13 F 5 '58

CYCLONE classifiers. See Classifiers**CYCLONE furnaces**. See Furnaces, Boiler**CYCLONE separators**. See Separators**CYCLONES**. See Separators**CYCLOOCTATETRAENE**

Structure of the A_8 (cyclooctatetraene) complex, F. S. Mathews and W. N. Lipscomb, *Am Chem Soc J* 80:4745-6 S 5 '58

CYCLOOCTENE

Molecular geometry of *trans*-cyclooctene, N. L. Allinger, *bibliog Am Chem Soc J* 80:1953-5 Ap 20 '58

Proximity effects; reaction of *cis*- and *trans*-cyclooctene oxide with bases, A. C. Cope and others, *bibliog diags Am Chem Soc J* 80:2849-52 Je 5 '58

Proximity effects; the reaction of phenylmagnesium bromide with methyl cyclooctene-1-carboxylate, A. C. Cope and M. Brown, *bibliog Am Chem Soc J* 80:2859-64 Je 5 '58

CYCLOOLEFINS

Bridged polycyclic compounds; addition of *p*-toluenesulfonyl chloride to norbornene, norbornadiene, aldrin and 9,10-dihydro-9,10-ethenoanthracene, S. J. Cristol and others, *bibliog Am Chem Soc J* 79:6035-9 N 20 '57

Cyclic dienes; Diels-Alder adducts and cyclodecane derivatives from 1,2-dimethylcyclohexene, W. J. Bailey and H. R. Golden, *bibliog Am Chem Soc J* 79:6518-19 D 20 '57

Cyclic dienes; substituted 1,2-dimethylene-4-cyclohexenes, W. J. Bailey and others, *bibliog Am Chem Soc J* 80:4358-60 Ag 20 '58

CYCLOPARAFFINS

New ring enlargement; reaction of nitrocycloalkanes with lithium aluminum hydride, G. E. Lee and others, *bibliog Chem & Ind* p417-18 Ap 5 '58

Polycycloparaffin hydrocarbons in petroleum, B. J. Mair and others, *bibliog Ind & Eng Chem* 56:115-16 Ja '58

Separation of 132° to 138°C. fraction of petroleum; bicycloparaffins in gasoline fraction of petroleum, B. J. Mair and others, *bibliog diags Anal Chem* 30:393-400 Mr '58

CYCLOPENTADIENE

Bis(cyclopentadienyl)zirconium dichloride; crystallographic data, H. B. Bradley and L. G. Dowell, *II Anal Chem* 30:548 Ap '58

Cyclopentadienyl-aromatic sandwich complexes of manganese and iron, T. H. Coffield and others, *bibliog Am Chem Soc J* 79:5826 N 5 '57

Cyclopentadienyl phenium tricarboxyl, R. L. Pruett and E. L. Morehouse, *Chem & Ind* p980 Ag 2 '58

Cyclopentadienyltitanium trichloride, R. D. Gorsich, *Am Chem Soc J* 80:4744 S 5 '58

Stereochemistry of the itaconic acid-cyclopentadiene adduct, B. E. Tate and A. Bawley, *bibliog Am Chem Soc J* 79:6519-21 D 20 '57

Structure and bonding of cyclopentadienylthallium and bis-cyclopentadienylmagnesium, F. A. Cotton and L. T. Reynolds, *bibliog diags Am Chem Soc J* 80:2697-73 Ja 20 '58

CYCLOPENTANE

Entropy of the compound formed between cyclopentane and 2,2-dimethylbutane at 0°K, R. N. Selby and J. G. Aston, *bibliog Am Chem Soc J* 80:5070-5 O 5 '58

Kinetic isotope effects in the acetolyses of deuterated cyclopentyl tosylates, A. Streilwieser, Jr. and others, *bibliog diags Am Chem Soc J* 80:2326-32 My 5 '58

CYCLOPENTANEDIOL

Effect of methyl substitution on the periodate oxidation of *cis*- and *trans*-cyclopentane-1,2, V. C. Bulgrin and G. Dahlgren, Jr., *bibliog Am Chem Soc J* 80:3383-7 Ag 5 '58

CYCLOPENTENE

Potential anticancer agents; model experiments for synthesis of 2-deoxynucleosides by the 2,3-pyridine approach, L. Goodman and others, *bibliog Am Chem Soc J* 80:1880-6 Ap 5 '58

CYCLOPENTENONE

Some cyclopentenones and supposed cyclopentenones, P. Yates and others, *bibliog Am Chem Soc J* 80:202-5 Ja 5 '58

CYCLOPROPANE

Conjugative effects in cyclopropane systems, E. N. Trachtenberg and G. Odian, *bibliog Chem & Ind* p490 Ap 26 '58

Conjugative transmission in cyclopropane systems, E. N. Trachtenberg and G. Odian, *bibliog Am Chem Soc J* 80:4018-22 Ag 5 '58

New synthesis of cyclopropanes from olefins, H. E. Simmons and R. D. Smith, *bibliog Am Chem Soc J* 80:523-4 O 5 '58

Reaction of methylene, ethylene, propene, cyclopropane and *n*-butane, H. M. Frey and G. B. Kistiakowsky, *bibliog Am Chem Soc J* 79:6373-9 D 20 '57

Reactions of 1,1-dihalocyclopropanes with electrophilic reagents; synthetic route for inserting a carbon atom between the atoms of a double bond, P. S. Skell and S. R. Sandler, *Am Chem Soc J* 80:2024-5 Ap 20 '58

Synthesis of cyclopropane, 1936, *Ind & Eng Chem* 50:sup30A Ap '58

CYCLOPROPANE—Continued

Wittig reaction with fluorenone; formation of cyclopropane derivatives. R. Mechoulam and F. Sondheimer. *Am Chem Soc J* 80: 4366-8 *Ag* 20 '58

CYCLOPROPENE

Detection of a cyclopropenyl anion by deuterium exchange. R. Breslow and M. Battiste. *Chem & Ind p* 1143-4 *Ag* 30 '58

CYCLOPROPYL compounds**Spectra**

New cyclopropyl correlation in the near-infrared region. W. H. Washburn and M. J. Mahoney. *Am Chem Soc J* 80:504-5 *Ja* 20 '58

CYCLOTHERMS. See Geology, Stratigraphic**CYCLOTRIMETHYLENE trinitramine**

Microscopic studies of the system RDX-TNT. W. O. Williamson. *diags J Ap Chem* 8:646-51 *O* '58

CYCLOTRON

CERN 600 mev synchro-cyclotron. *il plan Engineer* 204:538-40 *O* 11 '57

Coaxial transmission lines; effect of elliptical inner conductor on high-frequency characteristics. S. Mahapatra. *bibliog diag Electron & Radio Eng* 35:83-7 *F* '58

Continuous energy monitor for the external beam of a cyclotron. J. A. Northrop and R. H. Stokes. *diags R Sci Instr* 29:287-30 *Ap* '58

Design of regenerative extractors for synchrocyclotrons; small-amplitude extraction. W. P. Stubbins. *bibliog R Sci Instr* 29:722-5 *Ag* '58

Midget cyclotron wins big prize; 1958 Westinghouse science talent search. *il Chem & Eng N* 36:32 *Mr* 17 '58

Observation of the deflected ion beam trajectory from a cyclotron. K. Kimura and others. *il diag R Sci Instr* 29:142-3 *F* '58

Operation of a radial sector fixed-frequency proton cyclotron. F. A. Heyn and K. K. Tat. *il R Sci Instr* 29:662 *J* '58

Pulsed cyclotron method for 2-25 mev neutron spectroscopy. J. E. Draper. *bibliog diags R Sci Instr* 29:137-42 *F* '58

See also
Synchrotron

CYCLOVERSION process. See Gasoline—Manufacture

CYLINDERS

Analysis of a transpiration-cooled hemisphere-cylinder. C. J. Scott. *J Aeronautical Sci* 25:397 *Je* '58

Axially symmetric motions of thick cylindrical shells. I. Mirsky and G. Herrmann. *bibliog J Ap Mech* 25:97-102 *Mr* '58

Bending stability of thin-walled unstiffened circular cylinders including the effects of internal pressure. H. S. Suer and others. *bibliog il diag J Aeronautical Sci* 25:281-7 *My* '58

Calculation of supersonic flow past an axially symmetric cylinder. M. W. Evans and F. H. Harlow. *diag J Aeronautical Sci* 25: 269-70 *Ap* '58

Carrying capacity of an elastic-plastic cylindrical shell with linear strain-hardening. P. G. Hodge, Jr. and S. V. Nardo. *bibliog diags J Ap Mech* 25:79-85 *Mr* '58

Compensated moving cylinder viscometer. G. M. Sreekantiah and C. A. Verghese. *diag J Sci Instr* 35:160-1 *My* '58

Criterion for flow of a Bingham plastic between two cylinders loaded by torque and pressure gradient. P. R. Paslay and A. Silbar. *diags J Ap Mech* 25:284-5 *Je* '58

Critical strain approach to creep buckling of plates and shells. G. Gerard and A. C. Gilbert. *bibliog il J Aero/Space Sci* 25:429-34+ *J* '58

Curves find bending and torsion strength of thin-walled cylinders; reference book sheet. I. Kusmiss. *diags Product Eng* 29:85+ *J* 21 '58

Curves find compression strength of thin-walled cylinders; reference book sheet. I. Kusmiss. *diag Product Eng* 29:77+ *J* 7 '58

Design chart for maximum tangential stress in thick-walled cylinders. T. Ranov. *Product Eng* 28:F 18-19 *Mid-O* '57

Differential equations for cylindrical shells with arbitrary temperature distribution. P. P. Bijlaard. *J Aero/Space Sci* 25:594-5 *S* '58

Dispersion curves for longitudinal and flexural waves in solid circular cylinders. E. A. Flinn. *J Ap Phys* 29:1261-2 *Ag* '58

Effect of air pressure on vortex-shedding frequency of cylinders. R. F. Rimoldi and others. *J Aero/Space Sci* 25:532 *Ag* '58

Effect of an internal compressible fluid column on the breathing vibrations of a thin pressurized cylindrical shell. J. G. Berry and L. Reissner. *J Aeronautical Sci* 25:288-94 *My* '58

Effect of curvature on the Hertz theory for two circular cylinders in contact. T. T. Loo. *bibliog diags J Ap Mech* 25:122-4 *Mr* '58

Effect of external sound on the vortex shedding from cylinders. D. I. Garber. *diag J Aeronautical Sci* 25:275-6 *Ap* '58

Forces on cylinders and plates in an oscillating fluid. G. H. Keulegan and L. H. Carpenter. *bibliog il diags J Res Nat Bur Stand* 60:423-40 *My* '58

General instability of ring-stiffened cylindrical shells subject to external hydrostatic pressure; a comparison of theory and experiment. G. D. Galletly and others. *bibliog il diags J Ap Mech* 25:259-66 *Je* '58

Heat-transfer characteristics of the rotational and axial flow between concentric cylinders. C. Gazley, Jr. *bibliog diags A S M E Trans* 80:79-90 *Ja* '58

Heat transfer from a rotating cylinder with and without crossflow. W. M. Kays and I. S. Bjorklund. *bibliog il diags A S M E Trans* 80:70-7; Discussion. A. Carmi. 77-8 *Ja* '58

Heat transfer to fluids with low Prandtl numbers for flow across plates and cylinders of various cross section. R. J. Grosh and R. D. Cess. *bibliog diags A S M E Trans* 80:667-76 *Ap* '58

How to calculate stress in short cylindrical shells; reference book sheet. E. Berko. *diags Product Eng* 29:81+ *F* 3 '58

Influence of strain hardening on the dilation of cylinders under internal pressure. L. Voce. *Engineering* 185:756-9 *Je* 13 '58

Laminar film condensation of pure saturated vapors on inclined circular cylinders. K. E. Hassan and M. Jakob. *bibliog diags A S M E Trans* 80:387-94 *My* '58

Laminar free-convective heat transfer from the outer surface of a vertical cylindrical cylinder. K. Millsaps and K. Pohlhausen. *diag J Aeronautical Sci* 25:357-60 *Je* '58

Lathes trim finishing costs; rotogravure cylinders for the printing industry. J. Schaefer. *il Steel* 142:86-7 *My* 12 '58

Measurement of turbulent heat transfer rates on the aft portion and blunt base of a hemisphere cylinder in the shock tube. J. Rabinowicz. *bibliog il diags J Propulsion* 28:615-20 *S* '58

Overstrain and bursting strength of thick-walled cylinders. S. M. Jorgensen. *bibliog A S M E Trans* 80:561-7 *Ap* '58; Same. *Pet Refiner* 37:163 *F* '58; Discussion. *A S M E Trans* 80:568-70 *Ap* '58

Radial deflection of a cylinder of finite length with various end conditions. L. Ting and S. W. Yuan. *bibliog diags J Aeronautical Sci* 25:230-4 *Ap* '58

Radiation from slots on dielectric-clad and corrugated cylinders. J. R. Wait and A. M. Conda. *diags J Res Nat Bur Stand* 59:307-16 *N* '57

Reflection of an acoustic step wave from an elastic cylinder. R. Skalak and M. B. Friedman. *bibliog diags J Ap Mech* 25:103-8 *Mr* '58

Scattering of electromagnetic waves by long cylinders. A. W. Adey. *bibliog diags Electron & Radio Eng* 35:149-58 *Ap* '58

Simple method of matrix structural analysis; analysis of flexible frames and stiffened cylindrical shells. B. Klein. *diags J Aeronautical Sci* 25:385-94 *Je* '58

Strength of cylinders. W. R. D. Manning. *bibliog (26 ref) diags Ind & Eng Chem* 49: 1969-78 *D* '57

Stress concentration in heavy-walled cylindrical pressure vessels. J. H. Faupel and D. B. Harris. *bibliog diags Ind & Eng Chem* 49:1979-86 *D* '57

Stress distribution in rotating disks and cylinders under elevated-temperature creep conditions. A. M. Wahl. *diags J Ap Mech* 25: 243-50 *Je* '58

Stress measurement in circular cylinders. P. M. Sutton. *bibliog diag Am Cer Soc J* 41: 103-9 *Mr* 1 '58

Supersonic flutter of a cylindrical shell. J. W. Miles. *J Aeronautical Sci* 25:312-16 *My* '58

Torsion of cylindrical and prismatic bars in the presence of steady creep. S. A. Patel and others. *bibliog diags J Ap Mech* 25:214-18 *Je* '58

CYLINDERS—Continued

- Vibrations of conical shells. G. Herrmann and I. Mirsky. *bibliog* *diags* *J Aero/Space Sci* 25:451-8 *Jl* '58
- Warming-up stresses in thick hollow cylinders. M. J. Hillier. *Engineering* 185:343 *Mr* 14 '58
- Wind induced vibration of cylindrical structures. J. Penzien. *bibliog* *il Am Soc C E Proc* 83 [EM 1 no 1141]:1-17 *Ja* '57; Discussion. 83 [EM 3 no 1311]:9-10 *Jl*; [EM 4 no 1415]:5 *O* '57; Reply. 84 [EM 2 no 1619]:3-4 *Ap* '58
- CYLINDERS (engines, etc.)**
- Basic cylinder units. *il Engineering* 185:324 *Mr* 14 '58
- Basic pneumatics for automation; controlling one double-acting cylinder. H. L. Stewart and J. M. Moritz. *diags* *Automation* 5:78-81 *Mr* '58
- Cylinder speed and shock. E. F. Heiser. *diags* *Ap Hydraulics* 11:78 *Jl* '58
- Effect of variation in cylinder length on the exhaust port timing of a two-stroke cycle engine. R. S. Benson. *Roy Aeronautical Soc J* 62:382-4 *My* '58
- Fixed piston and moving cylinder in a hydraulic servo-system. *il diag* *Machine Design* 30:114 *Ja* 23 '58

Lining

- Cromard liners. *il Automobile Eng* 48:305 *Ag* '58
- Plastic steel repairs liner's water side; Public power station. Bahamas electricity corp. *il Diesel Power* 36:26 *O* '58
- Prepare liners, then install rings. *il Diesel Power* 36:41-2 *Ap* '58
- Servicing liners in aluminum GM blocks. *diags* *Diesel Power* 36:39 *O* '58
- Tall hone prepares liner surfaces for quick break-in. *il Diesel Power* 35:47 *D* '57

Maintenance and repair

- Tips on welding cracked cylinder blocks. *Welding Eng* 43:58 *F* '58

Manufacture

- Handling units speed foundry cycle; Pontiac motor div. *il plan* *Iron Age* 180:134-5 *D* 5 '57
- New transfer machine lines for cylinder heads and blocks at Cadillac. J. Geschelin. *il Automotive Ind* 117:68-72+ *D* 15 '57
- Pontiac's automatic foundry; cylinder block production. *flow diag* *il Automotive Ind* 117:56-8 *D* 1 '57

Wear

- Battelle uses plastic to check engine wear. *il Ind Lab* 9:67 *Jl* '58
- New oil reduces cylinder-liner wear. C. E. Habermann. *il Marine Eng/Log* 63:63-4+ *Jl* '58
- Replicas for light microscopy document surface studies. *il Machine Design* 30:14 *My* 15 '58

CYMENE

- Separation of xylenes, cymenes, methylnaphthalenes and other isomers by clathration with inorganic complexes. W. D. Schaeffer and others. *Am Chem Soc J* 79:5870-6 *N* 20 '57

CYPAK control. See Electric control**CYSTEINE**

- α -Methylcysteine and *S*-2-chloroethylcysteine. T. A. Connors and W. C. J. Ross. *bibliog* *Chem & Ind* p366 *Mr* 22 '58
- Raman spectra of amino acids and related compounds; the ionization of cysteine. D. Garfinkel and J. T. Edsall. *bibliog* *Am Chem Soc J* 80:3823-6 *Ag* 5 '58

Analysis

- Determination of cysteine with ferricyanide by amperometric titration with two polarized electrodes. H. G. Waddill and G. Gorin. *bibliog* *diag* *Anal Chem* 30:1069-71 *Je* '58

CYSTIC fibrosis. See Pancreas—Diseases**CYSTINE**

- Crystalline structure of L-cystine hydrochloride. L. K. Steinrauf and others. *bibliog* *diags* *Am Chem Soc J* 80:3835-8 *Ag* 5 '58
- Cystine, tyrosine, and essential amino acid content of selected foods of plant and animal origin. C. H. Edwards and C. H. Allen. *bibliog* *J Agric & Food Chem* 6:219-23 *Mr* '58
- Microscopic studies on the structure and composition of keratin fibers. J. Menkart and A. B. Coe. *bibliog* (31 ref) *il pl* *Textile Res J* 28:218-26 *Mr* '58

- Nitrogen balances of women maintained on various levels of methionine and cystine. M. S. Reynolds and others. *bibliog* *J Nutrition* 64:99-111 *Ja* '58
- Reaction of the cystine of wool with formaldehyde. S. Blackburn. *bibliog* *Soc Dyers & Col J* 73:506-7 *N* '57

CYTIDINE

- Requirement of cytidine triphosphate for the biosynthesis of phosphopantetheine. G. M. Brown. *Am Chem Soc J* 80:3161 *Je* 20 '58
- Synthesis of cytidine-2- C^{14} -ribosyl- β . J. F. Codington and others. *bibliog* *Am Chem Soc J* 80:5164-6 *O* 5 '58

CYTIDYLIC acid

- Formation of a helical complex between polyinosinic acid and polycytidylic acid. D. P. Davies and A. Rich. *Am Chem Soc J* 80:1003-4 *F* 20 '58

CYTOCHROMES

- Binding of sodium deoxycholate by cytochrome c. G. R. Rowley and W. W. Wainio. *bibliog* *Am Chem Soc J* 80:4384-6 *Ag* 20 '58
- Chemical studies on a pig heart muscle lipid which stimulates the enzymatic reduction of cytochrome-c. G. V. Marinetti and others. *bibliog* *Am Chem Soc J* 80:402-4 *Ja* 20 '58
- Incorporation of valine- $1-C^{14}$ into cytochrome c by rat liver mitochondria. H. M. Bates and others. *bibliog* *Am Chem Soc J* 80:1000 *F* 20 '58

CZECHOSLOVAKIA

- See also subdivision Czechoslovakia under special subjects, e.g.
Hydroelectric plants
Machine tool industry
Plastics industries

D**D process. See Foundry practice—Shell molding****DDT**

- Fluorination of DDT with hydrogen fluoride and mercuric oxide. S. Cohen and others. *bibliog* *Am Chem Soc J* 79:5979-81 *N* 20 '57
- India nears independence. *il Chem & Eng N* 36:86-8 *Ap* 7 '58
- Insecticide resistance. A. W. A. Brown. *Pub Works* 39:206+ *Ap* '58

Physiological effect

- Gypsy moth case; court refuses to enjoin mass spraying of DDT, calls spraying a proper use of police power. *J Agri & Food Chem* 6:496-8 *Jl* '58

DEW line. See Radar—Military use**DNA. See Desoxyribonucleic acid****DACRON**

- Arnel-Dacron wash and wear fabrics. H. F. Elsom and T. W. Westarp. *Mod Textiles Mag* 39:404+ *O* '58
- How to dye Dacron Taslan cloth; procedures for finishing of lightweight fabrics. *Mod Textiles Mag* 39:44+ *F* '58
- Some mechanical properties of Mylar and Dacron polyester strands at low temperatures. R. F. Reed and R. P. Mikesell. *diags* *R Sci Instr* 29:734-6 *Ar* '58
- See also
Dyes and dyeing—Dacron

Cotton mixtures

- How Rhyne-Houser cards and spins Dacron-cotton blends. *il Textile World* 107:116-13 *D* '57

Rayon mixtures

- Wear study of the serviceability of a minimum care garment. M. A. Morris and R. Wilsey. *bibliog* *Textile Res J* 28:831-91 *O* '58

DAHLITE. See Apatite**DAIRIES**

- See also
Dairy waste

Cleaning

- How management and supplier control clean-up costs. *il* Roberts dairy co. C. B. Deffenbaugh. *il Food Eng* 30:94-5+ *Jl* '58

Electric equipment

- Electric heat ends hot water shortage; Penn dairies, inc. D. Groome. *Elec World* 149:75 *Ju* 2 '58

DAIRIES—Continued

Equipment

Growing use for oil-free air; milk displacement. *Comp Air Mag* 63:26-7 Ja '58
National Dairy's Suplee plant called most modern. *il Food Eng* 30:40-2 Ag '58

DAIRY waste

Oxidation of radioactive glucose by aerated sludge. N. Porges and others. *bibliog Sewage & Ind Wastes* 30:776-82 Je '58
Practical application of laboratory data to dairy waste treatment. N. Porges. *bibliog Food Tech* 12:78-80 F '58
Trickling filters successfully treat milk wastes. P. E. Morgan and E. R. Baumann. *il diags Am Soc C E Proc* 83 [ISM 4 no 14361:1-35 Ag '57; Discussion. L. E. Chase. 84 [ISA 1 no 15571:23-4 F '58

Bibliography

Review of the literature of 1957 on sewage, waste treatment, and water pollution; dairy wastes. *Sewage & Ind Wastes* 30:719-23 Je '58

DALHOUSIE university

Department of engineering. H. R. Theakston. *Eng J* 41:94 My '58

DALLAS

Water supply

Multiple regression analysis of maximum-day water consumption. D. A. Brock. *Am Water Works Assn J* 50:1391-4 O '58
Planning pays dividends, if followed by action; Dallas city water works. H. J. Graesser. *il maps Water & Sewage Works* 105:127-35 Ap '58
Water scheme assures city's growth. map plan *diag Eng N* 160:33-4+ Ap 17 '58

DAMAGES

Blast damage claims going up? here's what you can do to cut them down to size. S. Hammon. *il Rock Prod* 61:94-5+ Mr '58
How to handle blast-damage problems. S. Hammon. *il Coal Age* 62:76-8 D '57

See also

Employers liability

DAMPING of vibration. See Vibration

DAMPNESS in buildings

Influence of insulation on moisture-condensation aspects of a steel-framed cold-storage warehouse structure. C. F. Kavan and R. G. Gates. *diags Refrig Eng* 66:89-44 Ja '58
Vapor problems in thermal insulation. N. B. Hutcheon. *Heating-Piping* 30:150-2 Ag '58
What to watch for when insulating air conditioning systems. C. F. Gilbo. *il Heating-Piping* 30:110-14 Ag '58; Discussion. J. H. Shaw. 30:102-3 S '58

DAMS

Arizona asks licenses for Grand Canyon dams. *Eng N* 161:29 Ji 10 '58
Army starts closure of Oahe dam on Missouri. *Civil Eng* 28:624 Ag '58
Ball Mountain dam to provide flood relief for Connecticut River valley. R. W. Sapora. *il Comp Air Mag* 63:16-18 Mr '58
Basic step towards full utilization of the river Nile; high Aswan dam. M. A. Selim. *il map plan diag Civil Eng* 28:591-6 Ag '58
Casitas dam gives this classifying system a workout; classifying gravel. W. B. Lenhart. *il Rock Prod* 61:128-30+ Mr '58
Compacting earth dams with heavy tamping rollers. W. H. H. *il diags Am Soc C E Proc* 83 [SM 2 no 12951:1-28 bibliog(27-8) Ap '57; Discussion. 83 [SM 4 no 14301:27-32 N '57; Reply. 84 [SM 2 no 15571:11-13 My '58
Computer checks closure at Oahe dam. map *Eng N* 160:73-9 Ja '58
Construction begins on Trinity dam 537 ft high. C. J. Hoffman and W. E. Collins. *il maps Civil Eng* 27:866-9 D '57
Dam licenses rejected on Snake river. map *Eng N* 160:24-5 Ja 30 '58
Dams: illustrations with text. *Engineer* 205:pl 11 Ja 3 '58
Dams, their effect on some ancient civilizations. G. A. Hathaway. *bibliog il map Civil Eng* 28:26-31 Ja '58
Earthquake resistance of rock-fill dams. R. W. Clough and D. Pirtz. *bibliog il plan diags Am Soc C E Proc* 82 [SM 2 no 9411:1-26 Ap '56; Discussion. 82 [SM 4 no 10951:47-50 O '56; Reply. 84 [SM 2 no 15571:3-5 My '58
Factors in selection of Pieve di Cadore and Pedala dams. C. Semenza. *plans diags Am Soc C E Proc* 83 [PO 6 no 14631:1-15 D '57

Garrison Dam-tunnel test section investigation; symposium. *il plans diags Am Soc C E Proc* 83 [SM 4 no 14381:1-50; 14391-1-491 N '57; Discussion. A. A. Eremin. 84 [SM 2 no 15571:43-4 My '58
Hydraulic design of stilling basins; high dams, earth dams, and large canal structures (basin 11). J. N. Bradley and A. J. Peterka. *diags Am Soc C E Proc* 83 [HY 5 no 14021:1-14 O '57; Discussion. R. Thomas. 84 [HY 2 no 16161:31-2 Ap '58; Reply. 84 [HY 5 no 18321:65-6 O '58
Hydro-Quebec finishes first and pushes second Bersimis River job. *il maps Eng N* 159:28-30+ D 19 '57
Iraq's Operation bootstrap; big dams instead of hanging gardens. W. G. Bowman. *il map plan Eng N* 159:32-4+ D 26 '57
Japan structures finished after decades of building. *Eng N* 160:58 Ap 3 '58
Kariba dam on time? *il Engineering* 185:625 My 16 '58
Lock of 100-ft lift built into Wilson dam. H. T. Lofft and C. W. Bell, jr. *il map diags Civil Eng* 28:496-501, cover Ji '58
Longest dam in the world; Hirakud project in Orissa state, India. *il diag Engineering* 185:413-14 My 23 '58
Maithon dam in India's TVA is completed. *il Eng N* 160:126+ Mr 20 '58
Men and machines beat a river: Oahe dam and the Missouri river. J. R. Carr. *il Eng N* 161:21-3, cover Ag 14 '58
Montgomery dam; rock fill with asphaltic concrete deck. F. W. Scheidehelm and others. *il map diags Am Soc C E Proc* 84 [PO 1 no 15561:1-30 F '58
North of Scotland hydro-electric schemes; Eridandale scheme. *il diags Engineer* 206:84-9 Ji 13 '58
Pakistan starts huge earth dam. *il Eng N* 161:55 Ji 24 '58
Rockfill dams; Brownlee sloping core dam. T. Mundal. *il maps plan diags Am Soc C E Proc* 84 [PO 4 no 17341:1-26 Ag '58
Rockfill dams; Cherry Valley central core dam. H. E. Lloyd and others. *plan diag Am Soc C E Proc* 84 [PO 4 no 17381:1-24 Ag '58
Rockfill dams; Cogswell and San Gabriel dams. P. Baumann. *il map plans diags Am Soc C E Proc* 84 [PO 3 no 16871:1-35 Je '58
Rockfill dams go higher; symposium. *il Eng N* 161:22-3 Ji 3 '58
Rockfill dams; Kajakal central core dam. Afghanistan. G. F. Sudman. *il map plan diags Am Soc C E Proc* 84 [PO 4 no 17351:1-22 Ag '58
Rockfill dams; Kenney and Cheakamus dams. W. G. Huber. *plans diags Am Soc C E Proc* 84 [PO 3 no 16711:1-13 Je '58
Rockfill dams; Nantahala sloping core dam. J. P. Growdon. *il plans diags Am Soc C E Proc* 84 [PO 4 no 17421:1-21 Ag '58
Rockfill dams; performance and maintenance of Dix River dam. L. A. Schmidt. *il map plans diags Am Soc C E Proc* 84 [PO 3 no 16831:1-29 Je '58
Rockfill dams; performance of Mud Mountain dam. A. S. Cary. *Am Soc C E Proc* 84 [PO 4 no 17451:1-3 Ag '58
Rockfill dams; performance of seven sloping core dams. J. P. Growdon. *il diags Am Soc C E Proc* 84 [PO 4 no 17441:1-20 Ag '58
Rockfill dams; performance of TVA central core dams. G. K. Leonard and O. H. Raine. *il map plan diags Am Soc C E Proc* 84 [PO 4 no 17361:1-16 Ag '58
Rockfill dams; review and statistics. J. E. Sneath and others. *diags Am Soc C E Proc* 84 [PO 4 no 17391:1-26 Ag '58
Rockfill dams; Salt Springs and lower Bear River concrete face dams. L. C. Steele and J. B. Cooke. *il plan diags Am Soc C E Proc* 84 [PO 4 no 17371:1-43 bibliog(p41-3) Ag '58
Rockfill dams; the Bersimis sloping core dams. F. W. Patterson and D. H. MacDonald. *bibliog il maps diags Am Soc C E Proc* 84 [PO 4 no 17401:1-31 Ag '58
Rockfill dams; the Dalles closure dam. J. Pope. *il diags Am Soc C E Proc* 84 [PO 4 no 17381:1-17 Ag '58
Rockfill dams; the Derbendi Khan dam. C. V. Davis. *il map plan diags Am Soc C E Proc* 84 [PO 4 no 17411:1-23 Ag '58
Rockfill dams; the Paradelá concrete face dam. L. H. G. Fernandes and others. *il maps plans diags Am Soc C E Proc* 84 [PO 4 no 17471:1-28 Ag '58
Rockfill dams; the Paradelá dam-foundation treatment. W. J. Neveermann. *diags Am Soc C E Proc* 84 [PO 4 no 17481:1-9 Ag '58

DAMS—Continued

Rockfill dams; Wishon and Courtright concrete face dams. J. E. Cooke, bibliog. il plans diags Am Soc C E Proc 84 [PO 4 no 17461:1-33 Ag '58
670 foot arch dam proposed for Middle Snake river. Eng N 160:25 Ap 10 '58
Soil investigations for earth dam design and construction. W. G. Holtz. Pub Works 89: 118-19 My '58
South Saskatchewan River dam. Eng J 41: 106 S '58
World progress in dams. A. Coyne and others. il maps plan diags Eng N 161:31-4+ S 11 '58
World's highest earthfill dam is a 30 month job; Swift dam. il diag Eng N 160:32-4+ Ja 2 '58
See also
Dikes (engineering)
Hydroelectric plants
International congress on large dams
Irrigation
Reservoirs
Spillways
Weirs (dams)

Costs

Flaming Gorge dam and power plant, Utah; unit prices. Eng N 161:56-7 J1 31 '58
Flood control dam, Connecticut; unit prices. Eng N 161:66 J1 3 '58
Know-how on dumped rip rap wins contract; unit prices. Eng N 160:68+ Mr 20 '58
Lake Brandt dam raised, North Carolina; unit prices. Eng N 161:85 J1 17 '58

Design

Baroque tendencies in the evolution of the gravity dam. S. Leliavsky, diags Engineer 206:452-5, 490-3 S 19-26 '58
Better, bigger dams; French contribution. A. Coyne. il map plan diags Eng N 161: 32-4+ S 11 '58
Better, bigger dams; Italian contribution. C. Semenza. il map diags Eng N 161:46-50+ S 11 '58
Better, bigger dams; Swedish contribution. T. Nilsson. il map diags Eng N 161:60-4+ S 11 '58
Better, bigger dams; Swiss contribution. H. Gicot. il maps diags Eng N 161:70-2+ S 11 '58
Better, bigger dams; United States contribution. C. V. Davis. il diags Eng N 161:82-4+ S 11 '58
Biggest hydro for New Zealand; Benmore project earth dam. il diag Eng N 159:55-6 N 21 '57
Design and performance of Vermilion dam, California. K. Terzaghi and T. M. Leps, maps plans diags Am Soc C E Proc 84 [ISM 3 no 1728]:1-30 Ag '58
Measuring the structural behaviour of Hungary Horse dam. J. T. Richardson. il plans diags Engineer 205:240-3 F 14 '58
Modern tendencies in arch dam design. S. Leliavsky, bibliog plans diags Engineer 204: 883-7, 888-92, 930-2 D 13-27 '57
Rockfill dams; dams with sloping earth cores. J. P. Growdon. il plan diags Am Soc C E Proc 84 [PO 4 no 1743]:1-21 Ag '58
Rockfill dams; design of Cougar central core dam. P. Thurber. il diags Am Soc C E Proc 84 [PO 4 no 1749]:1-12 Ag '58

Failure

Near Denver, a 60 ft earth dam sunk 11 ft. Eng N 160:23 Je 26 '58

Fish problem

Coexistence of fish and dams; Columbia River salmonoid fishery. H. A. Preston and L. E. Rydell. map Am Soc C E Proc 83 [PO 5 no 1414]:1-21 O '57; Discussion. M. H. Benson. 84 [PO 5 no 1830]:13-14 O '58
Fish bowl idea may revamp dam design. il Elec World 148:82 N 25 '57
Fish fights plague Idaho Power. Eng N 161:28 S 25 '58
Fish trap repair embroils Idaho Power. il Elec World 150:47-8 S 29 '58
Fish vs power; power man decries gold-plated fish facilities. G. Smothers. Eng N 160:26 F 20 '58
\$5 million gamble to build a better fish trap; Brownlee dam. il diags Eng N 161: 46-8 Ag 14 '58
Ladder climbing by salmon may end; experiment at McNary dam. il Eng N 160:54 Ja 2 '58
Novel fish facility proves its worth; Tracy pumping plant. il diag Eng N 160:48 Mr 27 '58

Foundations

Cement and clay grouting of foundations; symposium. bibliog il diags Am Soc C E Proc 84 [ISM 1 nos 1544-1552] F '58; Discussion. 84 [ISM 2 no 1657]:47-51 My; [ISM 4 no 1828]:23-38 O '58
Geologic investigations of dam sites by the Soil conservation service. G. M. Brune, bibliog plan diags Am Soc C E Proc 83 [SM 4 no 1429]:1-13 N '57; Discussion. J. A. Trantina. 84 [ISM 2 no 1657]:41-2 My '58; Reply. 84 [ISM 4 no 1828]:11-12 O '58
Predicting seepage under dams on multi-layered foundations. P. H. Shea and H. E. Whitsett. diag Am Soc C E Proc 84 [ISM 3 no 1727]:1-41 Ag '58
Rockfill dams; the Faradela dam-foundation treatment. W. J. Weyermann. diags Am Soc C E Proc 84 [PO 4 no 1748]:1-3 Ag '58
Seepage through foundations containing discontinuities. E. E. Esmiol, bibliog maps diags Am Soc C E Proc 83 [ISM 1 no 1143]:1-19 Ja '57; Discussion. 83 [ISM 3 no 1819]:9-12 J1 '57; Reply. 84 [ISM 1 no 1559]:3-4 F '58

Seepage

Asphaltic deck is dam's watertight layer; upstream face of Montgomery dam. il diag Eng N 159:36-8 D 5 '57
Predicting seepage under dams on multi-layered foundations. P. H. Shea and H. E. Whitsett. diag Am Soc C E Proc 84 [ISM 3 no 1727]:1-41 Ag '58
Seepage through foundations containing discontinuities. E. E. Esmiol, bibliog maps plans diags Am Soc C E Proc 83 [ISM 1 no 1143]:1-19 Ja '57; Discussion. 83 [ISM 3 no 1819]:9-12 J1 '57; Reply. 84 [ISM 1 no 1559]:3-4 F '58

Uplift pressure

Pore pressure in concrete dams. C. H. Zee, bibliog diags Am Soc C E Proc 84 [PO 2 no 1597]:1-11 Ap '58

DAMS, Concrete

Baroque tendencies in the evolution of the gravity dam. S. Leliavsky, diags Engineer 206:452-5, 490-3 S 19-26 '58
Bhakra dam will start storing water. Civil Eng 28:526 Ag '58
Bucket drill pinpoints aggregates in deposit for Glen Canyon dam. J. M. Wells. il Rock Prod 61:86-8+ J1 '58
Bucket parade moves dam material; Wu-Sheh dam, Formosa. il Eng N 159:65 N 14 '57
Cableway towers travel on viaducts; India's Rihand dam. il Eng N 160:55 My 1 '58
Canal juggling keeps lock traffic moving; Wilson lock and dam project. G. K. Leonard and others. il diags Eng N 160:40-2+ Ap 10 '58
Concrete power dam goes under wraps for winter; Rapide Beaumont development. il map diags Eng N 160:42-4, cover Ja 23 '58
Construction of the Union River dam at Bremerton, Wash. C. C. Casad and J. W. Cunningham. il Am Water Works Assn J 50:105-9 Ja '58
Flaming Gorge goes for \$30 million; Upper Colorado River project. il map Eng N 160: 26-7 Je 19 '58
Iran starts a new river project as Karadj dam goes to contract. il diag Eng N 159:56 D 19 '57
Kurobe dam to be 630 ft. domed arch. diags Eng N 161:65 Ap 10 '58
Measuring the structural behaviour of Hungary Horse dam. J. T. Richardson. il plans diags Engineer 205:240-3 F 14 '58
Mighty construction plant faces unique rock problem; Glen Canyon dam. il plan Eng N 61:28-31 J1 31 '58
Modern tendencies in arch dam design. S. Leliavsky, bibliog plans diags Engineer 204:853-7, 888-92, 930-2 D 13-27 '57
More dams abuilding, more rock markets opening. W. B. Lenhart. il Rock Prod 61: 84-6+ Je '58
Moving rails, roads and wires above Noxon Rapids is another major part of dam construction. il Eng N 159:66+ D 5 '57
Native aggregates, natural pozzolan used in Priest Rapids Dam concrete. H. F. Uteley. il Pit & Quarry 50:156-8 Ja '58
New dam and tunnel project completes nine-phase system; New Haven water co. J. A. Novaro. il map Water Works Eng 111:840-1+, cover S '58
Noxon Rapids; power dam rises in Montana. il map Eng N 159:60-2+ D 5 '57
Pore pressure in concrete dams. C. H. Zee, bibliog diags Am Soc C E Proc 84 [PO 2 no 1597]:1-11 Ap '58

- DAMS, Concrete—Continued**
Table Rock dam is winding up on schedule. *il Illum N 159:22 N 21 '57*
TVA uses non-specification fly ash; Johnsonville steam plant and Wilson Dam lock. G. K. Leonard and P. A. Schwab. *il Civil Eng 28:188-92 Mr '58*
- Maintenance and repair**
40-year-old dam gets facial; Lake Creek dam in Troy, Mont. *il Eng N 161:44-6 Jl 24 '58*
Leaks in reservoir located by dye and stopped by pressure grouting. H. Burgess, plan diag Water Works Eng 111:132-3+ F '58
- DANCE halls**
Lighting
Lighting is first step in dance hall design. *il Illum Eng 53:410 Jl '58*
- DANDRUFF**
Further laboratory studies of potential anti-seborrheic agents. I. I. Lubowe. *il diag Am Perfum & Aromatics 71:43-5 Mr '58*
Seborrheic capitis treatment. Drug & Cosmetic Ind 83:228 Ag '58
- DANUBE river**
Power dams to the gentle Danube. *il map Eng N 160:73-4 Mr 6 '58*
- DARWIN, Charles**
Autobiography of Charles Darwin, 1809-1882, with original omissions restored. N. Barlow, ed. Review, by G. G. Simpson. *Sci Am 199:117-22 Ag '58*
- DATA-CONTROL systems, inc.**
Specialists start firm. *il Electronics 31:50 Ja 10 '58*
- DATA processing service centers**
Another first; share computer; electronic data processing center at the Westbury industrial park. R. M. Hallet, jr. and R. J. McKenny. *Electronics 31:46 Ja 10 '58*
Big computers solve packaged problems economically. C. J. Lynch. *Product Eng 29:28-9 Je 2 '58*
Seven consulting firms rent a computer, open business; Midwest service, inc. *Control Eng 5:48+ Je '58*
- Air conditioning**
Air conditioning an IBM electronic data processing center. J. C. Stanel and C. A. Riley. *il diags Air Cond Heat & Ven 55:63-5 Je '58*
- DATA transmission.** See Information storage and retrieval systems
- DAVID, Ernest Victor**
Obituary. *Welding J 37:383 Ap '58*
- DAVIDSON, Bruce**
B. Davidson; new eye on old subjects. P. Caulfield. *il Mod Phot 22:46-51+ Ag '58*
- DAVIES, Clarence E.**
Retires as ASME secretary. *por Mech Eng 80:36 Ja '58*
- DAVISSON, Clinton J.**
Obituary. *por Bell Lab Rec 36:113 Mr '58*
- DAYLIGHT**
Analogue and digital computer solutions of daylighting problems; abstract. P. F. O'Brien and J. A. Howard. *diags Illum Eng 53:477-8 S '58*
Architectural research; light and air. M. A. Nowak. *il Prog Arch 39:122-3 Jl '58*
Control of daylighting, with reflecting ja-lousies. T. Carson. *il diags Illum Eng 53:337-40 Je '58*
Daylight illumination and brightness with minute louvers. W. B. Ewing and R. L. Bieseke, jr. *il diags Illum Eng 53:331-6 Je '58*
Daylight plus electric light in schools. H. S. Gregory. *il Illum Eng 53:191-2 Ap '58*
I.E.S. guide for measuring and reporting daylight illumination. *bibliog diags Illum Eng 53:213-16 Ap '58*
Practical daylighting prediction. J. W. Griffith and others. *Illum Eng 53:185-90 Ap '58*
Studies on daylight availability. R. A. Boyd. *bibliog il Illum Eng 53:321-30 Je '58*
See also
Skylights
- DAYTON, Ohio**
See also
Electric plants (central stations)—Dayton, Ohio
- DAYTON rubber company**
Justice department consent decree ends Goodrich-Dayton sponge pact. *Rubber World 138:238 My '58*
- DEAD Sea scrolls**
Dead Sea scrolls indexed by computer. *il Elec Eng 77:561-2 Je '58*
- DEAERATION of water.** See Water—Deactivation and deaeration
- DEAERATORS.** See Water—Deactivation and deaeration
- DEAF**
Education
Group hearing-aid for schools. *il Engineer 206:354 S 5 '58*
- DEAF, Apparatus for**
Transmits touch to aid the deaf; Teletac. E. Lowell. *il Machine Design 29:12+ D 26 '57*
- DEAFNESS**
Is there a suitable industrial test of susceptibility to noise-induced hearing loss? A. Summerfield and others. *bibliog Noise Control 4:40-6+ Ja '58*
See also
Hearing
Noise
- DEALER helps**
Integrated decorating package. *il Paint Oil & Chem R 121:12-15 O 2 '58*
- DEALER relations**
Is the dealer the weak link? F. J. Schick. *Paint Oil & Chem R 121:10-14 My 29 '58*
See also
Electric utilities—Dealer relations
Gas companies—Dealer relations
- DEALKYLATION.** See Alkyl group
- DEAMINATION**
Deamination of 2-amino-3-phenylbutane-1-C¹⁴ with nitrous acid. W. A. Bonner and D. D. Tanner. *Am Chem Soc J 80:1447-51 Mr 20 '58*
Molecular rearrangements; the deamination of 1,1-diphenyl-2-amino-1-propanol. B. M. Benjamin and others. *bibliog Am Chem Soc J 79:6160-4 D 5 '57*
Molecular rearrangements; the *o*-tolylphenyl migration ratios in the pinacol rearrangement and in the deamination reaction. V. F. Raaen and C. J. Collins. *bibliog Am Chem Soc J 80:1409-15 Mr 20 '58*
- DEATH, Causes of.** See Mortality
- DEBENZYLATION.** See Benzyl group
- DEBURRING.** See Metal finishing
- DECABORANE.** See Boron hydrides
- DECALCOMANIA**
Coded lubrication system; decalcomanias for good control, minimum supervision. R. C. Garretson. *il Plant Eng 12:126-7 S '58*
Decalcomanias; their care and application. G. Conrad. *Ind Finishing 34:107-9 N '67*
- DECALIN**
Thermodynamic functions for gaseous *cis*- and *trans*-decalins from 295 to 1000°K. T. Miyazawa and K. S. Pitzer. *bibliog Am Chem Soc J 80:60-2 Ja 5 '58*
- DECALONE**
Optical rotatory dispersion studies; synthesis and conformation of optically active octalones and decalones. C. Djerassi and D. Marshall. *bibliog Am Chem Soc J 80:3986-35 Ag 5 '58*
- DECANTATION**
Graphical representation of theoretical soluble losses by CCD (countercurrent decantation). R. J. Woody. *diags Min Eng 10:Trans 786-8 Jl '58*
- DECARBOXYLATION.** See Carbonyl group
- DECARBOXYLATION.** See Carboxyl group
- DECARBURIZATION of steel.** See Steel—Decarburization
- DECAY of wood.** See Wood—Decay
- DECENTRALIZATION of industry.** See Industry—Decentralization
- DECIMAL system**
Read time direct in decimal units. H. J. Ramey, jr. *diag Chem Eng 65:131-2 Ag 25 '58*
- DECISION making in management.** See Business management
- DECOMPOSITION**
Calcium carbonate decomposition in carbon dioxide atmosphere. E. F. Hyatt and others. *bibliog Am Cer Soc J 41:70-4 F 1 '58*
Chemical engineering unit processes; decomposition of hydrocarbons, pyrolytic and catalytic. H. R. Appell and C. V. Berger. *bibliog Ind & Eng Chem 50:1330-4 pt 2 S '58*
Complex ions of chromium; kinetics of decomposition of diol bonds in chromium(III) solutions. D. M. Grant and R. E. Hamm. *bibliog Am Chem Soc J 80:4166-9 Ag 20 '58*
Controlled thermal decomposition of cellulose nitrate. M. L. Wolfrom and others. *bibliog Am Chem Soc J 80:946-50 F 20 '58*

DECOMPOSITION—Continued

- Controlled thermal decomposition of cellulose nitrate; C¹⁴-tracer experiments. F. Shafizadeh and M. L. Wolfrom. *bibliog Am Chem Soc J* 80:1675-7 Apr '58
- Decomposition mechanism for producing p - n junctions in InP. K. Weiser. *bibliog il J Ap Phys* 29:223-30 F '58
- Decomposition of diborane in a silent discharge; isolation of BeH₂ and B₂H₆. W. V. Kotlensky and R. Schaeffer. *bibliog Am Chem Soc J* 80:4317-19 S '58
- Decomposition of hexachloro- o -trichlorodinitrogen(III) ion and exchange of radiochlorine between this ion and chloride ion in aqueous solution. G. L. Hawkins and C. S. Garner. *bibliog Am Chem Soc J* 80:2946-50 Je 20 '58
- Decomposition of optically active 2-octanesulfonyl chloride. H. F. Herbrandson and others. *bibliog Am Chem Soc J* 80:3301-3 Jl '58
- Decomposition of peroxydicarbamates and their efficiency as initiators in vinyl polymerization. E. L. O'Brien and others. *bibliog Am Chem Soc J* 79:6238-42 D '57
- Decomposition of stibine. B. E. Dixon and P. R. Kiff. *bibliog J Ap Chem* 8:631-6 O '58
- Decomposition of xanthate in acid solution. I. Iwasaki and S. B. Cooke. *bibliog Am Chem Soc J* 80:285-8 Ja 20 '58
- Dialyliodonium salts; decomposition of substituted diphenyliodonium halides in inert solvents. F. M. Beringer and M. Mausner. *Am Chem Soc J* 80:4535-6 S '58
- Drying and decomposition of sodium carbonate. A. E. Newkirk and L. Aliferis. *bibliog Anal Chem* 30:382-4 My '58
- Effect of structure on the thermal decomposition of polymers. L. A. Wall and R. E. Florin. *bibliog J Res Nat Bur Stand* 60:451-8 My '58
- Explosive decomposition of ammonium nitrate; abstracts. S. Pawlikowski and A. Kawinski. *Ind Chem* 34:150-1 Mr '58
- Imperfection dependence of the catalytic decomposition of H₂O₂ on Al₂O₃. R. N. Tucker and P. Gibbs. *diags J Ap Phys* 29:1374-5 S '58
- Kinetic study of the ultraviolet decomposition of biochemical derivatives of nucleic acid; purines. M. J. Kland and L. A. Johnson. *bibliog Am Chem Soc J* 79:6187-92 D '57
- Kinetics of the decomposition of sodium p -toluenesulfonylacetate in water-ethylene glycol and water-oxoane mixtures. D. J. O'Connor and F. H. Verhoek. *bibliog Am Chem Soc J* 80:288-90 Ja 20 '58
- Lower hydrides of phosphorus; the decomposition of biphosphine in liquid ammonia. E. H. Street, Jr. and others. *bibliog Am Chem Soc J* 80:1819-22 Ap '58
- Magnetic study on the photodecomposition of p -(N -dimethylamino)-benzediazonium chloride. E. A. Boudreaux and E. Boulet. *bibliog Am Chem Soc J* 80:1588-90 Ap '58
- Mechanism of decomposition of benzoyl peroxide in cyclohexane solution. C. G. Swain and others. *bibliog Am Chem Soc J* 80:5313-19 O '58
- Mechanisms of decomposition of neutral sulfonium salts in solution. C. G. Swain and others. *bibliog Am Chem Soc J* 80:4089-94 Ag '58
- Neophyl-type azo compounds; their decomposition and rearrangement of the neophyl-type free radical. C. G. Overberger and H. Gainer. *bibliog Am Chem Soc J* 80:4561-5 S '58
- Peroxides. W. E. Parker and others. *bibliog Am Chem Soc J* 80:323-37 Ja 20 '58
- Production of graphite single crystals by the thermal decomposition of aluminum carbide. L. M. Foster and others. *bibliog il Am Mineralogist* 43:285-96 Mr '58
- Radiolytic and pyrolytic decomposition of organic reactor coolants; abstract. D. R. de Halas. *Engineering* 186:141 Ag 1 '58
- Series of tertiary butyl peresters showing concerted decomposition. P. D. Bartlett and R. R. Hiatt. *bibliog diags Am Chem Soc J* 80:1398-405 Mr 20 '58
- Shock waves in chemical kinetics; the decomposition of N₂O₅ at high temperatures. G. Schott and N. Davidson. *bibliog il Am Chem Soc J* 80:1841-53 Ap 20 '58
- Thermal breakdown of diaryltetrazoles. P. A. S. Smith and others. *bibliog Am Chem Soc J* 80:4647-54 S '58
- Thermal decomposition of α -lead azide in air. G. Todd. *il Chem & Ind* p 1005-6 Ag 9 '58
- Thermal decomposition of diazo oxides. P. Yates and E. W. Robb. *bibliog Am Chem Soc J* 79:5760-8 N '57
- Thermal decomposition of liquid nitric acid. H. F. Cordes and others. *bibliog Am Chem Soc J* 80:4802-8 S '58
- Thermal decomposition of methyl n -propyl ketone. W. B. Guenther. *bibliog Am Chem Soc J* 80:1071-3 Mr 5 '58
- Thermal decomposition of scandium, yttrium, and rare earth metal oxalates. S. J. W. Wendlandt. *bibliog Anal Chem* 30:58-61 Ja '58
- Thermal decomposition of 2,2-azo-bis-isobutyronitrile. J. P. Van Hook and A. V. Tobolsky. *bibliog Am Chem Soc J* 80:7779-82 F 20 '58

DECORATION and ornament

- See also
Decalcomania
Enamel and enameling
Ironwork, Artistic
Jewelry
Mural painting and decoration
Plastics, Decorative
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- DECORATION and ornament, Architectural
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- DECORATIVE lighting. See Lighting, Decorative
- DECTRA. See Radio aids to aviation
- DEEP-fat frying. See Frying
- DEFICIENCY diseases
See also
Kwashiorkor
- DEFICIENT diet. See Diet, Deficient
- DEFLECTION of beams. See Beams and girders
- DEFOAMERS. See Foaming
- DEFORMATION (mechanics)
Analyses for diffusion during plastic deformation. J. Simmons and J. E. Dorn. *J Ap Phys* 29:1308-13 S '58
- Analysis of diffusion in media undergoing deformation. H. Para and R. W. Balluffi. *bibliog J Ap Phys* 29:1133-4 Jl '58
- Conjugate frame method and its application in the elastic and plastic theories of structures. S. L. Lee. *bibliog diags Franklin Inst J* 266:207-22 S '58
- Deformation mechanisms in magnesium and some magnesium-aluminum alloys. R. D. Stacey. *bibliog il Metallurgia* 58:125-8 S '58
- Development of microscopic inhomogeneities of deformation in polycrystalline 70:30 brass; some effects of method of deformation. L. E. Samuels and M. Hatherly. *bibliog il Inst Metals J* 86:442-6 J '58
- Formulas and charts for calculating deflection of circular rings loaded normal to plane of curvature; data sheet. H. D. Tabakman. *diag Machine Design* 29:167-72 N 14 '57
- Initiation of cleavage fracture at the intersection of deformation twins in zinc single crystals. R. L. Bell and R. W. Cahm. *bibliog il diags Inst Metals J* 86:433-8 Je '58
- Pin-ended gabled frames; solving by the method of consistent deformations. J. Chinn. *bibliog diags Am Soc C E Proc* 83 [ST 5 no 1353]:1-12 S '57; Discussion. 84 [ST 1 no 1522]:93-4 Ja; [ST 2 no 1576]:23-9 Mr '58; Reply. 84 [ST 7 no 1897]:3-12 N '58
- Plastic deformation of ceramic-oxide single crystals. J. B. Wachtman, Jr. and L. H. Maxwell. *bibliog il Am Cer Soc J* 40:377-85 N 1 '57
- Pressure for indenting material resting on a rough foundation. W. Johnson and D. M. Wood. *bibliog diags J Ap Mech* 25:64-6 Mr '58
- Propagation of cracks and the energy of elastic deformation. H. F. Bueckner. *bibliog diags A S M E Trans* 80:1225-9; Discussion. 1229-30 Ag '58
- Radial deformation of rings simplified. H. D. Tabakman. *diags Pet Refiner* 36:159-64 D '57
- Simulated gear-tooth contacts; some experiments upon their lubrication and subsurface deformations. A. W. Crook. *bibliog diags Inst Mech Eng Proc* 171 no 5:187-96, pl 1-5; Discussion. 196-210; Reply. 210-14 '57
- Some effects of kinetic heating on the stiffness of thin wings. S. L. Kochanski and J. H. Argyris. *diags Aircraft Eng* 30:32-40, 52-5, 114-17 F-Apr '58
- Some effects of mechanical working on the deformation of non-metallic inclusions. F. B. Pickering. *bibliog il Iron & Steel Inst J* 189:148-59 Je '58

DEFORMATION (mechanics)—Continued

- Strain-aging, work-hardening, and inhomogeneous deformation in Armco iron after static and dynamic deformation. H. P. Tardif and W. E. Erickson. *J Ap Mech* 24:235-7 Je '58
- Studies of high-velocity impact in wax. W. S. Partridge and W. G. Clay. *bibliog il diag J Ap Phys* 29:939-42 Je '58
- Study of the distortion of high-carbon high-chromium die steels. K. Sachs. *bibliog il diags Iron & Steel Inst J* 139:216-24 JI '58
- Use of paraffin wax as a model material to simulate the plastic deformation of metals. C. Bodsworth and others. *bibliog il diag Iron & Steel Inst J* 185:375-83; 188:321-31 Mr '57, Ap '58

See also

- Creep of materials
Creep of metals
Creep of plastics
Crystals—Dislocations
Extensometers
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DEFORMATION of rocks. See **Rocks—Deformation**

DEGASSED resins. See **Resinous products—Gas content**

DEGRADATION

- Alkaline degradation of periodate-oxidized polysaccharides. D. O'Meara and G. N. Richards. *bibliog Chem & Ind p40 Ja 11 '58*
- Barry degradation of laminarin. E. L. Hirst and others. *Chem & Ind p334 Je 23 '58*
- Control of degradation in oil-extended styrene-butadiene rubber. R. J. Reynolds. *bibliog Ind & Eng Chem* 50:785-92 My '58
- Degradation of cellulose in a vacuum with ultraviolet light. J. H. Flynn and others. *bibliog diag J Res Nat Bur Stand* 60:229-33 Mr '58
- Degradation of hydrophilic cross-linked resins; empirical determination of order of stability of sulfonated styrene copolymers. J. J. Collins and others. *bibliog Ind & Eng Chem* 49: 1343-8 N '57
- Degradation of pectic substances by plant pathogens; abstract and discussion. R. K. S. Wood and M. Cole. *Chem & Ind p433 Ap 12 '58*
- Mechanical degradation of high polymers. D. J. Angier and others. *Chem & Ind p593-4 My 17 '58*
- Ozonolytic degradation of interpolymers of natural rubber with methyl methacrylate and styrene. D. Barnard. *bibliog Rubber Chem & Tech* 31:32-5 Ja '58
- Thermal degradation of cellulosic materials. S. L. Madorsky and others. *J Res Nat Bur Stand* 60:343-9 Ap '58
- DEGREASING**
Dust problems in degreasing; abstract. *Metal Finishing* 55:84 N '57
- Emulsion degreasing; abstract. A. Pollack. *Metal Finishing* 56:74 Ja '58
- How to test solvent quality. C. E. Kircher. *Il Steel* 142:86-7 Ja 13 '58
- Infrared degreases license plates. *Il Steel* 142:91 Je 30 '58
- DEGREE-days.** See **Heating—Tables, calculations, etc.**
- DEHUMIDIFICATION**
Dehumidification serves comfort air conditioning; Aluminum co. of America district office building in Atlanta. T. F. Rockwell and J. A. Sheahan. *il diag Heating-Piping* 30:115-18 Mr '58
- Water vapor, third dimension in atmosphere control. E. R. Queer and E. R. McLaughlin. *flow diag diag Power Eng* 62:75-6 My '58
- What vapor transmission rules apply when planning for dehumidification? answers. *Heating-Piping* 30:144+ Ja; 70+ F '58
- DEHUMIDIFIERS**
Natural convection cooling and dehumidifying. L. G. Seigel and W. L. Bryan. *bibliog il diag Heating-Piping* 29:129-34 D '57
- DEHYDRATION**
Aromatic cyclodehydration; alkoxyl derivatives of the acridinium ion. C. K. Bradsher and J. H. Jones. *bibliog Am Chem Soc J* 79:6033-4 N 20 '57
- Aromatic cyclodehydration; the synthesis of (±)-cryptolepine. C. K. Bradsher and H. Berger. *bibliog Am Chem Soc J* 80:330-2 F 20 '58
- Dehydration of diosgenin during the acid hydrolysis of dioscorea saponins. W. J. Peal. *bibliog Chem & Ind p 1451-2 N 2 '57*
- Effects of the exchangeable ion on the dehydration properties of vermiculite. W. S. Ernst, Jr. and others. *bibliog Am Cer Soc J* 41:238-41 JI 1 '58

- Foshagite; composition, unit cell and dehydration. J. A. Gard and H. F. W. Taylor. *bibliog il diag Am Mineralogist* 43:1-15 Ja '58
- Production of oct-2-ene and oct-3-ene by the dehydration of octan-1-ol and by pyrolysis of *N*-octyl diphenylboronite. E. W. Abel and others. *Chem & Ind p 158-9 F 3 '58*
- Rate of thermal dehydration of muscovite. J. B. Holt and others. *bibliog Am Cer Soc J* 41:242-6 JI 1 '58
- Vacuum dehydration of oils. G. J. Topol. *diag Lub Eng* 14:19-21+ Ja '58

See also

Gas, Natural—Dehydration

DEHYDROFREEZING. See **Food, Frozen**

DEHYDROGENASES

- Observations of new phenomena in the fluorescence spectrum of a diphosphopyridine nucleotide-linked dehydrogenase A. D. Winer and others. *Am Chem Soc J* 79:6571-2 D 20 '57

DEHYDROGENATION

- Butane dehydrogenation today employs fixed-bed methods. J. C. Reidel. *bibliog il diags Oil & Gas J* 55:114-15+ D 9 '57
- Dehydrogenation with manganese dioxide; abstract. R. M. Evans. *Chem & Ind p246; Discussion*. 247 Mr 1 '58
- Formation of keto-pyruvate in the dehydrogenation catalyzed by yeast lactic oxidase. A. Marcus and B. Vennesland. *bibliog Am Chem Soc J* 80:1123-5 Mr 5 '58
- Houdry dehydrogenation for olefin production; abstract. L. Friedman and others. *Pet Refiner* 37:116 My '58; *Same*. *Pet Eng* 30: C8-9 Je '58
- Making butadiene; butylene dehydrogenation by the steam-dilution method. J. C. Reidel. *bibliog flow sheet il Oil & Gas J* 55:87-8+ D 2 '57
- Shallow and deep catalytic dehydrogenation of petroleum C₈-aromatic fraction. B. B. Corson and others. *Ind & Eng Chem* 50: 621-2 Ap '58
- DEHYDROHALOGENATION**
Dehydrohalogenation products of hexahydroterephthaloyl chloride; a bifunctional ketone and a bicyclo[2.2.1]heptan-7-one derivative. W. B. Hatchard and A. K. Schneider. *bibliog Am Chem Soc J* 79:6261-3 D 5 '57

DE-INKING of paper. See **Waste paper**

DEKATRONS. See **Vacuum tubes—Cold cathode tubes**

DELABY, Raymond
Obituary. R. Morf. *Chem & Ind p914 JI 19 '58*

DELAY devices

- Aircraft simulator for television signals. M. C. Gander and P. L. Mothersole. *il diags Electronic Eng* 30:408-13 JI '58
- Bell introduces compact wave delay line. R. N. Thurston and L. M. Tornillo. *il Ind Lab* 9:62 Je '58
- Design of function generators using short-time memory devices and nonlinear elements. A. W. Revay and D. J. Ford. *diags Com & Electronics p 143-52 My '58*
- Dispersion of interdigital delay lines. F. Paschke. *diags RCA R* 19:418-22 S '58
- Methods of measuring electrical characteristics of ultrasonic delay lines; abstract. A. H. Meitzler. *Inst Radio Eng Proc* 46:671 Mr '58
- Miniature delay lines for millimicrosecond pulses. R. Gerharz. *il diag Electronic & Radio Eng* 35:371-3 O '58
- Survey of delay lines for digital pattern storage. S. Morcigh. *bibliog diags Electronic Eng* 30:380-7 Je '58
- Synthesis of lumped parameter precision delay line. E. S. Kuh. *bibliog diags Inst Radio Eng Proc* 45:1632-42 D '57
- Thermal properties of tungsten vs copper for electron tube delay lines. R. A. Pananen. *Inst Radio Eng Proc* 46:500 F '58
- Time-delay protective circuit for high-voltage power supplies. T. R. Baker. *diag Q S T* 42:79 My '58
- Torsional-wave delay lines. *il Bell Lab Rec* 36:185 My '58
- Transistorized trigger and delay generators. H. L. Armstrong. *il Electronics* 31:96+ Ja 17 '58

See also

Phantastron (delay circuit)

Design

- Designing ultrasonic delay lines. I. C. Miller and C. W. Sharek. *diag Electronic Ind* 17: 72-6+ JI '58

DELAYED coke. See **Petroleum coke**

- DELPHELINE**
Structural relationship of deltaline, delpheline and lycocotonine. M. Carmack and others. *bibliog Am Chem Soc J* 80:497 Ja 20 '58
- DELPORT, Vincent**
Obituary, por Foundry 86:147 J1 '58
- DELRLIN**. See Resinous products
- DELSOLINE**. See Alkaloids
- DELTALINE**
Structural relationship of deltaline, delpheline and lycocotonine. M. Carmack and others. *bibliog Am Chem Soc J* 80:497 Ja 20 '58
- DELTA S**
See also
Mississippi river—Delta
- DEMAGNETIZATION**
Bulk magnetic film demagnetizing practices. L. D. Grignon and A. P. Green. *il diags SMPTE J* 66:683-7 N '57
- DEMAND meters**
Fischer & Porter recorder adaptable to gas use. *il diag Am Gas Assn Mo* 39:19+ D '57
New printing demand meter. P. V. Terry. *il diag Com & Electronics* p80-2 Mr '58;
Excerpt. *Elec Eng* 77:485 Je '58
- DEMETON**. See Insecticides
- DEMINERALIZATION**
Electrodialysis using ion-exchange membranes; demineralization of solutions containing amino-acids. A. M. Peers. *diags J Ap Chem* 8:59-67 Ja '58
See also
Water purification—Demineralization
- DEMOCRACY**. Communism and. See Communism and democracy
- DEMOLITION of buildings**. See Wrecking
- DENMAG**. See Rubber, Artificial
- DENMARK**
See also
Medical service, Industrial—Denmark
- DENSITOMETERS**
Chromatographic analysis of pulps utilizing direct densitometry. D. F. Durso and J. C. Paulson. *il diag Anal Chem* 30:919-22 My '58
Evaluation of carbon black dispersions in polyethylene to predict weatherability. R. M. Schulken, Jr. and others. *bibliog diags Mod Plastics* 35:125-8+ Ag '58
How to control slurry density during cementing operations; recording densitometer. J. P. Moran and D. G. Hartweg. *il diag Oil & Gas J* 56:38-50 Ap 28 '58
New design of a linearizing recording densitometer; evaluation of bone density. J. D. Nelson and others. *diag R Sci Instr* 29:316-17 Ap '58
Studies in microdensitometry on X-ray photographs. W. A. Wooster and J. A. L. Fasham. *il diags J Sci Instr* 35:153-6 My '58
Variable ratio, tape-coupled, recording microdensitometer. P. C. Russell and J. E. Wilson. *il J Sci Instr* 35:114 Mr '58
- DENSITY**. See Specific gravity
- DENSITY meters**. See Hydrometers
- DENTAL education**
Regional approach to increasing dental training facilities. R. S. Poor. *bibliog Am J Pub Health* 47:1502-7 D '57
- DENTAL hygienists**
Dental manpower and the public's health; the role of the state health agency. W. O. Young. *Am J Pub Health* 48:46-50 Ja '58
Potential role of the dental hygienist in public health program. C. M. Fales. *Am J Pub Health* 48:1054-8 Ag '58
- DENTAL research**
Fluorides and the solubility of powdered tooth enamel. S. D. Gershon and others. *bibliog (34 titles) il Drug & Cosmetic Ind* 82:160-1+ F '58
- DENTAL service**
Extending the field for dental auxiliary personnel in the United States. J. M. Duning. *bibliog Am J Pub Health* 48:1059-64 Ag '58
- DENTAL service, Industrial**
Dental program in a retail establishment. A. H. Greenwood. *Ind Med* 27:477-9 S '58
Expansion of fringe benefits and industrial dentistry. L. S. Morvay. *Ind Med* 27:402-3 Ag '58
Industrial dentistry and the general practitioner. D. W. Brock. *bibliog Ind Med* 27:244-8 My '58
- DENTIFRICES**
Aerosol's little brother pressure-packing grows up; Colgate's pressure-packed toothpaste. *diag Ind & Eng Chem* 50:sup26A Ap '58
- Ipana Plus brainstorm**. M. L. Rittenhouse. *il Drug & Cosmetic Ind* 82:173+ F '58
Modern toothpaste manufacture. M. Cook. *Drug & Cosmetic Ind* 82:314-16+ Mr '58
Pressure packed toothpaste. *il Soap & Chem Spec* 34:174 My '58
- Advertising**
ADA blasts dentifrice advertising. *Soap & Chem Spec* 34:51-2 Ag '58
- DENTISTS**
Dental manpower and the public's health; the role of the state health agency. W. O. Young. *Am J Pub Health* 48:46-50 Ja '58
Growing shortage of dentists in the United States. Q. M. Smith. *bibliog maps Am J Pub Health* 48:38-45 Ja '58
- DENTISTS offices**
Clinic and residence combined. G. A. Sanderson. *il plan Prog Arch* 39:112-14 Je '58
- DENVER**
Sewerage
Study of sewerage for metropolitan Denver. O. J. Schmidt. *map Pub Works* 89:97-8+ My '58
Water supply
How Denver fought the drought! J. Burgess. *il Water Works Eng* 111:562-5+ Je '58
- DEODORANT soap**. See Soap, Deodorant
- DEODORANTS**
Behavior of a commercial anti-odorant in respect of four odorous irritants. R. W. Moncrieff. *bibliog diag Manuf Chem* 29:53-62 F '58
Evaluating antiperspirant and deodorant products. G. W. Fredell and J. Longfellow. *il Am Perfumer & Aromatics* 72:41-2 J1 '58
Laboratory deodorizer with a vaporization efficiency of unity. D. S. Sarkadi. *diags Am Oil Chem Soc J* 35:472-5 S '58
- DEODORIZATION**
Activated charcoal for air purification. H. L. Barnebey. *il diag Heating-Piping* 30:153-60 Mr '58
Control. A. Turk. *bibliog A M A Archives Ind Health* 17:542-4 My '58
- DEOXYAMINOALLOSE**
1,2,5,6-Di-O-isopropylidene 3-deoxy-3-amino- α -D-allose. R. U. Lemieux and P. Chu. *Am Chem Soc J* 80:4745 S 5 '58
- DEOXYRIBOMONONUCLEOTIDES**. See Nucleotides
- DEOXYRIBOSE**. See Desoxyribose
- DEPARTMENT stores**
Store for E. V. Haughwout & co., 1857. *il diags Prog Arch* 39:133-6 F '58
Air conditioning
See Store buildings—Air conditioning
Branch stores
Sears, Roebuck's new look. O. Tanner. *il map plan Arch Forum* 109:90-5 J1 '58
Designs and plans
Architect and his community; Architects associated; self-selection department store. *il diags Prog Arch* 39:104-5 F '58
Architecture for day and night; De Bijenkorf department store, Rotterdam. *il plans Arch Rec* 122:167-74, cover N '57
Award citation; department store and service station for Sears, Roebuck & co., Augusta. *il plan Prog Arch* 39:100-1 Ja '58
Exhibits
Department store sells research to increase public's scientific knowledge. *il Ind Lab* 9:96-8 Ap '58
Lighting
Lighting a department store; Fair, Old orchard shopping center; data sheet. *il plan diag Illum Eng* 53:91-2 F '58
- DEPENDENTS medical care program**. See Medical service, State
- DEPLETION**
It may pay to check past percentage depletion calculations. F. H. Madison. *Eng & Min J* 159:93 J1 '58
- DEPOLARIZATION, Electrolytic**
Investigation of some new cathode depolarizer materials. A. B. Tripler, Jr. and L. D. McGraw. *bibliog Electrochem Soc J* 105:179-83 Ap '58
- DEPRECIATION**
Depreciation in capital investment. *Power Ind* 74:18 F '58
Depreciation; there'll be some changes made. *Chem Eng* 65:70+ J1 28 '58
Depreciation, you and the tax boys. J. N. Bell. *il Rock Prod* 61:70-3+ Je '58

DEPRECIATION—Continued

- How to estimate depreciation of your water works utilities. *Water Works Eng* 111:578-9 Je '58
- Let's leap to recovery with bold action on depreciation. *Il Steel* 142:56-9 Ap 28 '58
- New approach to replacement studies. B. A. Margo. *Tool Eng* 40:73-8 Ja '58
- Plant charge-offs. *Electronics* 31:5 My 30 '58
- Proper depreciation helps finance equipment replacement. R. L. Berry. *Foundry* 86:151-3 My '58
- Replacement of steel mill plant and equipment with present depreciation reserves. W. T. Hogan. *Il Iron & Steel Eng* 34:79-84 D '57
- Update depreciation. *Chem & Eng N* 36:52-3 O 6 '58
- Urgent realistic depreciation policy. J. Barlow. *Am Mach* 102:282 Ja 27 '58
- Which depreciation method is best. B. J. Gaffney. *bibliog Pet Refiner* 36:137-46 D '57
- See also

Depletion
Obsolescence

DEPTH of field. See **Photography—Focusing**

DERMATITIS. See **Skin—Diseases**

DERRICKS, Oil well

- Aluminum derrick for mobile prospecting work. *Il Engineering* 186:37 JI 11 '58
- Brown rig makes good initial showing. *Oil & Gas J* 56:133 JI 14 '58
- Drilling equipment. *Il Pet Eng* 30:B32+ JI 15 '58
- Economy model offshore drilling platform. *Il Eng N* 160:71 My 22 '58
- Engineering, ingenuity pay off on Buzzini rig no. eight. A. P. Buzzini. *Il Pet Eng* 30:B32-4 My '58
- Light rig drills 300 wells in seven years. *Il Pet Eng* 30:B 133 JI 15 '58
- Modified crane for drilling platforms. *Il Eng N* 160:71 My 22 '58
- Multitwell platforms invade busy Paria. *Il map Oil & Gas J* 56:33+ JI 14 '58
- Oil rig jackets lick offshore corrosion problem. *Il Mod Metals* 14:52 JI '58
- Platform nearing completion. *Il Oil & Gas J* 56:78 My 5 '58
- Rig equipment. J. Abernathy. *Pet Eng* 30:B48 Mr '58
- Rig gets undersea power line. *Il Oil & Gas J* 56:59 Ag 25 '58
- Rig that experience built. J. L. Goldman. *Il diag Oil & Gas J* 56:129-30 JI 14 '58
- Some developments in marine drilling foundations. A. Kranendonk. *bibliog Il plans diags Inst Pet J* 44:81-92; *Discussion*. 93-6 Ap '58
- Special rig is almost to 20,000-ft mark in Oklahoma. *Il Oil & Gas J* 56:139 My 19 '58
- Two-well derrick makes bow in California's first offshore drilling platform. *Oil & Gas J* 56:72 D 2 '57
- Using this equipment. Hydro's two-man crew operates hydraulic rig. E. McGhee. *Il diags Oil & Gas J* 56:92+ S 22 '58

Moving

- Trailer-mounted rig scoots on, off drilling site quickly. D. H. Stormont. *Il plan Oil & Gas J* 56:114-16 Je 23 '58

DESALTING of sea water. See **Sea water—Desalting**

DESCH, Cecil Henry
Obituary. *por Engineer* 205:972 Je 27 '58
Obituary. *por Engineer* 185:304 Je 27 '58

DESERT plants

See also
Pteridophytes

DESIGN

- ASME design engineering conference and show, 3rd, Chicago, April 14-17; program and list of exhibitors. *Elec Manuf* 61:140-3+ Ap '58
- Computers permit new statistical analysis concepts to aid design. *Product Eng* 29:21-2 S 8 '58
- Crutches won't help cross a design road-block. E. J. Tangerman. *Il Product Eng* 29:17-19 My '58
- Design at the crossroads. F. J. Von Turv. *Am Cer Soc Bul* 36:466-7 D 15 '57
- Design digest issue. *Il diags Product Eng* 28:A-J Mid-O '57
- Design digest issue. *Il diags Product Eng* 29:sec A-J Mid-S '58
- Design for reliability. G. S. Schairer and H. S. Clayman. *Machine Design* 29:182+ D 12 '57
- Design is more than nuts and bolts. M. P. Taylor. *Product Eng* 29:33-5 Mr 10 '58
- Designing equipment for reliability. R. B. Wilson. *Mech Eng* 79:1142-4 C '57
- Designing for cored forgings. C. J. Pfeifer. *Il diags Materials in Design Eng* 47:122-4 F '58

Designing metal stampings. J. L. Everhart. *bibliog Il diags Materials in Design Eng* 48:109-24 S '58 (reprints 35c)

Designing with heat treated steels. J. L. Everhart. *bibliog Il diags Materials in Design Eng* 47:121-36 Je '58 (reprints 35c)

Engineer comes into his own; when the engineer designs for man. M. Rappaport. *Il Product Eng* 29:37-9 Mr 31 '58

Engineering design; the background and basis of contemporary life. H. Clausen. *diag Eng* 185:791 Je 20 '58; *Engineer* 205:920-2 Je 20 '58; *Product Eng* 29:38-9 S 1 '58; *Discussion*. *Engineer* 206:218, 296, 376 Ag 8, 22, S 5 '58

Five rules to follow in designing for plating. *Il diags Materials in Design Eng* 47:118-20 Je '58

Good design is not enough; consumer preference studies needed. J. R. Gulden. *Am Cer Soc Bul* 37:416 S 1 '58

Has foreign competition affected the design of your products? points of view. *Product Eng* 29:32-3 JI 28 '58

Materials in design engineering awards competition for the best use of materials in product design; award winners. *Il diags Materials in Design Eng* 47:127-58 Ap '58 (reprints 50c)

Measurement methods retard US design progress. A. V. Astin. *Product Eng* 29:22 JI 28 '58

National Motor Bearing solves design problems by computer. *Il Product Eng* 28:36-7 N 4 '57

Navy's creative design symposium. *Arch Rec* 123:439 P '58

New components and materials at the 1958 design show. *Il diag Product Eng* 29:131-2+ Mr 31 '58

Partnerships in standardization; purchasing, engineering, and design; panel discussion. *Mag of Stand* 23:362-3 D 27 '57

Porcelain enamel institute expands in design engineering; issues reference file. *Cer Ind* 71:114-15 S '58

Practical, but does it work? R. M. Koff. *Product Eng* 28:33 D 30 '57

Product design, key to smog control. *diags Product Eng* 28:106-8 D 9 '57

Relationship of design to development in structural clay products. P. V. Johnson. *Il Am Cer Soc Bul* 37:156-7 Mr 15 '58

Structures; tr. by G. Salvadori and M. Salvadori. P. L. Nervi. Review, by H. M. Noyes, Jr. *Il Arch Rec* 123:58+ Ja '58

Thermal stresses in design. S. S. Manson. *bibliog Il diags Machine Design* 30:114-20 Je 12; 99-103 Je 26; 100-7 Ag 7; 110-13 Ag 21; 126-33 S 4 '58 (to be cont)

Wanted; product design engineers. C. J. Scranton. *S A E J* 65:49 F '58

See also

Human engineering
Textile design
also subdivision **Design under special subjects, e.g.**

Airplanes

Airplanes, Military

Airports

Amplifiers

Atomic power plants

Automobile engines

Automobiles

Bearings

Chemical plants

Concrete construction

Cranes, derricks, etc.

Delay devices

Diesel engines

Electric circuit breakers

Electric power plants (central stations)

Electric transformers

Electronic circuits

Heat exchangers

Hydroelectric plants

Machine tools

Machinery

Paper and pulp mills

Petroleum refineries

Pottery

Power plants

Pressure vessels

Radio transmitters

Sewage disposal plants

Steam engines

Steam plants

Structural engineering

Protection

Design piracy; law provides protection in some instances. A. W. Gray. *bibliog Machine Design* 30:117-19 Ap '58

Shame show indicts Japanese design pirates. *Il Product Eng* 29:20-1 JI 21 '58

DESIGN—Continued

Study and teaching

Engineering design; learning by doing. H. Clausen. *Engineering* 185:158 Ja 31 '58

Great Britain

Trends in appearance design in Britain. *Product Eng* 29:22-3 Je 30 '58

DESIGN engineering conference

Conference and exhibition. 3d Chicago. April 14-17; program, list of exhibitors. *Materials in Design Eng* 47:23+ Ap '58

Conference. Chicago. April 14-17; program, speakers, abstracts of papers, exhibitors, floor plan. *Product Eng* 29:2-12 pt 2 Mr 31 '58

Design conference and show, 3d, Chicago. April 14-17. *diags Product Eng* 29:41-3 Ap 28 '58

DESIGN of experiments. See Experimental design

DESIGNERS

Education of a designer; panel discussion. *Am Cer Soc Bul* 37:100+ F 15 '58

For better designers; abstract. J. E. Ward. *Am Cer Soc Bul* 36:438 N 15 '57

Responsibility and creativity; abstract. J. Carreiro. *Am Cer Soc Bul* 36:438-9 N 15 '57

What the designer should know about production. *il diags Mach* 65:165-72 S; 153-62 O '58

DESILYLATION. See Silyl group

DESIZING (textiles)

How does your desizing measure up? F. J. Di Carlo and others. *bibliog il Textile Ind* 122:98-109 My '58

DESKS

Progressive architecture selected details; reception desk. *il plans diags Prog Arch* 29: 110 Jl '58

DES MOINES, Iowa

Streets

Modern freeway planned. *Civil Eng* 28:555 Jl '58

DESORPTION

Some aspects of the thermal desorption of a boundary lubricant. E. F. Kingsbury. *bibliog diags J Ap Phys* 29:888-91 Je '58

DESOXYCHOLATE

Binding of sodium desoxycholate by cytochrome c. G. R. Rowley and W. W. Walino. *bibliog Am Chem Soc J* 80:4384-6 Ag 20 '58

DESOXYDIHYDROMORPHINE

Preparation of some 6-methylated dihydro-desoxymorphines. M. S. Chadha and H. Rapoport. *bibliog Am Chem Soc J* 79:5730-4 N 5 '57

DESOXYRIBONUCLEIC acid

Alkaline denaturation of desoxyribonucleic acid. P. Ehrlich and P. Doty. *bibliog Am Chem Soc J* 80:4251-5 Ag 20 '58

Composition and properties of the thymus desoxyribonucleoprotein of Doty and Zubay. A. L. Dounce and M. O'Connell. *bibliog Am Chem Soc J* 80:2013-15 Ap 20 '58

Deformation of desoxyribonucleate; precipitation of heat-deformed DNA with millimolar lead ion. V. L. Stevens and E. L. Duggan. *bibliog Am Chem Soc J* 79:5703-6 N 5 '57

DNA. *Sci Am* 199:54+ N '58

Duplication of chromosomes. J. H. Taylor. *il diags Sci Am* 198:36-42 Je '58

Fractionation of desoxyribonucleic acids on columns of anion exchangers; methodology. A. Bendich and others. *bibliog diags Am Chem Soc J* 80:3949-56 Ag 5 '58

Genetic secrets yield further. *Chem & Eng N* 36:46-7 F 10 '58

Heat of denaturation of DNA. J. M. Sturtevant and E. F. Geldusche. *Am Chem Soc J* 80:2911 Je 5 '58

How do genes act? V. M. Ingram. *il diags Sci Am* 198:68-72+ Ja '58

Immunological study of a bacterial DNA. J. H. Phillips and others. *bibliog diags Am Chem Soc J* 80:2710-14 Je 5 '58

Incorporation of thymidine triphosphate into desoxyribonucleic acid by a purified mammalian enzyme. F. J. Bollum. *bibliog Am Chem Soc J* 80:1766 Ap 5 '58

Influence of high oxygen pressures on the viscosity of solutions of sodium desoxyribonucleic acid and of sodium alginate. D. L. Gilbert and others. *bibliog Am Chem Soc J* 79:5677-80 N 5 '57

Interactions of amino acids with desoxyribonucleic acid (DNA). C. D. Jardeztzky. *bibliog Am Chem Soc J* 80:1125-7 Mr 5 '58

New light on DNA. *Chem & Eng N* 36:21 O 27 '58

Physical chemical study of calf thymus desoxyribonucleic acid. V. N. Schumaker. *bibliog Franklin Inst J* 266:233-9 S '58

DESOXYRIBONUCLEOSIDES

Nucleoside polyphosphates; an improved and general method for the synthesis of ribo- and desoxyribonucleoside 5'-triphosphates. M. Smith and H. G. Khorana. *bibliog Am Chem Soc J* 80:1141-5 Mr 5 '58

DESOXYRIBOSE

Simplified preparation of 2-deoxy-D-ribose. H. W. Diehl and H. G. Fletcher, Jr. *Chem & Ind* 1087-3 Ag 16 '58

Synthesis of 2-deoxy-D-ribose. G. Machell. *bibliog Manuf Chem* 29:21-4+ Ja '58

DESUPERHEATERS

Front Street uses new desuperheater in turbine bypass. *il Power Eng* 61:84 N '57

DETECTORS

Airplane overheat-detector goes industrial. *il diags Chem Eng* 65:78+ Ap 21 '58

Detector catches up with fire in 35 seconds. *il Safety Maint* 115:47 F '58

New explosive-mixture detector safeguards engine tests. R. E. Gorton and G. J. Lyons. *il S A J* 5:31-5 Ag '58

Overheat-fire detector; Kidde detector. *Chem & Eng N* 36:52 O 27 '58

See also

Leak detectors

Manufacture

Motorized setup simplifies fluxing of flanged parts. *il Welding J* 37:809 Ag '58

DETECTORS, Metal. See Metals—Detection

DETERGENTS. See Cleaning compositions

DETERMINANTS (mathematics)

Functional characteristics of a node determinant. R. E. Bonner and others. *diags Franklin Inst J* 265:395-406 My '58

DETONATION

Abnormally high detonation pressures in a shock tube. I. Ginsburgh. *J Ap Phys* 29: 1381-2 S '58

Crystalline arrangement in fusion-cast cyclinders of 2,4,6-trinitrotoluene and its relationship to colour, density and behaviour on detonation. W. O. Williamson. *bibliog il diags J Ap Chem* 8:367-75 Je '58

Destruction of a large refining unit by gaseous detonation at Whiting, Ind. R. B. Jacobs and others. *bibliog flow diags il plan diags Chem Eng Prog* 53:565-73 D 67

Detonation of liquid oxygen-liquid methane solutions. A. V. Grosse and others. *Am Chem Soc J* 79:6341-2 D 5 '57

Directivity effect of elongated charges. A. W. Musgrave and others. *il diags Geophysics* 23:81-96 Ja '58

Effect of particle size on the velocity of detonation of simple nitroglycerine/salt mixtures. J. E. Dolan. *bibliog J Ap Chem* 8:471-7 Ag '58

Effects of gaseous detonations upon vessels and piping. P. N. Randall and others. *il diags Chem Eng Prog* 53:574-80 D '57

Guard against detonation hazards. E. L. Ghormley. *bibliog diags Pet Refiner* 37:185-90 Ja '58

Materials detonating in liquid oxygen. *il diags Engineering* 186:391 S 19 '58

Preliminary study of the application of steady-state detonative combustion to a reaction engine. R. Dunlap and others. *diags Jet Propulsion* 28:451-6 Jl '58

Use of an electro-optical method to determine detonation temperatures in high explosives. F. C. Gibson and others. *bibliog il J Ap Phys* 29:628-32 Ap '58

See also

Automobile engines—Detonation

DETROIT

Sewerage

Annual reports of the sewage treatment plant. Fiscal years, 1956, 1957. F. H. Burley. *Sewage & Ind Wastes* 30:1190-4 S '58

Streets

Detroit is taming its traffic. R. Cantwell. *il plans Arch Forum* 108:96-101+ Mr '58

Water supply

Detroit water fight; Wayne county lets contracts over protests by city. *Eng N* 159:25 D 5 '57

DETROIT river

Water intakes. E. A. Hardin. *il maps plans diags Am Soc C E E* 80:154-6 [SA 2 no 1592]: 1-24 Ap '58; Discussion. *bibliog 84 [SA 6 no 1855]:5-10 N '58*

- DEUEL, Harry James, Jr**
Sketch, J. W. Mehl, por J Nutrition 65:2-12
My '58
- DEUPREE, R. R.**
Management award, por Soap & Chem Spec
34:56+ O '58
- DEUTERIUM**
cis elimination mechanisms; the base-
catalyzed deuterium exchange of cycloalkyl
p-tolyl sulfones, J. Weinstock and others,
bibliog Am Chem Soc J 80:4961-4 S 20 '58
- Detection of a cyclopropenyl anion by deu-
terium exchange, R. Breslow and M.
Battiste, Chem & Ind p 1143-4 Ag 30 '58
- Determination of catalyst water by exchange
with deuterium gas, J. K. Lee and S. W.
Weller, bibliog Anal Chem 30:1057-8 Je '58
- Deuterium explores reproduction, M. Calvin,
Chem & Eng N 36:55 Mr 31 '58
- Deuterium isotope effect in the side chain
halogenation of toluene, K. B. Wiberg and
L. H. Slaughter, bibliog Am Chem Soc J 80:
3038-9 Je 20 '58
- Deuterium isotope effects in some intra-
molecular aromatic substitutions, D. B.
Denney and P. P. Klemchuk, bibliog Am
Chem Soc J 80:3289-90 J1 5 '58
- Deuterium isotope effects in the bromine
oxidation of ethanol and of acetaldehyde,
L. Kaplan, bibliog Am Chem Soc J 80:2639-
42 Ja 5 '58
- HD₂** as fuel in fusion power, Y. Yavitch,
diags Power Eng 62:42-5 Je '58
- Hydrolysis and deuterium exchange of
dibromodifluoromethane and fluorodiodo-
methane, J. Hine and others, bibliog Am
Chem Soc J 80:319-24 F 20 '58
- Mechanisms of hydrogen producing reactions
on palladium: the deuterium-palladium sys-
tem, S. Schuldiner and J. P. Hoare, bibliog
diags Electrochem Soc J 105:278-84 My
'58
- Neutron generation from straight pinches
produced in deuterium gas, R. E. Dunway
and J. A. Phillips, bibliog il diags J Ap
Phys 29:1137-43 Ag '58
- Radiation chemistry of water vapor; the in-
direct effect on deuterium and the exchange
of D-atoms with water molecules, R. F.
Firestone, bibliog diags Am Chem Soc J 79:
5593-8 N 5 '58
- Role of ions in the radiation induced ex-
change of hydrogen and deuterium, S. O.
Thompson and O. A. Schaeffer, bibliog diags
Am Chem Soc J 80:553-8 F 5 '58
- Separation of orthohydrogen from parahydro-
gen and of para deuterium from ortho-
deuterium by preferential adsorption, C. M.
Cunningham and others, bibliog diags Am
Chem Soc J 80:2382-4 My 20 '58
- See also
Steel—Deuterium content
- Analysis
- Microdetermination of deuterium by effu-
sionometry, D. A. Lee, bibliog diags Anal
Chem 30:1296-8 J1 '58
- Nuclear reactions
- Neutron emission in high current gas dis-
charges, H. A. B. Bodin and J. A. Reynolds,
il Engineering 184:535-9 O 25 '57
- DEUTERIUM compounds**
Deuterium exchange of decaborane with deu-
terium oxide and deuterium chloride, M.
F. Hawthorne and J. J. Miller, Am Chem
Soc J 80:754 F 5 '58
- Heats of formation at 25° of the crystalline
hydrides and deuterides and aqueous hy-
droxides of lithium, sodium and potassium,
S. R. Gunn and L. G. Green, bibliog Am
Chem Soc J 80:4782-6 S 20 '58
- Kinetic isotope effects in the acetolyses of
deuterated cyclopentyl tosylates, A. Streit-
wieser, Jr. and others, bibliog diags Am
Chem Soc J 80:2326-32 My 5 '58
- Laboratory preparation of lithium deuteride
and lithium aluminium deuteride, A. F.
L. C. Holding and W. A. Ross, bibliog
diags J Ap Chem 8:321-4 My '58
- Mechanism of the Hofmann elimination re-
action; deuterium exchange and isotope
rate effects, V. J. Shiner, Jr. and M. L.
Smith, bibliog Am Chem Soc J 80:4095-8
Ag 5 '58
- Raman spectra of amino acids and related
compounds; ionization and deuterium sub-
stitution in glycine, alanine and β-alanine,
M. Takeda and others, bibliog Am Chem
Soc J 80:3813-18 Ag 5 '58
- Rates of solvolysis of some deuterated 2-
phenylethyl p-toluenesulfonates, W. H.
Saunders, Jr. and others, bibliog Am Chem
Soc J 80:2421-4 My 20 '58
- Studies involving isotopically labelled formic
acid and its derivatives; positive and nega-
tive ions produced by electron impact in
formic acid and deuterioformic acids, G. A.
Ropp and C. E. Melton, bibliog Am Chem
Soc J 80:3509-12 J1 20 '58
- DEUTERIUM oxide.** See Water—Heavy water
- DEUTERONS**
Apparatus for measuring the energy spectra
of mass-selected particles in coincidence
with fission, R. H. Stokes and others, bib-
liog diags R Sci Instr 29:61-4 Ja '58
- Beams
- Continuous energy monitor for the external
beam of a cyclotron, J. A. Northrop and
R. H. Stokes, diags R Sci Instr 29:287-90
Ap '58
- Capture
- Beam-scanned rotating heavy-ice target for
high loads, J. H. Spaa, bibliog diags J Sci
Instr 35:175-8 My '58
- DEUTSCHE kautschuk-gesellschaft.** See Ger-
man rubber society
- DEVONIAN period.** See Geology, Stratigraphic
- Devonian
- Dew points**
Dew point gives moisture content of gases,
W. H. Fischer, Chem Eng 65:178 My 19 '58
- Dew point meter, il Engineering 185:422 Ap
4 '58
- Dew-point meter, il Metallurgia 57:153 Mr '58
- DEWAR flasks.** See Vacuum containers
- DEWAXING of petroleum.** See Petroleum re-
fining—Wax removal
- DEWOLF, Frank Walbridge**
Memorial, W. E. Pratt, bibliog por Am Assn
Pet Geologists Bul 42:1117-21 My '58
- DEXTRAN**
Solution properties of branched dextrans, K.
A. Granath, bibliog J Colloid Sci 13:308-
23 Ag '58
- Structural analysis of clinical dextrans by
periodate oxidation and isotope dilution
techniques, J. D. Moyer and H. S. Isbell,
bibliog il Anal Chem 29:1862-6 D '57
- DEXTRANSUCRASE**
Studies on the enzyme dextranucrase; the
effect of pH on enzyme activity, W. B.
Neely, bibliog Am Chem Soc J 80:2010-13
Ap 20 '58
- DEXTRINS**
1-Phenyl-flavazole derivatives of starch dex-
trins, P. Nordin and D. French, bibliog Am
Chem Soc J 80:1445-7 Mr 20 '58
- DEXTROPIMARIC acid**
Dextropimaric and isodextropimaric acids,
O. E. Edwards and E. Howe, bibliog Chem
& Ind p629-30 My 24 '58
- Stereochemistry of dextro- and isodextro-
pimaric acid, B. Green and others, bibliog
Chem & Ind p 1084 Ag 16 '58
- DEXTROSE.** See Glucose
- DEZINCIFICATION.** See Brass
- DIABETES**
Acute reduction in plasma amino acids by
carbohydrate infusion in diabetes and liver
disease, M. E. Rubini and D. Seligson, bib-
liog Am J Clinical Nutrition 8:365-75 J1 '58
- Aspirin for diabetes, J. Reid and A. I. Mac
Dougall, Drug & Cosmetic Ind 82:226 F '58
- Better antidiabetic; new oral drug, Diabinese,
Chem & Eng N 36:32 O 6 '58
- Drugs effective orally in the treatment of
diabetes mellitus, A. Minsky, A M A Ar-
chives Ind Health 17:392-8 bibliog(p396-8)
My '58
- Employment of diabetics, Ind Med 27:624-8
O '58
- Value of early diabetes detection, W. N. Sisk
and others, Ind Med 27:39-42 Ja '58
- DIACETYLENE.** See Butadiyne
- DIAGENESIS.** See Rocks, Crystalline and
metamorphic
- DIAGNOSIS**
Clinical approach and laboratory aids in
diagnosis and treatment of radiation in-
jury, H. E. Tebrock and others, Ind Med
27:513-17 O '58
- Differential diagnosis of chest pain, W. J.
Hagan, Ind Med 27:387-91 Je '58
- Differential diagnosis of dizziness, M. M.
Hipskind, Ind Med 27:386-8 Ag '58

DIAGNOSIS, Radioscopic

Follow-up in community chest film surveys. H. Bauer. *Am J Pub Health* 48:344-7 Mr '58

Pre-employment X-ray survey of the lumbosacral spine in bus drivers. L. Reiner. *bibliog Ind Med* 27:15-17 Ja '58

Pre-existing structural defects and severity of compensation back injuries. C. F. Runge. *Ind Med* 27:249-52 My '58

Pre-placement low back X-ray program. W. F. MacDonald. *Ind Med* 27:476-8 S '58

Röntgen resurvey of cement workers. O. A. Sander. *bibliog Il A M A Archives Ind Health* 17:96-103 F '58

Shielding device to protect gonads during routine chest roentgenography. M. Gasque. *Il diags Ind Med* 27:79 F '58

X-ray case-finding programs in tuberculosis control. *Ind Med* 27:298-9 Je '58

X-ray contrast medium containing PVP; patent. *Drug & Cosmetic Ind* 83:67- JI '58

DIAGRAMS, Electric wiring. See **Electric wiring—Diagrams**

DIAL telephone. See **Telephone, Automatic**

DIALDEHYDES. See **Aldehydes**

DIALYL phthalate. See **Phthalates**

DIALS, Instrument

Dial indicators simplify inspection problems. A. H. Emery. *Il diag Tool Eng* 39:111-13 N '57

Electroluminescence, new area-source of light. A. R. Gardner. *Il diags Product Eng* 29:74-7 S 15 '58

DIALURIC acid

Bioassay of vitamin E by the dialuric acid hemolysis method. L. Friedman and others. *bibliog J Nutrition* 65:143-60 My '58

DIALYSIS

Adsorption, dialysis, and ion exchange; an introduction. G. P. Monet. *bibliog flow diag diags Chem Eng Prog* 53:514-17 N '57

Desalting of water by electrodialysis. C. H. de Whalley. *flow sheet Il diags Chem & Ind* 98:13 Ja '58

Dialysis as an analytical tool. H. Hoch and R. C. Williams. *bibliog diags Anal Chem* 30:1258-62 JI '58

Electrodialysis using ion-exchange membranes. S. M. Partridge and A. M. Peers. *bibliog diags J Ap Chem* 8:49-67 Ja '58

Microencapsulation of electrodialysis and its application to thyrotrophic hormone. J. G. Pierce and M. E. Carsten. *Am Chem Soc J* 80:3482-3 JI 5 '58

Scaling problems in electrodialysis using permselective membranes. B. A. Cooke. *bibliog Chem & Ind* p555-6 My 10 '58

See also

Water purification—Electric membrane processes

DIAMINES. See **Amines**

DIAMINOPYRIMIDINE

Diuretics; 4,6-diaminopyrimidines. C. W. Whitehead and J. J. Traverso. *Am Chem Soc J* 80:2185-9 My 5 '58

DIAMONDS

Effects of layer faults in diamond structures on X-ray diffraction patterns. O. J. Guentert. *bibliog J Ap Phys* 28:1515-16 D '57

Model for solute diffusion in crystals with the diamond structure. R. A. Swalin. *bibliog J Ap Phys* 29:670-4 Ap '58

Some properties of diamond. E. N. Bunting and A. Van Valkenburg. *bibliog Am Mineralogist* 43:102-6 Ja '58

DIAMONDS, Artificial

Diamond output to leap. *Il Electronics* 31:34 Ja 24 '58

Man-made diamonds from General Electric. *Il Steel* 141:69 N 11 '57

Man-made diamonds hit market. *Il Iron Age* 180:87 N 7 '57

Man-made diamonds ready for production. *Product Eng* 28:116 N 11 '57

Man-made gems go to market; General Electric co. *Il Chem & Eng N* 35:60 N 4 '57

Successful production of man-made diamonds. *Il Mach* 64:196 D '57

Tests show superiority of man-made industrial diamonds for grinding wheels. N. A. Matthews and N. Liventhal. *Il diag Mach* 64:122-7 Ap '58

DIAMONDS, Industrial

Choosing the right diamond for the drilling job. *Eng & Min J* 153:106 D '57

How to reduce diamond wear. L. H. Cook. *diags Tool Eng* 39:108 D '57

New bonding process improves diamond tools. *Il Ind Lab* 9:64 Je '58

Should we stockpile diamond dies? *Am Mach* 102:141 F 10 '58

Smugler supplies government with diamond pressure chamber; sample in huge gem scanned by infrared rays. *Machine Design* 30:41 Ja 23 '58

Smuggler's big diamond now serves National Bureau of standards laboratory. *Am Cer Soc Bul* 37:sup40+ F 15 '58

See also

Diamonds, Artificial

DIAPHRAGMS

Device for precisely controlling an iris diaphragm; designed for use on an ore-microscope. P. A. Sabine and others. *diags Am Mineralogist* 43:784-5 JI '58

Diaphragm behavior of plastic disks. A. G. H. Dietz and F. J. McGarry. *bibliog diag Mod Plastics* 36:135-6+ S '58

Effective area of diaphragms. N. Baskevitch. *diags Machine Design* 30:124 Ag 7 '58

Ten ways to use metal diaphragms and capsules; drawings with text. D. C. Whitte. *Product Eng* 29:92-3 F 17 '58

Up-to-date appraisal of the synthetic diaphragm. R. J. Danforth. *Gas Age* 120:19 D 12 '57

Wood diaphragms; progress report of a sub-committee of the committee on timber structures of the Structural division. *Am Soc E Proc* 83 [ST 6 no 1433]:1-10. *bibliog* 83:10 N '57; Discussion. 84 [ST 1 no 1522]:99-100 Ja; [ST 3 no 1556]:39-41 My '58

DIARRHEA

Diarrhea of travelers. B. H. Kean and S. Waters. *A M A Archives Ind Health* 18:148-50 Ag '58

DIASTEREISOMERS. See **Isomerism**

DIATOMACEOUS earth

Diatomaceous earth deposit feeds new plant. *Il Chem & Eng N* 36:26 Ag 25 '58

Experiments with diatomite filtration of lime-soda softened water; abstract. R. Enzweiler. *Water & Sewage Works* 105:243 Je '58

Thermal insulation materials; diatomaceous silica. R. J. Fabian. *Materials in Design Eng* 47:127-8 Mr '58

DIATRETA. See **Glassware, Roman**

DIAZINON. See **Insecticides**

DIAZO compounds

Action of diazoalkanes on oxazolidine-4,5-diones. G. S. Skinner and E. J. Wright. *Am Chem Soc J* 79:6204-7 D 5 '57

Condensed cyclobutane aromatic systems; the synthesis of some α -diazolindanones; ring contraction in the indane series. M. P. Cava and others. *bibliog Am Chem Soc J* 80:2257-83 My 5 '58

Dealkylation in connection with diazo coupling of phenol ethers. J. F. Bunnett and G. B. Hoey. *bibliog Am Chem Soc J* 80:5142-6 Je 20 '58

6-Diazo-5-oxo-L-norleucine, a new tumor-inhibitory substance; preparation of L-, D- and DL-forms. H. A. DeWald and A. M. More. *bibliog Am Chem Soc J* 80:3941-5 Ag 5 '58

General synthesis of 17-hydroxylated steroidal diazoketones. E. G. Christensen and others. *bibliog Chem & Ind* p 1259-60 S 27 '58

Johann Peter Griess, discoverer of diazo compounds; biographical sketch. W. H. Cliffe. *bibliog Chem & Ind* p616-21 My 24 '58

One hundred years of diazo-compounds; their impact and importance in the chemical industry. W. H. Cliffe. *bibliog Chem & Ind* p 1248-55 S 27 '58

Organic sulfur compounds; synthesis of ethylenes and ethylene sulfides by action of diazoalkanes on thioesters. A. Schöenberg and others. *bibliog Am Chem Soc J* 79:6020-3 N 20 '57

Products from the reaction of diazoethane with diazoketones. P. Yates and others. *Chem & Ind* p69-70 Ja 18 '58

Reaction of diazo compounds with nitroolefins; the orientation of addition of disubstituted diazo compounds to nitroolefins. W. E. Farham and others. *bibliog Am Chem Soc J* 80:588-90 F 5 '58

Reduction of diazomethyl-keto acetates; a new route to osone derivatives. M. L. Wolfrom and J. B. Miller. *bibliog Am Chem Soc J* 80:1678-80 Ap 5 '58

Spectral evidence for tautomerism in diazo ketones. F. A. Miller and W. B. White. *bibliog Am Chem Soc J* 79:5974-8 N 20 '57

Thermal decomposition of diazoalkides. P. Yates and E. W. Robb. *bibliog Am Chem Soc J* 79:5760-8 N 5 '57

DIAZO compounds—Continued

Spectra

Aliphatic diazo compounds; infrared spectra. P. Yates and others. *bibliog* Am Chem Soc J 79:5756-60 N 5 '57

DIAZOETHANE

Products from the reaction of diazoethane with diazoketones. P. Yates and others. *Chem & Ind* p69-70 Ja 18 '58

DIAZOMETHANE

Action of diazomethane on the pentaacetates of aldehyd- β -glucose and aldehyd- β -galactose. M. L. Wolfrom and others. *bibliog* Am Chem Soc J 79:6454-7 D 20 '57

Methylation of alcohols with diazomethane. M. C. Caserio and others. *Am Chem Soc J* 80:2584-5 My 20 '58

Reaction of keto-acetates with diazomethane. M. L. Wolfrom and others. *bibliog* Am Chem Soc J 79:6299-303 D 5 '57

DIAZONIUM compounds

Direct introduction of the diazonium group into aromatic nuclei; $\text{N}_2\text{O}-\text{BF}_3$ complex as reagent. J. M. Tedder. *Am Chem Soc J* 79:6090 N 20 '57

Kinetics of the Sandmeyer and Meerwein reactions. S. C. Dickerman and others. *bibliog* Am Chem Soc J 80:1904-11 Ap 20 '58

O-alkylation accompanying the direct formation of diazonium salts from phenols in alcoholic solution. J. M. Tedder and G. Theaker. *Chem & Ind* p 1485 N 9 '57

Physicochemical properties of *p*-carboxyphenylazobenzene. W. L. Koltun. *bibliog* Am Chem Soc J 79:5681-6 N 5 '57

Reactions of the *p*-nitrobenzenediazonium and diazotate ions with acid and base. E. S. Lewis and H. Suhr. *bibliog* Am Chem Soc J 80:1367-71 Mr 20 '58

DIBENZANTHRACENE

Synthesis of the mono- and dihydroxy derivatives of 1,2,5,6-dibenzanthracene excreted by the rabbit and of other hydroxylated dibenzanthracene derivatives. J. A. Labudde and C. Heidelberger. *bibliog* Am Chem Soc J 80:1225-36 Mr 5 '58

DIBENZOYCYCLOADIENE

Stereochemistry of the 1,2,3,4-dibenz-1,3-cyclooctadiene system. L. V. Dvorken and others. *bibliog* Am Chem Soc J 80:486-92 Ja 20 '58

DIBENZODIAZECINE

Eight-membered and a ten-membered ring system; benzodiazecine and dibenzodiazecine. W. E. Rosen and others. *bibliog* Am Chem Soc J 80:935-9 F 20 '58

DIBENZODIOXIN

Bromonitro and related derivatives of dibenzo-*p*-dioxin. H. Gilman and J. J. Dietrich. *bibliog* Am Chem Soc J 80:366-8 Ja 20 '58

DIBENZOFULVENE

Kinetic study of the reactivity of some dibenzofulvenes toward free radicals. J. Kice. *bibliog* Am Chem Soc J 80:348-52 Ja 20 '58

DIBENZOPHENANTHRENE

Synthesis of 2,3,6,7-dibenzophenanthrene. E. D. Bergmann and R. Ikan. *bibliog* Am Chem Soc J 80:208-9 Ja 5 '58

DIBENZYL

Dicarbonyls of dibenzyl ketone dibenzyl sulfone and α,β,β -triphenylpropionitrile. C. R. Hauser and T. M. Harris. *Am Chem Soc J* 79:6342 D 5 '57

DIBORANE. See Boron hydrides

DIBORON tetrachloride. See Boron chlorides

DIBORON tetrafluoride. See Boron fluorides

DIBROMIDES

Formation of non-vicinal dibromides from allyl esters and bromine. J. H. C. Naylor. *Chem & Ind* p863 J 5 '58

DIBROMOCYCLOHEPTANE

Proximity effects; reaction of *trans*-1,2-dibromocycloheptane with silver acetate. A. C. Cope and others. *Am Chem Soc J* 79:6292-5 D 5 '57

DIBROMOFLUOROMETHANE

Hydrolysis and deuterium exchange of dibromo-*o*-fluoromethane and fluoroiodomethane. J. Hine and others. *bibliog* Am Chem Soc J 80:819-24 F 20 '58

DIBUTYL tin

Diethyltin dicarboxylic acid esters. T. M. Andrews and others. *Am Chem Soc J* 80:4102-4 Ag 5 '58

DICARBOXYLIC acids. See Carboxylic acids

DICHLOROBENZENE

Thermodynamics of ion pair dissociation: tetrabutylammonium picrate in chlorobenzene, *o*- and *m*-dichlorobenzene. P. H. Flaherty and K. H. Stern. *bibliog* Am Chem Soc J 80:1034-8 Mr 5 '58

Physiological effect

Toxicity of *o*-dichlorobenzene. R. L. Hollingsworth and others. *bibliog* A M A Archives Ind Health 17:180-7 Mr '58

DICHLOROCARBENE

Electron-seeking demands of dichlorocarbene in its addition to olefins. W. V. Doering and W. A. Henderson, Jr. *bibliog* Am Chem Soc J 80:5274-7 O 5 '58

DICHLORODIFLUOROMETHANE

Azeotrope of monochlorodifluoromethane and dichlorodifluoromethane. B. J. Elisman, Jr. *Am Chem Soc J* 79:6087 N 20 '57

Measurement of concentrations of gaseous halide tracers in air by positive ion emission techniques. H. A. Schultz. *bibliog* Anal Chem 29:1840-2 D '57

Permeability of plastics films to refrigerant 12 and nitrogen. H. M. Parmelee. *bibliog* Refrig Eng 66:35-40+ F '58

Testing

Behavior of refrigerants 12 and 22 in sealed-tube tests. D. E. Kvalnes and H. M. Parmelee. *bibliog* Refrig Eng 65:40-2+ N '57

DICHLOROETHANE

Reaction of hydrazine with ethylene dichloride. R. F. Evans. *Chem & Ind* p915-16 J 19 '58

Manufacture

Ethylene dichloride, flow diag Pet Refiner 36:239 N '57

DICHLOROETHYLENE

Radioisotopic synthesis of the *cis*- and *trans*-isomers of 1,2-dichloroethylene oxide. J. H. Futrell and A. S. Newton. *Am Chem Soc J* 80:4424-5 Ag 20 '58

DICHLORONAPHTHOQUINONE

Analysis

Microdetermination of 2,3-dichloro-1,4-naphthoquinone (Phygon) in water. J. E. Newell and others. *bibliog* J Agri & Food Chem 6:669-71 S '58

DICHLOROPHENOL

Kinetics of aromatic halogenation; the iodination of 2,4-dichlorophenol and anisole with iodine monochloride. E. Berliner. *bibliog* Am Chem Soc J 80:856-61 F 20 '58

DICHLOROTOLUENE

Detection of polynuclear hydrocarbons and phenols with benzal and piperonal chlorides. E. Sawicki and others. *bibliog* Anal Chem 30:1130-3 Je '58

DICHLORISM

Apparatus for the observation of infrared streaming dichroism of polymer solutions. G. R. Bird and others. *bibliog* J Appl Phys 29:305-9 Ap '58

DICHROMATES

Acid-base reactions in fused salts; the dichromate-nitrate reaction. F. R. Duke and M. L. Iverson. *Am Chem Soc J* 80:5061-3 O 5 '58

DICTATING machines

Office dictation equipment. *il* Machine Design 30:22-5 Mr 6 '58
Phenolic for complex detail; dictation machines. *il* Mod Plastics 35:80-1 J 1 '58
Transcriber controls are integral with typewriter keyboard. *il* Machine Design 29:120 N 28 '57

DICYCLOHEXYLAMINE

Stereochemistry of the 2,2'-dihydroxydicyclohexylamines. T. Tazuchi and K. Hayashida. *bibliog* Am Chem Soc J 80:2522-6 My 20 '58

DICYCLOPENTADIENE

Ring-substitution reactions of dicyclopentadienylruthenium and dicyclopentadienylchromium. M. D. Rausch and others. *Chem & Ind* p766-7 Je 21 '58

Die casting

Automatic metering of magnesium for cold chamber die casting; abstracts. F. L. Burkett and F. C. Bennett. *Metal Prog* 73:186-4 F '58; *Tool Eng* 40:210 Je '58

Casting brushes in continuous strips for an impulse counter. E. Natkins. *il* Electronics 31:145-74 F 14 '58

Die cast zinc rotor lengthens life of washer-drier pump; award of merit in Materials in design engineering competition. *il* Materials in Design Eng 47:139 Ap '58

DIE casting—Continued

Die casting cylinder blocks and heads for 50-hp V-4 engines. K. Rose. *II Automotive Ind* 119:57 S 15 '58

Diecasting foundry makes automotive hardware parts. R. H. Herrmann. *II Foundry* 86:110-13 Ap '58

Diecasting vs machining. H. K. Barton. *diags Product Eng* 28:D 10-13 Mid-O '57

Diecastings; abstracts of AFS papers. Foundry 86:148-149 Ag '58

Diecastings in ammunition design. L. G. Kilnker and others. *II Foundry* 86:60-1 Je '58

Extruded and die-cast aluminum parts effect economies at Chrysler. H. Chase. *II diags Mach* 68:147-9 Ja '58

High-speed diecasting line features automatic pouring. H. Chase. *II Iron Age* 181:96-8 Je 12 '58

Hinged die castings. *II diags Materials in Design Eng* 48:11 S '58

Inserts for die castings. E. F. Hannon. *II Machine Design* 30:15-8 Mr 6 '58

Jointed parts are diecast. *II Steel* 143:99 Ag 18 '58

Manufacture and use of large aluminum diecastings. A. F. Bauer. *II diag Foundry* 86:102-6 F '58

Metalworking. 1962. A. F. Bauer. *Am Mach* 101:137 N 18 '57

New Chevrolet plant diecasts transmission parts. K. L. Mountain. *II Foundry* 85:93-7 N '57

New cleaning unit utilizes aluminum die castings. *II Elec Manuf* 62:130 Ag '58

Review of die casting practices abroad. D. L. Colwell. *II Metal Prog* 73:88-90 Ja '58

Steels for pressure die casting dies; abstract. K. I. Bengtsson. *Metal Prog* 74:176+ J1 '58

Tips on aluminum die castings. J. G. Boehm. *S. A. E J* 66:68-9 Mr '58

Vacuum die castings of zinc. J. L. Everhart. *II diags Materials in Design Eng* 47:110-12 Je '58

Waveguide design for die-casting allowing for wall taper. P. Humphreys. *II diags Electronic & Radio Eng* 34:441-7 D '57

Which finish for zinc die castings. R. Strickland. *Product Eng* 29:59-61 Mr 3 '58

See also
American die casting institute

DIE casting institute. *See* American die casting institute

DIE casting machines
Hollow pressure die casting without cores. *II Engineer* 206:345 Ag 29 '58

Robar die-casting machine. *II Automobile Eng* 48:324-5 Ag '58

Spring-loaded pilot stops press electrically. N. W. Taylor. *diag Am Mach* 102:127 F 24 '58

Test ring rates casting machine. *II diag Product Eng* 29:64 Mr 3 '58

DIELDRIN
Mothproofing of wool with dieldrin. M. Lipson and J. R. McPhee. *bibliog Textile Res J* 28:679-86 Ag '58

DIELECTRIC constants
Analysis and control by dielectric constant. R. R. Wall. *diag Ind & Eng Chem* 50: sup69A-70A Je '58

Dielectric constant of deuterium oxide. C. G. Malmberg. *II J Res Nat Bur Stand* 60:609-12 Je '58

Effect of hydrostatic pressure on the permittivity of barium titanate ceramics. G. W. Marks and L. A. Monson. *bibliog II diag Power Apparatus & Systems* p64-9 Ap '58

Infra-red and microwave modulation using free carriers in semiconductors. A. F. Gibson. *bibliog diags J Sci Instr* 35:273-8 Ag '58

Measuring dielectric constants at uhf. J. J. Kyame. *II diags Electronic Ind* 17:supO 7+ Mr '58

Microwave absorption and molecular structure in liquids; dielectric relaxation times and molecular shapes of some substituted benzenes and pyridines. A. J. Petro and C. P. Smyth. *bibliog Am Chem Soc J* 79: 6142-7 D 5 '57

Microwave absorption and molecular structure in liquids; the dielectric relaxation times of three prolate ellipsoidal molecules. in benzene solution. D. A. Pitt and C. P. Smyth. *bibliog Am Chem Soc J* 80:1061-3 Mr 5 '58

Solvents having high dielectric constants; conductimetric behavior of some alkaline earth salts in N-methylacetamide at 40°. L. R. Dawson and others. *bibliog Am Chem Soc J* 80:4235-5 Ag 20 '58

Solvents having high dielectric constants; the conductimetric behavior of several salts in formamide at 25°. L. R. Dawson and others. *bibliog Am Chem Soc J* 79:5906-8 N 20 '57

See also
Curie point

DIELECTRIC heating. *See* Electric heating, Industrial—High frequency heating

DIELECTRIC losses
Dielectric dispersion in methacrylate polymers and its correlation with mechanical properties. J. D. Ferry and S. Strella. *bibliog J Colloid Sci* 13:459-71 O '58

Dielectric dispersion in symmetric top molecules. J. E. Boggs. *bibliog Am Chem Soc J* 80:4235-8 Ag 20 '58

Dielectric losses of some simple ternary silicate glasses; abstract. D. W. Rinehart. *Cer Ind* 69:87 D '57

Dielectric properties of hemoglobin. S. Takashima and R. Lumry. *bibliog Am Chem Soc J* 80:4238-48 Ag 20 '58

Dielectric relaxation of polyoxyethylene glycol (POEG) in toluene. A. B. Ruigrok and J. J. Hermans. *bibliog diags J Colloid Sci* 13:488-99 O '58

See also
Hysteresis

DIELECTRIC polarization. *See* Polarization, Dielectric

DIELECTRICS
Air-gap test cell for measuring properties of sheet dielectrics. S. I. Reynolds and D. A. Kollath. *bibliog II diags R Sci Instr* 29: 295-6 Ap '58

Anisotropic effects in geometrically isotropic lattices. Z. A. Kaprielian. *diag J Ap Phys* 29:1052-63 J1 '58

Artificial dielectrics for microwave lenses. M. K. Hu and D. K. Cheng. *diags Electronics* 31:100+ S 26 '58

Corona discharge; failing of dielectrics. C. D. Nail. *diags Electronic Ind* 17:74-7 S '58

Dielectric material is stable at 1500 F; Eccospheres. *II Materials in Design Eng* 48:144+ J1 '58

Dielectric properties of albumins. S. Takashima. *Am Chem Soc J* 80:4478-80 S 5 '58

Dielectric properties of hemoglobin; measurements with solid materials. S. Takashima. *bibliog Am Chem Soc J* 80:4474-8 S 5 '58

Dielectric properties of titania or tin oxide containing varying proportions of rare-earth oxides. S. Marzullo and E. N. Bunting. *Am Cer Soc J* 41:40-1 Ja 1 '58

Dielectric strength and voltage life of polyethylene. G. H. Hunt and others. *II Power Apparatus & Systems* p25-8 Ap '58; *Excerpta. Elec Eng* 77:681 Ag '58; *Machine Design* 30:156 Mr 6 '58

Dielectric stress in thin walled cable. S. Kalifon. *diag Wire & Wire Prod* 33:303 Mr '58

Dielectrics stem in magnetism research. T. D. Callinan. *Elec Manuf* 61:10 Ja '58

Effect of transformer-oil-preservation methods on the dielectric strength of oil. R. B. Kaufman and others. *II Power Apparatus & Systems* p 1315-20 F '58; *Abstract. Elec Eng* 77:65 Ja '58; *Discussion. Power Apparatus & Systems* p 1320-1 F '58

Evaluation and applications of fiber-insulated magnet wire. H. L. Sauts and W. W. Pendleton. *bibliog Elec Manuf* 61:93-103 F '58

Foamed polyethylene coaxial cables; effects of moisture penetration on cellular dielectric. C. Camillo and G. R. Karlson. *diags Wire & Wire Prod* 33:649-53+ Je '58

Gassing of liquid dielectrics under electrical stress; influence of voltage and pressure. H. Basseches and M. W. Barnes. *bibliog diags Ind & Eng Chem* 50:959-66 Je '58

High-temperature-stable gaseous dielectric; abstract. P. W. Blodgett. *Elec Manuf* 61:11-12 Ap '58

How to use electronic ceramics better. W. J. Baldwin. *Cer Ind* 71:88-92 Ag; 132-6 S '58

Interrelationship between density and dielectric strength of high pressure polyethylene for high voltage applications in insulated wires. A. S. Silver. *bibliog Wire & Wire Prod* 33:70-2+ Ja '58

Investigating the dielectric pump. P. L. Auer and A. H. Sharnbaugh. *II diag Gen Elec R* 61:37-8 J1 '58

Liquid dielectrics in an electric field. W. H. Middendorf and G. H. Brown. *bibliog diags Power Apparatus & Systems* p795-9 O '58

Metal-flake artificial dielectric; properties at S-band frequencies. S. Swarup. *bibliog II diag Electronic & Radio Eng* 35:179-82 My '58

DIELECTRICS—Continued

- Microwave magnetic field in dielectric-loaded coaxial line. B. J. Duncan and others. *diags Inst Radio Eng Proc* 46:500-2 F '58
- Microwave properties of solid dielectrics up to 3000 F. D. M. Bowle. *bibliog diags Elec Manuf* 61:144-7 F '58
- Molecular key to dielectric properties; a capsule physical chemistry for the design engineer. T. D. Callinan and A. E. Javitz. *il diags Elec Manuf* 62:73-92 J1 '58
- Molecular theory of dielectric properties. L. Jansen. *bibliog Ind & Eng Chem* 50:1025 J1 '58
- Nucleation of dislocations accompanying electric breakdown in LiF crystals. J. J. Gilman and D. W. Stauff. *bibliog il diags J Ap Phys* 29:120-7 F '58
- Piezoelectric and dielectric characteristics of single-crystal barium titanate plates. A. H. Meitzler and H. L. Stadler. *bibliog diags Bell System Tech J* 37:719-38 My '58
- Propagation through a dielectric slab. T. B. A. Senior. *diags Electronic & Radio Eng* 35:135-7 Ap '58
- Radiation from slots on dielectric-clad and corrugated cylinders. J. R. Wait and A. M. Conda. *diags J Res Nat Bur Stand* 59:307-16 N '57
- Radiation resulting from an impulsive current in a vertical antenna placed on a dielectric ground. C. L. Pekeris and Z. Alterman. *bibliog diags J Ap Phys* 28:1317-23 N '57
- Sample holder for thin-sheet-insulation dielectric measurements up to 600 C. M. C. Halleck. *bibliog il diags Power Apparatus & Systems* p343-8 Je '58
- Solid-state switch uses dielectric breakdown. *il diag Electronics* 31:108-4 Ag 1 '58
- Some effects of nonuniform fields on dielectrics. H. A. Pohl. *bibliog il (cover) diags J Ap Phys* 29:1182-8 Ag '58
- Survey of dielectric materials; abstract. G. C. Garton. *Brit Inst Radio Eng J* 18:138 F '58
- Ternary systems BaO-TiO₂-SnO₂ and BaO-TiO₂-ZrO₂. G. H. Jonker and W. Kwestroo. *bibliog Am Cer Soc J* 41:390-4 O 1 '58
- Thermal conductivity and dielectric strength of periclase insulation. J. M. Karpinski and others. *bibliog diags Am Cer Soc Bul* 37:329-33 J1 '58
- Treeling in polyethylene as a prelude to breakdown. D. W. Kitchen and O. S. Pratt. *il Elec Eng* 77:218-23 Mr '58; Same. *Power Apparatus & Systems* p 180-5; Discussion. 135-6 Je '58
- Use of complex conductivity in the representation of dielectric phenomena. F. A. Grant. *diags J Ap Phys* 29:76-80 Ja '58
- Use of dielectric materials to enhance the reflectivity of a surface at microwave frequencies. G. E. Walker and J. T. Hyman. *diags Inst E E Proc* 105 pt B:73-6 Ja '58

See also

Insulating materials
Insulation (electric)
Mica

DIELS-ALDER reaction

- Acridizinium ion chemistry; the Diels-Alder reaction. C. K. Bradsher and T. W. G. Solomon. *bibliog Am Chem Soc J* 80:933-4 F 20 '58
- Cyclic dienes: Diels-Alder adducts and cyclohexene derivatives from 1,2-dimethylene cyclohexane. W. J. Bailey and H. R. Golden. *bibliog Am Chem Soc J* 79:6516-19 D 20 '57
- Diels-Alder reaction of an unconjugated diene. E. F. Ullman. *bibliog Chem & Ind* p 1173-4 S 6 '58
- Reaction of N-benzylpyrrole with acetylenedicarboxylic acid; a Diels-Alder addition to a pyrrole. L. Mandell and W. A. Blanchard. *bibliog Am Chem Soc J* 79:6198-201 D 5 '57
- Reactions of conjugated fatty acids; selenium catalysis, a method for preparing Diels-Alder adducts from *cis,trans*-octadecadienoic acid. H. M. Deeter and others. *bibliog Am Oil Chem Soc J* 35:233-40 My '58
- Stereochemistry of Diels-Alder adducts; the rearrangement of 2-*exo*-bromonorbomane-2-*endo*-carboxamide. W. R. Boehme. *bibliog Am Chem Soc J* 80:4740-1 S 5 '58
- Synthesis of cage-like molecules by irradiation of Diels-Alder adducts. R. C. Cookson and others. *Chem & Ind* p 1003-4 Ag 9 '58

DIENE rubber. See Rubber, Artificial

DIENHART, Elmer W.

Well done. *Engl editorial*. D. Papineau. *por Concrete* 66:25 Ap '58

DIES

- Air jets improve die action with thin stock. L. G. Pangburn. *il Am Mach* 102:101 Ap 7 '58
- Automatic blank feed for forming dies. F. Strasser. *diags Mach* 64:180 Ja '58
- Automatic trimming die. G. W. Lateste. *diag Tool Eng* 40:78 F '58
- Blanking dies; which stop to use? F. Strasser. *diags Iron Age* 181:132-4 My 22 '58
- Carbide dies. *il Mech Eng* 80:63 J1 '58
- Centralized die storage. Dana corporation's Auburn div. R. McPherson. *il Am Mach* 102:105 S 22 '58
- Curling die employs toggle links. H. Dahl. *diags Am Mach* 102:123 Je 16 '58
- Die has floating horn to allow closing of flat stock. B. Sullivan. *diags Mach* 64:118-19 Ag '58
- Die produces part without stress. E. H. Stock. *diags Am Mach* 102:138 My 5 '58
- Die produces parts without scrap loss. R. Islets. *diags Am Mach* 102:123 Ap 7 '58
- Die with floating members for bending heavy angle-iron. A. G. Amos. *diags Mach* 64:170-1 Ap '58
- Dieing machine does many jobs for contract stamper. W. H. Dutcher, jr. *il Iron Age* 181:68-9 Ja '58
- Die-maker's kinks (cont). F. Strasser. *diags Am Mach* 101:156 N 18 '57; 102:124 F 10 '58
- Electronics saves punch press dies. *il Electronics* 31:178-4 Mr 14 '58
- Epoxy shatters cut die costs. T. W. Black. *il Tool Eng* 40:89-91 Mr '58
- Forming with epoxies faced dies. J. Delmonte. *il Tool Eng* 37:84-6 J1 '56; Same cond. *Product Eng* 28:D9 Mid-O '57
- Four advanced carbide dies; Oberg mfg. co. R. Le Grand. *il diags Am Mach* 102:128-31 Mr 10 '58
- MoS₂ cuts die maintenance. *il Am Mach* 102:73-4 J1 '58
- New Kirksite ups die life. *il Steel* 143:68 J1 23 '58
- Pilots for progressive dies. F. Strasser. *diags Mach* 65:146-50 S '58
- Pinch and roll dies halve blade cost. A. Asburn. *il diags Am Mach* 102:89-91 Je 2 '58
- Polished dies cut costs. *il Steel* 143:76 S 1 '58
- Press-form metal tubing with simple dies. F. Strasser. *diags Iron Age* 180:127-9 D 12 '57
- Prototype dies use growths. *il Steel* 141:73-4 D 16 '57
- Self-opening diehead; Alfred Herbert, Ltd. *il Engineer* 206:342 Ag 29 '58
- Short run dies offer long life. *il diags Steel* 141:94-6 D 2 '57
- Storage system for press dies cuts space requirements 300 per cent; Rapids-Standard co. *il Plant* 17:47 My '58
- Study of the distortion of high-carbon high-chromium die steels. K. Sachs. *bibliog il diags Iron & Steel Inst J* 189:216-24 J1 '58
- 30 ways to handle dies. H. G. Weiss. *il Mod Materials Handling* 13:96-101 Je '58
- Thread nomenclature and definitions applying to screw threads, taps and dies; data sheet. *diags Mach* 64:209-10 J1 '58
- Tool up for stamping through use of a die bank. S. J. Malorana and F. J. Covelli. *il diags Iron Age* 181:38-6 Je 12 '58
- Unusual dies for stamping Constellations, Hoover vacuum cleaners. *il diags Mach* 64:117-22 My '58

See also

Acme school of die design engineering
Punching machinery

Failure

- Die failure caused by slugs. D. Peckner. *il Am Mach* 102:94 Ag 11 '58

Manufacture

- Electro-chemical machining provides high metal removal rates on large dies. *il Am Mach* 102:133 S 22 '58
- Heat treating, an important step in punch and die manufacture. J. H. Bockrath. *il diags Tool Eng* 39:96-9 D '57
- Induction heat improves die quality control. E. H. Pechan, jr. *il Elec World* 150:94 J1 28 '58

Moving

- Handles big dies; heavy-duty trailer. *il Steel* 143:82 J1 28 '58

DIES, Extrusion

- Some aids to the design of dies for plastics extrusion. D. J. Weeks. *bibliog il diags Brit Plastics* 31:156-60+, 201-5 Ap-May '58

DIES, Extrusion—Continued

To correct extrusion dies; fundamentals of extrusion flow, proper tools and techniques. H. D. Flicker. diags Mod Metals 14:38-40+ Ag '68

Manufacture

New idea in spark-machining. J. D. Shoe-maker. *il* diags Mach 64:147-50 N '57

DIES, Plastic

Cutting production costs and time with epoxy resin press dies; Grumman aircraft corp. J. J. Mele. *il* Plastics Tech 4:232-4 Mr '58

Epoxy-alloy for metal forming; dies *of* Epoxy-Alloy. *il* Mod Plastics 36:196 Ap '58

Epoxy material is strong enough for medium-run metalforming dies. *il* Am Mach 102:156 F 24 '58

For tools and dies, new epoxy-fiber compositions. A. P. Mazzucchelli. *il* Tool Eng 40:99-103 Ap '58; Abstract. Am Mach 102:141 F 24 '58

Here's a better plastic die; treated metal powder and an epoxy liquid. *il* Steel 142:94-5 Mr 17 '58

Making plastic dies with steel-epoxy compounds. *il* Tool Eng 40:119-20 My '58

Metal-fiber reinforcement lengthens plastic-die life. *il* diags Mach 64:128-31 My '58

Metal plastic dies give medium production runs. *il* Machine Design 30:14-15 Ja 23 '58

Plastic dies get new life; epoxy resin system reinforced with metal or glass fibers. *il* Steel 142:76 F 24 '58

Plastic printing dies. J. F. Mitchell. Tappi 41:sup 157A-8A Ja '58

Plastics dies for prototypes and production. W. J. Esdale. *il* Plastics World 16:6-7 JI '58

Plastics tooling for short run dies. *il* Materials in Design Eng 47:174+ Je '58

Steel compound cuts tooling costs. *il* Iron Age 181:156-7 Mr 6 '58

DIESEL, Rudolph

R. Diesel centenary. *por* Engineer 205:386-7 R 14 '58

Sketch. E. S. Barr. *por* Am J Phys 26:112-13 F '58

DIESEL-electric locomotives. See Locomotives, Diesel-electric

DIESEL-electric sets

All-electric governor gives fast, accurate response. *il* diags Diesel Power 36:85-6 JI '58

Application of d-c machines to oil-well drilling. B. H. Hefner. *il* diags Applications & Ind 3:45-50; Discussion. 350-2 Ja '58

Brush Electrical Engineering mobile power plant. *il* Engineering 186:229 Ag 22 '58

Diesel-electric portable winding engine. *il* Engineering 184:617 N 15 '57

Diesel-engine-driven arc welding set. *il* Engineer 205:295 F 21 '58

Diesel standby makes wind-driven generator practical, cuts costs. *il* Diesel Power 36:33 Je '58

Electricity without a break; Diesel electric unit known as RACO (rapid automatic change-over). *il* diags Engineering 184:553 N 1 '57

Generators designed for Diesel drive. P. G. Cummings. *il* Diesel Power 36:28+ Ag '58

Mobile units, first on the job; power project at Chute des Passes, Que. *il* Diesel Power 36:66 Ap '58

Mobile units for power-hungry Mexico. *il* Diesel Power 36:19 Mr '58

No-break power for vital unattended installations. *il* Diesel Power 36:22-3 Je '58

No Diesel power; no key defense systems; Diesel generator sets for SAGE. *il* diags Diesel Power 36:24 Ja '58

Portable emergency mine winding engines. *il* Engineer 204:682 N 3 '57

Power supply stand-by. *il* Engineer 204:761 N 22 '57

Transportable power, an asset to utility operation. *il* diags Diesel Power 36:28-9 Je '58

Cooling

Onan three-kw Diesel generator set features Vacu-flo air cooling. *il* Diesel Power 36:34 S '58

DIESEL engine plants. See Power plants—Diesel engine plants

DIESEL engine stations. See Electric plants (central stations)—Diesel engine stations

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Curtiss-Wright adds four Mercedes-Benz models. *il* Diesel Power 36:32-3 Je '58

Deutz adds three 712 series models. *il* Diesel Power 36:27 Ag '58

Diesel drilling package combines electric and mechanical drive. *il* Diesel Power 36:24+ Je '58

Diesel engines use compression ignition. B. G. A. Skrotzki. *il* diags Power 102:94-7+ I '58

Diesels fuel missiles. *il* Diesel Power 36:28-9 Ja '58

Drayton lightweight uniflow Diesel engine. *il* diags Engineering 185:407-8 Mr 28 '58

Fifty years of Diesel engine development; Mirreles, Bickerton and Day. *il* Engineer 204:795-8 N 29 '57

Heat and power generation; Mirreles, Bickerton and Day KSS.6 oil engine. Engineer 205:70 Ja 10 '58

Light weight Diesel engines. *il* diags Engineer 204:754-6 N 22 '57

Lightweight Diesel now available. *il* Eng N 159:38 D 5 '57

Looking ahead at 1958. Diesel Power 36:16-17+ Ja '58

Metallurgy makes the difference. F. G. Seifing. *il* Diesel Power 36:35-9 N '57

New Diesel-Dial provides engine data. *il* Diesel Power 36:18-19 Mr '58

Parts control by push button; Waukesha motor company's use of business machines. O. Pederson. *il* Diesel Power 36:28-9 My '58

Runs 25,000 hours; needs only piston rings. *il* Diesel Power 36:33 Je '58

Second model for Ford's industrial Diesel line. *il* Diesel Power 36:24-6 F '58

Twin-bank oil engines. *il* Mech Eng 79:1159 D '57

What sells engines? Stewart & Stevenson services; interview with J. Manning. *il* Diesel Power 36:28-30+ Ap '58

White Diesel direct drives shovel crane. *il* Diesel Power 35:42-3 N '57

See also

Diesel-electric sets

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Cleaning

Diesels desludged without dismantling. B. H. Bailey. *jr* *il* Diesel Power 36:37-8 Je '58

Cold weather operation

Diesel engine heaters save \$5,000 per year. S. E. Abell. *il* Elec World 149:75 Je 2 '58

Reliable push button starting depends on battery care. R. H. Hawkins. Min Cong J 44:77-8 Mr '58

Starting fluid setups meet every need. diags Diesel Power 36:38-9 JI '58

Control

All-electric governor gives fast, accurate response. *il* diags Diesel Power 36:85-6 JI '58

Centralized control improves pipeline operation. *il* Diesel Power 36:14-16 Mr '58

Controlled turbocharging improves performance. Garrett corp's AResearch industrial div. *il* diags Diesel Power 36:30-1 S '58

Pneumatic control system provides engine speed control, safety shutdown; Patoka, Ill. station, Texaco-Cities service pipe line co. J. T. Howard. *il* diags Pet Eng 28:D43-5 D '57

Cooling

Aircooled Diesel compares with liquid-cooled type in important aspects. C. F. Bachle. diags S A E J 65:78-80 N '57

Lister air-cooled Diesels. *il* Engineering 185:806 Je 27 '58

Turbocooling of intake air proves effective. *il* diags Diesel Power 36:35-6 Ap '58

Two air-cooled Diesel engines. *il* Engineer 205:106 JI 18 '58

Value of intercooling. L. E. Clark. *il* Diesel Power 36:14-15 Ag '58

Deposits

Diesel combustion chamber deposit formation. P. D. Hobson. bibliog *il* diags Ind & Eng Chem 50:337-40 Mr '58

Design

Cerlist's model three; first of five planned. *il* diags Diesel Power 36:36-8+ JI '58

Design and development of a two-cycle turbo-charged Diesel engine. P. J. Louzcky. *il* diags A S M E Trans 79:1929-38; Discussion. 1938-40 N '57

DIESEL engines—Design—Continued

Future developments of the high-speed Diesel engine. E. Chatterton. *il* diags A S M E Trans 79:1941-50 N '57; Abstracts. Product Eng 28:H 12-16 Mid-O '57; Engineering 183: 91 Ja 18 '57; Discussion. A S M E Trans 79:1950-5; Reply. 1955-6 N '57

New uniflow two-stroke Diesel. M. W. Paquette. *il* diags S A E J 65:42-4 N '57

Twin-bank Diesel. *il* Engineering 184:490-1 O 13 '57

Vee design cuts size, lifts power of stationary Diesel engine; abstract. H. M. Hirvo. S A E J 66:106 My '58

Directories

Diesel engine directory; Diesel engines, accessories, parts, tooling and services. Diesel Power 36:43-71 JI '58

Exhaust

Diesel engine performance; a technique for reducing smoke and improving output. M. Alperstein and others. *bibliog il* diags Automobile Eng 48:22-31 Ja '58

Failure

Recognize types of crankshaft failures. Diesel Power 36:30 Je '58

Fuel

Also element provides better fuel filtration. *il* Diesel Power 36:33 F '58

Diesel engine fuel economy. J. C. Miller. Product Eng 29:H9-11 Mid-S '58

Diesel engine performance; a technique for reducing smoke and improving output. M. Alperstein and others. *bibliog il* diags Automobile Eng 48:22-31 Ja '58

Diesel-fuel-cleaning system with a two-stage centrifuge and wash solution; U.S. navy's power plant at Subic bay. D. M. Landis and E. G. Bahret. *il* diag Power 102:87-9 Mr '58

Economy fuels cut costs at Ipswich power plant. *il* Power Eng 62:75 Ja '58

Electron microscope helps railroad select economy fuels. *il* Diesel Power 36:40 JI '58

Fuels aid Diesel development; abstract. D. R. Jones. S A E J 66:106 Ag '58

Fuel processed at sea in seaway-lakes bulk carriers. Machine Design 30:8 JI 10 '58

How to get quality fuel with economy. G. K. Brower. Diesel Power 35:35-7+ D '57

Microscopy in the examination of Diesel fuels. F. G. Rowe and H. F. Nicolaysen. *il* diag Pet Eng 29:445-4 D '57

New concept for residual oil conditioning; self-cleaning centrifuge design and a water-phase recycle system. diags Diesel Power 36:22-4 S '58

Performance testing demonstrates differences in fuel filters. J. Wilson and R. Young. *il* Diesel Power 36:78-1 JI '58

Selecting fuel for high-speed Diesels. *il* Diesel Power 36:12-13 Ag '58

What tomorrow's Diesel fuel will need; abstract. G. C. Wilson. S A E J 66:100 Je '58

See also

Locomotives, Diesel—Fuel

Fuel feeding

Calibrating and running-in unit injectors. S. E. Franklin. *il* Diesel Power 36:44-5 O '58

Cummins controls overfueling. *il* Diesel Power 36:20 My '58

Excess fuel device for Diesel engines. diags Automobile Eng 48:95 Mr '58

Fumigation, a potential fuel saver; introduction of a part of fuel in mist form, the rest by injection. C. W. Kinnear. *il* Diesel Power 36:72 JI '58

Fumigation kills Diesel smoke, improves performance. M. Alperstein and others. S A E J 66:74-8 Mr '58

How to test injection nozzles. *il* Power 102: 142 Je '58

Injection pump improvements pace engine development. *il* diags Diesel Power 36:30-4 F '58

Injection tested while engine runs; British test devices. *il* Diesel Power 36:59-60 O '58

Photographic research aids engine design development; American Bosch Arma corp. C. E. Cordonier. *il* Ind Prod 7:24-5 Ja '58

Restoring PT metering orifices; Cummins PT injectors. K. R. MacDonald. *il* diag Diesel Power 36:40-1 O '58

Lubrication

Better lube oils through research and test. Diesel Power 36:34 JI '58

Cat starting engine winter lubricants. Diesel Power 36:38 Ja; 38 F '58

Diesel engine lubricants; their selection and utilization with particular reference to oil alkalinity. A. Dyson and others. *bibliog il* diag Inst Mech Eng Proc 171 no 23:717-30; Discussion. 731-7; Reply. 737-40 '57

Lubricators go automatic too. R. W. Meyers. *il* diag Diesel Power 36:18-19 Ag '58

New problems, new oils. J. V. Kalb. *il* Diesel Power 36:24-6 Ag '58

Petter engine tests of Diesel lubricating oils. R. Tourret and R. W. Bale. *il* Inst Pet J 43:279-81 O '57

Trends in Diesel lubes; abstract. E. M. Johnson and H. V. Lowther. S A E J 66:75 Je '58

Maintenance and repair

Breaking-in rebuilt engines. Diesel Power 35: 32-4 N '57

Customer service builds sales; Reagan equipment co. *il* Diesel Power 36:32-4 Ja '58

Export engines can have it tough; Diesel-electric power plants in Panama. R. H. Emerick. *il* diag Diesel Power 35:26-7 D '57

Improve your piston ring performance. C. J. Kremer, jr. *il* diags Diesel Power 36:48-50-+ O '58

Metallizing; a reclamation tool. *il* Diesel Power 35:48-50 N '57

Plastic steel repairs liner's water side; Public power station, Bahamas electricity corp. *il* Diesel Power 36:26 O '58

Prepare liners, then install rings. *il* Diesel Power 36:41-2 Ap '58

Preventive Diesel maintenance; water purification plant at Miami. M. Greitzer. *il* Power 101:112-13 N '57

Preventive maintenance is cheaper than repair; Lewiston-Auburn transit co. *il* Diesel Power 36:24-5 My '58

Railroad Diesels conditioned for mountains. B. S. Hirst. *il* Diesel Power 35:46-7 N '57

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Restoring PT metering orifices; Cummins PT injectors. K. R. MacDonald. *il* diag Diesel Power 36:40-1 O '58

Service section, Published in monthly number of Diesel Power

Servicing liners in aluminum GM blocks. diags Diesel Power 36:39 O '58

Talking shops (cont). *il* Diesel Power 35: 42-5 D '57; 36:24-7 Mr; 14-16 My; 21-3 Ag '58

Wrecked Diesel engine and no replacements; braze-welding fixed it. *il* Oil & Gas J 56: 129 Je 9 '58

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Manufacturing small Diesel engines. *il* plans diag Automobile Eng 48:64-73 F '58

Nitriding of large forgings. C. W. Johnson. *il* Metal Prog 72:99-101 D '57

Protection

Catch engine trouble early; Minneapolis-Honeywell's Diesel engine safety cutoff. *il* diag Diesel Power 36:38 Ap '58

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1958 engine specifications. Diesel Power 36: sup 1-16 Ap '58

Starting

American Bosch Hydrotor. *il* Diesel Power 35:51 N '57

Inertia starter for Diesels. *il* Diesel Power 35:55 D '57

Rapid energy transfer for a Diesel-engine inertia starter. *il* diags Machine Design 30: 134 F 20 '58

Reliable push button starting depends on battery care. R. H. Hawkins. Min Cong J 44:77-8 Mr '58

Reliable pushbutton starting depends upon battery care. R. H. Hawkins. *il* Pit & Quarry 5:275-6 My '58

Starting fluid setups meet every need. diags Diesel Power 36:88-9 JI '58

Use starting fluids properly. *il* Diesel Power 36:32 Mr '58

What caused this dual-fuel engine starter housing explosion? answers. *il* diags Power 102:134-5 Ja '58

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Field-conversion kits turbocharge Cooper-Bessemer engines. il Diesel Power 35:38-9 D '57

Turbocharged automotive Diesels, N. M. Reiners and W. D. Schwab. S A E J 66:33-4 Ap '58

Turbocharged Diesels still have far to go; abstract. B. Leffler and M. C. Horine. S A E J 66:105-8 My '58

Turbochargers encounter oil film whirl vibration; abstract. C. N. Fangman and J. L. Hoffman. S A E J 66:106-7 My '58

Turbocharging Diesels for earthmoving machines. J. Cazier. S A E J 66:117-18 Ja '58

Turbocharging the opposite-piston engine. il diags Diesel Power 36:21-2 Mr '58

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Build your maintenance program around an engine dynamometer; Packard Diesel is run-in on Maxwell dynamometer. J. A. Grunigan. il Diesel Power 36:23-4 O '58

Cash in on test stand losses; simple a-c motors save \$25,000 in electricity annually; F. Perkins Ltd. il Plant Eng 12:97 F '58

Correction factors better for Diesel engine test code; abstract. A. K. Blackwood and M. A. Elliott. S A E J 66:107-8 Jl '58

Greenport runs engine acceptance tests. il Diesel Power 36:16-18+ F '58

Injection tested while engine runs; British test devices. il Diesel Power 36:57-60 O '58

Quick check for GM 71 and 110 camshaft timing. diags Diesel Power 36:34+ F '58

Recirculation system speeds Diesel engine tests. il Power Ind 74:19-21 Ap '58

Testing of reciprocating engines; Dies-tester. il Engineer 205:783-4 My 23 '58

Testing railcar engines. il diag Engineering 184:652-4 N 22 '57

Valves

Crankcase explosions need not be serious; crankcase safety valve. G. M. Lund. il diag Diesel Power 36:19-20 S '58

Telescopic valves, a different concept. il diags Diesel Power 36:23-30 Jl '58

Valve jobs can be better. M. C. Gray. il diags Diesel Power 36:40-1 N '57

Valve maintenance improves operating efficiency; Nebraska City Utilities. R. Hall. il Diesel Power 36:20-1 O '58

DIESEL engines, Automotive

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Bigger quarry equipment boosts output, cuts costs. il Diesel Power 36:26 Je '58

British-built Diesel for Ford F-600 trucks. il diag Automotive Ind 119:62 Ag 15 '58

Cooling system care pays big dividends; Caterpillar tractor co. V. A. Woodling. diags Coal Age 63:163+ F '58

Cummins controls overfueling. il Diesel Power 36:20 My '58

Cummins' latest; model HF-6-B. il Diesel Power 36:26 Ja '58

Cummins' NH-195 built for central and eastern hauling operations. il Diesel Power 36:24 S '58

Design details of the Perkins automobile Diesel. il Automotive Ind 118:59 My 15 '58

Diesel engine developments. il Engineer 205: 669 My 2 '58

Diesel for the motorist. il Mech Eng 80:63 Jl '58

Diesel for the private car. il Engineering 185: 538 Ap 25 '58

Dieselized jeeps go underground. il Diesel Power 36:32-4 Jl '58

Diesels are superior engines for trucks. C. J. White. S A E J 66:63 Mr '58

Evaluation of the future of Diesels, free-piston engines, piston engines, gas turbines. C. G. A. Rosen. S A E J 66:35-40 Mr '58

Ford develops Diesel for farm tractor. il diag Diesel Power 36:69-70 Ap '58

Ford's new Diesel tractor engine. il diag Automotive Ind 118:60 Ap 1 '58

Heavy vehicle Diesel engine. il Engineering 186:134 Ag 1 '58

High output vehicle Diesel; F.600. il diag Engineer 206:28-9 Jl 4 '58

Norris, Henty and Gardners higher-output vehicle engine. il Engineer 206:182-3 Ag 1 '58

Norris, Henty and Gardners low consumption Diesel engine for heavy vehicles. il Engineering 186:220-1 Ag 15 '58

Perkins' Four 99 Diesel in European cars, taxis and light trucks. il Diesel Power 36:26-8 S '58

Railcars with power to haul; Ulster's new passenger and freight service. il diags Engineering 185:72-4 Ja 17 '58

RoadRanger transmission line expanded and improved. il Diesel Power 36:30 Ag '58

SAE National Diesel engine meeting, Cleveland. Automotive Ind 117:68+ D 1 '57

Tractor Diesel tops million miles, still in top shape. il Diesel Power 35:45 D '57

Tractor engines power-proved right in place. il Diesel Power 36:28 S '58

Trucker uses scientific methods to better already good performance. il Diesel Power 36:29 F '58

Turbocharged automotive Diesels. N. M. Reiners and W. D. Schwab. S A E J 66: 33-4 Ap '58

Two new Perkins Diesel engines for agricultural applications. il diags Automobile Eng 47:541-4 D '57

See also
Locomotives, Diesel-electric
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Don't ask gasoline-engine oils to pass Diesel-engine tests. J. K. Patterson and W. E. Waddey. S A E J 66:58-60 My '58

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Equipment servicing; big problem on big job. R. G. Dymont. il Diesel Power 35:32-4 D '57

Manufacture

Automation works on short runs; Ford makes gas, Diesel engines on same line. H. R. Neal. Iron Age 181:74+ Mr 20 '58

Ford's tractor Diesel made on same production lines as gasoline engine. J. Geschelin. il diags Automotive Ind 118:50-1 My 1 '58

Specifications

Automotive Diesel engines specifications, 1958; tables. Automotive Ind 118:208-15 Mr 15 '58

DIESEL engines, Marine

American MARC's Diesel outboard. il Diesel Power 36:26 My '58

Diesel engine in a river craft. il Engineering 186:189 Ag 8 '58

Double-duty Diesels in drilling tender. il Diesel Power 36:36-7 Ja '58

Mark AL Diesel engines. Engineer 204:835 D 6 '57

Passenger liner for North Sea service. il Engineer 205:186 Ag '58

Technical progress in marine engineering during 1957; Diesel engines. Am Soc Naval Eng J 70:247-50 My '58

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Motor ships

Cooling

Quarter century of cooling water treatment for naval Diesel engines. F. E. Clarke. il diags Am Soc Naval Eng J 70:261-77 My '58

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New oil reduces cylinder-liner wear. C. E. Habermann. il Marine Eng/Log 63:63-4+ Jl '58

DIESEL engines, Portable

How to apply portable Diesels. il Power 102: 148 Mr '58

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Adaptation to different calcium intakes in dogs. S. N. Gershoff and others. bibliog J Nutrition 64:303-12 F '58

Calcium and kidney calcification from feeding milk diets to rats and hamsters. P. Sambhavanphol and others. bibliog il Am J Clinical Nutrition 6:159-63 Mr '58

Caloric equivalents of gained or lost weight. M. Wishnoffsky. bibliog Am J Clinical Nutrition 6:542-6 S '58

Dependence of biological value on protein concentration in the diet of the growing rat. R. M. Forbes and others. bibliog J Nutrition 64:291-302 F '58

Diet lists. Am J Clinical Nutrition 6:443-4 Jl '58

DIET—Continued

- Dietary fat. J Agri & Food Chem 6:425-6 Je '58
- Dietary fat and human health; current recommendations; editorial. G. A. Goldsmith. Am J Clinical Nutrition 6:169-70 Mr '58
- Dietary mineral interrelations as a cause of soft tissue calcification in guinea pigs. L. A. Maynard and others. *bibliog* *il* J Nutrition 64:35-97 Ja '58
- Dietary nitrogen requirements of the cat. S. A. Miller and J. B. Allison. *bibliog* J Nutrition 64:493-501 Mr '58
- Effect of altitude and diet on hematopoiesis and serum cholesterol. I. R. Payne. *bibliog* J Nutrition 64:433-46 Mr '58
- Effect of diet on the fatty acid composition of several species of fresh water fish. P. E. Kelly and others. *bibliog* Am Oil Chem Soc J 35:503-5 '58
- Effect of dietary protein and fat on changes of serum cholesterol in mature birds. M. Kokatnur and others. *bibliog* J Nutrition 64:177-84 F '58
- Effect of dietary protein, fat, and choline upon the serum lipids and lipoproteins of the rat. R. E. Olson and others. *bibliog* Am J Clinical Nutrition 6:111-18 Mr '58
- Effect of restricted food intake on the life span of genetically obese mice. P. W. Lane and M. M. Dickie. J Nutrition 64:549-54 Ap '58
- Fatty acids and their relationship to cholesterolemia. D. M. Rathmann. A M A Archives Ind Health 17:402-7 My '58
- Influence of diet upon tissue concentration of vitamin B₆. K. E. Cheslock. *bibliog* J Nutrition 65:53-61 My '58
- Influence of high-fat diets on growth and development of obesity in the albino rat. J. J. Barboriak and others. *bibliog* J Nutrition 64:241-9 F '58
- Niacin-tryptophan relationships in man and niacin requirement. G. A. Goldsmith. Am J Clinical Nutrition 6:479-86 *bibliog*(p435-6) S '58
- Nitrogen balances of women maintained on various levels of methionine and cystine. M. S. Reynolds and others. *bibliog* J Nutrition 64:99-111 Ja '58
- Nutritional adaptation to low dietary intakes of calories, proteins, vitamins, and minerals in the tropics. C. L. Pathak. Am J Clinical Nutrition 6:151-8 *bibliog*(38 titles, p 157-8) Mr '58
- Origin and metabolism of marine fatty acids; the effect of diet on the depot fats of mullet cephalus (the common mullet). P. E. Kelly and others. *bibliog* Am Oil Chem Soc J 35:189-92 My '58
- Studies of amino acid diets for the chick. M. E. S. Fox and others. *bibliog* J Nutrition 64:475-82 Mr '58
- Wheat cereal diets, rat caries, lysine and minerals. F. J. McClure. *bibliog* J Nutrition 65:619-31 Ae '58
- Why do we choose our particular food? abstract. A. C. Frazer. Chem & Ind p864-5 Ji '58
- See also*
Nutrition
Vegetarianism
- DIET, Deficient**
- Acceleration of vitamin E deficiency in the chick by torula yeast. J. G. Bieri and others. *bibliog* J Nutrition 64:113-26 Ja '58
- Carotene balances on boys in Ruanda where vitamin A deficiency is prevalent. O. A. Roels and others. *bibliog* J Nutrition 65:115-27 My '58
- Cholesterol in blood and tissues of adult pantothenic acid-deficient rats. M. O. Osborn and others. *bibliog* J Nutrition 64:313-19 F '58
- Cytopathologic changes in liver cord cells of arginine-deficient chicks. E. L. Jungheer and others. *bibliog* *il* J Nutrition 65:281-92 '58
- Development of vitamin B₁₂ deficiency by untreated patients with pernicious anemia. W. J. Darby and others. *bibliog* Am J Clinical Nutrition 6:513-22 S '58
- Effect of certain necrosis-preventing factors on hemolysis in vitamin E-deficient rats and chicks. C. Gitler and others. *bibliog* J Nutrition 65:397-407 Ji '58
- Effect of zinc and potassium in the nutrition of Tenebrio molitor, with observations on the expression of a carnitine deficiency. G. S. Fraenkel. *bibliog* J Nutrition 65:361-96 Ji '58
- Effects of short-term pantothenic acid deficiency in the growing rat. J. J. Barboriak and others. *bibliog* J Nutrition 64:251-7 F '58
- Essential fatty acid deficiency. E. Aaes-Jørgensen and R. T. Holman. *bibliog* J Nutrition 65:633-41 Ae '58
- Exudative diathesis in chicks. B. G. Creech and others. *bibliog* J Nutrition 64:55-65 Ja '58
- Incorporation of acetate-2-C¹⁴ into liver and carcass lipids and cholesterol in biotin-deficient rats. M. R. Gram and R. Okey. *bibliog* J Nutrition 64:217-23 F '58
- Influence of maternal iron deficiency on the newborn. T. R. C. Sisson and C. J. Lund. *bibliog* Am J Clinical Nutrition 6:376-85 Ji '58
- Kidney changes in vitamin E-deficient rats. T. Moore and others. *bibliog* *il* J Nutrition 65:183-98 Je '58
- Metabolism of pteroylglutamic acid and liver nucleic acid levels in certain vitamin deficiencies. S. Halevy and K. Guggenheim. *bibliog* J Nutrition 65:77-87 My '58
- Nutritional fatty livers in rats. A. E. Harper. Am J Clinical Nutrition 6:242-51 *bibliog*(p249-51); Discussion. 251-3 My '58
- Pantothenic acid deficiency and its effect on the integrity and functions of the intestines. T. E. Zucker. *bibliog*(29 titles) *il* Am J Clinical Nutrition 6:65-74 Ja '58
- Production and study of vitamin E deficiency in the baby pig. R. M. Forbes and H. H. Draper. *il* J Nutrition 65:535-45 *bibliog*(p544-5) Ae '58
- Renal lesions in choline deficiency. W. H. Griffith. *il* Am J Clinical Nutrition 6:263-70 *bibliog*(p269-70); Discussion. 270-3 My '58
- Significance of amino acid imbalance in nutrition. W. D. Salmon. Am J Clinical Nutrition 6:487-94 *bibliog*(p493-4) S '58
- Significance of dietary zinc for the growing chicken. B. L. O'Dell and others. *bibliog* J Nutrition 65:503-23, pl 1-2 Ae '58
- Studies on arginine deficiency in chicks. H. M. Edwards, Jr. and others. *bibliog* J Nutrition 64:271-9 F '58
- Studies on zinc deficiency in the chick. A. B. Morrison and H. P. Sarett. *bibliog* J Nutrition 65:267-80 Je '58
- Study of the effect of deoxypyridoxine or isoniazid upon mineral retention and liver enzyme activities of pyridoxine-deficient male rats. E. W. Hartsock and others. *bibliog* J Nutrition 65:547-59 Ae '58
- Vascular disease associated with choline deficiency in the rat. G. F. Wilgram. *bibliog* *il* Am J Clinical Nutrition 6:274-8; Discussion. 278-9 My '58
- DIET in disease**
- Adapting therapeutic diets to the eating patterns of Italian-Americans. M. Cantoni. *bibliog* Am J Clinical Nutrition 6:548-55 S '58
- Diet lists; low cholesterol, low fat, high protein diet. Am J Clinical Nutrition 6:556-7 S '58
- Diet lists; moderately low sodium diet. Am J Clinical Nutrition 6:180-1 Mr '58
- DIETHANOLAMINE.** See Iminodiethanol
- DIETHYLENETRIAMINE**
- Acid dissociation constants of diethylene-triaminepentaacetic acid and the stability constants of some of its metal chelates. E. J. Durham and D. P. Ryskiewicz. *bibliog* Am Chem Soc J 80:4812-17 S 20 '58
- DIETHYL ether.** See Ethyl ether
- DIETHYL toluamide**
- Diethyltoluamide in aerosol repellents. H. F. Pierce. Soap & Chem Spec 34:80-1+ Je '58
- DIFFERENCE equations**
- Electric circuit theory approach to finite difference stability. W. J. Karplus. *diags* Com & Electronics p210-13 My '58; Excerpts. Elec Eng 77:622 Ji '58
- Generalization of the calculus of finite differences to nonuniformly spaced variables. G. Kron. *bibliog* *diags* Com & Electronics p539-44 S '58
- Method of finite differences in cam design. R. C. Johnson. Machine Design 29:159-61 N 14 '57
- Numerical method of solving a heat flow problem with moving boundary. L. W. Ehrlich. *bibliog* *diags* Assn for Computing Mach 1 5:151-75 Ap '58
- Operational solution of linear difference equations. E. I. Jury and F. J. Mullin. *bibliog* *diags* Franklin Inst J 266:189-205 S '58
- Predetermination of luminances by finite difference equations; abstract. P. F. O'Brien and J. A. Howard. *diag* Illum Eng 53:469-70 S '58
- DIFFERENCES.** Calculus of. *See* Difference equations

DIFFERENTIAL analyzers

- Active real-time electronic differential analyzer. E. A. Goldberg. *diags Instruments & Automation* 31:1219-21 J1 '58
- Digital differential analyzer and its application; abstract. R. Rutishauser. *Instruments & Automation* 31:1223-4 J1 '58
- Digital differential analyzers, the chemical engineer's computer. R. W. Rutishauser. *diag Ind & Eng Chem* 50:sup52A-4A J1 '58
- DDA or electronic digital differential analyzer; what is it? R. N. Goldman. *diags Elec Eng* 77:592-4 J1 '58
- High-speed real-time electronic differential analyzer. L. Levine. *Instruments & Automation* 31:1221-2 J1 '58

DIFFERENTIAL equations

- Buckling of a thin annular plate under uniform compression. N. Yamaki. *bibliog diags J Ap Mech* 25:267-73 Je '58
- Changes in the weight distribution of fiber lengths of cotton as a result of random fiber breakage. W. J. Byatt and J. P. Elting. *bibliog Textile Res J* 28:417-21 My '58
- Condition of certain matrices. J. Todd. *bibliog J Res Nat Bur Stand* 60:1-7 Ja '58
- Differential equations for cylindrical shells with arbitrary temperature distribution. P. P. Bijlaard. *J Aero/Space Sci* 25:594-5 S '58
- Error bounds for the Runge-Kutta single-step integration process. J. W. Carr. *3d. bibliog Assn for Computing Mach J* 5:39-44 Ja '58
- Fit differential equation to standard form. W. E. Ball and R. C. Johnson. *Chem Eng* 65:135-9 Ja 27 '58
- High order accuracy in the solution of partial differential equations by resistor networks. H. G. Landau. *diags J Ap Mech* 25:17-20 Mr '58
- Measurement of the capillary curve. D. F. Dempsey. *diag Am J Phys* 26:89-90 F '58
- Methods of simulating a differential analyzer on a digital computer. F. Lesh. *diag Assn for Computing Mach J* 5:281-8 J1 '58
- Nomogram for second order systems. L. E. Axelrod. *bibliog Instruments & Automation* 30:274-5 31:462 D '57, Mr '58
- Sampled-data-analog computer for solution of partial differential equations. G. S. Stubbs. *diags Franklin Inst J* 264:506-8 S '57
- Solution of Reynolds' equation for finite journal bearings. O. Pinkus. *bibliog diags A S M E Trans* 80:858-64 My '58
- Solution of the Bloch equations for determination of relaxation times in liquids. P. S. Hubbard, Jr. and T. J. Rowland. *bibliog diags J Ap Phys* 28:1275-81 N '57
- Solution of the non-linear differential equation of the rotating machine oscillator. C. V. Govinda Rao. *diags Franklin Inst J* 265:29-42 Ja '58
- See also*
- Integral equations
- Laplace equation

DIFFERENTIAL thermal analysis. See Thermal analysis**DIFFRACTION**

- Diffraction by a perfectly absorbing thin screen. C. C. Derwin. *diag J Ap Phys* 29:921-2 Je '58
- Diffraction by smooth cylindrical mountains. H. E. J. Neugebauer and M. P. Bachynski. *bibliog diags Inst Radio Eng Proc* 46:1619-27 S '58
- Diffraction patterns at the plane of a slit in a reflecting screen. R. K. Hadlock. *J Ap Phys* 29:918-20 Je '58
- Light diffracting striations in silicon. R. L. Hopkins. *bibliog diags J Ap Phys* 29:1378-9 S '58
- See also*
- Electromagnetic waves—Diffraction
- DIFFRACTION gratings**
- Atom engraver produces finest diffraction gratings. *Machine Design* 30:36-7 My 29 '58
- Infrared measurements with a small grating from 100 to 300 microns. E. K. Plyer and L. R. Blaine. *diag J Res Nat Bur Stand* 60:55-7 Ja '58
- New color projection technique: ripples in film serve as diffraction-grating system; abstract. W. Glenn. *Franklin Inst J* 265:498 Je '58
- DIFFRACTION of electrons. See Electrons—Diffraction**
- DIFFRACTION of X rays. See X rays—Diffraction**

DIFFRACTOMETERS

- Critical method of focusing an optical diffractometer. C. A. Taylor and B. J. Thompson. *bibliog diags J Sci Instr* 35:294-7 Az '58
- Oxidizing atmosphere furnace for use with an X-ray diffractometer. S. W. Kennedy and L. D. Calvert. *diags J Sci Instr* 35:61-2 F '58
- Preparation of samples for the Geiger counter diffractometer. L. E. Copeland and R. H. Bragg. *bibliog il A S T M Bul* p56-60 F '58
- Some improvements in the operation of the optical diffractometer. C. A. Taylor and B. J. Thompson. *bibliog diags J Sci Instr* 34:439-47 N '57

Control

- Tape-controlled diffractometer. W. A. Wooster. *il diag Control Eng* 5:165 S '58
- DIFFUSERS, Air. See Air diffusers**

DIFFUSION

- Adsorption kinetics with diffusion control; the plane and the expanding sphere. P. Delahay and C. T. Fike. *Am Chem Soc J* 80:2628-30 Je 5 '58
- Analyses for diffusion during plastic deformation. J. Simmons and J. E. Dorn. *J Ap Phys* 29:1308-13 S '58
- Analysis of diffusion in media undergoing deformation. H. Fara and R. W. Balluffi. *bibliog J Ap Phys* 29:1133-4 J1 '58
- Blunting of tungsten needles by surface diffusion. J. L. Boling and W. W. Dolan. *bibliog il J Ap Phys* 29:556-9 Mr '58
- Correlation of mass transfer coefficients. J. O. Osburn. *Chem Eng* 65:146-3 O 6 '58
- Differential expansion diffusion couple welding device. D. K. Das. *il R Sci Instr* 29:70-1 Ja '58
- Diffusion and activity coefficient of sodium nitrate in dilute aqueous solutions at 25°. S. Harned and J. A. Shropshire. *Am Chem Soc J* 80:2618-19 Je 5 '58
- Diffusion and elastic collision losses of the fast electrons in plasmas. G. Medicus. *bibliog diags J Ap Phys* 29:903-8 Je '58
- Diffusion and hot radical kinetics in the photolysis of methyl iodide in cyclohexane. R. F. Fottle and others. *bibliog Am Chem Soc J* 80:4224-30 Ag 20 '58
- Diffusion cell scanning attachment for Beckman model DU spectrophotometer. E. Back and others. *il diags Anal Chem* 28:1903-4 D '57
- Diffusion in ethylene polymers; effects of temperature and pressure. D. W. McCall and W. P. Slichter. *bibliog Am Chem Soc J* 80:1861-8 Ap 20 '58
- Diffusion in inhomogeneous media; capillary diffusion in beds of glass beads. K. H. Stern and H. Shniad. *bibliog J Colloid Sci* 13:24-31 F '58
- Diffusion in metals; annual review. F. Shewmon. *bibliog Ind & Eng Chem* 50:492-5 pt 2 Mr '58
- Diffusion in sugar solutions; the Onsager diffusion coefficients for glucose diffusing in sucrose solutions. F. E. Weir and M. Dole. *bibliog Am Chem Soc J* 80:302-6 Ja 20 '58
- Diffusion measurements by a sampling technique. P. H. Elworthy. *bibliog diag J Sci Instr* 35:102-3 Mr '58
- Diffusion measurements in aqueous solutions of different viscosities. A. Blancheria and G. Kegeles. *bibliog Am Chem Soc J* 79:5908-12 N 20 '57
- Diffusion of gases in porous media. R. F. Dye and J. M. Dallavalle. *bibliog diags Ind & Eng Chem* 50:1196-200 Ag '58
- Diffusion of hydrogen in steel at temperatures of -78° to 200°C. J. D. Hobson. *bibliog diags Iron & Steel Inst J* 189:315-21 Ag '58
- Diffusion of indium in tin single crystals. A. Sawatzky. *J Ap Phys* 29:1303-5 S '58
- Diffusion of oxygen in zirconium and its relation to oxidation and corrosion. J. F. Pemsler. *bibliog diags Electrochem Soc J* 105:315-22 Je '58
- Diffusion of tungsten in nickel and reaction at interface with SnO. H. W. Allison and G. E. Moore. *bibliog il diags J Ap Phys* 29:842-8 My '58
- Diffusion phenomena in pressure welding. A. G. Guy and A. L. Eliss. *bibliog il diag Welding J* 36:sup473-80 N '57
- Diffusive separation of gas mixtures in flow fields. V. C. Liu. *bibliog J Ap Phys* 29:1188-9 Ag '58
- End effect corrections in heat and mass transfer studies. A. I. Johnson and others. *bibliog diags Can J Chem Eng* 36:221-7 O '58

DIFFUSION—Continued

- Error in temperature measurement due to the interdiffusion at the hot junction of a thermocouple. A. J. Mortlock, *bibliog* *diags* J Sci Instr 35:283-4 Ag '58
- Formation of junction structures by solid-state diffusion. M. Smith, *bibliog* *diags* Inst Radio Eng Proc 46:1049-61 Je '58
- Generalization of the frit method for the measurement of diffusion coefficients. F. Grün and C. Blatter, *Am Chem Soc J* 80:3838-9 Ag '58
- Germanium-arsenic as diffusion surface compound. W. Waring and others, *J Ap Phys* 29:1002-3 Je '58
- Helium separation and purification. Franklin Inst J 266:80-1 Jl '58
- Helium separation and purification by diffusion. Il Bell Lab Rec 36:262-3 Jl '58
- Hot probe measures germanium diffusion depth. M. Beliveau, *il diags* *Electronics* 31:106-4 S 26 '58
- Improved diffusion boundary junctions in silicon due to scratch-free polishing. F. Keywell, *il J Ap Phys* 29:871-2 My '58
- Influence of doping on diffusion rate of impurities in cathode nickel. H. Mizuno, *J Ap Phys* 29:1265-6 Ag '58
- Interactions between oxygen and acceptor elements in silicon. C. S. Fuller and F. H. Doleiden, *bibliog* *J Ap Phys* 29:1264-5 Ag '58
- Irradiation of *p-n* junctions with gamma rays; a method for measuring diffusion lengths. R. Gremmelmaier, *bibliog* *diags* *Inst Radio Eng Proc* 46:1045-9 Je '58
- Longitudinal diffusivity of liquids in packed beds. D. A. Strang and C. J. Geankoplis, *bibliog* *diags* *Ind & Eng Chem* 50:1305-8 S '58
- Maintenance of fine bubble diffusion. P. F. Morgan, *bibliog* *diags* *Am Soc C E Proc* 84 (SA 2 no 1609):1-28 Ap '58
- Mass spectrometer measurements of the diffusion coefficient of hydrogen in steel in the temperature range of 25°—90°C. R. C. Frank and others, *bibliog* *diags* *J Ap Phys* 29:892-8 Je '58
- Mass transfer; annual review. C. R. Wilke and J. M. Prausnitz, *bibliog* *Ind & Eng Chem* 50:555-60 pcc 2 Mr '58
- Mass transfer between fluidised particles and gas; abstract. J. F. Richardson and A. G. Bakhtiar, *Ind Chem* 34:134 Mr '58
- Mass transfer operations. J. O. Osburn, *diags* *Chem Eng* 68:145-5 Mr 24; 161-4 Ap 21:169-72 My 19; 143-5 S 8 '58
- Measurement of ternary distribution coefficients in silicon. D. Navon, *bibliog* *diags* *J Ap Phys* 29:579-82 Mr '58
- Microdiffusion of C₂ through C₃ organic acids. L. M. Marshall and F. T. Fox, *Anal Chem* 30:140-3 Ja '58
- Model for solute diffusion in crystals with the diamond structure. R. A. Swalin, *bibliog* *J Ap Phys* 29:676-4 Ap '58
- Molecular transport properties of fluids; annual review. E. F. Johnson, *bibliog* (78 ref) *Ind & Eng Chem* 50:488-91 pt 2 '58
- Molecular weights from studies of sedimentation and diffusion in three-component systems. E. L. Baldwin, *bibliog* *Am Chem Soc J* 80:496-7 Ja 20 '58
- New applications of impedance networks as analog computers for electronic space charge and for semiconductor diffusion problems. G. Cremošnik and others, *bibliog* *il diags* *Inst Radio Eng Proc* 46:868-77 My '58
- New diffusion technique opens way for large scale helium extraction from gas. *il Gas Age* 121:28 Je 26 '58
- Outdiffusion as a technique for the production of diodes and transistors. J. Halpern and R. H. Rediker, *bibliog* *il diags* *Inst Radio Eng Proc* 46:1068-76 Je '58
- Predict diffusion coefficient. D. W. R. Gamblin, *bibliog* *Chem Eng* 65:126-8 Je 2; 113-16 Je 30 '58
- Preparation of semiconductor devices by lapping and diffusion techniques. H. Nelson, *bibliog* *il diags* *Inst Radio Eng Proc* 46:1062-7 Je '58
- Present status of measurements of the diffusion coefficients of hydrogen in iron and mild steel. R. C. Frank, *J Ap Phys* 29:1262-3 Ag '58
- Problem concerning the Gibbs paradox. M. J. Klein, *Am J Phys* 26:80-1 F '58
- Process could hit helium jackpot; Bell labs finds helium separates from natural gas by diffusing through walls of glass tubing. *il Chem & Eng* 35:42 My 12 '58
- Radioactive tracing of the diffusion of sulfur in cable rubbers. G. A. Blokh and others, *bibliog* *Rubber Chem & Tech* 31:356-60 Ap '58
- Ratio of the diffusion coefficients for the diffusion of hydrogen and deuterium in steel. R. C. Frank and others, *J Ap Phys* 29:898-900 Je '58
- Reduction of passive films by hydrogen diffusion through steel. R. T. Davis, Jr. and T. J. Butler, *bibliog* *diags* *Electrochem Soc T* 105:563-8 O '58
- Review of diffusion in aluminum. J. W. H. Clare, *bibliog* *Metallurgia* 57:273-8 Je '58
- Solutions to Stoolman's external diffusion equation for instability of a normal shock inlet diffuser. C. C. Chang and C. T. Hsu, *bibliog* *diags* *Jet Propulsion* 28:457-60 Jl '58
- Thermal diffusion fractionation of industrial fat and oil derivatives. C. W. Seelbach and F. W. Quackenbush, *bibliog* (37 ref) *diags* *Ind & Eng Chem* 50:353-8 Mr '58
- Water transfer between aqueous systems by a partially miscible solvent. A. Banell, *diags* *J Ap Chem* 8:611-16 S '58

Electric analogies

New integrating circuit and electrical analog for transient diffusion and flow. J. R. MacDonald, *diags* *R Sci Instr* 28:924-5 N '57

DIFFUSION cloud chamber. See Cloud chambers.

DIFLUOROETHYLENE

Thermal syntheses of telomers of fluorinated olefins; 1,1-difluoroethylene. M. Hauptschein and others, *bibliog* *Am Chem Soc J* 80:346-51 F 20 '58

DIGENITE

Crystal and twin structure of digenite, Cu₂GeS₄. Donnay and others, *bibliog* *il diags* *Am Mineralogist* 43:228-42 Mr '58

DIGESTERS (paper making)

Cooking bleachable kraft pulp with Kamyr continuous digesters at North Western Pulp and Power. D. Smith and A. C. McCorry, *Tappi* 41:sup247A-50A Je '58

Experiences with metallizing digesters at Green bay paper & pulp co. L. C. Smith, *Tappi* 41:sup211A-12A Je '58

Sprout-Waldron continuous digester. *diags* *Tappi* 41:sup 109A-10A Ja '58

Bibliography

Bibliography of alkaline digester corrosion; 1956-1957 supplement. R. B. Kesler, *Tappi* 41:sup 170A-1A Mr '58

Control

Cypak control for wood chip chemical digester systems. W. A. Roth, *il diags* *Paper Ind* 40:368-9 S '58

EFFECT OF

Effect of age, sex and feeding regimen on fat digestibility in individual rats as determined by a rapid extraction procedure. R. L. Sautsb and others, *J Nutrition* 64:625-34 Ap '58

Effects of the prevention of coprophagy in the rat; digestibility of protein and fat. R. H. Barnes and others, *J Nutrition* 65:251-8 Je '58

Influence of varied cellulose and nitrogen levels upon ration digestibility and nitrogen balance of lambs fed semipurified rations. W. C. Ellis and W. H. Pfander, *J Nutrition* 65:235-50 *bibliog* (p248-50) Je '58

DIGITAL computers. See Calculating machines—Digital computers

DIGITAPE. See Numerical control

DIHYDROBENZOFURAN

Nitrocompounds. C. D. Hurd and R. Dowbenko, *bibliog* *Am Chem Soc J* 80:4711-14 S 5 '58

DIHYDROCONESSINE

Synthesis of dihydroconessine; a method for functionalizing steroids at C₃. E. J. Corey and W. L. Hertler, *bibliog* *Am Chem Soc J* 80:2903-4 Je 5 '58

DIHYDRODESOXYMORPHINE. See Desoxy-dihydromorphine

DIHYDRONAPHTHOL

Base-catalyzed isomerization of 5,8-dihydro-1-naphthol and its methyl ether. J. F. Eastham and D. R. Larkin, *bibliog* *Am Chem Soc J* 80:2887-93 Je 5 '58

DIHYDROPYRIDAZINEDIONE

Analysis

Extension of the residue methods for 1,2-dihydro-3,6-pyridazinedione (maleic hydrazide) and *N*-1-naphthylphthalamic acid (Alanap). J. R. Lane and others, *bibliog* *J Agri & Food Chem* 6:671-4 S '58

DIHYDROQUERCETIN

Analysis

Determination of dihydroquercetin in Douglas fir and western larch wood. G. M. Barton and J. A. F. Gardner. *bibliog Anal Chem* 30:279-81 F '58

DIHYDROSPHINGOMYELIN

Synthesis of dihydrosphingomyelin. D. Shapiro and others. *Am Chem Soc J* 80:2339-40 My 5 '58

DIHYDROSPHINGOSINE

Facile synthesis of dihydrosphingosine. D. Shapiro and others. *bibliog Am Chem Soc J* 80:2170-1 My 5 '58

Synthesis of long chain fatty acid amines of sphingosine and dihydrosphingosine. E. Weiss and P. Raizman. *bibliog Am Chem Soc J* 80:4657-8 S 5 '58

DIHYDROXYBUTYRIC acid

New dihydroxy-acid (2-methyl-2,3-dihydroxy-butyric acid) in apple juices and ciders. G. C. Whiting. *bibliog Chem & Ind* p720 Je 14 '58

DIHYDROXYMETHYL valeric acid

Formation of a phosphorylated derivative of mevalonic acid. T. T. Tchen. *bibliog Am Chem Soc J* 79:6344-5 D 5 '57

Mevalic acid in the biosynthesis of mevalonic acid. L. D. Wright and others. *Am Chem Soc J* 79:6572 D 20 '57

New factor essential for the utilization of mevalonic acid. L. D. Wright and others. *Am Chem Soc J* 80:3485 J 5 '58

DIHYDROXYNAPHTHALENE. See Naphthalenediol**DIKES (engineering)**

St Lawrence seaway; soil and foundation problems. F. L. Peckover and T. G. Tustin. *il maps plan diags Eng J* 41:69-76+ S '58

DIKES (geology)

Response of dyke to oscillating dipole. J. P. Wesley. *bibliog diag Geophysics* 23:128-43 Ja '58

DIKETONES. See Ketones**DILATOMETERS**

High-speed dilatometer designed for welding research. E. C. Nelson. *diags Welding J* 37:sup57-61 F '58

Thermal expansion apparatus with a silicon carbide dilatometer for temperatures to 1500°C. S. D. Mark, Jr. and R. C. Emanuelson. *bibliog il diags Am Cer Soc Bul* 37:193-6 Ap 15 '58

DILL pickles. See Pickles**DILUTION**

Alcohol and alcoholometry. *Manuf Chem* 29:347-8 Ag '58

Dilution of cryogenic liquid rocket propellants during pressurized transfer; conditions affecting the dilution of liquid oxygen with nitrogen and ways of preventing it. S. Greenfield. *il diags Aircraft Eng* 30:210-12 J 1 '58

Old trick averts error in figuring dilution. W. H. Fischer. *diags Chem Eng* 65:149-50 S 8 '58

DIMENSIONAL analysis

Dimensions for a unified theory of electromechanics. L. W. Allen. *bibliog diags Elec Eng* 77:134-40 F '58; Discussion. 77:665-7 J 1 '58

New physical constants from dimensional analysis. A. T. Gresky. *bibliog Franklin Inst J* 265:85-95 F '58

Think of a number; the dimensionless product. *diags Electronic & Radio Eng* 35:367-70 O '58

DIMENSIONAL stability of paper. See Paper—Expansion and contraction**DIMETHYL barium**

Calcium dimethyl, strontium dimethyl, and barium dimethyl. D. A. Payne, Jr. and R. T. Sanderson. *bibliog Am Chem Soc J* 80:5324 O 5 '58

DIMETHYL butane

Entropy of the compound formed between cyclopentane and 2,2-dimethylbutane at 0°K. R. N. Selby and J. G. Aston. *bibliog Am Chem Soc J* 80:5070-5 O 5 '58

Solvent effects in the reactions of free radicals and atoms; effects of solvents on the position of attack of chlorine atoms upon 2,3-dimethylbutane, isobutane and 2-deuterio-2-methylpropane. G. A. Russell. *bibliog Am Chem Soc J* 80:4987-96 S 20 '58

DIMETHYL butanone

Carbon-14 tracer study of the acid-catalyzed rearrangement of 3,3-dimethyl-2-butanone-1-¹⁴C. T. S. Rothrock and A. Fry. *bibliog Am Chem Soc J* 80:4349-54 Ag 20 '58

DIMETHYL calcium

Calcium dimethyl, strontium dimethyl, and barium dimethyl. D. A. Payne, Jr. and R. T. Sanderson. *bibliog Am Chem Soc J* 80:5324 O 5 '58

DIMETHYL ether

Etherates of lithium borohydride; the system lithium borohydride-dimethyl ether. G. W. Schaeffer and others. *bibliog Am Chem Soc J* 79:5912-15 N 20 '57

DIMETHYL formamide

Formylation of alcohols with iodine pentahydride and dimethylformamide. P. E. Stevens. *Chem & Ind* p 1090 Ag 16 '58

Polarography at very negative potentials; improvement of polarograms by use of *N,N*-dimethylformamide and tetrabutylammonium iodide. F. L. Lambert. *bibliog Anal Chem* 30:1018 My '58

Polarography in *N,N'*-dimethylformamide; alkali metal ions, alkaline earth metal ions and certain transition metal ions. G. H. Brown and R. Al-Urfali. *bibliog Am Chem Soc J* 80:2113-15 My 5 '58

DIMETHYL hydrazine

Preparation and properties of unsymmetrical dimethylhydrazine. W. G. Strunk. *il Chem Eng Prog* 54:45-5 J 1 '53

Reactions of methylhydrazine and unsymmetrical dimethylhydrazine with esters and anhydrides of carboxylic acids; the application of paper chromatography to problems in synthetic organic chemistry. R. L. Hinman and D. Fulton. *bibliog Am Chem Soc J* 80:1835-90 Ap 20 '58

Unsymmetrical dimethylhydrazine in missile spotlight. *il Chem & Eng N* 36:30 S 1 '58

DIMETHYL octadiene

Reactions of diolefins at high temperatures; kinetics of the cyclization of 3,7-dimethyl-1,6-octadiene. W. D. Huntsman and T. H. Curry. *bibliog Am Chem Soc J* 80:2262-4 My 5 '58

DIMETHYL strontium

Calcium dimethyl, strontium dimethyl, and barium dimethyl. D. A. Payne, Jr. and R. T. Sanderson. *bibliog Am Chem Soc J* 80:5324 O 5 '58

DIMETHYL sulfide. See Methyl sulfide**DIMETHYLSULFONIO group**

Effect of the dissociation and ultraviolet spectra of *p*-dimethylsulfoniophenols. S. Oae and C. C. Price. *bibliog Am Chem Soc J* 80:4938-41 S 20 '58

DIMETHYL tetradecane

Studies on the mechanism of the Wurtz reaction; the configurations of 2-bromooctane, 3-methylnonane and 7,3-dimethyltetradecane. E. LeGoff and others. *bibliog Am Chem Soc J* 80:622-5 F 5 '58

DIMETHYLENE cyclohexane

Cyclic dienes; Diels-Alder adducts and cyclohexene derivatives from 1,2-dimethylene-cyclohexane. W. J. Bailey and H. R. Golden. *bibliog Am Chem Soc J* 79:6516-19 D 20 '57

DIMETHYLENE cyclohexenes

Cyclic dienes; substituted 1,2-dimethylene-4-cyclohexenes. W. J. Bailey and others. *bibliog Am Chem Soc J* 80:4358-60 Ag 20 '58

DINAPHTHYL

Conformation and optical rotation of restricted biphenyls; configurational correlation of biaryl by optical displacement; the absolute configuration of restricted 1,1'-binaphthyls. D. D. Flits and others. *bibliog diags Am Chem Soc J* 80:480-6 Ja 20 '58

DINITROCHLOROBENZENE. See Chlorodinitrobenzene**DINITROGEN pentoxide**. See Nitrogen oxides**DINITROGEN tetroxide**. See Nitrogen oxides**DINITROPHENOL**

Acid-base equilibrium constants for 2,4-dinitrophenol and some aliphatic amines in non-aqueous solvents. R. G. Pearson and D. C. Vogelsong. *bibliog Am Chem Soc J* 80:1038-43 Mr 5 '58

DINITROPHENYL

Analysis

Determination of *m*-dinitrophenyl pesticides. C. Menzie. *bibliog J Agri & Food Chem* 6:212-13 Mr '58

DINITROPHENYLHYDRAZONE

Qualitative and quantitative determination of aliphatic carbonyl compounds as 2,4-dinitrophenylhydrazones. K. J. Monty. *bibliog Anal Chem* 30:1350-2 Ag '58

DINITROPHENYLHYDRAZONE—Continued

Analysis

- Nonaqueous titration of 2,4-dinitrophenylhydrazones. A. J. Sensabaugh and others. *bibliog Anal Chem* 30:1445-7 S '58
- Paper chromatography of 2,4-dinitrophenylhydrazones of saturated aliphatic aldehydes. R. Ellis and others. *bibliog Anal Chem* 30:475-9 Ap '58

DINNERWARE. See Tableware, Plastic

DINOFLAGELLATES

- Poisonous tides; explosive multiplication of certain marine microorganisms kill fish by the millions. S. H. Hutner and J. A. McLaughlin. *il map diags Sci Am* 199:92-6+ Ag '58

DIODES. See Crystal diodes; Vacuum tubes

DIOLEFINS. See Olefins

DIORITE

See also
Granodiorite

DIOSCOREA

- Convulsant alkaloid of dioscorea dumetorum. C. W. L. Bevan and J. Hirst. *Chem & Ind* p 103 Ja 25 '58

DIOSCORINE. See Alkaloids

DIOSGENIN

- Conversion of tomatidine and solasodine into neotigogenin and diosgenin and into a common constituent, 5 α -22,25-epoxyfurostan-3 β -ol. Y. Sato and others. *bibliog Am Chem Soc J* 79:6089-90 N 20 '57
- Dehydration of diosgenin during the acid hydrolysis of dioscorea saponins. W. J. Peal. *bibliog Chem & Ind* p 1451-2 N 2 '57

DIOXADIENE

- New synthesis of a dioxadiene. R. K. Summerbell and G. J. Lestina. *bibliog Am Chem Soc J* 79:6219-21 D 5 '57

DIOXANE

- 3:2-Boron trichloride and 1:1 boron tribromide complexes with dioxane. M. J. Frazer and others. *Chem & Ind* p 1263-4 S 27 '58
- Effect of solvent change on the standard chemical potential of electrolytes; comparison of vapor pressure and e.m.f. data for HCl, NaOH and K₂ in the system dioxane-water. G. Baughman and E. Grunwald. *bibliog Am Chem Soc J* 80:3844-6 Ag 5 '58
- Effect of solvent change on the standard chemical potential of electrolytes, from precision measurement of the activities of the solvent components; the system NaCl-dioxane-water. E. Grunwald and A. L. Bacarella. *Am Chem Soc J* 80:3840-4 Ag 5 '58
- Kinetics of the decomposition of sodium *p*-toluenesulfonylacetate in water-ethylene glycol and water-dioxane mixtures. D. J. O'Connor and P. H. Verboek. *bibliog Am Chem Soc J* 80:2983-90 Ja 20 '58
- Kinetics of the hydrolysis of trimethylene oxide in water, deuterium oxide and 40 per cent aqueous dioxane. J. G. Pritchard and F. A. Long. *bibliog Am Chem Soc J* 80:4162-5 Ag 20 '58
- Rearrangements of α -halogenated ethers; 2,2,3,3-tetrachloro-*p*-dioxane. R. K. Summerbell and D. R. Berger. *bibliog Am Chem Soc J* 79:6504-6 D 20 '57

DIOXIMES. See Oximes

DIP AND STRIKE, Determining of

- Simplified strike and dip recording. K. K. Landes. *il Am Assn Pet Geologists Bul* 42: 190-1 Ja '58

DIPHENYL acid

- Configurational correlation of optically active biphenyls with centrally asymmetric compounds; the absolute configuration of 6,6'-dinitro-2,2'-diphenic acid. P. Newman and others. *bibliog Am Chem Soc J* 80:465-73 Ja 20 '58
- Direct configurational intercorrelation of 6,6'-dinitro-, 6,6'-dichloro- and 6,6'-dimethyl-2,2'-diphenic acid; absolute configuration of 6,6'-dimethyl-2,2'-biphenyldiamine. F. A. McGinn and others. *bibliog Am Chem Soc J* 80:476-80 Ja 20 '58

DIPLOXIMES. See Oximes

DIP AND STRIKE, Determining of

- Simplified strike and dip recording. K. K. Landes. *il Am Assn Pet Geologists Bul* 42: 190-1 Ja '58

DIPHENYL acid

- Configurational correlation of optically active biphenyls with centrally asymmetric compounds; the absolute configuration of 6,6'-dinitro-2,2'-diphenic acid. P. Newman and others. *bibliog Am Chem Soc J* 80:465-73 Ja 20 '58
- Direct configurational intercorrelation of 6,6'-dinitro-, 6,6'-dichloro- and 6,6'-dimethyl-2,2'-diphenic acid; absolute configuration of 6,6'-dimethyl-2,2'-biphenyldiamine. F. A. McGinn and others. *bibliog Am Chem Soc J* 80:476-80 Ja 20 '58

DIPHENYL

- Asymmetric induction studies with optically active biphenyls; the reactions of phenylglyoxylates of the phenyldihydrothebaine series with methylmagnesium iodide. J. A. Berson and M. A. Greenbaum. *bibliog Am Chem Soc J* 80:445-51 Ja 20 '58
- A biphenyl whose optical activity is due to a three-carbon bridge across the 2,2'-positions. D. C. Ifland and H. Siegel. *bibliog Am Chem Soc J* 80:1947-50 Ap 20 '58

- Configurational correlation of optically active biphenyls with centrally asymmetric compounds; the absolute configuration of 6,6'-dinitro-2,2'-diphenic acid. P. Newman and others. *bibliog Am Chem Soc J* 80:465-73 Ja 20 '58

Configurational intercorrelation of optically active biphenyls by thermal analysis. M. Siegel and K. Mislow. *bibliog Am Chem Soc J* 80:473-6 Ja 20 '58

Conformation and optical rotation of restricted biphenyls; configurational correlation of biaryls by optical displacement; the absolute configuration of restricted 1,1'-binaphthyls. D. D. Pitts and others. *bibliog diags Am Chem Soc J* 80:480-6 Ja 20 '58

Deuterium isotope effects in some acid-catalyzed cyclizations of 2-deutero-2'-carboxybiphenyl. D. B. Denney and P. P. Klemchuk. *bibliog Am Chem Soc J* 80:3285-8 Jl 5 '58

Electrical effects in the biphenyl and naphthalene systems; the influence of alkyl groups attached to silicon on desilylation reactions. R. A. Benkeser and others. *bibliog Am Chem Soc J* 80:2283-7 My 5 '58

Heat transfer studies on a forced convection loop with biphenyl and biphenyl polymers. J. P. Stone and others. *bibliog diags Ind & Eng Chem* 50:895-902 Je '58

Rates of reaction of chlorine with alkyl-substituted diphenyls and related compounds. P. B. D. de la Mare and others. *bibliog Chem & Ind* p 1086-7 Ag 16 '58

Separation of mixtures of biphenyl, cyclohexylbenzene, and bicyclohexyl by vapour-phase chromatography. W. J. Hendriks and others. *Inst Pet J* 43:283-91 O '57

Shifts in nuclear magnetic resonance absorption due to steric effects; 2-halobiphenyls. S. Brownstein. *bibliog Am Chem Soc J* 80:2300-2 My 5 '58

See also

DIPHENYLACETONITRILE

- Diphenylacetone nitrile; crystallographic data. H. A. Rose. *Anal Chem* 30:1441 Ag '58

DIPHENYLAMINE

Analysis

- Determination of diphenylamine residues on apples. R. B. Bruce and others. *J Agri & Food Chem* 6:597-600 Ag '58

Physiological effect

- Carcinogenic action of *p*-aminobiphenyl in the dog. W. B. Deichmann and others. *il Ind Med* 27:25-6 Ja '58

DIPHENYL carbazone

- Spectrophotometric determination of chloride in sweat and serum with diphenylcarbazon. J. L. Gerlach and R. G. Frazier. *bibliog Anal Chem* 30:1142-6 Je '58

DIPHENYL CARBOHYDRAZIDE

- Extraction and colorimetric determination of chromium with 1,5-diphenylcarbohydrazide. J. A. Dean and M. L. Beverly. *bibliog Anal Chem* 30:977-9 My '58
- Extraction of chromium with triethylphosphine oxide from acidic solutions of alkali metal salts; determination in situ as chromium-diphenylcarbazide complex. C. K. Mann and J. C. White. *Anal Chem* 30:989-92 My '58
- Microdetermination of chromium with 1,5-diphenylcarbohydrazide. T. L. Allen. *bibliog Anal Chem* 30:447-50 Tr '58

DIPHENYL compounds

- Amine boranes; hydrolysis of pyridine diphenylborane and the mechanism of chloride transfer reactions. M. F. Hawthorne and E. S. Lewis. *bibliog Am Chem Soc J* 80:4296-9 Ag 20 '58

Molecular complexes of hindered biphenyl derivatives. C. E. Castro and others. *bibliog Am Chem Soc J* 80:2322-6 My 5 '58

Molecular rearrangements; the deamination of 1,1-diphenyl-2-amino-1-propanol. B. M. Benjamin and others. *bibliog Am Chem Soc J* 79:6160-4 D 5 '57

Spectra

- Near ultraviolet absorption of hindered biphenyls. E. Marcus and others. *bibliog Am Chem Soc J* 80:3742-5 Jl 20 '58

DIPHENYLDIAZOMETHANE

- Quantitative relationship between structure and reactivity for the reactions between diphenyldiazomethanes and benzoic acids in toluene at 25°. C. K. Hancock and J. S. Westmoreland. *Am Chem Soc J* 80:545-8 F 5 '58

DIPHENYLENE. See Cyclobutadibenzene

DIPHENYLETHYLENE

Rearrangement accompanying the addition of fluorine to 1:1-diphenylethylene. J. Bornstein and M. R. Borden. *bibliog Chem & Ind* p441-2 Ap 12 '58

Tertiary carbinols of the piperazine series; reaction of 1,1-diphenylethylene oxide with piperazines and other polyamines. H. E. Zauge and R. J. Michaels. *Am Chem Soc J* 80:2770-3 Je 5 '58

DIPHENYLSILYLENE group

Replacement of sulfur in some heterocycles by the diphenylsilylene group. H. Gilman and D. Wittenberg. *Am Chem Soc J* 79:6339-40 D 5 '57

DIPHOSPHINE. See Phosphine

DIPHOSPHOPYRIDINE nucleotide

Interaction of DPN⁺ with ϵ -aminobenzoic acid and analogous compounds. A. L. Guar-diola and others. *bibliog Am Chem Soc J* 80:418-21 Ja 20 '58

Study of the primary acid reaction on model compounds of reduced diphosphopyridine nucleotide. A. G. Anderson, Jr. and G. Berkelhammer. *bibliog Am Chem Soc J* 80:992-9 F 20 '58

DIPICOLINIC acid

4-Methoxy- and 4-ethoxy-dipicolinic acid. J. H. Gorvin. *bibliog Chem & Ind* p437-8 Ap 12 '58

DIPOLE moment

Determination of atomic polarizations and dipole moments for slightly polar liquid hydrocarbons. A. J. Petro and C. P. Smyth. *bibliog Am Chem Soc J* 80:73-6 Ja 5 '58

Dipole influences in aromatic substitution. P. R. Wells and E. R. Ward. *bibliog Chem & Ind* p 1172-3 S 6 '58

Dipole moment and dielectric relaxation time of acetyladiene. D. A. Pitt and others. *bibliog Am Chem Soc J* 79:5633-4 N 5 '57

Dipole moment and steric strain in hexaaryl-disilanes. A. J. Petro and C. P. Smyth. *bibliog Am Chem Soc J* 79:6215-19 D 5 '57

Dipole moment of *p*-benzoquinone. L. Paoloni. *bibliog Am Chem Soc J* 80:3879-83 Ag 5 '58

Dipole moment of the carbon-carbon bond. A. J. Petro. *bibliog Am Chem Soc J* 80:4230-2 Ag 20 '58

Dipole moments and the conformations of matridine and related compounds. B. Ede and others. *bibliog Am Chem Soc J* 80:2426-8 My 20 '58

Electric moments of organic peroxides; aliphatic peracids. J. R. Rittenhouse and others. *bibliog Am Chem Soc J* 80:4850-2 S 20 '58

Electric moments of organic peroxides; dialkyl peroxides, alkyl hydroperoxides and diacyl peroxides. W. Lobunov and others. *bibliog Am Chem Soc J* 80:3505-9 J 12 '58

Microwave absorption and molecular structure in liquids; the dielectric relaxation times and dipole moments of several aryl isocyanates and related compounds. B. R. Jolliffe and C. P. Smyth. *bibliog Am Chem Soc J* 80:1064-8 Mr 5 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Molecular geometry of *trans*-cyclooctene. N. L. Allinger. *bibliog Am Chem Soc J* 80:1963-5 Ap 20 '58

Radio observations on the Russian satellites; some direction-finding observations on the 20 mc/s signal. F. A. Kitchen and others. *Inst E E Proc* 105 pt B:89-91 Mr '58

Recording techniques for high frequency direction finding. C. W. McLeish. *Il diags Electronic & Radio Eng* 35:386-90 O '58

Transmitter hunting on 75 meters; how to make a loop and direction finder. J. Isaacs. *Il diags Q S T* 42:38-41 Je '58

See also
Compass
Hydrophone
Radio beacons (for aircraft)

DIRECTORIES

See also subdivision Directories under special subjects, e.g.

Engineering societies
Petroleum equipment industries

Sanitary engineers
Television stations

Trade associations
United States—Air force

United States—Army
United States—Navy department

DISABILITY

Measurement
Disability determination; editorial. *Ind Med* 27:220 Ap '58

What constitutes disability and how it is measured. H. Davis. *A M A Archives Ind Health* 16:454-8 D '57

See also
Handicapped

Rehabilitation
Barriers to employment of a cardiac. J. H. Thompson. *Ind Med* 27:404-5 Ag '58

Motivation of the patient in rehabilitation. L. H. Hinder. *Ind Med* 27:439-42 S '58

Vocational rehabilitation and selective placement of disabled workers. H. J. Flax. *Ind Med* 27:510-12 O '58

See also
Rehabilitation centers

DISACCHARIDES
Gradient elution of disaccharides on a stearic acid-treated charcoal column. N. Hoban and J. W. White, Jr. *bibliog diag Anal Chem* 30:1234-6 J 1 '58

See also
Gentiobiose

Analysis
Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

Analysis
Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

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Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

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Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

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Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

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Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

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Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

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Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

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Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

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Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

Analysis
Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 Ap '58

See also
Gentiobiose

DISEASES—See also—*Continued*

Gout
Heart—Diseases
Infectious diseases
Influenza
Intestines—Diseases
Lungs—Dust diseases
Malaria
Meningitis
Mental diseases
Mortality
Pellagra
Rheumatic fever
Tuberculosis
Typhoid fever

DISEASES, Chronic

Use of energy costs in regulating physical activity in chronic disease. E. E. Gordon, bibliog *il* A M A Archives Ind Health 16:437-41 N '57

DISEASES, Deficient

Some unsolved problems concerning the pathogenesis of human deficiency disease syndromes. R. H. Follis, jr, bibliog *il* Am J Clinical Nutrition 6:459-65 S '58

DISEASES, Industrial

Sequel to Bernardino Ramazzini's Of the disease of the bearers of corps. A. Meiklejohn, *Ind Med* 27:150-2 Mr '58
See also

Coal miners—Diseases and hygiene
Heart—Diseases
Hygiene, Industrial
Lead poisoning
Miners—Diseases and hygiene
Silicosis

DISLENIDE. See Selenides**DISHWASHING machines**

Rinse additives for machine dishwashing. J. L. Wilson and others, *il* Soap & Chem Spec 34:48-52+ F '58

DISLOXANES. See Siloxanes**DISINFECTION and disinfectants**

Application of molecular filter techniques to the bacterial assay of sewage; effects of physical and chemical disinfection. J. E. McKee and others, bibliog *Sewage & Ind Wastes* 30:245-52 Mr '58

Bactericide improves bearing production. *Mach* 84:98 Ag '58

Chemical disinfection. E. H. Spaulding, *Drug & Cosmetic Ind* 83:223-4 Ag '58

Disinfectants and disinfection. A. H. Walters, bibliog *Manuf Chem* 29:75-6, 209-10+, 339-91 F, My, S '58

Germinicides based on surface-active agents. C. D. Moore and R. B. Hardwick, bibliog *Manuf Chem* 29:194-8 My '58

The how of disinfection. S. S. Block, *il* Soap & Chem Spec 34:37-90 My '58

Iodine for quick acting sanitizers. L. Gershenfeld and B. Witkin, bibliog *Soap & Chem Spec* 34:67-8+ JI '58

Iodophor-iodine shampoos. A. Cantor and others, bibliog *il* Am Perfumer & Aromatics 72:37-41 Ag '58

Relative toxicity of disinfectants available for use in the pulp and paper industry; 1957 supplement. J. H. Conkey and J. A. Carlson, *Tappi* 41:sup 12A+ Ag '58

See also

Amebicides
Fumigants
Fungicides
Soap, Antiseptic

Testing

Disinfectant testing; adaptation of the phenol coefficient test method to mycobacterium tuberculosis. E. S. Wright and V. A. Shternov, bibliog *Soap & Chem Spec* 34:95+ S '58

Variations in phenol coefficient testing. L. S. Stuart and others, *Soap & Chem Spec* 34:79+ O '58

DISINFECTION of seed. See Seed disinfection**DISKS**

Bursting strength of glass discs. P. L. Thorpe and D. Dawson, *il* diags *Engineering* 184:591-3 N 8 '57

Calculate adequate rupture disk size. J. G. Lowenstein, *Chem Eng* 65:157-8 Ja 13 '58

Center drive lathe machines disks, *il* diag *Tool Eng* 40:95 Mr '58

Growth of silicon and germanium disks. J. R. O'Connor and W. A. McLaughlin, *il* diag *J Ap Phys* 29:222 F '58

Investigation of the pervenances and beam profiles of an aperture disk emission system. E. R. Harrison, bibliog *diags J Ap Phys* 29:909-13 Je '58

Non-linear forced vibrations of circular discs.

S. A. Tobias, bibliog *diags Engineering* 186:51-6 JI 11 '58

Rupture disk installations. J. E. Bigham, *diags Chem Eng* 65:143-5 Ap 7 '58

Single-flash rotary disk optical shutter. R. L. Gregory, *diag J Sci Instr* 34:463-4 N '57

Stress distribution in rotating disks and cylinders under elevated-temperature creep conditions. A. M. Wahl, *diags J Ap Mech* 25:243-50 Je '58

Stresses in a dumbbell-shaped disk rotating about an axis lying in its middle plane. P. B. Chatterjee, *diag J Ap Mech* 25:290-2 Je '58

DISKS, Rotating

Flow of a viscous liquid on a rotating disk. A. G. Emslie and others, bibliog *J Ap Phys* 29:355-62 My '58

Free undamped non-linear vibrations of imperfect circular disks. S. A. Tobias, bibliog *il* diags *Inst Mech Eng Proc* 171 no 22:691-701; Discussion. 702-10; Reply. 711-15 '57

Heat transfer from rotating discs. Z. Rotem, bibliog *Roy Aeronautical Soc J* 62:303 Ag '58

Influence of dynamical imperfection on the vibration of rotating disks. S. A. Tobias and R. N. Arnold, bibliog *il* diags *Inst Mech Eng Proc* 171 no 22:669-90, p 1-8; Discussion. 702-10; Reply. 711-15 '57

Laminar flow over an enclosed rotating disk. L. S. Lo, bibliog *diag A S M E Trans* 80:287-94; Discussion. 294-6 F '58

DISLOCATIONS in crystals. See Crystals—Dislocations

DISLOCATIONS in metals. See Crystals—Dislocations

DISMISSAL wage. See Wages—Dismissal wage

DISNEYLAND

Subaqueous maintenance at Disneyland promotes safety. *il* Comp Air Mag 63:36 Ja '58

DISPENSING apparatus

Automatic brewer-dispenser uses stainless and borosilicate glass. *il* Elec Manuf 61:152+ Mr '58

Manual colorant dispensers. *Paint Oil & Chem R* 121:11 Ag 7 '58

DISPENSING containers. See Containers, Dispensing

DISPERSING agents

New lanolin fraction for wax dispersions. D. Schoenholz and G. D. Burns, *Soap & Chem Spec* 34:92-3+ Ja '58

Study of human horny layers. P. Fleisch, bibliog *il* Drug & Cosmetic Ind 83:163-70+ Ag '58

See also

Emulsifiers**DISPERSION**

Absorption spectrum of carbon black dispersions. A. Voet, *Rubber Age* 82:657-63 Ja '58

Dielectric properties of hemoglobin; anomalous dispersion during oxygenation. S. Takashima and R. Lumry, bibliog *Am Chem Soc J* 80:4233-44 Ag 20 '58

Dispersion curves for longitudinal and flexural waves in solid circular cylinders. E. A. Flinn, *J Ap Phys* 29:1261-2 Ag '58

Dispersion of carbon black in rubber and its role in vulcanizate properties. C. W. Sweitzer and others, bibliog *il* Rubber World 138:869-76; 139:74-81 S-O '58

Dispersion of starch granules and the validity of light scattering results on amylopectin. S. E. Eriander and D. French, bibliog *il* Am Chem Soc J 80:4418-20 Ag 20 '58

Dispersion when velocity varies with frequency. *diags Wireless World* 64:502-6 O '58

Electron microscope study of certain dispersions of detergents in oil. J. B. Peri, *il* Am Oil Chem Soc J 35:37-41 Ja '58

Evaluation of carbon black dispersions in polyethylene to predict weatherability. R. M. Schulken, jr, and others, bibliog *diags Mod Plastics* 35:125-8+ Ag '58

Examining the dispersion of carbon black in rubber. I. Drogen, bibliog *il* Rubber Age 83:463-71 Je '58

First order rate processes and axial dispersion in packed bed reactors. J. J. Carberry, bibliog *Can J Chem Eng* 36:207-9 O '58

New milling process: how to produce better whiteware with high intensity clay dispersion. R. E. Gould and others, *il* diags *Cer Ind* 71:124-31 S '58

Optical rotatory dispersion studies. C. Djerassi and others, bibliog *Am Chem Soc J* 80:1216-25, 3986-95, 4001-15, 4853-7 Mr 5, Ag 6, S 20 '58

Pre-dispersed accelerators in rubber compounds. J. Ware, *Rubber Age* 83:296-305 My '58

DISPERSION—Continued

Preparation of uniform emulsions by electrical dispersion. M. A. Nawab and S. G. Mason. *il diag J Colloid Sci* 13:179-87 Ap '58

State of dispersion of detergent additives in lubricating oil and other hydrocarbons. J. B. Peri. *bibliog il diags Am Oil Chem Soc J* 35:110-17 Mr '58

See also

Colloids
Particles

DISPERSSION OF RAYS

Conversion of refractive dispersions. H. M. Eby and R. A. Klett. *Anal Chem* 30:100-3 Ja '58

DISPLACEMENT reactions. See Chemical reaction

DISPROPORTIONATION

Acid-catalyzed disproportionation reactions of the 17:21-dihydroxylated cortical side chain. R. Hirschmann and others. *Chem & Ind* p682 Je 7 '58

Disproportionation and combination reactions of butyl free radicals. J. W. Kraus and J. G. Calvert. *bibliog Am Chem Soc J* 79:5921-6 N 20 '57

Disproportionation of alkylbenzenes. D. A. McCaulay and others. *Am Chem Soc J* 79:5808-9, 5953-5 N 5, 20 '57

Disproportionation of alkylbenzenes; behavior of η -butyl- α -C⁶⁴-benzene upon treatment with aluminum chloride; further results with ethyl- β -C¹⁴-benzene. R. M. Roberts and others. *Am Chem Soc J* 80:2507-9 My 20 '58

Kinetics of the disproportionation of plutonium(V). S. W. Rabideau. *bibliog Am Chem Soc J* 79:6350-3 P 20 '57

Kinetics of the *o*-semidine rearrangement of *n*-hydrazotoluene and of the accompanying disproportionation and reduction reactions. R. B. Carlin and G. S. Wich. *bibliog Am Chem Soc J* 80:4023-33 Ag 5 '58

Reversible transgalactosylation. J. H. Pazur and others. *bibliog Am Chem Soc J* 80:1433-5 Mr 20 '58

Structural characterization of products of enzymatic disproportionation of lactose. J. H. Pazur and others. *bibliog Am Chem Soc J* 80:119-21 Ja 5 '58

DSSERTATIONS, Academic

New degree in the making; hybrid doctorate for teachers combines the best of education and chemistry programs; abstract. E. G. Cobb. *Chem & Eng N* 36:90-2 Ap 21 '58

DISSOCIATION

Acid-catalyzed dissociation of bis-9-anthraldehyde. F. D. Greene and others. *bibliog Am Chem Soc J* 79:5957-62 N 20 '57

Acid dissociation constants of diethylene-triamine-pyruvic acid and the stability constants of some of its metal chelates. E. J. Durham and D. P. Ryskiewicz. *bibliog Am Chem Soc J* 80:4812-17 S 20 '58

Determination of naphthalene in town gas by the picrate method; the dissociation of naphthalene picrate. R. A. Mott and J. Moulson. *bibliog J Ap Chem* 7:546-52 O '57

Dissociation constant of the cobalt(III) hexammine-sulfate ion pair from spectrophotometry. E. W. Davies and C. B. Monk. *bibliog Am Chem Soc J* 80:5032-3 O 5 '58

Dissociation of copper pyridoxylidenevaline. H. N. Christensen. *bibliog Am Chem Soc J* 80:2305-8 My 5 '58

Dissociation of tetrachloroiodide salts. D. M. Smyth and M. E. Cutler. *bibliog Am Chem Soc J* 80:4462-5 S 5 '58

Effect of *m*-dichloro and *m*-dibromo groups on the dissociation and ultraviolet spectra of *p*-dimethylsulfoniophenols. S. Oae and C. C. Price. *bibliog Am Chem Soc J* 80:4938-41 S 20 '58

Effects of dimethylsulfonio and trimethylammonio groups on the dissociation of substituted phenols. S. Oae and C. C. Price. *bibliog Am Chem Soc J* 80:3425-7 Jl 5 '58

Electron impact dissociation of camphene-8-C¹⁴. L. Friedman and A. P. Wolf. *bibliog Am Chem Soc J* 80:2424-6 My 20 '58

Electronic transmission through condensed ring systems; the evaluation of *epi* and *cata* sigma constants from dissociation and methoxydechlorination data on substituted 1-aza-4-chloronaphthalenes. E. Bacicocchi and others. *bibliog Am Chem Soc J* 80:2270-3 My 5 '58

Estimation of bisulfate ion dissociation in sulfuric acid-sodium sulfate solutions. C. F. Baes, Jr. *bibliog Am Chem Soc J* 79:5611-16 N 5 '57

Flows in partly dissociated gases. M. Heil. *bibliog J Aero/Space Sci* 25:469-60 Jl '58

Formation and dissociation of iodobenzene dichloride in carbon tetrachloride. L. J. Andrews and R. M. Keefer. *bibliog Am Chem Soc J* 80:1723-8 Ap 5 '58

Ionization and dissociation of allene, propyne, 1-butyne, and 1,2- and 1,3-butadienes by electron impact; the C₂H⁺ ion. J. Collin and F. P. Lossing. *Am Chem Soc J* 79:5848-53 N 20 '57

Ionization and dissociation of hydrozoic acid and methyl azide by electron impact. J. L. Franklin and others. *bibliog Am Chem Soc J* 80:298-302 Ja 20 '58

Kinetics of dissociation of derivatives of iodobenzene dichloride in acetic acid. R. M. Keefer and L. J. Andrews. *bibliog Am Chem Soc J* 80:277-81 Ja 20 '58

Molecular ion dissociation by thin films. F. A. White and others. *R Sci Instr* 29:182 F '58

Recent advances in convective heat transfer with dissociation and atom recombination. D. E. Rosner. *bibliog Jet Propulsion* 28:445-51 Jl '58

Stagnation point heat-transfer measurements in dissociated air. P. H. Rose and W. I. Stark. *bibliog il diags J Aeronautical Sci* 25:86-97 F '58

Theory of stagnation point heat transfer in dissociated air. J. A. Fay and F. R. Tidwell. *bibliog J Aeronautical Sci* 25:73-85+ F '58

DISSOLUTION. See Solution (chemistry)

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Measurement

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Radar—Surveying use
Range finders

DISTILLATION

Commercial equipment for molecular distillation. J. J. Garner and H. D. Macmurray. *bibliog il diags Ind Chem* 34:310-17 Je '58

Drying viable biological materials by solvent extraction and azeotropic distillation. R. R. Freeman and others. *flow diags Chem Eng Prog* 53:590-2 D '57

Examination of the distillation characteristics of hydrotreated benzole. D. Spencer. *bibliog il diags Ind Chem* 34:287-93 Je '58

Fractionation studies on a large scale for fifty-four firms. *il Chem Eng Prog* 54:89 My '58

High-purity calcium made by fractional distillation process. W. J. McCreary. *bibliog il diags J Metals* 10:615-17 S '58

Large scale separation of boron isotopes. A. L. Conn and J. E. Wolf. *bibliog il diags Ind & Eng Chem* 50:1231-4 S '58

Low temperature distillation of hydrogen isotopes. K. D. Timmerhaus and others. *bibliog flow diags il diags Chem Eng Prog* 54:35-46 Je '58

Moisture in paper and paperboard by toluene distillation; revision of TAPPI tentative standard T 484 m-58. *diag Tappi* 41:sup 168A-9A Ap '58

Nuclear reactor for distilling sea-water. I. Vilechuk and N. Arad. *bibliog diag Engineering* 185:628-30 My 16 '58

Production of large amounts of pure water. K. T. Marvin and L. M. Lansford. *diag Anal Chem* 80:561-2 Ap '58

Refining of benzole by chlorine treatment. O. W. Molony and D. Hughes. *bibliog diag J Ap Chem* 8:690-700 O '58

Review of fundamental developments in analysis; distillation analysis. R. T. Leslie and E. C. Kuehner. *bibliog Anal Chem* 80:623-31 pt 2 Ap '58

Sea can meet the world's increasing water demands; new high-efficiency distillation plant. R. S. Silver. *flow diag il Engineering* 185:530-1 Ap 25 '58

Simplified fluoride distillation method. E. Belack. *bibliog diags Am Water Works Assn J* 50:530-6 Ap '58

Solar energy utilization for heating, cooling, distillation and drying; SHAE technical advisory committee on solar energy utilization discussion and decimal-divided outline, to show broadly the technical information needed in the solution for solar utilization problems. *il Heating-Piping* 30:147-52 Je '58

Unit operations in chemical engineering; high temperature distillation. T. J. Walsh and S. Calvert. *bibliog il Ind & Eng Chem* 50:463-7 pt 2 Mr '58

Versatile reflux system for distillations. W. T. Klapper. *diag Chem Eng* 65:130 Je 2 '58

DISTILLATION—Continued

Volatile fraction of white birch soda lignin. I. Sobolev and C. Schuerch. *bibliog Tappi* 41:447-52 Ar '58

See also

Coal distillation
Essential oils
Oil shales—Distillation
Petroleum distillation
Petroleum refining

Electric analogies

Simulation of a solvent recovery process. L. G. Lewis. *diags Instruments & Automation* 31:644-7 Ap '58

Tables, calculations, etc.

Continuous distillation calculations by relaxation method. A. Rose and others. *bibliog Ind & Eng Chem* 50:737-40 My '58
Distillation-column dynamic characteristics. *diags Instruments & Automation* 31:1357-9 Ar '58

Find distillation stages graphically. P. J. Horvath and R. F. Schubert. *bibliog Chem Eng* 65:129-32 F 10 '58

Mixing studies on a perforated distillation plate. A. L. Johnson and J. Marangos. *bibliog diags Can J Chem Eng* 36:161-3 Ar '58

Multicomponent distillation calculations on a large digital computer. N. R. Amundson and A. J. Pontinen. *Ind & Eng Chem* 50:730-6 My '58

DISTILLATION. Solar

Introduction to solar distillation. T. de Jong. *bibliog II diags Am Soc C E Proc* 84 [SA 4 no 1704]:1-40 JI '58

Sea to fresh water at Aruba distillation plant. *Elec Eng* 77:861 S '58

DISTILLATION apparatus

Better estimate of entrainment from bubble-cap trays. J. R. Fair and R. L. Matthews. *bibliog diag Pet Refiner* 37:153-8 Ap '58

Distillation-column dynamic characteristics. *diags Instruments & Automation* 31:1357-9 Ar '58

Effect of pulsations on behavior of a batch thermal diffusion column for liquids. F. De Maria and R. F. Benenati. *bibliog diags Ind & Eng Chem* 50:63-6 Ja '58

For poor water areas, private water supplies; Hickman-Badger centrifugal compression still. *II Ind & Eng Chem* 50:sup28A F '58

Heat transfer in bubble-columns; abstract. H. Kibihei and others. *Ind Chem* 34:516 S '58

Improving fractionator performance with dynamic analysis. F. A. Woods. *diag Control Eng* 5:91-5 My '58

Laboratory water separator. H. Davidge. *diags Chem & Ind p 1507 N 16 '57*

Locate tower nozzles quickly by using these charts and tables. B. D. Wookey. *diags Pet Refiner* 37:143-52 JI '58

Pail rings, new type of tower packing. J. S. Eckert and others. *bibliog II diag Chem Eng Prog* 54:70-5 Ja '58

Prediction of performance characteristics of Hickman-Badger centrifugal boiler compression still. L. A. Bromley. *II diag Ind & Eng Chem* 50:233-6 F '58

Pressure drop through bubble caps. H. T. Welch. *bibliog Pet Refiner* 37:127-32 Ag '58

Star packing; a new low pressure-drop packing for use in distillation columns. J. D. Thornton. *bibliog II diags J Ap Chem* 8:523-32 Ag '58

Thermal diffusion fractionation of industrial fat and oil derivatives. C. W. Seelbach and F. W. Quackenbush. *bibliog (37 ref) diag Ind & Eng Chem* 50:353-8 Mr '58

Tower capacity ranges by 400 per cent. W. L. Nelson. *Oil & Gas J* 56:126 F 10 '58

Vacuum multi-fraction collector. N. W. Jacobson and J. Miller. *diags Chem & Ind p 1621 D 14 '57*

Control

Instrumentation and control of distillation columns. T. J. Williams. *bibliog II diags Ind & Eng Chem* 50:1214-22 S '58

Design

Design packed columns graphically. J. J. Czernmann and others. *bibliog diags Pet Refiner* 37:165-72 Ap '58

Horizontal fractionator looms as potential rival to multiplate high-vacuum tower. C. S. Cronan. *II diag Chem Eng* 65:76-8 F 10 '58

How transport data accurately affects design. L. Friend and S. B. Adler. *Pet Refiner* 37:191-3 Ja '58

New graphical method speeds design of multi-component distillation towers. R. J. Hengstebeck. *bibliog diags Pet Eng* 29:C6-12 N '57

Perforated trays designed this way. C. J. Huang and J. R. Hodson. *bibliog (34 ref) diags Pet Refiner* 37:103-13 F '58

Plant-scale unit for distillation tray research. E. Manning, Jr. and others. *flow diag II diag Ind & Eng Chem* 49:2051-4 D '57

DISTILLERIES

Vodka from pear wastes; Hood river distillers, inc. H. Y. Yang. *II Food Eng* 30:87-8 Ja '58

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Fine control in manufacture of fine spirits; W. and A. Gilbey co. N. Penny and J. S. Napier. *II Can Chem Process* 42:93-4 Ag '58

DISTORTION, Audio. See Amplifiers, Vacuum tube

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DISTRIBUTION function

Analytical representation of angular distribution data. S. C. Snowdon and others. *J Ap Phys* 29:950-3 Je '58

Properties of the exponential distribution of exponential populations. F. L. Copeland and B. P. DeLany. *bibliog diag Franklin Inst J* 265:451-62 Je '58

DISTRIBUTION of gas. See Gas distribution

DISTRIBUTION of water. See Water distribution

DISTRICT heating. See Heating from central stations

DISULFIDES

Anti-tumor activities *in vitro* of 5-imino-1,2,4-dithiazolidin-3-thione and bis(diethylthiocarbamoyl)disulfide toward the Krebs-2 ascites carcinoma. F. E. Reinhardt and others. *bibliog Franklin Inst J* 265:58-62 Ja '58

Dependence of the optical rotatory power of proteins on disulfide bonds. J. E. Turner and others. *bibliog Am Chem Soc J* 80:4117-18 Ag 5 '58

Interactions of proteins with disulfide compounds; some implications for electron transport in proteins. I. M. Klotz and others. *bibliog diags Am Chem Soc J* 80:2132-41 My 5 '58

Kinetics of the oxidation of a mercaptan to the corresponding disulfide by aqueous hydrogen peroxide. I. Pascual and D. S. Garbell. *bibliog Am Chem Soc J* 79:6015-20 N 20 '57

Mechanism of disulfide interchange in acid solution; role of sulfenium ions. R. E. Benesch and R. Benesch. *bibliog Am Chem Soc J* 80:1666-9 Ap 5 '58

Organic disulfides and related substances; oxidation of thiols to disulfides with lead tetraacetate. L. Field and J. E. Lawson. *bibliog Am Chem Soc J* 80:838-41 F 20 '58

Organic disulfides as initiators of polymerization. T. Ferington and A. V. Tobolsky. *bibliog Am Chem Soc J* 80:3215-22 JI 5 '58

Reactions of N-mercaptopomethylpolyhexamethylenedipamide disulfide. C. Earland and D. J. Raven. *bibliog Am Chem Soc J* 80:3430-2 JI 5 '58

Reactivity of sulphydryl and disulfide in proteins; oxidation with ferricyanide of sulphydryl in native and denatured bovine serum albumin. I. M. Kolthoff and A. Anasasi. *bibliog Am Chem Soc J* 80:4248-50 Ar 20 '58

Reactivity of sulphydryl and disulfide in proteins; reactive disulfide as related to viscosity and optical rotation in denatured bovine serum albumin. I. M. Kolthoff and others. *bibliog Am Chem Soc J* 80:3235-40 JI 5 '58

Study of the reaction of the disulfide groups of bovine serum albumin during heat denaturation. L. K. Steinrauf and W. B. Dandliker. *bibliog Am Chem Soc J* 80:3833-5 Ar 6 '58

Sulfur at work; new technique gives wool-like cotton, limp gelatin. *II Chem & Eng N* 36:44 Je 2 '58

See also

Carbon disulfide

Analysis

Determining disulfides in petroleum naphtha; modification of the acetic acid-zinc reflux method. J. H. Karchmer and M. T. Walker. *bibliog diags Anal Chem* 30:85-90 Ja '58

Quantitative determination of organic disulfides. F. L. Hubbard and others. *bibliog Anal Chem* 30:91-3 Ja '58

DITERPENES

Rearrangements and oxidations of tricarboyllic diterpenes. E. Wenkert and B. G. Jackson. *bibliog Am Chem Soc J* 80:211-17 Ja '58

Structure of rimuene, L. H. Briggs and others. *bibliog Chem & Ind* p599 My 17 '58

DITERPENOIDs. See Terpenoids

DITHIABUTANE

2,3-Dithiabutane, 3,4-dithiahexane and 4,5-dithiaoctane; chemical thermodynamic properties from 0 to 1000°K. W. N. Hubbard and others. *bibliog Am Chem Soc J* 80:3547-54 JI 20 '58

DITHIAHEXANE

2,3-Dithiabutane, 3,4-dithiahexane and 4,5-dithiaoctane; chemical thermodynamic properties from 0 to 1000°K. W. N. Hubbard and others. *bibliog Am Chem Soc J* 80:3547-54 JI 20 '58

DITHIAOCTANE

2,3-Dithiabutane, 3,4-dithiahexane and 4,5-dithiaoctane; chemical thermodynamic properties from 0 to 1000°K. W. N. Hubbard and others. *bibliog Am Chem Soc J* 80:3547-54 JI 20 '58

DITHIOCARBAMATES

Quantitative determination of dithiocarbamates and thiram sulfides; a spectrophotometric method. C. L. Hilton and J. E. Newell. *bibliog Rubber Age* 83:981-4 S '58

Vulcanization of elastomers; the vulcanization of natural rubber with sulfur in the presence of dithiocarbamates. W. Scheele and K. Birghan. *bibliog Rubber Chem & Tech* 31:301-14 Ap '58

DITHIOCARBONATES

Assignment of 5-methylmercapto-1:2:3:4-thiaziazole to so-called methyl azidodithiocarbonate. E. Lieber and others. *bibliog Chem & Ind* p893-4 JI 12 '58

DITHIOLS

Photometric determination of tungsten in steel and titanium alloys with dithiol. L. A. Machlan and J. L. Hague. *bibliog J Res Nat Bur Stand* 59:415-20 D '57

X-ray diffraction powder data of some normal alkyl dithiol esters of sebacic acid. D. A. Lutz and others. *bibliog Anal Chem* 29:1780-2 D '57

DITHIONITES

Bleaching of groundwood pulp with combinations of peroxide and hydrosulphite. R. W. Barton. *flow diag Tappi* 41:sup 161A-5A Mr '58

DITHIZONE

Dithizone method for determination of lead in monazite. R. A. Powell and C. A. Kinser. *bibliog Anal Chem* 30:1139-41 Je '58

DITTMER, Karl

K. Dittmer wins Florida award. *por Chem & Eng N* 36:118 My 26 '58

DIURETICS

Diuretics. S. J. Hopkins. *Manuf Chem* 29:154 Ap '58

Diuretics. C. W. Whitehead and J. J. Traverso. *bibliog Am Chem Soc J* 80:2178-89 My 5 '58

Edema is salted away; Merck's Diuril. *il Chem & Eng N* 36:53 F 24 '58

DIVERSIFICATION in industry

Boeing banks on aircraft, but wants to diversify, too. R. M. Loebelson. *il Aviation Age* 30:16-17+ Ag '58

Company profile; Fairchild pushes diversification. R. M. Loebelson. *il Aviation Age* 29:16-17+ My '58

Diversification via plastics; Scott Paper enters polyurethane production. *il Chem & Eng N* 35:34 D 23 '57

Kellogg diversifies; spreads refining know-how to other process industries. *Oil & Gas J* 56:67 My 5 '58

Map for growth; National Distillers' ambitious program for chemical diversification. *il Chem & Eng N* 36:32-5 Ja 13 '58

Small plant beats recession; Steel industries, inc. T. W. Black. *il Tool Eng* 41:92-5 Ag '58

DIVERSITY receiving systems. See Radio reception—Diversity systems

DIVIDENDS

Pipelines answer charge of overpaying dividends under 1941 consent decree. *Oil & Gas J* 56:88-9 Mr 17 '58

Taxation

Looking into tax-free dividends. C. H. Domke. *Am Gas Assn Mo* 40:27-8+ Ap '58

DIVING, Submarine

Divers find, help repair damaged crossings. C. F. Logan. *il diags Oil & Gas J* 56:106-8+ Ap 28 '58

Hazards of diving with self-contained underwater breathing apparatus. H. J. Alvis. *bibliog Ind Med* 27:339-92 Ag '58

Medical aspects of recent trends in diving. G. J. Duffner. *A M A Archives Ind Health* 18:208-13 S '58

See also

Bathyscaph**DIVISION**

Short-cut multiplication and division in automatic binary digital computers. M. Lehman. *bibliog Inst E E Proc* 105 pt E:496-504 S '58

DIZZINESS

Differential diagnosis of dizziness. M. M. Hipkind. *Ind Med* 27:386-8 Ar '58

DJERASSI, Carl

C. Djerasi received American chemical society award in pure chemistry. *por Chem & Eng N* 36:61 Ap 28 '58

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Aluminium smelter dock at Bale Comeau; steel sheet piling. T. A. Hughes and V. M. Wallingford. *il map plan diags Eng J* 4:550-9 JI '58

Cellular cofferdams and docks; theory of design against failure by tilting, substantiated by model tests. E. M. Cummings. *bibliog il diags Am Soc C E Proc* 83 [WW 3 no 13661:1-29 S '57; Discussion, 84 [WW 2 no 15791:3-12 Mr '58; Reply, 84 [WW 4 no 17851:3-6 S '58]

Electricity in dockland. *Engineering* 185:260 F 28 '58

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DODECANEDIOIC acid

Dibasic acids; routes to a mixture of undecanedioic and dodecanedioic acids. T. R. Steadman and J. O. H. Peterson. *bibliog Ind & Eng Chem* 50:59-62 Ja '58

DODECYLBENZENE

Sulfonation with sulfur trioxide; operation in a batch pilot plant. E. J. Carlson and others. *bibliog il diags Ind & Eng Chem* 50:276-84 Mr '58

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Manufacture of detergent alkylate. G. C. Feilchner. *flow diag il diags Am Oil Chem Soc J* 35:520-4 O '58

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Reproduction and lactation studies with bitches fed semipurified diets. J. A. Ontko and P. H. Phillips. *bibliog J Nutrition* 66:211-18 Je '58

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Differential entrainment of oil and gas in Arbuckle dolomite of central Kansas. R. F. Walters. *maps diags Am Assn Pet Geologists Bul* 42:2133-73 *bibliog*(p2172-3) S '58

Large South African plant goes into production; new crushed dolomite plant for South African iron and steel industrial corp. T. Cordes. *flow diag il Pit & Quarry* 50:86-8+ Je '58

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Two shelters admit the open air; in Ohio, a geodesic dome, without cover, for Metals society. *il plan diag Arch Rec* 123:197-8 Ap '58

Useful curves and curved surfaces; geodesic domes; time-saver standards. S. Howard. *diags Arch Rec* 123:245+ Ap '58

DOMES, Aluminum

Aluminum stressed-skin dome building erected by rubber-fabric balloons. *il Rubber World* 137:582 Ja '58

Balloons raise aluminum structure in 22 hours. *il Comp Air Mar* 63:26-7 F '58

Balloons substitute for falsework as aluminum dome factory is erected in 22 hours. *il Eng N* 159:24-5 N 28 '57

Dome goes commercial. *il plan diags Arch Forum* 108:120-5 Mr '58

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- Geodesic space lattice dome for ASM headquarters; illustration with text. *Civil Eng* 28:555 J1 '58
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 Low-cost dome traps sewage odors; Sarasota, Fla. sewage plant. *il Eng N* 160:25 Ja 23 '58
 New way to build a dome. *il Arch Forum* 108:135 Ap '58

DOMES, Concrete

- Concrete dome protects missile men. M. J. Kudroff. *il Eng N* 160:41-2+ My 1 '58
 Folded plate dome ideal for auditoriums. L. Welch. *il plan diags Am Concrete Inst J* 30:441-6 O '58
 Large ribbed concrete dome is precast; San Francisco auditorium. *il Eng N* 160:53-4+ My 15 '58
 Nerv's olympic dome; Olympic sports palace, Rome. *il plan diag Arch Forum* 108: 82-5 Mr '58

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- Arena will be a 1,200 ft dia. plastic and concrete bowl. *il Eng N* 160:48-9 Je 5 '58
 Styrene foam and reinforced plastics joined in tracking dome. *il Mod Plastics* 35: 104-5 Ar '58

DOMES, Steel

- Geodesic dome serves Union Tank Car. *il Chem & Eng N* 36:30 O 20 '58
 Geodesic roundhouse; the biggest dome yet built; railroad car repair shop of the Union tank car co. *il diag Arch Forum* 108:126-3 Je '58
 Light steel dome tops round coliseum in San Angelo. *il Eng N* 160:26 Ap 10 '58
 Retractable stainless steel dome to roof Pittsburgh civic arena. *il Arch Rec* 124:268 S '58
 Ten-story dome built without internal supports; illustration with text. *Civil Eng* 28: 386 My '58

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- 1958 Moles award. *por Comp Air Mag* 62:371 D '57

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- Sketch. *por Pet Eng* 30:A8 F '58

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- Radial deflection of a cylinder of finite length with various end conditions. L. Ting and S. W. Yuan. *bibliog diags J Aeronautical Sci* 25:230-4 Ap '58

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- Latches

DOORS

- Bolted clean-out doors for your tanks. R. W. Bodley and R. C. Ulm. *il diags Pet Refiner* 37:213-18 Mr '58
 Flush-veneered wood doors. H. J. Rosen. *Prog Arch* 39:142 My '58
 Industrial know-how handbook: doors, windows, partitions. *il diags Mill & Factory* 62:B 12-13 My '58
 Revised hopper doors cut labor. O. F. Green. *diag Elec World* 148:87 D 9 '57
 Urethane-insulated door is strong, lightweight. *il Materials in Design Eng* 46:227-8 N '57
 Vive la porte! flexible doors. *il Product Eng* 28:19 D 16 '57

See also

- Airplanes—Doors
 Automobiles—Doors
 Hangars—Doors

DOORS, Mechanically operated

- To speed traffic and stabilize mill conditions, try automatic doors. *Schwarzenbach Huber co. il Textile Ind* 122:143-4 Ap '58

DOORS, Swinging

- Winter infiltration through swinging-door entrances in multi-story buildings. T. C. Min. *bibliog il diags Heating-Piping* 30:121-8 F '58

DOPPLER effect

- Advanced Doppler navigation for the U.S. army. J. R. Iverson. *il diag Aero/Space Eng* 17:81-5 My '58
 Doppler effect in radio and radar. N. M. Rust. *diags Wireless World* 64:304-7, 373-7 J1-Ag '58
 Doppler equation for earth satellite measurements. A. Schwartzman and P. D. Stahl. *diag Inst Radio Eng Proc* 46:915-16 My '58

- Factors in the design of airborne Doppler navigation equipment. E. G. Walker. *bibliog diags Brit Inst Radio Eng J* 18:425-42; Discussion. 442-3; Reply. 444 J1 '58
 Marconi Doppler navigator; technical details and a flight demonstration. *il diag Wireless World* 64:260-1 Je '58

- Radio observations on the Russian satellites; analysis of Doppler data from earth satellites. D. E. Hampton. *Inst E E Proc* 105 pt B:99-100 Mr '58

- Satellite Doppler measurements. M. Bernstein and others. *diag Inst Radio Eng Proc* 46:782-3 Ap '58

- Son et lumiere. *diags Electronic & Radio Eng* 34:369-72 O '57; Discussion. 35:76 F '58

- Transistorized Doppler has pulse and cw features. Holahan. *il diags Aviation Age* 29:142-5, 147+ My '58

- 21-centimetre line. *Electronic & Radio Eng* 35:133-4 Ap '58

DORMITORIES

- Award citation; women's dormitories for the University of Missouri. *il plans Prog Arch* 39:90-1 Ja '58

- BOQ with a view proposed for San Diego by the navy. *il Arch Rec* 123:366 My '58

- Harvard's eighth house utilizes skip-stop plan to save space. *il plans Arch Rec* 123: 354+ Ap '58

- Lift-slab construction for college dorm features precast concrete columns; Arizona state college. W. E. Riley. *il plans diags Civil Eng* 28:193-5 Mr '58

- New kind of concept for BOQ approved by air force. *il Arch Rec* 123:362 My '58

- Precast concrete grille shields building walls; men's dormitory. University of South Carolina. *il Arch N* 160:30 Ap 3 '58

- University of South Carolina dormitories. *il plan Arch Rec* 123:186-9 F '58

DOSIMETERS. See Radioactivity—Measurement**DOUBLE bond. See Chemical bonds****DOUBLE deck buses. See Motor buses—Double deck****DOUBLE refraction. See Refraction, Double****DOUBLE sideband system. See Radio transmission—Double sideband system****DOUBLETS (spectrum). See Spectrum—Doublets****DOUGLAS fir**

- Bark tolerance of Douglas-fir chips in kraft pulp manufacture. R. M. Samuels and D. W. Glennie. *bibliog Tappi* 41:250-5 My '58

- Determination of dihydroquercetin in Douglas fir and western larch wood. G. M. Barton and J. A. F. Gardner. *bibliog Anal Chem* 30:279-81 F '58

- Fine chemical from fir bark. *il Chem & Eng N* 36:58 F 17 '58

- Relationship between pulp quality and alkali concentration. C. B. Christiansen and G. W. Legg. *bibliog diag Tappi* 41:216-23 My '58

DOW chemical company

- Career opportunities. *il map Chem & Eng N* 36:30-1 pt 2 Ja 27 '58

- Researchers move East on new product's heels; Dow Chemical to make Zefran commercially, sets up new division in Lee Hall, Va. *il map Chem & Eng N* 36:68-71 My '58

DOW chemical of Canada, Ltd.

- Wide range of chemical products. *il Chem & Ind p* 1052-3 Ag 16 '58

DOWTHERM

- New high temperature industrial heaters. *il Metallurgia* 57:305-6 Je '58

DRAFT

- Choosing draft systems for industrial boilers. H. G. Meissner. *diags Power* 102:98-100-1 J1 '58

See also

- Chimneys
 Mechanical draft

DRAFTING room practice

- Complex drawings; 3-D makes them clear. F. F. Boehm. *diags Iron Age* 181:93-5 Mr 27 '58

- Cut \$16,000 in drafting costs by using 105-mm film reproduction, offset-printed drawings, and a new scissors drafting technique; Marley co. *il Machine Design* 30:26-7 Je 12 '58

- Drawing standardization speeds component selection. F. Kirch. *il Elec Manuf* 62:115-16 J1 '58

- Equations for finding tangent circles; data sheet. J. D. Rutter. *diags Machine Design* 29:111-12 O 31 '57

- Graphic assembly drawings. F. Jantz. *diags Product Eng* 28:A28-9 Mid-O '57; Abstracts. *Machine Design* 29:163+ Je 13 '57; S A E J 65:64-5 Ag '57

DRAFTING room practice—Continued

- Guide to technical illustration; drawing methods and rendering techniques. H. P. Nelson. *il* diags Machine Design 30:108-14 Mr 6 '58
- Handy way to scale drawings for floor sheets. R. H. Berg. Chem Eng 65:174+ My 19 '58
- Have simplified drafting procedures saved you money? points of view. Product Eng 28:42-3 N 18 '57
- How and when to specify tolerances of form. F. L. Spalding. diags Machine Design 30:104-11 My 15 '58
- How to draw block diagrams easily. D. R. Williamson. diags Eng & Min J 159:95-9 Je '58
- In defense of drafting. J. W. Titus. Eng N 160:64 My 15 '58
- Let photography speed your drafting. G. P. Hammond and R. C. Kinstler. *il* diags Chem Eng 65:161-5 My 19 '58
- Make way for photo-drawings. J. Hughes. *il* Ind Phot 7:34+ Je '58
- Method of engineering drawing control. W. B. Wallace, Jr. diags Machine Design 29:102-5 N 23 '57
- Reduce drafting drudgery; Battelle-institut, Frankfurt am Main. *il* diags Machine Design 30:26-7 F 20 '58
- Six steps to better drafting practices; special report. F. Evans. *il* diags Pet Refiner 37:133-48 Ag '58
- Some uses of photography in engineering. W. C. Foulke. bibliog *il* diags Combustion 29:43-8 F '58; Abstract. Machine Design 30:139 Ja 9 '58
- True-position tolerancing; reference book sheets. W. H. Harrington. diags Am Mach 102:107+ Ag 11; 91+ Ag 25; 115+ S 8; 123+ S 22; 115+ O 6; 185+ O 20; 119 N 3 '58

See also

- Blueprints
Machinery—Design
Projection, Axonometric
Symbols
Templets

Standards

- ABC conference on unification of drafting practice. Toronto, Oct. 7-11. Mag of Stand 28:321-4 N '57
- Areas of agreement and disagreement in the drawing standards of the United States, Great Britain, and Canada. L. DeMause and R. P. Trowbridge. Mag of Stand 28:325-7 N '57
- Design and drafting standards for jigs and fixtures; reference sheet. A. F. Hird. Tool Eng 39:123-6 N '57
- Drafting standard; projections. diags Product Eng 29:4. *il* Mid-S '58
- Engineering drawing at the crossroads. G. Noble. Mag of Stand 29:242-3 Ag '58; Discussion. W. N. Gittings. 29:304 O '58
- Geometric forms. S. C. Miller. *il* diags Mag of Stand 28:333-5 N '57
- Maximum material condition on drawings. P. G. Belitsos. diags Mag of Stand 28:329-32 N '57
- Shop practice standards take the guesswork out of blueprint specifications and tolerances. J. A. Chingas. diags Machine Design 30:92-5 My 29 '58
- Standards accord reached at ABC conference. Toronto, Oct. 7-11. Elec Eng 76:1118 D '57
- True position on drawing. N. E. Brown and J. Stannard. *il* Mag of Stand 28:327-8 N '57

DRAFTING rooms**Equipment**

- Drafting-board divider for convenience, privacy, and noise reduction. D. G. Zimmer. diags Machine Design 30:108 JI 10 '58
- Drawing true perspectives; Autopsect precision drawing apparatus. *il* Engineering 184:681 N 29 '57
- Parallel motion drafting machine. *il* Engineering 185:646 My 23 '58

Lighting

- Drafting room lighting. J. L. Tugman. *il* Plant Eng 12:128-30 Ap '58

DRAGLINES. See Excavating machinery**DRAINAGE**

- Auger puts sand drains down 120 feet. *il* Eng N 160:45-6+ My 15 '58
- Drainage in relation to a permanent irrigation agriculture. C. R. Maierhofer. Am Soc C E Proc 84 (IR 1 no 15061):1-8 Ja '58
- Drainage in the Mississippi River valley. L. W. Herndon. map plan Am Soc C E Proc 83 (IR 2 no 13631):1-4 S '57; Discussion. 84 (IR 3 no 17841):11-15; Reply. 15-16 S '58

- Engineer and worldwide conservation of soil and water. O. W. Israelsen. bibliog *il* diags Am Soc C E Proc 84 (IR 3 no 17751):1-22 S '58
- Impact of modern equipment on irrigation and drainage. E. A. Braker. *il* Civil Eng 28:206-9 JI '58
- Novel drain design stops hillside erosion. *il* Eng N 160:87 My 15 '58
- Quick drainage estimates. Eng N 160:73 My 8 '58
- Review of the theories for sand drains. F. E. Richart, Jr. bibliog diags Am Soc C E Proc 83 (SM 3 no 13011):1-38 JI '57; Discussion. 84 (SM 1 no 15591):7 F; ISM 2 no 16571):15-20 My '58
- Synthetic storm pattern for drainage design. C. J. Keifer and H. H. Chu. Am Soc C E Proc 83 (HY 4 no 13321):1-25 Ag '57; Discussion. M. B. McPherson. bibliog 84 (HY 1 no 15581):49-57 F '58

See also

- Airports—Drainage
Dredging
Irrigation
Mine drainage
Planting areas—Drainage
Roads—Drainage
Sewerage
Wellpoint system
DRAINAGE (physical geography)
Correlation structure of morphometric properties of drainage systems and their controlling agents. M. A. Melton. bibliog diags J Geol 66:442-60 JI '58
Geometric properties of mature drainage systems and their representation in an *E* phase space. M. A. Melton. J Geol 66:35-56 Ja '58
Measurement of drainage-basin outline form. M. Morisawa. bibliog diags J Geol 66:587-91 S '58
DRAINAGE, House
Rain on the roof. E. B. Kassler. *il* Arch Rec 124:197-204 S '58

See also

- Plumbing
DRAINAGE machinery
Innovation in land drainage methods; mole drainage machine. *il* diags Engineer 204:733-4 N 29 '57
DRAMATIZATION in training
Supervisor training, how to pep it up; incident process method. North Carolina finishing co. M. D. Rochelle. *il* Textile Ind 122:169-70 O '58

DRAPERY

- Easy does it! how metallic yarns are put into a Georgia mill's drapery fabrics. *il* Textile Ind 122:79-80 Mr '58

DRAWERS, Plastic

- Injection moulded shop-fitting drawer. *il* Brit Plastics 31:301 JI '58

DRAWING instruments**See also**

- Straightedges

DRAWINGS**See also**

- Engineering drawings

DREDGES

- Dredge makes land for pipelaying project. *il* Eng N 160:40-1 Ja 2 '58
- Dredge of ideas; Cooley gravel co. W. B. Lenhart. *il* Rock Prod 61:148+ My '58
- Memphis operator builds dredge; Allen ready-mix concrete co. *il* Pit & Quarry 50:106-7 Je '58
- New dipper dredge doubles output of river sand and gravel; Oil City sand & gravel co. *il* Pit & Quarry 50:138-9+ Ja '58
- Small dredge designed for special jobs. *il* Eng N 160:109-10 Mr 20 '58
- Underwater fluid motor powers dredge cutter. J. H. Milne and A. A. Miller. *il* diags Ap Hydraulics 11:86+ Je '58

DREDGING

- Crawler-mounted dragline does a dredging job. *il* Pit & Quarry 51:140 Ag '58
- Dredge jets channel with discharge pipe. *il* Eng N 161:105-6 S 18 '58
- Hungry beach to be nourished by sand pumping plant; Palm Beach, Fla. F. H. Zurnhagen. *il* Eng N 161:46-8 Ag 7 '58
- New Zealanders dredge up an island to create new ship-berth area. *il* Eng N 160:125-6 Mr 20 '58

See also

- Excavation, Subaqueous

Costs

- Breakwater and harbor of refuge, Michigan; unit prices. Eng N 160:84 My 8 '58

DRIED beef. See Beef, Dried**DRIED fish. See Fish, Dried**

DRIED food. See Food, Dried

DRIED meat. See Meat, Dried

DRIED milk. See Milk, Dried

DRIFT

Alteration of clay minerals in Illinoisian till by weathering. J. B. Droste and J. C. Tharin. *bibliog Geol Soc Bul* 69:61-7 Ja '58

Littoral drift problem at shoreline harbors. J. W. Johnson. *maps diag* Am Soc C E Proc 83 [WW 1 no 1211:1-37 bibliog(p84-7) Ap '57; Discussion, R. Silvester. 84 [WW 1 no 1523:13-18 Ja '58; Reply, 84 [WW 3 no 1653:3-9 bibliog(p5-7) My '58

DRILLING and boring (ceramic materials)

Waveform rotates ultrasonic Jack hammer drill for ceramic materials. N. K. Marshall. *il Electronics* 31:116-4 Ja 17 '58

DRILLING and boring (earth and rocks)

Ball Mountain dam to provide flood relief for Connecticut River valley. R. W. Sapora. *il Comp Air Mag* 63:16-18 Mr '58

Better drill cuts cost at 40 to 1 strip mine; Robbins coal co. *il diag* Coal Age 68:92-4 Jl '58

Bucket drill pinpoints aggregates in deposit for Glen Canyon dam. J. M. Wells. *il Rock Prod* 61:86-8-11 Jl '58

Bucket drill yields superior data in exploratory testing. J. J. Heck. *il diag* Rock Prod 61:103-41 Je '58

Carving out a cavern through a needle's eye; Esso's Bayway refinery. *il plan Eng* N 160: 36-8 Ja 23 '58

Equipment interchangeability cuts downtime. *il Diesel Power* 36:29 Je '58

Jet piercing, the miner's rocket. L. E. Antonides. *il diag* Eng & Min J 159:103-7 Jl '58

Largest man-made storage caverns mined. *Civil Eng* 28:221 Mr '58

On-shore drilling for blasting of underwater shoals; Thousand Islands channel improvement project. J. P. Romig. *il diag* Civil Eng 27:796-7 N '57

Overburden drilling and blasting with ammonium nitrate explosives; Peabody coal co. F. Horne. *il Min Cong J* 43:46-51 D '57

Raydist locates boring sites for Chesapeake crossing; proposed bridge-tunnel project. A. L. Comstock and P. Z. Michener. *il map diag* Civil Eng 28:512-15 Jl '58

St Joe jig aids airleg drilling of long cut. *il diag* Eng & Min J 159:87 My '58

Six-ft hole bored in two minutes. *il Mech Eng* 80:30 Ag '58

Tractor-mounted drills the answer on 700,000 yard cliff; hill being blasted away on New Mexico's U.S. 85 interstate relocation. *il Roads & Sts* 100:56-61 N '57

See also

Core sampling
Gas, Natural—Well drilling
Mining methods
Petroleum—Well drilling
Rock drills
Tunnels and tunneling
Wells

DRILLING and boring (metal working, etc.)

Center drill selection; reference sheet. *diag* Tool Eng 40:122 F '58

Coolant is key to rapid boring. *il Product Eng* 29:69 My 26 '58

Deep holes drilled easily; gun drilling at Snow-Nabstedt gear corp. *il Steel* 142:105 Je 9 '58

Double-end machining of unwieldy castings. R. Kennedy. *il Mach* 64:140-1 Ap '58

Drilling along a magnetic axis. A. S. Brill and others. *diag R Sci Instr* 29:435-5 My '58

Drilling research; abstract. H. H. Klein. *Tool Eng* 40:313-14 Ap '58

Drilling rubber-lined pipe under vacuum. F. Franks. *diag Chem Eng* 65:152-4 F 24 '58

Drilling technique saves time and money on Bomarc radome. D. L. Head. *il Aviation Age* 30:38-41 Ag '58

Drillpress setup by combination bevel protractor. F. Strasser. *diag Am Mach* 101: 167 N 18 '57

Gun drilling; feeds, speeds and coolants; reference sheet. *Tool Eng* 41:123-4 S '58

Gun-drilling method solves shaft production problem for Snow-Nabstedt. H. Reil. *il Marine Eng/Log* 63:104 Ja '58

Gun-drilling on a turret lathe. *il Mach* 65:121 O '58

High-speed drilling of a missile fin. *il Mach* 65:164 O '58

How to drill 6Al-4V titanium alloy. G. P. Campbell and A. Searle. *il Mech Eng* 79: 1025-8 N '57

Metalworking, 1962; drilling. C. J. Oxford, jr. *Am Mach* 101:129 N 18 '57

Production drilling and reaming of precision holes with gun type tools. H. Gregg. *il diag* Tool Eng 40:79-84 Je '58

Solved; one titanium machining problem; drilling and broaching. A. J. Wesolowski. *il diag* Steel 143:92 S 29 '58

Special setups cut aluminum drilling costs. G. Grant. *il Light Metal Age* 16:30-1 Je '58

Stacking the deck against jig boring time. *il Mill & Factory* 62:154-4 F '58

Take the guesswork out of clearance hole and drill sizes; reference book sheet. C. J. Millard. *diag Product Eng* 29:93-4 My 12 '58

Tip on gun drilling. *il Steel* 142:116 Ap 7 '58

Vacuum drilling jig. *il Steel* 141:178-4 N 18 '57

See also

Broaching

Grooving

Trepanning

DRILLING and boring machinery

Adcock and Shipley deep-hole drilling machine. *il Engineer* 206:226 Ag 8 '58

Automatic assembling and precision boring machine. *il Mach* 64:17 Ag '58

Automatically controlled drilling; Maxam Woodpecker drill. *il Automobile Eng* 48:105 Mr '58

Baker drilling machines with universal-joint and fixed-center heads. *il Mach* 65:170-2 O '58

Baker electronically controlled bolt-circle drilling machine. *il Mach* 64:183 F '58

Boring bar selection vital to precision. *il Iron Age* 181:100-1 Ja 23 '58

Boring mills go higher and higher. *il Iron Age* 182:48 Ag 4 '58

Boring tool feed; Merz engineering co. *il diag* Ap Hydraulics 11:76 Jl '58

Bulky items drilled without fixtures. *il diag* Tool Eng 40:95 My '58

Cincinnati Bickford super service radial drilling machines with improved heads. *il Mach* 64:210-11 D '57

Cincinnati sliding head drills offer infinitely adjustable speeds. *il Am Mach* 102:150 F 24 '58

Craven 30ft vertical boring and turning mill. *il Engineer* 206:226 Ag 8 '58

Cross Transfer-matic for boring axle housings equipped to assure precision location of gear centers. *il diag* Mach 64:168-9 Je '58

Cut drill breakage on small holes. *diag* Iron Age 182:40 Jl 31 '58

Cutting tools change automatically. *il Tool Eng* 40:93 F '58

Develop easy technique for gun-drill sharpening. *il Tool Eng* 40:182-3 Ja '58

Developments on the Spacematic jig boring machine. *il diag* Engineer 206:482-3 S 5 '58

Drill presses adapted to precision work; Charles Marti corp. *il Plant Eng* 12:118-19 F '58

Drill presses do the darndest things. *il Mill & Factory* 63:94-5 Ag '58

Drilling and boring machine designed for automatic positioning tables. *il Am Mach* 102:148 My 5 '58

Drills obey escapement. *il diag* Product Eng 29:84 My 12 '58

Eccentric bushing and preloaded balls assure boring head accuracy. *il diag* Tool Eng 40: 94 My '58

Eduard gun type drilling machine. *il Mach* 64:166-7 Je '58

Extra drill saves time; Clark equipment co. *il Iron Age* 180:152-4 N 21 '57

Fine points in drill use and care. C. H. Wiley. *diag Power Eng* 62:92 Mr '58

Fosmatic equipped for automatic tool changing. *il Mach* 64:183-4 Ja '58

Giant boring machine is the end; abstract. E. M. Morton. *diag Elec Manuf* 62:70-1 Jl '58

Grinds spiral point on twist drills. *il Iron Age* 180:158-9 D 19 '57

Holes by the thousands are controlled by a single template. J. Burnham. *il Mach* 65: 141-3 S '58

Home built special machines solve production problem; new type of gas range burner at George D. Roper corp. G. H. Riseman. *il diag* Tool Eng 40:117-18 Mr '58

Jig borer with built-in gaging device aids nuclear reactor production. *il Tool Eng* 40: 151-2 Mr '58

Join standard components to benefit operator. D. W. Gartner. *il Iron Age* 182:82-3 Jl 17 '58

Kaukauna floor type horizontal boring, drilling, and milling machine with three control systems. *il Mach* 64:215-16 D '57

DRILLING and boring machinery—Continued

- Kitchen and Wade precision drill borer. *Il Engineering* 186:135 Ag 1 '58
- Large horizontal milling and boring machine. *Il Engineer* 204:791-2 N 29 '57
- Large milling and boring machine constructed by the Aktiengesellschaft Schless. of Düsseldorf. *Il Mech Eng* 80:98-9 F '58
- LeBlond-Carlstadt rapid borer does work of three machines. *Il diags Iron Age* 181:111 Ap 17 '58
- Machine generates spiral points on drills. *Il diag Tool Eng* 40:94 Ja '58
- Makes most of machine time; tackwelding bearing brackets doubles output of boring mill operation. *Il Steel* 142:95 F 10 '58
- Morton floor and planer type horizontal boring and milling machines. *Il Mach* 64:174 Mr '58
- Multiple spindle drill feeds; Turner brothers inc. R. Johnson. *Il diag Ap Hydraulics* 11:94 J1 '58
- Multiple spindles cut holes faster, cheaper, better. C. Emerson. *Il diags Am Mach* 102:113-28 My 19 '58
- Multi-spindle drillheads boost production; illustrations with text. *Am Mach* 101:130-1 D 16 '57
- New line features variety; Baker brothers. *Il Steel* 143:95 S 22 '58
- New rig speeds ground-rod driving. H. L. Allen. *Il Elec World* 149:78-9 F 24 '58
- Newall small jig borer. *Il Engineer* 205:865 Je 6 '58
- Nilson vertical four-slide machine simplifies setup and operation. *Il Am Mach* 102:148 F 10 '58
- 1958 production preview; boring. *Il Am Mach* 102:112-14, 116-20 Ja 27 '58
- Opposed-spindle machine drills tube sheets quickly. *Il diag Tool Eng* 39:87 D '57
- Portable target gun drilling produces accurate holes in large structures. *Il Mill & Factory* 62:133 Ja '58
- Power pack for step drill; Leland-Gifford co. E. Hirvonen. *diag Ap Hydraulics* 11:65 J1 '58
- Pratt & Whitney jig borer built to solve nuclear reactor production problem. *Il Mach* 64:183-4 Mr '58
- Qualters and Smith radial drilling machine. *Il Engineer* 206:69 J1 '58
- Scissor-bearing design; LeBlond-Carlstadt rapid borer. *Il Machine Design* 30:132 Ap 3 '58
- Screw machine parts from a drillpress? yes! J. P. Wright. *Il diags Am Mach* 102:92-7 Ap 7 '58
- Short run drilling machine for etched circuit boards. J. Mosca. *Il diag Elec Manuf* 61:158 My '58
- Simplified gundrill sharpening cuts production delays; Eldorado tool & manufacturing corp. F. Bloch. *Il diags Am Mach* 101:78-80 D 30 '57
- Some experiments on the influence of various factors on drill performance. D. F. Galloway. *Il diags Automobile Eng* 47:449-55 N '57
- Special machine for drilling deep holes in automobile steering-gear housing. *Il diag Mach* 64:150 Ag '58
- Spiral point drill. *Il Mech Eng* 79:1146 D '57
- Spiral point drill, a new concept in drill point geometry. H. Ernst and W. A. Haggerty. *Biblog Il diags A S M E Trans* 80:1059-70; Discussion. C. J. Oxford, jr. 1070-2 J1 '58
- Spiral point drill, a new development. C. A. Weinert. *Il Automotive Ind* 117:80+ N 1 '57
- Spiral-point drill and spiro-point drill sharpener. *Il Mach* 64:204-6 D '57
- Swindon automatic boring head. *Il Engineering* 186:135 Ag 1 '58
- Swindon boring and facing head. *Il Engineer* 206:309 Ag 22 '58
- Transfer machine solves concentricity problems. *Il diags Tool Eng* 41:62-3 J1 '58
- Two-station drill spindle stop. W. R. Eldridge. *diags Tool Eng* 40:82 Ap '58
- Unimatic horizontal drilling and tapping machine. *Il Mach* 65:187 O '58
- Very heavy milling and boring; machines made by William Asquith, limited. *Il Engineering* 184:808 D 27 '57
- See also*
Boring bars
Broaching machines
Jigs
Reamers

Control

- Advance industries, inc.; control of drill head. *Il diags Control Eng* 5:112-14 F '58

- Automatic positioning with punched tape control; Fosmatic jig borer. *Il diags Elec Manuf* 61:120-5+ Ap '58
- Barnesdrill four-spindle boring machine is numerically controlled. *Il Am Mach* 101:165 D 16 '57
- British Thomson-Houston co. numerical control system for jig borers and horizontal boring machines. J. D. Cooney and B. K. Ledgerwood. *Il diag Control Eng* 5:78-9 Ja '58
- Bigmaster tape-controlled turret drilling, tapping, and boring machine. *Il Mach* 65:183-9 S '58
- Cleereman adds numerical control to layout drilling. *Il Am Mach* 102:126-6 Je 16 '58
- Cleereman layout drilling machine with numerical-positioning tape control. *Il Mach* 64:193-4 J1 '58
- Digimatic automatic control for drill presses. *Il Mach* 64:185 F '58
- Drilling for dollars; punched tape machine pays off in eight months. Hughes aircraft co. J. W. Moffett. *Il Plant Eng* 12:94-5 O '58
- Drills form part of electrical control circuit in automatic machine. *Il diag Machine Design* 30:117 Ag 21 '58
- Electronic control systems, inc.; point-positioning system. *Il diags Control Eng* 5:115-17 F '58
- Electronic finger checks drills. *Il diag Product Eng* 29:46 Ag 4 '58
- Electropoint system runs turret drills. *Il Mach* 64:122-5 Je '58
- Electrosystems, inc. control packages for drilling machines and stretch-forming machines. J. D. Cooney and B. K. Ledgerwood. *Il diags Control Eng* 5:107 Mr '58
- Ferranti, ltd.; point-to-point positioning of a small drilling machine. *Il diag Control Eng* 5:117-18 F '58
- Four-spindle boring machine controlled by punched tape. *Il Mach* 64:150-1 Ja '58
- Handy feed-lever switch facilitates drilling. C. McLaughlin. *diag Mach* 64:171 Ap '58
- Hiliver instrument co. numerically controlled drilling machine system. J. D. Cooney and B. K. Ledgerwood. *Il diag Control Eng* 5:71 Ja '58
- IBM-Fosdick machine tool co.; numerical control system for the jig borers and grinders. J. D. Cooney and B. K. Ledgerwood. *Il diags Control Eng* 5:72-4 Ja '58
- Japanese government mechanical lab.; system for positioning a precision jig bore. *diags Control Eng* 5:104-7 F '58
- Micro-positioner corp.; point positions recorded by indenting steel tape. *Il diag Control Eng* 5:111-12 F '58
- Mullard-Coventry; electronic measuring system for jig borer. J. D. Cooney and B. K. Ledgerwood. *Il diags Control Eng* 5:95-7 Ja '58
- National automatic tool co. positioning control for drilling machines. J. D. Cooney and B. K. Ledgerwood. *Il diags Control Eng* 5:104-5 Mr '58
- New tool does job of three; tape-controlled drill. E. J. Egan, jr. *Il Iron Age* 180:65 N 23 '57
- Numerical control adapted to four-spindle boring machine. *Il Automation* 5:9-10 F '58
- Numerically controlled drill eliminates temp-lots and layout time. *Il Am Mach* 102:122 J1 14 '58
- Numerically-controlled jig borer selects its own tool. *Mach* 102:156 Mr 10 '58
- Position readout for pendant station; abstract. A. O. Fitzer. *Il diag Elec Manuf* 62:69 J1 '58
- Pratt & Whitney co. numerical control system for jig borers, precision hole grinders and rotary tables. J. D. Cooney and B. K. Ledgerwood. *Il diags Control Eng* 5:75-7 Ja '58
- Punch cards control jig borer. *Il Iron Age* 180:54-5 D 26 '57
- Punched tape speeds code-rod drilling. P. L. Smith and H. J. Baxter. *Il Mach* 65:155-6 O '58
- Reeves instrument corp.; Auto-Set positioner for drilling machines, horizontal jig borers. J. D. Cooney and B. K. Ledgerwood. *diags Control Eng* 5:102-3 Mr '58
- Tape controls cut drilling cycles 30-50 per cent; Chicago's Goss printing press co. R. L. Hogan and E. J. Kweton. *Il diag Am Mach* 102:93-6 S 8 '58
- Tape controls multifunction drill. *Il Product Eng* 29:86 Mr 17 '58
- Tape guides jet engine boring; General Electric. *Il Steel* 141:112 D 2 '57
- Tape programs board driller. *Il Electronics* 31:114-15 Ag 15 '58

DRILLING and boring machinery—Continued

Teller co. control of jig bore, J. D. Cooney and E. K. Ledgerwood, *il* diag Control Eng 5:84-6 Ja '58

Unusual approach pays off; 40-ft high turning and boring machine will use tv, numerical control, visual guidance, and a turning ring, *il* Steel 143:78 J1 28 '58

V. L. Schwartzkopf; control for vertical precision boring machine, J. D. Cooney and E. K. Ledgerwood, *il* diag Control Eng 5:98 Ja '58

Westinghouse electric corp. positioning system for drilling machines, J. D. Cooney and E. K. Ledgerwood, *il* diag Control Eng 5:105-6 Mr '58

DRILLING muds. See Petroleum—Mud fluids**DRILLS, Oil well**

Comparison; turbodrill and conventional bit, E. L. Lomax, *il* Oil & Gas J 56:133+ Mr 3 '58

Did we bury the drag bit too soon? E. McGhee, *il* Oil & Gas J 55:125-6 D 16 '57

Drilling equipment, *il* Pet Eng 30:B32+ J1 15 '58

High-speed low-torque drilling device, G. E. Cannon, *il* diag Pet Eng 30:B82+ Mr '58

Power rig has steam-drive feel, E. McGhee, *il* diag Oil & Gas J 56:208-10 Mr 24 '58

Proximity coils detect broken drills, M. Zazac, *il* diag Elec Manuf 62:130+ S 58

Rig muffled for movie makers, *il* Oil & Gas J 56:67 S 8 '58

Rig-owners' census, *il* Oil & Gas J 56:53 J1 21 '58

Steel firms giving river-yard service; casing and drill pipe, *il* map Oil & Gas J 56:78-9 My 12 '58

Torque requirements for rotary shouldered connections, A. P. Farr, *il* diag Oil & Gas J 55:108-14 D 2 '57

Turbodrill gamble is paying off, *il* Oil & Gas J 56:215-16 Ag 18 '58

Turbodrills competing in drilling gas-storage wells in Illinois, *il* Oil & Gas J 56:108-9 J1 28 '58

Turbodrills used at Herscher for an underground-storage reservoir, *il* Natural gas storage co. *il* Oil & Gas J 56:80 J1 7 '58

DRINKING fountains

Don't stumble over your drinking fountains, *il* Mill & Factory 63:93 Ag '58

DRINKING water systems

Remote coolers an economical source of good drinking water, Caterpillar's Peoria, Ill. plant, *il* Plant 18:32 J1 '58

DRIVE-in and curb services

Community national bank gets a lift; teller's cage part of sidewalk, *il* Comp Air Mag 63:37 Ja '58

Downtown bank adds garage with drive-in service; First national bank of Oklahoma City, *il* plans diag Arch Rec 123:256+ Ja '58

Drive-in service for water bill payment, M. Holland, *il* Pub Works 88:90 N '57

DRIVE-in theaters. See Moving picture theaters, Open air

DRIVERS as salesmen

Redi-Mix's truck-purchase plan makes salesman of drivers, H. J. Miller, *il* Concrete 66:34-6 Ja '58

DRIVEWAYS

Driveways and approaches for modern automobiles, M. Anaya, *il* Pub Works 89:113-14 Je '58

DROP hammers. See Hammers, Drop

DROPS

Absorption of sulfur dioxide from air; oxidation in drops containing dissolved catalysts, H. F. Johnstone and D. E. Coughanowr, *il* diag Ind & Eng Chem 50:1169-72 Ag '58

Coalescence of liquid drops at oil-water interfaces, L. E. Nielsen and others, *il* bibliog J Colloid Sci 13:441-58 O '58

Dropletwise condensation of steam, L. C. F. Blackman, *il* bibliog *il* diag Research 11:394-400 O '58

Effect of a variable evaporation rate on the ballistics of droplets, C. C. Miesse, *il* bibliog Franklin Inst 264:391-401 N '57

Evidence of rupture in droplet layers on heated liquid surfaces, W. C. Levensgood, *il* Am J Phys 26:35-7 Js '58

Fast spray droplet measurement promotes nozzle research, S. E. Farnham, *il* diag Ind Lab 9:57-8+ O '58

Fragmentation of waterdrops in the zone behind an air shock, O. G. Engel, *il* bibliog *il* diag J Res Nat Bur Stand 60:245-80 Mr '58

Photocell measures raindrop size, *il* Electronics 31:89 My 23 '58

Small glass drop forming device, H. P. Beerman, *il* diag Am Cer Soc Bul 37:272-3 Je 15 '58

Spreading of low vapor pressure liquids in paper, T. Gillespie, *il* bibliog diag J Colloid Sci 13:32-50 F '58

Thermal resistance of the water droplet on the metallic surface, S. Matsunaga, *il* diag Jet Propulsion 28:126-7 F '58

Two-camera technique for measuring fall velocities of freely falling drops, R. H. Magarvey, *il* bibliog diag J Sci Instr 34:508-9 D '57

DROUGHTS

Effect of 1952-56 drought on Iowa impounded water supplies, E. R. Baumann and J. L. Cleasby, *il* Am Water Works Assn J 50:233-44 F '58

How Denver fought the drought! J. Burgess, *il* Water Works Eng 111:562-5+ Je '58

DRUG factories

New Colliery factory, F. Chilson, *il* Drug & Cosmetic Ind 83:158-9+ Ag '58

Water for the pharmaceutical industry, A. H. Waddington, *il* diag Manuf Chem 29:275-8 J1 '58

Accounting

Cost trends and controls in pharmaceuticals, C. R. Bartels, *il* Chem Eng Prog 54:59-61 Mr '58

Air conditioning

Air conditioning requirements of the pharmaceutical industry, D. R. Dickenson, *il* Manuf Chem 29:417-20 O '58

Selection of air conditioning plant, D. Hackett, *il* Manuf Chem 29:420-2 O '58

Equipment

Automated refrigeration cuts temp variations; Hoffmann-La Roche, Inc., *il* diag Food Eng 30:102 Mr '58

Corticosteroids from bile acids; Uclaf Ltd., *il* Manuf Chem 29:97-102 Mr '58

Cyanamid-Lederle factory opened; chemical manufacture and pharmaceutical processing under one roof, *il* Manuf Chem 29:181-3 My '58

Drug houses of Australia link-up with American Cyanamid; new building for encapsulating antibiotics, *il* Manuf Chem 29:239 Je '58

Status of continuous pH measurement within pharmaceutical fermentation processes, T. J. Kehoe, *il* Ind & Eng Chem 50:1259-60 S '58

Management

Determining the market for new pharmaceuticals, C. Setterstrom, *il* Drug & Cosmetic Ind 82:177+ F '58

Management forum, F. Chilson, *il* Published in monthly numbers of Drug and cosmetic industry

Quality control

Automatic statistical filling control; Bristol-Myers products div., W. C. Frey and W. M. Spencer, *il* Ind Quality Control 14:13-16 F '58

Quality control comes of age; Bristol-Myers products div., W. M. Bristol, 3d, *il* Ind Quality Control 14:10-12 Ja '58

Waste**Bibliography**

Review of the literature of 1957 on sewage, waste treatment, and water pollution; fermentation chemical and pharmaceutical wastes, *il* Sewage & Ind Wastes 30:723-4 Je '58

DRUG habit

Problems resulting from the use of habituating drugs in industry, *il* bibliog Am J Pub Health 48:561-39 My '58

DRUG manufacturers association, American. See American drug manufacturers association

DRUG packages

Ciba's over-the-counter packages, *il* Drug & Cosmetic Ind 82:753 Je '58

Du Pont reports more pressure packaged drugs, *il* Soap & Chem Spec 34:187 S '58

Pharmaceutical aerosols, *il* Drug & Cosmetic Ind 82:78 Ja '58

Pharmaceutical aerosols, M. Barr, *il* Soap & Chem Spec 34:86-7+ Ja '58

Plant develops own pharmaceutical packager; Hoffmann-La Roche, *il* diag Manuf Chem 29:424 Ag '58

Problems of package design for an international pharmaceutical company, T. F. D. Haines, *il* Drug & Cosmetic Ind 82:43+ Ja '58

Set-up paper box competition awards, *il* Drug & Cosmetic Ind 82:615+ My '58

Well-conceived ethical package, *il* Drug & Cosmetic Ind 83:173+ Ag '58

DRUG research. See Pharmaceutical research

DRUG trade

Drug profits still point up. *Il Chem & Eng N* 36:28-9 Ja 13 '58

How public relations help sell Bristol-Myers products. *J. L. MacWhitney. Il Drug & Cosmetic Ind* 82:325+ Mr '58

Invisible sell and the pharmaceutical industry. *T. Klein. Drug & Cosmetic Ind* 83:51+ Ji '58

1957 pharmaceutical products parade. *P. de Haen. Drug & Cosmetic Ind* 82:301+ Mr '58

See also

American drug manufacturers association
Drugs—Prices

Advertising

Color match; use of a particular color as an identifying mark of a particular product; court action of Norwich pharmaceutical co. v. Sterling Drug. *Il Drug & Cosmetic Ind* 83:307+ S '58

Drug makers get vote of confidence; psychiatrists say most tranquilizer ads are accurate. *Chem & Eng N* 36:42 F 24 '58
Who polices drug ads? *Chem & Eng N* 36:35-6 Mr 10 '58

Laws and regulations

FTC charges six antibiotic sellers. *Drug & Cosmetic Ind* 83:283+ S '58

Latin-American drug laws. *V. C. Folsom. Drug & Cosmetic Ind* 82:308-9+ Mr '58

Regulation of biologicals. *P. M. Banta. diags Drug & Cosmetic Ind* 83:164-5+ Ag '58

Washington and the drug industry. *K. Bamach. Drug & Cosmetic Ind* 82:740-1+ Je '58

See also

Drugs—Laws and regulations

United States—Food and drug administration

Statistics

Antibiotic economics. *Il Drug & Cosmetic Ind* 83:289-91+ S '58

Drug and cosmetic operations 1957. *J. Kalish. Drug & Cosmetic Ind* 82:593-5 My '58

Australia

Drug houses of Australia link-up with American Cyanamid; new building for encapsulating antibiotics. *Il Manuf Chem* 29:239 Je '58

Canada

Annual statistical review; pharmaceuticals. *Can Chem Process* 42:sup 19 Je '58

Trend is to the ethical. *Il Can Chem Process* 42:33-4+ My '58

Great Britain

Dollar technology in Britain; American strength in pharmaceuticals and cosmetics. *Il Manuf Chem* 29:365-7 S '58

Latin America

Latin-American drug laws. *V. C. Folsom. Drug & Cosmetic Ind* 82:308-9+ Mr '58

DRUGS

Advancing therapy. Published in monthly numbers of Drug and cosmetic industry

Drug side reactions and anesthesia; abstract. *J. W. Dundee. Drug & Cosmetic Ind* 83:217-18 Ag '58

Drugs and driving; editorial. *Ind Med* 27:121-2 F '58

Drugs and pharmaceuticals. *T. G. Klumpp and C. M. Suter. Ind & Eng Chem* 50:sup38A-41A Mr '58

Expectorants; abstract. *H. Beckman. Drug & Cosmetic Ind* 83:361 S '58

New drugs of 1957. *L. F. Tice. Drug & Cosmetic Ind* 82:454-6+, 674+ Ap-May '58

Occupational medicine and modern-day drugs. *A. H. Holland, Jr. A M A Archives Ind Health* 17:593-6 Je '58

Review and preview; antibiotics, steroids, peace medicinals. *Chem & Eng N* 36:84-5 Ja '58

Spate of lift pills coming; newly found psychic energizer field promises radical changes in treatment for depressed people. *Il Chem & Eng N* 36:51-2 F 17 '58

Toxicological aspects of common food and drugs. *L. G. Farmer. Ind Med* 27:285-6 Je '58

Use of colorants as drugs and in drugs; abstract. *J. Cooper. Am Dyestuff Rep* 47:21 Ja 13 '58

See also

Analgesics

Antacids

Aspirin

Capsules, Gelatin

Chemotherapy

Drug trade

Isonicotinic acid

Narcotics

Penicillin

Pharmaceutical laboratories

Pharmaceutical research

Pharmacopoeias

Pharmacy

Tablets (medicine)

Administration and dosage

Future dosage forms. *C. I. Jarowski. Drug & Cosmetic Ind* 82:450-1+ Ap '58

Analysis

Pharmaceuticals and drugs. *W. I. Stephen. Manuf Chem* 29:159-60 Ap '58

See also

Sulfonamides—Analysis

Laws and regulations

See Drug trade—Laws and regulations

Manufacture

Nitrofurans and pharmaceuticals; Smith Kline and French laboratories' Tonbridge factory. *Il Manuf Chem* 29:229-32 Je '58

Patents

Drug patent rule puts public first. *Chem & Eng N* 35:26 D 23 '57

Patent activity in the drug field. *T. Cifelli, Jr. Drug & Cosmetic Ind* 82:31+ Ja '58

Patent thoughts and trends. *T. Cifelli, Jr. Published in monthly numbers of Drug and cosmetic industry*

Patents may come easier on drug intermediates. *Chem & Eng N* 36:17 Ji 28 '58

Prices

Antibiotic economics. *Il Drug & Cosmetic Ind* 83:289-91+ S '58

Cost trends and controls in pharmaceuticals. *C. R. Bartels. Chem Eng Prog* 54:59-61 Mr '58

Price determination theory in the pharmaceutical industry. *J. D. McEvilla. bibliog Drug & Cosmetic Ind* 82:34-5+ Ja '58

Psychological effect

Problems resulting from the use of habituating drugs in industry; effects of analeptic and depressant drugs upon psychological behavior. *G. T. Hauty and R. B. Payne. Am J Pub Health* 48:571-7 My '58

Terminology

Drug names approved by General medical council; supplementary list. *Chem & Ind* p 1447 N 2 '57; p255 Mr 1 '58
More approved names for drugs. *Manuf Chem* 29:446 O '58

Testing

Quantitative methods in human pharmacology and therapeutics; symposium; abstracts of papers. *Chem & Ind* p970-2 Ag 2 '58

DRUGS, Resistance to

Germicides versus antibiotics and chemotherapeutics in the control of resistant staphylococcal infections of the skin. *S. M. Peck and I. Kantor. bibliog Il Am Perfumer & Aromatics* 12:27-31 Ji '58

DRUGS, Tranquillizing. See Tranquillizing drugs

DRUGS, Veterinary. See Veterinary medicine

DRUMS, Steel

Sterile packing in drums achieved with new process; bulk-packed concentrates. *C. R. Haverhorst. Il diag Food Eng* 30:86-8, cover S '58

DRY cells. See Electric cells

DRY cleaning. See Cleaning

DRY docks

Characteristics and relative merits of railway and floating dry docks; abstract. *P. S. Crandall. Marine Eng/Log* 63:75 Mr '58

Docks and harbours; illustrations with text. *Engineer* 205:pl 8 Ja 10 '58

Queen Elizabeth dock, Falmouth. *Il Engineer* 206:217 Ag 3 '58

Study of the compatibility of floating-type inhibitors and cathodic protection. *E. R. Streed. bibliog Il diag Corrosion* 14:50-4 Mr '58

Three-section graving dock designed and built as one. *Il diags Eng N* 160:42-3+ Ja 2 '58

When know-how and ingenuity paid-off. *Il diags Marine Eng/Log* 63:76-7 Ap '58

DRY ice

- Heat of sublimation of dry ice. L. F. Bruening. *Am J Phys* 26:397 S '58
 Kill static in lab screening; pieces of dry ice placed on each screen, while humidified nitrogen gas passed upward through the screens countercurrent to the particle path. M. Allen. *diag Chem Eng* 65:176 S 22 '58
 Pattern for progress; Freon and the development of the dry ice industry. *Ind & Eng Chem* 49:sup29A D '57

DRYERS

- Here are latest machines for updating your plant; moisture removal. *Food Eng* 30:76 Q '58

DRYING

- Air drying time; is it enough? *Ind Finishing* 34:112-13 Ap '58
 Continuous freeze-drying of serratia marcescens. H. G. Maister and others. *bibliog* *Ind diag Ind & Eng Chem* 50:623-6 Ap '58
 Drying and decomposition of sodium carbonate. A. E. Newkirk and I. Aliferis. *bibliog Anal Chem* 30:982-4 My '58
 Drying of gases with activated alumina. A. W. Miller and C. W. Roberts. *bibliog diag Ind Chem* 34:141-5 Mr '58
 Drying viable biological materials by solvent extraction and azeotropic distillation. R. R. Freeman and others. *flow diags Chem Eng Prog* 53:590-2 D '57

- Effects of drying conditions on the properties of spray-dried particles. E. J. Crosby and W. R. Marshall, Jr. *Ind Chem Eng Prog* 54:56-63 J1 '58

- Freeze-drying ups quality of QM quick-serve rations; Quartermaster food & container institute for the armed forces. R. G. Tischer and M. C. Brockmann. *Ind Food Eng* 30:110-13 Ja '58

- Freezing and drying; Institute of biology's 2d international symposium. *Chem & Ind* p97-8 A 9 '58

- Fundamentals of spray-drying detergents. J. H. Chaloud and others. *Ind diag Chem Eng Prog* 53:593-6 D '57

- Getting the most from a drying system. J. E. Greever. *diags Metal Prog* 74:83-5 J1 '58

- Improved heat transfer system for freeze-drying. L. M. Abelow and E. W. Flösdorf. *Ind Chem Eng Prog* 53:597-600 D '57

- Solar energy utilization for heating, cooling, distillation and drying; ASHAE technical advisory committee on solar energy utilization discussion and decimal-divided outline, to show broadly the technical information needed in the solution for solar utilization problems. *Ind Heating-Piping* 30:147-52 Je '58

- Spouting of large particles. C. E. Cowan and others. *bibliog Ind diags Eng J* 41:60-4 My '58

- Spray dried perfumes. R. T. Maleeny. *bibliog Ind diags Soap & Chem Spec* 34:135-4 Ja '58

- Unit operations in chemical engineering. E. Bagnoli. *bibliog* (41 ref) *diag Ind & Eng Chem* 50:435-7 pt 2 Mr '58

See also

- Clay drying
 Coal drying
 Drying apparatus
 Electric transformers—Drying
 Gas, Natural—Dehydration
 Paint—Drying
 Paper drying
 Sewage sludge—Drying
 Soap—Drying
 Textile drying

DRYING (crops)

- Crop conservation practice. J. R. O'Callaghan. *diags Engineering* 184:566-7 N 1 '57

- Engineer designs economical grain dryer. *Ind Elec World* 150:111 J1 14 '58

- Multi-pass drying ups yield. *Food Eng* 30:82 Ag '58

DRYING agents*See also*

- Silica gel

DRYING apparatus

- Here's chart for fast figuring of air-dryer performance. R. R. Haugh. *Food Eng* 30:106-7 My '58

- Soap plant observer; construction of a soap and detergent spray tower. J. W. McCutcheon. *Soap & Chem Spec* 34:203-4 My '58

- Use of infra-red heating for the drying of ores and test products at the Mines branch laboratories. R. A. Elliott. *Ind Can Min & Met Bul* 51:111-13 F '58

- Welding rod drying equipment. *Ind Engineer* 204:609-10 O 25 '57

See also

- Centrifuges
 Drying
 Electric heating, Industrial
 Electric ovens
 Gas ovens
 Ovens
 Paper drying

Textiles

- How to dry large packages; Wehadkee yarn mills closed-system dryer. *Ind Textile Ind* 122:88-9 Je '58
 Some ways to improve efficiency in cylinder drying. L. Walter. *diags Textile Ind* 122:72-4 J1 '58

DRYING oils

- Drying oils. M. M. Renfrew and others. *bibliog Am Oil Chem Soc J* 35:19-25 Ja '58
 Oxidative degradation of drying oils; abstract and discussion. R. R. Bishop and P. Butler. *Chem & Ind* p219-20 F 22 '58
 Transformations of semi-drying oils. C. Boelhouwer and others. *bibliog J Ap Chem* 8:387-90 Je '58

See also

- Tall oil

Bleaching

- Bleaching of drying oils by ionizing radiation. J. B. Lavigne. *bibliog* (26 ref) *Am Oil Chem Soc J* 35:117-20 Mr '58

DUAL theorem. See Linear programming**DUBA, John E.**

- Engineer to help run Nation's second largest city. *Por Power Eng* 62:59 Mr '58

DUCK (textile)

- Phototenderization by anthraquinone 2,6-disulfonic acid of cotton duck before and after weathering. A. D. Baskin and J. M. Kaplan. *bibliog Textile Res J* 28:564-9 J1 '58
 Piedmont cotton in diversified production. *Ind Textile World* 108:89-4 Mr '58

DUCTILE iron. See Cast iron**DUCTILITY**

- Ductile ceramics. *Ind & Eng Chem* 50:sup29A-30A F '58
 Ductility and energy relations in Charpy tests of structural steels. J. H. Gross and R. V. Stout. *bibliog Welding J* 37:sup 151-5; Discussion. sup 156-8; Reply. sup 158-9 Ap '58
 Ductility in high-temperature rupture tests. J. Glen. *bibliog Iron & Steel Inst J* 190:30-9 S '58
 Effect of surface conditions on room-temperature ductility of ionic crystals. A. E. Gorum and others. *bibliog Ind Am Cer Soc J* 41:161-4 My 1 '58

DUDLEY, Dud

- D. Dudley an over-estimated writer. R. A. Mott. *Metallurgia* 55:296-7; Discussion. E. N. Simons. 297-8 D '57

DULUTH**Streets**

- Duluth's main street paved at night. H. K. Glidden. *Ind Roads & Sts* 100:154-6-4 N '57

DUMPING appliances

- Aluminum dumper. *Ind Engineering* 184:713 D 6 '57
 Convertible bulk carrier. *Ind Engineer* 206:464 S 19 '58
 Euconik, level-load capacity of 80 cubic yards. *Ind Eng N* 160:50 Ap 24 '58
 Fodens heavy dumper. *Ind Engineer* 205:185 Ja 31 '58
 Fodens heavy-duty dumper. *Ind Engineering* 185:165 F 7 '58
 Heavy duty dump truck built of aluminum extrusions and plate. *Ind Mod Metals* 14:30 F '58
 Heavy-duty dumper. *Ind Automobile Eng* 43:93-9 Mr '58
 LeTourneau-Westinghouse's new 32 ton rear dump truck; illustrations with text. R. H. Kress. *S. A. E J* 66:87-9 Ag '58
 Low silhouette version rear dump squats for easier loading. *Ind Eng N* 159:49 D 19 '57
 Muir-Hill placer-dumpers. *Ind Engineer* 206:63 J1 '58

See also

- Car dumpers

DUNES, Sand. See Sand dunes**DUNITE**

- Chlorine in serpentinized dunite. J. W. Earley. *diag Am Mineralogist* 43:148-55 Ja '58

DUNN, F. P.

- Services to S.C.I. publications. *Por Chem & Ind* p 1212-13 S 20 '58

DUNNAGE
Pneumatic dunnage commercially available.
Comp Air Mag 63:36 F '58

DUODENUM

Ulcers

Pantothenic acid deficiency and its effect on the integrity and functions of the intestines.
T. F. Zucker, bibliog (29 titles) *Il Am J Clinical Nutrition* 6:65-74 Ja '58

DUO-SOL process. See Lubricating oils—Manufacture

DUPLICATING machines

Copier breaks data jam; Thomas J. Lipton, inc. G. Heath. *Il Food Eng* 30:59-60 S '58

DUPLICATING processes. See Copying processes

DU PONT de Nemours, E. I., and company

Du Pont gets patent on linear polyethylene. Materials in Design Eng 47:247-84 Ap '58
Heavy weight over Wall Street; Du Pont proposes to keep General Motors stock, transfer voting rights to its stockholders. Chem & Eng N 36:25-6 My 26 '58

DU PONT of Canada, ltd.

Erstwhile twin gains competitive zeal. C. R. Graham. *Il Can Chem Process* 42:24-54 JI '58

DUQUESNE light company

Duquesne Light, secures Coffin honor. *Il Elec World* 149:42 Je 16 '58

DURABILITY of glass. See Glass—Durability

DURALUMIN

Alloy loom part permits substantial yearly saving. *diags Textile Ind* 122:215+ O '58

Hydrogen evolution from duralumin exposed to acid salt solution. T. Marshall and G. J. Schafer. bibliog *diag J Ap Chem* 8:303-10 My '58

DURAND, William F.

Obituary. *por Aero/Space Eng* 17:27 O '58

DURENE. See Tetramethylbenzene

DURYL group

Duryl 2,6-disubstituted phenyl ketones. R. C. Fuson and B. Vittimberg. bibliog *Am Chem Soc J* 79:6030-2 N 20 '57

DUST

Dust hazard lessens but still causes accidents. *Foundry* 86:373+ My '58

Dust problems in degreasing; abstract. *Metal Finishing* 55:84 N '57

Effect of dust particles on the electrical resistance and anti-corrosive properties of varnish and paint films. C. Graff-Baker. bibliog *Il diag J Ap Chem* 8:590-8 S '58

See also

Aluminum dust

Dust removal

Flue dust

Particles

Silicosis

DUST collectors

Barbed electrodes, a new idea in dust control. *diags Rock Prod* 61:101 Ap '58

Carbon black filter installation; Tilghman special dust arresters. *Il Ind Chem* 34:83 F '58

Collect super-fine talc dust as a valuable by-product. *Il diag Plant* 18:50 Ag '58

Dust and fume control. J. C. Somers. *Mech Eng* 79:1022-4 N '57; Discussion. 80:87 JI '58

Dust-collector tubes replaced faster. D. W. Robson. *diags Elec World* 149:89 Mr 3 '58

Dust control keeps refractory plant as clean as a home; Harrison-Walker refractories co.'s new basic firebrick plant. *Il Plant* 18:48-9 O '58

Efficient dust snatchers; Corn products refining co. J. V. Ziembra. *Il diag Food Eng* 30:32-3 Mr '58

Filtering through fiberglass. *Il Engineering* 185:255 F 21 '58

How Ohio is solving the alfalfa dust problem. R. D. Schafer. *diag A M A Archives Ind Health* 17:67-9 Ja '58

Inventory of new equipment and accessories; filters and dust collectors. *Il Chem Eng* 64:258+ Mid-N '57

Keeping up with dust and fume control developments. *Il Safety Maint* 114:54-7 D '57

Keith Blackman dust exhauster. *Il Engineering* 185:709 Je 6 '58

Machine solves dust problem; central dust collector. *Il Steel* 143:130 JI 21 '58

Mikro-Pulsaire dust collector without moving parts. *Manuf Chem* 29:163-4 Ap '58

Scrubber combines high collection efficiency with economical operation. *Iron & Steel Eng* 35:143 My '58

Tilghman's filters for carbon black production plant. *Il Engineer* 205:145 Ja 24 '58

Unit dust collector. *Il Plant* 18:45 JI '58

See also

Dust sampling

Design

Experimental investigation of critical design factors for vane-type cyclone. A. B. Walker and W. H. Cole. bibliog *Il diags A S M E Trans* 79:1715-21 N '57

Models

How model studies aid dust collector design; Research-Cottrell, inc. *Il Eng & Min J* 159:116 Ap '58

Plastic models improve dust collector results. *Il diags Combustion* 29:41-5 Je '58

DUST control

Factors of dust suppression in small to medium-size rotary kiln systems. W. G. Bauer. *diags Pit & Quarry* 50:134-5+ My; 51:185-6+ JI; 108-10 Ag '58

New dust control equipment and Chem-Jet systems. *Franklin Inst J* 266:252-3 S '58

DUST diseases. See Lungs—Dust diseases

DUST explosions

Plant explosion hazard. *dust. W. G. Hudson. Il Plant Eng* 12:126-7+ Ja '58

DUST prevention

Dust control by the use of salt, calcium chloride and bituminous materials. J. W. Hutchinson. *Il Pub Works* 83:112-14 D '57

Liquid chemicals for dust and ice control. H. E. Stafseth. *Il Pub Works* 89:91-3 My '58

DUST removal

Bag system handles dust from electric furnaces. *Air Cond Heat & Ven* 54:64 N '57

Dust modifications to decrease maintenance and corrosion. R. C. Origies. *diags A M A Archives Ind Health* 17:500-4 My '58

Dust-removal plant. N. H. Turner. *Il Iron & Steel Inst J* 190:20-2 S '58

How to cope with flyash disposal. C. A. Galbraith. *Il Power* 102:90-1 Ja '58

How to get rid of dust; Black & Decker manufacturing co. *Il Mill & Factory* 62:140 F '58

Keep sanding dust out of finishing room. *Ind Finishing* 34:102-3 Mr '58

Machining dust eliminated with vacuum cleaner. J. McDonald. *Il Am Mach* 102:124 S 8 '58

Operation dust-free; reinforced plastics are produced in new pressurized plant; Douglas Aircraft. Torrance, Calif. *Il Mod Plastics* 35:102-3 F '58

See also

Air cleaners

Air filters

Exhaust systems

DUST sampling

ASHAE air-borne dust survey. K. T. Whitby and others. bibliog *Il Heating-Piping* 29:185-92 N '57

Dust sampling; isokinetic sampling apparatus. *Il Engineering* 186:230 Ag 22 '58

Long-running thermal precipitator for mine dust. *Mech Eng* 80:99 F '58

Measurement of dust concentration in gases. *Il Engineer* 205:864 Je 6 '58

DWIGGINS, William Addison

W. A. Dwiggins influenced typographers. A. Lawson. *por Inland Ptr* 141:78-9+ S '58

DYE analysis

Identification of dyestuff classes on dyed natural and synthetic fibers. *Am Dyestuff Rep* 47:9-17 Ja 13 '58

Identification of dyestuffs on textiles; table. *Textile Ind* 122:101-3 Ja '58

DYE industry

Impact of man-made fibres upon the dyeing industry. A. H. Wilson. *Soc Dyers & Col J* 74:120-2 Mr '58

Great Britain

Brooke, Simpson & Spiller. H. Wilkinson. *Il Soc Dyers & Col J* 73:508-11 N '57

DYE laboratories

Work of a colourist in a dyehouse laboratory. J. T. Lynes. *Soc Dyers & Col J* 74:542-5 JI '58

DYE patents

Abstracts from British and foreign journals and patents. Published in monthly numbers of *Journal of the Society of dyers and colourists*

Patent digest. P. Wengraf. Published in bi-weekly numbers of *American dyestuff reporter*

DYE research

Migration of dyes in the fibre-substance during steaming. H. B. Hallows and H. A. Turner. *bibliog Zpls Soc Dyers & Col J* 74: 345-58 My '58

Physical chemistry in the dyestuffs industry; abstract. D. S. Davies. *Chem & Ind* p86 Ja 25 '58

Studies on aminoanthraquinone compounds. G. S. Egerton and A. G. Roach. *bibliog Soc Dyers & Col J* 74:401-20 My '58

DYE testing

Dye-uptake meter for studies of dyeing kinetics. E. Bakker and D. J. Patterson. *bibliog J diags Soc Dyers & Col J* 74:168-72 Mr '58

Two new drycleaning test methods. *Am Dyestuff Rep* 46:859-60+ N 18 '57

See also

Dyes, Fastness of

Standards

Standard methods for the assessment of the colour fastness of textiles. *Soc Dyers & Col J* 74:22-37 Ja '58

DYEHOUSES**Equipment**

New scales in the dyehouse at Threads, Inc. save time and insure accuracy. *il Textile Ind* 122:91-2 Ja '58

Roll your own paper filters protect dye packages. *il Textile Ind* 122:223 O '58

See also

Dyeing machines

Power

New boiler cuts dyehouse steam costs; Reliable dyeing & finishing co. *il Mod Textiles Mag* 39:51-7 My '58

\$100 a day savings in steam costs with automatic boiler (oil-fired 500 hp, packaged) at Reliable dyeing & finishing co. *il Textile Ind* 122:189 O '58

Waste

Color removal from azo dye wastes. N. L. Nemerow and W. L. Wilson. *Ind & Eng Chem* 49:sup77A-8A D '57

Color removal from azo dye wastes; research report. *Am Soc C E Proc* 84 [SA 2 no 1611]: 1-4 Ap '58

Supply, treatment, and disposal of water in the dyehouse. R. W. Richardson. *Soc Dyers & Col J* 73:485-90; Discussion. J. Nixon. 490-1 N '57

DYEING machines

High-temperature dyeing of terylene slubbing or loose stock. F. Smith. *il diags Soc Dyers & Col J* 74:382-7 My '58

Highlights of the past year. P. J. Wood. *il diags Am Dyestuff Rep* 46:920-8 D 2 '57

How to evaluate dye carriers; abstract. P. J. Scott. *Textile World* 108:135 F '58

Some practical aspects of the high-temperature dyeing of continuous-filament yarns of man-made fibres. J. Fowler and K. Walsh. *Soc Dyers & Col J* 74:390-2 My '58

Turbostat high-temperature dyeing and bleaching machine. *il Am Dyestuff Rep* 46: 849 N 4 '57

Patents

Apparatus for continuous dyeing and finishing of pile fabrics; patent. *diags Am Dyestuff Rep* 47:201 Mr 24 '58

DYERS and colourists, Society of. See Society of dyers and colourists**DYES, Effect of light on**

See also

Dyes, Fastness of

DYES, Fastness of

Behavior of various dyestuffs toward de-linking chemicals. R. W. Kumler. *Tappi* 41: sup 173A-4A Mr '58; Same cond. *Paper Ind* 39:916-17 F '58

Chlorophyll contamination of wool and its effect on the lightfastness of dyed shades. *Am Dyestuff Rep* 47:118-24 F 24 '58

Colorfastness properties of vat-dyed Everglaze cotton; abstract. *Am Dyestuff Rep* 47: 147 Mr 10 '58

Dyeing possibilities of ultraviolet light absorbers; abstract. G. M. Gantz and W. G. Summer. *Am Dyestuff Rep* 47:133 F 24 '58

Effect of resins on light fading of vat dyes; abstract. *Textile World* 108:114 Ja '58

Errors in the assessment of colour fastness. U. Billow and S. Horridin. *bibliog Soc Dyers & Col J* 73:459-64 O '57; Discussion. 74:88-9, 420-1 F, My '58

Fast dyes on cellulosic fibers. T. Vickerstaff. *il Am Dyestuff Rep* 47:33-8 Ja 27 '58

Fast-to-washing dyeing of wool yarn. J. F. Gaunt. *bibliog Soc Dyers & Col J* 74:569-83 Ag '58

Lightfastness on cotton-rayon blends; abstracts. *Textile World* 108:117 Ja '58; *Textile Ind* 122:127 Mr '58

Relation of the effect of resins on light fading and the tendering action of photosensitive vat dyes. *bibliog Am Dyestuff Rep* 47:59-48 Ja 27 '58

Standard methods for the assessment of the colour fastness of textiles. *Soc Dyers & Col J* 74:22-37 Ja '58

Studies on aminoanthraquinone compounds; photochemistry in the solid state. G. S. Egerton and A. G. Roach. *bibliog Soc Dyers & Col J* 74:415-20 My '58

Studies on aminoanthraquinone compounds; photochemistry of dyed polymer films. G. S. Egerton and A. G. Roach. *bibliog Soc Dyers & Col J* 74:408-14 My '58

Study of lightfastness of selected direct colors on cotton, rayon and cotton-rayon blends. *Am Dyestuff Rep* 47:115-17 F 24 '58

Study of the physical state of methylene blue (C.I. basic blue 9) in dyed films and its relation to light fading rates. L. E. Campbell and C. H. Giles. *bibliog Soc Dyers & Col J* 74:164-8 Mr '58

Study of the variables encountered in natural light fading. *bibliog il Am Dyestuff Rep* 46: 861-83 N 18 '57

Two new drycleaning test methods. *Am Dyestuff Rep* 46:859-60+ N 18 '57

Ultraviolet absorbers. R. A. Coleman and W. H. Peacock. *Textile Res J* 28:784-91 S '58

DYES and dyeing

Abstracts. Published in bi-weekly numbers of American dyestuff reporter

Adsorption at inorganic surfaces; adsorption of dyes and related compounds. J. D. Sileo, M. M. Allingham and others. *bibliog* (32 ref) *J Ap Chem* 8:108-16 F '58

Adsorption at inorganic surfaces; the mechanism of adsorption of organic solutes, including dyes, by graphite. J. W. Galbraith and others. *bibliog J Ap Chem* 8:416-24 Ji '58

Adsorption at organic surfaces. C. H. Giles and others. *bibliog Soc Dyers & Col J* 74: 647-54, 682-8 S-O '58

Alphabetical list of new products developed since Nov. 1956. *Am Dyestuff Rep* 46:904-14 D 2 '57

Application of sulfur dyes; abstract. H. Senior. *Am Dyestuff Rep* 46:980 D 16 '57

Buying dyes and chemicals. *il Textile Ind* 122:96-101 F '58

Cibacron dyes; abstract. W. Widmer and others. *Am Dyestuff Rep* 46:792+ N 4 '57

Eastman fast blue B-GLF; polyester blue BR; polyester orange 3RLN. *Am Dyestuff Rep* 47:169 Mr 10 '58

Effect of solvents in dyeing. L. Peters and C. B. Stevens. *Soc Dyers & Col J* 73:23; 74:183 Ja '57, Mr '58

Fact file; chemical treatment. *Textile World* 108:41-6 Mid-Ji '58

Metallated dye complexes; the stereochemistry of copper(II)-dye complexes. H. B. Jonassen and J. R. Oliver. *bibliog Am Chem Soc J* 80:2347-50 Mr 20 '58

New dyes and chemicals. Published in monthly numbers of Textile world

Nondestructive testing; penetrant tests use fluorescent liquids, dye and black light. S. Elonka. *il Power* 102:134-7 Mr '58

Package dyeing system for textiles. L. H. Van Huben. *il diag Control Eng* 5:177 S '58

Phosphinemethylene; a new class of azo dyes containing phosphorus. F. Ramirez and S. Levy. *bibliog Am Chem Soc J* 79:6167-72 D 5 '57

Polymethine dyes; a comparison of several vinyllogous series in which the polymethine chains are terminated by aryl groups. W. B. Tuemmler and E. S. Wildt. *bibliog Am Chem Soc J* 80:3772-7 Ji 20 '58

Relative stabilities of metal derivatives of *oo*-dihydroxyazo dyes. F. A. Snavely and others. *bibliog Soc Dyers & Col J* 73:491-5 N '57

Solubility and mechanism of dye-uptake in protein-dye salts. D. B. Wetlaufer and M. A. Stahmann. *bibliog Am Chem Soc J* 80:1493-500 Mr 20 '58

Structural effects of anionic azo dyes on serum albumin. G. Markus and J. Karush. *bibliog Am Chem Soc J* 80:89-94 Ja 5 '58

DYES and dyeing—Continued

Work of a colourist in a dyehouse laboratory. J. T. Lynes. Soc Dyers & Col J 74:542-5 J 58

See also

American association of textile chemists and colorists

Anthraquinone

Color in the textile industry

Color matching

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Dyeing machines

Dyes, Fastness of

Green

Methylene blue

Naphthols

Stains and staining (microscopy)

Textile printing

Xylan

Aluminum

See Aluminum—Coloring

Analysis

See Dye analysis

Bibliography

Abstracts from British and foreign journals and patents. Published in monthly numbers of Journal of the Society of dyers and colourists

Carpet yarn

How Roxbury dyes carpet wools. *il* Textile World 108:122-3 F '58

Recent developments in carpet dyeing: neutral-dyeing premetalized dyes. W. J. Wygant. *bibliog* Am Dyestuff Rep 46:987-90 D 30 '57

Solution-dyed yarns increase tufted-carpet sales. *il* Textile World 108:76-7+ Je '58

Some recent developments in dyeing for the carpet trade. W. Beal. *bibliog* Soc Dyers & Col J 74:677-82 O '58

Cellulose acetate fibers

Adsorption of dyes by cellulose acetates. A. Cameron and others. *bibliog* Soc Dyers & Col J 73:511-12 N '57

Cross-dyeing Arnel mixtures; Celanese corp. of America. *Mod Textiles Mag* 39:42+ F '58

Dyeing hydrophobic fibres in solutions of solvents. M. K. Gokhale and others. Soc Dyers & Col J 74:236-40; Discussion. 240-1 Ap '58

Dyeing of cellulose acetate with disperse dyes. C. L. Bird. *bibliog* Soc Dyers & Col J 74:688-93 O '58

How reactive dyes work; Procion dyes. T. Vickerstaff. *Textile World* 108:124-5 Mr '58; Abstract. *Mod Textiles Mag* 38:38 D '57

Mechanism of the adsorption of disperse dyes by cellulose acetate. C. H. Giles. Soc Dyers & Col J 74:655 S '58

New cross dyeing technique offers converters greater flexibility and economy; Arnel yarns. *il* Textile Ind 122:148+ Mr '58

Transfer of disperse dyes to cellulose acetate during steaming. E. H. Daruwalla and V. R. Limaye. *bibliog* diag Soc Dyers & Col J 74:464-75 Je '58

Chemistry

Action of sodium sulphate on Stenhouse dyes. J. C. McGowan and F. M. Page. *bibliog* Chem & Ind p 1648 D 21 '57

Adsorption of a reactive dye by modified celluloses. E. H. Daruwalla and P. Subramaniam. *bibliog* Soc Dyers & Col J 74:286-9 Ap '58

Chemistry of esters of leuco vat dyes; the oxidation of the mono- and di-sulphuric esters of quinol (hydroquinone) and of 1:4-naphthoquinol with acidic hydrogen peroxide. A. Johnson and M. L. Rahman. *bibliog* Soc Dyers & Col J 74:291-5 Ap '58

Dyeing of cellulose acetate with disperse dyes. C. L. Bird. *bibliog* Soc Dyers & Col J 74:688-93 O '58

Dyeing of wool, hair and polyamide fibers with metal complex dyes. E. Schoenflug. *bibliog* Am Dyestuff Rep 46:851-3 N 18 '57

Fixation of reactive dyes on modified celluloses. T. L. Dawson. *bibliog* Soc Dyers & Col J 74:584-5 Ag '58

Mechanism of the adsorption of disperse dyes by cellulose acetate. C. H. Giles. Soc Dyers & Col J 74:655 S '58

Melange or Vigoureux printing of wool; a method for improving the rate of dye fixation. J. Delmenico. *bibliog* (20 ref) *il* Textile Res J 27:899-912 N '57

Mode of action of non-ionic levelling agents. Luck. *bibliog* (36 ref) Soc Dyers & Col J 74:221-24; Discussion. 234-5 Ap '58

New method for the high-temperature dyeing of acrylic fibres. J. Khachoyan and J. P. Niederhauser. *bibliog* Soc Dyers & Col J 74:133-8; Discussion. 138-9 Mr '58

Recent developments in the application of azoic dyes. M. Hüchel. *bibliog* Soc Dyers & Col J 74:640-7 S '58

Relation between the absorption spectra and the chemical constitution of dyes; interaction of direct azo dyes in aqueous solution. M. N. Inscow and others. *bibliog* (30 ref) *J Res Nat Bur Stand* 60:65-83 Ja '58

Studies in hydrogen-bond formation: the rôle of hydrogen bonds in dyeing processes. D. S. E. Campbell and others. *bibliog* (36 ref) Soc Dyers & Col J 73:546-53 D '57

Transfer of disperse dyes to cellulose acetate during steaming. E. H. Daruwalla and V. R. Limaye. *bibliog* diag Soc Dyers & Col J 74:464-75 Je '58

See also

Dye analysis

Cotton

Colorfastness properties of vat-dyed Everglass cotton; abstract. *Am Dyestuff Rep* 47:147 Mr 10 '58

Dyeing cellulosic and non-cellulosic fibres with vat dyes; abstract. K. J. Bardt. *Am Dyestuff Rep* 47:59+ Ja 27 '58

Dyeing properties of mature and immature cotton. N. B. Furvik. *bibliog* diag Soc Dyers & Col J 74:299-303 Ap '58

Dyer gives yarns a knitting test; Budyed yarns, inc. *il* Textile Ind 122:109-10 My '58

Effect of nuclear radiation on fibrous materials. O. Teszler and others. *Textile Res J* 28:131-5 F '58

How Caledonian dyes zipper tapes; Caledonian dye works. *il* Textile World 108:132-3 Mr '58

How one dyehouse processes yarns at a profit. *il* Textile World 108:84-5 My '58

Phototenderization by anthraquinone 2, 6-disulfonic acid of cotton duck before and after weathering. A. D. Baskin and A. M. Kaplan. *bibliog* Textile Res J 28:554-9 J1 '58

Study of lightfastness of selected direct colors on cotton, rayon and cotton-rayon blends. *Am Dyestuff Rep* 47:115-17 F 24 '58

See also

Dyes and dyeing—Nylon-cotton

Dacron

High-temperature disperse dyeing of terylene polyester fibre. H. R. Hadfield and R. Broadhurst. *bibliog* Soc Dyers & Col J 74:387-9; Discussion. 389-90 My '58

High-temperature dyeing of terylene slubbing or loose stock. F. Smith. *il* diag Soc Dyers & Col J 74:382-7 My '58

See also

Dyes and dyeing—Wool-Dacron

Dacron-cotton

Dyeing blended fabrics with special emphasis on Dacron/cotton. J. A. Komninos. *il* Textile Ind 122:70-4 Ag '58

Fur

Dyeing of wool, hair and polyamide fibers with metal complex dyes. E. Schoenflug. *bibliog* Am Dyestuff Rep 46:851-8 N 18 '57

Glass fibers

Dyeing glass fibers; impregnating color-pigmented alkylalkoxy silanes; patent. *Am Dyestuff Rep* 47:132 F 24 '58

History

Spanish red; Thierry de Menonville's voyage a Guaxaca. S. M. Edelstein. *bibliog* *il* map *Am Dyestuff Rep* 47:1-8 Ja 13 '58

Hosiery

Du Pont dye formulations for colors of fashion interest. *Am Dyestuff Rep* 47:69 Ja 27 '58

Tips for dyeing stretch nylon hose and nylon-cotton fabrics. *Textile Ind* 122:109 Ja '58

Knit goods

How to dye and finish Orlon sweaters. *diag* Textile Ind 122:179 Ap '58

Linen

Pad-jig system of applying vat dyes to linen cloth. J. N. F. Phillips. Soc Dyers & Col J 74:180-3 Mr '58

DYES and dyeing—Continued

Mordants

Dyeing of nylon with acid and mordant dyes at high temperatures. H. R. Hadfield and H. Seaman, *bibliog pl Soc Dyers & Col J* 74:392-9; Discussion. 399-400 My '58

Nylon

Application of azo pigments to nylon. A. Butterworth, *Soc Dyers & Col J* 74:480-1 Je '58

Dyeing nylon with metallizable azo dyes; patent. *Am Dyestuff Rep* 47:22 Ja 13 '58

Dyeing of filament nylon with acid dyes. J. A. Bittles and others, *bibliog pl Am Dyestuff Rep* 47:183-6+ Mr 24 '58; Abstract. *Textile World* 108:131+ F '58

Dyeing of nylon with acid and mordant dyes at high temperatures. H. R. Hadfield and H. Seaman, *bibliog pl Soc Dyers & Col J* 74:392-9; Discussion. 399-400 My '58

Dyeing of nylon with mixtures of acid dyes. E. Atherton and others, *bibliog diag Soc Dyers & Col J* 74:242-51 Ap '58

Investigations into the dyeing of continuous-filament nylon with disperse and anionic dyes. H. W. Peters and J. C. Turner, *bibliog Soc Dyers & Col J* 74:252-82 Ap '58; Abstract. *Am Dyestuff Rep* 47:152-3 F 24 '58

Sandoz announces new dyeing procedure. *Am Dyestuff Rep* 46:982 D 16 '57

Nylon-cotton

Tips for dyeing stretch nylon hose and nylon-cotton fabrics. *Textile Ind* 122:109 Ja '58

Orlon

How Springfield Woolen Mills finishes its fabrics. *il Textile World* 108:104-5 Ja '58

How to dye and finish Orlon sweaters. *diags Textile Ind* 122:179 Ap '58

Mechanism of Orlon dyeing; abstract. T. Vogel and others, *Textile World* 108:125 Ja '58

Package dyeing

Some aspects of the dyeing of acrylic fibres, with particular reference to the pack-dyeing of Courtelte. K. Meldrum and J. S. Ward, *diags Soc Dyers & Col J* 74:140-8; Discussion. 148-50 Mr '58

Paper

Behavior of various dyestuffs toward deinking chemicals. R. W. Kumlir, *Tappi* 41: sup 173A-4A Mr '58; Same cond. *Paper Ind* 39:916-17 F '58

Rayon

Application of reactive dyes to viscose rayon. J. A. Fowler and C. Preston, *Soc Dyers & Col J* 74:372-9; Discussion. 380-1 My '58

Better rayon skein dyeing. L. L. Walmsley, *Mod Textiles Mag* 39:40+ Mr '58

Dyeing cellulosic and non-cellulosic fibers with vat dyes; abstract. K. J. Bardt, *Am Dyestuff Rep* 47:59+ Ja 27 '58

Effect of nuclear radiation on fibrous materials. O. Teszler and others, *Textile Res J* 28:131-5 F '58

Flash-ageing of vat-printed viscose rayon fabrics. A. S. Fern and W. F. Liquori, *bibliog diags Soc Dyers & Col J* 74:391-43; Discussion. 343-4 My '58

How direct colors dye cellulosic fibers. J. Boulton, *Textile World* 108:96-7 Je '58

New techniques in dyeing Acrilan and Acrilan-rayon fabrics. W. H. Hindle, *Mod Textiles Mag* 39:54+ Ap '58

Study of lightfastness of selected direct colors on cotton, rayon and cotton-rayon blends. *Am Dyestuff Rep* 47:115-17 F 24 '58

Rayon-cotton

Light fastness of cotton-rayon blends. *Textile Ind* 122:127 My '58

Study of lightfastness of selected direct colors on cotton, rayon and cotton-rayon blends. *Am Dyestuff Rep* 47:115-17 F 24 '58

Rubber

See also
Rubber—Coloring

Spectra

Relation between the absorption spectra and the chemical constitution of dyes; interaction of direct azo dyes in aqueous solution. M. N. Insoce and others, *bibliog* (30 ref) *J Res Nat Bur Stand* 60:65-83 Ja '58

Synthetic fibers

Cationic dyes and their special significance for coloring polyacrylonitrile fibers; abstract. B. C. M. Dorset, *Am Dyestuff Rep* 47:78 F 10 '58

Chem-Acrlil process for the union dyeing of Acrilan-wool blends. W. H. Hindle, *Am Dyestuff Rep* 46:968-72 D 16 '57; Abstract. *Textile Ind* 122:113 Ja '58

Dyeability of Zefran; abstract. J. E. Loughlin, *Am Dyestuff Rep* 47:146 Mr 10 '58

Dyeing of Acrilan acrylic fibre. H. R. Hadfield and W. M. Sokol, *bibliog 4pls Soc Dyers & Col J* 74:69-90 S '58

Dyeing of wool, hair and polyamide fibers with metal complex dyes. E. Schoenpfug, *bibliog Am Dyestuff Rep* 46:851-8 N 18 '57

Dyeing of Zefran and blends containing Zefran. A. S. Messer, *Am Dyestuff Rep* 47:84-92 F 10 '58; Abstract. *Textile World* 108:137 F '58

Dyeing polyacrylonitrile material; pretreatment with hydroxylamine solutions; patent. *Am Dyestuff Rep* 47:62 Ja 27 '58

Dyer gives yarns a knitting test; *Budied yarns inc. il Textile Ind* 122:109-10 My '58

Dyes for the hydrophobic fibers; abstract. H. E. Schroeder and S. N. Boyd, *Am Dyestuff Rep* 47:22 Ja 13 '58

New techniques in dyeing Acrilan and Acrilan-rayon fabrics. W. H. Hindle, *Mod Textiles Mag* 39:54+ Ap '58

Recent advances in the colouring of man-made fibres; symposium, *bibliog diags Soc Dyers & Col J* 74:117-63, 221-82, 331-40 Mr-Mv '58

Theory of dyeing cellulosic fibers. E. I. Valenko, *bibliog* (29 ref) *il diags Textile Res J* 27: 883-98 N '57

Why high-temperature dyeing? abstract. J. J. Iannarone, Jr., *Am Dyestuff Rep* 47:147 Mr 10 '58

Terminology

Recommended definitions. *Soc Dyers & Col J* 74:40-4 Ja '58

Vat dyes

Chemistry of esters of leuco vat dyes; the oxidation of the mono- and di-sulphuric esters of quinol (hydroquinone) and of 1:4-naphthaquinol with acidic hydrogen peroxide. A. Johnson and M. L. Rahman, *bibliog Soc Dyers & Col J* 74:291-6 Ap '58

Colorfastness properties of vat-dyed Everglaze cotton; abstract. *Am Dyestuff Rep* 47:147 Mr 10 '58

Do-it-yourself vat-dyeing kit. *il Am Dyestuff Rep* 47:67 Ja 27 '58

Dyeing cellulosic and non-cellulosic fibers with vat dyes; abstract. K. J. Bardt, *Am Dyestuff Rep* 47:59+ Ja 27 '58

Effect of resins on light fading of vat dyes; abstract. *Textile World* 108:114 Ja '58

Flash-ageing of vat-printed viscose rayon fabrics. A. S. Fern and W. F. Liquori, *bibliog diags Soc Dyers & Col J* 74:391-43; Discussion. 343-4 My '58

Levelling problems in vat dyeing. H. Musshoff, *Soc Dyers & Col J* 73:543-6 D '57

Pad-dig system of applying vat dyes to linen cloth. J. N. F. Phillips, *Soc Dyers & Col J* 74:180-3 Mr '58

Relation of the effect of resins on light fading and the tendering action of photosensitive vat dyes, *bibliog Am Dyestuff Rep* 47: 39-43 Ja 27 '58

Wool

Behaviour of reactive dyes on wool. F. Manchester, *Soc Dyers & Col J* 74:421-2 My '58

Chem-Acrlil process for the union dyeing of Acrilan-wool blends. W. H. Hindle, *Am Dyestuff Rep* 46:968-72 D 16 '57; Abstract. *Textile Ind* 122:113 Ja '58

Chlorophyll contamination of wool and its effect on the lightfastness of dyed shades. *Am Dyestuff Rep* 47:118-24 F 24 '58

Dyeing of Acrilan and wool-Acrilan blends. C. E. Lister, *Soc Dyers & Col J* 74:158-63 Mr '58

Dyeing of wool, hair and polyamide fibers with metal complex dyes. E. Schoenpfug, *Am Dyestuff Rep* 46:851-8 N 18 '57

Fast-to-washing dyeing of wool yarn. J. F. Gaunt, *bibliog Soc Dyers & Col J* 74:569-83 Ak '58

How Springfield Woolen Mills finishes its fabrics. *il Textile World* 108:104-5 Ja '58

Microscopic studies on the structure and composition of keratin fibers. J. Menkart and A. B. Coe, *bibliog* (31 ref) *il pl Textile Res J* 28:218-26 Mr '58

DYES and dyeing—Wool—Continued

- Union dyeing of Acrlan-wool blends. W. H. Hindle. Soc Dyers & Col J 74:151-6; Discussion. 156-7 Mr '58
Unlevel dyeing in wool velour cloth. F. J. Parker. Soc Dyers & Col J 74:693-5 O '58

See also

Dyes and dyeing—Carpet yarn

Wool-Dacron

Dyeing and finishing wool-synthetic blends; wool/terylene (Dacron). Dominion dyeing & finishing co. il Textile Ind 122:174-6+ O '58

DYES as indicators

Penetrant methods of inspection. R. Schnurmann. il Research 11:254-7 JI '58

DYKES (geology). See Dikes (geology)**DYNAMOFORMING. See Metal work****DYNAKOTE. See Resinous products—Finishing materials****DYNAMIC braking. See Braking, Dynamic****DYNAMIC programming**

Computation of rocket step weights to minimize initial gross weight. R. P. Ten Dyke. Jet Propulsion 28:338-40 Mr '58

Constructing maximal dynamic flows from static flows. L. E. Ford, jr. and D. R. Fulkerson. bibliog diags Op Res 6:419-33 My '58

Dynamic programming and the reliability of multicomponent devices. R. Bellman and S. Dreyfus. diags Op Res 6:200-6 Mr '58

Dynamic representation of lossless distributed systems; data file. F. D. Ezekiel. diags Control Eng 5:111-12 My '58

Improving fractionator performance with dynamic analysis. F. A. Woods. diags Control Eng 5:91-5 My '58

Non-dimensional groups as criteria of process plant dynamics. F. V. A. Engel. bibliog Engineer 206:479-84 S 26 '58

Optimum preventative sampling via dynamic programming. R. Kalaba. Op Res 6:439-40 My '58

Process analysis plus analog simulation yields better mill controls; using non-contacting thickness gages. R. A. Phillips. il diags Control Eng 5:113-18 My '58

Tactical air-warfare model of Mengel; computational solution of dynamic-programming processes. R. Bellman and S. Dreyfus. flow chart Op Res 6:65-78 Ja '58

DYNAMICS

Anticipating dynamic behavior. J. B. Hartman. bibliog diags Machine Design 30:118-24 Ag 7 '58

Chemical engineering process dynamics. E. F. Johnson. bibliog Chem Eng Prog 54:38-9 S '58

Chemical reaction system dynamics. A. S. Foss. bibliog flow diags Chem Eng Prog 54:39-42 S '58

Dynamic analysis and response of aircraft arresting systems. R. S. Ayre and J. I. Abrams. bibliog diags Am Soc C E Proc 44 (EM 2 no 1580):1-42 Ap '58

Dynamic study of an experimental pneumatic process-pressure transmitter. E. F. Hochschild. bibliog diags A S M E Trans 80:497-504 F '58

Dynamical behavior of rotating shafts driven by universal (Hooke) couplings. R. M. Rosenberg. bibliog diags J Ap Mech 25:47-51 Mr '58

Dynamics and kinematics of the laying and recovery of submarine cable. E. E. Zajac. bibliog diags Bell System Tech J 36:1129-207 S '57; Excerpts. Am Soc Naval Eng J 70:531-42 Ag '58

Intercept dynamics; key to missile guidance. J. W. Follin, jr. diags Aviation Eng 30:172-9 S '58

Interpreting dynamic measurements of physical systems. S. Lees. bibliog diags A S M E Trans 80:833-57 My '58

Let's try dynamics for process design. C. D. Close. I S A J 6:12+ My '58

Mechanics of vehicles; dynamics of braking. J. J. Taborek. il diags Machine Design 29:136-41 N 14 '57

Model relating dynamics and sediment pattern in equilibrium in the region of shoaling waves, breaker zone, and foreshore. R. L. Miller and J. M. Zeigler. bibliog map diags J Geol 66:417-41 JI '58

Nuclear reactor dynamic analysis. R. Parr and D. W. Wordsworth. diags Engineer 206:46-7, 89-91 JI 11-18 '58

Phase-plane graphics, a new approach to teaching dynamics. L. S. Packer and N. S. Eliss. diags Am J Phys 26:91-103 F '58

Statics and dynamics of a helical spring. R. Geballe. Am J Phys 36:287-90 My '58
Theoretical analysis of a dynamic thermocouple. E. W. Gaylord and others. diags A S M E Trans 80:307-10 F '58

See also

Aerodynamics
Hydrodynamics
Lagrange equations
Moments of inertia
Shock waves
Thermodynamics

Tables, calculations, etc.

Direct analog computers for structural dynamics. W. J. Dixon. diags Instruments & Automation 31:1222-3 JI '58

DYNAMITE

See also

Blasting

DYNAMOMETERS

Aero-engine performance measurement. il diags Engineer 204:829-30 D 6 '57

Build your maintenance program around an engine dynamometer; Packard Diesel is run-in on Maxwell dynamometer. J. A. Grunigan. il Diesel Power 36:23-4+ O '58

Development of a 75 h.p. dynamometer equipment. H. A. G. Fletcher and J. Bam-borough. il diags Engineer 206:298-300 Ag 22 '58

Dynamometer for petroleum research. il Engineering 186:116 JI 25 '58

Dynamometric measurements on wool fibers in tops; mean value of specific strength, work of stretching, and rate of loading. J. Grignot and F. Monfort. Textile Res J 28:719-20 Ag '58

Engine dynamometer; English Electric equipment at the laboratories of Esso research ltd. Automobile Eng 48:376-7 O '58

Engine testing; Heenan and Froude dynamometer. il Automobile Eng 48:82 F '58

Fully automatic 100 hp dynamometer tests power transmission equipment. il diags Automotive Ind 113:63+ F 1 '58

Inertia-electronic; dynamometers controlled by magnetic tape. R. F. Knudsen. il diags I S A J 5:52-4 Ap '58

Laboratory chassis dynamometer; Engine laboratory of the Associated ethyl co. il diags Engineer 205:366-7 Mr 7 '58

Measurement of current with a Pellat-type electro-dynamometer. R. L. Driscoll. il diags J Res Nat Bur Stand 60:287-96 Ap '58

Measuring cutting forces. P. Chiesorin. il diags Tool Eng 39:114-20 D '57

Portable dynamometers handle many weighing jobs. E. L. Lapp. il Foundry 85:242 N '57

Present day dynamometers; their application, operation, and control. R. F. Knudsen. il diags Machine Design 30:151-4+ Ja 23 '58

Pumping costs too high? dynamometer-card classification. C. J. Morryman and D. K. Lawrence. diags Oil & Gas J 56:112-14 My 12 '58

Simple dynamometer. il Engineering 185:677 My 30 '58

Some dynamometric application of an electronic integrator-differentiator. J. Grignot and F. Monfort. diags Textile Res J 28:47-59 Ja '58

Vehicle dynamometer for fuel and lubricating oil research. H. J. Eatwell and others. il diags Automobile Eng 48:297-302 Ag '58

DYNAMOTORS

Selecting vibrator and dynamotor power supplies. R. C. Rodgers. il Machine Design 30:129-30 My 29 '58

DYNEL

Filter cloths. G. F. Fynn. Water & Sewage Works 105:388 S '58

Inertness, covering power and thermal pliability of dynel acrylic fiber; abstract. J. M. Swalm. Am Dyestuff Rep 47:59 Ja 27 '58

DYNEL fabrics**Cotton mixtures**

How to make cotton-dynel high-bulk yarns. J. O. Davis and C. A. Strodl. il Textile Ind 122:157-9 O '58

Heat setting

Heat-shaped acrylic fabrics protect furniture, valves. il Materials in Design Eng 48:125 JI '58

Heat-shaped dynel fabrics. A. L. Snyder. il Mod Textiles Mag 39:33-4 Je '58; Same cond. Textile Ind 122:66-7 JI '58

DYNODES. See Photoelectric cells—Multiplier tubes
DYSPROSIUM
 Pure dysprosium metal available in research quantities, Elec Manuf 61:10 Je '58

E

EDTA. See Ethylenediamine tetraacetic acid
E.M.F. See Potential, Electric
EUSEC. See Engineering societies of western Europe and the United States

EAR See also
 Hearing

Protection

How good is an ear protector? standard method for the measurement of real-ear attenuation of ear protectors at threshold, I. J. Hirsh, II Mag of Stand 28:139-40 My '58
 How to control hearing loss, W. W. Ford, II Safety Maint 116:38-41 Ag '58

EARLE, Chester R.
 Power Engineering editors promoted, por Power Eng 62:65 Ja '58

EARPHONES
 Announcer earphones, J. D. Dunncliff, diag Electronic Ind & Tele-Tech 16:supO 10 N '57

Electronic earmuffs developed by army, II Electronic Ind 17:7 S '58
 Quiet! electronic earphones, still experimental, that create artificial quiet, II Chem & Eng N 36:64 Ag 11 '58

EARTH
 Earth geometry; a theorem, K. Toman, diags Inst Radio Eng Proc 46:495 F '58

Transient radio-frequency ground waves over the surface of a finitely conducting plane earth, J. R. Johler, J Res Nat Bur Stand 60:281-5 Ap '58

Vertical ballistic trajectories over an oblate earth, R. E. Roberson, Jet Propulsion 28: 333 My '58

See also
 Earth temperature
 Earthquakes
 Geochemistry
 Geodesy
 Geophysics
 Gravity
 Magnetism, Terrestrial
 Meteorology
 Ocean

Rotation

Gyro test table stops earth in inertial space, II Product Eng 28:64 Ja 20 '58
 Rivers under influence of terrestrial rotation, O. W. Kabelac, bibliog II maps diags Am Soc C E Proc 83 [WW 1 no 1208]:1-16 Ap '57; Discussion, G. Tison, Jr. 83 [WW 3 no 1381]:7-11 S '57; Reply, 84 [WW 1 no 1523]:7-11 Ja '58

See also
 Foucault pendulum

Surface

Energy transfer in the earth's mantle, A. W. Lawson and J. C. Jamieson, bibliog J Geol 66:540-51 S '58

Temperature

See Earth temperature

EARTH anchors. See Anchors, Guy

EARTH augers. See Augers

EARTH currents

Study of earth currents near a vlf monopole antenna with a radial wire ground system, J. R. Wait, bibliog Inst Radio Eng Proc 46:1539-41 Ag '58

EARTH movements

Giant spikes halt earth movement in California, II Civil Eng 28:64 Ja '58; Discussion, J. A. Lambie, 28:271 Ap '58

See also

Landslides
 Subsidence (earth movements)

EARTH satellite vehicle. See Satellites, Artificial

EARTH temperature

Ancient temperatures, C. Emiliani, II maps diags Sci Am 198:54-63 F '58

Energy transfer in the earth's mantle, A. W. Lawson and J. C. Jamieson, bibliog J Geol 66:540-51 S '58

Some applications of X-ray crystallography to geologic thermometry, A. J. Frueh, Jr, bibliog diags J Geol 66:218-23, pl 1-3 Mr '58
 Thermal effects of the ocean on permafrost, A. H. Lachenbruch, bibliog diag Geol Soc Bul 68:1515-29 N '57

EARTHING. See Electric distribution—Grounding

EARTHQUAKES

Geological and geophysical synthesis of the tectonics of portions of British Columbia, the Yukon Territory, and Alaska, P. St. Amand, maps Geol Soc Bul 68:1343-70, pl 1 bibliog (p 1369-70) O '57

EARTHQUAKES and building

Earthquake design criteria for stack-like structures, J. E. Rinne, bibliog Am Soc C E Proc 84 [ST 4 no 1696]:1-25 Jl '58

Earthquake-proof Mexico City skyscraper honored, II Civil Eng 28:460 Je '58

Earthquake resistant construction in Mexico city, J. L. Thornley and P. Albin, Jr, II diags Civil Eng 27:301-5 N '57; Abstract, Eng J 41:83 Ja '58

Earthquake response of elevated tanks and vessels, D. F. Moran and J. A. Cheney, bibliog map diags Am Soc C E Proc 84 [ST 2 no 1533]:1-14 Mr '58; Discussion, A. A. Eremin, 84 [ST 5 no 1787]:63-4 S '58

Effects of ground on destructiveness of large earthquakes, C. M. Duke, Am Soc C E Proc 84 [SM 3 no 1730]:1-23 bibliog (p 12-16) Ag '58

Shock-absorbing bus-duct system provides power-distribution framework for earthquake-resistant skyscraper in San Francisco, A. Lera, II plans diags Elec Constr & Maint 134:9 Ag '58

Structural dynamics in earthquake-resistant design, J. A. Blume, plan diags Am Soc C E Proc 84 [ST 4 no 1695]:1-45 bibliog (p43-5) Jl '58

EARTHQUAKES and public works

Earthquake resistance of rock-fill dams, R. W. Douthett and D. Pirtz, bibliog II plan diags Am Soc C E Proc 82 [SM 2 no 941]:1-26 Ap '56; Discussion, 82 [SM 4 no 1095]:47-50 O '56; Reply, 84 [SM 2 no 1657]:3-5 My '58

Repair of an earthquake damaged reservoir, O. T. Calhoun, II Pub Works 89:115-16 O '58

EARTHS. Rare. See Rare earths

EARTHWORK

Effect of earth cover on fly emergence from sanitary landfills, R. J. Black and A. M. Barnes, II Pub Works 89:91-4 F '58

See also

Dams
 Dikes (engineering)
 Dredging
 Drilling and boring (earth and rocks)
 Embankments
 Excavating machinery
 Excavation
 Filling
 Foundation soils
 Hydraulic filling
 Prospecting—Geophysical methods—Engineering applications
 Railroads—Earthwork
 Roads—Grading
 Roads—Subgrades
 Rollers (earthwork)
 Soil mechanics
 Soils—Testing
 Trenches
 Tunnels and tunneling

EAST LONDON, South Africa

Harbor

Enlargement of East London harbour, plan Engineer 204:724 N 15 '57

EAST ORANGE, New Jersey

Water supply

Seismic-refraction method in ground-water exploration; East Orange water reserve, W. E. Bonini and E. A. Hickok, maps diag Min Eng 10:Trans 485-8 Ap '58

EAST POINT, Georgia

Water supply

Water supply expansion program will provide for dry spells, G. H. Sparks, plan Pub Works 89:103 Ag '58

EAST ROCKAWAY, New York

Sewerage

Froth control at Bay Park, A. E. Sparr, II plans diags Sewage & Ind Wastes 30:305-12 Mr '58

EASTER ISLAND

Talking boards of Easter Island. T. S. Barthel. *il map Sci Am* 198:61-6+ Je '58; Discussion. T. Heyerdahl. 199:16-+; Reply. 18 S '58

EASTERN corporation

Eastern corporation enters bleached kraft field. R. M. Ludwig. *il Paper Ind* 40:286-91+ cover Ag '58

EATING, Psychology of

Psychology of dietary change. W. W. Hamburger. *bibliog Am J Pub Health* 48:1342-8 O '58

EASTMAN, DuBois

D. Eastman received American chemical society award in industrial and engineering chemistry. *por Chem & Eng N* 36:68 Ap 28 '58

EAU CLAIRE, Wisconsin**Water supply**

Split flow treatment. L. V. Owens. *il plans dig Water & Sewage Works* 105:311-16 Ag '58

EBONITE

Applications of synthetic ebonites. *il diag Ind Chem* 34:33-4 Ja '58

Properties of materials; hard rubber. Materials in Design Eng 48:178 Mid-O '58

Thermal insulation materials; cellular rubber. R. J. Fabian. Materials in Design Eng 47:136-7 Mr '58

EBULLIOMETER. See Boiling points

ECBALLIUM. See Squirting cucumbers

ECHO

Stereo-reverberation. R. Vermeulen. *il diags Audio Eng Soc J* 6:124-30 Ap '58

ECHO sounding. See Sounding

ECHO viruses. See Viruses

ECHOES, Radar. See Radar echoes

ECLIPSES, Solar

Electronics to aid eclipse studies. Electronics 31:24 Ag 8 '58

ECOLOGICAL

Ecological survey. S. M. Sparshott. maps Research 11:sup 19-22 Jl '58

Ecosphere. L. C. Cole. *il diags Sci Am* 198: 83-6+ Apr '58

See also Environment

ECONOMIC conditions

See also Progress

United States—Economic conditions

ECONOMIC development

Regional planning in Connecticut; the next step to the future. R. P. Lee and W. Blakey. *Traffic Q* 12:58-68 Ja '58

ECONOMIC forecasts. See Forecasts (economics)

ECONOMIC lot sizes. See Quantities (in production)

ECONOMICS

Economics as a science; abstract. A. G. Papandreou. *Chem Eng Prog* 54:118+ Ag '58

See also Competition

Engineering economics

ECONOMICS, Medical. See Medical economics

ECONOMISTS

Rise of the business economist; commercial planning on a systematic basis. *Engineering* 184:310 D 27 '57

ECONOMISTS, Industrial

What a petroleum economist does. S. B. Jurenev. *Pet Eng* 30:E3+ Mr '58

EDATHAMIL calcium disodium. See Ethylene-diamine tetraacetic acid

EDDINGTON, Sir Arthur

Books; Arthur Stanley Eddington. A. V. Douglas. Review, by J. R. Newman. *Sci Am* 199:116-18+ Jl '58

EDDY current brakes. See Brakes, Eddy current

EDDY current couplings. See Couplings, Eddy current

EDDY currents

Detecting invisible flaws in wire; eddy-current instrument. R. G. Myers and C. J. Renken. *il diags Electronics* 31:72-3, cover S 26 '58

Eddy current gauge for measuring aluminum corrosion. W. E. Ruther. *diags Corrosion* 14:51-2 Ag '58

Eddy current sand wall losses in screened-rotor induction motors. R. L. Russell and K. H. Norsworthy. *diags Inst E E Proc* 105 pt A:1763-75 Ap '58

Eddy currents heat German cooking unit. *il Machine Design* 30:30 F 6 '58

Nondestructive testing; eddy-current testing can be either continuous or automatic. S. Elonka. *il diags Power* 102:128-9 Mr '58

Prototype range uses eddy current heating. *Elec Manuf* 61:10 Ja '58

Swept frequency eddy-current device to measure overlay thickness. E. A. Hanysz. *diags R Sci Instr* 29:411-15 My '58

System for gaging plating thickness; abstract. R. G. Myers and D. L. Waidlich. *Elec Eng* 77:815 S '58

Unit finds hidden pipe defects; eddy current tester. *il Steel* 143:62-3 S 1 '58

EDEMA

Effect of antifoaming compounds on mortality and pulmonary edema. C. L. Punte and E. J. Owens. *bibliog Ind Med* 27:313-15 Jl '58

EDISON electric institute

Annual meeting. 26th; abstracts of papers. *Elec World* 149:35-100 Je 23 '58

Annual sales conference. 24th. Chicago. *Elec World* 149:53-6 Ap 14 '58

How about a central fuel committee? F. M. Reiter. *Power Eng* 62:82-3+ Ap '58

Purchasing and stores committee meeting. Minneapolis, April 28-30. *Elec World* 149: 59-60 Je 9 '58

EDISON illuminating companies, Association of. See Association of Edison illuminating companies

EDISON medal

J. K. Hodnette to receive the Edison medal for 1957. *Elec Eng* 77:86 Ja '58

John K. Hodnette 1957 Edison medalist; presentation by E. B. Robertson and W. H. Sammis; response by J. K. Hodnette. *il Elec Eng* 77:214-17 Mr '58

EDISON radio amateur award

Edison award to K5BQT; James E. Harrington. *Q S T* 42:57-8 Ap '58

EDUCATION

Balance sheet on education; abstract. H. G. Rickover. *Tool Eng* 40:328-9 Ap '58

Education for tomorrow. R. S. Gustavson. *Eng J* 41:80-3 Ag '58

Must we compete with Moscow in the education race? points of view. *Product Eng* 29:24-5 Je 30 '58

Now hear this; US education superior to European. B. S. Hollinshead. *Product Eng* 29:28 My 19 '58

See also Correspondence schools and courses

Engineering education

Humanities

Liberal education

Moving pictures in education

Scholarships and fellowships

Scientific education

Specialization in education

Technical education

Television in education

Trade schools

Vocational education

Germany

Educational framework of an industrial society; Germany since 1945. G. R. Potter. *il Research* 11:173-7 My '58

Russia

Education in the U.S.S.R. *Research* 11:34-5 Ja '58

Education in the U.S.S.R. *Sci Am* 198:44-6 Ja '58

Education worries Soviets too. *Product Eng* 29:21 S 1 '58

Soviet schools may be revamped. *il Chem & Eng N* 36:94 O 27 '58

United States

Chiefs confer on Soviet threat; Yale conference on America's human resources to meet the scientific challenge. *Chem & Eng N* 36: 26-7 F 17 '58

Educating for extinction. H. G. Rickover. *Power Ind* 74:10-11+ Mr '58

Improvement of education; C. E. Tyler. *Chem & Eng N* 36:10+ Je 2 '58

Review and preview; fences need mending in education. *il Chem & Eng N* 36:82-3 Ja 6 '58

EDUCATION, Cooperative. See Engineering education—Cooperative plan

EDUCATION, Higher

Higher education and the national welfare. L. A. DuBridge. *il Chem Eng Prog* 53:sup 6 N '57

EDUCATION, Technical. See Technical education

EDUCATION and industry

Engineer comes into his own; an engineer takes a sabbatical; General Electric research laboratory program of research leaves, J. S. Kasper, *Product Eng* 29:86-7 Mr 31 '58

Former fellows feel better off; Ethyl corp. checks up on persons who benefited from its fellowship plan, *Chem & Eng N* 36:44 Ja 6 '58

Industry in education, W. H. Chisholm, *Tappi* 41:sup 182A-4A Ag '58

Industry viewpoints on educating electrical engineers, W. S. Hill, *Elec Eng* 77:544-6 Je '58

Off-campus handling courses recommended, W. M. Willits, *Mod Materials Handling* 13:59 Ja '58

Oil and education; fifth Cadman memorial lecture, Lord Godber, *Inst Pet J* 44:1-8 Ja '58

Paid leave for advanced study; points of view, *Product Eng* 29:32-3 S 8 '58

Scientists on sabbatical; Cyanamid recognizes technical ability by new educational grants for study at home or abroad, *Chem & Eng N* 36:42-3 My 26 '58

Training tomorrow's personnel today; Pochontas industrial council for education, W. A. Raleigh, jr, *Il Coal Age* 62:54-9 N '57

See also

Engineering colleges—Relations with industry

Bibliography

Reference materials for school aid programs, P. E. Nethercut, *Tappi* 41:sup28A+ JI '58

EDUCATION and state

Education and Congress, *Sci Am* 198:48-9 Ap '58

Gearing up for education aid, *Chem & Eng N* 36:42 S 29 '58

Huge school aid program urged, *Chem & Eng N* 36:46 Ja 6 '58

Put the accent on quality; use federal aid to improve quality of education, A. H. Emery, *Chem & Eng N* 36:32-3 Mr 24 '58

EDUCATION of workers

See also

Vocational education

EFFICIENCY, Industrial

Clocking the supervisor's day, R. D. Gilbert, *Il Mill & Factory* 62:85-7 Ja '58

Do you use work simplification? R. D. Stevens, *Diags Pet Refiner* 37:206+ F '58

Efficiency is the word at Mercer Lime and Stone, *Il Rock Prod* 61:110-12+ Mr '58

Good illumination improves plant efficiency, W. Schweisheimer, *Tool Eng* 39:115-16 N '57

How to measure engineering department efficiency, R. Paulson, *diag Machine Design* 29:122-5 D 12 '57

In earthmoving, over-all job efficiency is a lot of little efficiencies, D. K. Heiple, *Il Roads & Sts* 100:137-8 D '57

Making a cost cutting program permanent; Union steel products co., D. E. Webster, *Il Mill & Factory* 62:98-101 Ap '58

Simpler work saves money; Texas Instruments, inc., *Il Electronics* 31:17 JI 25 '58

Take a new look at old jobs and save money; American machine and foundry co., work simplification program, L. E. Backer, *Il Mill & Factory* 62:108-9 Ap '58

See also

Air conditioning, Industrial Control charts

Electric motors—Efficiency

Employment management

Factories—Lighting

Factory management

Factory sanitation

Fatigue

Foundry management

Idleness, Industrial

Industrial engineering

Industrial management

Industrial relations

Labor productivity

Machine shop management

Machinery, Replacement of

Mechanical handling

Mine management

Office management

Routing systems

Standardization

Time study

EFFLORESCENCE

Efflorescence resulting from pyrite in clay raw materials, W. E. Brownell, *Il Am Cer Soc J* 41:261-6 JI 1 '58

Efflorescence resulting from sulfates in clay raw materials, W. E. Brownell, *bibliog Am Cer Soc J* 41:310-14 Ag 1 '58

EGG breaking factories**Equipment**

Rx for more output and better quality; Tranin Egg Products, C. B. Hartman, *Il Food Eng* 30:82-4 My '58

EGG white. *See* Albumin

EGGS

Breakfast egg, J. Satterly, *Am J Phys* 26:341 My '58

Evidence for an unidentified factor necessary for maximum egg weight in chickens, L. S. Jensen and others, *bibliog J Nutrition* 65:219-33 Je '58

How to barrel finish eggs, W. Biebel, *Il Plat-ing* 45:31-4 Ja '58

Seasonal variations in the vitamin A content of hens' eggs, S. L. Bandemer and others, *bibliog J Agri & Food Chem* 6:549-52 JI '58

EGGS, Dried

Methods for depleting glucose from egg albumen before drying, J. C. Ayres, *bibliog Food Tech* 12:186-9 Ap '58

EGYPT

See also

Chemical industries—Egypt

Geology—Egypt

Irrigation—Egypt

Mines and mineral resources—Egypt

Petroleum—Egypt

18-8 stainless steel. *See* Chromium nickel steel

EISCHENS, Robert P.

R. P. Eischens received American chemical society award in petroleum chemistry, *por Chem & Eng N* 36:56 Ap 28 '58

EISENMAN, William Hunt

Tribute, *por Metal Prog* 73:64b-64c Je '58

EJECTORS

Ejectors give any suction pressure, F. D. Berkeley, *Il diags Chem Eng* 64:255-60 Ap '57; Same cond. *Product Eng* 29:J2-4 Mid-S '58

Major number at the diffuser throat of an ejector according to the hydraulic analogy, S. Matsunaga, *diags J Aeronautical Sci* 24:318-19 D '57

Selecting ejectors for high vacuum, C. G. Linck, *Il Chem Eng* 65:145-50 Ja 13 '58

ELADINIZATION

Transformations of semi-drying oils, C. Boelhouwer and others, *bibliog J Ap Chem* 8:387-90 Je '58

ELASTICITY

Aerothermoelasticity, M. Rogers, *bibliog diags Aero/Space Eng* 17:34-43+ O '58

Apparatus for the determination of dynamic elastic moduli at low strains, E. V. Veronen, *bibliog diags J Sci Instr* 35:28-9 Ja '58

Application of statistical theory of elastomers to supercontracted keratin fibers, A. R. Haly and M. Feughelman, *bibliog Textile Res J* 27:919-24 D '57

Bending of an elastically restrained circular plate under normal loading over a sector, W. A. Bassali and R. H. Dawoud, *bibliog diag J Ap Mech* 25:37-46 Mr '58

Carrying capacity of an elastic-plastic cylindrical shell with linear strain-hardening, P. G. Hodge, jr, and S. V. Nardo, *bibliog diags J Ap Mech* 25:79-85 Mr '58

Comparisons of materials; modulus of elasticity in tension, *Materials in Design Eng* 48:13 Mid-C '58

Complementary energy principle in linear thermoelasticity, G. Herrmann, *J Aero/Space Sci* 25:660 O '58

Concept of elastic parameters, V. Leontovich, *diags Am Concrete Inst J* 29:987-1008 My '58; Discussion, 39:1415-24 pt 2 D '58

Conjugate frame method and its application in the elastic and plastic theories of structures, S. L. Lee, *bibliog diags Franklin Inst J* 266:207-22 S '58

Correlation between dilatometric and viscoelastic data on a series of poly-*n*-alkyl methacrylates, H. Fujita and A. Kishimoto, *bibliog J Colloid Sci* 13:418-28 O '58

Critical study of the optical and mechanical properties of glass fibers, S. Bateson, *bibliog J Ap Phys* 29:13-21 Ja '58

Crystal stability and elastic constants, G. A. Alers and J. R. Neighbours, *bibliog J Ap Phys* 28:1514 D '57

Deflections of plates on a viscoelastic foundation, E. Reissner, *J Ap Mech* 25:144-5 Mr '58

Diaphragm behavior of plastic disks, A. G. H. Dietz and F. J. McGarry, *bibliog diag Mod Plastics* 36:135-6+ S '58

Dynamic elastoplastic response of rigid frames, F. L. DiMaggio, *diags Am Soc C E Proc* 84 [LEM 3 no 1693]:1-29 JI '58

ELASTICITY—Continued

- Dynamic testing of concrete evaluated. E. A. Whitehurst. *bibliog* Civil Eng 27:363-5 D '57
- Elastic and damping properties of oil-film journal bearings for application to unbalance vibration calculations. A. C. Hagg and G. O. Sankey. *J Ap Mech* 25:141-3 Mr '58
- Elastic constants by the ultrasonic pulse echo method, single-crystal KCl and NaI. S. Eros and J. H. Reitz. *il diags J Ap Phys* 29:683-6 Ap '58
- Elastic distortion error in the dead-weight piston gage. D. P. Johnson and others. *bibliog diag Ind & Eng Chem Anal* 49:2046-50 D '57
- Elastic materials under axial loading. A. N. Procter. *bibliog* (27 titles) *il diags Franklin Inst J* 265:125-43 F '58
- Elastic moduli and tensile properties of titanium-carbon and titanium-aluminum-carbon alloys. H. Brooks and others. *bibliog il Metallurgia* 56:277-82 D '57
- Elastic moduli in monolayers. N. W. Tschoegl. *bibliog diags J Colloid Sci* 13:500-7 O '58
- Elastic problem for a ring of uniform force in an infinite body. W. H. Pell. *diag J Res Nat Bur Stand* 60:365-73 Ap '58
- Elasticity, strength, and other related properties of some refractory castables. S. J. Schneider and L. E. Mong. *bibliog il Am Cer Soc J* 41:27-32 Ja '58
- How wrong can elastic constants be? S. A. Gordon. *Product Eng* 29:68-71 Ja '58
- Long-time study of cement performance in concrete; progress report on strength and elastic properties of concrete. P. Klier. *bibliog Am Concrete Inst J* 29:481-504 D '57
- Magnetostriction and elastic properties of ferromagnetic substances at high magnetic fields. H. Sato. *bibliog J Ap Phys* 29:456-8 Mr '58
- Mechanics of elastic performance of textile materials; torque development in yarn systems. M. M. Platt and others. *bibliog diags Textile Res J* 28:1-14 Ja '58
- Most general form of the compatibility equations and the conditions of integrability of strain rate and strain. E. H. Brown. *bibliog J Res Nat Bur Stand* 59:421-6 D '57
- Natural frequencies of nonuniform beams on multiple elastic supports. R. A. Di Taranto. *diags J Ap Mech* 25:57-63 Mr '58
- New method to lock-in elastic effects for experimental stress analysis. J. W. Dally and others. *bibliog il diags J Ap Mech* 25:189-95 Je '58
- Propagation of cracks and the energy of elastic deformation. H. F. Bueckner. *bibliog diags A S M E Trans* 80:1225-9; Discussion. 1229-30 Ap '58
- Redundant trusses of elastic-strain-hardening material. H. Ziegler. *diags J Ap Mech* 25:233-8 Je '58
- Shear rate dependence of the viscosity and elastic compliance of polymer melts; correspondence with a hydrodynamic theory of viscoelastic flow. R. H. Boyd. *diag J Ap Phys* 29:953-6 Je '58
- Spherical symmetry in the theory of elasticity. F. Godek. *bibliog diags J Ap Mech* 25:136-40 Mr '58
- Springiness of complex bodies. G. W. Scott-Blair. *bibliog diag Research* 11:123-4 Mr '58
- Stress distribution around a circular inclusion in a semi-infinite elastic plate. E. M. Saleme. *bibliog diags J Ap Mech* 25:129-35 Mr '58
- Tests on struts in the elastic and plastic ranges. K. B. Avers and R. C. Coates. *bibliog diags Engineering* 185:88-9 Ja '58
- Thermoelastic dissipation due to high-speed dislocations. J. H. Weiner. *J Ap Phys* 29:1305-7 S '58
- Two improved methods for determining Young's modulus. R. E. Green. *diags Am J Phys* 26:258-9 Ap '58
- Ultrasonic interferometer for the measurement of the temperature dependence of elastic constants. R. P. Espinola and P. C. Waterman. *bibliog diag J Ap Phys* 29:718-21 Ap '58
- Viscoelastic properties of crystalline polymers. K. Nagamatsu and others. *bibliog diag J Colloid Sci* 13:257-65 Je '58
- See also*
Aeroelasticity
Bending moment
Compressibility
Creep of materials
Deformation (mechanics)
Elastometers
Fatigue in metals

Friction, Internal
Photoelasticity

Plasticity

Rheology

Strains and stresses

Torsion

ELASTOMERS. *See* Rubber, Artificial

ELASTOMETERS

Elastometer; device for measurement of elastic moduli of plastics at elevated temperatures. R. A. Spurr and others. *il diag A S T M Bul* p65-7 JI '58

ELATERICIN

Constituents of ecballium elaterium L.; elatericin A and B. D. Lavie and D. Willner. *Am Chem Soc J* 80:710-14 F '58

ELATERIN

Constituents of ecballium elaterium L.; α -elaterin. D. Lavie and S. Szinaï. *bibliog Am Chem Soc J* 80:707-10 F '58

ELBOWS, Pipe. *See* Pipe elbows

ELDER, Stanley Gordon

Memorial. B. W. Ellsworth. *por Am Assn Pet Geologists Bul* 42:222-5 Ja '58

ELECTRIC accidents. *See* Electricity, Injuries from

ELECTRIC alarms

Alarm for Philips air liquefier. J. W. Stewart. *R Sci Instr* 29:659 JI '58

Alarm system uses gated neon warbler in Conelrad system. R. L. Ives. *il diags Electronics* 31:74-7 My '58

Civil defense tests alarm. *il Electronics* 31:16+ Je '58

Fuse-monitoring system for multiple fuse circuits. G. R. Lezan. *diags Elec Eng* 77:154-7 F '58

Off-the-air warning. W. H. Emerson. *diag Electronic Ind & Tele-Tech* 16:supO 10 N '57

Power failure alarm. G. P. Pearce. *il diags Radio-Electronics* 29:116-17 Ja '58

See also

Burglar alarms

Fire alarms

ELECTRIC analogies. *See* subdivision Electric analogies under special subjects, e.g.

Atomic power plants; Crystal diodes; Diffusion; Distillation; Functions, Exponential; Gas distribution; Heat transmission; Hydraulic transmission; Hydrostatics; Isomers; Magnets; Mechanics; Nuclear reactors; Paper and pulp mills; Petroleum engineering; Radio engineering; Surveying; Steam engineering; Temperature regulators; Vibration; Water distribution

ELECTRIC apparatus and appliances

Design trends. Published in monthly numbers of Electrical manufacturing

Laboratory and engineering equipment. Published in monthly numbers of Electrical manufacturing

Molded viscosity as related to molded electrical products. A. A. Kessel. *il diag Rubber World* 137:695-700+ F '58

New components and materials. Published in monthly numbers of Electrical manufacturing

Research and engineering progress, 1957; for construction. *il Gen Elec R* 81:57-8 Ja '58

Schedules for spot welding projection hardware to mild-steel sheet and plate. O. K. Barnes, Jr. *il diags Welding J* 37:207-19 Mr '58

Synthetic-fiber and wool felts; their design characteristics and uses. T. J. Gillick, Jr. *il diag Elec Manuf* 61:126-31+ Ap '58

See also

Brakes, Electric

Clocks, Electric

Commutators

Dynamotors

Electric alarms

Electric batteries

Electric capacitors

Electric circuit breakers

Electric coils

Electric controllers

Electric current limiters

Electric equipment

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Electric machinery

Electric meters

Electric motors

Electric protective apparatus

Electric rectifiers

Electric switchgear

Electric transformers

Electricity in mining

ELECTRIC apparatus and appliances—See also**—Cont.**

Electricity on the farm
Electromagnets
Electronic apparatus and appliances
Food blenders
Oscillators
Photoelectric cells
Potentiometers
Radio apparatus
Reactors
Relays
Storage batteries
Transducers
Voltage regulators

Design

Philosophy of applying digital computers to the design of electric apparatus. P. A. Abetti and others. bibliog diags Com & Electronics p367-77; Discussion. 377-9 J1 '58

Exhibitions

Electrical engineers exhibition, London. il diags Engineer 205:460-2, 495-9 Mr 28-Ap 4 '58

Maintenance and repair

Electrical and electronic maintenance: University of California radiation laboratory. C. W. Jensen. il diags Elec Constr & Maint 57:73-84 J1 '58
Maintenance man of the year; Duquesne light co.'s classroom and laboratory training program in electrical trouble shooting and maintenance. il Coal Age 62:72-3 D '57

Manufacture

Three cost cutters in press stock, wire welding, plastics molding; Westinghouse appliance div.; illustrations with text. Am Mach 102:98-100 Je 16 '58

Merchandising

Square D mobile showrooms go on area tours. il Elec World 149:59+ Je 30 '58
See also
Electric utilities—Appliance selling

Protection

New coating simplifies and improves aluminum electrical chassis design; Hardas process. Elec Manuf 61:147-8 Ap '58

Standards

See also
Electric standards

Testing

Orthomagnetic current transformers for laboratory and factory testing L. W. Marks and G. Camilli. il diags Power Apparatus & Systems p1520-4 F '58
Weapons systems and controls require automatic checkout equipment. L. S. Kilvans. diags Electronic Ind 17:70-5 Ap; 80-2+ My '58

ELECTRIC apparatus and appliances, Domestic Architects' eye-view of electric-living home.

il Elec World 149:86+ F 17 '58
Electrical kitchen appliances for 1958. il Machine Design 30:26-9 Ja 23 '58
Electrical World industry statistics; appliances. Elec World 149:114-16 Ja 27 '58
Research and engineering progress, 1957; appliances. il Gen Elec R 61:43-5 Ja '58
Ten-year forecast; room for plenty of porcelain enamel in appliances. diags Cer Ind 70:66-7 Mr '58
Thermo-electrics may open new sales vistas. C. J. Whitting. il Elec World 150:116 J1 21 '58
Three Texas companies study characteristics of five appliance loads. Elec World 150:40-6 Ag 11 '58
Why General Electric dropped fair trade. W. H. Sahloff. Elec World 149:72 Mr 10 '58

See also

Electric industries—Electric homes exhibitions
Electricity in air conditioning
Electricity in the home
Refrigerators
Refuse grinders, Domestic

Length of service

How long do appliances last? C. M. Jaeger and J. L. Pennock. Gas Age 121:27-8 Mr 6 '58

Merchandising

Better buy now program probes for a rebound in appliance sales. il Elec World 149: 66-7 My 19 '58

EEl plans all-electric push. G. W. Ousler.

Elec World 149:35 Mr 31 '58
REA backs push on appliance loans. D. Hamill and others. Elec World 149:48-9 Ap 21 '58

See also

Electric utilities—Appliance selling

ELECTRIC apparatus industry

GE's Bob Paxton; pilot for aggressive upturn plan; interview. Elec World 149:70-1+ My 19 '58

Manufacturers challenge U.S. buying policy. Elec World 149:78+ My 5 '58

Steady growth characterizes industry's '58 outlook. Elec World 148:50-1 D 30 '57

See also

Electric utilities—Appliance selling
National electrical manufacturers association
Westinghouse electric corporation

Advertising

EEl plans all-electric push. G. W. Ousler. Elec World 149:35 Mr 31 '58
Live better electrically makes other plans for '58. Elec World 148:50 O 28 '57

Directories

Directory of motor and gearmotor manufacturers. Machine Design 30:142-50 J1 24 '58
Electrical products guide. Elec Constr & Maint 57:52-75, 179-212+ Mid-S '58

Statistics

Electric equipment shipments set record. Elec World 150:53+ S 1 '58
Electrical industry statistics; electrical manufacturing. Elec World 149:110-13 Ja 27 '58
Industry expansion plans hit 52,928 mw; with tabulation. Elec World 148:108+ D 9 '57
Shipments, orders and open manufacturing capacity for electrical equipment, 1957-1961; tables. Elec World 149:155 Je 23 '58

Canada

Canada fights for its own heavy equipment market. R. D. Harkness. Elec World 148: 107 N 11 '57
CEMA cites an 11 per cent rise in domestic production. Elec World 148:107-8 O 28 '57
Electrical equipment. il Eng J 41:110-13 Ap '58

Great Britain

Engineering industries; light electrical industry, wires and cables. Engineering 185:114-15 Ja 24 '58

Russia

How Moscow designs; appliances for sale at GUM; illustrations with text. Product Eng 29:29 J1 14 '58
Top-level U.S. executives get the red-carpet treatment in Russia before attending Geneva atom meeting. Elec World 150:56 Ag 25 '58

ELECTRIC arc

Arc drop during transition from spark discharge to arc. C. F. Wagner and others. bibliog il diags Power Apparatus & Systems p242-7 Je '58

Arc movement due to the magnetic field of current flowing in the electrodes. A. E. Guile and S. F. Mehta. bibliog il diags Inst E E Proc 104 pt A:533-40 D '57

Arc prevention using π -n junction reverse transient. W. Miller. diags Inst Radio Eng Proc 45:1546-7 N '57

Carbon arc image furnaces; optical systems. M. R. Null and W. W. Lozier. bibliog il diags R Sci Instr 29:163-70 F '58

Done with mirrors; focus rays from carbon arc into beam as hot as 7000 F. il Mill & Factory 61:11 N '57

Effect of current cut-off and arc voltage on recovery voltage. C. Concordia. diags Power Apparatus & Systems p215-19 Je '58; Excerpts. Elec Eng 77:791 S '58; Discussion. R. C. Van Sickle and R. G. Coldclaser, Jr. Power Apparatus & Systems p219-20 Je '58

Impulse system for arc recovery strength measurements; abstract. J. D. Cobine and others. diags Elec Eng 77:807 S '58

Mechanism of electron emission in arcs with low boiling point cathodes. T. H. Lee. bibliog J Ap Phys 28:920 Ag '57; Discussion. 29:734-5 Ap '58

Motion of an arc in a magnetic field. C. G. Smith. bibliog diags J Ap Phys 28:1328-31 N '57

Organic vapor and relay contacts. L. H. Germer and J. L. Smith. il Bell Lab Rec 36:122-6 Ap '58

ELECTRIC arc—Continued

- Plasma jet; research at 25,000°F. J. W. Reid. *il* *diags* Machine Design 30:22-4 F '63
 Spark plus arc hardens steel in Russia. I. I. Kichkin. *il* *diags* Am Mach 101:97-9 D '57

See also

- Electric lamps, Arc
 Electric welding, Arc

ELECTRIC arc welding. See Electric welding, Arc

ELECTRIC associations

See also

- Edison electric institute
 Northwest electric light and power association
 Pennsylvania electric association

ELECTRIC automobiles. See Automobiles, Electric

ELECTRIC batteries

- Batteries. C. K. Morehouse and others. *il* *diags* Inst Radio Eng Proc 46:1462-83 bibliog(p1481-3) Ag '58
 Batteries; tables. *Electronic Ind* 17:164-5+ Je '58
 Cathode reactions in the Leclanche dry cell. N. C. Cahoon and others. bibliog *Electrochem Soc J* 105:296-8 Je '58
 Cells spark new markets. *Electronics* 31:23 S '58
 Choice of batteries for use in electronic equipment; abstract. F. M. Booth. *Brit Inst Radio Eng J* 18:253 Ap '58
 Consider dry cells for quiet, dependable, packaged power. J. J. Coleman. *il* *diag* Product Eng 29:72-4 F '58
 Dry cells containing various aromatic nitro compounds as cathode materials. C. K. Morehouse and R. Glicksman. *Electrochem Soc J* 105:306-11 Je '58
 Film lining for high-capacity dry cells. N. C. Cahoon and M. P. Korver. bibliog *Electrochem Soc J* 105:293-5 Je '58
 Flashes forever! rechargeable nickel-cadmium batteries. E. Meyers. *il* *Mod Phot* 22:64 Ja '58
 Improving performance of silver-zinc batteries. P. L. Howard. *il* *diags* *Electronic Ind* 17:61-3 JI '58
 Long life microwatt batteries. C. F. Elwell. bibliog *Inst Radio Eng Proc* 45:1543-4 N '57
 Mercury batteries used in U.S. satellites. *Elec Eng* 77:858 S '58
 Midjet batteries, power paths to new design. A. R. Gardner. *il* *diag* Product Eng 29:72-5 My '58
 Missile battery performance; nomographs for silver-cadmium and silver-zinc batteries. F. J. Moretti. *Aviation Age* 30:62 S '58
 New batteries for the space age. D. Linden and A. F. Daniel. *il* *Electronics* 31:59-65 JI '58
 New instrumentation refinement announced. *il* *Ind Lab* 9:11 My '58
 Potential of an electrode of a voltaic cell; a new definition with justification for the use of two sign conventions. J. B. Ramsey. bibliog *Electrochem Soc J* 104:255-60 Ap '57; Discussion. 105:359-60 Je '58
 Specifying and applying dry cells and storage batteries. C. E. Wise. *il* *diag* Machine Design 30:131-8 My 29 '58
 Transistom. M. U. Flips. *il* *diags* Radio-Electronics 29:88-9 Ap '58
 Unique lead-silver rechargeable dry battery. *diag* *Elec Eng* 77:111 Ja '58
 Value of the electromotive force of a voltaic cell; a magnitude without sign. J. B. Ramsey. *Electrochem Soc J* 104:691-2 N '57

See also

- Electrolytic cells
 Solar batteries
 Storage batteries

Fuel cells

- Direct conversion with fuel cells? *diag* *Nucleonics* 16:110 JI '58
 Electricity directly from gas? *diags* *Pet Eng* 30:D42+ Ap; C30 My '58
 Electricity from gas is now practical; new fuel cell. *il* *diag* Iron & Steel Eng 34:148+ O '57
 Electricity from gases. *il* *Mech Eng* 79:1050-1 N '57
 Enter the fuel cell, new power source. *il* *diag* Power Eng 61:63 N '57
 First practical fuel cell for silent, portable power. *il* *diag* Chem Eng 64:154+ D '57
 Fuel cell. G. Corfield. *Gas* 34:15 O '58
 Fuel cell round table. R. Roberts. *diag* *Electrochem Soc J* 105:428-32 JI '58

- Fuel cell turns gases into electricity. *Ind & Eng Chem* 49:sup32A+ N '57
 Fuel cells may provide an important source of power. D. L. Douglas and H. A. Lieb-hafsky. *diags* *Gen Elec E* 61:40-1 JI '58
 Improved fuel cell makes fresh bid as power producer. *diag* Power 102:87 Ja '58
 New battery, the fuel cell; will it have an impact on mining? National carbon co. *il* *diags* *Eng & Min J* 159:89-91 My '58
 Only research can conquer the future. M. Goland. *Am Gas Assn Mo* 40:33 S '58

ELECTRIC brakes. See Brakes, Electric

ELECTRIC braking. See Braking, Electric

ELECTRIC breakdown. See Dielectrics; Electric discharges

ELECTRIC cable troughs

- How Glatfelter used cable trough and cut installation costs. N. B. Rohrbaugh. *il* Power Ind 74:13 F '58
 It's easy to install cable trough; illustrated instructions. Power 101:124-5 N '57
 Troughs simplify branch circuit work; projects of the Continental electrical construction co. *il* *diags* *Elec Constr & Maint* 57:30-1 F '58
 Versatile cable trough has many applications. *il* Power Eng 61:76-7 N '57

ELECTRIC cables

- Aluminum welding cable. J. G. Stone. *il* *diags* Welding J 37:320-7 Ap '58; Same. *Am Soc Naval Eng J* 70:551-8 Ag '58
 Cable; how to boost current ratings in poor soil. L. H. Fink and others. *diag* *Elec World* 149:74-5 Mr '58
 Coaxial transmission lines; effect of elliptical inner conductor on high-frequency characteristics. S. Mahapatra. bibliog *diag* *Electronic & Radio Eng* 35:63-7 F '58
 Criteria for industrial application of single-phase transmission lines. 400 to 20,000 cycles. W. A. Munson and A. J. Germain. bibliog *diags* *Applications & Ind* p379-83 Ja '58
 Current-carrying capacity of aluminum cable, steel reinforced; abstract. H. E. House and P. Tuttle. *Elec Eng* 77:713 Ag '58
 Dielectric stress in thin walled cable. S. Kalifon. *diag* Wire & Wire Prod 33:303 Mr '58
 Ductless shaped-conductor oil filled cable. *diags* *Engineer* 204:683 N '57
 Electric cable steers automobile. *Elec Eng* 77:378 Ap '58
 Eliminate wiring problems with mineral-insulated cable. W. J. Richard. *il* Power Eng 62:54-7 JI '58
 Four components of insulated power cable. N. Peach. *diags* Power 102:128-9 Ap '58
 Insulated power cables. N. Peach. *il* *diag* Power 102:73-9 Ap '58
 National electrical manufacturers association Wire and cable section annual meeting. Atlantic City. Wire & Wire Prod 33:76+ Ja '58
 National electrical manufacturers association Wire and cable section spring meeting. Rye, N.Y. April 30. Wire & Wire Prod 33:783-4 JI '58
 Power cables, key to safe and steady production. *il* *diags* Eng & Min J 159:36-52 Mid-Je '58
 Signal corps 6th annual wire and cable symposium, Fort Monmouth, N.J. Dec. 3-5; abstracts of papers. Rubber Age 82:868-9 F '58; Rubber World 137:571-2 Ja '58
 Surge measurement errors introduced by coaxial cables. J. H. Park. *il* *diags* Com & Electronics p343-7 JI '58; Abstract. *Elec Eng* 77:288 Ap '58; Discussion. Com & Electronics p347-50 JI '58
 Swing to aluminum for service cable. C. L. Lucal and P. E. Pfister. *Elec World* 149:72 My 19 '58

See also

- Electric conduits
 Electric distribution
 Electric transmission
 Insulation (electric)
 Telephone cables

Installation

- Aluminum armor cables on ladder racks simplify plant feeder installation. *il* *Elec Constr & Maint* 57:118+ Ja '58
 Cable installations on bridges. E. W. Scheirer and L. Winitzky. *il* *diags* Power Apparatus & Systems p35-42 Ap '58; Excerpts. *Elec Eng* 77:224 Mr '58
 Cable trays cut over-all electrical installation costs. *il* Plant 17:68-9 Ja '58

ELECTRIC cables—Installation—Continued

Camera in the conduit helps to untangle installation problem. W. Carroll. *Il Ind Phot* 7:31 My '58

Case for open installation for metal-sheathed cables, with some notes on construction. W. Holtum. *diags Inst E E Proc* 105 pt A: 67-72 F '58

Mechanized method for cable burial. *Il Elec Constr & Maint* 57:101-2 J1 '58

Plastic rope for cable pulling; rope stranded from Mylar; R. C. electric co. of Redwood City, Calif. *Il Elec Constr & Maint* 57:112-3 S '58

Service cables lashed with rods reduce labor. R. W. Toler. *Il diag Elec World* 150:58-9 J1 28 '58

Vancouver 230-kv oil-filled cables. F. O. Wollaston and L. R. Horne. *diags Elec Eng* 77: 816-21 S '58

See also

Electric cable troughs

Joints

Clamp speeds live-line splicing. G. H. Funk. *Il Elec World* 150:54 S 1 '58

Join aluminum to copper reliably. W. B. Shafer. *Elec World* 149:78-9 F 3 '58

Joins 69-kv pipe-type to oil-filled cable. R. H. Bolling. *Il diags Elec World* 148:61-2 N 11 '57

Making straight joints on aerial cable; engineering reference sheet. *diags Elec World* 148:80 N 4 '57

Making tee joints on aerial cable; engineering reference sheet. *diags Elec World* 148:96 N 18 '57

New ways to splice cable. *Il Power Eng* 62:38 Mr '58

Rig aids cable splicing. *Il Elec World* 149:68 Ja 13 '58

69-kv stop joint for connecting pipe-type cable to oil-filled cable. R. H. Bolling, Jr. *Il plan diags Power Apparatus & Systems* p 17-21 Ap '58; *Abstract, Elec Eng* 77:584 J1 '58

This new hot-line tapping chamber may solve your aerial cable problems. *diags Elec World* 149:72-3 Mr 17 '58

Two unique mouses clean oil cable pipe. F. W. Kline and F. J. Wells. *diags Elec World* 150:58 J1 28 '58

Maintenance and repair

Locate pipe-cable faults automatically. C. B. Bechtel. *diag Elec World* 150:55 S 15 '58

Portable cables for surface mining. S. Bunnish. *Il Coal Age* 63:140-1-4 F '58

Manufacture

Haul-off equipment for cable-making machines; Larmuth and Bulmer, Ltd. *Il Enginr* 205:943 Je 20 '58

Heat ducts boost cable quality, trim process time. T. Ballots. *Il Elec World* 148:34 D 9 '57

Industrial TV spurs cable insulation process. *Elec World* 149:127 Ap 28 '58

Rome Cable institutes hot pickling. *Il Elec World* 150:38 S 8 '58

Rubber sheathing of heavy cables. *diag Engineering* 186:183 Ag 8 '58

Ultrasonic thickness gauge cuts cost, improves cable quality. A. Bottari. *Il Elec Manuf* 61:146 Ap '58

Protection

Compounding for heat-resistant insulations and jackets. A. C. Rowley. *Rubber Age* 83:663-7 J1 '58

Electromagnetic field phenomena in shielded aerial cables under surge conditions. J. E. Delson. *Il diag Power Apparatus & Systems* p247-52; *Discussion*, 252-3 Je '58

Extrusion of fast curing neoprene wire and cable compounds. O. L. Simmons and C. E. McCormack. *Il diag Wire & Wire Prod* 33:539-42 My '58

Extrusion of Teflon 100X perfluorocarbon resin; a new melt-extrudable material for wire insulation. R. E. Stabler. *Wire & Wire Prod* 33:73-4 Ja '58

Insulated cables save 50 per cent on costs; Youngstown sheet & tube co. *Il Steel* 142: 92 My 12 '58

Marblehead uses polyethylene cable. *Il Elec World* 150:65 J1 7 '58

New Neoprene butyl for insulating cables. E. Lyle. *Rubber World* 158:126 Ap '58

Renewing a primary system by drying varnished cable in conduit; using silica gel. H. D. Jefferson. *Il Elec Constr & Maint* 57:112 Ja '58

Techniques for insulating wire and cable with silicone rubber. D. C. Youngs and others. *Il diags Wire & Wire Prod* 33: 285-90-4 Mr '58

Temperature resistance makes silicone insulations attractive. P. H. Ware. *Elec World* 150:84-4 Ag 4 '58

Sheathing

Aluminum armor cables on ladder racks simplify plant feeder installation. *Il Elec Constr & Maint* 57:118-4 Ja '58

Aluminum-conductor aluminum-sheathed triplex-cable installation. J. F. Gillespie. *Il diags Power Apparatus & Systems* p 123-7; *Discussion*, 127-8 Ap '58

Application of aluminum sheaths to electric cables by direct extrusion. *Il Engineer* 204: 579-81 O 18 '57

Case for open installation for metal-sheathed cables, with some notes on construction. W. Holtum. *diags Inst E E Proc* 105 pt A: 67-72 F '58

Cathodic protection of lead cable sheath in the presence of alkali from deicing salts. W. H. Bruckner and W. W. Lichtenberger. *Il diags Corrosion* 14:19-24 Ap '58

Corrugated metallic cable sheath. K. Andresen and others. *bibliog Il diag Power Apparatus & Systems* p 169-77; *Discussion*, 177-80 Je '58; *Reply*, p655-6 Ag '58

Electrical measurements and their interpretation in underground cable corrosion problems. K. G. Compton. *diags Corrosion* 14: 47-54 My '58

Microbiological deterioration of buried pipe and cable coatings. F. E. Kulman. *bibliog Il Corrosion* 14:23-32 My '58

New developments in Hi-fax coverings for wire and cable; high density polyethylene. W. P. Acton and W. O. Bracken. *Wire & Wire Prod* 33:174-6-4 F '58

Polyethylene-butyl rubber flame-retardant cable sheath. *Elec Manuf* 62:10 S '58

Rubber sheathing of heavy cables. *diag Engineering* 186:183 Ag 8 '58

Standards

New British standards for electric cables. *Engineering* 185:159 Ja 31 '58

Tables, calculations, etc.

Cabling-time equation. S. Kalfon. *diags Wire & Wire Prod* 33:67-9-4 Ja '58

Tape cables

Plates connect ribbon cable to terminals. *Il Electronics* 31:113-15 My 9 '58

Temperature

Control of the thermal environment of buried cable systems. L. H. Fink and J. J. Smerke, 2d. *bibliog diags Power Apparatus & Systems* p 161-8; *Discussion*, 168 Je '58

Study of the superposition of heat fields and the Kennedy formula as applied to underground cable systems. C. A. Bauer and R. J. Nease. *diag Power Apparatus & Systems* p 1330-3; *Discussion*, 1333-7 F '58

Terminals

Automatic preparation of stranded cable for terminations. W. Scott and J. L. Harper. *Il diags Wire & Wire Prod* 33:882-4 Ag '58

Testing

Corona-level scanning of high-voltage power cables; abstract. F. H. Gooding and H. B. Slade. *Elec Eng* 77:236 Mr '58

Current-carrying capacity, portable power cables on reels. J. J. McNiff and A. H. Shepherd. *diag Eng* 63:98-9-4 Ja '58

De Havilland cable tester. *Il Automobile Eng* 48:400-1 O '58

Foamed polyethylene coaxial cables; effects of moisture penetration on cellular dielectrics. C. C. Camillo and G. R. Karlson. *diags Wire & Wire Prod* 33:649-53-4 Je '58

High-voltage laboratory for cable testing; Enfield cables, Ltd. *Il Engineer* 206:99-100 J1 18 '58

High voltages for cable research. *Il Engineering* 186:348-9 S 12 '58

Portable test set for multi-core cables. *Il Engineer* 206:501 S 26 '58

Sea trials on Channel power cable. *Il Engineer* 206:499-500 S 28 '58

Transistorized continuity test set. J. C. Hauf and H. S. Hall. *Il diags Wire & Wire Prod* 33:295-6-4 Mr '58

ELECTRIC cables, Submarine

British Columbia-Vancouver Island 138 kv submarine power cable. T. Ingledow and others. *bibliog Il maps diags Inst E E Proc* 104 pt A: 485-99; *Discussion*, 499-503; *Reply*, 503-4 D '57

ELECTRIC cables, Submarine—Continued

- Cable tunnel crossings. E. J. Dawson and others. *il* *diags* Power Apparatus & Systems p 1420-7; Discussion, 1427-8 F '58
- 46-kv submarine cable crossing in the Straits of Mackinac. J. G. Stelzer and others. *il* map *diags* Power Apparatus & Systems p738-46 O '58
- Four 9,000-ft oil-filled cables link states across Champlain. *il* *Elec* World 150:52-3 S 29 '58
- How Detroit Edison made an easy river cable crossing. *il* *diags* *Elec* World 149:74-5 Mr 17 '58
- Okonite ships 2½-mile submarine cable. *il* *Elec* World 150:62 J1 7 '58
- 115-kv cable to cross Champlain. R. E. Moran. map *diags* *Elec* World 149:76-6 Mr 24 '58
- Problems in long-term component reliability; abstract. R. E. Latimer. *il* *Brit* *Instr* Radio Eng J 18:306, 381 My-Je '58
- St Lawrence estuary submarine power transmission system. O. W. Titus. *il* maps *diags* Eng J 41:54-8 Mr '58
- Sea trials on Channel power cable. *il* *Engin*eer 206:499-500 S 26 '58

See also

Cable laying and supply ships

ELECTRIC capacitance

- Accurate determination of capacitance by combining analytical and analog techniques. J. D. Horgan and J. A. Pesavento. *bibliog* *diags* *Com* & *Electronics* p397-400 J1 '58; Abstract. *Elec* Eng 77:513 Je '58
- Adsorption isotherms from double layer capacity measurements. H. A. Lahtinen and E. Mosier. *bibliog* *Am* *Chem* *Soc* J 80: 2363-6 My 20 '58
- Capacitance measurement is valuable for process stream analysis. F. E. Moore. *il* *diags* *Oil* & *Gas* J 56:96-9 S 8 '58
- Capacity neutralization of h-f transistors. L. S. Greenberg and R. C. Wonsow. *il* *diags* *Electronic* Ind 17:82-6 S '58
- Experimental check of formulas for capacitance of shielded balanced-pair transmission line. B. G. King and others. *diag* *Instr* Radio Eng Proc 46:922-3 My '58
- Factors affecting density transients in a fluidized bed. J. M. Dotson. *diags* *Chem* Eng Prog 54:188-4 My '58
- Oscillator measures tube capacitance. H. L. Morgan. *Electronics* 31:126-4 F 14 '58
- Response of a capacitance-resistance divider to the step-function, exponential-function and ramp-function. S. Turk. *diags* *Electronic* Eng 30:608-11 O '58

ELECTRIC cells

- Air-gap test cell for measuring properties of sheet dielectrics. S. I. Reynolds and D. A. Kollath. *bibliog* *il* *diags* *R* *Sci* *Instr* 29: 295-6 Ap '58
- Capacitor microphone as a radiation detector. M. L. Harbord and J. L. Bohn. *diags* *R* *Sci* *Instr* 29:229-32 Mr '58
- Capacitors better than capacitors. H. M. Schlicke. *diags* *Research* 11:98-101 Mr '58
- Capacitors for discharge-lighting control circuits. J. P. Pitts. *bibliog* *Instr* *E* *Proc* 105 pt A:441-4 Ag '58
- Comparison of resistor capacitor sweep and ideal sawtooth. D. Moffat. *diag* *Electronic* Ind 17:64-6 S '58
- Development of plastic dielectric capacitors; abstract. J. H. Cozens. *Brit* *Instr* *Radio* Eng J 18:137 F '58
- Experiments with condensers. S. W. Leifson. *il* *diags* *Am* *J* *Phys* 26:239-44 Ap '58
- Find voltage rise provided by capacitors; engineering reference sheet. D. E. Haasch. *Elec* World 149:138 Ja 27 '58
- How to apply 50-kvar capacitors underground successfully. N. M. Neagle and H. M. Graham. *il* *diags* *Elec* World 148:74-6 N 4 '57
- Laboratory and field tests on 132kv synthetic-resin bonded-paper condenser bushings. J. L. Douglas and A. W. Stannett. *bibliog* *il* *diags* *Instr* *E* *Proc* 105 pt A:278-87; Discussion, 288-93; Reply, 294 Je '58
- New capacitor bank speeds shock research. *il* *Nucleonics* 16:116 Ap '58
- Obtaining rate thermal curves by a capacitor method. B. Gregory and G. Bullock. *diags* *J* *Sci* *Instr* 35:228-9 Je '58
- Power factor related with corrective capacitor. L. E. Stein, jr. *Elec* World 150:54 Ag 11 '58
- Recent developments in electrolytic capacitor design; abstract. G. C. Gaut. *Brit* *Instr* *Radio* Eng J 18:137 F '58
- Recent high-K capacitor developments in France; abstract. J. Peyssou. *Brit* *Instr* *Radio* Eng J 18:178 Mr '58

- Six tips on power-factor capacitor care; fact file. N. Peach. *diags* *Power* 101:150-1 D '57
- Subminiature electrolytics; Cornell-Dubilier type EC aluminum-foil electrolytic capacitors. Franklin Inst J 265:278 Mr '58
- Super-thin bonded insulating films. W. K. V. Chen and W. E. Estey. *diags* *Elec* Manuf 62:84-9-4 Ag '58
- Switch secondary capacitor banks. L. T. Williams. *il* *Elec* World 150:68 S 29 '58
- Tantalum bind ends. *Electronics* 31:29 Ap 4 '58
- Use of capacitor discharges to produce high temperature, high pressure air. D. E. Bloxson, jr. *bibliog* *il* *diag* *Jet* *Propulsion* 28: 609-14 S '58
- Use of capacitor discharges to produce high-velocity pellets. D. E. Bloxson, jr. *il* *J* *Ap* *Phys* 29:1049-51 J1 '58
- Voltage performance of series capacitors in transmission and distribution lines. J. M. Magowan. *il* maps *diags* *Instr* *E* *Proc* 104 pt A:505-16; Discussion, 516-19; Reply, 519-20 D '57

See also

Radio capacitors

Bibliography

- Bibliography on power capacitors 1954-1956; AIEE committee report. *Power Apparatus & Systems* p666-9 O '58

Cleaning

- Cleaning condenser tubes continuously. *il* *Engineering* 185:828-9 Je 27 '58

Failure

- Life-failure statistics of short rated oil-paper capacitor elements; abstract. R. J. Peterson. *Brit* *Instr* *Radio* Eng J 18:176-7 Mr '58

Testing

- Vibrating condenser manometer. J. L. Williams and G. F. Eveson. *diags* *J* *Sci* *Instr* 35:97-9 Mr '58

ELECTRIC charges

- Charge transfer upon contact between metals and insulators. D. O. Van Ostenburg and D. J. Montgomery. *bibliog* *diags* *Textile* Res J 28:22-31 Ja '58
- Junction transistor as a charge controlled device. J. J. Sparkes and R. Beaufoy. *diags* *Instr* *Radio* Eng Proc 45:1740-2 D '57
- Simple apparatus for the direct determination of the charge output of piezoelectric materials at high forces. D. S. Schwartz. *diags* *R* *Sci* *Instr* 29:321-3 Ap '58
- Simplified treatment of electric charge relations at a semiconductor surface. E. O. Johnson. *bibliog* (34 titles) *diags* *RCA* *E* 18: 525-55 D '57
- Theory of ion exchange and development of charge in kaolinite-water systems. W. G. Lawrence. *bibliog* *diags* *Am* *Cer* *Soc* *J* 41:136-40 Ap 1 '58

See also

Space charge

ELECTRIC circuit breakers

- Breakers of 2,500 mva and 250 mva installed. *Elec* World 150:75-6 J1 28 '58
- Bus-fuse-breaker teamup for low-cost current-limiting circuit protection. *il* *diag* *Power* 101:78-80 N '57
- Circuit breakers and switchgear feature developments; advances; Switchgear division of I-T-E circuit breaker co. *il* *Iron* & *Steel* Eng 34:181-2-4 N '57
- Dam your electrical system; how interrupting capacity protects equipment. V. Kempf. *diags* *Plant* *Eng* 12:122-3 S '58
- Effect of current cut-off and arc voltage on recovery voltage. C. Concordia. *diags* *Power Apparatus & Systems* p215-19 Je '58; Excerpts. *Elec* Eng 77:791 S '58; Discussion. R. C. Van Sickle and R. G. Colclaser, jr. *Power Apparatus & Systems* p219-20 Je '58
- Experience with breaker restriking and arcing destruction on the Pennsylvania power & light co. 220-kv system. M. C. Galiyano and others. *il* *diags* *Elec* Eng 77: 308-11 Ap '58; Same. *Power Apparatus & Systems* p224-7; Discussion, 227-8 Je '58
- 46-kv automatic circuit recloser. E. J. Field. *il* *diags* *Power Apparatus & Systems* p298-302; Discussion, 302-4 Je '58
- High-speed breaker reclosing can put abnormal stresses on your motors. D. Dalasta and S. Durand. *Power* 102:90-3-4 F '58
- Interrupting capacity of breakers and fuses; answers. *Elec* *Constr* & *Maint* 57:163 F '58
- Loadbuster; new portable circuit interrupting tool. *il* *Mod* *Plastics* 35:98-9-4 Mr '58

ELECTRIC circuit breakers—Continued

New 46-kv low-capacity circuit breaker for multiple-reclosing duty. R. N. Yackey and R. H. Cunningham. *Il* *diags* Power Apparatus & Systems p402-6; Discussion, 406 Je '58

Power application vacuum switch. R. W. Sorenson. *bibliog* *Il* *Elec Eng* 77:150-4 F '58
Severe rates of rise of recovery voltage associated with transmission line short circuits. W. F. Skeats and others. *bibliog* *Il* *diags* Power Apparatus & Systems p 1256-64; Discussion, 1264-6 F '58

SP₁ breaker installed. *Il* Westinghouse Eng 13:145 S '53

There's a new look for circuit breakers and switchgear. *Il* *Power Eng* 61:94 D '57
Ultrahigh-speed reclosing experience at 345 kv. H. C. Barnes and others. *bibliog* *Il* *plan* Power Apparatus & Systems p 137-42; Discussion, 142-4 Ap '58

See also

Electric fuses

Design

Springs in manual circuit breaker automatically control closing speed. *Il* *diags* Machine Design 29:146-7 D 12 '57

Installation

Standard breaker foundation saves time. E. V. Vitelli. *Elec World* 150:54 S 15 '58

Maintenance and repair

Keep an eye on oil and insulation. *diags* *Elec World* 150:69-71 Ag 25 '58

Oilless

GE develops high-capacity breakers. *Elec World* 149:71 My 26 '58

Magnetic de-ion air breaker for 750 mva, 13.8 kv. R. Frink and J. M. Kozlovic. *Il* *diag* Power Apparatus & Systems p 1516-20 F '58

Metal-clad 4,160-volt 350-mva switchgear with symmetrical ratings. E. B. Rietz and others. *Il* *diags* Power Apparatus & Systems p 1397-402; Discussion, 1402-3 F '58

New air breakers for 138 kv and 13.8 kv pace load growth. T. D. Reimers. *Il* *plan* *diags* *Elec World* 149:74-7 F 24 '58

Service experience and staged field tests on the 115-kv one million-kva gas-filled power circuit breaker. E. B. Henry and others. *Il* *diags* Power Apparatus & Systems p818-23; Discussion, 323-5 Je '58; Abstract, *Elec Eng* 77:693 Ag '58

Suppression of leakage flux in magnetic air circuit breakers. A. P. Strom. *Il* *diags* Power Apparatus & Systems p305-8 Je '58; Abstract, *Elec Eng* 77:317 Ap '58; Discussion, Power Apparatus & Systems p308-9 Je '58

Testing

Service experience and staged field tests on the 115-kv one million-kva gas-filled power circuit breaker. E. B. Henry and others. *Il* *diags* Power Apparatus & Systems p818-23; Discussion, 323-5 Je '58; Abstract, *Elec Eng* 77:693 Ag '58

Test station for small circuit breakers: J. A. Crabtree and co. *Il* *Engineer* 206:461-2 S 19 '58

Transportation

Now you can cut time and costs of transporting 138-kv breakers. J. R. Kroeger. *Il* *Elec World* 149:54-5 My 5 '58

ELECTRIC circuits

Analysis of nonresonant charging circuit for magnetic pulse generator. N. L. Weinberg. *bibliog* *diags* Com & Electronics p271-7 J1 '58

Braking circuit for induction motors. H. E. Guttman. *diags* R Sci Instr 29:528 Je '58
Circuits for short-arc lamps: abstract. T. C. Rietz. *diags* Illum Eng 53:483-9 S '58

Common three-phase circuits. N. Peach. *diags* Power 101:144 N '57

Controlled saturation in transistors and its application in trigger circuit design. N. F. Moody. *diags* Electronic Eng 30:121-7, 200-4 Mr-Apr '58

Design tips for your motor circuits. J. P. Chamberlain. *diags* Pet Refiner 37:219-23 Mr: 159-63 Ap '58

Electric circuit theory approach to finite difference stability. *diags* Com & Electronics p210-13 My '58

Electrical testing. S. Kalifon. *diags* Wire & Wire Prod 33:538-4 Mr '58

Experiment on circuit theorems. J. G. Tillotson. *Am J Phys* 26:130-1 F '58

Future circuit aspects of solid-state phenomena. E. W. Herold. *bibliog* (26 ref) *Il* (cover) *diags* Inst Radio Eng Proc 45: 1463-74 N '57

High order accuracy in the solution of partial differential equations by resistor networks. H. G. Landau. *diags* J Ap Mech 25:17-20 Mr '58

How to calculate parallel ac circuits. N. Peach. *diags* Power 101:168 D '57

Lagrange equations in electrical networks. F. L. Ryder. *diags* Franklin Inst J 266:27-33 J1 '58

Magnetic measurements with the bridged-T network. J. K. Choudhury and P. C. Sen. *diags* J Sci Instr 35:145-6 Ap '58

Novel circuit for delivering known spark energies. T. A. Erikson. *diag* R Sci Instr 29:173-4 F '58

Progress in solid state phenomena advances electrical art. *Il* *diags* Power Eng 62:62-4 Ja '58

Sensitive circuit for the detection of small effects of resistance modulation. G. Bonfiglioli and R. Malvano. *diag* R Sci Instr 29:738-9 S '58

Tool-work-thermocouple compensating circuit. K. J. Trigger and others. *diags* A S M E Trans 80:302-6 F '58

See also

Electric contacts
Electric distribution
Electric rectifiers
Electric transmission
Electronic circuits
Impedance
Radio circuits
Short circuits
Television circuits

Design

Design and layout data. *diags* *Elec Constr* & Maint 57:14-19 Mid-S '58

Limited values of driving point impedances and transfer functions due to component variations. S. Jones. *diag* Applications & Ind p38-40 Mr '58; Abstract, *Elec Eng* 77: 403 My '58

Plastics embedment

Epoxy adhesive kit. *Il* *Electronics* 30:240+ D 1 '57

Epoxy encapsulation of dry-type transformer. P. K. Goethe and C. Palaia. *Il* *Elec Manuf* 62:116+ J1 '58

How to flush copper conductors in printed circuits. G. J. Muller. *Il* *Plastics World* 16:8 O '58

Loadbuster: new portable circuit-interrupting tool. *Il* *Mod Plastics* 35:98-9+ Mr '58
Open encapsulated-stator motor replaces totally enclosed type. *Il* *Elec Manuf* 62:126-7 S '58

Polyurethane coating for electrical circuits. J. Delmonte. *Il* *Elec Manuf* 62:114-15 J1 '58

Vacuum-molded epoxy cast-resin applications. H. R. Lucas. *Il* *Elec Manuf* 61:98-100 Ap '58

See also

Electronic circuits—Plastics embedment

Printed circuits

Conductor size and spacing for printed circuits. L. N. Merson. *Electronics* 30: 178-4 D 1 '57

Extreme shock-resistant printed circuit module. *Il* *Elec Manuf* 61:9 Je '58

Flowsolder method of soldering printed circuits. R. Strauss and A. F. C. Barnes. *Il* *diags* Product Eng 28:G 17 Mid-O '57

How to flush copper conductors in printed circuits. G. J. Muller. *Il* *Plastics World* 16:8 O '58

New etch process: Becco hemial etches printed circuits. *Chem & Eng N* 36:54 Ja 6 '58

Production of printed circuits: photosensitive resist method. W. P. VanDeusen. *Il* *Plating* 45:161-6 F '58

See also

Electronic circuits—Printed circuits

Specifications

Electrical specifications; branch circuits. *diags* *Elec Constr* & Maint 57:97-108 My '58

Standards

IRE standards on reference designations for electrical and electronic equipment. 1957. *diags* Inst Radio Eng Proc 45:1493-501 N '57 (reprints 70c); Same cond. Product Eng 29:1 4-7 Mid-S '58

Testing

Automatic circuit tester. G. C. Close. *Il* *Automation* 5:28+ J1 '58

ELECTRIC circuits, Equivalent

- Complete equivalent circuit of a synchronous machine. L. Glaever, diags Power Apparatus & Systems p204-9 Je '58
- Computation of crystal admittance; a comparison of measured and theoretical characteristics. W. J. Lucas and P. B. Barber, diags Electronic & Radio Eng 34:454-8 D '57
- Equivalent circuits of noisy networks. L. Young, bibliog diags Electronic Eng 30: 205-7 Ap '58
- Feedback circuit equivalence. A. W. Keen, bibliog diags Electronic & Radio Eng 35:8-12 Ja '58
- High frequency parameters of transistors and valves. J. Zawels, bibliog diags Electronic Eng 30:15-17 Ja '58
- Limited-gain operational amplifiers; equivalent networks for simplifying computation. A. W. Keen, diags Electronic & Radio Eng 35:141-3 Ap '58
- Parallel-plate transmission lines and equivalent radiators. A. B. Hillan, diags Electronic & Radio Eng 35:170-3 My '58
- Theory of parametric amplification using nonlinear reactances. S. Bloom and K. K. N. Chang, bibliog diags RCA E 18:578-93 D '57
- Transactor; an idealized active network element. A. W. Keen, diags Electronic & Radio Eng 34:459-61 D '57

ELECTRIC clocks. See Clocks, Electric

ELECTRIC codes

- High capacity secondary services; New York city's electrical code designed to insure safe installation, diags Elec Constr & Maint 57: 82-5+ Je '58

See also

National electrical code

ELECTRIC coffee percolators. See Coffee percolators, Electric

ELECTRIC coils

- Air-jet wire coiling; Tenco aircraft corp. R. Townsend, il Plant Eng 12:124+ F '58
- Ceramic housing for sealed coil, il diag Materials in Design Eng 47:226-4 Ap '58
- Coil winding machine has tension compensator il diag Elec Constr & Maint 57:103-4 F '58
- Core-reset functions in magnetic-amplifier analysis. G. C. Feth, bibliog diags Com & Electronics p503-19 S '58
- Effect of coil winding and processing on the electrical strength of oil-immersed insulating materials; effects which arise in the manufacture of transformers. W. T. Sackett, jr, bibliog il Power Apparatus & Systems p 118-23 Ap '58
- Field homogenizing coils for nuclear spin resonance instrumentation. M. J. E. Golay, diag R Sci Instr 29:313-15 Ap '58
- Improved bridge method for the measurement of core losses in ferromagnetic materials at high flux densities. W. P. Harris and L. L. Cooter, bibliog diags J Res Nat Bur Stand 60:509-16 My '58
- Interchangeable h-f heating coil mounts, il Electronics 31:109 Je 20 '58
- Magnetic-core dividers for itv sync generators. A. Rose, il diags Electronics 31: 76-7 Ap 11 '58
- Pot-core construction for a Hall multiplier. D. J. Lloyd, il diag J Sci Instr 35:225-6 Je '58
- Production and use of high transient magnetic fields. H. P. Furth and others, bibliog il diags R Sci Instr 28:949-58 N '57
- Project hotshot; inductance coil for wind tunnel, il(back cover) diag Westinghouse Eng 18:96 My '58
- Proximity coils detect broken drills. M. Zajac, il diags Elec Manuf 62:130+ S '58
- Radio-frequency permeameter techniques for testing ferrite cores. A. L. Rasmussen and A. E. Hess, il diags Elec Manuf 61:86-91+ My '58
- Short cuts for d-c magnet coil designs; nomograms. R. E. Taggs, Elec Manuf 61: 119-22 Ja '58
- Super-thin bonded insulating films. W. K. W. Chen and W. E. Estey, diags Elec Manuf 62:84-9+ Ag '58
- Switching in rectangular loop ferrites containing air gaps. U. F. Glanola, il J Ap Phys 29:1122-4 J1 '58
- Voice coil actuates clutch or clutch-brake, il diags Product Eng 29:103-4 My 12 '58

See also

Induction coils

Radio coils

Solenoids

Manufacture

- Gears compute coil-winding data, il diag Product Eng 29:68 Ap 14 '58

Testing

- Proposed standards for core test methods for toroidal magnetic amplifier cores, bibliog diags Com & Electronics p524-31 S '58

ELECTRIC communication

- Communication and transport, il map Eng J 41:75-86 Ap '58
- Synchros; use, history, and description. H. Rosenberg, diags Machine Design 29:140+ N 28 '57

See also

Radio telegraph

Telegraph

Telephone

Teletype

Television

Costs

- Optimum information-acquisition systems. B. Harris and others, bibliog Op Res 6:516-29 J1 '58

ELECTRIC commutators. See Commutators

ELECTRIC conductivity

- Bilateral conductivity in power transistors. L. G. Maloff, diags Electronic Ind 17:82-4 J1 '58
- Conductive and resistive coatings. R. J. Phair, Product Eng 29:D8-10 Mid-S '58
- Conductivity and energy gap measurements of some relatives of phthalocyanine. W. Felmayer and I. Wolf, bibliog diags Electrochem Soc J 105:141-5 Mr '58
- Conductivity and sulfur activity in liquid copper sulfide. M. Bourgon and others, bibliog J Metals 9:Trans 1454-8 N '57
- Conductometric control of coagulant dosage in treatment plants. M. L. Granstrom and S. D. Shearer, il Am Water Works Assn J 50:410-16 Mr '58
- Cryogenic devices in logical circuitry and storage. J. W. Bremer, diags Elec Manuf 61:78-83 F '58
- Dynamic conductivity meter. M. R. Barber and A. G. Bogle, diags Electronic & Radio Eng 35:392-4 O '58
- Electrical conductivity of Ag-Hg. T. J. Neubert and G. M. Nichols, bibliog Am Chem Soc J 80:2619-23 Je 5 '58
- Electrical conductivity of chlorinated hydrocarbons. J. Hart and A. G. Mungall, bibliog diag Power Apparatus & Systems p 1295-301 F '58
- Electrical conductivity of fused sodium chloride-calcium chloride mixtures. J. B. Story and J. T. Clarke, bibliog diags J Metals 9: Trans 1449-54 N '57
- Electrical conductivity of PbO-B₂O₃ melts. W. C. Phelps, jr, and R. E. Grace, bibliog J Metals 9:Trans 1447-8 N '57
- Electrical conductivity of Plexiglas. R. J. Munck, bibliog J Ap Phys 28:1302-3 N '57
- Electrical conductivity of solutions of alkali metals in their molten halides. H. R. Bronstein and M. A. Bredig, bibliog diag Am Chem Soc J 80:2077-81 My 5 '58
- Electrically conductive chromate surface conversion coatings. R. Stricklen, il Elec Manuf 61:106-10 F '58
- Infra-red and microwave modulation using free carriers in semiconductors. A. F. Gibson, bibliog diags J Sci Instr 35:273-8 Ag '58
- Low-temp research yields hi-speed computer element; memory element uses superconductivity principles; Persistor. Machine Design 29:5-6 D 26 '57
- Low-temperature irradiation of n-type germanium. J. W. Cleland and J. H. Crawford, jr, bibliog J Ap Phys 29:149-51 F '58
- Measuring earth conductivity; an experimental comparison of radio and electrode methods. M. Strohfeldt, Electronic & Radio Eng 34:425-7 N '57
- Preventing conductivity fluctuations during growth of a semiconducting crystal. W. G. Pfann and others, J Ap Phys 29:1238-40 Ag '58
- Simple specimen holder and apparatus for measurement of conductivity and Hall voltage over a temperature range. A. A. Brooker and others, diags J Sci Instr 34: 512-13 D '57
- Superconductivity explained. J. Bardeen. Chem & Eng N 35:30 D 23 '57
- Use of complex conductivity in the representation of dielectric phenomena. F. A. Grant, diags J Ap Phys 29:76-80 Ja '58

ELECTRIC conductivity—Continued

Vacuum furnace for electrical conduction studies up to 2000C. W. E. Danforth and H. Blecher. *il* diags Franklin Inst J 265: 303-8 Ap '58

See also

Dielectrics
Electric conductors
Electric resistance
Electrolytes
Ettingshausen effect
Hall effect
Photoconductivity

ELECTRIC conductors

Aluminum in electrical engineering; symposium at the Institution of electrical engineers. *il* J Metals 10:46-8 Ja '58

Characteristics of twin conductor arrangements. E. T. B. Gross and L. R. Stensland. *bibliog il* diag Power Apparatus & Systems 7:21-5 O '58

Coaxial transmission lines; effect of elliptical inner conductor on high-frequency characteristics. S. Mahapatra. *bibliog diag Electronic & Radio Eng* 35:63-7 F '58

Common code problems; why service heads are installed above the drop. B. A. McDonald. *diags Elec Constr & Maint* 57:96-7 Mr '58

Conductive adhesive for electronic applications. T. J. Kilduff and A. A. Benderly. *bibliog il* Elec Manuf 61:148-52 Je '58

Conductor economics. E. S. McGione, Jr. *Wire & Wire Prod* 33:873-4+ Ag '58

Conductor size and spacing for printed circuits. L. N. Merson. *Electronics* 30:178+ D 1 '57

Conductor sizes for grounding equipment and for buses; engineering reference sheet. A. H. Thiermann, Jr. *Elec World* 149:70 Mr 10 '58

Conductors and insulators; electron energy levels in solids. *diags Wireless World* 64: 227-30 My '58

Equivalent diameter, inductance and reactance determined for stranded conductor; engineering reference sheet. R. C. De Weese. *Elec World* 150:64 J1 14 '58

Field strength near rectangular conductors; abstract. J. H. Miller. *Elec Eng* 77:814 S '58

Future circuit aspects of solid-state phenomena. E. W. Herold. *bibliog(26 ref) il(cover) diags Inst Radio Eng Proc* 45: 1463-74 N '57

Heavy tinned copper wire for electrical conductors. L. A. Kent and J. F. Mahon. *Wire & Wire Prod* 33:775+ J1 '58

Horizontal bundle spacers. R. J. Mather and A. R. Hard. *bibliog il* diags Power Apparatus & Systems p823-30; Discussion. 830-3 O '58

Multilayer conductor having low resistance at high frequencies. M. Sugl and K. Mural. *diags Elec Com* 34:332-6 D '57

Radio-influence characteristics of bundle and single conductors; 500-kv test project of the American gas and electric co. G. D. Lippert and others. *bibliog Power Apparatus & System p* 1302-8; Discussion. 1308-10 F '58

Transparent electrically conductive coating. E. R. Olson and E. H. Lougher. *bibliog Elec Manuf* 61:143-5+ Mr '58

Ultrasonic attenuation in superconductors. H. E. Bömmel and W. P. Mason. *il* diags Bell Lab Rec 36:253-6 J1 '58

Weld aluminum conductors by new method; Cadweld process. *il* Elec World 149:86 Mr 31 '58

Welded aluminum conductors in isolated phase bus. N. Sverdlow and K. N. Smith. *il* diags Power Apparatus & Systems p837-41; Discussion. 841-2 Je '58

Whiskers provide low-temp data. *il* Electronics 31:26 F 7 '58

See also

Aluminum—Electrotechnical uses
Busbars
Electric cables
Electric distribution
Electric transmission
Insulation (electric)
Semiconductors
Solenoids
Wave guides

Specifications

Electrical specifications; service entrances. *diag Elec Constr & Maint* 57:78-82 My '58

Testing

Current rating tests on double-angle section copper conductors. T. L. Richards. *Engineering* 184:823-4 D 27 '57

Short-circuit tests on bundle conductors. A. L. Malmstrom and others. *il* Elec Eng 77: 724-7 Ag '58

ELECTRIC conduits

Big dunking; 80 tons of conduit. *il* Eng N 161:25 Ag 28 '58

Cable installations on bridges. E. W. Scheirer and L. Winitzky. *il* diags Power Apparatus & Systems p83-42 Ap '58; *Excerptis. Elec Eng* 77:224 Mr '58

How Iowa Power & Light crossed railroad with long duct. Y. Goldberg and G. F. Walkup. *il* Elec World 148:66 D 30 '57

How to bend electrical conduit. W. Jacoby. *diags Plant Eng* 12:110-11 J1 '58

See also

Electric distribution
Electric wiring

Painting

Automatic spray painting of electrical conduit. E. H. Cocks. *il* Automation 5:69-72 Mr '58

ELECTRIC connectors

Combination connectors save space and ease installation. *il* Plant 17:56 F '58

Compression connectors approved for use on vertical risers. *diag Elec Constr & Maint* 57:114 F '58

Designs trends; solderless multi-lead connector; illustrations with text. *Electronics* 31:68+ Ja 31 '58

Electrical lead-in for pressure vessel. F. J. Edeskuty and R. H. Chrisman. *diag R Sci Instr* 29:173 F '58

Electrical penetrations to reactor chambers; Shippingport atomic power station. W. M. Hutchison. *diags Elec Constr & Maint* 57: 72-5 Ag '58

Electrical terminal connections; drawings with text. F. Strasser. *Product Eng* 28:1 10-11 Mid-O '57

Fittings ease field work; installation of inhibitors. R. L. Walker, Jr. *il* Elec World 149:85 F 17 '58

High-performance electrical connectors. *il* Engineer 206:344 Ag 29 '58

Improved multiple-contact connector. W. H. Walker. *il* diags Bell Lab Rec 36:69-71 F '58

Insulated vacuum lead-in using an O-ring. W. D. Edwards. *bibliog diag J Sci Instr* 35: 111-12 Mr '58

Lowly electrical connection. R. G. Roesch. *il* I S A J 5:49-51 Ap '58

Micarta saves on covering on aluminum leads. S. Cambias, Jr. *il* Elec World 148:84 D 9 '57

Storage battery connections. H. C. Jensen. *diag Am J Phys* 26:342 My '58

Sub-miniature plugs and sockets. *diags Wireless World* 64:163 Ap '58

Testing

Tests point to aluminum connector standards. F. E. Sanford and L. J. Fisher. *il* Elec World 149:38-40+ Mr 31 '58

ELECTRIC contactors

Twelve phenolic mouldings in contactor unit. *il* Brit Plastics 31:97 Mr '58

ELECTRIC contacts

Annual saving, \$5,500; mill spinning slub yarns installed tungsten carbide contacts. C. McAllister. *il* Textile Ind 122:177 O '58

Bonding materials for making contacts to p-type silicon. D. R. Mason and J. C. Sarace. *bibliog il* diag Electrochem Soc J 105:594-8 O '58

Design and selection of miniature sliding contacts. F. W. Wood, Jr. *il* diags Elec Manuf 61:145-7+ My '58

Effective method for securing electrical contacts to metal whiskers. H. H. Hobbs and E. P. Stillwell. *diags R Sci Instr* 29:653-4 J1 '58

Effects of electrode materials and surface preparation on CDS-metal contacts. R. A. Greiner and others. *J Ap Phys* 28:1358-9 N '57

Electrical contact research involves test methods and new theory. A. E. Rudahl. *Elec Manuf* 62:10 Ag '58

Electrical contact resistance of copper-copper junctions at low temperatures. R. L. Powell and A. A. Aboud. *diag R Sci Instr* 29:248-9 Mr '58

Electrical contact with thermo-compression bonds. H. Christensen. *il* diags Bell Lab Rec 36:127-30 Ap '58

Electrical contacts: Modern acoustics limited. *il* diags Engineering 184:807 D 27 '57

Electrical contacts to silicon carbide. R. N. Hall. *bibliog J Ap Phys* 29:914-17 Je '58

ELECTRIC contacts—Continued

- Examination of electric contacts by the plastic replica method. H. W. Hermance and T. F. Egan. *il diags Com & Electronics* p756-62 Ja '58
- How relay application factors affect selection of contact materials. Z. R. Smith. *il diags Machine Design* 30:129-33 Mr 6 '58
- Maximum contact life in a motor-starter construction. *il diags Machine Design* 30:91 Ag 7 '58
- Ohmic probe contacts to CdS crystals. Y. T. Sihvonen and D. R. Boyd. *il diags J Ap Phys* 29:1143-5 Ag '58
- Organic deposits on precious metal contacts. H. W. Hermance and T. F. Egan. *bibliog il diags Bell System Tech J* 37:739-76 My '58
- Organic vapor and relay contacts. L. H. Germer and J. L. Smith. *il Bell Lab Rec* 36:122-6 Ap '58
- Physical processes in contact erosion. L. H. Germer. *bibliog il diag J Ap Phys* 29:1067-82 JI '58
- Potentiometer tester: location and measurement of high-resistance contacts. S. Morleigh. *diags Wireless World* 64:450-2 S '58
- Preformed contacts for printed wiring. *il diag Electronics* 31:193-4 Mr 14 '58
- Superposition applied to mechanical rectifier contacts. L. K. Dortort. *il diags Applications & Ind p* 187-72 JI '58
- Using contact resistance to measure adsorption of gases on metals. P. Kisliuk. *bibliog diags Bell System Tech J* 37:925-49 JI '58

Testing

- Relay contact behavior under non-eroding circuit conditions. H. J. Keefer and R. H. Gumley. *bibliog il diags Bell System Tech J* 37:777-814 My '58

ELECTRIC contractors

- Estimating forum. R. Ashley. *Elec Constr & Maint* 57:98-9 Ja; 75 F; 91 Mr; 89 Ap; 80-1 Je; 88-9 JI '58

ELECTRIC control

- Application of static switching in the steel industry. D. L. Pierce. *il diags Iron & Steel Eng* 34:113-23; Discussion. 123-5 N '57
- Automatic charging control for no. three Fairless blast furnace. S. P. Curtis and others. *il plans diag Iron & Steel Eng* 35:73-84; Discussion. 84 JI '58
- Automatic gage control system for tandem cold mills. N. S. Walker and others. *il diags Iron & Steel Eng* 35:124-30; Discussion. 130-2 JI '58
- Automation's little giant: semiconductors. J. S. O'Flaherty. *il Mach* 64:117-20 Ja '58
- Basic electrical controls. J. C. Elder. *il diags Automation* 5:44-51 JI '58
- Combines high output with accurate mixing. L. Albertson. *il Elec World* 149:143 Ja 27 '58
- Conveyor controls. N. Peach. *diags Power* 102:116-17 JI '58
- Cypak control for wood chip chemical digester systems. W. A. Roth. *il diags Paper Ind* 40:366-9 S '58
- Drills form part of electrical control circuit in automatic machine. *il diag Machine Design* 30:117 Ag 21 '58
- Drives and controls: forum on technical progress. *Steel* 142:313-14+ Ja 6 '58
- Electric control of stage and television lighting. F. P. Bentham. *il diags Inst E E Proc* 105 pt A:123-38; Discussion. 138-40 Ap '58
- Electrical control enclosures that meet industry standards. F. L. Teuscher. *il Product Eng* 29:78-80 Je 23 '58
- Electrical control features of the Avon supercritical-pressure unit. R. G. Willett. *plan diags Power Apparatus & Systems* p263-75; Discussion. p276-8 Je '58
- Fail-safe electric control for air-powered cutter. *il diag Ap Hydraulics* 11:96-7 Je '58
- How transducers measure and control. R. K. Jurken. *bibliog il diags Electronics* 31:59-70 JI 4 '58
- Klin control goes automatic: Calaveras cement co. *il Chem & Eng N* 36:56-7 F 24 '58
- Modern developments of the Ward-Leonard principle and applications in steelworks. G. Owens and C. A. Dodd. *bibliog il diags Iron & Steel Inst J* 188:266-76 Mr '58; Discussion. 189:344-50 Ag '58
- Motor current as a process indication. C. Lawler-Wilson. *diags Instruments & Automation* 31:293-4 F '58
- Objectives and trends in feedback control systems progress; panel discussion. *Elec Eng* 77:58-63 Ja '58
- Permeameter controller for magnetic measurements. M. J. Swan. *diags J Sci Instr* 35:344-6 S '58

- Power transistors for control. H. L. Aronson. *diags Product Eng* 28:1 20-3 Mid-O '57
- Product quality, keynote of drive systems engineering. E. H. Browning and L. F. Stringer. *il diags Iron & Steel Eng* 34:114-23; Discussion. 123-4 D '57
- Proper installation and maintenance of electric control systems. J. W. Bauer, Jr. *il diags Iron & Steel Eng* 35:128-31 Ap '58
- Punched cards, answer to wiring woes. D. W. Melville. *il diags Product Eng* 29:58-60 Ja 20 '58
- Static control systems. *il Westinghouse Eng* 18:14-19 Ja '58
- Statistical design theory for sampled-data feedback control systems. S. S. L. Chang. *diag Elec Eng* 77:602-3 JI '58
- Stepping relays for automatic operations. V. E. James. *il diags Product Eng* 28:101-5 N 1 '57
- Switching reactors combine control logic and power switching; with case histories of applications. E. V. Wehr. *il diags Elec Manuf* 61:82-7+ Mr '58
- Synchronous speed drive. *il diag Automation* 5:85-8 Ja '58
- Transistors play a growing part in industrial control. W. E. Cronquist. *il diags Power* 102:106-9+ Mr '58

See also

- Carrier current control
- Cryotron
- Electric distribution
- Electric distribution—Supervisory control
- Electric plants (central stations)—Control equipment
- Electric switchinggear
- Electrohydraulic control
- Radio control
- Semiconductors—Control uses
- Servomechanisms
- Textile machinery—Electric control
- Thyratron
- Transistors—Control uses
- Vacuum tubes—Control uses
- Valves—Electric control
- Voltage regulation
also subdivision Control under special subjects, e.g.
- Airplanes
- Airplanes, Military
- Cars, Subway
- Electric generator sets
- Electric motors
- Electric motors, Alternating current
- Electric motors, Direct current
- Electric motors, Induction
- Electric precipitators
- Gas turbines
- Machine tools
- Magnetic instruments
- Pumping machinery, Electric
- Radio transmitters

ELECTRIC controllers

- Controller for phase-equilibrium studies. *il Elec Eng* 77:858 S '58
- How to select and apply general-purpose a-c motor controllers. G. B. Snider. *il Mill & Factory* 61:104-9 D '57

See also

- Electric motors—Control
- Electric motors, Induction—Control
- Rheostats
- Voltage regulators

Specifications

- Electrical specifications; motors, generators and controls *diags Elec Constr & Maint* 57:117-22 My '58

ELECTRIC converters

- Controlling large motors by mercury arcs. *diag Engineering* 185:701-2 My 30 '58
- Mercury-arc converters for large reversing drives. *il diags Engineer* 205:844-7 Je 6 '58
- Reversing rolling mill drives; use of mercury arc converters. *il diags Metallurgia* 57:309-11 Je '58
- Selecting vibrator and dynamo power supplies. R. C. Rodgers. *il Machine Design* 30:129-30 My 29 '58

See also

- Frequency changers
- ELECTRIC cooperative associations.** See Electric service, Rural—Cooperative lines
- ELECTRIC couplings.** See Couplings, Electric
- ELECTRIC current integrators.** See Integrators
- ELECTRIC current limiters**
- Current regulator to facilitate resistance measurements at low temperature. M. W. Thompson. *diag J Sci Instr* 34:515 D '57

ELECTRIC current limiters—Continued

Positive over-temperature protection with heat limiters for electrically heated appliances and equipments, J. G. Lebens, *diags Elec Manuf* 61:62-3+ Ja '58

ELECTRIC currents

Arc movement due to the magnetic field of current flowing in the electrodes, A. E. Guile and S. F. Mehta, *bibliog il diag Inst E. E. Proc* 104 pt A:533-40 D '57

Carrier generation and recombination in $p-n$ junctions and $p-n$ junction characteristics, C. T. Sah and others, *bibliog diags Inst Radio Eng Proc* 45:1228-43 S '57; Discussion J. A. Hoerni, 46:502 F '58

Considerations affecting the rise and decay of cathode currents in receiving tubes, E. R. Schrader, *RCA R* 19:109-27 Mr '58

Current-balancing reactors for semiconductor rectifiers, I. K. Dortort, *diags Com & Electronics* p452-6 S '58

Easier pile driving; tests show electric current eases pile-driving friction, *Eng N* 160: 72 Ap 17 '58

Evolution of the theory for the voltage-current characteristic of $p-n$ junctions, J. L. Moll, *bibliog diags Inst Radio Eng Proc* 46:1076-82 Je '58

Field modulation of liquid induced excess surface currents on germanium $p-n$ junctions, W. T. Erikson, *diags J Ap Phys* 29:730-3 Ap '58

Grid current in electron tubes, E. Fairstein, *R Sci Instr* 35:524-6 Je '58

Influence of electric current on tool wear, V. Solaja and H. L. Hughes, *il Research* 11:207-8 My '58

Measurement of current with a Pellat-type electrodynamicometer, R. L. Driscoll, *il diags J Res Nat Bur Stand* 60:287-96 Ap '58

Measurement of current with the National Bureau of standards current balance, R. L. Driscoll and R. D. Cukosky, *bibliog il diag J Res Nat Bur Stand* 60:297-305 Ap '58

Meter shows current drift from nominal, D. T. Geiser, *il diags Electronics* 30:192+ D 1 '57

Motor current as a process indication, C. Lawler-Wilson, *diags Instruments & Automation* 31:293-4 F '58

Motor shaft currents can be important, P. S. Null, *il diags Power* 101:146-7 D '57

Observed bunched electron current in a velocity-modulated beam, H. Maeda, *il diag Inst Radio Eng Proc* 46:1536-7 Ag '58

Radiation resulting from an impulsive current in a vertical antenna placed on a dielectric ground, C. L. Pekeris and Z. Alterman, *bibliog diag J Ap Phys* 28:1317-23 N '57

Simplified theory of one-carrier currents with field-dependent mobilities, M. J. Lampert, *bibliog diags J Ap Phys* 29:1082-90 Ji '58

Temperature rise vs current rise of etched wiring lines, R. P. Noble, *il diag Elec Manuf* 62:93-7 Ji '58

Toroid measures spot weld current, P. M. Zimmerman, *il diags Electronics* 30:132-3 D 1 '57

Two-dimensional current flow in junction transistors at high frequencies, R. L. Pritchard, *bibliog diags Inst Radio Eng Proc* 46:1152-60 Je '58

Use of scanning slits for obtaining the current distribution in electron beams, K. J. Harker, *bibliog diags J Ap Phys* 28:1354-7 N '57

Variation of junction transistor current amplification factor with emitter current, A. W. Matz, *bibliog Inst Radio Eng Proc* 46:616-17 Mr '58

See also

Earth currents

Eddy currents

Electric circuits

Electric conductivity

Electric conductors

Electric distribution

Electric measurements

Electric meters

Electric switchgear

Electric transformers

Electric transient phenomena

Ettingshausen effect

Hall effect

Potential, Electric

Short circuits

Stray currents

ELECTRIC currents, Alternating

Alternating current electrolysis of concentrated acids, R. Bentley and T. R. Prentice, *bibliog il J Ap Chem* 7:619-26 N '57

Effect of current cut-off and arc voltage on recovery voltage, C. Concordia, *diags Power Apparatus & Systems* p215-19; Discussion, R. C. Van Sickle and R. G. Colclaser, Jr. 219-20 Je '58

Operating man's guide to ac for deep mining; what it is, how it is used, D. Jackson, Jr. *diags Coal Age* 63:78-88 My '58

See also

Electric generators, Alternating current

Electric motors, Alternating current

ELECTRIC cutouts**See also**

Electric fuses

ELECTRIC cutting

Arc-air for beveling cuts milling time 75 per cent; manual job becomes automated; Baker Perkins, Inc. J. Fairlie, *il diag Welding Eng* 43:40-1 Je '58

Designer's guide to the electronic-machining processes, F. Twitchell and J. R. Zimmerman, *il diags Machine Design* 30:114-17 Je 26 '58

Electrical discharge and ultrasonics form hard-working team, *il Mach* 64:195 My '58

Electrode cutter and modified arc stand for spectrochemical analysis, J. McAndrew, *il J Sci Instr* 35:183-4 My '58

Industrial know-how handbook; electric arc machining, *il Mill & Factory* 62:MW22 My '58

Metal removal; Arcair torch, *Iron Age* 182: 195-8 S 11 '58

New ideas in spark-machining, J. D. Shoemaker, *il diag Mach* 64:147-50 N '57

New techniques of electromachining; abstract, C. P. Porterfield, *Tool Eng* 40:208-9+ F '58

1958 production preview; electrical discharge, ultrasonic, *il Am Mach* 102:129 Ja 27 '58

Principles and applications of spark machining, D. W. Rudorf, *bibliog diags Inst Mech Eng Proc* 171 no 14:495-505, pl 1-10; Discussion, 505-9; Reply, 510-11 '57

Sawing radio-active metals by the arc-process; abstract, F. Bevilacqua, *Metal Prog* 73:196+ Ap '58

ELECTRIC discharges

Apparatus for producing and measuring high-energy electrical discharges, W. E. Richeson, *bibliog il diags R Sci Instr* 29:99-104 F '58

Effect of dislocations on breakdown in silicon $p-n$ junctions, A. G. Chynoweth and G. L. Pearson, *bibliog il diags J Ap Phys* 29:1103-10 Ji '58

Effect of space charge on electric breakdown of sulfur hexafluoride in nonuniform fields, D. Berg and C. N. Works, *bibliog diags Power Apparatus & Systems* p820-3 Q '58

Electron multiplication processes in high-voltage electrical discharge in vacuum, A. I. Bennett, *diag J Ap Phys* 28:1251-3 N '57

Emission of light from electric discharges of microsecond durations in gases at atmospheric pressure, D. E. C. Thackeray, *bibliog il J Sci Instr* 35:206-12 Je '58

Four ways to avoid hazard of static discharge, F. W. Frecker and A. R. Cowal, *Elec World* 149:54-5 My '58

Glow discharge characteristics of fluorescent lamps, C. J. Bernier and W. C. Gungile, *il diag Illum Eng* 53:32-8; Discussion, 33-40 Ja '58

Glow-discharge electrolysis in aqueous solutions, A. R. Denaro and A. Hickling, *bibliog diag Electrochem Soc J* 105:265-70 My '58

Glow discharge trigger for shock wave studies, H. Harrison, *bibliog diag R Sci Instr* 29:175-6 F '58

Hollow-cathode glow discharge in mercury vapor, K. G. Herngvist, *bibliog il diags RCA R* 19:35-48 Mr '58

Ignition of electrolytic monopropellants by submerged electrical discharge, M. W. Evans and others, *il diag Jet Propulsion* 28:255-6 Ap '58

Lateral-current control mechanism for cold-cathode gas discharges, D. J. Belknap and L. R. Crump, *diags J Ap Phys* 29:737-8 Ap '58

Low pressure electric discharge detectors, R. C. Pitkethly, *bibliog diags Anal Chem* 30: 1309-14 Ag '58

Mechanism of cathaporetic segregation in inert gas glow discharges, L. B. Loeb, *bibliog J Ap Phys* 29:1369-71 S '58

Neutron generation from straight pinches produced in deuterium gas, R. E. Dunway and J. A. Phillips, *bibliog il diags J Ap Phys* 29:1137-43 Ag '58

New capacitor bank speeds shock research, *il Nucleonics* 16:116 Ap '58

ELECTRIC discharges—Continued

- Noise and electron temperatures of some cold cathode argon discharges. E. W. Collings. *bibliog J Ap Phys* 29:1215-19 Ag '58
- Production of high-velocity shocks. V. Josephson. *il diags J Ap Phys* 29:30-2 Ja '58
- Reactions of the high voltage discharge products of water vapor. P. J. Friel and K. A. Krieger. *bibliog diag Am Chem Soc J* 80: 4210-15 Ar 20 '58
- Slot discharge detector cuts repair costs. C. A. Duke. *diags Elec World* 149:50-1 Je 16 '58
- Stability studies with longitudinal magnetic field on a straight pinched discharge. L. C. Burkhardt and others. *bibliog il J Ap Phys* 29:964-7 Je '58
- Use of capacitor discharges to produce high temperature, high pressure aid. D. E. Blossom, jr. *bibliog il diag Jet Propulsion* 28: 609-14 S '58
- Use of capacitor discharges to produce high-velocity pellets. D. E. Blossom, jr. *il J Ap Phys* 29:1049-51 Ji '58

See also

- Corona (electricity)
Electric arc
Electric spark
Ionization, Gaseous
Lightning
Vacuum tubes

ELECTRIC distribution

- Bethlehem's designs for distributing ac power. D. Jackson, jr. *il plans diags Coal Age* 63:78-85 Ag '58
- Built-in raceway for book stack lighting; Morris Raphael Cohen library of City college of New York. *il diags Elec Constr & Maint* 57:76-9 F '58
- Cement plant power. A. C. Lordi. *il diags Pit & Quarry* 50:88-92+ Ja '58
- Changing pattern of electricity distribution. J. F. Wright. *Inst E E E Proc* 105 pt A:23-5 F '58
- Cites economies for T&D group. T. A. Battersworth and others. *Elec World* 149: 57+ Je 30 '58
- Common sense as applied to electrical distribution. J. Schneider. *diags Power Eng* 62:73-81 Ap '58
- Continuity is key to our electrical system modernization; United States rubber co. C. E. Blumenauer. *il diags Power* 102:82-4 My '58
- Designed for efficiency, convenience and comfort; Fireman's fund insurance co. building. *il diags Elec Constr & Maint* 57:82-8 Ap '58
- Diagonal design for electric systems. *il Elec Eng* 77:861 S '58
- Diagonal layout of underfloor raceway. *il Elec Constr & Maint* 57:135 O '58
- Distribution for shopping centers; special report. *il plans diags Elec World* 149:69-78 Ap 7 '58
- Distribution in a multi-building plant. W. W. Henderson. *il plan diags Elec Constr & Maint* 57:82-7 Mr '58
- Distribution; is higher voltage safe? R. H. Kaufman and others. *il diag Elec World* 149:11-4 Mr 3 '58
- Distribution spending up 6.8 per cent in '59; tables and charts. *Elec World* 150:104-5 S 22 '58
- Electrical distribution equipment in a ceramic plant. E. M. Cobb. *il diags Am Cer Soc Bul* 37:259-61 Je 15 '58
- Electrical distribution protection. N. Peach. *il diags Power* 102:73-104 Je '58 (reprints 75c)
- Electrical service for large buildings. O. R. Hamilton. *Elec Eng* 77:822-4 S '58
- Evaluation of distribution systems for medium-load-density commercial areas. G. L. Landgren. *bibliog diags Power Apparatus & Systems* p 128-35; Discussion. 135-7 Ap '58
- Evolution of a modernized power distribution system; Aircraft accessory turbine dept., General electric co. I. G. Block. *il Plant* 18:57-60 O '58
- Expandable 12-kv plant distribution for electrical facilities at Austenal, inc., investment-casting plant. D. Campbell. *il diags Elec Constr & Maint* 57:102-5 O '58
- High capacity secondary services; New York city's electrical code designed to insure safe installation. *diags Elec Constr & Maint* 57:82-5 F '58
- High-use homes; what distribution will they need? special report. *il plans diag Elec World* 149:61-72 Je 9 '58

- How Princess Elkhorn distributes ac power. *il map Coal Age* 63:116-17+ Mr '58
- How to untangle your electrical distribution. M. E. Gavin. *il plan Mill & Factory* 63: 81-4 Ji '58
- Industrial; new formulas for voltage drop. R. A. Erwin and others. *Elec World* 149: 82 Mr 3 '58
- Industrial supply poses problems. B. L. Lloyd. *diags Elec World* 148:63-5 N 11 '57
- Initial results with deionizers are inconclusive; EEL transmission and distribution committee meeting, Baltimore, Feb. 10-12. *Elec World* 149:66-7 Mr 17 '58
- Lay out a sound power to grow plan for multivoltage labs. J. Cammarata. *il Power* 102:106-8 Ag '58
- Load-center layout in a shopping center. J. Ownby. *il plans diags Elec Constr & Maint* 57:90-5 Ap '58
- Load center principle provides flexibility. G. R. Taft. *il diags Plant* 18:51-5 Ji '58
- Modern concept of a good electrical distribution system. G. R. Taft. *il Plant* 17:55-7 Je '58
- Modern high-voltage distribution; Automatic electric co. J. H. McVey and E. G. Ross. *il diags Elec Constr & Maint* 57:90-3 Ji '58
- Network changes bring savings. J. D. Jacobson. *Elec World* 150:62 Ji 28 '58
- Operation of the power system at Fairless works. G. A. Goetz. *il plans Iron & Steel Eng* 34:110-16; Discussion. 116-17 O '57
- Outlook for 1958; electrical construction, installation and maintenance activity. W. T. Stuart. *Elec Constr & Maint* 57:85-7 Ja '58
- Portable power systems for strip mines. L. E. Briscoe. *il diags Min Cong J* 43:30-5; Discussion. E. E. Rector. 35-7 N '57
- Power for fire alarm headquarters; Metairie, La. *il diags Elec Constr & Maint* 57:79-81 Ag '58
- Power layouts in steel mills. A. J. Mosso. *il diag Iron & Steel Eng* 35:111-19; Discussion. 119-22 F '58
- Power to grow electrically (cont.). *il Power* 102:100-2 F '58; 92-3 Ji; 106-8 Ag '58
- Primary planned for future, capacity permits 650 per cent expansion; Austenal co.'s new precision casting plant. *diag Plant Eng* 12:119 O '58
- Project has 13.2-kv distribution; Dallas's Exchange Park. G. M. Bostock and others. *il diag Elec World* 149:77-8 Mr 17 '58
- Quaker Oats revamping strives for safety and economy. W. H. Proescholdt. *il diag Elec World* 149:61-3+ Ja 13 '58
- Selection, design, and operation of 13.2/23 kv as a distribution voltage. N. H. Erlandson. *il Power Apparatus & Systems* p775-80; Discussion. 780-1 '58
- Selling a power distribution system. J. W. St. Andre. *il diags Plant Eng* 12:121-5 Je '58
- Service voltage needs research. A. S. Anderson. *Elec World* 149:46+ Je 30 '58
- Simple radials can be reliable and economic, if; electric distribution in automatic tube mill. E. J. Bartley and others. *il diag Elec World* 149:78-80 F 17 '58
- Ways to squeeze in more electric power; McGraw-Hill building. N. Peach. *il diags Power* 101:81-3 N '57
- Who'll serve servicemen's houses? *Elec World* 148:79 N 25 '57

See also

- Busbars
Electric cables
Electric circuit breakers
Electric conductors
Electric conduits
Electric currents
Electric fuses
Electric plants—Interconnection
Electric rectifiers
Electric service, Rural—Cooperative lines
Electric substations
Electric switchgear
Electric transformers
Electric transmission
Electric wiring
Synchronizing
Voltage regulation

Change over

- Economics of system conversion from 27.6- to 33-kv operation; with cost data. H. K. Amelin and others. *maps Power Apparatus & Systems* p 1507-13; Discussion. 1513-16 F '58
- Niagara change-over marks time. *Chem & Eng N* 36:26 Ja 13 '58

ELECTRIC distribution—Change over—Cont.
 remodeling underground distribution system for a state hospital, C. W. Baer, II plans diags Elec Constr & Maint 57:30-3 F '58
 20-year power to grow payoff; Penn State U ups 2.4 kv to 4.16 for distribution, II Power 102:100-2 F '58

Costs

Economics of subtransmission planning, D. N. Repp, diags Power Apparatus & Systems p277-85; Discussion, 285-9 Je '58
 Factors affecting the efficiency of the retail distribution of electricity, H. A. P. Caddell, Inst E E Proc 105 pt A:126-7 Ap '58
 For booming residential air-conditioning and heat-pump loads; single-phase service costs less, D. B. McBurney, diag Elec World 148:54-7 O 28 '57
 TVA cuts transmission outlay, kw-hr losses, M. DeMerit and K. E. Haggood, diag Elec World 148:66-70 My 26 '58

Grounding

Compendium grounding of techniques for personnel and equipment protection, H. E. Heddeshheimer, bibliog Elec Eng 76:1066-71 D '57; Same, Power Apparatus & Systems p 125-9 F '58; Abstract, Safety Maint 115:53 Ja '58; Discussion, Power Apparatus & Systems p 1229-30 S '58
 Conductor sizes for grounding equipment and for buses; engineering reference sheet, A. H. Thiermann, Jr, Elec World 149:70 Mr 10 '58
 Earth-electrode systems for large electric stations, J. D. Humphries, bibliog plans diags Inst E E Proc 104 pt A:383-92 O '57; Discussion, 102-9; 105 pt A:527-8 O '57, O '58
 Earthing of low- and medium-voltage distribution systems and equipment, F. Mather, map diags Inst E E Proc 105 pt A:97-106 Ap '58; Discussion, 105 pt A:106-11, 544-5 Ap, O '58
 Field studies of the surge response of a 345-kv transmission tower and ground wire, G. D. Erueer and others, bibliog II diags Power Apparatus & Systems p 1392-6 F '58
 Grounding chain-link fence and gate; engineering reference sheet, diag Elec World 149:34 Mr 24 '58
 Grounding electric applications, J. A. Hill, Elec Eng 77:279-80 Mr '58
 Grounding of power station 4,160-volt auxiliary systems, T. H. McGreer, diag Power Apparatus & Systems p 1459-63 F '58
 New rig speeds ground-rod driving, H. L. Allen, II Elec World 149:78-9 F 24 '58
 Safety in the chemical industry; safety in the use of electricity with particular reference to the chemical industry, S. J. Emerson, diags Chem & Ind p448-54 Ap 19 '58
 Standard basic impulse insulation levels, Elec Eng 77:727-9 Ag '58
 Voltage gradients through the ground under fault conditions; AIEE committee report, bibliog diags Power Apparatus & Systems p669-92 O '58

See also

Radio apparatus—Electric grounding
 Vacuum tubes—Electric grounding

Grounds and faults

Analysis of simultaneous line-to-ground faults; abstract, G. I. Stillman, diag Elec Eng 76:1053 D '57
 Calculate secondary bus faults with nomograph; engineering reference sheet, H. C. Van Horn, Elec World 150:60-1 J1 28 '58
 Electronic fault locator for overhead lines, G. Hitchcox and W. A. Neighbours, bibliog II diag Electronic Eng 30:34-7 Ja '58
 Ground-fault-location indicator, A. C. Lee, II diag Power Apparatus & Systems p 1370-2 F '58
 Ground-fault neutralizers used; generator-transformer unit scheme grounding, E. O. Erickson and M. T. Stantial, diags Elec World 149:50-1 Je 30 '58
 Line outages reported by radio, K. B. Crawford, II Elec World 150:53 S 15 '58
 Locate pipe-cable faults automatically, C. B. Bechtel, diag Elec World 150:55 S 15 '58
 Modernize substation grounding practice, J. E. Hoopes, diags Elec World 150:66-7 Ag 25 '58
 Relaying tapped substations for faults on high-voltage transmission lines, R. W. World and others, diags Power Apparatus & Systems p73-7 Ap '58; Excerpts, Elec Eng 77:621 J1 '58; Discussion, Power Apparatus & Systems p77-8 Ap '58

Severe rates of rise of recovery voltage associated with transmission line short circuits, W. F. Skeats and others, bibliog II diags Power Apparatus & Systems p 1256-64; Discussion, 1264-6 F '58

Transmission-system voltages under single and double line-to-ground fault conditions, R. W. Johnston, bibliog diags Power Apparatus & Systems p99-103 Ap '58
 Unit spots grounded electrical circuit, II Pet Refiner 30:177 J1 '58

Voltage gradients through the ground under fault conditions; AIEE committee report, bibliog diags Power Apparatus & Systems p669-92 O '58

See also
 Short circuits

Maps

System mapping is vital tool, S. E. Rystedt and R. C. Kieffer, maps Elec World 150:45-6+ S 15 '58

Network analyzers

College gets I-T-E analyzer; Lehigh university, II Elec World 149:104 My 19 '58
 Conjugate-impedance network analyzer operating at 50 c/s, W. Casson and A. W. Hales, diags Inst E E Proc 105 pt A:295-303 Je '58
 Industrials use a-c network board, C. C. Young and J. Dunki-Jacobs, II diag Elec World 150:88+ J1 21 '58
 Operation proves design of new load control system; Niagara Mohawk power corp.'s Western div, Elec World 149:72-3 F 8 '58
 Improving structural and operational complexity; full-scale network analyzer using transformer analogues, diags Engineering 186:93-4 J1 18 '58
 Simulation of the operational impedances of synchronous machines on network analyzers, C. Adamson and A. M. S. El-Serafi, bibliog II diags Power Apparatus & Systems p 1373-8; Discussion, 1378 F '58
 WINA network analyzer, II Engineer 205:770-1 My 23 '58

Specifications

Electrical specifications; feeders, diags Elec Constr & Maint 57:89-96 My '58

Stability

Digital computer calculates transient stability problems, G. W. Staggs and others, diags Elec World 150:49-50 S 1 '58
 Electric circuit theory approach to finite difference stability, W. J. Karplus, diags Chem & Electronics p210-13 My '58; Excerpts, Elec Eng 77:622 J1 '58
 Evaluation of system transient stability requires consideration of three criteria, B. L. Lloyd and C. A. Desalvo, diags Elec World 149:80-3 Mr 24 '58
 Experimenting with the grid system; stability studies use 45 mw generator, Engineering 185:404-5 Mr 28 '58
 Organization for large-scale grid system tests, F. H. Last and others, diag Inst E E Proc 105 pt A:363-6; Discussion, 366-73; Reply, 373-4 Ag '58
 Results of full-scale stability tests on the British 132kv grid system, F. Busemann and W. Casson, bibliog diags Inst E E Proc 105 pt A:347-62; Discussion, 366-73; Reply, 373-4 Ag '58
 Stabilizing ships' electrical supplies, II diags Engineering 186:5 J1 4 '58

Standards

Recommendations for electrical installations in ships, A. R. Gatewood, II Mag of Stand 29:64-9 Mr '58

Supervisory control

Centralized supervision of a 65-kilovolt power network in the Lorraine region of France, L. R. Gillon, II maps diags Elec Com 35 no 1:3-12 '58
 Grid control centres, II Engineer 205:859-60 Je '58
 Staggered control for the national Grid, II map diag Engineering 185:766-7 Je 13 '58

Tables, calculations, etc.

Digital computer calculates transient stability problems, G. W. Staggs and others, diags Elec World 150:49-50 S 1 '58
 Digital computer program saves in controlling voltage on feeders, H. K. Amchin and others, diags Elec World 150:48-52+ S 15 '58
 Digital computers for distribution systems, D. N. Repp, flow diag diags Elec Eng 77:708-13 Ag '58

ELECTRIC distribution—Tables, calculations, etc.—Continued

New approach to loss minimization in electric power systems. J. F. Calvert and T. W. See. *bibliog Power Apparatus & Systems* p 1439-46 F '58

System planners advised on getting most from computer; abstract. A. P. Fugill. *Elec World* 148:91 D 16 '57

ELECTRIC double layer

Adsorption isotherms from double layer capacity measurements. H. A. Laitinen and E. Moser. *bibliog Am Chem Soc J* 80:2363-6 Mj 20 '58

Components of charge and potential in the non-diffuse region of the electrical double layer: potassium iodide solutions in contact with mercury at 25°. D. C. Grahame. *bibliog Am Chem Soc J* 80:4201-10 Ag 20 '58

Structure of the double layer and electrode processes. M. Breiter and others. *bibliog diags Am Chem Soc J* 80:5111-17 O 5 '58

ELECTRIC driving

Centrifugal clutches for motor drives. *Product Eng* 28:E5-7 Mid-O '57

Comparison of drive-regulator basic types. A. R. Sween. *Elec Manuf* 62:126-8 Ag '58

Controlled acceleration devices. J. R. Eastman. *diags Product Eng* 29:75-80 Mr 3 '58

Design of a drive system for a rotating arm. H. E. Prucha. *diags Applications & Ind* p236-40: Discussion 240-1 S '58

Development of drives for wire drawing machines. M. A. Nye and R. C. Suttle. *diags Elec Manuf* 61:93-6+ Mr '58

Development of variable-speed high-power drives for large wind tunnels. P. McKearney and others. *bibliog diags Inst E E Proc* 105 pt A:185-94: Discussion. 228-32 J '58

D-c. winder drives using mercury-arc rectifier inverters. L. Abram and others. *bibliog diags Inst E E Proc* 105 pt A:77-93: Discussion. 89-94: Reply. 94-6 Ap '58

Drives and controls: forum on technical progress. *Steel* 142:313-14+ Ja 6 '58

Dual bridge drives for overhead traveling cranes. W. J. Tunny. *diags Iron & Steel Eng* 35:125-7 Ap '58

Electro-hydraulic speed and load division control for constant-speed air-turbine drives. P. Dantowitz and L. G. Norris. *diags Applications & Ind* p99-106 Mj '58

Greater flexibility for wire drawing. M. A. Nye and R. C. Suttle. *diags Iron & Steel Eng* 34:98-106: Discussion. 106-9 D '57

How to choose and use electrical adjustable-speed drives. E. H. Dinger and P. A. Herrman. *diags Am Mach* 102:97-104 J 14 '58

Mechanics of applying electric motors. W. R. Harris. *diags Machine Design* 29:109-15 N 28 '57

1958 equipment buyer's guide; plant equipment, communications, and drives. *diags Mod Materials Handling* 13:347-71 Mj '58

Packaged adjustable speed drives: Westinghouse electric corp. *diags Mill & Factory* 62: 129 Je '58

Rectiflow drives: semiconductor rectifiers. W. R. Harding. *diags Westinghouse Eng* 18: 120-2 J '58: Abstract. *Elec Manuf* 62:66 J 1 '58

Selecting and applying integral-horsepower motors. C. E. Robinson. *diags Machine Design* 30:134-40 J 24 '58

Synchronous speed drive. *diags Automation* 5:85-8 Ja '58

Transducer-controlled variable speed drive: Nevimar. *diags Engineer* 26:187-188 Mj '58

Variable-frequency power installation for large wind-tunnel drives. P. McKearney and others. *flow diag diags Inst E E Proc* 105 pt A:195-203: Discussion. 228-32 J '58

See also

Braking, Electric
Cranes, derricks, etc.—Electric equipment
Electric fans, Ventilating
Electric motors
Electric tools, Portable
Electricity in mining
Gearmotors
Machine tools—Electric driving
Mine hoisting, Electric
Pumping machinery, Electric
Ship propulsion, Electric

Conveying machinery

Why adjustable speed drives? production advantages pay for higher cost. J. W. O'Leary. *diags Plant Eng* 12:124-5 O '58

Paper and pulp mills

A.c. motor duty cycle. R. W. Foster. *bibliog Tappi* 41:425-9 Ag '58

Constant-tension calendar drive features inertia compensation. J. V. McLaughly. *diags Control Eng* 5:86-9 Je '58

Electric helper drives for Fourdrinier machines. S. J. Campbell. *diags Paper Ind* 40:36-7+ S '58

Location and causes of motor failure; drive components. E. F. Greiwe. *diags Tappi* 41: sup 171A-8A F '58

New differential drives for existing paper machines. J. N. Buck. *Tappi* 41:sup44A+ J '58

Supercalender drive; Champion-International co. *Tappi* 40:sup 147A D '57

Power plant auxiliaries**See also**

Steam plants—Auxiliaries

Rolling mills

Analysis of ignitron rectifiers for reversing-mill drives. C. G. Hagensick and E. J. Cham. *bibliog diags Applications & Ind* p259-68: Discussion. 268-70: Reply. 270 S '58

Automated tube mill uses standard drives. *diags Iron Age* 180:153-5 N 7 '57

Controlling large motors by mercury arcs. *diags Engineering* 185:701-2 Mj 30 '58

D-c mill motor standards. *diags Iron & Steel Eng* 34:141-4 N '57

Electric motor drives three hundred horsepower and over; applied to rolling mills in the iron and steel and allied industries during 1957; tables. *Iron & Steel Eng* 35:186-7 Ja '58

Electrical drive system for a high speed combination rod mill. A. F. Kenyon and H. J. Oakes. *diags Iron & Steel Eng* 35:123-35: Discussion. 135-6 Mr '58

Mercury-arc converters for large reversing drives. *diags Engineer* 205:844-7 Je 6 '58

Mill drive motor line incorporates advanced features. *diags Iron & Steel Eng* 35:207-8 S '58

Modern developments of the Ward-Leonard principle and applications in steelworks. G. Owens and C. A. Dodd. *bibliog diags Iron & Steel Inst J* 188:266-76 Mr '58: Discussion. 189:344-50 Ag '58

New seamless tube mill uses almost 600 double-enveloping gear reducers. *diags Iron & Steel Eng* 34:186+ N '57

Product quality, keynote of drive systems engineering. E. H. Browning and L. F. Stringer. *diags Iron & Steel Eng* 34:114-23: Discussion. 123-4 D '57

Recent developments in slabbing mills. H. J. Kaiberkamp. *diags Iron & Steel Eng* 35: 73-80: Discussion. 80-1 F '58

Reversing rolling mill drives; use of mercury arc converters. *diags Metallurgia* 57:309-11 Je '58

Rolling mill drives. *diags Metallurgia* 57:189-92 Ap '58

Selection of electrical equipment for temper and skin pass mills. J. E. Peebles and others. *diags Iron & Steel Eng* 35: 115-28 S '58

Trends in electrification and automation of iron and steel processes. W. E. Miller. *diags Iron & Steel Eng* 34:83-94 O '57

Textile mills

A-c group drives for modern textile machines. C. G. Helmick. *diags Elec Eng* 77:498-500 Je '58

Consider these points to select a slasher drive. *Textile World* 108:79+ Ap '58

How to start and maintain range drives. C. L. Griffin, Jr. *diags Textile World* 108:56-7 S '58

Modern adjustable-speed drives for textile machinery; abstract. A. T. Bachelor. *Machine Design* 29:178 N 14 '57

Reluctance motors for adjustable frequency drives. C. G. Helmick and A. T. Bachelor. *diags Westinghouse Eng* 16:118-22 J '56: Same. *Product Eng* 28:H22-5 Mid-O '57: Same abr. *Machine Design* 28:142-4+ O 18 '56

What about high temperature motors? G. B. Dunn, Jr. *diags Textile Ind* 122:79-80 J '58

ELECTRIC engineering

Annual engineering review, 1957. *diags Westinghouse Eng* 18:1-32 Ja '58

CIGRE reports European power systems will be expanded at 380 kv. C. R. Earle. *diags maps diags Power Eng* 62:supC 1-12 Ag '58

Deep electrolytic tank for the solution of 2- and 3-dimensional field problems in engineering. E. R. Hartill and others. *bibliog diags Inst E E Proc* 104 pt A:401-11: Discussion. 411-13 O '57

ELECTRIC engineering—Continued

Electrical engineering in 1957. *Il* Engineer 205: 19-22, 52-5 Ja 3-10 '58

Electrical engineer's world, 1957. S. B. Ingram. *Il* Elec Eng 77:181-4 F '58

Engineering developments; photographic record of some of the important electrical engineering achievements of the year, 1957. *Elec Eng* 77:2-21 Ja '58

Engineering progress, 1957. *Il* Elec Eng 77:1, 22-35 Ja '58

Importance of balance to the electrical engineer. A. J. Coveney. *Inst E E Proc* 105 pt A:30-2 F '58

National science foundation: its role in electrical engineering research. G. M. Nordby and R. N. Faiman. *Elec Eng* 77:782-5 S '58

Research and engineering progress, 1957. *Il* diag Gen Elec R 61:8-55 Ja '58

See also

Electric apparatus and appliances

Electric contractors

Electric distribution

Electric driving

Electric heating

Electric machinery

Electric measurements

Electric motors

Electric transmission

Electric wiring

Electricity in mining

International conference on large high tension electric systems

International electrotechnical commission

Radio engineering

Railroads—Electrification

Rolling mills—Electric equipment

Steel works—Electric equipment

Telephone

Watt hour meters

Bibliography

Book reviews. Published in monthly numbers of Electrical manufacturing

New books received at Engineering societies library. Published in monthly numbers of Electrical engineering

History

Delete John Wood! R. A. Chipman. *Elec Eng* 77:694-5 Ag '58

Safety measures**See also**

National electrical code

Study and teaching

Columbia tells upgrading plan. *Electronics* 31:12+ F 28 '58

Development of an electrical machines teaching laboratory; abstract. A. J. Small. *Inst E E Proc* 105 pt A:37-8 F '58

Electrical engineering education and research in the USSR. P. A. Abetti and G. F. Links. *Bibliog Il* Elec Eng 77:384-90, 479-84 My-Je '58

Electrical engineering schools update curricula. *Electronics* Bsns ed 30:23 N 10 '57

Industry viewpoints on educating electrical engineers. W. S. Hill. *Elec Eng* 77:544-6 Je '58

Introducing young engineers to the appreciation of magnetic amplifier problems. L. A. Finzi. *bibliog* diag Com & Electronics p 119-26 Mr '58

Naval electrical branch. *Engineer* 206:495 S 26 '58

Not without honour, a contemplation of university, college of technology and student members. L. G. A. Simms. *Inst E E Proc* 105 pt B:19-20 Ja '58

Scottish engineers and the Scottish electrical training scheme. E. O. Taylor. *Inst E E Proc* 105 pt B:14-16 Ja '58

Training technicians in the U.S.A.: pattern of radio and electronics education in America. J. Gray. *Wireless World* 64:55-6 F '58

Transients and crises; essay on common sense. W. L. Everitt. *Elec Eng* 76:1097-100 D '57

Tables, calculations, etc.

Accurate determination of capacitance by conjoining analytical and analog techniques. J. D. Horgan and J. A. Pesavento. *bibliog* diag Com & Electronics p397-400 JI '58; Abstract. *Elec Eng* 77:513 Je '58

Analog and digital computers in the French electric power production, transmission, and distribution industry. F. M. Cahen and J. M. Carteron. *bibliog* Power Apparatus & Systems p 1533-6; Discussion. P. A. Abetti and S. B. Williams. 1536-8 F '58

Analysis of a servomechanism with backlash by the Ritz-Galerkin method. K. Ogata and C. P. Atkinson. *bibliog* diag Applications & Ind p82-4; Discussion. 84-5 My '58

Arizona computer study goes into second year. *Il* Elec World 149:76-7 F 17 '58

Block-diagram method of analysis applied to the saturable reactor. R. M. Hubbard. *diag* Com & Electronics p57-64; Discussion. 65 Mr '58

Calculate secondary bus faults with nomograph; engineering reference sheet. H. C. Van Horn. *Elec World* 150:60-1 JI 28 '58

Certain applications of matrices to circuit theory. L. A. Pipes. *bibliog* diag Com & Electronics p251-6 My '58

Comparison of resistor capacitor sweep and ideal sawtooth. D. Moffat. *diag* Electronic Ind 17:64-6 S '58

Computer analysis of transmission system capability during generator outages. H. B. Seeley and others. *diag* Power Apparatus & Systems p290-4 Je '58

Computer analyzes voltage-regulator performance. H. L. Prescott. *Il* diag Westinghouse Eng 18:76-9 My '58; Abstract. *Elec World* 149:56-7 My '58

Computer data swap urged. J. K. Dillard. *Elec World* 150:48 S 29 '58

Economic choice of generator unit size. L. K. Kirchmayer and A. G. Mellor. *diag* A S M E Trans 80:1015-23; Discussion. 1023-6 JI '58

Electric circuit theory approach to finite difference stability. W. J. Karplus. *diag* Com & Electronics p120-13 My '58; Excerpts. *Elec Eng* 77:822 JI '58

Engineering applications of boolean algebra. B. Belzer and S. W. Leibholz. *diag* Elec Manuf 61:129-38 My; 98-108+ Je; 62:100-9 JI; 108-17+ Ag; 67-79+ S '58 (reprints \$2)

Find voltage rise provided by capacitors; engineering reference sheet. D. E. Haasch. *Elec World* 149:13 Ja 27 '58

Functional characteristics of a node determinant. R. E. Bonner and others. *diag* Franklin Inst J 265:395-406 My '58

Generalization of the calculus of finite differences to nonuniformly spaced variables. G. Kron. *bibliog* diag Com & Electronics p539-44 S '58

Here are the ABC's of digital computer programming. F. J. Maginniss. *flow diag* Elec World 149:54-7 Ja 13 '58

How to calculate the performance of a drag cup tachometers. T. N. Feng. *Control Eng* 5:90-2 Je '58

How to compute a room's heating needs in three minutes; engineering reference sheet. J. E. C. Thomas. *plan* Elec World 148:108-9 D 16 '57

Lagrange equations in electrical networks. F. L. Ryder. *diag* Franklin Inst J 266:27-38 JI '58

Method of scaling and checking computer circuits. L. J. Lane. *diag* Applications & Ind p67-70 My '58

Minimization of components in electronic switching circuits. T. J. Beatson. *bibliog* diag Com & Electronics p283-91; Discussion. 291 JI '58

Numerical evaluation of expressions involving complete elliptic integrals. W. Grover. *bibliog* Com & Electronics p496-502 S '58

Numerical-graphical method for synthesizing switching circuits. A. H. Scheltnman. *diag* Com & Electronics p687-9 Ja '58

Obtaining the frequency response characteristics of a nonlinear servomechanism from an amplitude and frequency-sensitive describing function. W. A. Stein and G. J. Thaler. *bibliog* diag Applications & Ind p91-5 My '58; Abstract. *Elec Eng* 77:689 Ag '58; Discussion. Applications & Ind p96 My '58

Power factor related with corrective capacitor. L. B. Stein, Jr. *Elec World* 150:54 Ag 11 '58

Rapidly converging digital load flow. R. H. Jordan. *diag* Power Apparatus & Systems p 1439-3 F '58

Short cuts for d-c magnet coil designs; nomograms. R. R. Tawks. *Elec Manuf* 61: 119-22 Ja '58

Solving thermistor problems. R. S. Godyear. *diag* Electronic Ind 17:51-5+ JI '58

Some aspects of the network analysis of sequence transducers. J. M. Simon. *diag* Franklin Inst J 265:439-50 Je '58

ELECTRIC engineering—Tables, calculations, etc.—*Continued*

Some practical mathematical techniques. G. K. Carter. *bibliog Com & Electronics* p295-302 J1 '58

Survey of the use of non-Euclidean geometry in electrical engineering. E. F. Bolinder. *diags Franklin Inst J* 265:169-86 *bibliog*(59 titles, p 184-6) Mr '58

Unstable linear systems and the minimum phase condition. P. E. Pfeiffer. *diags Franklin Inst J* 265:291-301 Ap '58

Use of a digital computer in a generator reserve requirement study. H. E. Brown. *flow diags Com & Electronics* p82-5 Mr '58

Use of phase space in transient-stability studies. S. T. Bow and J. E. Van Ness. *bibliog diags Applications & Ind p* 187-91 S '58; *Abstract. Elec Eng* 77:601 J1 '58

Wisconsin integrally synchronized at work on Wisconsin campus. *Elec Eng* 77:250 Mr '58

Terminology

New definitions reflect changing technology. C. L. Dawes. *il Mag of Stand* 29:8-13 Ja '58

See also

Relays—Terminology

Scotland

Scottish engineers and the Scottish electrical training scheme. E. O. Taylor. *Inst E E Proc* 105 pt B:14-16 Ja '58

ELECTRIC engineers

Awards get a new look. *Electronics Enns ed* 30:16 N 20 '57

EE grads to increase 20 per cent. *Electronics* 31:18 F 7 '58

Electrical engineer in the petroleum industry. J. M. Crothers. *Elec Eng* 77:45-8 Ja '58

Electrical engineer's world, 1957. S. B. Ingram. *il Elec Eng* 77:181-4 F '58

Electronic engineering positions with the U.S. government. maps *Electronic Ind* 17:453-6 Je '58

Meters and meter engineers. H. S. Petch. *diags Inst E E Proc* 105 pt A:15-19 F '58

New electrical engineer looks at industry. M. S. Oldacre and others. *Electronic Ind & Tele-Tech* 16:108-9+ N '57

Specialization in education and industry; abstract. E. Roscoe. *Inst E E Proc* 105 pt A:33 F '58

Tomorrow's engineer shortage; what the utilities are doing about it today. *Elec World* 149:50-3 Ja 13 '58

See also

American institute of electrical engineers

Black, Harold S.

Coover, Mervin S.

Illuminating engineering society

Kilgore, Lee A.

Quarles, Donald A.

Robertson, Elgin E.

ELECTRIC equipment

Design digest issue: electrical and electronic components. *il diags Product Eng* 28:1 1-94 Mid-O '57

Design digest issue: electrical and electronic components. *diags Product Eng* 29:1 1-60 Mid-S '58

Electronic and electric power supplies. *il diag Machine Design* 30:100-1 My 29 '58

Epoxide resins in electrical components. *il Brit Plastics* 31:390-1 S '58

Mechanical engineering critique. W. J. McGuinness. Published in monthly numbers of *Progressive architecture*

Metalworking, 1962: electrical equipment. E. J. Loeffler. *diag Am Mach* 101:140 N 18 '57

1958 production preview: parts and materials. *il Am Mach* 102:250-3 Ja 27 '58

Outlook for 1958: electrical construction, installation and maintenance activity. W. T. Stuart. *Elec Constr & Maint* 57:85-7 Ja '58

Product news. Published in monthly numbers of *Electrical construction and maintenance*

Research and engineering progress, 1957: industry. *il diag Gen Elec R* 61:20-6 Ja '58

Transistorized-bushing potential device. R. L. Stauffer and E. O. Shepard. *il diags Power Apparatus & Systems* p410-16 Je '58

See also

Electric apparatus and appliances

Electric control

Electric distribution

Electric driving

Electric heating elements

Electric switchgear

Electric transmission

Electricity in mining

Electricity on the farm

also subdivision Electric equipment under special subjects, e.g.

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Atomic power plants

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Chemical plants

Coal mines and mining

College buildings

Cranes, derricks, etc.

Dairies

Electric plants (central stations)

Engineering laboratories

Exhibition buildings

Factories

Food factories

Foundries

Guided missiles

Hospitals

Insurance company buildings

Iron works

Metal working plants

Office buildings

Office buildings, Government

Paper and pulp mills

Petroleum refineries

Potteries

Publishing buildings

Pumping stations

Quarries and quarrying

Railroads

Rock products plants

Rolling mills

Rubber factories

Ships

Shopping centers

Shoveling machines

Soap factories

Steel works

Television studios

Textile mills

Cooling

Equipment cooling techniques for supersonic aircraft. G. L. Roth. *bibliog diags Aero/Space Eng* 17:40-4 Ag '58

Maintenance and repair

Locate tube leaks with unit operating; Virginia electric & power co. D. M. Tatem. *il Elec World* 149:102 Je 23 '58

Plant electrical fact file (cont). N. Peach. *diags Power* 102:126-7 F; 150-1 Mr; 128-9 Ap; 120-1 My; 124-5 Je; 116-17 J1; 126-7 Ag; 116-17 S '58

Prevent electrical failures; it pays its own way. L. E. Johnston. *il Iron Age* 180:137-9 D 19 '57

Trouble-shooting on electrical equipment. Mill & Factory 62:E35-42 My '58

Protection

Fire protection of electrical equipment. H. M. Hills. *il Plant* 17:36-8 Ap '58

How to protect pipeline stations against lightning and power-line switching. E. B. Turner. *il diags Oil & Gas J* 56:103+ Ja 13 '58

Lightning protection of equipment with remotely mounted lightning arresters. A. H. Knable. *diags Power Apparatus & Systems* p79-86; Discussion, 88-8; Reply, 88-9 Ap '58

Terminals for sealed applications. R. F. Squires. *diags Product Eng* 28:1 12-13 Mid-O '57

Safety measures

Electrical safety in the chemical industry; abstract. E. J. Meyers. *Safety Maint* 115:32-3 Mr '58

Electrical system for hazardous atmospheres. *Ind Chem* 34:448 Ag '58

Explosion-proof electrical systems. R. P. Northrup. *il Pet Refiner* 37:159-62 Ja '58

How to make electricity dangerous. R. Beach. *il Safety Maint* 114:22-4 D '57

How we maintain electrical safety in hazardous areas. A. P. Ostl. *il Power* 102:124-5 F '58

Industrial safety must be planned carefully. H. E. Springer. *il Elec World* 148:32-4 D 16 '57

Keeping up with recent electrical developments; illustrations with text. *Safety Maint* 115:58-62 Ja '58

Review of explosion-proof and permissible electrical equipment. G. M. Kintz and H. F. Browne. *Gas Age* 121:18-19+ Mr 20 '58

ELECTRIC equipment—Safety measures—Cont. 16 steps to safety in electronics. G. A. Endrich. diags Safety Maint 114:14-18 N '57

See also

Insulation (electric)

Specifications

Electrical specifications. diags Elec Constr & Maint 57:73-136+ My '58

Standards

See also

Electric standards

Testing

Automatic testing saves a lot of time; Air-Arm div. of Westinghouse electric corp. il Mill & Factory 61:112-13 N '57

Military standard test methods for components. Instruments & Automation 31:1210-11 JI '58

Testing electrical actuators. il Engineering 134:618 N '57

Versatile testboard speeds electrical maintenance. Calumet & Hecla's Wolverine tube div. il Plant 17:60 Je '58

ELECTRIC fans

Modified housings shorten fan outages. R. White. il Elec World 150:76 S '58

Maintenance and repair

Portable monorail eases rotor replacement. G. R. Townsend. il Elec World 150:54 S 15 '58

ELECTRIC fans, Ventilating

Centrifugal ventilating fans. il Engineer 205: 899 Je 13 '58

Features of axial flow fans. A. N. Rogers. il diags Air Cond Heat & Ven 55:45-8 Ja '58

Good installation and maintenance practices for centrifugal fans and unit fans. R. G. Lubinsky. il diags Air Cond Heat & Ven 54:33-8 N '57

Selecting motors for fans and centrifugal pumps; nomogram. C. G. Veinott. Product Eng 28:H8-9 Mid-O '57

Train your fan with transistors. J. A. McRoberts. il diags Radio-Electronics 29:62-4 My '58

Installation

Engineering factors in fan installations. J. B. Graham. il diags A M A Archives Ind Health 17:505-10 My '58

Noise

Controlling ventilation noises; method and work sheet for predicting and reducing fan noise. Air Cond Heat & Ven 55:83-94 Je '58

Fan noise variation with changing fan operation. R. D. Madison and J. B. Graham. bibliog Heating-Piping 30:207-14 Ja '58

Investigating fan noise; Keith Blackman acoustics laboratory. il Engineering 184: 696 N 29 '57

Laboratory for study of fan acoustics. Engineer 204:680 N 8 '57

New method simplifies predicting noise levels. R. A. Gerlitz. Heating-Piping 30:122-6 Ap '58

Suppression of ventilating noise. M. J. Kodaras. il plans diags Noise Control 4:42-6 Mr '58

Testing

University lab certifies ratings of air moving equipment. il Ind Lab 9:47 F '58

ELECTRIC fences. See Fences, Electrified

ELECTRIC field

Beam noise in crossed electric and magnetic fields. R. P. Little and others. diags J Ap Phys 29:1376-7 S '58

Deep electrolytic tank for the solution of 2- and 3-dimensional field problems in engineering. E. R. Hartill and others. bibliog il diags Inst E E Proc 104 pt A:401-11; Discussion. 411-13 O '57

Determination of the electrodes required to produce a given electric field distribution along a prescribed curve. P. T. Kirstein. bibliog diags Inst Radio Eng Proc 46:1716-22 O '58

Electric sweeping field in a diffusion cloud chamber. N. D'Angelo. R Sci Instr 29:433-4 My '58

Electrical treating of refinery distillates. R. W. Stenzel. flow diag Pet Eng 29:C 15-17 D '57

Electroluminescence and field effects in phosphors. H. F. Ivey. bibliog(81 ref) diags Electrochem Soc J 104:740-8 D '57

Electron emission in moderate accelerating fields; Schottky effect. D. W. Juenker. bibliog(31 ref) diags J Ap Phys 28:1398-405 D '57

Field modulation of liquid induced excess surface currents on germanium p - n junctions. W. T. Eriksen. diags J Ap Phys 29: 730-3 Ap '58

Field of a linear electrostatic multipole. L. J. Laslett. diags Am J Phys 26:402-3 S '58

Liquid dielectrics in an electric field. W. H. Middendorf and G. H. Brown. bibliog diags Power Apparatus & Systems p795-9 O '58

Simplified theory of one-carrier currents with field-dependent mobilities. M. A. Lampert. bibliog diags J Ap Phys 29:1082-90 JI '58

Some effects of nonuniform fields on dielectrics. H. A. Pohl. bibliog il(cover) diags J Ap Phys 29:1182-3 Ag '58

Some possible biological effects of an electric field acting on nucleic acids or proteins. T. L. Hill. bibliog Am Chem Soc J 80:2142-7 My 5 '58

Velocity filter for nuclear spectroscopy: crossed magnetic and electric fields. L. H. T. Rietjens and others. diags R Sci Instr 29:763-9 S '58

See also

Electromagnetic field

Stark effect

ELECTRIC filters

Power separation filter for corona testing. N. P. Sheps. il diags A S T M Bul p30-1 My '58

See also

Radio filters

ELECTRIC fires

Age and the incidence of fires in electrical installations. L. Gosland. Inst E E Proc 103 pt A:271-80 Je '58; Discussion. 103 pt A:280-4; 105 pt A:73-6 Je '56, Ap '58

Electricity and fires. W. G. Labes. Safety Maint 114:58 N '57

Insulation breakdown leads to fire; Bermuda electric light co. lkd. G. H. Skeiton. il Safety Maint 115:57 Ja '58

ELECTRIC fish screens.

See Fish protection

ELECTRIC flashlights

Single pushbutton operates combination pen and flashlight. il diags Machine Design 30: 120 Je 26 '58

ELECTRIC furnaces

Metallic heating element materials for high temperature furnaces. R. Kieffer and F. Benesovsky. bibliog il diags Metallurgia 58: 119-24 S '58

New radiant tube furnaces for processing in galvanizing and patenting lines. W. D. Sawdon. il diags Wire & Wire Prod 33:385-7+ Ao '58

See also

Electric heaters

Control

Automatic temperature programming and recording for a platinum-rhodium furnace. J. M. Cutter and R. Derry. diag J Sci Instr 35:26-7 Ja '58

Electrodes

Graphite-electrode salt-bath furnaces. il Engineering 185:167 F 7 '58

Manufacture

Welder trims furnace cost; electric furnace parts. il Steel 143:100 29 '58

ELECTRIC furnaces, Annealing

Annealing motor laminations. il Metallurgia 54:287-8 D '56; Abstract. Metal Prog 73: 154-4 Mr '58

Annealing motor vehicle forgings. il Metallurgia 58:243-4 N '57

Furnace provides flexible treatment; General Electric's small a-c motor and generator dept. il Iron Age 180:190-1 N 14 '57

Atmosphere control

Fast annealing of sheet-strip coils with helium injection. J. D. Keller. diags Iron & Steel Eng 35:109-13; Discussion. 113-15 Ap '58

ELECTRIC furnaces, Heat treating

Car-bottom furnace cuts stress-relief costs; Superior combustion industries. il Elec World 149:78 Ja 20 '58

Metallurgy of tempering and annealing in fractional minutes. R. K. Wuertel. il Metal Prog 73:93-6 Ap '58

See also

Electric furnaces, Annealing

Electric furnaces, Steel making

ELECTRIC furnaces, Heat treating—Continued**Atmosphere control**

- How to get more from a spheroidizing furnace; Ohio seamless tube div. Copperweld steel co. W. B. Leyda and W. J. Assel. *Il diag Steel* 141:208-10 D 9 '57
- Hydrogen bell furnace for heat treating. *Il Engineering* 185:452 Ap 11 '58

Vacuum furnaces

- High-temperature furnace speeds vacuum heat treat. *Il Iron Age* 182:58-9 J1 31 '58
- Vacuum heat treating of exotic metals solves missile problems. *Am Mach* 102:86 J1 14 '58

ELECTRIC furnaces, Laboratory

- Carbon arc image furnaces; optical systems. M. R. Null and W. W. Lozier. *bibliog il diags R Sci Instr* 29:163-70 F '58
- Combined liquid nitrogen cryostat, furnace and liquid helium bath. M. J. Stubbs and M. W. Thompson. *diag J Sci Instr* 35:68-9 F '58
- For higher purity metals; electron bombardment melting. *il Chem & Eng N* 36:51-2 F 10 '58
- Furnace for the growth of naphthalene and anthracene crystals. F. R. Lipsett. *diag R Sci Instr* 29:423-4 My '58
- Graphite resistance furnace for physico-chemical studies up to 2200°C. J. D. Mackenzie and J. O. Bockris. *diags J Sci Instr* 35:109-10 Mr '58
- High-vacuum temperature-gradient furnace. L. Marton and J. A. Suddeth. *diags R Sci Instr* 29:440-1 My '58
- Laboratory arc furnace. *il Metallurgia* 57:163-4 Mr '58
- Laboratory electron bombardment furnace. P. G. England and H. N. Jones. *diags J Sci Instr* 35:66-8 F '58
- Oxidizing atmosphere furnace for use with an X-ray diffractometer. S. W. Kennedy and L. D. Calvert. *diags J Sci Instr* 35:61-2 F '58
- Southwest research institute builds high thermal flux unit. *il Chem & Eng N* 35:68 D 9 '57
- Stanford research institute studies ignition with arc-image furnace. *il Ind Lab* 9:19 My '58
- Use big tubes as furnaces; two experimental methods; electronic bombardment, field floating. J. M. Dick. *il diag Electronics* 31:22-3 Ja 10 '58

ELECTRIC furnaces, Metallurgical

- New titanium melting plant. *il Ind Chem* 34:243 My '58
- Producing titanium ingots. *il Engineering* 185:574 My 2 '58
- Titanium melting plant; Kynoch works of I.C.I. *il Engineer* 205:865 Je 6 '58

See also

- Electric furnaces, Steel making
- Electric furnaces, Vacuum melting

ELECTRIC furnaces, Non-ferrous melting

- Copper melting arc furnace starts up. *il Steel* 142:100-1 F 10 '58
- Measurement of magnetic fields in aluminum reduction furnaces. J. H. Kent. *bibliog il diags Electrochem Soc J* 105:603-7 O '58

ELECTRIC furnaces, Steel making

- Avoiding frequent high voltage switching. *il Engineering* 184:521 O 25 '57
- Carbon arc vs. induction melting. *il Steel* 142:74-6 Ja 27 '58
- Economic future of the large electric arc furnace. W. B. Wallis. *il Iron & Steel Eng* 34:110-13; Discussion. 113 D '57
- Electric furnace boosts steel production. *il Elec World* 150:118 J1 21 '58
- Induction melting steel at mains frequency. *il Engineering* 185:421 Ap 4 '58
- Large arc furnaces; Metallurgical exhibition. *il diag Metallurgia* 56:275-6 D '57
- Lighting flicker caused by electric arc furnaces. W. E. Schwabe. *il diags Iron & Steel Eng* 35:93-9; Discussion. 99-100 Ag '58
- Mains frequency induction melting of high speed steels. *il Metallurgia* 57:193 Ap '58
- New arc furnace has 66 kv. transformer with on-load tap changing. *il Metallurgia* 56:242-3 N '57
- New furnaces speed delivery of super alloys; Standard steel works. W. E. Shissler. *il Iron Age* 182:70-1 J1 3 '58
- South Africa's first large arc furnace. *il Metallurgia* 56:293-4 D '57

- Supply-voltage and current variations produced by 60-ton three-phase electric arc furnace. B. C. Robinson and A. I. Winder. *bibliog il diags Inst E E Proc* 105 pt A:305-18; Discussion. 318-23; Reply. 323-4 Ag '58
- 20mva transformer for arc furnace. *il Engineer* 204:606-7 O 25 '57
- Vacuum melted steel. *il Metallurgia* 56:237-8 N '57

- Vacuum melting in the steel industry today. W. W. Dyrkacz. *bibliog il diags J Metals* 9:1513-16 D '57; Discussion. 10:356 My '58

Control

- Analysis of arc furnace control. J. H. Kogen. *il diags J Metal* 9:1625-8 D '57
- Automatic electric furnace load control pays off for Allegheny Ludlum. *il Iron & Steel Eng* 34:141 O '57

Lining

- Case studies in cast and rammed arc-furnace roofs. J. D. McCullough. *il J Metals* 9:1521-4 D '57
- Electric furnace refractories; abstracts of papers at Electric furnace steel conference. *Metal Prog* 73:87-8 My '58

ELECTRIC furnaces, Vacuum melting

- Cleanliness of vacuum-melted alloys. D. E. Nulik. *il Metal Prog* 74:103-9 Ag '58
- Consumable-electrode vacuum arc melting. H. Cruber. *bibliog il diags J Metals* 10:193-8 Mr '58
- Critique of vacuum methods. C. T. Evans, Jr. *diags Steel* 142:79-81+ Ja 13 '58
- For refining metals, there's nothing better than vacuum. L. W. Johnson. *diags Product Eng* 29:72-4 Ag '58
- Furnace speeds vacuum treating. *il diag Steel* 143:126+ J1 21 '58
- High-vacuum casting. *il Light Metal Age* 15:23 O '57
- How to make refractories behave in vacuum. *il Steel* 143:88+ Ag 25 '58
- Improved Czochralski crystal-pulling furnace. K. H. J. C. Marshall and R. Wickham. *bibliog il diags J Sci Instr* 35:121-5 Ap '58
- Investment caster uses vacuum; Austenal inc. Microcast div. *il Steel* 141:96-8 N 25 '57
- Laboratory electron bombardment furnace. P. G. England and H. N. Jones. *diags J Sci Instr* 35:66-8 F '58
- Melting arc casting in a vacuum. *il Engineering* 185:187 F 7 '58
- Pressure distribution within a vacuum arc furnace. J. W. Sulter. *bibliog diag Electrochem Soc J* 105:44-6 Ja '58
- Probe key melting variables; consumable arc remelting under vacuum. P. M. Unterweiser. *il Iron Age* 182:165-8 S 11 '58
- Processing high-temperature alloys; vacuum melting improves investment casting. J. A. Miller. *bibliog il J Metals* 10:522-4 Ag '58
- Production of discalloy by vacuum arc melting. D. R. Carnahan. *il Metal Prog* 74:100-2 Ag '58
- Selecting ejectors for high vacuum. C. G. Linck. *il Chem Eng* 65:145-50 Ja 13 '58
- Vacuum furnace for electrical conduction studies up to 2000 C. W. E. Danforth and H. Blecher. *il diags Franklin Inst J* 265:303-8 Ap '58
- Vacuum furnace for 3000°F. *il Metal Prog* 74:116-17 Ag '58
- Vacuum melted alloys; data sheet. *Metal Prog* 74:96B-96D Ag '58
- Vacuum melted metals; steel, titanium and zirconium in production. *il Metallurgia* 57:139-42 Mr '58
- Vacuum melted steel. *il Metallurgia* 56:237-8 N '57
- Vacuum melting in the steel industry today. W. W. Dyrkacz. *bibliog il diags J Metals* 9:1513-16 D '57; Discussion. 10:356 My '58
- Vacuum melting today. *il diags Metal Prog* 64:94-9 Ag '58
- Vacuum-metallurgical research gives industry a glimpse into the future. R. C. Bertossa. *bibliog il diag Welding J* 36:sup483-9 N '57; Excerpts. *Mech Eng* 79:1039-41 N '57; *Eng J* 41:81 Ja '58; Discussion. *Mech Eng* 80:120-1 Ap '58
- Vacuum metallurgy. *Product Eng* 28:B 18-19 Mid-O '57
- Vacuum steel grows up. J. H. Stoll. *il Product Eng* 29:70-1 My 26 '58

Control

- Instrumentation in vacuum induction melting. E. G. Vogt. *il diag Instruments & Automation* 31:267-9 F '58

ELECTRIC furnaces, Vacuum melting—Cont.**Manufacture**

Vacuum-furnace fabrication, ten times faster. V. W. Nicholson. *ii Welding J* 37:490-1 My '58

ELECTRIC fuses

Bus-fuse-breaker teamup for low-cost current-limiting circuit protection. *ii diag Power* 101:78-80 N '57
 Fuse facts for the industrial plant engineer. J. C. Lebens. *diags Plant* 17:50-1 F '58
 Fuse monitoring system for multiple fuse circuits. G. R. Lezan. *diags Elec Eng* 77:154-7 F '58
 Fuses do this. J. C. Lebens. *ii diag Product Eng* 29:64-6 Ja 6 '58
 Interrupting capacity of breakers and fuses; answers. *Elec Constr & Maint* 57:163 F '58
 Magnetic amplifier detects open fuses. J. Maroz. *ii diags Electronics* 31:86-4 J1 13 '58
 Recent developments in medium-voltage high breaking capacity fuse links. R. H. Dean. *diags Inst E E Proc* 105 pt A:268-70; Discussion. 270-6; Reply. 276-7 Je '58

ELECTRIC gages. See Gages, Electric**ELECTRIC generator sets**

Cross-compound 3600/3600-rpm machine is near-duplicate of two parallel units; developed for Public service electric & gas co. of N. J. N. D. Gove. *ii diag Power* 102:79 F '58
 550 mw is reached; cross compound turbine; C. A. Parsons and co. *ii diags Engineering* 185:586-7 My 9 '58
 550mw turbo-generator set; C. A. Parsons and co. *ii Engineer* 205:706-7 My 9 '58
 How can synchronizing voltage-regulator accidents be avoided on engine-generator sets? question and answers. *ii diags Power* 102:136-7 Je '58
 Industrial gas-turbine. *ii Engineering* 185:196 F 14 '58
 Industrial gas turbo-alternator. *ii Engineer* 205:313 F 7 '58
 Mobile generating plant. *ii Engineer* 206:266 Ag 15 '58

Control

How to trouble shoot generator controls. F. W. Beltz, Jr. *ii diag Marine Eng/Log* 63:72-5 Ap '58

ELECTRIC generator sets, Portable

Truck-mounted auxiliary supplies ac, dc. H. J. Wurth. *ii Elec World* 150:67 Ag 25 '58

ELECTRIC generators

Bigger generating units are being installed. *Elec World* 149:155-6-4 Je 23 '58
 Checking on that generator. E. Rigby. *Power Eng* 62:10 Ap '58
 Design factors in selecting lightweight electric generators. C. H. Grace and J. N. Hibbard. *ii diags Machine Design* 30:117-24 My 29 '58
 Economic choice of generator unit size. L. K. Kirchmayer and A. G. Mellor. *diags A S M E Trans* 80:1015-23; Discussion. 1023-6 J1 '58
 Old-fashioned windmill generates electricity. R. Wailes. *ii Engineering* 186:138 Ag 1 '58
 Turbines and generators. *ii Westinghouse Eng* 18:6-7 Ja '58
 What you need to know about the generator, heart of your power plant. D. Swift. *Power* 102:82-3-4 My '58
 Wind power; British machine in Algeria. *Eng J* 41:86 My '58
 Wind power; British machine in Algeria. *ii Engineering* 185:297-8 Mr 7 '58
 Windmill to-day. G. Gimpel. *ii Engineering* 186:686-90 My 30 '58

See also

Electric machinery
 Excitation equipment
 Radio generators

Bearings

Influence of load and thermal distortion on the design of large thrust bearings. R. A. Baudry and others. *bibliog ii diags A S M E Trans* 80:807-15; Discussion. 815-18 My '58
 Oil seals to provide positive lubrication on large or high-speed thrust bearings. R. A. Baudry and others. *ii diags A S M E Trans* 80:819-24; Discussion. 824-5 My '58

Cooling

Direct cooling of generator windings; abstract. W. N. Kilner. *Engineer* 205:925-6 Je 20 '58

Water cooling of turbine-generator stator windings. G. V. Browning and others. *bibliog ii diags Power Apparatus & Systems* p785-94; Discussion. 794-5 O '58

Failure

Another turbogenerator failure. R. J. Landrum. *ii diag Metal Prog* 74:91-4 S '58

Installation

Check these key points when installing a generator. D. Swift. *Power* 102:96-7-4 S '58

Lubrication

Oil seals to provide positive lubrication on large or high-speed thrust bearings. R. A. Baudry and others. *ii diags A S M E Trans* 80:819-24; Discussion. 824-5 My '58

Maintenance and repair

Slot discharge detector cuts repair costs. C. A. Duke. *diags Elec World* 149:50-1 Je 16 '58

Manufacture

Automation featured in motor and generator manufacture. J. M. Crawford; B. W. Wyman. *ii Elec Eng* 77:277 Mr '58
 Expander rounds large generator frames. *ii diag Elec Manuf* 82:134 S '58
 Induction heating; portable units increase utility. A. Dixon. *ii Tool Eng* 40:84-6 Mr '58

Protection

Ground-fault neutralizers used; generator-transformer unit scheme grounding. E. O. Erickson and M. T. Stancial. *diags Elec World* 149:50-4 Je 30 '58
 Some applications of magnetic amplifiers in aircraft generator protective systems. D. L. Plette and J. W. Butler. *ii diags Applications & Ind* p427-33 Ja '58

Specifications

Electrical specifications; motors, generators and controls. *diags Elec Constr & Maint* 57:117-22 My '58

Tables, calculations, etc.

Determination of reserve and interconnection requirements. H. D. Limmer. *bibliog Power Apparatus & Systems* p544-8; Discussion. 548-50 Ag '58
 Determination of reserve-generating capability. H. Halperin and H. A. Adler. *bibliog Power Apparatus & Systems* p530-9; Discussion. 539-43; Reply. 543-4 Ag '58
 Digital computer aids economic-probabilistic study of generation systems. M. K. Brennan and others. *bibliog flow diags Power Apparatus & Systems* p564-77 Ag '58
 End component of armature leakage reactance of round-rotor generators. R. T. Smith. *bibliog ii diags Power Apparatus & Systems* p535-45; Discussion. 545-7 Ag '58
 Generator unit size study for the Dayton power and light co. W. J. Pitcher and others. *diag Power Apparatus & Systems* p558-63; Discussion. 563 Ag '58
 Performance computer for steam-electric generating units. A. J. Hornfeck and T. S. Imsland. *bibliog ii diags Power Apparatus & Systems* p647-53; Discussion. 653-4 Ag '58
 Probability calculations for system generation reserves. C. Kist and G. J. Thomas. *bibliog diag Power Apparatus & Systems* p515-20 Ag '58

Testing

Friction- and windage-loss tests of McNary generators with coupled and uncoupled turbine. D. R. Cox and R. L. Krahn. *diag Power Apparatus & Systems* p818-20 O '58; Abstract. *Elec Eng* 77:813 S '58

Transportation

Heavy transporter wagon to move a large stator for a 214mw generator. *ii Engineer* 205:517 Ap 4 '58

Windings

Advanced concept for turbine-generator winding insulation. E. J. Flynn and others. *bibliog ii diag Power Apparatus & Systems* p358-65; Discussion. 365-70; Reply. 370-1 Je '58
 Direct cooling of generator windings; abstract. W. N. Kilner. *Engineer* 205:925-6 Je 20 '58
 Water cooling of turbine-generator stator windings. G. V. Browning and others. *bibliog ii diags Power Apparatus & Systems* p785-94; Discussion. 794-5 O '58

ELECTRIC generators, Alternating current

Ac generators for missiles and APUs. P. W. Franklin. *diags Aviation Age* 28:64-9 F '58
Design and application of large solid-rotor asynchronous generators. P. Richardson. *diags Inst E E Proc* 105 pt A:332-40; Discussion. 340-6 Ag '58

Generators designed for Diesel drive. P. G. Cummings. *il Diesel Power* 36:23-4 Ag '58
Indicating horse-power continuously; generator gives product of two variables. J. Thilaimuthu. *il diags Engineering* 184:528-9 O 25 '57

New automotive generator system features high output, oil-cooling, transistor control. *il Diesel Power* 36:30 My '58

Recommended specifications for speed-governing of steam turbines intended to drive electric generators rated 500 kw and larger. *Power Apparatus & Systems p* 1404-11 F '58

Redesign cuts generator bulk by a third. L. T. Lofrese. *il Elec Manuf* 62:113 JI '58

Small 40-kva turboalternator runs cool; for aircraft or missiles. V. DeBiasi. *il diag Aviation Age* 29:30-1 Ap '58

Specifying and applying ac and dc electric generators. F. Nelson. *il Machine Design* 30:112-16 My 29 '58

Static exciter for aircraft a-c generators. H. H. Britten and D. L. Plette. *il diags Applications & Ind* p271-6; Discussion. 276-7 S '58

Turbo-alternators reach 275 mw. *diag Engineering* 185:330-1 Mr 14 '58

Control

Closely controlled alternating current supplies. *il diag Engineering* 185:727-9 Je 6 '58

Cooling

Direct-gas-cooled alternators. *il plan diags Engineering* 204:710-13 N 15 '57

Gas flow and heat transfer in conductor-cooled machines. L. T. Rosenberg. *bibliog il diags Power Apparatus & Systems p* 1267-71 F '58; Abstract. *Elec Eng* 77:133 F '58

Getting more out of alternators: rotor and stator direct cooled with hydrogen. *il diags Engineering* 184:690-2 N 29 '57

Operation of hydrogen-cooled turbine generators. R. A. Towne. *il diags Westinghouse Eng* 18:123-5 JI '58

Water-cooled stator windings. *Mech Eng* 80:75 Ag '58

Windings

Alternator winding resistance measured under load. D. W. Birnstingl. *diags Engineering* 185:317-18 Mr 7 '58

ELECTRIC generators, Asynchronous. See Electric generators, Alternating current**ELECTRIC generators, Direct current**

Development and operating of a 10kw homopolar generator with mercury brushes. D. A. Watt. *bibliog il diags Inst E E Proc* 105 pt A:233-40 Je '58

Electrical generating equipment for aircraft. *il diag Engineer* 204:868-9 D 13 '57

Evaluation of the new industrial d-c motors and generators. B. M. Emunson and A. J. Ward. *il Elec Manuf* 61:92-7 Je '58

Factors in designing generator-battery systems. C. W. King. *il diag Machine Design* 30:125-8 My 29 '58

Series triode stabilizes million-volt generator. G. Dome and H. D'Hoop. *il diags Electronics* 31:76-9 Je 20 '58

Shaft generator for motor tankers. *il Engineer* 206:423 S 12 '58

Specifying and applying ac and dc electric generators. F. Nelson. *il Machine Design* 30:112-16 My 29 '58

Maintenance and repair

Electrical maintenance, a key to good shovel operation. E. D. Elwonger. *il diags Pit & Quarry* 50:91-4 Je '58

ELECTRIC generators, Electrostatic

Tandem electrostatic generators. *Engineering* 184:504 O 18 '57

ELECTRIC generators, Portable

Mobile generator avoids three-day outage. *il Elec World* 149:76 Mr 17 '58

ELECTRIC generators, Synchronous

Complete equivalent circuit of a synchronous machine. I. Gaever. *diags Power Apparatus & Systems* p204-9 Je '58

Effect of a voltage regulator on the steady-state and transient stability of a synchronous generator. A. S. Aldred and G. Shackshaft. *bibliog diags Inst E E Proc* 105 pt A:420-7 Ag '58

Measurement of rotor displacement angle on synchronous machines. V. A. Kinitzky. *bibliog diags Power Apparatus & Systems* p349-52; Discussion. 352-3 Je '58

Simulation of the operational impedances of synchronous machines on network analyzers. C. Adamson and A. M. S. El-Serafi. *bibliog il diags Power Apparatus & Systems p* 1373-8; Discussion. 1373 F '58

Synchronous flux generator. O. J. M. Smith. *diags Elec Eng* 77:605-10 JI '58

ELECTRIC generators, Water wheel

Evolution of the modern waterwheel generator in Canada. G. D. Floyd and H. R. Sills. *bibliog il diags Power Apparatus & Systems* p6-16 Ap '58; Discussion. p895 O '58

ELECTRIC hardening. See Case hardening—Electric hardening**ELECTRIC heaters**

Design factors in using MgO in heaters. G. E. Price. *Elec Manuf* 61:150-1 F '58

Development of transposable thermal-storage space heaters. J. Bates. *il diags Inst E E Proc* 104 pt A:15-23; Discussion. 437-46; Reply. 446-7 O '57

Electric space heaters solve warehouse heating problem. *il Elec World* 150:34 S 15 '58

Engineering at home; heating and lighting. *Engineering* 186:32 JI 4 '58

Intricate plastic moldings: terminal boards for electric heaters in the new Lockheed electric turbo-prop airliner. *il Plastics Tech* 4:358, cover Ap '58

Move this heater from job to job. *il Power Eng* 74:28-9 Mr '58

Space heaters lick motor moisture. R. L. Nailen. *il Power* 102:104-5 Mr '58

See also

Electric heating

Electric ovens

Specifications

Electrical specifications; air conditioning, heating, plans *diags Elec Constr & Maint* 57:122-7 My '58

ELECTRIC heating

Annual energy use for electric space heating. R. L. Boyd. *bibliog Heating-Piping* 30:113-16 JI '58

Church puts electric heat in building additions; with cost data. *Elec World* 149:38 F 24 '58

Co-ops double electric heat homes in rural Iowa. *Elec World* 149:76 Ja 20 '58

Ebasco holds heating school. *Elec World* 149:74 Mr 10 '58

Electric heat saves stack of dollars. C. E. Dopke. *il Elec World* 149:82 Ja 13 '58

Electric heat; the user's viewpoint. *Elec Constr & Maint* 57:122-4 JI '58

Electric heating. S. L. Forsyth. *il Westinghouse Eng* 18:140-3 S '58

Electric heating and heat pumps; progress report. *Elec World* 149:41-4+ Je 30 '58

Electric heating and system demand. L. B. Altman, Jr. and L. F. Charity. *Elec World* 149:46-+ Mr 31 '58

Electric heating makes its first big inroad into New England area. *Elec World* 148:82 N 25 '57

Electric space heating 1957; special report. *Elec World* 148:95-110 D 16 '57

Electrical floor warming. J. W. Moule and W. M. Stevenson. *bibliog il plan diags Inst E E Proc* 104 pt A:424-36; Discussion. 437-46; Reply. 446-7 O '57

Full area element offers new potential for electric heating. *Arch Rec* 124:214 JI '58

Heat rub outruns estimates by 365 per cent; Washington water power co. K. Jack. *il Elec World* 149:30 My 5 '58

Heating earns rebate at Arkansas Power & Light. R. E. Ritchie. *Elec World* 148:90 D 9 '57

How a combination company sells electric heat. E. T. Huffman. *Elec World* 149:108-9 My 12 '58

Kwhrs heat lumber office; with cost data. R. L. Spencer. *il Elec World* 148:68 D 23 '57

Long look at electric heating competition. T. Hart. *Gas Arc* 122:20-1 Ag 7 '58

Luxury motel hosts its guests all-electrically. M. I. Stalheim. *il Elec World* 148:126 D 16 '57

More data on heat pumps. J. R. Harnish and R. C. Niess. *bibliog il Power Eng* 62:58-60 JI '58

ELECTRIC heating—Continued

Nashville boasts an electric heating saturation of 31 per cent. E. E. Parks. *Il Elec World* 150:46-8 S 1 '58
 Old rooming house goes all-electric. T. D. Gallagher. *Il Elec World* 150:91 S 15 '58
 Plugs heating; electric heating means business for contractor, dealer, others. E. A. Snyder. *Elec World* 148:37 O 28 '57
 Strip heaters provide low-cost week-end heating. Braun Brothers packing co. G. H. Maier. *Il Elec World* 149:100 Mr 17 '58
 System design stressed for serving electrically-heated homes. W. H. Johnson. *plan Elec World* 149:9-9 Je 9 '58
 Three-year electric heating drive pays off. Indianapolis power & light co. *Il Elec World* 149:62-3 F 3 '58
 Utilities eye school heat ABC's. *Elec World* 148:100 N 18 '57
 Water stored off-peak can heat and cool space. J. M. Turnbull and G. C. Jamison. *Il diag Elec World* 148:66-7 N 11 '57

See also
 Electric heaters

Costs

Electric space heating in schools, hospitals, and industrial applications; abstract. H. E. Wilde. *Air Cond Heat & Ven* 55:146-4 F '58

Radiant heating

All-electric flameless high school. A. A. Horner. *Il plan Prog Arch* 33:132-7 Ar '58
 Bellingham introduces radiant heat porcelain enamel panel. E. D. L. York. *Il Cer Ind* 70:39 My '58
 Heat pump and heating cables installed in the same residence; first year of comparative operation. C. W. Jones and E. E. Linden. *Il Applications & Ind* 94:8 Mr '58
 Keeping warm with a cool head. *Il diag Engineering* 184:621 N 15 '57
 Lockheed Electra takes the drafts out of heating. *Il Control Eng* 5:20-1 Ap '58

ELECTRIC heating, Industrial

Anneal glass tubes with electric heat. G. C. Wagner. *Elec World* 149:148 Ja 27 '58
 Asphalt plant finds electric heat economical. Rochester coal, trucking, and contracting co. J. Aldridge. *Il Elec World* 150:114 Ag 18 '58
 Automation keys production of new material; Enamo Bond a Masonite material coated with special paint. W. King. *Il Elec World* 149:78 Mr 31 '58
 Candy output climbs as steam yields to electric heat; Bachman chocolate manufacturing co. N. S. Hartman. *Il Elec World* 148:71 D 25 '57
 Cincinnati Flamatic and induction high-frequency heating machines. *Il Mach* 64:185-6 Ja '58
 Coil stress relieves weld. *Il Steel* 143:66 S 1 '58
 Compressor crankcase heaters reduce oil foaming. E. T. Neubauer. *Il Refrig Eng* 66:52-3 Je '58
 Determination of kw rating of electric heaters to maintain storage tank temperatures; nomograph. *Pet Eng* 30:C35 J1 '58
 Diesel engine heaters save \$5,000 per year. S. E. Abell. *Il Elec World* 149:75 Je 2 '58
 Electric booster heaters for tank outlets. *diags Plant* 17:64-5 Mr '58
 Electric heat buys production efficiency for plating and brazing. L. Albertson. *Il Elec World* 149:106 Ap 21 '58
 Electric heating cable beats time and weather problems; Jacklin seed co. T. W. Beadle. *Il Elec World* 149:106 Ap 21 '58
 Electric molds up recap quality and output. B. Shunk and D. Anthony. *Il Elec World* 149:76 Mr 10 '58
 Electric space heating data. *diag Elec Constr & Maint* 57:42-8 Mid-S '58
 Electric surface heating of glass plant. J. Carmichael. *Il diag Ind Chem* 34:230-7 My '58
 Electrical baking speeds carbon brick manufacture; National carbon co. *Il Automation* 5:48 Ar '58
 Electrical process heating; review of progress. O. W. Humphreys and R. Smith. *bibliog* (80 titles) *Inst E E Proc* 104 pt A:449-56 O '57
 Equipment and procedures for rapid heating and testing. *diags Metal Prog* 72:97-100 N '57
 Heat ducts boost cable quality, trim process time. T. Ballots. *Il Elec World* 148:94 D 9 '57

Heating and welding. *Il Westinghouse Eng* 18:20-1 Ja '58
 Heating cable beats cold weather slowdown in feed mill. L. Flynn. *Il Elec World* 150:61 J1 7 '58
 Hot-sizing titanium and high-temperature steel parts. C. O. Herb. *Il Mach* 64:118-21 Ja '58
 How to stress relieve pipe welds. *Il diags* Power 101:142 N '57
 Modernization in heating for hot forming. P. W. Morse. *Il diag Metal Prog* 73:85-90 F '58
 On-the-spot stress relief; tank stress relieved on the welding fixture. W. C. O'Brien. *Il Am Mach* 102:141 My 19 '58
 Preventing vibrating screens from clogging. *Engineering* 186:133 Ag 1 '58
 Quantitative evaluation of residual-stress relief in pipe weldments. J. E. Cook and R. B. McCauley. *Welding J* 37:sup 179-84 Ap '58
 Resistance heating of metal for die forming; Martin co. *Il Plant Eng* 12:125 Ja '58
 Simulating the thermal barrier. *Il diag Mech Eng* 79:1048-9 N '57

See also

Case hardening—Electric hardening
 Electric heating elements
 Electric ovens
 Electric water heaters
 Electric welding, Arc
 Glass furnaces—Electric heating
 Infrared rays—Industrial heating
 Kilns—Electric heating

High frequency heating

Cincinnati Flamatic and induction high-frequency heating machines. *Il Mach* 64:185-6 Ja '58
 Classical heat flow problems applied to induction billet heating. R. M. Baker. *bibliog diags Applications & Ind* p 106-12 My '58
 Crystal controlled r.f. induction heater. E. Cohen. *diags Electronic Eng* 30:177-81 Ap '58
 Dielectric heat; sealability of films. G. I. Addis and others. *diags Plastics Tech* 4:542-4, 560 Je '58
 Electronic heat-sealing; dielectric heating of plastics. R. D. Farkas. *diags Mod Plastics* 35:109-11+ Mr '58
 High-frequency welding of cellular plastics. I. H. Schwartz. *Machine Design* 29:138+ N 28 '57
 Hot subject heat sealing; electronic welding of vinyl film and sheet; dielectric heat-sealing. *Il diags Mod Plastics* 35:85-90+ Ap '58
 Induction heat improves die quality control. E. H. Pechan, Jr. *Il Elec World* 150:94 J1 28 '58
 Induction heating; portable units increase utility. A. Dixon. *Il Tool Eng* 40:84-6 Mr '58

Tables, calculations, etc.

Find heater kw rating to heat storage tank; nomograph; engineering reference sheet. *Elec World* 150:68 Ar 25 '58
 Find heater kw to maintain tank temperature; nomograph; engineering reference sheet. *Elec World* 150:78 S 8 '58
 Kilowatt-hour requirement for storage tank heat-up. *Pet Eng* 30:C40 Je '58

ELECTRIC heating elements

Heating element for missile dome; Conolon 506. *Il Plastics Tech* 4:561 Je '58
 How they make silicon carbide heating elements. *Il diags Cer Ind* 71:104-6 O; 93-5+ N '58
 How to select a resistance heating alloy. R. J. Fabian. *Il Materials in Design Eng* 47:104-8 F '58
 Increase heating element efficiency. *Il Product Eng* 29:37 Ja 6 '58
 Metallic heating element materials for high temperature furnaces. R. Kieffer and F. Bonosovsky. *bibliog Il diags Metallurgia* 55:119-24 S '58
 One step casting of complete heating element. *diag Elec Manuf* 61:156+ F '58
 Practical tips for designing electric heating elements. *Machine Design* 29:106 O 31 '57
 Wire fabric heats parts. *Il Steel* 143:85 S 22 '58

ELECTRIC hoisting machinery. See Hoisting machinery, Electric

ELECTRIC homes exhibitions. See Electric industries—Electric homes exhibitions

ELECTRIC hot plates. See Hot plates, Electric

ELECTRIC induction. See Inductance

ELECTRIC industries

Electrical distribution; electrical industry, on several fronts, is doing something about the growing need for better planning of industrial electrical systems. *Power* 102:79-81 Mr '58

Electrical industry, how big? *Il Elec World* 148:37-8 D 23 '57

Panel on power progress foresees era of growth for U.S. economy. *map Elec World* 149:43-6 F 10 '58

See also

Electric apparatus industry

Electric contractors

Electric engineering

Electric heating

Electric plants (central stations)

Electric utilities

National electrical manufacturers association

Radio apparatus industry

Western electric company

Westinghouse electric corporation

Electric homes exhibitions

1958 appliance and home show opens doors to public for first time in history. *Il Elec World* 149:70-1 F 10 '58

Materials

Aluminum, butyl, alkyl combined in radically new electrical busway; award of merit in Materials in design engineering competition. *Il Materials in Design Eng* 47:134-7 Ap '58

Electrical resistance alloy with improved properties. *Materials in Design Eng* 48:128 JI '58

New developments in ceramics: electrical and electronic uses. *J. H. Koenig, Il Materials in Design Eng* 47:122-7 My '58

Nickel-iron alloys for electronic devices. *Materials in Design Eng* 47:164-1 My '58

Physical properties of thermoelectric materials. *S. V. Galganiats, diags Refrig Eng* 66:46-8 JI '58

Properties of materials; high pressure laminates (electrical). *Materials in Design Eng* 48:174-5 Mid-O '58

Where to use the new semiconductor materials. *R. K. Willardson and T. S. Shilliday, Il Materials in Design Eng* 47:114-18 Mr '58

See also

Electric circuits—Plastics embedment

Insulating materials

Statistics

Electric power: new peaks in areas of electric energy produced and electrical generating capacity installed during 1957. *Mech Eng* 80:99 Mr '58

National trends point to upturn in the electrical industry: annual statistical summary. *B. C. Cooper, Elec Constr & Maint* 57:65-76 S '58

Great Britain

Engineering industries: coal and electricity. *Engineering* 185:54-5 Ja 10 '58

Pattern of research in the electrical industry. *H. K. Cameron, Chem & Ind p 1214-21 S 20 '58*

Mexico

Electrical industry in Mexico. *A. W. Gelbke, Elec Eng* 77:595-6 JI '58

Minnesota

Minnesota electrical association 30th annual meeting. *Minneapolis, Elec Constr & Maint* 57:197-8+ Mr '58

Pacific coast

See also
Pacific coast electrical association

Russia

Russia tour impresses U.S. group. *W. Cisler, Elec World* 150:56-7 S 8 '58

Top-level U.S. executives get the red-carpet treatment in Russia before attending Geneva atom meeting. *Elec World* 150:56 Ag 25 '58

ELECTRIC instruments

Apparatus for measurement of thermal conductivity of solids at low temperatures. *R. L. Powell and others, bibliog Il diags J Res Nat Bur Stand* 59:349-55 N '57

Apparatus for measurement of thermal e.m.f. in semi-conductors. *J. C. Brice and H. C. Wright, diag J Sci Instr* 35:146-7 Ap '58

Apparatus for measuring the piezoresistivity of semiconductor. *R. F. Potter and W. J. McKean, bibliog Il diags J Res Nat Bur Stand* 59:427-30 D '57

Application of Zener diodes to expanded scale instruments. *A. J. Corson, Il diags Com & Electronics* p355-9 S '58

Bridge and emf measurements via the resistance bridge indicator. *R. E. George, Il diags Instruments & Automation* 30:2061-3 N '57

British research in scientific instruments. *Elec Manuf* 61:9-10 Ja '58

Close-tolerance temperature tests. *diag Electronics* 31:86-1 Je 20 '58

Comparison of the lower decades of a Mueller bridge. *W. N. Hubbard, diag R Sci Instr* 29:734 S '58

Crevasse detector blazes glacial trails. *H. P. Van Eckhardt, Il diags Electronics* 31:63-5, cover Ja 17 '58; Excerpt. *Eng J* 41:88 My '58

Decade flux linkage generators for calibrating flux-meters and ballistic galvanometers. *T. M. Palmer, bibliog diags J Sci Instr* 35:139-42 Ap '58

Design of a crevasse detector for polar exploration. *J. C. Cook, bibliog Il diags Franklin Inst J* 264:361-77 N '57

Design of simple resistance thermometer bridges for wide-range control of low temperatures. *R. D. Goodwin, bibliog diags R Sci Instr* 29:497-501 Je '58

Double d.c. bridge circuit for precision measurements with load cells. *T. S. Parramore, diags J Sci Instr* 35:162-3 My '58

Electric hygrometer. *W. H. Melkilejohn, Il diags Com & Electronics* p302-5 JI '58

Engineering developments: instruments; illustrations with text. *Elec Eng* 77:12-13 Ja '58

Ground-fault-location indicator. *A. C. Lee, Il diag Power Apparatus & Systems p 1370-2 F '58*

High sensitivity d.c. null indicator with automatic reduction of sensitivity for large inputs. *R. Thorn, diag J Sci Instr* 35:265-6 JI '58

Investigations of switching surges caused by 345-kv disconnecting-switch operation; Indiana and Michigan electric co. *H. L. Rorden and others, Il diags Power Apparatus & Systems* p38-44 O '58

Lamination detector for the continuous inspection of steel strip. *B. O. Smith and A. G. Grimshaw, Il diags Iron & Steel Inst J* 189:66-71 My '58

Measurement of sheet resistivities with the four-point probe. *F. M. Smith, diags Bell System Tech J* 37:711-18 My '58

Measurements, dispatch, protection. *Il Westinghouse Eng* 18:11-13 Ja '58

Modification for use with wire resistance strain gauge circuits. *J. Halling, diag J Sci Instr* 35:72 F '58

New meter testing unit weighs less. *F. R. Keller, Il diag Elec World* 148:62 D 23 '57

Phase rotation finder does away with temporary connections. *B. A. Corradi, diags Power Eng* 62:104 O '58

RCL bridge. It's easy to build. *D. Stone, Il diags Radio-Electronics* 29:80-1 Ag '58

Resistance thermometer bridge for measurement of temperatures in the liquid helium range. *C. Blake and others, diag R Sci Instr* 29:715-16 Ag '58

Scientists build Hall effect generator using semiconductors; Westinghouse electric corp. *diag Ind Lab* 9:20 JI '58

Series versus shunt bridge calibration. *E. Frank, diags Instruments & Automation* 31:648 Ap '58

Simple specimen holder and apparatus for measurement of conductivity and Hall voltage over a temperature range. *A. A. Brooker and others, diags J Sci Instr* 34:512-13 D '57

Slot discharge detector cuts repair costs. *C. A. Duke, diags Elec World* 149:50-1 Ja 16 '58

Strain-gage instrumentation. *C. M. Hathaway, diags Instruments & Automation* 31:450-4 Mr '58

Subtractor for radio-frequency bridges. *E. A. Faulkner, diags J Sci Instr* 34:461 N '57

Taut-band suspension for instruments. *Westinghouse Eng* 18:146 S '58

Taut bands suspend moving element for switchboard instrument. *diag Elec World* 149:54 Je 30 '58

Tester checks thermocouples without flame. *G. E. Durgin, Il I S A J* 5:59 Mr '58

Thyristor bridge applications. *G. D. Barcus, jr, diags Elec Manuf* 61:64-6+ Ja '58

ELECTRIC instruments—Continued

Transistorized continuity test set. J. C. Hauf and H. S. Hall. *II* *diags Wire & Wire Prod* 33:295-64 Mr '58

See also

Ammeters
Bolometers
Dynamometers
Electric measurements
Electrometers
Ergometers
Galvanometers
Magnetic instruments
Measuring instruments, Electric
Oscillators
Photoelectric cells
Potentiometers
Radio instruments
Recording instruments, Electric
Telemetering
Transistors—Measurement uses
Vacuum tubes—Measurement uses
Wheatstone bridge
Wien bridge

Manufacture

Sifam electrical instrument co. *II* *Chem & Ind* p796-7 J 28 '58

Power supply

New instrumentation refinement announced. *II* *Ind Lab* 9:11 My '58

ELECTRIC insulation. See *Insulation (electric)*

ELECTRIC irons

See also

Steam irons

ELECTRIC kettles. See *Kettles, Electric*

ELECTRIC kilns. See *Kilns—Electric heating*

ELECTRIC laboratories

Aircraft electronics laboratories. *II* *Engineering* 184:655 N 22 '57

Development of an electrical machines teaching laboratory; abstract. A. J. Small. *Inst E E Proc* 105 pt A:37-8 F '58

Heat pump licks Buffalo winters in the Amherst engineering laboratories of *Sylvania electronic co.* *II* *Elec World* 150:69 S 1 '58

High-voltage laboratory for cable testing; Enfield cables, Ltd. *II* *Engineer* 206:99-100 J 18 '58

Hubbard opens new research facilities. *II* *Elec World* 150:72 J 14 '58

Line sag and shimmy attacked at new lab of thriving Ohio firm; Preformed line products co. research & engineering center. *II* *Elec World* 149:67 F 17 '58

Salt fog testing program established by Preformed line products co. *II* *Elec World* 150:72 J 23 '58

University of Manitoba; Fetherstonhaugh high voltage testing laboratory. *II* *Eng J* 41:145-6 Ap '58

Equipment

High voltages for cable research. *II* *Engineering* 186:348-9 S 12 '58

Test station for small circuit breakers; J. A. Crabtree and co. *II* *Engineer* 206:461-2 S 19 '58

ELECTRIC lamps

Clock has built-in night light. *II* *diags Machine Design* 29:102 O 31 '57

Developing touch-control switching. L. H. Cutler. *II* *diag Gen Elec R* 61:37-9 My '58

Electroluminescence in action; how to light up porcelain enamel and glass. A. V. J. Martin. *II* *diags Cer Ind* 71:73-5 Ag '58

Industrial bright beam lamp. *Franklin Inst J* 264:527 D '57

Lamps and lighting. *II* *Westinghouse Eng* 18: 23-5 Ja '58

Lamps for aircraft lighting. *II* *lum Eng* 53: 211-12 Ap '58

Lighting design and layout data. *diags Elec Constr & Maint* 57:25-41 Mid-S '58

Lighting progress in 1956-1957. *II* *diags IIlum Eng* 53:1-21 Ja '58

Research and engineering progress, 1957. *II* *Gen Elec R* 61:27-9 Ja '58

Trends in lighting equipment design; light sources. B. C. Cooper. *II* *diags Elec Constr & Maint* 57:94-5 O '58

What is electroluminescence? bonanza for porcelain enamel and glass. A. V. J. Martin. *II* *diag Cer Ind* 71:70-2 Ag '58

Year-round business of Christmas lamps. G. F. Prideaux. *II* *Gen Elec R* 60:24-7 N '57

See also

Electric flashlights
Infrared rays—Lamps
Searchlights

Flashing

Computation of the effective intensity of flashing lights. C. A. Douglas. *bibliog IIlum Eng* 52:641-6 D '57

Effective intensity of flashing lights. T. H. Projector. *bibliog IIlum Eng* 52:530-40 D '57

Photometer for measurement of effective intensity of condenser-discharge lights. C. A. Douglas. *diag IIlum Eng* 53:205-8 Ap '58

Heat radiation

See also

Electric lamps, Fluorescent—Heat radiation

Manufacture

Mechanized handling trims plant labor cost; *Sylvania electric co. W. F. Hutchins.* *II* *Elec World* 148:80 D 30 '57

New way to convey small parts; air conveyor system. Lamp div. Westinghouse electric corp. J. E. Woodall. *II* *diag Mod Materials Handling* 13:98-9 O '58

ELECTRIC lamps, Arc

Are arc lamps reliable? abstract. R. N. Norman and W. L. Rhodes. *Ind Phot* 7:70-1 Ja '58

See also

Electric lamps, Fluorescent
Electric lamps, Mercury vapor
Electric lamps, Xenon
Moving picture machines—Light sources

ELECTRIC lamps, Fluorescent

Application of non-circular cross-section fluorescent lamps. G. R. Baumgartner and others. *II* *diags IIlum Eng* 52:587-96 N '57

Discussion. 52:628-9 D '57

Baltimore harbor tunnel and its approaches. G. M. Simms; E. P. Siegel. *II* *IIlum Eng* 53: 318-19 Je '58

Better lighting from group relamping of 31,503 fluorescents; Equitable life assurance society of United States building. *II* *Plant* 17:54 Ap '58

Better lighting pays off in several ways; Lynchburg foundry co. W. H. Puryear. *II* *Foundry* 86:77-9 Je '58

Controlled fluorescent reflector design for sharp cut-off and uniform distribution; abstract. D. E. Spencer. *diags IIlum Eng* 53: 473-4 S '58

Design and characteristics of fluorescent lamps having a non-circular cross section. J. O. Aicher and E. Lemmers. *diag IIlum Eng* 52:579-84 N '57

Discussion. 53:48-9 Ja '58

Design and evaluation of high utilization fluorescent street lighting luminaire; abstract. D. E. Husby. *IIlum Eng* 53:491 S '58

Design considerations in fluorescent lamps; abstract. G. A. Meyers and F. M. W. Strojny. *II* *IIlum Eng* 53:484-5 S '58

Detroit toys with h-f street lighting. *II* *Elec World* 148:114 N 25 '57

Development of deluxe fluorescent-mercury lamps for commercial and specialized applications. W. S. Tull. *bibliog II diag IIlum Eng* 53:224-31

Discussion. 232-4; Reply. 234 My '58

Dramatic lighting for central sphere of Atomium; Sylva-Lume system. *II* *Elec Eng* 77:568-9 Je '58

Economics of fluorescent reflector lamps; abstract. C. N. Clark and N. F. Meyer. *diag IIlum Eng* 53:498-500 S '58

Evaluation of performance of polystyrene components of fluorescent luminaires in actual service and under accelerated testing; abstract. D. A. Popelski and R. A. McCarthy. *IIlum Eng* 53:507-3 S '58

Fluorescent lighting fittings. *II* *Engineer* 205: 222 F 7 '58

Fluorescent strip lighting for tunnels at Long Beach airports. *II* *Pub Works* 89:120 Ag '58

Fluorescent strip system spreads carpet of light for landings. *II* *Elec Eng* 77:652-3 J 1 '58

Four times as much light with no recirculating from high power fluorescents; Convair's plant no. two. *II* *Plant Eng* 12: 94-6 F '58

Glow discharge characteristics of fluorescent lamps. C. J. Bernier and W. C. Gungie. *II* *diag IIlum Eng* 53:32-8

Discussion. 38-40 Ja '58

High-frequency fluorescent street lighting. H. F. Wall. *Franklin Inst J* 265:79-80 Ja '58

High frequency lighting. R. D. Burnham. *II* *diags Arch Rec* 122:193-5 D '57

High output fluorescent; illustrations with text. *IIlum Eng* 53:433-40 Ag '58

ELECTRIC lamps, Fluorescent—Continued

- Houston bank building shows that high-frequency lighting cuts costs. R. D. Burnham. Eng N 160:120 Je 19 '58
- How modern is your plant lighting? R. B. Pressley. *il* diag Textile World 107:97-103+, cover D '57
- How much does lighting decrease? foot-candle readings taken at various fluorescent lighting installations. Illum Eng 53:216 Ap '58
- Industrial lighting; manual for the economic analysis of lighting systems. E. G. Arsnow. *il* Plant Eng 12:135-46 Ja '58
- Influence of electrode materials on fluorescent lamp discoloration. abstract. A. W. Wainio and F. M. Craven. *il* Illum Eng 53:481-2 S '58
- Installation of a modern lighting system helps to trim costs. *il* Mill & Factory 63:117 JI '58
- Lighting trims inventory needs; Paragon press' new Salt Lake City plant. W. F. Mulcock. *il* Elec World 149:90 F 3 '58
- Maintenance factors and features of industrial fluorescent luminaires; abstract. G. J. Taylor and R. D. Bradley. Illum Eng 53:509-10 S '58
- Mercury and fluorescent team-up for industry; abstract. M. Christensen and Q. D. Dobras. *il* Illum Eng 53:506-7 S '58
- New lighting system aids safety, maintenance and production; Erickson tool co. *il* Safety Maint 115:18 My '58
- New simple approach to group relamping of fluorescent lamps; abstract. E. W. Beggs. *il* Illum Eng 53:500-1 S '58
- Outdoor applications of new reflector contour designs for higher output fluorescent lamps; abstract. S. C. Peek and J. P. Keenan. *il* Illum Eng 53:502-3 S '58
- Power groove lamps provide 10,000 foot-candles for sunlight tests; Eastman Kodak co. *il* diags Elec Constr & Maint 57:77-9 S '58
- Spectral luminosity of fluorescent lamps. C. W. Jerome. Illum Eng 53:41-4; Discussion. 44-6 Ja '58
- Spurs transformer production, cuts rejects; Airpax products co. W. H. Servary. *il* Elec World 148:120 N 25 '57
- Transistorized high-frequency lighting supply. *il* Elec Manuf 61:154+ Mr '58
- Transistorized high-frequency power source for lighting; Westinghouse electric corp. *il* Plant 17:67 Ja '58
- Transistorized high-frequency systems developed for lighting. *il* Arch Rec 123:196 Ja '58
- Transistorized power source for lighting systems. Westinghouse Eng 18:93+ My '58
- Trends in lighting equipment design; in-room luminaires. B. C. Cooper. *il* Elec Constr & Maint 57:78-80 C '58
- Ultra-violet and white lighting for aircraft instruments; cockpit lighting system using four-watt six-inch fluorescent lamps. P. Chittenden. *il* diag Aircraft Eng 30:9-10 Ja '58
- Water-cooled luminaire in a panel-air system. W. F. Spiegel. bibliog diags Heating-Piping 30:139-46 Je '58

Cleaning

- Special lighting maintenance tools; Fluorescent service corp., Tampa, Fla. *il* diag Elec Constr & Maint 57:88-92+ S '58

Cold cathode

- Noise and electron temperatures of some cold cathode argon discharges. E. W. Collings. bibliog J Ap Phys 29:1215-19 Ar '58
- Simplified switching control of electronic circuits. *il* diag Machine Design 30:101 Ja 9 '58

Heat radiation

- Lighting and cooled air effects on panel cooling. L. F. Schutrum and T. C. Min. bibliog *il* diag Heating-Piping 29:177-84 N '57
- Study of the extraction of heat from fluorescent luminaires in air cooled rooms. W. Sturrock and L. F. Schutrum. *il* plan diags Illum Eng 52:569-74; Discussion. 575-6 N '57

Starters

- Ballast heating in fixtures. W. C. Anderson. Illum Eng 53:50-1 Ja '58
- Design and application of a new high frequency power source for fluorescent lighting; abstract. W. H. Johnson and others. *il* Illum Eng 53:510 S '58
- Fluorescent ballast protection. G. E. Pieper. diags Illum Eng 53:513-15 S '58

How to stop ballast failures. diags Plant Eng 12:108 Ar '58

- New ballasts may need over-heat protection to prolong life. Arch Rec 124:228+ Ar '58
- Overheat protection for ballasts; fluorescent lamps. G. E. Pieper. *il* diags Elec Constr & Maint 57:76-8 Ar '58

Testing

- I.E.S. guide for photometric testing of outdoor fluorescent luminaires. bibliog *il* Illum Eng 53:105-11 F '58

ELECTRIC lamps, Incandescent

- Internal reflector projection lamps; abstract. J. M. Harris. Illum Eng 53:483 S '58
- Luminous ceilings with incandescent lamps. D. E. Spencer. *il* diags Illum Eng 53:300-6 Je '58
- Recessed incandescents provide ideal light for super market. *il* plan Elec Constr & Maint 57:94-5 Ja '58
- Smaller, more efficient 100-watt incandescent lamp. P. B. Jordan and others. diags Illum Eng 53:121-7; Discussion. 128 Mr '58
- Trends in lighting equipment design; recessed incandescents. B. C. Cooper. *il* diags Elec Constr & Maint 57:85 O '58

See also

Electric lamps, Tungsten

Testing

- Recommended practice for reporting photometric performance of incandescent filament lighting units used in theatre and television production. diags Illum Eng 53:516-20 S '58; Same. SMPTE J 67:606-10 S '58

ELECTRIC lamps, Mercury vapor

- Adapted street light speeds night line maintenance work. Elec World 148:76, 78 N 11 '57
- Application experience with mercury vapor lamps in street lighting service. J. W. Young. bibliog *il* diags Illum Eng 53:253-61; Discussion. 261-5; Reply. 265-6 My '58
- Circuits for short-arc lamps; abstract. T. C. Retzer. diags Illum Eng 53:488-9 S '58
- Development of deluxe fluorescent-mercury lamps for commercial and specialized applications. W. S. Till. bibliog *il* diag Illum Eng 53:224-31; Discussion. 232-4; Reply. 234 My '58
- Effects of high operating temperature on the lamp envelope; abstract. P. A. Loughridge. *il* Illum Eng 53:485-6 S '58
- Highway lighting without glare; new lighting technique; abstract. W. M. Waldbauer. *il* diags Illum Eng 53:494-5 S '58
- Lighting an automobile parking lot; lighting data sheet. W. A. Mize. *il* diag Illum Eng 53:129-30 Mr '58
- Measurement of mercury lamp current crest factor and its effect on lumen maintenance; abstract. E. C. Martt and R. J. Smith. diag Illum Eng 53:482-3 S '58
- Mercury and fluorescent team-up for industry; abstract. M. Christensen and Q. D. Dobras. *il* Illum Eng 53:506-7 S '58
- Mercury lights this office. T. C. Sidlo. *il* Illum Eng 53:443-4 Ar '58
- New lamp and luminaire design to floodlight seven-million plaza at International airport. *il* diags Elec Constr & Maint 57:96-8+ Ap '58
- New lamp cuts street lighting costs. P. Hirsch. *il* Pub Works 89:104-5 Ja '58
- New lighting puts end to production delays in Hetherington & Berner. P. Kimball. *il* Elec World 148:135 D 16 '57
- Optical applications of mercury short-arc lamps. E. W. Beggs. *il* diags Illum Eng 53:22-30 Ja '58
- Self-ballasted vapor lamps; new basic design and new improved types; abstract. H. S. Strauss and W. E. Thourer. *il* Illum Eng 53:486-7 S '58
- Temperature characteristics of barium strontium lithium silicate phosphors. A. H. McKeag. bibliog Electrochem Soc J 105:78-81 F '58
- 22 acres of 50 footcandle lighting with mercury vapor lamps; Douglas aircraft co. J. Fisher. *il* diag Mill & Factory 63:83-6 Ag '58
- Uses of new mercury lamps. D. R. Phillips and E. C. Martt. bibliog *il* diags Illum Eng 52:519-26 O '57; Discussion. 53:152-3; Reply. 153-4 Mr '58

See also

Electric lamps, Fluorescent

ELECTRIC lamps, Neon

- High-speed tester checks tubes in groups; indication of opens and shorts with direct-reading localization by neon lamps. E. S. Gordon. *il* diags Electronics 31:76-8 My 9 '58

ELECTRIC lamps, Neon—Continued

Neon lamp logic gates play tick-tack-toe. C. E. Hendrix and R. B. Purcell. *Il diags Electronics* 31:68-9 Je 20 '58
Planes of neon lamps display numerals; illustrations with text. *Electronics* 31:56 Ag 29 '58

ELECTRIC lamps, Photoflash

New combustible for photoflash lamps; abstract. L. F. Anderson. *Il illum Eng* 53: 489-90 S '58
Photographic flashbulb with built-in power source. Elec Manuf 61:12 Ap '58
Zirconium fills new flashbulb. *Il Chem & Eng N* 35:65+ N 11 '57

Power supply

Transistor photoflash power converters. H. A. Manookian. *Il diags Electronics* 31:29-31 Ag 29 '58

ELECTRIC lamps, Portable

Ingenious aluminum extrusion is key to unusual lighting unit; receives citation in Materials in design engineering competition. *Il diags Materials in Design Eng* 47:152-3 Ap '58

ELECTRIC lamps, Safety

Lamp room goes underground; New Jersey zinc co's. Eagle mine, Gilman, Colo. *Il Min Cong J* 44:93 Je '58

ELECTRIC lamps, Tungsten

Design improvements in high-wattage tungsten filament lamps for motion-picture and television studios. L. G. Leighton and A. Makulec. *Il SMPTE* 67:530-3 Ag '58
Vertical distribution of light from gas-filled candlepower standards; abstract. L. E. Barlow and S. W. Wilson. *Ilum Eng* 53: 471-2 S '58

ELECTRIC lamps, Xenon

16mm sound film projection with 2kw xenon lamp. *Il Engineering* 204:75 N 8 '57
Xenon-arc projection lamp. W. B. Reese. *Il diags SMPTE J* 67:392-6 Je '58
Xenon high-pressure lamps in motion-picture theaters. H. Uffers. *biblog Il diags SMPTE J* 67:389-92 Je '58

ELECTRIC lighting. See Lighting**ELECTRIC lines**

Construction, insulation, maintenance of overhead and underground lines; report of CIGRE technical sessions. C. R. Earle. *Il maps diags Power Eng* 62:supC7-12 Ag '58
Power lines and boom accidents. *Roads & Sits* 100:114 D '57

See also

Electric cables
Electric conduits
Electric fuses
Electric plants—Interconnection
Electric substations
Electric transmission
Electric wiring
International conference on large high tension electric systems
Telephone lines
Vaults (electric installation)

Construction

Auger-derrick cuts digger mileage. *Il Elec World* 149:63 Mr 31 '58
Equipped small crews effective; with cost data. G. W. Peak. *Il Elec World* 149:67+ My 12 '58
How insulators trimmed 230-kv line cost; Florida power & light co. W. H. Johnson and R. L. McCoy. *Il diag Elec World* 149: 64-5 Ap '58
Mobile compressed air unit reduces driving time for rods. *Il Roads & Sits* 101:66 Mr '53
Flow speeds line over rough terrain. V. J. Reilly. *Il Elec World* 149:82 F 17 '58

See also

Electric lines—Overhead construction
Electric lines—Poles and towers

Damage from storms

Brainstorms help prepare for snowstorms; Utah power & light co. *Il Elec World* 148: 78 N 18 '57
Detroit Edison readies for storm disaster. *Il Elec World* 149:58-9 Ap 21 '58
Teamwork tempers a storm that outdoes Hazel. *Il Elec World* 149:32-5 Mr 31 '58
Worst storm damage will bring changes in transmission and distribution design. *Il Elec World* 150:52-4 Ar 4 '58

Design

Design problem; how to maintain tower clearances at low temperature. H. B. White. *Il diags Elec World* 148:73-5 D 9 '57

Radio interference from high-voltage transmission lines as influenced by the line design. G. E. Adams. *Power Apparatus & Systems* p54-62; Discussion. 62-3 Ap '58
St Lawrence power project; design of 230 kv. transmission lines. N. J. McMurtrie. *diags Eng J* 41:94-6 S '58
Solve transmission sag problems; engineering reference sheet. F. J. Hubert. *diag Elec World* 149:58 Je 16; 58 Je 30 '58

Failure

Analytical studies of lightning performance of 1- and 2-ground-wire 138-kv double-circuit lines of the Commonwealth Edison co. R. W. Caswell and others. *Il maps diags Power Apparatus & Systems* p254-61; Discussion. 261-3 Je '58
Lightning performance of 138-kv twin circuit transmission lines of Commonwealth Edison co.; operating experience and field studies. R. W. Caswell and others. *biblog Il maps diags Elec Eng* 77:142-8 F '58; Same. *Power Apparatus & Systems* p 1480-9; Discussion. 1489-91 F '58
Lightning stroke. C. F. Wagner and A. R. Hileman. *diags Power Apparatus & Systems* p229-40 Je '58; Excerpts. *Elec Eng* 77:149 F '58; Discussion. *Power Apparatus & Systems* p240-2 Je '58

Grounding

See Electric distribution—Grounding

Ice problem

Automatic warning of ice on power lines; Hydroelectric board of North Scotland develops automatic system. F. C. Livingstone. *Il Power Eng* 61:86 D '57

Inductive interference

Conductive paint halts tv interference. P. A. Bullock. *Elec World* 149:66 My 12 '58
Electrical interference. J. C. Coe. *Il Instruments & Automation* 31:1048-9 Je '58
Radio-influence characteristics of bundle and single conductors; 500-kv test project of the American gas and electric co. G. D. Lippert and others. *biblog Power Apparatus & Systems* p 1302-8; Discussion. 1308-10 F '58
Radio interference from high-voltage transmission lines as influenced by the line design. G. E. Adams. *Power Apparatus & Systems* p54-62; Discussion. 62-3 Ap '58

Location

Change set on relocation cost. *Elec World* 149:61 F 17 '58
Congress restores 90-10 ratio on relocations. *Elec World* 149:62-3 Ap 7 '58
How right-of-way cost is being cut; meeting sponsored by Electrical world. Chicago. March 6-7. *Elec World* 149:71-3 Mr 24 '58

Maintenance and repair

Adapted street light speeds night line maintenance work. *Elec World* 148:76, 78 N 11 '57
Hold service drop and loop for ease in splicing. H. Battis. *diag Elec World* 149:102 Je 23 '58
Make winch-line loops in six minutes. E. A. Grim. *Il Elec World* 150:66 Ag 25 '58
Pole added, old one stubbed to take new 138-kv circuit. *Il Elec World* 149:52-3 My 5 '58
Stringing block simplifies reconductoring. McAuley. *Il Elec World* 150:59 J1 28 '58
Teamwork tempers a storm that outdoes Hazel. *Il Elec World* 149:32-5 Mr 31 '58

See also

Electric distribution—Grounds and faults

Models

Factors affecting the lightning performance of transmission lines. J. H. Hagenguth and J. G. Anderson. *biblog Il diags Power Apparatus & Systems* p 1379-90; Discussion. 1390-2 F '58

Overhead construction

Electromagnetic field phenomena in shielded aerial cables under surge conditions. J. K. Delson. *Il diag Power Apparatus & Systems* p247-52; Discussion. 252-3 Je '58
High-altitude chv tests begin at Leadville, Colo. L. M. Robertson. *Il diag Elec World* 149:51-5 Ja 20 '58
Lines across marshes; super grid extensions. *Il Engineering* 186:128 J1 25 '58

ELECTRIC lines—Overhead construction—Cont.

- Look to aerial cable and vaults for serving small business areas. R. H. Stevens. diags Elec World 148:96-9 N 25 '57
- Making straight joints on aerial cable; engineering reference sheet. diags Elec World 148:80 N 4 '57
- Making tee joints on aerial cable; engineering reference sheet. diags Elec World 148:96 N 18 '57
- New methods speed line construction; special report. il Elec World 150:65-74+ Ak 13 '58
- Ordinance on overhead lines debunked in Ohio. Elec World 150:50-1 J1 28 '58
- Over-water line proves more economic. J. H. Horn. il Elec World 150:62-3+ Ak 4 '58
- Refinery eases congestion, corrosion. M. L. Watts. il Elec World 149:59-61, cover My 12 '58
- Rope cradles better line stringing safety. B. E. Burnette. il Elec World 149:35 My 19 '58
- Sighting method is best for sagging big ACSR. P. C. Evans. diags Elec World 149:52-4 Je 2 '58
- This new hot-line tapping chamber may solve your aerial cable problems. diags Elec World 149:72-3 Mr 17 '58
- 34.5-kv stub feeder goes to 69 kv. M. J. Doodly. il Elec World 150:43-4 J1 7 '58
- 276 kv crossings of the Severn and Wye. Engineers 205:708 July 9 '58
- Vepco prefers overhead. R. C. Daffron. il diags Elec World 149:75-6 Ap 7 '58

Poles and towers

- American Gas & Electric field-tests new tower and twin-bundled conductors at 345 kv. H. S. Zobel. il diags Elec World 148:76-7 D 9 '57
- Analytical studies on lightning phenomena involving towers, insulator strings, and transmission lines. I. B. Johnson and A. J. Schultz. bibliog il diags Power Apparatus & Systems p 1310-14 F '58
- Construction techniques modernized for ehv. il Elec World 150:70-2 Ak 18 '58
- Corrosion and protection of galvanized steel transmission tower footings. J. D. Piper. il diags Corrosion 14:19-25 Mr '58
- Crane sets poles on inaccessible slope. H. Miller. il Elec World 149:68 Ap 14 '58
- Design problem; how to maintain tower clearances at low temperature. H. B. White. il diags Elec World 148:73-5 D 9 '57
- Design proved in load test. il Elec World 150:41 S 15 '58
- Electrical resistance to ground of equipment mounted on wood poles. H. Winter, Jr. and H. E. Ziegenfuss. bibliog il diags Power Apparatus & Systems p 765-9 O '58
- Engineering specifications for wood poles. L. G. Smith. Power Apparatus & Systems p 693-8 O '58
- Field studies of the surge response of a 345-kv transmission tower and ground wire. G. D. Breuer and others. bibliog il diags Power Apparatus & Systems p 1392-6 F '58
- Front-mounted boom speeds pole setting. il Elec World 150:47 J1 7 '58
- Half a pole solves pole-in-way problem. B. Fridholm. il Elec World 149:68 Ap 14 '58
- Helicopter erects power line transmission tower. il Elec Eng 77:468 My '58
- Here's how Iowa Power & Light designed better transmission towers. E. E. Campbell. il diags Elec World 149:58-60 Ja 13 '58
- Holds down 230-kv line costs. T. J. Allen and E. A. Roberts. il Elec World 150:78+ Ak 18 '58
- Hydraulic jack straightens leaning poles. A. Smith. il Elec World 150:84 Ak 18 '58
- Ladder trucks substitute for poles. J. C. Barker. il Elec World 149:56 Mr 31 '58
- Lightning performance of 138-kv twin circuit transmission lines of Commonwealth Edison co.; operating experience and field studies. R. W. Caswell and others. bibliog il map diags Elec Eng 77:142-8 F '58
- Same. Power Apparatus & Systems p 1480-9; Discussion. 1489-91 F '58
- Modify specs for pole heights. D. J. Thompson, Jr. diag Elec World 149:60-1 Ja 6 '58
- Pattern for calculating transmission-line tower foundations. E. Fritz. bibliog diags Power Apparatus & Systems p 769-73; Discussion. 774-5 O '58
- Pole added, old one stubbed to take new 138-kv circuit. il Elec World 149:52-3 My 5 '58

- 69-kv spacing carries 138-kv line. J. D. Jordan. il Elec World 150:53 S 1 '58
- Skidding and stubbing relocates energized H-frame structures; illustrations with text. Elec World 150:54-5 S 15 '58
- Special mud firms up tower footings; Aquafel. il diag Elec World 150:67 J1 21 '58
- Transmission-line-tower footing design. L. B. Levesconte and others. bibliog Power Apparatus & Systems p 1498-503; Discussion. 1503-4 F '58

Protection

- Audio tone protects 220-kv link; Martins Creek-Siegfried line. J. A. G. Oewel and A. J. Burleson. map diags Elec World 148:47-50 D 23 '57
- Choice of insulation and surge protection of overhead transmission lines of 33kv and above. A. M. Thomas and D. F. Oakshott. bibliog map Inst E E Proc 104 pt A:229-39 Je '57; Discussion. diags 104 pt A:240-8; 105 pt A:405-10 Je '57, Ak '58
- Comparison of distance relaying; carrier control system. H. W. Lensner and others. il diags Power Apparatus & Systems p 388-92; Discussion. 392-5; Reply. 401-2 Je '58
- Compensator distance relaying; design and performance. W. E. Rich and H. J. Calhoun. il diags Power Apparatus & Systems p 383-7; Discussion. 392-5; Reply. 401 Je '58
- Compensator distance relaying; general principles of operation. W. K. Sonnemann and H. W. Lensner. diags Power Apparatus & Systems p 372-82; Discussion. 392-5; Reply. 395-401 Je '58
- Development of corona shields for suspension assemblies of bundled-conductor transmission lines. J. Kaminski, Jr. diags Power Apparatus & Systems p 389-94; Discussion. 94-5 Ap '58
- Improve pilot-wire relaying with modified audio tone. G. W. Fox. il diag Elec World 149:58+ My 5 '58
- Lightning sparks AIEE transmission session. Elec World 148:65-6 N 4 '57
- Line relay protection simplified. R. Zimering. diags Elec World 149:53-4 Ja 6 '58
- New techniques in relaying; special report. D. Rea and others. diags Elec World 150:29-59 J1 4 '58
- Potomac Edison likes transistorized carrier relaying. E. E. Scheneman. il diags Elec World 149:57-9 Ap 14 '58; Westinghouse Eng 13:98-101 J1 '58
- Standardize relay schemes and settings. T. E. Dy Liacco. diags Elec World 148:86-9 N 18 '57
- Ultrahigh-speed reclosing experience at 345 kv. H. C. Barnes and others. bibliog il plan Power Apparatus & Systems p 137-42; Discussion. 142-4 Ap '58
- Voltage performance of series capacitors in transmission and distribution lines. J. M. Macowan. il map diags Inst E E Proc 104 pt A:505-16; Discussion. 516-19; Reply. 519-20 D '57

See also**Lightning arresters****Raising**

- How to lift hot lines for house-moving job. il Elec World 149:82 Ap 7 '58

Safety measures

- Four ways to avoid hazards of static discharge. F. W. Frecker and A. R. Cowal. Elec World 149:54-5 My 5 '58
- Planning for safety in lin construction. A. L. Dowden. il diag Elec Constr & Maint 57:97-101 O '58
- Rope cradles better line stringing safety. B. E. Burnette. il Elec World 149:35 My 19 '58
- Tables, calculations, etc.
- Approximate transient solution of the tapered transmission line. L. O. Barthold. bibliog Power Apparatus & Systems p 1556-61 F '58
- Calculation of transmission line lightning voltages by field concepts. R. Lundholm and others. bibliog diags Power Apparatus & Systems p 1271-81; Discussion. 1281-3 F '58
- Computer speeds solution of broken conductor crossing clearance. F. E. Swain and T. M. Austin. flow diag diags Elec World 150:48-50 J1 7 '58
- Digital short-circuit solution of power system networks including mutual impedance. M. J. Lantz. diag Power Apparatus & Systems p 1230-3; Discussion. 1233-5 F '58

ELECTRIC lines—Tables, calculations, etc.—*Continued*

Figure your power lines quickly and accurately with Lucas graphs. R. S. Horn. Power Eng 62:14-6 S '58
 Modify scale for pole heights. D. J. Thompson, jr. diag Elec World 149:60-1 Ja 6 '58
 Solve transmission sag problems; engineering reference sheet. F. J. Hubert, diag Elec World 149:58 Je 16; 58 Je 30 '58

Testing

American Gas & Electric field-tests new tower and twin-bundled conductors at 345 kv. E. S. Zobel. II diag Elec World 148:76-7 D 9 '57
 Analytical studies on lightning phenomena involving towers, insulator strings, and transmission lines. I. B. Johnson and A. J. Schultz. bibliog II diag Power Apparatus & Systems p 1310-14 F '58
 Electronic fault locator for overhead lines. G. Hitchcox and W. A. Neighbours. II diag Electronic Eng 30:34-7 Ja '58
 French 380-kv system; measurement of corona losses on transmission lines under normal operating conditions. F. M. Cahen and J. M. Carteron. II map diag Power Apparatus & Systems p 1525-31; Discussion. P. A. Abetti. 1531-3 F '58
 High-altitude ehv tests begin at Leadville, Colo. L. M. Robertson. II diag Elec World 149:51-5 Ja 20 '58
 Lightning performance of 138-kv twin circuit transmission line of Commonwealth Edison co.; operating experience and field studies. R. W. Cassell and others. bibliog II map diag Elec Eng 77:142-8 F '58; Same. Power Apparatus & Systems p 1480-9; Discussion. 1489-91 F '58
 Measure short circuit forces on spacers. A. L. Malmstrom. II Elec World 149:45 Je 30 '58
 1956 lightning field investigation on the Ohio valley electric corp. 345-kv system. R. H. Schlomann and others. bibliog II map diag Power Apparatus & Systems p 1447-56 F '58; Excerpt. Elec Eng 77:208-12 Mr '58; Discussion. Power Apparatus & Systems p 1456-9 F '58
 Radio-influence characteristics of bundle and single conductors; 500-kv test project of the American gas and electric co. G. D. Lippert and others. bibliog Power Apparatus & Systems p 1302-8; Discussion. 1303-10 F '58

Tree problem

Tree-trimming costs reduced; mobile equipment and portable tools. C. C. Crockett. II Elec World 149:56 Je 2 '58

Underground lines

Cable; how to boost current ratings in poor soil. L. H. Fink and others. diag Elec World 149:748 Mr 3 '58
 Control of the thermal environment of buried cable systems. L. H. Fink and J. J. Smerke. 2d. bibliog diag Power Apparatus & Systems p 161-8; Discussion. 163 Je '58
 How Iowa Power & Light crossed railroad with long duct. Y. Goldberg and G. F. Walkup. II Elec World 148:66 D 30 '57
 Remodeling underground distribution system for a state hospital. C. W. Baer. II plans diag Elec Constr & Maint 57:80-3 F '58
 Serves 12,000 kva underground; Roosevelt Field shopping center. R. M. Grogan. plans diag Elec World 149:77-8 Ap 7 '58
 Study of the superposition of heat fields and the Kennelly formula as applied to underground cable systems. C. A. Bauer and R. J. Nease. diag Power Apparatus & Systems p 1330-9; Discussion. 1333-7 F '58
 Utilities eye Ohio ruling warily; can a city use police powers to force transmission lines underground? map Elec World 149:58 F 3 '58
 Vancouver 230-kv oil-filled cables. F. O. Wollaston and L. R. Horne. diag Elec Eng 77:316-21 S '58

Vibration

Line sag and shimmy attacked at new lab of thriving Ohio firm; Preformed line products co. research & engineering center. II Elec World 149:67 F 17 '58

Great Britain

Changing pattern of electricity distribution. J. F. Wright. Inst E E Proc 105 pt A:23-5 F '58
 Twenty-five years of development of the grid system in East Midlands. J. D. Pierce. Inst E E Proc 105 pt A:20-1 F '58
 276kv crossings of the Severn and Wye. Engineer 205:708 My 9 '58

Idaho

FPC asked to halt joint 230-kv line. map Elec World 150:48 Jl 14 '58

Russia

400 kv transmission systems in the Soviet Union. S. S. Rokotyan and B. P. Lebedev. II map plan diag Inst E E Proc 104 pt A:471-84 D '57

Soviet line will carry 500 kv. Elec World 148:68 D 9 '57

ELECTRIC lines, Cooperative. See Electric service, Rural—Cooperative lines

ELECTRIC lines, Underground. See Electric lines—Underground lines

ELECTRIC locomotives

Circuit calculations for rectifier locomotives and motor-coaches. T. E. Calverley and D. G. Taylor. bibliog diag Inst E E Proc 104 pt A:355-67; Discussion. 368-73; Reply. 373-5 O '57

Continental railways; illustrations with text. Engineer 205:pl 14 Ja 10 '58

Electrical equipment for rectifier locomotives. H. B. Calverley and others. bibliog diag Inst E E Proc 104 pt A:341-54 O '57; Abstract. Engineering 138:363 Mr 22 '57; Discussion. Inst E E Proc 104 pt A:368-73; Reply. 373-5 O '57

Electro-Motive div. standardizes dual-purpose locomotive. II Diesel Power 36:30 Mr '58

Flat tops, round noses, and square heads on the Virginian. II Gen Elec R 61:34-5 cover My '58

Multiple-unit-rectifier motive power; inductive co-ordination considerations on the New York, New Haven & Hartford railroad. L. J. Hibbard and others. maps diag Applications & Ind p416-25; Discussion. 425-6 Ja '58

Series 1010 electric locomotive Simmering-Graz-Pauker A.G. II diag Engineer 205:373 Mr 7 '58

Single-anode rectifier. II diag Engineer 205:745 My 16 '58

Single-anode rectifier to withstand vibration; Com-Pak mercury-arc rectifier. diag Engineering 136:31 Jl 4 '58

3120 h.p. electric locomotive for Indian railways. II Engineer 204:830-1 D 6 '57

Why rectifier-type electric locomotives? interview with F. A. Mitchell. II Gen Elec R 61:36 My '58

See also

Railroads—Electrification

ELECTRIC locomotives, Industrial

Battery-powered locomotives; sewer tunneling operations speeded on Pittsburgh projects. R. W. Hopewell. II Water & Sewage Works 105:216 My '58

ELECTRIC locomotives, Mine

Principal characteristics and general analysis of a new epicyclic drive for electric locomotives. H. E. J. Symes. bibliog diag Inst E E Proc 105 pt A:153-62 Ap '58

Sentinel electrogyro shunting locomotive. Engineer 204:933 D 27 '57

ELECTRIC logging. See Petroleum—Well logging**ELECTRIC losses**

Basis for transmission performance objectives in a telephone communication system. W. K. MacAdam. Com & Electronics p205-8; Discussion. 208-9 My '58

Calculation of the energy loss in magnetic sheet materials using a domain model. R. H. Pry and C. P. Bean. diag J Ap Phys 29:532-3 Mr '58

Chart for return loss determination. L. Kitajewski. Electronic Eng 30:42-3 Ja '58

Direct-reading iron-loss testing equipment for single sheets, single strips and test squares. J. McFarlane and others. bibliog diag Inst E E Proc 105 pt A:385-94; Discussion. 402-5 Apr '58

Electrical-steel losses at high flux densities; abstract. O. I. Butler. Inst E E Proc 105 pt A:34-5 F '58

Ferrimeter for the determination of the a.c. magnetization curve and the iron losses of small ferromagnetic sheet samples. H. Blomberg and P. J. Karttunen. bibliog diag Inst E E Proc 105 pt A:375-84; Discussion. 402-5 Apr '58

French 380-kv system; measurement of corona losses on transmission lines under normal operating conditions. F. M. Cahen and J. M. Carteron. II map diag Power Apparatus & Systems p 1525-31; Discussion. P. A. Abetti. 1531-3 F '58

ELECTRIC losses—Continued

- Impedance and return loss performance of telephone plant in metropolitan areas. L. B. Bogan, bibliog diags Com & Electronics p257-61 J1 '58; Abstract, Elec Eng 77:225 Mr '58
- Improved bridge method for the measurement of core losses in ferromagnetic materials at high flux densities. W. F. Harris and I. L. Cooter, bibliog diags J Res Nat Bur Stand 60:509-16 My '58
- Low loss cable for microwave service. I. T. Stoneback and J. P. Agrios, Wire & Wire Prod 33:412-16+ Ap '58
- Measurement of ferrite loss-factors at 10Gc/s. C. M. Srivastava and J. Roberts, bibliog diags Inst E E Proc 105 pt B:204-9 Mr '58
- New approach to loss minimization in electric power systems. J. F. Calvert and T. W. Sze, bibliog Power Apparatus & Systems p 1439-46 F '58
- New bridge method for core-loss measurements. Electronic Ind 17:138+ Ag '58
- New magnetic core loss comparator. R. E. Tompkins and others, diag J Ap Phys 29: 502-3 Mr '58
- Probability of specified losses at mismatched junctions. J. H. Craven, diag Brit Inst Radio Eng J 18:293-6 My '58
- Study of return losses on loaded trunk cables and methods taken to improve them. G. H. Speake, diags Com & Electronics p201-4 My '58; Abstract, Elec Eng 77:604 J1 '58

See also

- Electric machinery—Losses
Electric transformers—Losses

ELECTRIC machinery

- Annual engineering review, 1957: power generation, transmission, distribution. II Westinghouse Eng 18:6-13 Ja '58
- Engineering developments: rotating machinery; illustrations with text. Elec Eng 77:6-7 Jm '58
- 1958 production preview: parts and materials. II Am Mach 102:250-3 Ja 27 '58
- Research and engineering progress, 1957: power. II Gen Elec R 61:14-19 Ja '58
- Spark machines become puttin'-on tools: depositing tungsten carbide onto high-speed steel. II Am Mach 102:110-11 My 5 '58

See also

- Brushes (electric machinery)
Commutators
Cranes, derricks, etc.—Electric equipment
Electric driving
Electric engineering
Electric generators
Electric generators, Direct current
Electric locomotives
Electric motors
Electric transformers
Electric welding machines
Electricity in mining
Electricity on the farm
Mine hoisting, Electric
Pumping machinery, Electric
Rotors (electric machinery)
Voltage regulators

Cleaning

- Soap and water cleaning of electrical machinery; Dole Hawaiian pineapple co. H. D. Jefferson, Elec Constr & Maint 67:104+ S '58

Cooling

- Progress in thermal design of oil-cooled rotating machinery: iteration technique programmed for the IBM 650 digital computer. P. B. Richards, diags Elec Eng 77:808-12 S '58
- Ventilating systems for railway traction equipment. B. A. Wide, II diags Applications & Ind p227-30 S '58

Design

- Progress in thermal design of oil-cooled rotating machinery: iteration technique programmed for the IBM 650 digital computer. P. B. Richards, diags Elec Eng 77:808-12 S '58

Losses

- Eddy currents and wind losses in screened-rotor induction motors. R. L. Russell and K. H. Norsworthy, diags Inst E E Proc 105 pt A:163-75 Ap '58
- Friction- and windage-loss tests of McNary generators with coupled and uncoupled turbine. D. R. Cox and R. L. Krahn, diag Power Apparatus & Systems p818-20 O '58; Abstract, Elec Eng 77:813 S '58

- Stray-load losses and stray torques in induction machines. A. M. Odok, bibliog diags Power Apparatus & Systems p43-53 Ap '58

Maintenance and repair**See also**

- Electric motors—Maintenance and repair

Manufacture

- Traction motor factory; illustrations with text. Engineer 204:787 N 29 '57

Noise

- Low-cost sound lab; Elliott co. II diag Product Eng 29:91 Ap 28 '58

Temperature

- Heat-transfer characteristics of the rotational and axial flow between concentric cylinders. C. Gazley, Jr, bibliog diags A S M E Trans 80:79-90 Ja '58
- Modes of adiabatic and diabatic fluid flow in an annulus with an inner rotating cylinder. J. Kale and E. C. Elgar, bibliog II diags A S M E Trans 80:763-63; Discussion. R. C. Dean, Jr, 763-5 Ap '58

See also

- Electric transformers—Temperature

Testing

- Electrical vector-loci display apparatus. P. Strange, bibliog II diags Engineering 186: 354-6 S 12 '58

Transportation

- See also
Electric transformers—Transportation

Ventilation

- See Electric machinery—Cooling

ELECTRIC measurements

- Bridge and emf measurements via the resistance bridge indicator. R. E. George, II diags Instruments & Automation 30:2061-3 N '57
- Current regulator to facilitate resistance measurements at low temperature. M. W. Thompson, diag J Sci Instr 34:515 D '57
- Drift, mobility measurements. M. Green, bibliog II diags J Ap Phys 28:1473-8 D '57
- Electrical measurements and their interpretation in underground cable corrosion problems. K. G. Compton, diags Corrosion 14: 47-54 My '58
- Electrical probes monitor corrosion. A. Dravnieks and A. J. Freedman, II diag Pet Refiner 37:107-10 J1 '58
- Electrodeless method for the measurement of electrolytic conductivity and magnetic susceptibility. W. R. Myers, diags J Sci Instr 35:173-5 My '58
- Electrolytic method for transient mixing measurements. M. P. Norin, II diag Franklin Inst J 266:229-32 S '58
- How transducers measure and control. R. K. Jurgen, bibliog II diags Electronics 31:59-70 J1 4 '58
- Improved bridge method for the measurement of core losses in ferromagnetic materials at high flux densities. W. F. Harris and I. L. Cooter, bibliog diags J Res Nat Bur Stand 60:509-16 My '58
- Improved electrical differentiation of retarding potential measurements. L. B. Leder and J. A. Simpson, bibliog diags R Sci Instr 29:571-4 J1 '58
- Irradiation of $p-n$ junctions with gamma rays; a method for measuring diffusion lengths. R. Gremmelmaier, bibliog diags Inst Radio Eng Proc 46:1045-9 Je '58
- Locating underground contacts and open couplings by electrical measurements; abstract. C. L. Woody, Gas 34:19 F '58
- Measurement of current with the National bureau of standards current balance. R. L. Driscoll and R. D. Cutkosky, bibliog II diag J Res Nat Bur Stand 60:297-305 Ap '58
- Measurement of high value resistances. J. K. Wood, diags Electronic Eng 30:374-7 Je '58
- Measurement of high voltages with indicating or recording instruments. G. W. Bowdler, bibliog diags Inst E E Proc 105 pt A:176-84 Ap '58
- Measurement of minority carrier lifetimes with the surface photovoltage. E. O. Johnson, diags J Ap Phys 28:1349-53 N '57
- Measurement of voltage ratio at audio frequencies; abstract. W. C. Sze, diags Elec Eng 76:1079 D '57
- Measurement of voltage resulting from single-phase switching of a high-voltage three-phase transformer. W. F. Dunkle and W. F. Mackenzie, II diags Com & Electronics p292-4; Discussion. 294-5 J1 '58

ELECTRIC measurements—Continued

Measurements of spark time lags. J. K. Wood. *diags Electronic Eng* 30:170-6 Ap '58

Measurements of steep-front impulse waves with an isolated screen room installation. C. J. Miller, jr. and J. F. Wittibschlager. *diags Com & Electronics* p262-70 Jl '58; Abstract. *Elec Eng* 77:507 Je '58; Discussion. *Com & Electronics* p270-1 Jl '58

Measuring transformation ratio and phase shift at carrier frequency; data. file. C. Laskin. *diags Control Eng* 5:113-14 Ja '58

Obtaining rate thermal curves by a capacitor method. B. Gregory and G. Bullock. *diags J Sci Instr* 35:228-9 Je '58

Reduction of misalignment voltage in Hall measurements. L. W. Davies. *diag J Sci Instr* 35:111 Mr '58

Relay-scanning-design technique generates high accuracy and speed in analog-to-digital transducer measurements. A. F. Kay. *diags Com & Electronics* p248-50 My '58

Some measurements of abnormal corona. G. W. Penney and J. G. Hewitt, jr. *bibliog diags Com & Electronics* p319-27 Jl '58

Surge measurement errors introduced by coaxial cables. J. H. Park. *diags Com & Electronics* p343-7 Jl '58; Abstract. *Elec Eng* 77:283 Ap '58; Discussion. *Com & Electronics* p347-50 Jl '58

Temperature range of pH scale extended. *Glass Ind* 33:209 Ap '58

See also

Dielectric losses

Dielectrics

Dynamometers

Electric conductivity

Electric current

Electric meters

Electric resistance

Electrometers

Inductance

Oscillographs, Cathode ray

Phase meters

Potential, Electric

Potentiometers

Radio measurements

Wheatstone bridge

Wien bridge

ELECTRIC meters

Cheaper meter reading. *Engineering* 186:96 Jl 18 '58

Instruments watchdog power consumption. *il Mill & Factory* 61:87-8 N '57

Keep shop instruments calibrated. F. R. Manning. *diags Power* 102:126-7 Ap '58

Meter relay as servo component. *il diags Elec Manuf* 61:150 Ap '58

Meters and meter engineers. H. S. Petch. *diags Inst E E Proc* 105 pt A:15-19 F '58

Relay resists vibration. *il diag Product Eng* 28:93 N 25 '57

Simple meter control speeds ball grinding. *Iron Age* 180:191-2 N 14 '57

Taut bands replace pivots in meters. *il diag Elec Manuf* 62:125-6 S '58

See also

Ammeters

Demand meters

Electric measurements

Fluxmeters

Frequency meters

Ohmmeters

Watt hour meters

Wattmeters

Wavemeters

Design

Some related aspects of transport and design: abstract. J. Mendelson. *diag Inst E E Proc* 105 pt A:36-7 F '58

Installation

Meter socket change saves \$100. L. C. Koch and J. C. Thomas. *il Elec World* 150:86 A 18 '58

Temporary test meters installed quickly. J. J. Wolkan. *il Elec World* 148:75 N 11 '57

Maintenance and repair

Shunting device eases meter replacement. *il diag Elec World* 149:56 Ja 6 '58

Manufacture

Toy train inspires automatic assembly; General electric co.'s Meter dept. G. C. Thomas and others. *il diag Mod Materials Handling* 13:118-21 Mr '58

Protection

Silicon diodes as protective meter shunts. A. S. Penfold and E. L. Garwin. *diag R Sci Instr* 29:252-3 Mr '58

Testing

Board speeds polyphase meter tests; Texas electric service co. W. H. Farrington. *il Elec World* 149:60 F 10 '58

Meter test stickers save \$7,000 yearly. J. E. Burney. *il Elec World* 149:63 Mr 31 '58

Portable set saves meter testers' time. W. E. Christenagel. *il Elec World* 149:98 Ap 28 '58

Shop conveyor speeds meter handling. M. E. Holley. *il Elec World* 150:98-9 S 22 '58

Utilities in six states adopt sample testing of meters; studies continue in five states. *Elec World* 149:46-7 Mr 10 '58

ELECTRIC mine hoisting. See Mine hoisting, Electric

ELECTRIC moment

See also

Dipole moment

ELECTRIC motor generators

See also

Dynamotors

ELECTRIC motors

Design digest issue: motors, engines and controls. *il diags Product Eng* 28:H 1-56 Mid-O '57

Design digest issue: motor, engines and controls. *diags Product Eng* 29:H 1-38 Mid-S '58

Design tips for your motor circuits. J. P. Chamberlain. *diags Pet Refiner* 37:219-23 Mr 15-63 Ap '58

Electric motor characteristics. G. C. Blalock. *Plant* 17:52-4 F '58

Electric motors gradually supplanting steam in petroleum refineries. *Power Eng* 61:80 N '57

GP wound rotor motors. *il Mach* 64:161 Je '58

Heat transfer studies lead to light electric motors. E. Ward. *il diags Aviation Age* 30:70-4 Jl '58

Industrial know-how handbook: motors. *il diag Mill & Factory* 62:E7-15 My '58

Limited end float couplings for motor applications. E. B. Mills and J. E. Petermann. *il diags Product Eng* 29:E6-8 Mid-S '58

Mechanics of applying electric motors. W. R. Harris. *il diags Machine Design* 29:109-15 N 28 '57

Modern textile motors; abstract. J. B. Wren. *Machine Design* 29:116 O 31 '57

Motor selection chart. *Elec Constr & Maint* 57:20 Mid-S '58

Motors and controls. *il Westinghouse Eng* 18:17-19 Ja '58

New motor solves problem. *il Steel* 142:42 Ja 27 '58

Open encapsulated-stator motor replaces totally enclosed type. *il Elec Manuf* 62:126-7 S '58

Overmotoring isn't always overdone. C. W. Hope. *Plant* 17:66 Ja '58

Radiation-resistant motors for nuclear aircraft controls. K. C. Fries. *Nucleonics* 16:103-4 Jl '58

Some fundamental facts on motor application. G. C. Blalock. *il Plant* 17:51-3 My '58

Special report on electric motors. *il diags Machine Design* 30:110-40 Jl 24 '58

Technology boosts integrals. *il Steel* 143:57-8 A 25 '58

Torque, horsepower and rpm. N. Peach. *diags Power* 102:146 Ap '58

Torque motor counterbalances load. *il diag Machine Design* 30:144 S 18 '58

Use that third dimension; electrical motors lodged in wirebound crates. *il Mill & Factory* 62:121 Ja '58

What about high temperature motors? G. B. Dunn, jr. *il Textile Ind* 122:79-80 Jl '58

See also

Commutators

Electric driving

Electric machinery

Electric motors, Direct current

Electric motors, Synchronous

Electric transformers

Gearmotors

Pumping machinery, Electric

Bearings

High-temperature bearings will roll with advances in lubricants, materials, design; aircraft electric motors. *il diag S A E J* 66:28-33 Ap '58

ELECTRIC motors—Continued**Cleaning**

Cleaning electric motors with solvents. G. F. Walters. *il* Plant 18:54-5 S '58

Control

Controlling large motors by mercury arcs. *diag* Engineering 185:701-2 My 30 '58

How and why of electric motor controls. G. C. Blalock. *diags* Plant 17:50-2 Ap '58

Key to industrial progress; motor braking. J. C. Ponstingl. *il* *diags* Westinghouse Eng 16:180-4 S '56; Same abr. *Product Eng* 28: E2-3 Mid-O '57

Liquid rheostats; an old-timer struts to tackle the big jobs. E. S. Avery. *il* *diag* Power 101:124-6 D '57

Location and causes of motor failure; motor control, its relation to motor failures. F. D. Snyder. *diags* *Tappl* 41:sup 169A-71A F '58

Motor control ups machine output; closed loop system corrects motor load automatically. *diag* Plant Eng 12:94 Ap '58

Seven ways to brake electric motors; drawings with text. N. Peach. *Power* 101:126-7 N '57

See also

Electric controllers

Cooling

Boiler feed pump motor provides vertical ventilation. E. Jernberg and E. Carlson. *il* Elec World 150:62 JI 14 '58

Design

Design advances in motors. R. C. Rodgers. *il* *diags* Machine Design 30:111-26 JI 24 '58

Electric motor redesign converts to castings. *il* Foundry 86:137-84 O '58

Motor designers take cue from users. *il* Power 102:106 Je '58

Efficiency

Correct voltage affects operating costs. C. T. Baker. *il* Power Ind 74:16-17 Ap '58

Failure

Don't put up with shaft failures. H. A. Schreiber and J. W. Furrman. *il* *diags* Mill & Factory 62:91-3 Mr '58

Fractional horsepower

Fractional horsepower motors; charts, diagrams, speed-torque curves and applications for 12 types. S. Davis. *Product Eng* 28:H 18-19 Mid-O '57

Fractional horsepower motors redesigned to cut installation, maintenance costs. *il* Elec Manuf 62:122-3 S '58

Inchworm motor. *diags* Electronic Ind 17:122+ Ap '58

Miniature motor has simple stator. Electronics 31:102+ Ag 15 '58

Modify fractional-hp motors to simplify application. *il* Machine Design 30:32 S 4 '58

Nylon parts for timing motors. *il* Plastics Tech 4:564 Je '58

Selecting and applying fractional-horsepower motors. T. E. M. Carville. *il* *diags* Machine Design 30:127-33 JI 24 '58

What you should know about fractional hp motors. T. E. M. Carville. *il* Mill & Factory 63:106-9 S '58

Installation

Dual-function motor is end-mounted on lathe. *il* Elec Manuf 61:149-50 F '58

Lubrication

High-temperature bearings will roll with advances in lubricants, materials, design; aircraft electric motors. *il* *diag* S A E J 66: 28-33 Ap '58

Maintenance and repair

Location and causes of motor failure. D. E. Bivins, Jr. and others. *diags* *Tappl* 41:sup 163A-32A F '58

Maintenance is key to big savings. Heating-Piping 30:144-6 My '58

Motor shops. Published in monthly numbers of Electrical construction and maintenance

Motor shops in New Orleans. *il* *diags* Elec Constr & Maint 67:57-64 Ap '58

Preventive maintenance cuts motor maintenance costs. J. W. Samzelius and R. F. Woll. *il* *diags* Pet Refiner 37:183-90 Je '58

Protection against prolonged delays on main drive electrical equipment. H. H. Angel. *il* *diags* Iron & Steel Eng 35:77-84; Discussion. 84-7 Ap '58

This handler helps work on electric motors. F. E. Riley. *diags* Power Eng 62:86 JI '58

Trouble-shooting on electrical equipment. Mill & Factory 62:E35-42 My '58

See also

Electric motors, Induction—Maintenance and repair

Manufacture

Annealing motor laminations. *il* Metallurgia 54:287-8 D '56; Abstract. Metal Prog 73: 154+ Mr '58

Automation cuts motor-building time by 50 per cent; General electric co. *il* Power 102: 158+ Mr '58

Automation featured in motor and generator manufacture. J. M. Crawford; B. W. Wyman. *il* Elec Eng 77:277 Mr '58

G.E. applies automation to motor making. *il* Mod Materials Handling 13:86-7 Mr '58

Mechanization takes hands out of manufacturing; illustrations with text. Mill & Factory 62:114-15 Mr '58

Nato double opposed adjustable multiple-spindle head machine for processing electric-motor frames. *il* Mach 64:181 Mr '58

Something's up with inert-gas-shielded metal-arc welding; electric motors raise landing gear. *il* Welding J 37:810 Ag '58

Stock fed into lamination press at 2600 inches a minute. *il* *diags* Mach 64:154-5 F '58

Versatile tooling for rabbeting motor frames. *il* Mach 65:151-2 S '58

Protection

Be wary of short circuits; modern motor control centers provide much-needed protection. R. E. Gasparoli. *il* Plant 17:64-6 Ja '58

How much radiation can a motor take? Iron Age 180:189-90 N 14 '57

How to select the proper electric motor enclosure. R. F. Woll. *il* Plant 18:51-3 Ag '58

Insulating shafts. *il* Engineering 186:347 S 12 '58

Lint-free motors for textile mills. Safety Maint 114:41-2 N '57

Location and causes of motor failure; insulation. K. P. Grenfell. *Tappl* 41:sup 166A-9A F '58

Location and causes of motor failure; ventilation. C. L. Harvey. *Tappl* 41:sup 178A-30A F '58

Motor shaft currents can be important. P. S. Null. *il* *diags* Power 101:146-7 D '57

New uses for ceramics in motors and transformers. J. H. Terry. *il* Am Cer Soc Bul 38:464-6 D 15 '57

Newcomer: NEMA type II weather-protected motor. P. L. Cochran. *il* Power 102:124-5 Ag '58

Silicone-insulated motor exposed to radiation source. Elec Eng 77:274-5 Mr '58

Space heaters lick motor moisture. R. L. Nallen. *il* Power 102:104-5 Mr '58

Three-phase motor users face \$20-million decision: does third wire need overload protection? *diag* Machine Design 30:10 S 18 '58

Weather-protected motors can take it. W. Schneider and R. M. Sexton. *il* Power 101: 98-9 N '57

Which type of torque-limiting device? R. A. Bareiss and P. A. Brand. *diags* Product Eng 29:50-3 Ag 4 '58

See also

Electric motors, Alternating current—Protection

Relays

Specifications

Electric motor selector. Machine Design 30:141-50 JI 24 '58

Electrical specifications: motors, generators and controls. *diags* Elec Constr & Maint 57:117-22 My '58

Speed

What determines speed of motors? N. Peach. Power 102:152 Mr '58

Standards

International standards for motor dimensions set for final approval. M. S. Hancock. *diags* Elec Manuf 61:118-22+ Mr '58

NEMA standards for those size-reduced motors with the same power. R. Y. Newton. *diags* Product Eng 29:54-5 F 3 '58

Starting

How to figure starting current from NEMA code letters; reference book sheet. C. C. Libby. *Product Eng* 29:107+ Ap 28 '58

How to select controls for starting three-phase motors. J. Kileo. *il* *diags* Machine Design 30:118-24 Ag 21 '58

ELECTRIC motors—Starting—Continued

- Lee Guinness stepless starter, *Il* diag Engineering 135:359 Mr 21 '58
 Maximum contact life in a motor-starter construction, *Il* diags Machine Design 30: 91 Ag 7 '58
 Vapormatic rheostat, *Il* diags Automobile Eng 48:103-10 Mr '58
 Where to look for trouble in ac magnetic starters, S. Spence, *diag* Power 102:124-5 Ja '58
See also

Electric motors, Alternating current—Starting

- Temperature**
 Why temperature ratings on motors; abstract, Machine Design 30:186 Mr 20 '58

Testing

- Automatic motor run-in and electrical testing, *Il* Elec Manuf 61:148 Mr '58
 Can a motor run forever? *Il* Iron Age 182:92-3 JI 24 '58
 Cut costs with simple tester for slide-wire motors, L. E. Shoemaker, *diag* Elec World 149:64-5 My 12 '58
 Motors operate in high-octane fuel, Elec Eng 77:376 Ap '58
 Test motors submerged in high octane fuel; performance of aircraft fuel pump motors, *Il* Ind Lab 9:26-7 Mr '58

Windings

- Impedance tester for stator windings, B. Corradi, *diag* Power Eng 62:112 Ap '58
 Large motor rewinding, W. J. Martens, *Il* Elec Constr & Maint 57:100-5 Ja '58
 Machine automatically winds synchro stator, *Il* Electronics 31:90-4 Mr 28 '58
 What is the best way to take care of your electric-motor rewinds? N. Peach, *Il* Power 102:114-15 S '58

ELECTRIC motors, Alternating current

- Ac for deep mining; Joy mfg. co. J. D. Russell, *Coal Age* 63:123 Ap '58
 A-c power for face machines; coal mines, C. C. Conway, *Il* diag Min Cong J 44:46-51 Mr '58
 Big motors, custom built from stock components, *Il* Product Eng 29:62-3 Je 9 '58
 Cash in on test stand losses; simple a-c motors save \$25,000 in electricity annually; F. Perkins Ltd, *Il* Plant Eng 12:97 F '58
 Characteristics of a-c mining equipment, F. R. Hugus and others, *Il* diags Min Cong J 44:53-9 JI; 65-71 Ag '58
 Large a-c motors feature accessibility, *Il* Iron & Steel Eng 35:125-6 Je '58
 Let the load be your guide when selecting polyphase motors, C. C. Libby, *Product Eng* 29:58-61 Ag 18 '58
 Positioning drive uses two-winding a-c motor, T. C. Jones, *Il* Elec Manuf 61:157-8 Je '58
 Take-apart design of ac motors permits fast, easy inspection, *Il* Machine Design 30:6 Je 12 '58
 What you should know about the newest textile motors, C. S. Bouggy, *Il* Textile World 108:74-5 Ja '58

Control

- All-ac drive answers need, *Il* Steel 142:108 Ap 7 '58
 All-ac vari-speed motor drive controlled by thyatron tubes; VarEPack, *diag* Machine Design 30:6-4 Ap 3 '58
 British Thomson-Houston combined a.c. motor and eddy-current coupling, *diag* Engineer 205:550 Ap 11 '58
 D-c braking of a-c motors in the textile industry; abstract, J. C. Marous, *Machine Design* 29:115 O 31 '57
 Electronic a-c adjustable speed drive; thyatron control, C. Marx and H. Dessmer, *Il* diags Elec Manuf 61:148-50 My '58
 Variable-speed drives using ac equipment; abstract, H. S. Neville, *diags* Machine Design 29:114-15 D 26 '57

Maintenance and repair

- F/A motor; fully accessible for inspection and maintenance, W. H. Morse, *Il* Westinghouse Eng 18:112-15 JI '58

Manufacture

- Flexible automation makes specials as G. E. builds for \$1 billion motor market, J. M. Crawford, *Il* Am Mach 102:274-6 Ja 27 '58
 Horsepower flows from new production facilities; General Electric's Small a-c motor and generator department, *Il* Mach 64:168-70 Mr '58

Protection

- Built-in overheat protection for three-phase motors, V. G. Vaughan and R. M. Glidden, *Il* diags Elec Manuf 62:79-83-4 Ag '58
 Four methods of ac motor overload protection, *diags* Power 102:126-7 F '58

Starting

- How to select and apply general-purpose a-c motor controllers, G. B. Snider, *Il* Mill & Factory 61:104-9 D '57
ELECTRIC motors, Direct current
 Analysis of d-c machine commutation; abstract, J. R. M. Alger and D. T. Bewley, *Elec Eng* 76:1052 D '57
 Application of d-c machines to oil-well drilling, B. H. Heffner, *Il* diags Applications & Ind p345-50; Discussion 350-2 Ja '58
 Characteristics of phase-controlled bridge rectifiers with d-c shunt motor load, R. W. Pfaff, *Il* diags Applications & Ind p49-53 My '58
 Evaluation of the new industrial d-c motors and generators, B. M. Emunson and A. J. Ward, *Il* Elec Manuf 61:92-7 Je '58
 Selecting and applying integral-horsepower motors, C. E. Robinson, *Machine Design* 30:140 JI 24 '58
 Smaller better-controlled new dc motors, A. P. Bowman and T. C. Mann, *diags* Product Eng 29:108-9 Mr 31 '58
 Why the upsurge in d-c power? D. W. Borst and M. M. Morack, *Il* Mill & Factory 62: 96-101 Ja '58

Control

- New ac adjustable-speed motor principle; abstracts, W. R. Harding, *diags* Control Eng 5:115-4 JI '58; *Elec Manuf* 62:66 JI '58
 New types of calendar drives, P. R. Gravenstreiter, *diags* Machine Design 30:190-4 Ap 3 '58
 Variable-speed d-c motor drive employing the Xatron, a grid-controlled mercury arc rectifier, A. J. Humphrey and K. L. Shrider, *bibliog* *Il* diags Power Apparatus & Systems p 1245-61 F '58

Cooling

- Direct-drive motor designed for stepless wide speed range, *Il* diags Elec Manuf 61:96-9 My '58

Maintenance and repair

- Catching commutation criminals, J. V. Dobson and D. R. Dobson, *Il* Elec Constr & Maint 57:92-5 F '58
 Electrical maintenance, a key to good shovel operation, E. D. Elwonger, *Il* diags Pit & Quarry 50:91-4 Je '58

Standards

- D-c mill motor brake standard, *diags* Iron & Steel Eng 34:130-1 O '57
 D-c mill motor standards, *diags* Iron & Steel Eng 34:141-4 N '57

Windings

- Electrical engineers develop a new concept for multi-path, direct current armature windings, W. E. Menzies, *diags* Machine Design 30:184-4 F 20 '58

ELECTRIC motors, Induction

- A.c. motor duty cycle, R. W. Foster, *bibliog* Tappi 41:425-9 Ag '58
 Braking circuit for induction motors, H. E. Guttmann, *diags* R Sci Instr 29:528 Je '58
 Britain's new variable-speed motor, J. Tunstall, *Il* diags Product Eng 29:68-9 JI 7 '58
 Eddy currents and wall losses in screened-rotor induction motors, R. L. Russell and K. H. Norsworthy, *diags* Inst EE Proc 105 pt A:163-75 Ap '58
 Formulas for applying induction motors on rapid-reversing duty cycles, P. J. Dobbins, *Il* Machine Design 29:31-4 D 26 '57
 Hermetic compressor motor speed indicator, W. W. Sutherland, *Il* diags Refrig Eng 66: 45-8 Ja '58
 High-speed breaker reclosing can put abnormal stresses on your motors, D. Delasta and S. Durand, *Power* 102:90-3-4 F '58
 High-torque induction motors for engine starting, *Il* Elec Manuf 62:130 S '58
 How to find open circuits in squirrel-cage rotors; illustrated instructions, N. Peach, *Power* 102:150-1 Mr '58
 Improved single-phase motor; Newman Industries, Ltd, *Il* diags Engineer 205:478 Mr 28 '58
 Induction motor for farmers, *diags* Engineering 185:325 Mr 14 '58

ELECTRIC motors, Induction—Continued

- Induction-motor speed-changing by pole-amplitude modulation. G. H. Rawcliffe and others. diags Inst E E Proc 105 pt A:411-19 Ag '58
- Linear induction motors. E. R. Laithwaite. bibliog. il diags Inst E E Proc 104 pt A:461-70 D '57
- Modified adjustable-speed brushless induction motor. A. M. El Gammal. il diags Power Apparatus & Systems p431-6 Ag '58
- Motor current as a process indication. C. Lawler-Wilson. diags Instruments & Automation 31:293-4 F '58
- Phase rotation finder does away with temporary connections. B. A. Corradi. diags Power Eng 62:104 O '58
- Selecting and applying integral-horsepower motors. C. E. Robinson. il Machine Design 30:134-40 JI 24 '58
- Shaftless ac motors. R. J. Owen. il diags Product Eng 29:56-9 Je 9 '58
- Small induction motors are going places. I. E. Ross and R. W. Groot. il Product Eng 29:72-4 Mr 3 '58
- Transfer function of two-phase servomotors. S. L. Mikhail and G. H. Fett. bibliog diags Applications & Ind p97-8; Discussion. A. Padegs. 98-9 My '58
- Transistor-oscillator induction-motor drive. W. H. Card. diags Com & Electronics p531-5 S '58
- What makes induction motors run? N. Peach. diags Power 102:144 F '58

Control

- Cheap speed control possible. D. W. Huszagh. Elec World 149:77 Mr 24 '58
- Dc braking for induction motors. diags Power Eng 61:90 D '57
- Shaft-mounted device instantly reverses motor. il diag Product Eng 28:129 N 11 '57
- Three-phase induction-motor control using static-frequency doublers. A. Straughen and others. bibliog diags Applications & Ind p58-66 My '58

Design

- Analogue computer applied to induction-motor design. il diag Engineering 136:138 Ag 8 '58
- Digital computers tap out designs for large motors. fast. G. L. Godwin. flow chart il diag Power 102:102-4+ Ap '58

Load

- Stray-load losses and stray torques in induction machines. A. M. Odok. bibliog diags Power Apparatus & Systems p43-53 Ap '58

Maintenance and repair

- Ensuring high performance from induction motors; mechanical and electrical maintenance and repair. J. W. Samzelius and R. F. Woll. il diags Tappi 40:sup 193A-201A N '57; Same. Air Cond Heat & Ven 65:55-66 Ja '58
- How to service induction motors. J. W. Samzelius and R. F. Woll. il diags Rock Prod 61:118+ Mr; 112+ JI '58
- Large a-c motors are fully accessible; squirrel-cage wound rotor and synchronous motors. il Plant 18:53 JI '58
- Preventive maintenance of modern motors. J. W. Samzelius. il diags Plant 17:60-3 Mr '58

Noise

- Elliott co. lab permits studies, improvements in noise levels. il Elec World 149:76 Ap 14 '58

Protection

- Induction motor temperature characteristics. J. F. Heidebreder. diag Power Apparatus & Systems p800-4 O '58

Starting

- Applying part-winding controllers to squirrel-cage motors. J. Sheets and W. G. McMichael. diags Control Eng 5:75-8 JI '58
- Automatic stepless starters for slipping motors. il diags Engineer 205:143 Ja 24 '58
- Induction motor temperature characteristics. J. F. Heidebreder. diag Power Apparatus & Systems p800-4 O '58
- Vapour motor starter for slip-ring motors. diag Wireless World 64:330 JI '58

Tables, calculations, etc.

- Theory for shaded-pole induction motors. F. W. Suhr. diags Power Apparatus & Systems p509-15 Ag '58

Testing

- Induction motor test stand. J. B. Meyer. il diags Elec Constr & Maint 57:94-7 JI '58

Windings

- Six stator-winding connections; drawings with text. N. Peach. Power 102:126-7 Ag '58
- Two improved chored windings for 3:1 pole-changing. G. H. Rawcliffe and N. L. Garlick. diags Inst E E Proc 105 pt A:62-6 F '58
- 2:1 pole-changing induction motor of improved performance. G. H. Rawcliffe and R. F. Burbidge. diags Inst E E Proc 104 pt A:457-60 D '57

ELECTRIC motors, Railway

- Using silicones in traction motors. il Engineering 185:819-20 Je 27 '58

See also

Electric locomotives

Manufacture

- More traction motors; General electric co. limited. il Engineering 184:828-9 D 27 '57

Protection

- Shaft insulation for traction motor reverser switches. il Engineer 206:310 Ag 22 '58
- Silicone insulation for traction motors. il diags Engineer 205:528-9 Ap 11 '58

ELECTRIC motors, Reluctance. See Electric motors, Synchronous

ELECTRIC motors, Squirrel cage. See Electric motors, Induction

ELECTRIC motors, Submergible

Immersed motor stays dry. il Product Eng 29:66 Ap 14 '58

Immersed motors. F. D. Yeaple, jr. diags Product Eng 29:80-1 S 15 '58

ELECTRIC motors, Synchronous

Basic analysis of synchronous machines.

W. A. Lewis. bibliog diags Power Apparatus & Systems p436-53; Discussion. 453-5;

Reply. 455-6 Ag '58

Harmonics of the salient-pole synchronous machine and their effects. M. M. Liw-

schitz-Garik. bibliog diags Power Apparatus & Systems p462-9; Discussion. 469-70 Ag '58

How synchronous motors work. N. Peach.

diags Power 102:133 My '58

Reluctance motors for adjustable frequency drives. C. G. Helmick and A. T. Bache-

ler. il diags Westinghouse Eng 16:118-22 JI '56;

Same. Product Eng 28:H22-5 Mid-O '57;

Same abr. Machine Design 28:142-4+ O 18 '56

Siemens dual-strip 16/16 projector with synchronous motor; abstract. H. Kron-

berger. il SMPTE J 67:486 JI '58

Synchronous motors are paying off. F. P.

Goertzen. il diag Oil & Gas J 56:97-101 Ja 6 '58

Synchronous speed drive. il diag Automation 5:85-8 Ja '58

Control

- Methods of starting synchronous motors: operating characteristics affecting control selection and application. R. R. Gobell. il diags Machine Design 30:133-46, cover F 20 '58

- Recent hot strip mill roughing trains. J. H. Greiner. il diags Iron & Steel Eng 35:151-5; Discussion. 155-9 S '58

Maintenance and repair

- Large a-c motors are fully accessible; squirrel-cage wound rotor and synchronous motors. il Plant 18:53 JI '58

Noise

- Timer motor silenced with nylon bearings. il diags Elec Manuf 61:147 Ap '58

Parallel operation

- Parallel operation of two synchronous machines. J. H. Walker and N. Kerruish. diags Inst E E Proc 105 pt A:47-61 F '58

Starting

- Methods of starting synchronous motors: operating characteristics affecting control selection and application. R. R. Gobell. il diags Machine Design 30:133-46, cover F 20 '58

Windings

- Design of fractional-slot windings. J. H. Walker and N. Kerruish. bibliog diags Inst E E Proc 105 pt A:428-40 Ag '58

ELECTRIC motors, Synchronous—Windings—**Continued**

Harmonics of the salient-pole synchronous machine and their effects; differential leakage of the damper winding with respect to the main wave. M. M. Liwischitz-Garik. bibliog diags Power Apparatus & Systems p462-9; Discussion. 469-70 Ag '58

ELECTRIC musical instruments. See Musical instruments, Electric

ELECTRIC network analyzers. See Electric distribution—Network analyzers

ELECTRIC oscillations. See Oscillations, Electric

ELECTRIC outages. See Electric power—Interruptions

ELECTRIC ovens

Barlow-Whitney electric batch-type ovens. II Engineering 135:325 Mr 14 '58

Cast epoxy core driers for dielectric ovens. J. M. Leaman and P. L. Morrison. II Foundry 86:84-7 Mr '58

Electric oven cuts glass drying time by 90 per cent. T. W. Scully. II Elec World 148:34 D 9 '57

Electric oven ends high power factor rejects; Kuhlman electric co. II Elec World 149:104 Mr 3 '58

Fume control for metal coating ovens. II diags Safety Maint 114:51-2+ D '57

Oven aids finishing; McKinstrey metal works electric radiant oven. Steel 143:102 S 22 '58

ELECTRIC ovens, Baking

Drop-leaf door design simplifies oven cleaning. II Machine Design 30:151 Mr 20 '58

ELECTRIC plants**See also**

Atomic power plants

Boiler plants

Diesel-electric sets

Electric generator sets

Electric substations

Electric utilities

Power plants

Steam plants

Interconnection

Determination of reserve and interconnection requirements. H. D. Limmer. bibliog Power Apparatus & Systems p544-3 Ag '58; Abstract. Elec Eng 77:393 My '58; Discussion. Power Apparatus & Systems p548-50 Ag '58

Economic choice of generator unit size. L. K. Kirchmayer and A. G. Mellor. diags A S M E Trans 80:1015-23; Discussion. 1023-6 JI '58

46-kv submarine cable crossing in the Straits of Mackinac. J. G. Stelzer and others. II map diags Power Apparatus & Systems p738-46 O '58

Four 9,000-ft oil-filled cables link states across Champlain. II Elec World 150:52-3 S 29 '58

Improved method of interconnecting transmission loss formulas. A. F. Glimm and others. bibliog diags Power Apparatus & Systems p755-60 O '58

Joint use of transmission facilities meets success in Connecticut. C. T. Hughes and others. Elec World 148:80-1 N 18 '57

Power pooling trend gets added impetus. Elec World 149:56 Je 9 '58

Rating of autotransformers for system interconnection. E. T. B. Gross and J. C. Pohlman. diags Power Apparatus & Systems p 1236-44; Discussion. 1244 F '58

St Lawrence estuary submarine power transmission system. O. W. Titus. II maps diags Eng J 41:54-8 Mr '58

Survival plan to save \$140 million; seven electric companies in and around Iowa are exploring a coordinated expansion program. C. H. Whitmore. map Elec World 148:44-5 O 28 '57

345-kv interconnects two 4000 mw systems. M. J. Lacopo and L. F. Lischer. map diags Elec World 149:60-3 My 26 '58

345-kv tie-line link nears completion. II Elec World 149:45 Mr 10 '58

Union promotes Europe's power pool; Union for coordination of the production and transport of electric power. diag Elec World 149:47-9 Je 16 '58

Use of probability methods in the economic justification of interconnecting facilities between power systems in south Texas. A. P. Jones and A. C. Mierow. map Power Apparatus & Systems p520-6; Discussion. 526-8; Reply. 528-30 Ag '58

Industrial plants

Linden generating station; exchange between Public service electric and gas co. of New Jersey and the Esso standard oil co. II diags Mech Eng 80:88-9 Je '58

Linden steam power station. flow diags II plan diags Engineer 205:909-11 Je 13 '58

Operation of the power system at Fairless works. G. A. Goetz. II plans Iron & Steel Eng 34:110-16; Discussion. 116-17 O '57

Plant power demand can be a costly operating item. Power 102:121 F '58

Tie between a utility and an industrial when the industrial has generation. D. V. Fawcett. bibliog diag Applications & Ind p 136-42; Discussion. F. P. Brightman. 142-3 JI '58

Isolated plants vs. purchased power

Modernization pares plant production costs; U.S. envelope co. L. M. Blackford. II Elec World 150:94 Ag 25 '58

Purchased power ends overheating motors. L. Albertson. II Elec World 149:92 My 5 '58

Location**See also**

Electric plants (central stations)—Mining plants

ELECTRIC plants (central stations)

Comparison of conventional and nuclear plants shows differences; chart. Elec World 149:62-3 My 12 '58

Linden station generates 450,000 kw. II Elec Eng 77:656 JI '58

Suggests power plant criterion. T. Baumeister. Elec World 150:72 Ag 25 '58

Temporary power piping is tool to speed power plant completion. J. A. Donald and others. diag Heating-Piping 30:142-4 My '58

Trends in central stations; charts. Power 101:80-1 D '57

Trends in power generation; lessons for nuclear engineers. H. E. Roberts. map Nuclonics 16:76-9 JI '58

See also

Atomic power plants

Boiler plants

Electric distribution

Electric engineering

Electric transmission

Electric utilities

Hydroelectric plants

Steam plants

Accidents

Solving a corrosion mystery. Product Eng 29:21-2 Ad 14 '58

Auxiliaries

Grounding of power station 4,160-volt auxiliary systems. T. H. McGreer. diag Power Apparatus & Systems p 1450-63 F '58

New auxiliary scheme for large units avoids load shedding. J. C. Woods. diag Elec World 149:62-3 Ap 21 '58

Compressed air distribution

This power plant had air for sale; La Bella mill water & power co. II Comp Air Mag 63:23 F '58

Construction

Civil engineering features of Linden generating station of Public service electric and gas co. of New Jersey. A. Verduin. II map plan diag Am Soc C E Proc 84 [PO 3 no 1676]:1-33 Je '58

Ideal site reduces plant cost; Delaware Power's new Indian river power plant. E. M. Sommerfield and R. M. Mullen. II diag Power Eng 62:95-6 O '58

Control equipment

Annunciator system uses plug-in elements. II diag Elec World 149:52-3 Ap 21 '58

Control station controls today and tomorrow. W. A. Summers. bibliog diags Combustion 30:34-42 JI '58; Same cond. I S A J 5:32-7 JI '58

ISA annual power conference. 1st. New York, May 21-23. I S A J 5:66-7 JI '58

Costs

Criterion of economic choice. P. H. Jeynes and L. Van Nimwegen. bibliog Power Apparatus & Systems p605-17; Discussion. 617-29; Reply. 629-32 Ag '58

Economic considerations in generation scheduling for the Southwestern public service co. system. R. W. Thomas and others. map Power Apparatus & Systems p 1545-52; Discussion. 1552-5 F '58

ELECTRIC plants (central stations)—Costs—

- Continued*
Figuring costs for power plant instrumentation. H. R. Karp. *Control Eng* 5:25-6 J1 '58
Generator unit size study for the Dayton power and light co. W. J. Pitcher and others. *diag Power Apparatus & Systems* p558-63; Discussion. 563 Ag '58
Incremental maintenance costs of steam-electric generating stations. M. J. Steinberg. *bibliog Combustion* 29:51-4 N '57; Same. *Elec Eng* 76:1054-7 D '57
Minimization of fuel costs by the technique of linear programming. A. P. Hayward and others. *bibliog plant diag Power Apparatus & Systems* p 1288-93; Discussion. 1293-5 F '58
What is true cost of coal? with cost data. H. G. Lammers and others. *diag Elec World* 148:39-40 D 23 '57

See also
Electric distribution—Costs

Design

- Axial flow turbine and monotube boiler are basic design considerations of Portland generating station. J. G. Miller and R. H. Kreislinger. *bibliog plant diags Combustion* 29:34-41 Ja '58
Bay Shore generating station, an analysis of specific electrical features. Toledo Edison co. R. May and C. M. Gardam. *it plans diags Power Apparatus & Systems* p725-35 O '58; Abstract. *Elec Eng* 77:786 S '58; Discussion. *Power Apparatus & Systems* p735-8 O '58
Electrical features of Eddystone station; Philadelphia electric co. E. B. Shew and F. W. Myers. *it map diags Power Apparatus & Systems* p707-11; Discussion. 711-13 O '58
1957 design survey of typical new steam central-station installations; tables. *Power* 101:82-7 D '57

Diesel engine stations

- Diesel-generator capacity rockets to match Vero Beach growth. C. C. Jewett. *it Pub Works* 88:120 N '57
Export engines can have it tough; Diesel-electric power plants in Panama. R. H. Emerick. *it diag Diesel Power* 35:26-7 D '57
Greenport runs engine acceptance tests. *it Diesel Power* 36:16-18+ F '58
Municipal Diesel plant extended to provide better service; Cushing, Okla. *it Pub Works* 89:188 Ag '58
Neodesha's latest, its biggest. *it Diesel Power* 35:52-3 N '57
Waverly adds Enterprise RV-16 engine; Municipal electric utility. *it Diesel Power* 36:14-16+ S '58

Electronic equipment

- Automatic data system keeps tabs on Sterlington power plant. L. E. Stewart. *it diag Power* 102:104-5 Ag '58
Computer gives automatic plant record. *it Elec World* 149:64 Je 16 '58
Why we are using an automatic data collection system; Louisiana power & light co. D. L. Aswell. *diag Power Ind* 74:9 Mr '58

Employees

- Training new men for power plant work; Commonwealth Edison co. of Chicago. *it Power Eng* 62:76-8 Ap '58

Equipment

- Aluminum; central station heavyweight. *it Power* 102:81-3, cover S '58
Annual engineering review, 1957; power generation, transmission, distribution. *it Westinghouse Eng* 18:6-13 Ja '58
Better boiler efficiencies are expected with new precipitator. J. J. Trainor. *it diag Elec World* 149:60-1 Ap 21 '58
Borough of Lansdale plans to use new feed-water heater. R. T. Cooney and others. *diags Power* 102:78-80+ My '58
Central electricity generating board; East Yelland power station. *it Chem & Ind* p790-1 Je 23 '58
Cross-compound 3600/3600-rpm machine is near-duplicate of two parallel units; developed for Public service electric & gas co. of N. J. N. D. Gove. *it diag Power* 102:79 F '58
Eddystone station, new Philadelphia electric co. has longest vacuum ash system. *it diag Power Eng* 62:67 S '58
Electrical engineering in 1957. *it Engineer* 205:19-22 Ja 3 '58

Evolution of the design and operation of large thrust bearings. R. A. Baudry. *bibliog it diags Power Apparatus & Systems* p502-7; Discussion. 507-8 Ag '58
Figuring costs for power plant instrumentation. H. R. Karp. *Control Eng* 5:25-6 J1 '58

- First generator at Ybbs-Persenbeug north. *it Engineer* 206:389 S 5 '58
550 mw is reached; cross compound turbine; C. A. Parsons and co. *it diags Engineering* 188:586-7 My 9 '58
550 mw turbo-generator set; C. A. Parsons and co. *it Engineer* 205:706-7 My 9 '58
Front Street uses new desuperheater in turbine bypass. *it Power Eng* 61:84 N '57
High pressure steam plant; Meaford B power station. *it Engineering* 184:501 O 18 '57
High temperature couplings at Edison plant still there on anniversary. *it Air Cond Heat & Ven* 54:118 D '57
How Dayton Power & Light modernized Tait station. M. J. Lacap. *it Elec World* 149:46-7 Mr 10 '58
How to cope with flyash disposal. C. A. Gal-lac. *it Power* 102:99-1 Ja '58
Ince power station. *it Engineer* 204:566-8 O 18 '57
Kelvin power station. *it Engineer* 204:875 D 13 '57
Lift-slab scheme raises generator 40 ft in 20 hours. E. R. Peterson. *it Power* 102:88-9 Ja '58
Linden steam power station. flow diags *it plan diags Engineer* 205:909-11, 949-51 Je 13-20 '58
Load and frequency control shows role of the instrument manufacturer in systems engineering; Minneapolis-Honeywell regulator co. and Niagara Mohawk power corp. J. W. Hoag and G. W. McKnight. *it diags Instruments & Automation* 31:98-102 Ja '58
Meaford B power station. *it Engineer* 204:533-4 O 11 '57
Modern insulation techniques provide the heat barrier at River Rouge. *it Power* 102:116-17 Ap '58
Modified sprockets cut costs \$1,500; traveling screens for circulating water. W. E. Adams. *diag Elec World* 149:50 Je 2 '58
Monotube boiler, axial-flow-exhaust turbine make unique combination; Portland station of Metropolitan Edison co. *it diags Power Eng* 62:68-8+ Ja '58
Once-thru boiler used for subcritical operation; modernization and expansion of Frank M. Tait station. H. E. Gismond. *it plan diags Elec World* 148:52-4 D 23 '57
Portland generating station. J. G. Miller and R. H. Kreislinger. *bibliog diags Mech Eng* 80:64-70 F '58
Provides frequency deviation. J. Cowan. *it Elec World* 149:76 Ja 13 '58
St Mary's, Ohio doubles its rating in same space. R. B. Pyle and F. M. Craft. *it diags Power* 102:84-6 J1 '58
Selection and application of cooling towers in steam-electric stations. E. E. Goitein. *bibliog it diags Combustion* 29:38-44 N '57; Discussion. P. Rogers. 29:60 Ja '58
Static plug-in modules for annunciator system. *it diags Elec Manuf* 61:158-4 Je '58
Tilbury power station. *it Engineer* 205:861-2 Je 6 '58
Tilbury power station. *it Engineering* 185:792 Je 20 '58
Turbo-alternators reach 275 mw. *diag Engineering* 185:330-1 Mr 14 '58
240 mw Ince power station; oil firing with semi-outdoor boilers. *it Engineering* 184:534 O 25 '57
Two-mile cooling-water circuit avoids recirculation at Memphis. D. H. Kregg and S. J. Weston. *it diag Power* 102:100-1 Mr '58
- Explosions**
Failure of a 60mw steam turbo-generator at Uskmouth power station. A. L. G. Lindley and F. H. S. Brown. *it Engineer* 205:475-8, 508-10, 547-50 Mr 28-Apr 11 '58
- Fires and fire protection**
Fire-resistant turbine lubricants; Duquesne light co. J. J. O'Connor. *it diag Power* 102:73-7 My '58
When fire strikes a power station; Springfield's Lakeside power station. F. H. Wilcox. *it Power Eng* 61:74-6 D '57
- Fuel**
Coal for electric power, 1958-75. W. A. Raleigh, jr. *it Coal Age* 63:84-9 F '58
Coal rate improves to 0.93 lb; consumption of coal, oil and gas, 1941-1957; tables. *Elec World* 149:104-5 Ja 27 '58

ELECTRIC plants (central stations)—Fuel—*Continued*

- Detroit Edison's River Rouge coal handling system moves 2500 tph. *il diag Plant* 17:42-3 My '58
- FPC defers ruling on Con Ed gas case. *il Elec World* 150:94 S 22 '58
- How about a central fuel committee for Edison electric institute? P. M. Reiter. *Power Eng* 62:82-3+ Ap '58
- How New York city transit authority keeps tabs on power output; coal sampling system. *il Power Ind* 74:17 Je '58
- Linden steam power station, flow diags *il plan diags Engineer* 205:909-11 Je 13 '58
- Minimization of fuel costs by the technique of linear programming. A. P. Hayward and others. *bibliog plan diag Power Apparatus & Systems* p 1288-93; Discussion. 1293-5 F '58
- More gas for steam generation; California utilities make pact. *Oil & Gas J* 55:80-1 N 4 '57
- Prediction of future demands in coal quality by the electric utility industry. R. H. Wolin. *diag Min Cong J* 44:4-42 My '58
- Slurry handling at Barony power station. *diag Engineer* 204:607 O 25 '57
- Unit one goes in for \$112 per kw; Tampa electric co. W. E. Hopkins and A. D. Jones. *Elec World* 150:47 S 15 '58
- West German brown coal. *il diags Engineer* 205:906-8 Je 13 '58

Gas turbine auxiliaries

- Combined gas-steam-turbine plant. W. D. Sinclair. *diags Mech Eng* 80:69-70 Ja '58

Gas turbine stations

- Canadians roll gas-turbine plant; British Columbia power commission's Georgia generating station. J. G. Harvey. *il plans diag Elec World* 149:69-72 F 17 '58
- Gas turbines picked for Canadian plants. W. J. Granberg. *il Diesel Power* 35:48 D '57
- Large gas turbines for central station application. Z. S. Stys. *il diag Power Apparatus & Systems* p476-81 Ag '58; Same. *Elec Eng* 77:238-43 Mr '58
- Large simple-cycle gas turbines for electric power generation. *diags Engineer* 205:300-3 F 21 '58

Interconnection**See Electric plants—Interconnection****Load**

- Big big freeze sends output up, sets new peaks. *il Elec World* 149:62-3 F 24 '58
- Brief hot spell hikes output figures. *Elec World* 150:52-3 Ag 25 '58
- Calculation of residential cooling loads. G. Conklin. *il Prog Arch* 39:127-31 My '58
- Cool weather stunts summer peak growth. *Elec World* 150:40-1 S 15 '58
- Economic choice of generator unit size. L. K. Kirchmayr and A. G. Mellor. *diags A S M E Trans* 80:1015-23; Discussion. 1023-6 J1 '58
- Electric load grows in buildinks. *Power Eng* 62:73 F '58
- Evaluation of combustion-control; load-control He-in equipment at Niles station of Ohio Edison co. R. H. Travers and others. *il diags Power Apparatus & Systems* p417-25 Ag '58
- Evaluation of distribution systems for medium-load-density commercial areas. G. L. Landgren. *bibliog diags Power Apparatus & Systems* p 128-35; Discussion. 135-7 Ap '58
- For booming residential air-conditioning and heat-pump loads; single-phase service costs less. E. B. McBurney. *diag Elec World* 148:54-7 O 28 '57
- Load and economic aspects of the residential heat pump on electric utility systems; abstract. C. W. Bary. *Elec Eng* 77:57 Ja '58
- Load, capability forecasts take only slight dip; Edison electric institute's 23d semi-annual electric power survey. *Elec World* 149:56 Je 9 '58
- Load-growth curves normalized. J. D. Simons. *Elec World* 149:49+ Je 30 '58
- 1957 winter peak may take growth leap, beating summer's gain. *Elec World* 148:66-7 D 9 '57
- Now you can predict energy usage in terms of temperature, wind, sun and appliances. J. B. C. Thomas and others. *il Elec World* 148:104-7 D 16 '57
- Plan five years ahead for system var supply. V. J. Farmer and G. S. Whitlow. *map Elec World* 148:68-70 N 11 '57

- Residential load study is a key to the future; does your company use it? T. D. Fulford and L. L. Sharkey. *Elec World* 148:79-82 D 9 '57
- Standards help meet new loads. G. P. Vest. *il Elec World* 150:66-7 S 8 '58
- Supply-voltage and current variations produced by a 60-ton three-phase electric arc furnace. B. C. Robinson and A. I. Winder. *bibliog il diags Inst E E Proc* 105 pt A:805-18; Discussion. 318-23; Reply. 323-4 Ag '58
- Three Texas companies study characteristics of five appliance loads. *Elec World* 150:40-6 Ag 11 '58
- Winter peak falls below estimate. *Elec World* 149:44-5 Ja 13 '58
- Winter peaks to climb 7.1 million kw this year; 12.1 million kw in 1959; tables and charts. *Elec World* 150:102-3 S 22 '58

Load dispatching

- Analog or the digital computer? R. B. Squires and L. J. Rindt. *il Elec World* 150:53-4+ J1 7 '58
- Combustion control, load control tie-in equipment. R. H. Travers and others. *diags Combustion* 29:34-41 F '58
- Computer for central power distribution. *Electronics* 31:22 Je 13 '58
- Control for kilowatts. *Control Eng* 5:73+ Mr '58
- Determination of reserve and interconnection requirements. H. D. Limmer. *bibliog Power Apparatus & Systems* p544-8 Ag '58; Abstract. *Elec Eng* 77:393 My '58; Discussion. *Power Apparatus & Systems* p548-50 Ag '58
- Early bird loading computer doubles estimated yearly saving; Pennsylvania electric association's systems operation committee meeting Bedford. Oct. 24-25. *Elec World* 148:88-9 N 25 '57
- Economic considerations in generation scheduling for the Southwestern public service co. system. R. W. Thomas and others. *map Power Apparatus & Systems* p 1545-52; Discussion. 1552-5 F '58
- Economic dispatch computer. W. H. Osterle and R. B. Squires. *il map plan diag Westinghouse Eng* 18:66-70, cover My '58; Excerpts. *Elec World* 149:55-7 Ap 21 '58
- Electric heating and system demand. L. B. Altman, Jr. and L. F. Charity. *Elec World* 149:46+ Mr 31 '58
- How to improve your network load metering; measuring loads in ac network vaults. J. P. Galassini and H. Pensky. *il diags Elec World* 149:70-1 F 3 '58
- Load and frequency control shows role of the instrument manufacturer in systems engineering; Minneapolis-Honeywell regulator co. and Niagara Mohawk power corp. J. W. Hoag and G. W. McKnight. *il diags Instruments & Automation* 31:98-102 Ja '58
- Maximum continuity gained by load control. C. L. Kerr and G. L. Almon. *il diag Elec World* 148:34-5 N 18 '57
- New Connecticut valley power exchange system operating center dispatches efficiently for two utilities. D. Z. Stremleau and D. C. Switzer. *il map Elec World* 149:60-3 Ap 14 '58
- Operating experience with GEDA automatic economic dispatching. Ohio Edison system. R. H. Travers. *il Power Apparatus & Systems* p407-9; Discussion. 409-10 Je '58
- Operating experience with West Penn. power co.'s economic dispatch computer. W. E. Hamilton and W. H. Osterle. *il plan Power Apparatus & Systems* p702-6; Discussion. 706-7 O '58
- Operation proves design of new load control system; Niagara Mohawk power corp.'s Western div. *Elec World* 149:72-3 F 3 '58
- Planned incremental loading gives efficient power system operation. S. W. Anderson. *diag Power Eng* 62:72-4 O '58
- Portable units economical for feeder checks. J. N. Vines. *il Elec World* 149:60+ F 10 '58
- Precision high-speed telemetering oscillator. D. Garshman and J. A. Fraunfelder. *il diags Power Apparatus & Systems* p95-9 Ap '58
- Pressurized water reactor to operate conventionally; Shippingport nuclear power plant. *diag Elec World* 149:56-8+ Mr 10 '58
- Rapidly converging digital load flow. R. H. Jordan. *diag Power Apparatus & Systems* p 1433-3 F '58
- Startup, operation and testing; Shippingport plant. *il Nucleonics* 16:69-72 Ap '58
- Technical aspects of providing service to single-phase 60-cycle railroad loads. T. J. Nagel and A. F. Gabrielle. *maps diag Applications & Ind* p 172-6 J1 '58

ELECTRIC plants (central stations)—Load dispatching—Continued

Telemetering integrates control. L. R. Larson and R. W. Brown. *diag Elec World* 149: 62 Ja 20 '58

Maintenance and repair

Dust-collector tubes replaced faster. D. W. Robson. *diag Elec World* 149:89 Mr 3 '58

Lightwall stainless steel cuts maintenance costs. *il Elec World* 149:96-7 Mr 3 '58

Preventive maintenance is cycled. Public service co. of Indiana. *il Elec World* 150:56-7 JI 28 '58

Repairs cut down-time at Con Ed. J. L. McFarlan. *il diag Power Eng* 62:84-7 Ap '58

Valve maintenance improves operating efficiency. Nebraska City Utilities. R. Hall. *il Diesel Power* 36:20-1 O '58

Management**See also**

Electric utilities—Management

Mine-mouth plants

Remote stations can be economically operated. H. C. Simmons, Jr. and R. D. Dartnall. *Elec World* 149:52-4 Je '58

Protection

Earth-electrode systems for large electric stations. J. D. Humphries. *bibliog plans diags Inst E Proc* 104 pt A:383-92 O '57; Discussion. 104 pt A:392-9; 105 pt A:527-8 O '57, O '58

Records

Do you know what you have? Inventory and operating records. B. J. Ennis. *Pub Works* 89:64+ O '58

Safety measures**See also**

Electric distribution—Grounding
Lightning arresters

Statistics

Electrical industry statistics: new capacity. U.S. and Canada; tables. *Elec World* 149: 19-32 Ja 27 '58

Electrical World industry statistics; 54th annual report. *Elec World* 149:85-132 Ja 27 '58

Steam distribution

Mechanical engineering critique; heating and cooling with purchased steam. W. J. McGuinness. *Prog Arch* 39:9 JI '58

Supervisory control

How the space-code-selector system works to give supervisory control. A. R. Christman. *il diags Power Eng* 62:68-71 Ag '58

Underground stations

Ambuklad underground power station. A. Eberhardt. *il map plans diags Am Soc C E Proc* 84 [PO 2 no 1598]:1-30 Ap '58; Discussion. 84 [PO 5 no 1830]:19-25 O '58

Chute-des-Passes; construction drama; putting hydro-power underground. A. J. Fox, Jr. *il maps Eng N* 159:52-5 N 14 '57

Haas hydroelectric power project. J. B. Cooke. *bibliog il map plans diags Am Soc C E Proc* 84 [PO 1 no 1529]:1-40 F '58; Discussion. 84 [PO 1 no 1529]:1-40 F '58

F. L. Lawton. 84 [PO 3 no 1689]:11-12 Je '58
Quebec-hydro goes underground. *il Elec World* 149:73-5 My 19 '58

Rock boring speeds Snowy Mountains project. T. A. Lang. *il diag Civil Eng* 28:90-2 F '58

Sudagai underground power plant. Japan. T. Mizukoshi. *il maps diags Am Soc C E Proc* 84 [PO 1 no 1555]:1-17 F '58

Sweden excavates 2,100,000 cu yd for tailrace tunnel of underground power plant. T. Nilsson. *il diag Civil Eng* 28:19-21 Ja '58

Underground powerhouse in poor rock; Glenmoriston power station, Scotland. *map diags Eng N* 160:63-4+ F 6 '58

Underground power houses in Italy and other countries. C. Marcello. *il plans diags Am Soc C E Proc* 84 [PO 1 no 1561]:1-43 F '58

Underground power plants in Canada. A. W. F. McQueen and others. *bibliog il plans diags Am Soc C E Proc* 84 [PO 3 no 1670]:1-22 Je '58

Underground power plants in Scotland. C. M. Roberts. *il plans diags Am Soc C E Proc* 84 [PO 3 no 1675]:1-29 Je '58

Alberta

Battle River steam station. J. N. Ford and W. I. McFarlan. *il diags Eng J* 41:49-57+; Discussion. E. B. Campbell. 79+ Ja '58

Austria

First generator at Ybbs-Persenbeug north. *il Engineer* 206:389 S 5 '58

British Columbia

B.C. electric projects. *diag Eng J* 41:88-9 F '58

Canadians roll gas-turbine plant; British Columbia power commission's Georgia generating station. J. G. Harvey. *il plans diag Elec World* 149:69-72 F 17 '58

Canada

Canadian power situation with particular reference to thermal-electric power. C. E. Baltzer. *maps Can Min & Met Bul* 51:34-41 Ja '58

Colorado

This power plant had air for sale; La Bella mill water & power co. *il Comp Air Mag* 63:23 F '58

Dayton, Ohio

Generator unit size study for the Dayton power and light co. W. J. Pitcher and others. *diag Power Apparatus & Systems* p558-63; Discussion. 563 Ag '58

England

Central electricity generating board; East Yelland power station. *il Chem & Ind* p790-1 Je 28 '58

High pressure steam plant; Meaford B power station. *il Engineering* 184:501 O 18 '57

Ince power station. *il Engineer* 204:566-8 O 18 '57

Meaford B power station. *il Engineer* 204: 533-4 O 11 '57

Tilbury power station. *il Engineer* 205:861-2 Je 6 '58

Tilbury power station. *il Engineering* 185:792 Je 20 '58

Great Britain

Central electricity authority generating plant installed in 1957; with table. *Engineer* 205: 70 Ja 10 '58; Same abr. *Engineering* 185:46 Ja 10 '58

Failure of a 60mw steam turbo-generator at Usknum power station. A. L. G. Lindley and F. H. S. Brown. *il Engineer* 205:475-8, 508-10, 547-50 Mr 28-Apr 11 '58

Power stations; illustrations with text. *Engineer* 205:pl 6 Ja 3 '58

Johannesburg, South Africa

Kelvin power station. *il Engineer* 204:875 D 13 '57

Long Beach, California

Power plant sinks below ocean level. *il Power Eng* 61:85 N '57

Ohio

Evaluation of combustion-control; load-control tie-in equipment at Niles station. *il Edison co. R. H. Travers and others. il diags Power Apparatus & Systems* p417-25 Ag '58

Texas

Use of probability methods in the economic justification of interconnecting facilities between power systems in south Texas. A. P. Jones and A. C. Mierow. *map Power Apparatus & Systems* p520-6; Discussion. 526-8; Reply. 528-30 Ag '58

Wales

New power stations in south Wales; abstract. C. W. A. Priest. *Inst E E Proc* 105 pt A:25 F '58

ELECTRIC plants, Cooperative

Balloting to decide splurge of system acquisition proposals. *Elec World* 150:46-7 S 29 '58
Co-op mark a milestone. *Elec World* 149:49 Ap 21 '58

Hoosier loan stirs comment. *Elec World* 149: 45 Ja 13 '58

Indiana service ban. Kansas accord. Wyoming tax draw industry interest. *Elec World* 149: 51 My 26 '58

Job ahead for REA; changing co-op loads. *Elec World* 149:42 Je 2 '58

Moon Lake line poses 64,000-kw question. *Elec World* 150:46-7 JI 14 '58

New plan for REA loans. *Elec World* 149:66 Mr 3 '58

Urges sweeping law changes. C. Ellis. *Elec World* 150:95 S 22 '58

See also

National rural electric cooperative association
ELECTRIC plants, Municipal

Enterprise Diesel boosts city electric plant capacity; Waverly, Iowa, municipal electric utility. *il Pub Works* 89:174 S '58

ELECTRIC plants, Municipal—Continued

- Municipal Diesel plant extended to provide better service; Cushing, Okla. *il* Pub Works 89:188 Ag '58
- Municipal power. B. J. Ennis. Pub Works 89:64+ O '58
- Municipal power plant profits reduce town taxes; Thayer, Mo. *il* Pub Works 89:188 Ap '58
- Neither side stands to gain in Memphis-TVA rate hassle. *Elec World* 150:48 J1 28 '58
- Waverly adds Enterprise RV-16 engine; Municipal electric utility. *il* Diesel Power 36:14-16+ S '58

ELECTRIC potential. See Potential, Electric**ELECTRIC power**

- Annual engineering review, 1957; applications of power. *il* Westinghouse Eng 18:14-27 Ja '58
- Generation; a new look at reserves. H. Halperin and others. *Elec World* 149:80-2 Mr 3 '58
- Power practices in 1957. *Combustion* 29:43-4 Ja '58
- Process costimating; cost of electrical power; various regions. W. L. Nelson. *bibliog Oil & Gas J* 56:114 My 26 '58
- Research and engineering progress, 1957; power. *il* Gen Elec R 61:14-19 Ja '58
- Small-scale unconventional power sources now assume new significance. J. F. Flagg. *diags Gen Elec R* 61:30-3 J1 '58
- Small signal power conservation theorem for irrotational electron beams. J. W. Klüver. *J Ap Phys* 29:618-22 Ag '58
- Storage of energy. R. G. Voysey. *Engineering* 186:380-2 S 19 '58

See also

- Electric currents
- Electric distribution
- Electric driving
- Electric plants (central stations)
- Electric transmission
- Electric welding, Arc—Power supply
- Hydroelectric power
- Power factor
- Radio apparatus—Power supply
- Radio telephone—Power supply
- Tidal power
- Wind tunnels—Power supply
- Also subdivision Power under special subjects, e.g.
- Aluminum works
- Chemical plants
- Coal mines and mining
- Metallurgical plants
- Packing houses
- Paper and pulp mills
- Paper board mills
- Rolling mills
- Steel works

Interruptions

- Computer analysis of transmission system capability during generator outages. H. B. Seeley and others. *diags Power Apparatus & Systems* p290-4 Je '58
- Details of outage probability calculations. A. L. Miller. *diags Power Apparatus & Systems* p551-6; Discussion. 556-7 Ag '58
- Emergency power for microwave stations. W. E. Freese. *Oil & Gas J* 56:225-7 Ag 18 '58
- How do you rate on storm press relations? good despite snafus, says press. *Elec World* 149:50-1 Ap 14 '58
- Power companies puzzled by outages in three states. *Elec World* 150:59 J1 21 '58
- Power failure alarm. G. P. Pearce. *il* *diags Radio-Electronics* 29:116-17 Ja '58
- Relays prevent system shutdowns. C. W. Cogburn and G. C. Kelley. *diags Elec World* 148:71-3+ N 4 '57
- Transients trouble suburban industries, traced to excessive control sensitivity. C. E. Quick. *Elec World* 149:56-8 F 10 '58
- Use of a digital computer in a generator reserve requirement study. H. E. Brown. *diags Com & Electronics* p82-5 Mr '58
- Voltage regulator stabilizes automated plant operations. F. X. Doran. *Elec World* 149:56-7 F 10 '58

Purchasing

- See Electric plants—Isolated plants vs. purchased power

Rates

- See Electric rates

Statistics

- Electrical World industry statistics; 54th annual report. *Elec World* 149:85-132 Ja 27 '58
- World power data, 1956; tables. *Combustion* 29:44-7 O '57

ELECTRIC precipitation

- Barbed device cleans gas; Koppers' new electrode design ups efficiency of electrostatic precipitators. *Chem & Eng N* 36:76 F 24 '58
- Barbed electrodes, a new idea in dust control. *diags Rock Prod* 61:101 Ap '58
- Filtering radioactive particles from stack gas. H. E. Anderson. *bibliog il* *diags Air Cond Heat & Ven* 55:71-7 F '58
- For cleaner scrapyards; Smokatron car burner uses electrostatic precipitation. *il* *Steel* 141:30 D 30 '57
- Large-volume electrostatic air sampler. S. C. Stern and others. *bibliog diags A M A Archives Ind Health* 18:30-3 J1 '58
- Model studies of flue design. *il* *diags Air Cond Heat & Ven* 55:74-6 Je '58

ELECTRIC precipitators

- Automation, the key to more efficient dust collection. C. E. Beaver. *diag Combustion* 29:41-3 Ag '57
- Better boiled efficiencies are expected with new precipitator. J. J. Trainor. *il* *diag Elec World* 149:60-1 Ap 21 '58
- Electrostatic precipitators in the cement industry. R. J. Plass and H. H. Haaland. *il* *diag Rock Prod* 61:104-5+ J1 '58
- Model studies save money in flue gas duct design. *il* *Power Eng* 62:84 Mr '58
- Modifications to the Fontana, open hearth precipitators. E. V. Akerlow. *il* *diags Iron & Steel Eng* 35:97-102; Discussion. 102-3 J1 '58
- New electrode raises efficiency of precipitators. *diags Power Eng* 62:76 Mr '58
- Precipitators save \$3,000; salvage sulphates from paper plant flue gases. *il* *Elec World* 149:100 Mr 17 '58
- Thermal precipitator for continuous aerosol sampling. C. Orr and R. A. Martin. *il* *diags R Sci Instr* 29:129-30 F '58

Control

- Automatic control of electrical precipitation rectifiers. H. E. Van Hoesen and others. *il* *diags Com & Electronics* p126-8 Mr '58
- Static automatic control for electrical precipitators. L. L. Little. *diag Combustion* 29:55-7 My '58

Maintenance and repair

- Specialized group maintains electric precipitators. *Iron & Steel Eng* 34:157-8+ O '57

Models

- Flue-design models. *il* *Mech Eng* 80:92-3 Ap '58
- Model studies expect to improve steel plant precipitator operation. *il* *Iron & Steel Eng* 35:181-2+ Mr '58
- Models create new sales approach; transparent models throw light on precipitator design problems. *il* *Chem & Eng N* 36:102-3 Mr 3 '58
- Slim designs; plastic models pare pounds of metal off electrostatic precipitators. *il* *Ind & Eng Chem* 50:sup27A-8A Ap '58
- Transparent models crack gas-flow mysteries; Research-Cottrell. *il* *Chem Eng* 65:70+ Mr 24 '58

Power supply

- Silicon rectifiers for precipitator power supplies. R. E. Willison. *il* *diag Elec Manuf* 61:126+ Ja '58

Testing

- Field experience with electrostatic precipitator on Diesel locomotive engine air intake. F. Kansas and others. *il* *diag Applications & Ind* p230-5 S '58

ELECTRIC properties

- Air-gap test cell for measuring properties of sheet dielectrics. S. I. Reynolds and D. A. Kollath. *bibliog il* *diags R Sci Instr* 29:295-6 Ap '58
- Construction and electrical properties of a germanium alloy-diffused transistor. F. J. W. Jochims and others. *diags Inst Radio Eng Proc* 46:1161-5 Je '58
- Effect of crystal growth variables on electrical and structural properties of germanium. R. D. Rosl. *bibliog il* *diags RCA R* 19:349-87 S '58
- Effect of heat treatment upon the electrical properties of silicon crystals. C. S. Fuller and R. A. Logan. *bibliog J Ap Phys* 28:1427-36 D '57

ELECTRIC properties—Continued

- Electric and magnetic properties of precision balls for electromechanical devices; chart. E. N. Shotts. *Elec Manuf* 61:145 Ap '58
- Electrical characteristics of printed circuit panels. *Electronic Ind* 17:457-62 Je '58
- Electrical characteristics of silicon *p-n-p-n* triodes. L. M. Mackintosh. *bibliog* *diags Inst Radio Eng Proc* 46:1229-35 Je '58
- Oxides of the 3d transition metals. F. J. Morin. *bibliog* *diags Bell System Tech J* 37:1047-84 JI '58
- Properties of silicon and germanium. E. M. Conwell. *diags Inst Radio Eng Proc* 46:1281-300 *bibliog* (p 1293-300) Je '58
- Semiconductor properties of recrystallized silicon in aluminum alloy junction diodes. R. A. Gudmundsen and J. Maserjian, jr. *bibliog* *II diags J Ap Phys* 28:1308-16 N '57
- Some properties of gallium arsenide-germanium mixtures. D. A. Jenny and R. Braunstein. *II J Ap Phys* 29:596-7 Mr '58

See also

- Electric resistance
- Hydrocarbons—Electric properties
- Resinous products—Electric properties
- ELECTRIC protective apparatus**
- Electrical distribution protection. N. Peach. *II diags Power* 102:73-104 Je '58 (reprints 75c)
- Electrical protection for transistorized equipment. J. W. Phelps. *II diags Bell Lab Rec* 36:247-9 JI '58
- Overcurrent protection in large-capacity ship-board electric systems. J. R. Cole. *diags Applications & Ind* p 126-30 JI '58; Abstract. *Elec Eng* 77:293 Ap '58; Discussion. R. R. McGee. *Applications & Ind* p 130-1 JI '58
- Protection equipment for power company communication lines. D. L. Brown and L. N. Sherban. *II diags Power Apparatus & Systems* p 1411-19 F '58
- Protection plan for distribution feeders. J. R. Hayden and others. *II diags Power Apparatus & Systems* p486-9; Discussion. 489-93; Reply. 493-4 Ag '58
- Surge limiter saves tubes. *II diag Elec Manuf* 61:156 My '58

See also

- Electric circuit breakers
- Electric distribution—Grounding
- Electric equipment—Protection
- Electric fuses
- Electric generators—Protection
- Electric lines—Protection
- Electric motors—Protection
- Electric plants (central stations)—Protection
- Electric substations—Protection
- Electric switchgear
- Electric transformers—Protection
- Lightning arresters
- Lightning protection
- Reactors
- Relays

Testing**See also**

- Relays—Testing
- ELECTRIC pumping machinery.** See Pumping machinery, Electric

ELECTRIC railroads**See also**

- Electric locomotives
- Railroads—Electrification
- Trolley buses
- Cars
- See Cars, Electric railroad

Equipment and supplies

- Ventilating systems for railway traction equipment. B. A. Widell. *II diags Applications & Ind* 227-30 S '58

Trains

- Electric trains for South African railways. *II diags Engineer* 205:398-400 Mr 14 '58
- Metro-Cammell railway coaches with load-carrying bodies. *II diags Engineering* 185:344-5 Mr 14 '58
- Train sets for the St Gervais-Chamonix-Vallorcine line. *II Engineer* 205:555 Ap 11 '58

France

- Train sets for the St Gervais-Chamonix-Vallorcine line. *II Engineer* 205:555 Ap 11 '58

South Africa

- Electric trains for South African railways. *II diags Engineer* 205:398-400 Mr 14 '58
- Metro-Cammell railway coaches with load-carrying bodies. *II diags Engineering* 185:344-5 Mr 14 '58

ELECTRIC rates

- Boston. Ed granted 5.53 per cent return on original cost base. *Elec World* 150:44 S 15 '58
- Can electric utilities hold the line against further rate increases? *Elec World* 148:58-9 N 4 '57
- Cost-of-service criteria upheld. *Elec World* 149:36 Mr 31 '58
- Electric rate increases, 1950-1957; tables. *Elec World* 149:108 Ja 27 '58
- FPC turns down rates on power sold to TVA. *Elec World* 149:58 Je 9 '58
- Federal rate rise foreseen. W. A. Pearl. *Elec World* 149:114 My 12 '58
- Neither side stands to gain in Memphis-TVA rate hassle. *Elec World* 150:48 JI 28 '58
- Politics and recession; possible snags for utility rate hikes. *Elec World* 149:78-9 Je 22 '58
- Residential load study is a key to the future: does your company use it? T. D. Fulford and T. L. Sharkey. *Elec World* 148:79-82 D 9 '57
- Some new mathematical aspects of fixed charges; abstract. C. W. Bary and W. T. Brown. *Elec Eng* 76:1080 D '57
- Two utilities get rate hikes; Tampa electric co. and Commonwealth Edison co. *Elec World* 149:38-9 Je 30 '58
- Utilities turn to promotional rates that compete. *Elec World* 148:84-5 D 16 '57

ELECTRIC reactors. See Reactors**ELECTRIC rectifiers**

- Application of silicon and germanium power rectifiers in the steel industry. R. J. Moran. *II diags Iron & Steel Eng* 35:117-22 Ag '58
- British Thomson-Houston silicon rectifier for railway traction. *II Engineer* 206:425 S 12 '58
- Characteristics of phase-controlled bridge rectifiers with d-c shunt motor load. R. W. Pfaff. *II diags Applications & Ind* p49-53 My '58
- Circuit calculations for rectifier locomotives and motor-coaches. T. E. Calverley and D. G. Taylor. *bibliog* *diags Inst E E Proc* 104 pt A:355-67; Discussion. 368-73; Reply. 373-5 O '57
- Class III-V compound rectifiers. G. B. Kich. *bibliog* *Elec Eng* 77:514-16 Je '58
- Current balancing reactors for semiconductor rectifiers. I. K. Dortort. *diags Com & Electronics* p452-6 S '58; Abstract. *Elec Eng* 77:589 JI '58
- Design features of large semiconductor rectifiers. I. K. Dortort. *Applications & Ind* p49-53; Discussion. 253-6; Reply. 256-8 S '58
- D.c. winder drives using mercury-arc rectifier inverters. L. Abram and others. *bibliog* *II diags Inst E E Proc* 105 pt A:77-89; Discussion. 89-94; Reply. 94-6 Ap '58
- Effects of gas filling on rectifiers and thyratrons. J. S. Kirk and A. M. Wohler. *II diags Elec Manuf* 61:115-17+ Mr '58
- 18,400kw germanium rectifier installation. *II Engineer* 205:222 F 7 '58
- Expandable rectifier for high voltage. *II Electronics* 31:188+ Mr 14 '58
- Germanium and silicon rectifiers. H. W. Henkels. *bibliog* *II Inst Radio Eng Proc* 46:1086-98 Je '58
- Germanium and silicon take the lead among semiconductor rectifiers. R. A. York. *Product Eng* 29:89-91 My 12 '58
- Germanium rectifier equipment for electrolytic processes. L. G. Miller and W. R. Hodgson. *II diags Applications & Ind* p353-7 Ja '58
- High-current-density selenium rectifier. C. C. Geib and W. E. Brown. *II Applications & Ind* p358-60 Ja '58
- High-efficiency push-pull magnetic amplifiers with transistors as switched rectifiers. A. G. Milnes. *bibliog* *diags Com & Electronics* p327-30; Discussion. 330-1 JI '58
- High power germanium rectifier installed at Ellesmere Port plant of Associated ethyl co. *II Engineering* 185:358 Mr 21 '58
- How to specify parallel operation of unregulated transformer-rectifiers. J. E. Topper. *II diags Aviation Age* 23:54-9 F '58
- How to stop d-c downtime; reliable crane service provided by parallel rectifiers. R. E. Ingham. *II Plant Eng* 12:122-5 Ap '58
- How to use the germanium rectifier. A. L. DiVenuti, jr. *II diags Power Eng* 62:78-80 Ja '58
- Medium power silicon rectifiers. R. J. Andres and E. L. Steele. *diags Electronic Ind* 17:62-5 Mr '58
- Metal rectifiers and semi-conductors. *II Engineer* 204:570-2 O 18 '57

ELECTRIC rectifiers—Continued

- Metal rectifiers and semi-conductors. Product Eng 29:1 2-3 Mid-S '58
- Metal rectifiers for welding. Metallurgia 56: 303-4 D '57
- Metallic rectifiers for shipboard electric systems. C. L. Straub and H. G. Wiest. *Il Elec Eng* 77:312-16 Ap '58; Same. Applications & Ind p70-4 My '58
- Minimality of rectifier nets with multiple outputs incompletely specified. R. McNaughton and B. Mitchell. *diags Franklin Inst J* 264: 457-80 D '57
- Modernization pares plant production costs; U.S. envelope co. J. M. Blackford. *Il Elec World* 150:34 Ag 25 '58
- Power factor of rectifiers. A. Schmidt, jr. Applications & Ind p53-7 My '58
- Rectifiers and semi-conductors. Engineering 184:565 N 1 '57
- Rectiflow drives; semiconductor rectifiers. W. R. Harding. *Il diags Westinghouse Eng* 18:120-2 JI '58; Abstract. *Elec Manuf* 62:66 JI '58
- Selenium rectifier applications in automotive vehicles. E. J. Szabo. *Il Applications & Ind* p369-71 Ja '58
- Selenium rectifier selection and circuit design. R. C. Hitchcock. *diags Elec Manuf* 61:109-19 Ap '58
- Semiconductor power rectifiers. *diags Product Eng* 28:1 14-17 Mid-O '57
- Semi-conductor rectifier developments for power supplies to electronic equipment; abstract. A. H. B. Walker and K. G. King. *Brit Inst Radio Eng J* 18:257 Ap '58
- Semiconductor rectifiers, present and future, for electrochemical loads; abstract. R. M. Crenshaw and A. L. Munn. *Machine Design* 30:152-4 Ap '58
- Silicon carbide rectifiers save space in airborne units. J. D. Vickrey. *Il Aviation Age* 28:84-9 Ja '58
- Silicon good for high-voltage rectifiers. R. E. Willison. *Il Elec World* 148:78 N 4 '57
- Silicon power rectifier equipments. J. A. Marshall and V. N. Stewart. *Il diags Applications & Ind* p365-9 Ja '58
- Silicon power rectifiers; a survey. J. R. Riggs. *bibliog il diags Elec Manuf* 62:56-66 S '58
- Silicon rectifier cells; what are they? how are they made? A. M. Christian. *Il Welding Eng* 48:39 Ja '58
- Silicon rectifiers for precipitator power supplies. R. E. Willison. *Il diags Elec Manuf* 61:126-4 Ja '58
- Silicon rectifiers improve features of d-c welders. E. F. Steinert. *Welding Eng* 43:38 Ja '58
- Silicon rectifiers solve dc problem. A. F. Anderson and A. F. Corry, jr. *Il diags Elec World* 149:49-51 My '58
- Single-anode rectifier. *Il diags Engineer* 205: 745 My 16 '58
- Single-anode rectifier to withstand vibration; Com-Pak mercury-arc rectifier. *diag Engineering* 186:31 JI 4 '58
- Superconducting rectifier and amplifier. J. L. Olsen. *Sci Instr* 29:557-8 Jrs '58
- Superposition applied to mechanical rectifier contacts. I. K. Dortort. *Il diags Applications & Ind* p 167-72 JI '58
- Ten-kw germanium rectifier for automatic power plants. E. A. Hake. *Il diags Applications & Ind* p361-6 Ja '58
- Variable-speed d-c motor drive employing the Xatron, a grid-controlled mercury arc rectifier. A. J. Humphrey and K. L. Shrider. *Bibliog il diags Power Apparatus & Systems* p 1245-51 F '58
- Why the upsurge in d-c power? D. W. Borst and M. M. Morack. *Il Mill & Factory* 62:96-101 Ja '58

See also

Ignitron
Radio rectifiers
Thyratron

Control

- Automatic control of electrical precipitation rectifiers. E. V. Hoosen and others. *Il diags Com & Electronics* p 126-8 Mr '58
- How the controlled rectifier works. R. Frenzel. *diag Power Eng* 62:86 Mr '58

Failure

- Failure-rate studies on silicon rectifiers. N. F. Bechtold and C. L. Hanks. *Il diags Com & Electronics* p49-56 Mr '58

Maintenance and repair

- Primer on rectifiers; circuits, applications, troubleshooting and maintenance. T. White. *Il diags Plant Eng* 12:94-100 Mr '58

Manufacture

- Manufacturing a new high current density selenium rectifier. J. Loebenstein. *Il diags Plating* 45:739-42 JI '58
- Semi-conductor rectifier factory British Thomson-Houston co. *Il diags Engineer* 205: 362-6 Mr 7 '58

Testing

- Failure-rate studies on silicon rectifiers. N. F. Bechtold and C. L. Hanks. *Il diags Com & Electronics* p49-56 Mr '58

ELECTRIC refrigerators. See Refrigerators**ELECTRIC relays. See Relays****ELECTRIC research**

- Annual engineering review, 1957; research and engineering. *Il Westinghouse Eng* 18: 28-32 Ja '58
- Development of semiconductor in the U.S.S.R. A. F. Joffe. *Eng J* 41:88-9 Ag '58
- Electrical research. *Il American annual report. Engineer* 205:723 My 16 '58
- Engineering developments; research; illustrations with text. *Elec Eng* 77:3 Ja '58
- \$5 million ehv research project charted. *Il Elec World* 149:54-5 Je 9 '58
- National science foundation; its role in electrical engineering research. G. M. Nordby and R. N. Faiman. *Elec Eng* 77:782-5 S '58
- Pattern of research in the electrical industry. H. K. Cameron. *Chem & Ind* p 1214-21 S 20 '58
- Project, ehv. P. A. Abetti. *Il Elec Eng* 77: 669-74 Ag '58
- Research and engineering progress, 1957. *Il diags Gen Elec R* 61:8-58 Ja '58
- Research horizons. Published in monthly numbers of *Electrical manufacturing*.
- Ten years of transistor progress in the United States. *Il diags Engineer* 206:75-7, 114-17, 195-7, 235-7 JI 11-13, Ag 1-8 '58

See also

Electric laboratories

ELECTRIC resistance

- Alternator winding resistance measured under load. D. W. Brinsingl. *diags Engineering* 185:317-18 Mr 7 '58
- Apparatus for measuring the piezoresistivity of semiconductors. R. F. Potter and W. J. McKean. *bibliog il diags J Res Nat Bur Stand* 69:427-30 D '57
- Apparatus for piezoresistance measurement. M. Pollak. *bibliog diags R Sci Instr* 29: 639-41 JI '58
- Application of a resistance network for studying mobility ratio effects. M. A. Nobles and H. B. Janzen. *bibliog il J Pet Tech* 10:60-2 F '58
- Arc resistance of epoxies. J. Delmonte. *Il Plastics Tech* 4:228-30 Mr '58
- Bridge and emf measurements via the resistance bridge indicator. R. E. George. *Il diags Instruments & Automation* 30: 2061-3 N '57
- Comparisons of materials; electrical resistivity. *Materials in Design Eng* 48:12 Mid-O '58
- Corrosion measurement by resistance method; Corrosometer. D. M. McCloud. *Il diags Gas* 34:126-74 Mr '58
- Density and resistivity changes in Au-Cd upon quenching. W. J. Sturm and M. S. Wechsler. *J Ap Phys* 28:1509-10 D '57
- Design of simple resistance thermometer bridges for wide-range control of low temperatures. R. D. Goodwin. *bibliog diags R Sci Instr* 29:497-501 Je '58
- Determination of water vapor from the change in electrical resistance of a hydroscopic film. E. R. Weaver and others. *bibliog diags J Res Nat Bur Stand* 60:489-508 My '58
- D.c. and square wave a.c. resistance and voltage comparator. T. M. Dauphinee and H. Preston-Thomas. *bibliog il diags J Sci Instr* 35:21-3 Ja '58
- Effect of base resistance and collector-to-base overlap on the saturation voltages of power transistors. H. G. Rudenberg. *diag Inst Radio Eng Proc* 46:1304-5 Je '58
- Effect of dust particles on the electrical resistance and anti-corrosive properties of varnish and paint films. C. Graft-Baker. *bibliog il diags J Ap Chem* 8:590-8 S '58
- Effect of temperature and thickness on the electrical resistivity of ceramic coatings. W. H. Fischer. *Electrochem Soc J* 105:201-3 Ap '58
- Electrical contact resistance of copper-copper junctions at low temperatures. E. L. Powell and A. A. Aboud. *diag R Sci Instr* 29:248-9 Mr '58

ELECTRIC resistance—Continued

- Electrical resistance method of corrosion monitoring in refinery equipment. A. J. Freedman and others. flow diag *Corrosion* 14:29-32 Ap '58; Abstract. *Pet Eng* 30:C42+ Je '58
- Electrical resistance to ground of equipment mounted on wood poles. J. H. Winter, jr. and H. E. Ziekenfuss. bibliog *il diags Power Apparatus & Systems* p765-9 O '58
- Electrical resistivity of boron. E. S. Greiner and J. A. Gutowski. bibliog *J Ap Phys* 28:1364-5 N '57
- Electrical resistivity of high-purity iron-carbon alloys. S. V. Radcliffe and E. C. Rollason. bibliog *Iron & Steel Inst* J 189:45-8 Mv '58
- Equivalent R-Z chart; reference sheet. H. E. Goldstein. *Electronics* 29:170, 172 Je '56; Same. *Product Eng* 28:118-19 Mid-O '57
- Galvanomagnetic coefficients for arbitrary geometry; analog technique for Hall coefficient and magnetoresistance. R. M. Broudy. *il diags J Ap Phys* 29:3853-5 My '58
- Germanium resistance thermometer. *il Bell Lab Rec* 36:261 J '58
- Indium resistance thermometer. G. K. White and others. *R Sci Instr* 29:181-2 F '58
- Influence of water resistivity and precipitation rate upon 60-cycle wet flashover voltage. Com & Electronics p350-7; Discussion. 357-8 J '58
- Measurement of high value resistances. J. K. Wood. *diags Electronic Eng* 30:374-7 Je '58
- Measurement of sheet resistivities with the four-point probe. F. M. Smits. *diags Bell System Tech J* 37:711-18 My '58
- Nature of electric resistivity of the ferromagnetic metals at low temperatures. E. Kondorsky and others. bibliog *J Ap Phys* 29:243-6 Mr '58
- Negative resistance. R. S. Mackay. bibliog *diags Am J Phys* 26:60-9 F '58
- Nomograph to determine resistance of wire; engineering reference sheet. F. Strasser. *Elec World* 149:62 Je '58
- Recovery of electrical resistivity of Cu, Au, and Ni following cold work at 4°K. C. J. Meehan and A. Sosin. *diag J Ap Phys* 29:738-9 Ap '58
- Resistivity and density of polycrystalline vanadium iron garnet. L. G. Van Uitert and F. W. Swanekamp. *J Ap Phys* 28:1513-14 D '57
- Response of a capacitance-resistance divider to the step-function, exponential-function and ramp-function. S. Turk. *diags Electronic Eng* 30:608-11 O '58
- Sensitive circuit for the detection of small effects of resistance modulation. G. Bonfiglioli and R. Malvano. *diag R Sci Instr* 29:788-9 S '58
- Soldering run uses chassis resistance. J. Tartas. *diags Electronics* 31:106-8 Ja '58
- Some considerations in the design and application of an electrical resistance corrosion meter. G. A. Marsh and E. Schaschl. bibliog *il diags Corrosion* 14:55-8 Mr '58
- Using contact resistance to measure adsorption of gases on metals. P. Kisliuk. bibliog *diags Bell System Tech J* 37:325-49 JI '58
- See also*
Electric conductivity
Insulation (electric)
Ohmmeters
Rheostats
Wheatstone bridge
- ELECTRIC resistors**
Action of ballast tubes. H. L. Armstrong. *R Sci Instr* 28:1088-90 D '57
- Comparison of the number decades of a Mueller bridge. W. N. Hubbard. *diag R Sci Instr* 29:784 S '58
- Design of function generators using silicon carbide non-linear resistors. E. Brown and P. M. Walker. *il diags Electronic Eng* 30:154-7 Mr '58
- Flexible selection of thermistors; data file. D. Malkin. *diag Control Eng* 5:93-4 Je '58
- High order accuracy in the solution of partial differential equations by resistor networks. H. G. Landau. *diags J Ap Mech* 25:17-20 Mr '58
- High stability mains-operated recording thermistor thermometer. A. W. Melville. *diags J Sci Instr* 35:179-80 My '58
- Large resistance changes in thermistors make brush-and-ring connectors practical; remote temperature sensing problems in rotary molding presses. *il Machine Design* 30:124 S 4 '58
- Mind reading furnace control. J. A. McRoberts. *il diags Radio-Electronics* 29:105+ O '58
- Response of radiosonde thermistors. F. I. Badgley. bibliog *R Sci Instr* 28:1079-84 D '57
- Solving thermistor problems. R. S. Goodyear. *diags Electronic Ind* 17:51-5+ JI '58
- Teflon's cold flow used to advantage in resistor box trimmer; receives citation in Materials in design engineering competition. *diags Materials in Design Eng* 47:155 Ap '58
- Temperature compensation. S. J. Axel. *Electronic Ind* 17:73 S '58
- Temperature measurement in solids; thermistors resistance elements, thermocouples. W. H. Giedt. *il diags Product Eng* 29:65-7 JI 21 '58
- Temperature measurement with thermistors. J. C. Anderson. *il diags Electronic & Radio Eng* 35:80-4 Mr '58
- Temperature-regulated bismuth resistor for magnetic-field measurements. C. G. Dols and others. bibliog *il diags R Sci Instr* 29:349-54 My '58
- Thermistor detectors in gas chromatography. A. D. Davis and G. A. Howard. bibliog *il diags J Am Chem* 8:133-6 Mr '58
- Thermistors; a review of their properties and applications. K. R. Patrick. bibliog *il diags Electronic & Radio Eng* 35:242-9 JI '58
- Thermistors, ready for growth. *Chem & Eng N* 36:38-9 Mr 31 '58
- Thyrite bridge applications. G. D. Barcus, jr. *diags Elec Manuf* 61:64-6+ Ja '58
- Types and applications of thermistors. *Machine Design* 29:178+ D 12 '57
- Types and uses of thermistors. *diags Product Eng* 29:116-18 Mid-S '58
- See also*
Radio resistors
Rheostats
- Noise**
Calculating noise in electrical resistors. A. E. Maine. *Electronic Ind* 17:70 Mr '58
- Testing**
Selecting materials for environmental testing equipment. C. Morling and J. Bellingier. *il Materials in Design Eng* 46:124-6 D '57
- ELECTRIC service. Rural**
Service reliability on rural distribution systems. L. B. Crann. *diags Power Apparatus & Systems* p761-5 O '58
- See also*
Rural electrification administration
- Cooperative lines**
Co-ops explore anti-trust suit against private utility groups. *Elec World* 148:78 N 25 '57
- REA's sell 23.6 billion kw-hr. up 7.8 per cent; statistics of REA-financed systems. *Elec World* 149:109 Ja 27 '58
- See also*
National rural electric cooperative association
- ELECTRIC shavers**
Six plastics in new shaver; Chilton Sportsman shaver. *il Brit Plastics* 31:22-3 Ja '58
- Manufacture**
How to shave costs; Schick, Inc.; illustrations with text. *Mill & Factory* 62:128 Ap '58
- ELECTRIC ship propulsion.** *See Ship propulsion, Electric*
- ELECTRIC shock**
Basic dangers of electricity. *Safety Maint* 114:14 N '57
- Electric shock. *Engineering* 186:288 Ag 29 '58
- ELECTRIC signals**
Readout head with wire brush fingers detects 80 signals simultaneously; illustrations with text. *Machine Design* 30:134-5 Ja 23 '58
- See also*
Annunciators
Electric alarms
Light signals
Railroads—Signals
Subways—Signals
- Specifications**
Electrical specifications; signal, communications and auxiliary systems. *Elec Constr & Maint* 57:136+ My '58
- ELECTRIC smokehouses.** *See Smokehouses, Electric*
- ELECTRIC spark**
Amateur scientist; inexpensive source of the voltage required for the production of high-energy sparks. C. A. Rambo. *Sci Am* 198:120 F '58
- Arc drop during transition from spark discharge to arc. C. F. Wagner and others. bibliog *il diag Power Apparatus & Systems* p242-7 Je '58

ELECTRIC spark—Continued

- Measurement of spark time lags. J. K. Wood. *diags Electronic Eng* 30:170-6 Ap '58
 Novel circuit for delivering known spark energies. T. A. Erikson. *diag R Sci Instr* 23:173-4 F '58
 Spark plus arc hardens steel in Russia. I. I. Kichkin. *il diags Am Mach* 101:97-9 D 2 '57

See also

- Electric arc
 Electric cutting
 Electric discharges

ELECTRIC standards

- Equipment for a standards lab. W. M. Kidwell. *bibliog il diags Instruments & Automation* 30:2066-72 N '57
 New electronic standards; list of standards issued June 1957 to June 1958. *Electronic Ind* 17:5 Je '58
 Proposed standards for core test methods for toroidal magnetic amplifier cores. *bibliog diags Con & Electronics* p524-31 S '58
 Standard basic impulse insulation levels. *Elec Eng* 77:727-9 Ag '58

See also

- Bushings. Insulating—Standards
 Electric distribution—Standards
 Electronic apparatus and appliances—Standards
 Insulation (electric)—Standards
 International electrotechnical commission

ELECTRIC stoves

- Eddy currents heat German cooking unit. *il Machine Design* 30:30 F 6 '58
 Small part, big savings new nylon compound lockstop for oven drop door; Westinghouse electric ranges. *il Mod Plastics* 35:98-9 Ap '58

See also

- Electronic stoves

Manufacture

- Screw setters speed appliance assembly; Newark stove co. *il Steel* 143:114-15 Jl 14 '58

ELECTRIC substations

- Chicago varies supply schemes for large loads. W. E. Zimmerman. *il plans diags Elec World* 149:70-2 Ap 7 '58
 How to untangle your electrical distribution. M. R. Gavin. *il plan Mill & Factory* 63:81-4 Jl '58
 Illumination and power plan for 2300-foot Arrival building at International air terminal. C. E. Sanford. *il diags Elec Constr & Maint* 57:67-74 F '58
 Install indoor electrical substation. *Elec Eng* 77:656 Jl '58
 Install 33,000 volt substation indoors. *il Plant* 18:56-7 Jl '58
 Landscaped substations win suburban acceptance. G. Metz. *il diag Elec World* 149:64-5 F 3 '58
 Lower construction costs with fiber forms; Long Island Lighting co. J. J. Fauls. *il Elec World* 150:48 Ag 11 '58
 More economical power conversion; substation installation at Barnes & Tucker co. *il Coal Age* 63:100-1+ Je '58
 Power to grow designs for primary subs can be space savers. *diags Power* 102:92-3 Jl '58
 Structures cut substation cost. J. D. Shaw. *il Elec World* 148:51 D 23 '57
 Substations; potential device transistorized. R. L. Stauffer and others. *Elec World* 149:77-9 Mr 3 '58

See also

- Electric distribution

Design

- Attractive stations have lower-cost low voltage side. R. A. Switzer. *il diag Elec World* 149:76-8 My 19 '58
 52-year-old substation replaced. *il diag Engineering* 184:510 O 18 '57
 Substations match surroundings. *il Elec World* 148:70 N 4 '57

Equipment

- Goodings Grove substation is Chicago area's first at 345-kv. J. H. Schroeder and H. P. Tosch. *il plan diags Elec World* 150:58-61 Ag 25 '58
 New air breakers for 138 kv and 13.8 kv pace load growth. T. D. Reimers. *il plan diags Elec World* 149:74-7 F 24 '58
 Northern states power co. sidesteps carrier trouble. L. C. LaTourette and K. K. Dols. *il diags Elec World* 149:51-3 F 10 '58

- St Lawrence power project; the St Lawrence transformer station. A. Matheson. *il Enr* J 41:91-3 S '58
 Three steps lead to economical and reliable aluminum buses. D. H. Sandell. *il Elec World* 148:92-5 N 25 '57

Maintenance and repair

- Bi-monthly substation inspection checklist; engineering reference sheet. *Elec World* 149:78 Ja 13 '58
 Boom and platform speed jobs. *il Elec World* 149:70+ My 5 '58
 Oil reclaiming process saves 10.5 per cent; Virginia electric & power co.; with cost data. O. R. Compton. *diag Elec World* 148:82-3 N 18 '57

Models

- Model substation aids training, operations. *il Elec World* 149:75 F 3 '58

Protection

- Grounding chain-link fence and gate; engineering reference sheet. *diag Elec World* 149:84 Mr 24 '58
 Idaho power co. phase-failure relay reliable. E. A. Oakes. *il diags Elec World* 149:47-8 Fe 30 '58
 Modernize substation grounding practice. J. E. Hoopes. *diags Elec World* 150:66-7 Ag 25 '58
 New design creates three improvements in station arresters. P. M. Ross. *il Elec World* 149:56+ Ja 20 '58
 Relaying tapped substations for faults on high-voltage transmission lines. R. W. World and others. *diags Power Apparatus & Systems* p73-7 Ap '58; Excerpts. *Elec Eng* 77:621 Jl '58; Discussion. *Power Apparatus & Systems* p77-8 Ap '58
 Three ways to limit circulating current in paralleled regulators. H. C. George. *diags Elec World* 150:62-3 Ag 25 '58

Standards

- Economic advantages of standard substations. B. T. Payne. *bibliog il plan diags Power Apparatus & Systems* p 145-57; Discussion. 157-60 Ap '58

ELECTRIC substations. Portable

- Mobile substation has aluminum components. *il Elec World* 149:38 Mr 24 '58
 9,000-kv sub rides highway on trailer. P. F. Hargreaves. *il diag Elec World* 150:68-9 Jl 21 '58
 Small portable subs help three ways. G. Roberts. *Elec World* 150:47 Jl 7 '58
 Texas utility gets big mobile substation. *il Elec World* 149:107 F 10 '58
 Working group report on mobile substations; their use and the design of distribution substations to facilitate their use. *bibliog il diags Power Apparatus & Systems* p 193-200; Discussion. 200-4 Je '58
 Working group report on mobile substations; their use, and the design of distribution substations to facilitate their use; abstract. *il Elec Eng* 77:141 F '58

ELECTRIC substations. Prefabricated

- Aluminum substation raised in six hours. *il Elec World* 149:51 Je 30 '58
 Factory-packaged substation feeds suburban load. J. M. Hedges and J. J. Trainor. *il Elec World* 149:78-9 My 19 '58
 Prefabricated aluminum substation developed by Kaiser. *Elec World* 149:102 Ap 23 '58
 Prefabricated aluminum substation; illustrations with text. *Elec Eng* 77:627 Jl '58

ELECTRIC switchgear

- Accurate control of mechanical circuit switching. M. Fogiel. *diag Machine Design* 30:145-6 Ja 23 '58
 Air break switches with oil interrupter units interrupt loads economically. A. J. Hoeiz. *il Elec World* 150:76 Ag 11 '58
 Analytical studies of overvoltages caused by disconnecting-switch operation; Indiana and Michigan electric co. S. B. Griscom and others. *diags Power Apparatus & Systems* p333-8 O '58
 Application of vacuum switches to utility loads. J. W. Rittenhouse. *bibliog il Elec Enr* 77:414-17 My '58
 Automatic multiple switch programmed by punched card. *il Automation* 5:9 Ag '58
 Card-operated multiple switch; illustrations with text. *Elec Manuf* 61:164 Je '58
 Circuit breakers and switchgear feature design advances; Westinghouse division of I-T-E circuit breaker co. *il Iron & Steel Eng* 34:181-2+ N '57

ELECTRIC switchgear—Continued

- Commutating switches critical for high performance telemetry. G. P. Bentley and S. Ackerman. *diags Aviation Age* 29:70-2+ Ap '58
- Commutation switch developments. G. P. Bentley and S. Ackerman. *diags Instruments & Automation* 31:1368-70 Ag '58
- Crossbar switch applications. K. Enselin. *diags Elec Manuf* 61:86-95+ Ap '58
- Eight rules for using limit switches. D. Fitzpatrick. *diags Ap Hydraulics* 11:92+ Mr '58
- Electrical switch lockouts. S. M. McCluchie. *diags Ind & Eng Chem* 50:sup5A-6A Mr '58
- 46-kv reclosers improve service economically. C. R. French. *diags Elec World* 150:59-61 Ag 4 '58
- High speed rotary switch and some applications. M. Lowenberg. *bibliog diags Electronic Eng* 30:524-5 S '58
- Investigations of switching surges caused by 345-kv disconnecting-switch operation: Indiana and Michigan electric co. H. L. Rorden and others. *diags Power Apparatus & Systems* p338-44 O '58
- Johnson and Phillips ring main unit. *diags Engineering* 135:455 Ap 1 '58
- Limit switches sequence vertical broach: Bond tool mfg. co. J. A. Tartaglia and W. H. Blackler. *diags Ap Hydraulics* 11:92 JI '58
- Low temperature cuts battery output; used to control outdoor switchgear. *Elec World* 149:54 My 26 '58
- Modern control uses automatic remote switching. *diags Elec Constr & Maint* 57:106 O '58
- New metal-clad switchgear design for 4.16-kv service. N. Kreekon and W. H. Lane. *diags Power Apparatus & Systems* p326-9; Discussion. 329 Je '58
- Numerical-graphical method for synthesizing switching circuits. A. H. Scheinman. *diags Com & Electronics* p687-9 Je '58
- 138-kv metal-enclosed isolated-phase bus and switching structure. R. H. Albright. *diags Power Apparatus & Systems* p353-7 Je '58; Abstract. *Elec Eng* 77:303 Ap '58
- Patchable time sequence system. S. E. Dorsey. *diags Electronic Ind* 17:supO 8-10+ JI '58
- Plug-in limit switch speeds maintenance replacement. *diags Automation* 5:115-16 Ja '58
- Problems of switchgear application in pulp and paper mills. C. A. Fletchinger. *diags Paper Ind* 39:91-3 Mr '58
- Proximity limit switch, a versatile tool for industry. R. C. Mierendorf. *diags Welding J* 36:1179-83 D '57
- Proximity switches; characteristics, design, and application; abstract. F. A. Manners and R. C. Mierendorf. *diags Machine Design* 30:156+ Ap 17 '58
- Rotary stepping switches simplify selective feeding control; automatic nail driving machine. *diags Automation* 5:89-91 Mr '58
- Sensitive and quickly made water flow switch. G. W. Green. *diags J Sci Instr* 35:147 Ap '58
- Solid-state switch uses dielectric breakdown. *diags Electronics* 31:108+ Ag 1 '58
- Static switching catches on. R. E. Manko. *diags Steel* 142:80+ Ja 27 '58
- Switch secondary capacitor banks. L. T. Williams. *diags Elec World* 150:93 S 29 '58
- Switch withstands seven G's at 1,000 cps. *diags Electronics* 31:140-1 F 14 '58
- Switchgear. *diags Westinghouse Eng* 18:3-10 Ja '58
- Switchgear with stored-energy mechanism applied to steam-station auxiliary transfer arrangements. P. C. Brown and others. *diags Power Apparatus & Systems* p310-13; Discussion. 313-18 Je '58
- Switching from now to the future; abstract. R. R. Jenner. *Elec Manuf* 62:12 S '58
- Tempered glass shaft supports wafer switches; award of merit in Materials in design engineering competition. *diags Materials in Design Eng* 47:141 Ap '58
- There's a new look for circuit breakers and switchgear. *diags Power Eng* 61:94 D '57
- Type ac switch application. P. H. Winter. *Elec Constr & Maint* 57:128-30 Ja '58
- Using limit switches for timing? E. T. Stevenson. *Power* 102:121 JI '58
- Vacuum interrupter switches score in high-voltage power applications. H. H. Schwager. *diags Power Eng* 62:59-60 My '58
- Vacuum switch properties for power switching applications. H. C. Ross. *bibliog diags Power Apparatus & Systems* p 104-11; Discussion. 111-12. Reply. 115-17 Ap '58
- Voltage-sensitive switch. K. O. Otley and others. *bibliog diags Inst Radio Eng Proc* 46:1723-30 O '58

When to use pressure switches to indicate completed movement. E. E. Opel. *diags Product Eng* 29:64-5 My 26 '58

See also

Electric circuit breakers
Electric contacts

Installation

Disconnect switch installations: 2.4 to 12.4 kv; engineering reference sheet. *diags Elec World* 149:74 My 5 '58

Protection

They isolated standard equipment; beat high cost of switchgear for hazardous locations. H. C. Owens. *diags Eng* 12:34-5 F '58

Rating

Metal-clad 4,160-volt 350-mva switchgear with symmetrical ratings. E. B. Rietz and others. *diags Power Apparatus & Systems* p 1397-402; Discussion. 1402-3 F '58

Specifications

Electrical specifications: circuit switching and protection. *diags Elec Constr & Maint* 57:85-9 My '58

Testing

Impulse system for arc recovery strength measurements; abstract. J. D. Cobine and others. *diags Elec Eng* 77:807 S '58

ELECTRIC symbols

Circuit symbols. *diags Electronic Ind* 17:196-7+ Je '58

Graphical electrical symbols; data sheet. *Elec Constr & Maint* 57:103 Je '58

Graphical symbols for architectural plans, power and control. *diags Elec Constr & Maint* 57:6-8 Mid-S '58

ELECTRIC testing

Tips on testing phase sequence. N. Peach. *diags Power* 102:116-17 S '58

See also

Dynamometers
Electric lines—Testing
Electric measurements
Electric resistance
Electric transformers—Testing
Relays—Testing

ELECTRIC testing of metals

Nondestructive testing; eddy-current testing can be either continuous or automatic. S. Elonka. *diags Power* 102:128-9 Mr '58

ELECTRIC tools, portable

How to choose the right portable power tool. F. Paschke. *diags Mill & Factory* 62:89-93 Ja '58

Industrial know-how handbook; electric tools. *diags Mill & Factory* 62:MW25 My '58

Metalworking, 1962; portable tools. H. P. Bailey. *diags Am Mach* 101:138-9 N 18 '57

Portable nibblers; handy tools for odd jobs. *diags Iron Age* 131:81 My 15 '58

Powder parts add sell to tools: Porter-Cable machine co. *diags Steel* 142:114+ My 26 '58

360-cycle portable tools; why they make sense for heavy-duty grinding. M. A. Horlak. *diags Am Mach* 101:116-20 D 16 '57

Transformer plug for portable electric tools. *diags Automobile Eng* 48:316 Ag '58

Design

Trends in appearance design. *diags Product Eng* 29:34-5 My 19 '58

Safety measures

Avoid trouble by checking grounds of power tools. T. E. Peary. *diags Elec World* 149:64-5 My 12 '58

Portable electric equipment should be well grounded. *diags Plant* 18:54-5 Ag '58

Testing

Circuit times operation of portable tools. R. L. Ives. *diags Electronics* 31:62+ Ja 31 '58

ELECTRIC traction

Recent trends in electric traction. R. S. Wignall. *diags Engineering* 135:340-2 Mr 14 '58

See also

Railroads—Electrification

ELECTRIC transformers

Bias systems for resonance transformer million-volt electron beam generators. W. F. Westendorp. *bibliog diags Com & Electronics* p751-5 Ja '58

Can you afford old transformers? A. B. Coyle. *diags Elec World* 149:65+ Ap 21 '58

Cascade potential transformers. G. Casavili and others. *diags Power Apparatus & Systems* p425-30; Discussion. 430-1 Ag '58

ELECTRIC transformers—Continued

- Dohm transformer plug. *II Engineering* 185: 234 Mr 21 '58
- Electrodeless method for the measurement of electrolytic conductivity and magnetic susceptibility. W. R. Myers. *diags J Sci Instr* 35:173-5 My '58
- Electronic transformer. T. G. Clark. *diags Electronic Eng* 30:545-8 S '58
- Engineering developments; transformers; illustrations with text. *Elec Eng* 77:18-21 Ja '58
- Experimental study of magnetic materials for use in ultra-high-temperature electronic transformers. H. B. Harms. *II diags Com & Electronics* p 181-4 My '58; Same. *Elec Eng* 77:408-12 My '58
- Gas-filled transformers vie with oil-filled. C. B. Faubion. *Elec World* 148:72 D 9 '57
- Here is what a transformer does. N. Peach. *diags Power* 102:144 Ja '58
- Improved distribution transformers. Westinghouse *Eng* 18:93 My '58
- Insulation co-ordination of gas-insulated transformers. G. Camilli and R. E. Coates. *II Power Apparatus & Systems* p220-2; Discussion. 222-4 Je '58
- Magnetizing inrush phenomena in transformer banks. W. K. Sonnemann and others. *bibliog diags Power Apparatus & Systems* p884-92 O '58
- Measurement of voltage resulting from single-phase switching of a high-voltage three-phase transformer. W. E. Dunkle and W. F. Mackenzie. *II diags Com & Electronics* p 292-4; Discussion. 294-5 JI '58
- Minimize fluctuations with special design. W. C. Sealey. *II diags Elec World* 150:87+ JI 21 '58
- Molded current transformers give neat appearance. J. A. Brown and H. S. Edwards. *II Elec World* 150:67 JI 21 '58
- New arc furnace has 66 kv. transformer with on-load tap changing. *II Metallurgia* 56: 242-3 N 57
- New Line-Material transformer is self-regulating. *II Elec World* 149:108 Je 23 '58
- Orthomagnetic current transformers for laboratory and factory testing. L. W. Marks and G. Camilli. *II diags Power Apparatus & Systems* p 1520-4 F '58
- Power transformer operating practice: survey reports. *Elec World* 148:42-6+ D 23 '57
- Six-phase transformers. N. Peach. *diags Power* 102:120-1 My '58
- Size reduction of air-borne transformers. R. E. Lee. *II Applications & Ind* p372-6 Ja '58
- Smith Hobson magnetic transformer. *II Engineering* 185:454 Ap 11 '58
- Transformer: a self-saturated transformer. A. B. Rosenstein. *bibliog diags Com & Electronics* p 129-41; Discussion. 141-2 Mv '58
- Transformer analog computer. P. Venkata Rao and G. Krishna. *bibliog II diags Com & Electronics* p73-8 Ja '58
- Transformers. *II Westinghouse Eng* 18:8 Ja '58
- Transformers, regulators and reactors: a review of progress. E. P. Norris. *bibliog II diags Inst E E Proc* 105 pt A:241-9 Je '58
- 20mva transformer for arc furnace. *II Engineering* 204:606-7 O 25 '57
- Voltage conversion with transistor switches. P. L. Schmidt. *II diags Bell Lab Rec* 36: 60-4 F '58
- See also
Electric substations
Radio transformers

Autotransformers

- Rating of autotransformers for system inter-connection. E. T. B. Gross and J. C. Pohlman. *diags Power Apparatus & Systems* p 1236-44; Discussion. 1244 F '58

Connections

- Combined single-phase and three-phase loading of open-delta transformer banks. H. M. Bankus and J. E. Gerngross. *diags Power Apparatus & Systems* p 1337-43; Discussion. 1343 F '58
- Two phases can supply 4-wire 120/208 v. H. S. Lewis. *diag Elec World* 148:95 N 18 '57

Cooling

- Chemicals cut transformer size; fluorochemicals can replace oil as transformer coolant. *Chem & Eng N* 35:38 D 23 '57
- Experimental approach to the cooling of transformer coils by natural convection. E. D. Taylor and others. *bibliog diags Inst E E Proc* 105 pt A:141-52 Ap '58
- High dielectric gas in vapor cooled transformer. flow diag *Elec Manuf* 61:118 Ja '58

Costs

- Economics of design and application of transformers. E. C. Wentz and N. Chackan. *diag Power Apparatus & Systems* p330-6; Discussion. 336-7 Je '58
- Impedance sets transformer cost. L. Rabins and W. L. Wheelock. *II diags Elec World* 149:47-9 F 3 '58
- Unbalanced loading of three-phase transformer banks; economics. S. W. Anderson. *bibliog Power Apparatus & Systems* p 1353-64; Discussion. 1364-5 F '58

Design

- Costs or losses? either can be cut, but users of transformers must agree. J. B. Hottum. *Elec World* 149:47-50 Ja 6 '58
- Digital computer applied to the design of large power transformers. W. A. Sharpley and J. L. Oldfield. *bibliog low diags diag Inst E E Proc* 105 pt A:112-21; Discussion. 121-5 Ap '58
- Economics of design and application of transformers. E. C. Wentz and N. Chackan. *diag Power Apparatus & Systems* p330-6; Discussion. 336-7 Je '58
- New concept in control transformer design. S. J. Antalis. *II Elec Manuf* 61:151-2 F '58
- One transformer, many voltages. W. P. Carpenter. *II diags Product Eng* 28:89-91 D 9 '57

Drying

- Drying the big ones in a vacuum; General Electric Co. L. Hutzler, 3d. *II diag Plant Eng* 12:114-15 Mr '58
- Field drying and rehabilitation of large distribution transformers. C. H. Smoke. *II diag Power Apparatus & Systems* p749-55 O '58

Failure

- Corps tells what happened to Chief Joseph transformers. *Elec World* 149:63-5 Mr 17 '58

Installation

- Brackets cut cluster-mounting cost. J. S. Sutphin and C. B. Sharpe. *diag Elec World* 149:51 Je 2 '58
- Bundling saves \$500 for three-phase bank. G. Riley. *II Elec World* 149:89+ Mr 3 '58
- Here is a way to reduce 480-v metering costs. T. B. Tucker. *II Elec World* 149:51-2 My 26 '58
- Hold transformer rails firmly with anchor clips. *diag Elec World* 149:63 Mr 10 '58
- Instrument transformers for metering; engineering reference sheet. *diags Elec World* 149:88 My 19 '58
- Look to aerial cable and vaults for serving small business areas. R. H. Stevens. *diags Elec World* 148:96-9 N 25 '57
- New portholder gives three-in-one installation of pole transformers. H. O. Hodson. *II Elec World* 149:72 Ap 14 '58
- Old transformer becomes modern sub. J. E. Hoopes. *Elec World* 150:45 JI 7 '58
- Power rig raises transformers easily. L. Buford. *II Elec World* 148:59 D 23 '57
- Transformer cluster mounted on poles; engineering reference sheet. *diags Elec World* 149:66 F 10; 86 F 24 '58
- Transformer pole made safer. H. N. Diller. *II Elec World* 149:74 F 3 '58
- Where plastics compete with concrete: transformers vault. *II Mod Plastics* 36:102-3 My '58

Load

- Combined single-phase and three-phase loading of open-delta transformer banks. H. M. Bankus and J. E. Gerngross. *diags Power Apparatus & Systems* p 1337-43; Discussion. 1343 F '58
- Load effects in current transformer. *diag Elec Constr & Maint* 57:153+ JI '58
- Operating ungrounded wye-delta banks; engineering reference sheet. J. A. Selvaggi. *diag Elec World* 149:72 Ap 21 '58
- Thermal analysis of transformer load cycles. S. Benzon. *Power Apparatus & Systems* p21-5 Ap '58; Abstract. *Elec Eng* 77:493 Je '58
- Unbalanced loading of three-phase transformer banks; economics. S. W. Anderson. *bibliog Power Apparatus & Systems* p 1353-64; Discussion. 1364-5 F '58

Losses

- Costs or losses? either can be cut, but users of transformers must agree. J. B. Hottum. *Elec World* 149:47-50 Ja 6 '58
- Energy loss in transformer steel. G. M. Leak. *bibliog Research* 11:56-60 F '58
- Measurement of iron and copper losses in transformers. T. R. Specht and others. *II diags Power Apparatus & Systems* p470-6 Ag '58; Abstract. *Elec Eng* 77:402 My '58

ELECTRIC transformers—Continued**Maintenance and repair**

- Field drying and rehabilitation of large distribution transformers. C. H. Smoke, *il* diag Power Apparatus & Systems p749-55 O '58
- Keep an eye on oil and insulation. *diags* Elec World 150:69-71 Ag 25 '58
- Mobile plant for conditioning transformer oil. *il* Engineering 185:5 Ja 3 '58
- 100-kva trailer eases distribution problems. H. J. Wurth and G. A. Newsom, *il* Elec World 149:80 My 19 '58
- Operating ungrounded wye-delta banks; engineering reference sheet. J. A. Salvaggi, *diag* Elec World 149:72 Ap 21 '58
- Small shed permits work during rain. *il* Elec World 148:78 N 11 '57

Manufacture

- Effect of coil winding and processing on the electrical strength of oil-immersed insulating materials; effects which arise in the manufacture of transformers. W. T. Sackett, jr. *bibliog il* Power Apparatus & Systems p 118-23 Ap '58
- Electric oven ends high power factor rejects; Kuhlman electric co. *il* Elec World 149:104 Mr 3 '58
- Metropolitan-Vickers transformer factory; illustrations with text. *Engineer* 204:324 D 6 '57
- Phenolic resin, core and bushing winding machines. W. R. Penrod and J. W. Couture, *il* *diags* Tappi 41:sup200A-3A Je '58
- Swiss transformer factory; Oerlikon engineering co. *il* *Engineer* 206:149-51 J1 25 '58
- Transformer factory; Metropolitan-Vickers electrical co. *il* *Engineering* 184:795-6 D 20 '57
- Transformer transformed by premix; Westinghouse electric co. *il* *Mod Plastics* 35:97 Ap '58
- Vacuum-molded epoxy cast-resin applications. H. R. Lucas, *il* *Elec Manuf* 61:98-100 Ap '58

Noise

- Facilities for the Westinghouse power-transformer sound room. T. R. Specht, *il* *Noise Control* 4:10-13-4 Ja '58
- Million dollars worth of silence; Thomas A. Edison acoustical research laboratory. *il* *Elec World* 149:69 Mr 3 '58
- Power transformer sound level reduced by Westinghouse. *Elec World* 150:74 S 29 '58
- Power transformers with low-sound enclosures. *il* *Elec Eng* 77:113 Ja '58
- Putting a blanket on transformer noise. T. R. Specht, *il* *diags* Westinghouse Eng 18:108-11 J1 '58
- Transformer noise attenuation by steel walls. *Noise Control* 4:50 J1 '58
- Transformer noise, its origin and control. D. R. Kearns, *il* *diags* *Elec Constr* & Maint 57:93-54 S '58
- Way to set low sound levels in large power transformers; preassembled enclosures. M. W. Schulz, jr. and W. J. McNutt, *bibliog il* *Power Apparatus & Systems* p 1365-70 F '58

Oil**See Insulating oil****Painting**

- Does color really affect transformer temperature? *il* *Power* 101:116 D '57
- Hot spray painting big transformers. *il* *Ind Finishing* 34:76-4 D '57
- How to cut costs of painting transformers. *il* *Elec World* 149:51 Je 16 '58

Parallel operation

- How to specify parallel operation of unregulated transformer-rectifiers. J. R. Topper, *il* *diags* *Aviation Age* 28:54-9 F '58
- Line-drop compensator settings for automatic parallel operation of load-pot-changing transformers. S. Minneck and H. E. Pinney, *diags* *Power Apparatus & Systems* p 1-6 Ap '58
- Parallel older transformers to extend life. W. H. Johnson, *Elec World* 149:104-4 Je 23 '58

Protection

- Epoxy encapsulation of dry-type transformer. P. K. Goethe and C. Pala, *il* *Elec Manuf* 62:116-4 J1 '58
- New uses for ceramics in motors and transformers. J. H. Terry, *il* *Am Cer Soc Bul* 36:454-6 D 15 '57

- Paper additive betters insulation of distribution transformer. J. G. Ford and others, *Elec World* 149:80 F 24 '58
- Pressure relief device has reseal feature. M. Aronson, *il* *Elec World* 150:92 Ag 4 '58
- Protects autotransformer tertiary. R. J. Labrie, *diags* *Elec World* 150:60 J1 14 '58
- Sealed power transformers. E. W. Tipton, *il* *diags* *Westinghouse Eng* 18:152-5 S '58
- Surge protection of cable-connected power transformers at Scattergood steam plant. C. M. Short and others, *diags* *Power Apparatus & Systems* p 1464-70 F '58
- Tripping scheme by microwave gives high-speed transformer protection. E. A. Cockey, *diags* *Elec World* 149:49-51-4 Mr 10 '58

Rating

- Continuously tapped autotransformer refinements permit higher ratings. A. Ruelle, *il* *diags* *Elec Manuf* 61:144-5 Ap '58

Reconstruction

- Revamping old transformers; water-cooled units converted to air-cooling. L. McWilliams, *il* *Power Eng* 62:69 Mr '58

Specifications

- Electrical specifications; transformers, *diags* *Elec Constr* & Maint 57:82-5 My '58

Standards

- Deficiency of standards for high-voltage high-power rectifier transformers. J. J. Halloran, *il* *diags* *Com & Electronics* p690-2; Discussion, 692-4 Ja '58
- Standards help meet new loads. G. P. Vest, *il* *Elec World* 150:66-7 S 8 '58

Tables, calculations, etc.

- Line-drop compensator settings for automatic parallel operation of load-pot-changing transformers. S. Minneck and H. E. Pinney, *diags* *Power Apparatus & Systems* p 1-6 Ap '58
- Method to phase-out transformers; engineering reference sheet. L. Bilk, *diags* *Elec World* 149:90-1 Ap 7 '58

Temperature

- Does color really affect transformer temperature? *il* *Power* 101:116 D '57
- Higher thermal capability for distribution transformers. *Westinghouse Eng* 18:96 My '58
- Hot transformers, *diag* *Engineering* 184:623 N 15 '57
- Temperature rise of dry-type transformers. A. A. Halacsy, *bibliog* *diags* *Power Apparatus & Systems* p456-60; Discussion, 460-2 Ag '58

Testing

- Field method finds arc-formed gas in oil-filled transformers. D. Harrison, *il* *diag* *Elec World* 150:94 Ag '58
- Improved method of oil preservation and its effect on gas evolution. W. J. Dearn and others, *bibliog il* *diags* *Power Apparatus & Systems* p657-62; Discussion, 663-6 O '58
- Measuring transformation ratio and phase shift at carrier frequency; data file. C. Laskin, *diags* *Control Eng* 5:113-14 Ja '58
- Transformer magnetic field plotting by electrolytic tank. P. H. G. Allen and J. H. Foster, *il* *R Sci Instr* 28:1095 D '57

Transportation

- Westinghouse shows how to haul a giant. *il* *Elec World* 148:41 D 23 '57

- ELECTRIC transformers, Portable**
- Mobile 75-kva unit provides flexibility. H. E. Tuthill, *il* *Elec World* 150:84 Ag 18 '58
- 100-kva trailer eases distribution problems. H. J. Wurth and G. A. Newsom, *il* *Elec World* 149:80 My 19 '58

ELECTRIC transient phenomena

- Analogue computer study of the transient behavior and stability characteristics of serial-type digital data systems. O. I. Elgerd, *bibliog* *diags* *Com & Electronics* p358-66 J1 '58
- Analogue computer study of the transient performance of a dual-cycle boiling-water-reactor nuclear power plant. D. W. Leiby, *bibliog* *diags* *Com & Electronics* p 17-25 Mr '58
- Approximate relations between transient and frequency response. H. H. Rosenbrock, *bibliog* *Brit Inst Radio Eng* J 18:57-64 Ja '58
- Approximate transient solution of the tapered transmission line. L. O. Barthold, *bibliog* *Power Apparatus & Systems* p 1556-61 F '58

ELECTRIC transient phenomena—Continued

Arc prevention using $p-n$ junction reverse transient. W. Miller, *diags Inst Radio Eng Proc* 45:1546-*N* '58

Cathode-ray recorder compares transients. C. W. Hargens, *il diags Electronics* 31:84-7 *Ja* 17 '58

Correlation between the transient and frequency responses in servomechanisms. Z. J. Jeonok and G. I. Boomer, *bibliog diags Brit Inst Radio Eng J* 18:101-14 *F* '58

Digital computer calculates transient stability problems. G. W. Stagg and others, *diags Elec World* 150:49-50 *S* 1 '58

Drift mobility measurements. M. Green, *bibliog il diags J Ap Phys* 28:1473-8 *D* '57

Effect of a voltage regulator on the steady-state and transient stability of a synchronous generator. A. S. Aldred and G. Shackshaft, *bibliog diags Inst E E Proc* 105 pt A:420-7 *Ag* '58

Electrical effects accompanying the stick-slip phenomenon of sliding of metals on plastics and lubricated surfaces. G. W. Soh and others, *bibliog il diags A S M E Trans* 79:1963-70 *N* '57

Electromagnetic field phenomena in shielded aerial cables under surge conditions. J. K. Delson, *il diags Power Apparatus & Systems* p247-52; Discussion, p252-3 *Je* '58

Evaluation of system transient stability requires consideration of three criteria. B. L. Lloyd and C. A. Desalvo, *diags Elec World* 149:80-3 *Mr* 24 '58

Extending transducer transient response by electronic compensation for speed and physical measurements. P. F. Liu and T. W. Berwin, *bibliog (27 ref) il diags R Sci Instr* 29:14-22 *Ja* '58

Forward switching transient in semiconductor diodes at large currents. E. S. Barnes, *il diag Inst Radio Eng Proc* 46:1427-3 *Ja* '58

400-cycle transient frequency meter. P. E. Dickey, *il diags Elec Eng* 76:1076-8 *D* '57

Measurements of steep-front impulse waves with an isolated screen room installation. C. J. Miller, Jr. and J. F. Wittibschlager, *il diags Com & Electronics* p262-70 *Ja* '58; Abstract, *Elec Eng* 77:507 *Je* '58; Discussion, *Com & Electronics* p270-1 *Ja* '58

Microwave transients from avalanche silicon diodes. J. L. Moll and others, *diags Inst Radio Eng Proc* 46:1308-7 *Je* '58

Multiple beam oscilloscope for the study of high voltage transient discharges. K. G. Beauchamp, *il diags Electronic Eng* 30:358-65 *Je* '58

Prediction of semiconductor surface response to ambients by use of Lewis acid-base theory. C. G. Peattie and J. R. Macdonald, *bibliog Inst Radio Eng Proc* 45:1232 *S* '57

Severe rates of rise of recovery voltage associated with transmission line short circuits. W. F. Skeats and others, *bibliog il diags Power Apparatus & Systems* p 1256-64; Discussion, 1264-6 *F* '58

Some aspects of the performance of television mains-hold circuits. R. D. A. Maurice, *diags Electronic Eng* 30:447-54 *Ja* '58

Testing for transients. G. F. Cooper, *diags Audio* 42:26-7+ *Ap* '58

Transient performance of excitation systems. R. L. Krahn, *Power Apparatus & Systems* p210-14; Discussion, 214 *Je* '58

Transient protection conditions in pipe-line stations. E. B. Turner, *il diags Applications & Ind* p85-90 *My* '58

Transient recovery voltages on power systems. P. L. Dandeno and others, *bibliog plan diags Power Apparatus & Systems* p581-90, 592-604; Discussion, 590-2, 604-6 *Ag* '58

Transient response of drift transistors. R. C. Johnston, *bibliog diags Inst Radio Eng Proc* 46:830-3 *Mr* '58

Transient response of impulse voltage dividers. P. A. Fish, *Power Apparatus & Electronics* p411-19; Discussion, 419-20 *S* '58

Transients in feedback amplifiers. G. F. Cooper, *diags Audio* 42:31-3 *Mr* '58

Use of phase space in transient stability studies. S. T. Bow and J. E. Van Ness, *bibliog diags Applications & Ind* p 187-91 *S* '58; Abstract, *Elec Eng* 77:601 *Ja* '58

ELECTRIC transmission

Cities economies for T&D group. T. A. Bettsworth and others, *Elec World* 149:57+ *Je* 30 '58

Computer analysis of transmission system capability during generator outages. H. B. Seeley and others, *diags Power Apparatus & Systems* p290-4 *Je* '58

Determination of optimum transmission voltage. R. D. Camburn and R. L. Stafford, *diags Elec Eng* 77:700-3 *Ag* '58

Efforts for ehv breakthrough pick up momentum. *Elec World* 150:42 *S* 15 '58

Extra high voltage transmission on three continents; special report. *il maps diags Elec World* 149:55-70 *My* 26 '58

\$5 million ehv research project charted. *il Elec World* 149:104-5 *Je* 9 '58

400 kv transmission systems in the Soviet Union. S. S. Rokotyan and B. P. Lebedev, *il map plan diags Inst E E Proc* 104 pt A: 471-84 *D* '57

Generation and transmission spending to trim '59 budgets 8.6 per cent; tables and charts. *Elec World* 150:104-5 *S* 22 '58

High-altitude ehv tests begin at Leadville, Colo. L. M. Robertson, *il diag Elec World* 149:51-5 *Ja* 20 '58

Initial results with delonizers are inconclusive; transmission and distribution committee meeting, Baltimore, Feb. 10-12. *Elec World* 149:66-7 *Mr* 17 '58

Kilovar supply in bulk-power transmission systems. J. M. Henderson and others, *diags Power Apparatus & Systems* p 1344-50; Discussion, 1350-3 *F* '58

Plan five years ahead for system var supply. V. J. Farmer and G. S. Whitlow, *map Elec World* 148:68-70 *N* 11 '57

Project ehv. P. A. Abetti, *il Elec Eng* 77: 669-74 *Ag* '58

Remote stations can be economically operated. H. C. Simmonds Jr. and R. D. Darnall, *Elec World* 149:52-4 *Je* 16 '58

Transmission; abnormally high flashover rates still puzzling. R. W. Caswell and others, *Elec World* 149:76-7 *Mr* 3 '58

See also

Electric cables

Electric conductors

Electric conductivities

Electric distribution

Electric driving

Electric plants—Interconnection

Electric plants (central stations)—Load

patching

Electric switchgear

International conference on large high

tension electric systems

Voltage regulation

Tables, calculations, etc.

Improved method of interconnecting transmission loss formulas. A. F. Glinn and others, *bibliog diags Power Apparatus & Systems* p755-60 *O* '58

Penalty factors from power-system equations. P. G. Lubisch, *diag Power Apparatus & Systems* p494-501 *Ag* '58

ELECTRIC trucks, industrial

Balanced handling trims costs; McCormick

co.'s Schilling div. *il Food Eng* 30:87-8 *My* '58

Clamp trucks double warehouse capacity.

il Iron Age 182:30 *Ja* 17 '58

Electric fork trucks for materials handling;

Gates rubber co. *il Rubber Age* 83:668-70 *Ja* '58

Handling materials with three fork lift trucks

saves 2600 man hours per year. *il Mill & Factory* 62:150 *F* '58

Hunting self steering truck, *diag Engineering* 185:797 *Je* 20 '58

Industrial know-how handbook; electric

trucks, *diags Mill & Factory* 62:MH7 *My* '58

Industrial trucks play key role in automotive

and aircraft plants. A. W. Shearer, *il Automotive Ind* 118:48-50 *Je* 1 '58

Industry's handyman; the lift truck. *il Safety Maint* 115:25-6 *F* '58

New truck has stepless acceleration. *il Mod Materials Handling* 13:163 *Mr* '58

1958; equipment buyer's guide; powered floor

equipment. *il Mod Materials Handling* 13: 101-41 *My* '58

1958 production preview; plant service equipment.

il Am Mach 102:234-8 *Ja* 27 '58

Palletless handling in cosmetic plant; model

J electrically-powered fork lift trucks, produced

by Lewis-Shepard products, inc. *il Ore & Cosmetic Ind* 82:216+ *F* '58

Printer finds electric trucks safer, more

economical; Lord Baltimore press, Baltimore, J. A. Devereux, *il Elec World* 149:114 *Je* 9 '58

Resistor smooths lift-truck drive. *il diag Product Eng* 29:47 *Ag* 4 '58

Trim cost, noise, with electric fork lifts. J.

C. Handy, *il Elec World* 148:38 *O* 28 '57

Truck-pallet system paid off; Torrington co. *il Safety Maint* 115:28-30 *Mr* '58

ELECTRIC trucks, Industrial—Continued

Warp beam truck car hook 'n haul at U.S. rubber co.'s Winstonsboro mills. *il Mod Materials Handling* 13:109 N '58
 What! no pallets at all? *il Mill & Factory* 63:111-12 Ag '58

Maintenance and repair

Some helpful hints on repairing lift truck hydraulic systems. *Eng & Min J* 159:123 Ag '58

Safety measures

Why Underwriters' Laboratories approval for industrial trucks? C. A. Richmond. *Mod Materials Handling* 13:118-19 S '58

ELECTRIC utilities

America's power industry flourishes in ambient freedom; abstract. J. W. McAfee. *Elec World* 149:88-9 Je 23 '58
 Construction rises. *Elec World* 149:103-4+ Mr 17: 74+ Mr 24 '58

Hop on weather wagon for savings; National conference on applied meteorology, Oct. 28-29. *Elec World* 148:52 N 11 '57

New generation soars, will set record in '58. J. W. McAfee. *Elec World* 148:51 D 30 '57

New session: what's ahead? Issues involving electric power. *Elec World* 149:36 Ja 6 '58
 Next 21 years; EEI sees gigantic utility expansion. J. W. McAfee. *Elec World* 149:40-1 Je 16 '58

Panel on power progress foresees era of growth for U.S. economy. map *Elec World* 149:43-6 F 10 '58

Sustained effort is needed to attain the industry's 1979 goals; abstract. R. J. Cordner. *Elec World* 149:88-9 Je 23 '58

Utilities' spending plans lead industry. *il Elec World* 149:60-1 Mr 17 '58

See also

Association of Edison illuminating companies
 Duquesne light company
 Edison electric institute
 Electric industries
 Electric plants (central stations)
 Gas companies—Electric utility competition
 Missouri valley electric association
 Northwest electric light and power association

Rocky Mountain electrical league
 Southeastern electric exchange

Accidents

Investor-owned utilities show higher employee safety records; accident-frequency rate. *Gas Age* 120:19 N 28 '57

Management interest sparks top-flight safety; Interstate power co. *Elec World* 149:66 F 3 '58

Accounting

Accountants can help you manage. C. L. Richey. *Elec World* 149:80-1 Ja 27 '58

Computer, a valuable tool for the power engineer. G. F. Trexler. *il Power Eng* 62: 92-4 O '58

Customer data at a glance: Central power & light co. *il Elec World* 150:38 Ag 18 '58

Estimating unmetered heat customers' bills. E. G. Poole. *Elec World* 149:131 Ap 7 '58

FPC sets up new tax accounting category for utility use. *Elec World* 149:40 Je 30 '58

See also

National conference of electric and gas utility accountants

Advertising

Ad expense heads into tax wringer. *Elec World* 149:66 F 17 '58

Behind-scenes tv wins top award. *il Elec World* 150:90 Ag 18 '58

Budget control focuses sale spending. O. A. Hirt. *il Elec World* 149:122+ My 19 '58

Certain ad expenses not deductible; political or propaganda ads. *Elec World* 149:65 F 24 '58

Court suit tests IRS ruling; ban on political advertising expense. *il Elec World* 149:59 F 3 '58

Electrical week gets set for third go-round, best yet. *il Elec World* 149:40-1 F 10 '58

Heat push outruns estimates by 365 per cent; Washington water power co. K. Jack. *il Elec World* 149:90 My 5 '58

Kansas Power & Light draws attention to new 1½¢ rate. *Elec World* 149:128 Ap 28 '58

Supermarket ad sells kWhrs to female mind. *il Elec World* 150:78 Ag 11 '58

Utilities back Farm better electrically program. *Elec World* 150:152+ S 22 '58

What makes an ad department win prizes? *Elec World* 149:38-9 Ja 6 '58

Appliance selling

Cleveland electric illuminating co., Westinghouse use nuggets to combat recession. E. Lindseth and C. J. Witting. *Elec World* 149:84 Je 16 '58

Detroit Ed mounts water heater drive. *il Elec World* 150:36-7 Ag 11 '58

Electric companies must do better job of selling; abstract. C. A. Tatum, Jr. *Elec World* 149:94-5 Je 23 '58

Gals learn how to tell and sell electrical living; annual Live better electrically women's conference, 2d, Chicago. *Elec World* 149:60 F 3 '58

GE's Bob Paxton: pilot for aggressive upturn plan; interview. *Elec World* 149:70-1+ My 19 '58

Kansas Gas & Electric goose rivals one that laid golden egg. *Elec World* 150:83 S 8 '58

New national sales promotion plan; interview with Jack E. Corette. *Elec World* 149: 86-7 Je 23 '58

Sales outlook pegged for utilitymen; Middle west service co. meeting. *Elec World* 148: 82 N 4 '57

Sales promotion normal despite dip. *il Elec World* 149:44-5 My 5 '58

Three-year electric heating drive pays off; Indianapolis power & light co. *il Elec World* 149:62-3 F 3 '58

Utilities shun recession blues; EEI 24th annual sales conference, Chicago. *Elec World* 149:53-6 Ap 14 '58

Utility office doubles as a showcase. *il Elec World* 148:98 N 18 '57

Buildings

Cleveland's Illuminating building. *il plans digas Arch Rec* 123:153-62 Je '58

Flexible auditorium handles many functions; Duke power co. W. J. Wortman. *il Elec World* 149:100 Mr 3 '58

Sales-promoting office building; Columbus and southern Ohio electric co. *il Eng N* 161:32+ J1 31 '58

Utility office doubles as a showcase. *il Elec World* 148:98 N 18 '57

Consolidation

Balloting to decide splurge of system acquisition proposals. *Elec World* 150:46-7 S 29 '58

Costs

New guide for utility costs; Zinder report. *il Am Gas Assn Mo* 40:6-8 Ja '58

1958 budget tops \$5.2 billion; up 10.5 per cent. *Elec World* 149:86-94 Ja 27 '58

Utility budgets; fact or fiction; editorial. *Elec World* 149:77 Ja 27 '58

Dealer relations

Electric heating policy; how two heat promoters determine it. *Elec World* 148:110 D 16 '57

Emergency problems

Detroit Edison readies for storm disaster. *il Elec World* 149:58-9 Ap 21 '58

Employees

Atomic theory training aims at chain reaction spread of know-how; two-year basic training course at Consolidated Edison co. of New York. *il Elec World* 150:38-9 J1 7 '58

Beef up industrial power systems; industrial electrification council course for foremen and supervisors. *Elec World* 148:69-70 D 9 '57

Bonuses for brainwork pay off for Dayton Power & Light. *il Elec World* 149:195 Je 23 '58

Busy bargaining year ahead for utilities. *Elec World* 149:43 Mr 10 '58

Connecticut valley power exchange selects, trains operators. R. N. Youtz. *il Elec World* 149:45-6 Je 16 '58

Engineers tackle economics; Commonwealth Edison. *il Elec World* 150:37 Ag 11 '58

Gals learn how to tell and sell electrical living; annual Live better electrically women's conference, 2d, Chicago. *Elec World* 149:60 F 3 '58

Heating earns rebate at Arkansas Power & Light. R. E. Ritchie. *Elec World* 148:90 D 9 '57

How Con Ed helps its employees find a happy retirement. *il Elec World* 148:86-7 N 25 '57

How Detroit Edison handles the engineering graduate. L. L. Knickerbocker. *il Power Eng* 62:92-4 S '58

How to train an engineer's right-hand man in 16 weeks; Southwestern public service co. E. W. Love. *il Elec World* 149:54-5 F 10 '58

ELECTRIC utilities—Employees—Continued

Informed employees can aid in federal power fight; abstract, C. E. Oakes, Elec World 149:98-9 Je 23 '58
 Psychology helps make good executives better, W. G. Loftin, Elec World 150:64-5 Ae 4 '58

Sales manager's place in the line-up, G. W. Peak, Elec World 150:95 S 29 '58

Service as usual in two strikes, Elec World 149:61 Mr 17 '58

Tomorrow's engineer shortage; what the utilities are doing about it today, Elec World 149:50-3 Ja 13 '58

Training is a line responsibility; Union electric co. O. P. Stamstad, il Elec World 150:65-6+ Ag 4 '58

Unique idea for the old timers; British Columbia electric co. retired employees' lounge, il Am Gas Assn Mo 39:3 D '57

West Penn comes up with a wiring, heating, appliances and lighting for employees deal, Elec World 149:100 Mr 24 '58

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 Electric workers

Equipment and supplies

Boom and platform speed jobs, il Elec World 149:70+ Mr 5 '58

Concrete specifications cover all phases, Elec World 150:118 S 22 '58

Don't scrap damaged cable clamps, salvage them, il Elec World 149:64-5 My 12 '58

Dry cleaning saves control-air filters, J. Haley, Elec World 149:59 D 23 '57

Front-mounted boom speeds pole setting, il Elec World 150:47 Jl 7 '58

Lab study okays two solvent classes, W. A. Garrison, Elec World 149:66 My 12 '58

Man-lift speeds construction men to job, F. A. Williamson, Elec World 148:95 N 18 '57

New rig speeds ground rod driving, H. L. Allen, il Elec World 149:78-9 F 24 '58

100-kva trailer eases distribution problems, H. J. Wurth and G. A. Newsom, il Elec World 149:80 My 19 '58

Photocopier makes quick documents, il Elec World 149:60 Mr 31 '58

Power company uses mobile cranes to cut maintenance costs, il Power Eng 62:54-5 My '58

Purchasing agents view delivery problems; panel discussion, Elec World 149:43 Je 2 '58

Remote gas storage promotes safety, E. W. Robinson, il Elec World 150:76 S 8 '58

Rig aids cable splicing, il Elec World 149:68 Ja 13 '58

Saves \$10,250 on aluminum reclaiming, J. E. Chapman, il Elec World 150:64 S 29 '58

Sound power phones ease out-of-sight jobs, G. R. Roberts, il Elec World 149:76 Je 9 '58

Special rig places crushed stone backfill, il Elec World 149:98 Ap 28 '58

Stirrup aids hot taps, R. Braden and D. Hunter, il Elec World 149:50 Je 16 '58

Strip-chart scanner cuts viewing time, il Elec World 149:61+ Mr 10 '58

Tape markers speed marking system, il Elec World 149:56 Je 30 '58

Test aluminum hardware in coastal air, il Elec World 149:72 My 19 '58

This new hot-line tapping chamber may solve your aerial cable problems, diags Elec World 149:72-3 Mr 17 '58

Tree-trimming costs reduced; mobile equipment and pneumatic tools, C. C. Crockett, il Elec World 149:56 Je 2 '58

Two unique mouses clean oil cable pipe, F. W. Kline and F. J. Wells, diags Elec World 150:58 Jl 28 '58

See also
 Linemen equipment
 Motor trucks in repair service

Exhibits

Kansas Power & Light pulls fair crowds with games, gimmicks, il Elec World 149:66 Ja 6 '58

Finance

Criterion of economic choice; abstract, P. H. Jeynes and L. Van Nimwegen, Elec Eng 77:626 Jl '58

Electric revenues, security sales, and utility plant score new highs, Elec World 149:106-7 Ja 27 '58

Financing the future for utilities, C. E. Oakes, Power Ind 74:18-19+ Ja '58

How can we best raise capital in an inflationary era? abstract, L. D. Brace, Elec World 149:90-1 Je 23 '58

Next 21 years; EEI sees gigantic utility expansion, J. W. McAfee, Elec World 149:40-1 Je 16 '58

1958 budget tops \$5.2 billion; up 10.5 per cent, Elec World 149:86-94 Ja 27 '58

Utility spending holding steady despite slump, Elec World 149:68 My 19 '58

See also
 Electric rates

Government ownership

Blames moral indifference for drift from social health, sanity; abstract, B. Moreell, Elec World 149:100 Je 23 '58

Eisenhower's 1959 budget puts a porous lid on power spending, Elec World 149:40-1 Ja 20 '58

Federal power advocates campaign on many fronts; abstract, S. Bridges, Elec World 149:92-3 Je 23 '58

Informed employees can aid in federal power fight; abstract, C. E. Oakes, Elec World 149:98-9 Je 23 '58

Internal revenue service ruling, a plain device to curtail freedom of speech, C. J. Proud, Gas Age 122:14-15+ Jl 24 '58

Only plain, strong talk can disrupt countdown to oblivion; abstract, R. R. Gros, Elec World 149:98-9 Je 23 '58

Ten years later; Britain decentralizes control of power-supply industry, J. H. M. Sykes, Elec World 149:82-3 Ja 27 '58

Wisconsin public service commission order misinterpreted and maligned; order governing the manner of accounting for the costs of advertising and other items of expense relating to public ownership of electric power facilities, A. L. Padrutt, Gas Age 122:14-16 Jl 24 '58

See also

Hydroelectric plants—Government ownership

Laws and regulations

Congressional power-bill scorecard leaves a lot of legislation in limbo, Elec World 150:40-1 S 1 '58

Discrimination charge hit by Pacific Power & Light, Elec World 150:67 Jl 14 '58

Indiana service ban, Kansas accord, Wyoming tax draw industry interest, Elec World 149:51 My 26 '58

Legal moves hit the West, Elec World 149:68 Mr 24 '58

Urges sweeping law changes, C. Ellis, Elec World 150:95 S 22 '58

Utilities eye Ohio ruling warily; can a city use police powers to force transmission lines underground? map Elec World 149:58 F 3 '58

Management

Brainstorms help prepare for snowstorms; Utah power & light co. il Elec World 148:78 N 18 '57

Commonwealth Ed decentralization keeps benefits of central control, il map Elec World 149:66-7 F 24 '58

How can we save free enterprise in utility industry? abstract, A. S. Boyd, Elec World 149:92-3 Je 23 '58

Idea exchange can aid utilities' management, S. L. Drumm, Elec World 150:70 Jl 14 '58

Is your top management tops? nothing is more vital; abstract, S. L. Drumm, Elec World 149:96-7 Je 23 '58

Lighting; utilities look again to their birthright; survey report, T. R. Jordan, Elec World 150:61-6 Jl 21 '58

New agreements pay off in Arizona, il map Elec World 149:82-3 Je 23 '58

Residential load study is a key to the future; does your company use it? T. D. Fulford and T. L. Sharkey, Elec World 148:79-82 D 9 '57

Sales manager's place in the line-up, G. W. Peak, Elec World 150:95 S 29 '58

Seven tips on making ulcer-free decisions, Elec World 149:53 Ap 21 '58

Ten big decisions for 1958; staff report, il Elec World 148:55-65 D 30 '57

West Penn writes down its policy, here's how it tackled the job, J. Mueller, Elec World 148:62-3 N 4 '57

Public relations

How do you rate on storm press relations? good despite snafus, says press, Elec World 149:50-1 Ap 14 '58

Let's be sensible about public relations! R. H. Sessions, Elec World 149:51-3 Ap 21 '58; Discussion, 150:112+ Ag 25 '58

Power of public opinion can make a difference in costs; the Manresa case, Connecticut light and power co. S. R. Knapp, Power Ind 74:14-16+ S '58

ELECTRIC utilities—Public relations—Cont. Public relations problems solved by private understanding; abstract, S. R. Knapp. Elec World 149:96-7 Je 23 '58
Utilities give education a lift. il Elec World 149:44 Mr 10 '58

Purchasing

Buyers get tips on cost cutting techniques: Public utility buyers' group mid-winter conference, Philadelphia. Elec World 149:64-5 Mr 3 '58

See also

Coal purchasing

Quality control

Quality control in the electric service industry. T. G. LeClair. Ind Quality Control 14:9-11 Ap '58

Radio communication

Automatic warning of ice on power lines: Hydroelectric board of North Scotland develops automatic system. F. C. Livingstone. il Power Eng 61:86 D '57

Dc microwave protects three-terminal circuit. J. O. Robichaux and F. S. Roby. diags Elec World 150:52-5 Jl 14 '58

Line antennas reported by radio. K. B. Crawford. il Elec World 150:53 S 16 '58

Microwave relaying covers system of six lines with 17 terminals. W. E. Droege and S. A. Olson. diags Elec World 150:50-1 Jl 14 '58

Plan microwave to meet growth: Indiana & Michigan electric co. W. R. Roy. il map Elec World 149:51-2 Ja 6 '58

Tripping scheme by microwave gives high-speed transformer protection. E. A. Cockey. diags Elec World 149:49-51+ Mr 10 '58

Two utilities install GE microwave systems. Elec World 148:90 D 23 '57

Rates

See Electric rates

Records

Meter tests stickers save \$7,000 yearly. J. E. Burney. il Elec World 149:63 Mr 31 '58

Preventive maintenance is cycled; Public service co. of Indiana. il Elec World 150:56-7 Jl 28 '58

Utility company merger motivates standardized trouble reports. G. G. Bailey. Elec World 150:62-5 S 8 '58

Regulation

See also

Electric rates

Safety measures

Make employees wear those safety glasses. G. J. Ruoff. il Elec World 149:53 My 12 '58
Management interest sparks top-flight safety; Interstate power co. Elec World 149:66 F 3 '58

Urge five ways safety pays; EEI panel discussion. il Elec World 149:207-8 Je 23 '58

Securities

Security sales by electric companies, 1941-1957; tables. Elec World 149:107 Ja 27 '58

Service

Better light better sight bureau's three-pronged drive. il Elec World 149:87 F 24 '58
Duquesne unveils customer service center. il Elec World 148:74 D 30 '57

Service companies

See also

American public power association

Statistics

Annual electrical industry forecast, 9th, 1958-1975. A. J. Stegeman. Elec World 150:101-16 S 22 '58

Electrical World industry statistics; 54th annual report. Elec World 149:85-132 Ja 27 '58

Stores systems

Purchasing agents view delivery problems; panel discussion. Elec World 149:43 Je 2 '58

Taxation

Ad expense heads into tax wringer. Elec World 149:66 F 17 '58

Capitalized pay gives tax benefits; utilities can deduct full salaries of officers. W. F. Stanley. Elec World 149:64 F 24 '58

Certain ad expenses not deductible; political or propaganda ads. Elec World 149:65 F 24 '58

Court suit tests IRS ruling; ban on political advertising expense. il Elec World 149:59 F 3 '58

Utilities to have after-the-fact say in ad tax ruling. Elec World 150:56-7 Ag 25 '58

Utility assessments under fire. il Elec World 150:57 Jl 12 '58

Arizona

New agreements pay off in Arizona. il map Elec World 149:82-3+ Je 23 '58

Canada

Canada's budget dips 3.6 per cent from '57 high of \$644 million. Elec World 149:96-103 Ja 27 '58

Connecticut

Joint use of transmission facilities meets success in Connecticut. C. T. Hughes and others. Elec World 148:80-1 N 18 '57

France

Analog and digital computers in the French electric power production, transmission, and distribution industry. F. M. Cahen and J. M. Carteron. bibliog Power Apparatus & Systems p 1533-6; Discussion. F. A. Abetti and S. B. Williams. 1536-8 F '58

Great Britain

Ten years later; Britain decentralizes control of power-supply industry. J. H. M. Sykes. Elec World 149:82-3 Ja 27 '58

Iowa

Survival plan to save \$140 million; seven electric companies in and around Iowa are exploring a coordinated expansion program. C. H. Whitmore. map Elec World 148:44-5 O 28 '57

Ohio

Utilities eye Ohio ruling warily; can a city use police powers to force transmission lines underground? map Elec World 149:53 F 3 '58

Russia

Russia tour impresses U.S. group. W. Cislser. Elec World 150:56-7 S 8 '58

Texas

Three Texas companies study characteristics of five appliance loads. Elec World 150:40-6 Ag 11 '58

Western states

Legal moves hit the West. Elec World 149:68 Mr 24 '58

ELECTRIC vehicles

Combining two types of power in a single vehicle. D. A. Jones. diag Engineering 184:596-7 N 8 '57

See also

Motor cars, Railroads—Storage battery

ELECTRIC watches. See Watches, Electric

ELECTRIC water heaters

Alabama power co. likes poultry water-warming load. W. L. Baker, Jr. diags Elec World 149:80 Ja 13 '58

Compact water heating; Clage water-heater. il Engineering 185:320 Mr 7 '58

Electric heat ends hot water shortage; Penn dairies, inc. D. Groome. Elec World 149:75 Je 2 '58

Speeds cleaning of printing press plates; water immersion heaters. H. Fisler. il Elec World 149:70 Ja 6 '58

Merchandising

Detroit Ed mounts water heater drive. il Elec World 150:36-7 Ag 11 '58

Kansas Gas & Electric goose rivals one that laid golden egg. Elec World 150:83 S 8 '58

ELECTRIC waves

Effects of mode filters on the transmission characteristics of circular electric waves in a circular waveguide. W. D. Walters. diags Bell System Tech J 37:667-77 My '58

See also

Electromagnetic waves

Harmonics (electric waves)

Oscillations, Electric

Radio waves

Wave guides

ELECTRIC welding

Air compressors in welding operations. plan diag Welding Eng 43:42-3 F '58

Alloy unit takes special welds. il Iron Age 180:186-7 N 14 '57

Application aspects of wire mesh welding. S. Fisher. il diags Wire & Wire Prod 33:757-62+ Jl '58

ELECTRIC welding—Continued

- Butt weld steel pipe faster in the field. *Il Elec World* 149:50-1 *Je* 2 '58
- Comparison of spot welding tip areas when enlarged from original size; engineering data sheet. *Welding Eng* 43:67 *Ag* '58
- Engineered automation for kitchen sinks, too; mash-seam welding. *Il Welding Eng* 43:126-7 *Ap* '58
- Field welding made easy; Consolidated Edison co. *Il Steel* 143:115 *Ag* 18 '58
- Flash-butt weld procedures for extruded titanium parts. R. N. Foster. *Il Welding Eng* 43:29-30 *F* '58
- Heating and welding. *Il Westinghouse Eng* 13:20-1 *Ja* '58
- High frequencies weld tubing. *Il Tool Eng* 39:120 *D* '57
- High frequency induction butt weld process passes field test. *Il Gas Age* 121:20-1 *Je* 26 '58
- Hotpoint streamlines bending and welding. R. F. Hermann. *Il diags Am Mach* 102:84-7 *Jl* 28 '58
- How planning cuts welding time; Watt car and wheel co. *Il Iron Age* 132:107 *Jl* 10 '58
- How press and die steps form sheet metal units; Hotpoint co. H. Chase. *Il Iron Age* 180:140-1 *D* 19 '57
- How to weld copper and its alloys. L. F. Spencer. *Steel* 142:106-8 *My* '58
- Improving the fatigue life of spot welds. *diags Welding J* 37:sup315-4 *J* '58
- Joining and assembly; forum on technical progress. *Steel* 142:368-70-4 *Ja* 6 '58
- Look at high-frequency resistance welding. W. C. Rudd. *Il diag Metal Prog* 73:82-6 *My* '58
- Magnetic-force method welds vinyl-laminated steel sheet. *Il Product Eng* 29:19 *Je* 30 '58
- Magnetic-force welding; the new joining method for vinyl-clad steel. F. R. Park. *Il diags Product Eng* 29:82-5 *Je* 15 '58
- Makes better weld; nuclear reactor pressure vessel. *Il Steel* 142:159 *My* 19 '58
- More accurate thermocouples with percussion welding. J. L. LeMay. *bibliog Il diags I S A* 5:642-5 *Mr* '58
- New frontier in the welding industry; western Europe. P. C. Hobart. *Il Welding Eng* 43:64 *Ja* '58
- New welding process boosts pipe quality; Southern pipe & casing corp. *Il Elec World* 149:86 *Je* 16 '58
- 1958 production preview: welding and assembly. *Il diags Am Mach* 102:202-10 *Ja* 27 '58
- Resistance seam welding fits into high-speed lines. C. E. Roth. *Il Iron Age* 181:130-1 *Je* 5 '58
- Resistance welding in western Germany. G. E. Clausen. *Welding J* 37:534 *My* '58
- Resistance welding joins swing to automation. R. H. Eshelman. *Il diag Iron Age* 181:99-102 *Ap* 10 '58
- Revised welding practices pay off in the jet-engine industry. F. J. Bacon. *Il Welding J* 37:124-6 *F* '58
- Schedules for spot welding projection hardware to mild-steel sheet and plate. O. K. Barnes, Jr. *Il diags Welding J* 37:207-19 *Mr* '58
- Seam welding paces high-speed drum fabrication; Dow chemical co.'s Midland (Mich.) div. *Il Welding Eng* 43:33 *Ja* '58
- Space welding. *Il Steel* 141:30 *N* 4 '57
- Spot welding of Inconel in thickness range of 0.032 to 138 in. J. Harris and others. *Il diags Welding J* 37:570-3 *Je* '58
- Spot welding of rail steel. D. Canonico and H. Schwartzbart. *Il diag Welding J* 37:484-8 *My* '58
- Spot welding of Ti-6Al-4V alloy. R. K. Nolen and others. *Il diags Welding J* 37:sup 129-37 *Ap* '58
- Spotwelding titanium is practical; Boeing airplane co. W. R. Gain and D. E. Waite. *Il diags Am Mach* 102:125-7 *Mr* 10 '58
- Spot welds simplify sheet assembly. *Il Iron Age* 181:79 *Ja* 16 '58
- Strap welding as aid to success. R. G. LeTourneau. *Il Welding Eng* 43:31 *F* '58
- Take wasted dollars off the scrap pile; Stulz-Sickles co. *Il Welding Eng* 43:31 *My* '58
- This is maintenance in a heavy industrial plant; Caterpillar tractor co. F. Tancula. *Il Welding Eng* 43:28-9 *Jl* '58
- Uhf resistance welds join steel tubing. *Iron Age* 180:150-4 *N* 7 '57
- Weld reclaims outsize machine part; Cyclic welding. *Il Steel* 143:80 *Jl* 7 '58
- Weld vinyl-metal laminates without marring finish; magnetic force welding. *Il diags Iron Age* 182:86-7 *Jl* 24 '58

- Welding Austin-Healey car bodies. *Il Automobile Eng* 48:100-4 *Mr* '58
- Welding, flame cutting and fabrication; abstracts of papers. *Engineering* 185:505 *Ap* 18 '58
- Welding the Lincoln uniforms body. M. H. Trygar and O. B. Simmons. *Il diags Mach* 64:162-5 *D* '57
- Welding the refractory metals. L. F. Yntema. *Il Metal Prog* 74:105-8 *S* '58

Control

- Frequency-converter welding control using counting tubes. L. R. Broniak and W. A. Chaisson. *Il diags Welding J* 37:536-41 *Ap* '58
- New techniques in precision-welding control. J. L. Solomon and M. Balikov. *Il diags Welding J* 37:16-21 *Ja* '58

Electrodes

- Electrode-tip life studies in series spot welding. E. F. Nippes and others. *Il diags Welding J* 37:sup241-8 *Je* '58
- Filler metal comparison charts; AWS A5.0-57; with list of manufacturers; names and addresses. *Welding J* 37:123-35 *F* '58
- Joining and fastening of materials; welding electrodes and rods. *diags Materials in Design Eng* 48:378-85 *Mid-O* '58
- Nickel joins dissimilar metals; nickel alloys electrodes. *Il Steel* 143:118 *Jl* 14 '58
- Raw materials for welding electrodes; abstract. A. C. Demos. *Metal Prog* 73:184-4 *Ja* '58

Power supply

- Aluminum welding cable. J. G. Stone. *Il diags Welding J* 37:320-7 *Ap* '58; Same. *Am Soc Naval Eng J* 70:551-8 *Ag* '58
- De distribution cuts welding costs. S. B. Palmer and E. J. Bachman. *Il Power* 102:93-8 *S* '58
- How good is your welder power supply? electronic voltage-drop counter. A. C. Johnson and F. E. Donathan. *Il diags Welding J* 37:592-9 *Jl* '58
- Metal rectifiers for welding. *Metallurgia* 56:303-4 *D* '57
- New welder busway distribution system; Ohio stamping plant of Chrysler corp. L. E. Fisher and R. W. Dailey. *Il diags Welding J* 36:1085-96 *N* '57

Testing

- Evaluation of spot welds made through primers and sealers. E. A. Schevo. *Il diags Welding J* 37:790-302 *Ag* '58
- Flash welds pass tough test. *Il Oil & Gas J* 56:78 *Je* 9 '58
- Seam welding galvanized steel. W. J. Allen and M. L. Begeman. *Il Welding J* 37:sup 138-43 *Ap* '58
- Tests aid tube sales; resistance welds checked continuously by ultrasonic immersion unit. *Il diags Steel* 142:72 *Ja* 20 '58
- Weld testing. *Il Steel* 141:61 *D* 30 '57
- What is a good weld? *Il Gas Age* 121:42 *F* 6 '58

Unionnelt process

- Flange gets final pass as Northern Natural adopts new welding process. *Il Oil & Gas J* 56:73 *Ag* 25 '58
- Manufacture of electric fusion-welded pipe. *Il Metallurgia* 57:173-4 *Ap* '58

ELECTRIC welding, Arc

- Application aids for arc welding aluminum bus. *Welding Eng* 43:34-7 *Ja* '58
- Arc spotwelding stiffens louver panels. R. Moithop. *Il diag Am Mach* 102:90-1 *S* 8 '58
- Arc vs gas welding on gray cast iron; which should it be? C. Pellegrino. *Il Welding Eng* 43:48 *Jl* '58
- Arc welding of wrought magnesium-thorium alloys. L. F. Lockwood and P. Klain. *Il diags Welding J* 37:sup255-64 *Je* '58
- Atom reactors get top-grade welds. *Il Steel* 141:92-3 *N* 25 '57
- Automatic welding of aircraft accessory turbine wheels. A. J. Rosenberg and E. W. Jamison. *Il diags Welding J* 37:328-35 *Ap* '58
- Automation scores in double jointing; new technique for inside and outside welding. P. Reed. *Il Oil & Gas J* 55:82-4 *D* 16 '57
- Big dividends with spot-welded refrigerators. *Il Welding J* 37:363 *Ap* '58
- Composite arc-welded steel crankshaft devised for portable gang saw. L. W. Johnson. *Il diag Welding J* 37:706-7 *Jl* '58
- Design and technique requirements for arc welding titanium in aircraft applications. R. Meredith and B. L. Baird. *Il diags Welding J* 36:371-7 *Ap* '57; Excerpts. *Product Eng* 28:G28-31 *Mid-O* '57

ELECTRIC welding, Arc—Continued

- Experimental welding with the cone arc. R. E. Monroe and D. C. Martin. *II* *diags* Welding J 36:sup518-20 D '57
- Fractured runner blades welded at site. L. McWilliams. *II* *diag* *Power Eng* 62:104-5 Ap '58
- Fusion welding of titanium; reference book sheet. *diags* *Am Mach* 102:131+ Mr 24; 115+ Ap 7 '58
- High-speed process for quality welds; Inner-shield. *II* *Tool Eng* 40:112 Je '58
- How stainless bearings are built-up. R. Schuster. *II* *Marine Eng/Log* 63:83 Mr '58
- How to prevent weld failures in nuclear power piping. V. T. Malcom and S. Low. *II* *Heating-Piping* 50:106-8 J1 '58
- How to weld copper and its alloys; carbon arc and oxyacetylene. L. F. Spencer. *diags* *Steel* 142:110-12+ Mr 17 '58
- Improved arc welding methods at Allison div. of GM. H. Chase. *II* *Automotive Ind* 117:72-3+ N 1 '57
- Inconel welding wire joins dissimilar metals. *II* *Materials in Design Eng* 47:141-2 Je '58
- Liquid cooling, Bernard's answer to hot, slow welding; LC manual arc welding system. *II* *diag* *Welding Eng* 43:46+ My '58
- Low cost tooling for stud welding. C. F. Brown. *diags* *Welding Eng* 43:40-1 F '58
- Mechanized surfacing with alloy materials. R. S. Zuchowski and J. H. Neely. *II* *diag* *Welding J* 37:22-9 Ja '58
- New automatic process for arc welding steel; Innershield process. *II* *Welding Eng* 43:49+ My '58
- Prediction of weld heat-affected zone microstructures from continuous-cooling transformation data. E. F. Nippes and E. C. Nelson. *II* *Welding J* 37:sup289-94 J1 '58
- Progress in the joining of aluminum. N. T. Burgess. *bibliog* *II* *Metallurgia* 57:117-21 Mr '58
- Quantitative evaluation of residual-stress relief in pipe weldments. J. E. Cook and R. B. McCauley. *Welding J* 37:sup 179-84 Ap '58
- Right rods, materials, welding technique saved heater. S. Elionka. *II* *Power* 102:110-11 Ja '58
- Salvaged by fast arc weld build-up; restoring worn steel mill equipment. *II* *Mill & Factory* 62:21 Ap '58
- Special arc-welding technique improves shell production. *II* *Welding J* 36:1198 D '57
- Steel plant gondola cars fabricated by welding. R. Losee. *II* *Welding Eng* 43:41-2 J1 '58
- Stress relief of weld layers assures quality repair. *II* *Iron Age* 181:98-9 Ja 30 '58
- Study of metallurgical effects in the multipass welding of Zircaloy. R. E. Johnson and B. W. Schaaf. *bibliog* *II* *diags* *Welding J* 37:sup 1-9 Ja '58
- Tips on welding thick-walled vessels. *II* *Iron Age* 180:162-4 N 14 '57
- Transverse weld shrinkage; abstract. W. Gilde. *Welding J* 37:sup48 F '58
- Tungsten-arc welding 0.002-in. and 0.005-in. stainless steel and titanium. J. C. Collins and S. P. Jenkins. *II* *Welding J* 37:342-7 Ap '58
- Welder makes own shield; Innershield. *II* *Steel* 142:102 My 12 '58
- Welding aids nuclear power for civilian use. W. A. Heath. *II* *Welding Eng* 43:34-5 Mr '58
- Welding aluminum to iron can be easy, economical. E. J. Koop. *Welding Eng* 43:46 Jm '58
- Welding and stainless maintain water turbines. L. McWilliams. *II* *diag* *Welding Eng* 43:38-40 J1 '58
- Welding is efficient as a maintenance tool. *II* *Welding Eng* 43:49 Mr '58
- Welding metallurgy of Cr-Mo-V steels for high-temperature steam-turbine components. R. J. Christoffel and others. *bibliog* *II* *diag* *Welding J* 37:sup295-303 J1 '58
- When planning a maintenance pipe welding job, ask yourself these questions. R. M. Kolb. *diags* *Heating-Piping* 50:122-6 My '58
- Wide-span arches for rigid-frame school structure are completely arc welded. W. F. Fischer. *II* *Welding J* 37:594-6 Je '58
- See also*
Bridges—Welding operations

Carbon dioxide shielding

- CO₂ compares favorably with other weld shields. S. A. E. J. 66:126+ F '58
- CO₂ gas welding pioneers in construction of Havana tunnel. I. D. Holster and H. D. Mann. *II* *Welding J* 37:36-7 Ja '58

- CO₂ welding of steel. R. W. Tuthill. *II* *Tool Eng* 40:32-6 Ja '58
- How and where to use shielding gases for welding. O. T. Barnett. *bibliog* *II* *diags* *Iron Age* 181:91-3 Ap 10 '58
- Industrial applications of magnetic-flux gas-shielded arc welding. R. T. Telford and F. T. Stanchus. *II* *diags* *Welding J* 37:771-8 Ag '58
- Lightweight gun speeds CO₂ welding; Parish pressed. *II* *steel div.* Dana corp. J. W. Holzman. *II* *Steel* 142:118 Je 16 '58
- Low crack sensitivity of steel joint by CO₂-O₂ arc welding. H. Sekiguchi and I. Masumoto. *bibliog* *II* *diags* *Welding J* 37:sup326-36 J1 '58
- Magnetic-flux gas shielded arc welding. J. E. Dato. *II* *diags* *Iron & Steel Eng* 35:160-3; Discussion. 164-5 S '58
- New CO₂ welding process. A. F. Chouinard and R. P. Monroe. *II* *diags* *Welding J* 36:1069-73 N '57
- New welding method acclaimed by British; CO₂ plus special electrode. W. A. Heath. *II* *Welding Eng* 43:62 Ap '58

See also

Electric welding, Arc—Unionarc welding

Electrodes

- Comparative properties of electrodes for arc welding austenitic manganese steels. W. L. Lutes and H. F. Reid, Jr. *II* *diags* *Welding J* 37:276-83 Ag '58; Discussion. H. J. Chapin. 37:702-5; Reply. 705 J1 '58
- Continuous cooling transformation characteristics of three types of weld metal. E. F. Nippes and E. C. Nelson. *II* *Welding J* 37:sup30-6 Ja '58
- \$11.35 spent for nickel-core electrode saves \$1600 iron casting. H. Peacor. *II* *Welding J* 36:1098-9 S '57
- Fillet metals for joining. O. T. Barnett. *II* *Welding Eng* 43:56+ Ja; 66-8 Mr; 40-5 My '58
- Iron-powder coated electrodes. *Engineering* 184:711 D 6 '57
- Iron-powder electrodes cut welding time on fork-truck frames. R. Zeh. *II* *Welding J* 36:1099-100 N '57
- New welding method acclaimed by British; CO₂ plus special electrode. W. A. Heath. *II* *Welding Eng* 43:62 Ap '58
- Oscillating electrode gives fast buildup on worn finger. R. Hall. *II* *Welding J* 37:492 My '58
- Role of phosphorus in austenitic manganese weld metal. W. T. DeLong and others. *bibliog* *diag* *Welding J* 37:sup316-19 J1 '58
- Vibrating electrode holder; abstract. L. Lanyi. *Welding J* 37:sup48 F '58

Electron beam vacuum process

- High-vacuum electron-beam fusion welding. W. L. Wyman. *II* *diag* *Welding J* 37:sup 49-53 F '58; Abstract. *Metal Prog* 74:178-4 Ag '58

Helarc process*See also*

Electric welding, Arc—Inert gas shielding

Inert gas shielding

- Arc welding of pipe butt joints without backing ring. *diags* *Mach* 64:114 Je '58
- Automation engineering steps towards automatic welding. F. Hirschmann. *II* *Engineering* 184:715-18 D 6 '57
- Casting weldments in a petroleum refinery. J. Stand and others. *II* *diag* *Welding J* 37:789-93 Ag '58
- Chlorine additions for high-quality inert-gas metal-arc welding of aluminum alloys. M. B. Kasen and A. R. Pfluger. *II* *diag* *Welding J* 37:sup269-76 Je '58; Excerpts. *Metal Prog* 74:145-6+ S '58
- Choose the best current for tungsten-arc welding. *II* *diags* *Welding J* 37:38 Je '58
- Common job cost this firm too many dollars; fabrication of two fully-jacketed reactor vessels and two tube-type heat exchangers. R. H. Hoefler. *II* *Welding Eng* 43:52-3 Ap '58
- Consumable inerts used in welding missile air tank. *II* *Welding J* 37:239 Mr '58
- Control of melting rate and metal transfer in gas-shielded metal-arc welding. A. Lesnewich. *bibliog* *diags* *Welding J* 37:sup 343-53 Ag '58
- Control of porosity in high-nickel-alloy welds. G. R. Pease and others. *bibliog* *II* *Welding J* 37:sup354-60 Ag '58
- Cracking associated with porosity in titanium welds over 0.125 in. thick. R. P. Olsen and J. Gates. *II* *Welding J* 37:478-83 My '58

ELECTRIC welding, Arc—Inert gas shielding—*Continued*

- Cupro-nickel welded with aluminum bronze, V. Abaravich, *il Welding J* 37:220-4 Mr '58
- Development of filler wires for welding SAE 4130, 4140 and 4340 steels, H. W. Mishler and others, *diags Welding J* 37:sup41-3 F '58
- Easier living through welding; O. Ames co. H. O. Eads, *il diags Welding Eng* 43:58+ Ak '58
- Effect of welding speed on strength of 6061-T4 aluminum joints, W. L. Burch, *il diags Welding J* 37:sup361-7 Ag '58
- Fins for sure! radioactive materials transportation casks, *il Welding Eng* 43:55 J '58
- Fusion welding of aluminum, T. B. Correy, *il diags Light Metal Age* 16:8-12 Je; 12-14+ Ag; 8-13 O '58
- Fusion welding of titanium in jet-engine applications, H. W. Hoefler, *il diags Welding J* 37:467-77 My '58
- Handles hot stuff; vessel for transporting radioactive wastes, pressure welding problem, *il Steel* 142:117 Mr '58
- Heat-exchanger fabrication, P. Patriarca and others, *il diags Welding J* 36:1172-8 D '57
- How and where to use shielding gases for welding, O. T. Barnett, *bibliog il diags Iron Age* 181:1-8 Ap '58
- How to stop welding gas waste, W. Jacoby, *diag Plant Eng* 12:123 S '58
- How to weld copper and its alloys, L. F. Spencer, *il diags Steel* 142:86-9 Ja 27; 90+ F 24 '58
- How to weld thick closures from one side, *il diags Iron Age* 181:102-3 Mr 20 '58
- Inert-gas-shielded arc welding of silicon and aluminum bronze, P. L. Hemmes, *il Welding J* 37:779-88 Ag '58
- Inert-gas-shielded consumable-electrode welding of molybdenum, N. E. Weare and others, *bibliog il Welding J* 37:sup 117-24 Mr '58
- Inert-gas tungsten-arc butt welding of Zircaloy-2 tubes, J. W. Linkaefelter, *il diag Welding J* 36:230-5 Mr '57; Discussion, 37:34-5 Ja '58
- Inert-gas tungsten-arc welding of titanium for nuclear and chemical industries, G. M. Adamson and W. J. Leonard, *il diags Welding J* 37:673-82 J '58
- Ingenuity defeats stumbling block; difficult joining job on nuclear reactor pressure vessel, *il Welding Eng* 43:58-9 Je '58
- Kaiser upgrades aluminum welding, *il diag Steel* 142:128-9 Mr 24 '58
- Kaiser's three new metal inert-gas techniques for welding aluminum, R. K. Bay-singer, *diags Welding Eng* 43:36-8 Mr '58; Same cond. *Iron Age* 181:112-15 Mr 13 '58
- Kraft use permits gas welding in field, *diags Gas Age* 122:18 JI 24 '58
- Maintenance saving for the railroads; all-welded Diesel manifold, *il Welding Eng* 43:51 Ap '58
- Manual Mig guns round-out Aircro's line, *il Welding Eng* 43:106 Ap '58
- Mig and Tig used to weld dynamite mixers, *il Welding Eng* 43:37 J '58
- Mig weld aluminum for prefab substations, *il Welding Eng* 43:44 J '58
- New demands on gas cylinders are met by reliable welds; Christy Park works of U.S. steel corp.'s National tube div, *il Welding Eng* 43:27-8 J '58
- New welding techniques ready titanium for CPl, *il Ind & Eng Chem* 50:sup71A-2A S '58
- Oxycetylene and tungsten inert-gas welding white metal, *Welding Eng* 43:64 Mr '58
- Performance of welds in some aluminum alloys, P. B. Dickerson, *bibliog il Welding J* 37:107-13 F '58
- Pipeline welding, R. D. Morel, *diags Pet Eng* 30:D35-6+ Ap; D51-3+ My; D42-3 Je '58
- Porosity in aluminum-alloy welds, F. R. Collins, *il Welding J* 37:589-93 Je '58
- Quality welds join Titan engine frames, G. H. De Groat, *il Am Mach* 102:37-9, cover Ag 11 '58
- Radioisotope capsules sealed by remote control welding, *il Welding J* 37:140 F '58
- Roll planishing improves weld-joint efficiency and quality, H. L. Meredith and B. R. Russell, *il diags Welding J* 36:113-17 F '57; Abstract, *Metal Prog* 73:148+ J '58
- Something's up with inert-gas-shielded metal-arc welding; electric motors raise landing gear, *il Welding J* 37:810 Ag '58
- Study of factors affecting the strength and ductility of weld metal, C. M. Wayman and R. D. Stout, *bibliog il Welding J* 37:sup 193-200 My '58
- Thanks to tungsten inert-gas, there's gold in them thar welds! *il Welding Eng* 43:40-1 Ja '58

- Tig in a tank welds stronger titanium vessels, R. B. Stanton, *il Welding Eng* 43:72-3 Ap '58
- Titanium welding bubble, *il Light Metal Age* 15:20-1 O '57
- Top weld quality is assured in controlled-atmosphere chambers, *il Welding Eng* 43:72 Ap '58
- Upstairs with inert-gas metal-arc welding, *il Welding J* 36:1197-8 D '57
- Vacuum-furnace fabrication, ten times faster, V. W. Nicholson, *il Welding J* 37:490-1 My '58
- Welding builds transportation casks for radioactive materials, P. E. Woodward, *il Welding J* 37:597 Je '58
- Welding copper-base alloy tubes, J. F. Sebald and L. H. Hawthorne, *il diags Power* 102:94-7+ Mr; 92-5+ Ap; 103-11+ Je '58
- Welding; locomotive builder makes new pistons from old, *il Iron Age* 182:204+ S 11 '58
- Welding of spaced metal sheets, *il Welding J* 37:489 My '58
- What causes porosity in welds? *Am Mach* 102:39 My '58
- Worn sugar-cane drive rolls reclaimed by gas-shielded welding, C. B. Robinson and W. R. Lawrence, *il Welding J* 37:146+ F '58
- Your Lincoln Tunnel guides are metal inert-gas welded aluminum, *il Welding Eng* 43:66 Ja '58

Hygienic aspects

- Health hazards of new welding method, *Safety Maint* 114:38+ O '57

Magnetic flux welding

- See Electric welding, Arc—Carbon dioxide shielding

Power supply

- Diesel-engine-driven arc welding set, *il Engineer* 205:295 F 21 '58
- How to choose arc-welding power sources, A. Johnson and K. P. Budoy, *diags Am Mach* 102:97-104 Ag 11 '58 (reprints 25c)
- One power source fits many welding units, *il Iron Age* 181:102-3 My 1 '58
- Single power source for multi-arc welding, *Eng N* 160:146-6 Je 19 '58

Quality control

- Pipeline field welding and quality control methods, A. G. Barkow, *il diags Am Soc C E Proc* 84 [PL 2 no 1673]:1-34 Je '58; Same abr. *Oil & Gas J* 56:113+ Je 16 '58; Same abr. *Gas Age* 122:34-9+ S 18 '58; Abstract, *Pet Eng* 30:D32-4 My '58

Safety measures

- Safe welding on gas filled pipelines; Southern California gas co. J. S. Powell and H. M. Curtis, *il diags Gas* 34:102-4+ Je '58

Standards

- Pipeline welding; standards of acceptability, R. D. Morel, *Pet Eng* 30:D42-3 Je '58
- Self-imposed welding standards, American machine & foundry co. *diag Welding Eng* 43:54+ Ap '58

Submerged arc

- Arc-air for beveling cuts milling time 75 per cent; manual job becomes automated; Baker Perkins, inc. J. Fairlie, *il diag Welding Eng* 43:40-1 Je '58
- Automatic submerged-arc welders, prime aids at Harvester; bulldozer C-frames, D. L. Hansen, *il Welding Eng* 43:62+ F '58
- Automatic welder saves 66 per cent; submerged arc welding and a manipulator; Gusset boiler & welding inc. *il Steel* 142:72-3 F 24 '58
- Automatic welding of brackets on fork lift truck rails; Industrial truck div. of Clark equipment co. R. C. Andrews, *il Automotive Ind* 118:98 Je 16 '58
- Bonded fluxes for submerged-arc welding of alloy steels, H. C. Campbell and W. C. Johnson, *il Welding J* 36:1078-84 N '57
- Effect of defects on the fatigue strength of submerged-arc welds; abstract, H. Möller and M. Hempel, *bibliog Welding J* 37:sup 113+ Mr '58
- Effects of porosity on mild-steel welds, W. L. Green and others, *diags Welding J* 37:sup206-9 My '58
- Effects of steel-making practice on submerged-arc weld porosity, J. T. Lapsley, jr. *il diag Welding J* 37:sup 169-78 Ap '58
- Fusion welding in pipe fabrication, W. S. Schaefer, *il diag Welding Eng* 43:34-6 F '58
- Gantry manipulator speeds tank welding, *il Mach* 64:127-8 Mr '58

ELECTRIC welding, Arc—Submerged arc—*Continued*

- How to cut welding costs. R. A. Clemens. *diags Gas Age* 121:40-2+ Mr 6 '58
- Huge steel ladle built in Australia. *il Welding Eng* 43:70 Mr '58
- Lathes modified to resurface rolls; automatic submerged arc welding of alloy steel surface. J. Angus. *il Plant Eng* 12:127 My '58
- Manipulator for automatic welding. H. S. Powell. *il diag Welding J* 37:359-61 Ap '58; Same cond. *Tool Eng* 40:109-11 My '58
- New demands on gas cylinders are met by reliable welds; Christy Park works of U.S. steel corp.'s National tube div. *il Welding Eng* 43:27-8 Ja '58
- Pressure vessel fabricated in less than 30 days; Hahn & Clay corp. L. F. Megow. *il diags Welding Eng* 43:58+ Mr '58
- Semiautomatic welding large bridge members. *il Welding J* 37:139-40 F '58
- Study of factors affecting the strength and ductility of weld metal. C. M. Wayman and R. D. Stout. *bibliog il Welding J* 37:sup 193-200 My '58
- Submerged arc cuts weld cost; stainless tank. *il Steel* 142:76 Ja '58
- Submerged arc does fast job of rebuilding; Caterpillar D-8 track. *il Iron Age* 181:132 Je 5 '58
- Submerged-arc for broader uses; Lincoln electric co. Lincolnweld ML-3. *il Welding Eng* 43:104 Ap '58
- Submerged arc pipe welding equipment saves labor costs; Mechanical contractors association of America 69th annual convention; panel discussion. Heating-Piping 30:92-4 Ag '58
- Submerged arc welding gets boost. *il Steel* 142:119 Ap 7 '58
- Submerged-arc welding speeded by pacer. *il Tool Eng* 39:89 D '57
- Submerged-arc welding T-1 steel in big fabricated beams. *il Welding J* 37:811 Ag '58
- Welded air-cleaner assembly makes for big savings. W. E. Meagher. *il Iron Age* 181:110-11 F 27 '58
- Welding avoids deep drawing problems. *il Tool Eng* 40:104-6 F '58
- Welding does fast job on huge girders; Weirton steel co. J. Angus. *il Iron Age* 181:94-5 Je 12 '58
- Welding heavy steel; Gunderson bros. engineering corp. H. E. Jackson. *il Welding Eng* 43:65-6 Ap '58

Tables, calculations, etc.

- Slide rule for automatic welding. A. J. Rosenberg. *diags Welding Eng* 43:91+ Am '58

Testing

- Effect of preheating and postheating on toughness of weld metal. T. N. Armstrong and W. L. Warner. *Welding J* 37:sup27-9 Ja '58
- Report on strength of welded joints in carbon steel at elevated temperatures. *il diags A S M E Trans* 80:571-82; Discussion. 583-5 Ap '58
- Welding method may reduce inspection time, costs. *il Iron Age* 180:72 O 31 '57

Unionarc welding

- New welder saves firm \$150,000 yearly; Thompson pipe & steel co., Denver. *il Steel* 142:88-9 Je 9 '58
- Welder trims furnace cost; electric furnace parts. *il Steel* 143:100 S 29 '58

ELECTRIC welding machines

- Arc-air for bevelling cuts milling time 75 per cent; manual job becomes automated; Baker Perkins, inc. J. Fairlie. *il diag Welding Eng* 43:40-1 Je '58
- Automated welding line produces 500 units per hour. *diag Welding Eng* 43:43 Je '58
- Automatic brake shoe former and welder. *il diags Automation* 5:99-100 My '58
- Automatic submerged-arc welders, prime aids at Harvester; bulldozer C-frames. D. L. Hansen. *il Welding Eng* 43:62-4 F '58
- Automatic welding climbs; welding equipment industry. *il Spec* 12:81-2 Mr 10 '58
- Automatic welding installation for axle castings. *il Automobile Eng* 48:202 My '58
- Automatic welding of brackets on fork lift truck rails; Industrial truck div. of Clark equipment co. R. C. Andrews. *il Automotive Ind* 118:98 Je 15 '58
- Automatic welding with templet control and nesting fixtures; Drive boxes for Adams motor graders; illustrations with text. L. E. Foust and H. Moody. *Am Mach* 102:104-7 F 24 '58
- Buttwelder leaves no flash. *il Steel* 143:84-5 S 22 '58

- Continuous welded-pipe-making equipment; Coatbridge works of Stewarts and Lloyds, Ltd. *il diags Engineer* 205:214-15 F 7 '58
- Discarded welder controls creep test heating. L. W. McMahon. *il diag Control Eng* 5:105-4 Ag '58
- Faster butt welding speeds pipelaying. *il Eng N* 161:75 Ag 21 '58
- High frequency resistance welder saves 23 per cent; JFD manufacturing co. *il Elec World* 149:123 My 19 '58
- Honeycomb making advances; Solar aircraft co. *il Steel* 143:102 S 29 '58
- Hot upsetting produces stronger joints. D. C. Wherren. *il Tool Eng* 41:115-17 S '58
- Improved automatic machine for welding aluminum demonstrated. *il Gas Age* 120:47, 62 D 12 '57
- Jointer due first trip abroad; crude line from Algeria. Oil & Gas J 56:116 My 19 '58
- Mechanically actuated servo valve gives controlled acceleration. H. H. Hansen. *il diags Ap Hydraulics* 11:90+ My '58
- Midset spotwelder packs wallop. *il Steel* 142:87 Je 2 '58
- Mobile induction welder spurs field piping. *il diag Chem Eng* 65:96+ S 22 '58
- Multiple arc multiplies welding speed. *il diag Am Mach* 102:108-9 Je 16 '58
- New welder makes debut; Dyneweld system. *il Welding Eng* 43:60 Je '58
- One power source for many arcs; A. O. Smith corp.'s new 750 and 1,500-amp d-c constant-potential machines. *il Welding Eng* 43:100+ Ap '58
- Portable resistance welders. *il Engineer* 204:721 N 15 '57
- Production line welding. J. H. Bauer. *il diag Automation* 5:63 Je '58
- Production time cut; tungsten-arc welding machine. R. Hull and G. Hartwick. *il Welding J* 37:238-9 Mr '58
- Quasi-Arc welding gantry for shipyards. *il diag Engineer* 204:865-6 D 18 '57
- Silicon rectifiers improve features of d-c welders. E. F. Steinert. *Welding Eng* 43:38 Ja '58
- Simple machine produces core for honeycomb structure; Rohr aircraft corp. *il Automotive Ind* 118:65 Ja 15 '58
- Submerged arc for broader uses; Lincoln electric co. Lincolnweld ML-3. *il Welding Eng* 43:104 Ap '58
- Toroid measures spot weld current. P. M. Zimmerman. *il diags Electronics* 30:132-3 D '57
- Tough welding jobs simplified; tripod and pendulum setup is big time saver. R. A. Butler. *diag Plant Eng* 12:124-5 Ja '58
- Two welding processes ride same track. P. T. Moon. *il Welding J* 37:491 My '58
- Welders repair bearings economically and quickly. J. J. McCubbin. *il Elec World* 150:113 J1 21 '58
- Welding aluminum pipe by automatic machine. *il Oil & Gas J* 56:283 Ja 27 '58
- Welding machine uses foil strip. *diags Machine Design* 30:6 Je 26 '58

Control

- Automatic control guides welding heads over any seam line. *il Welding Eng* 43:67 Je '58
- Automation engineering steps towards automatic welding. F. Hirschmann. *il Engineering* 184:715-18 D 6 '57
- Electronic control times high-speed welding cycle. S. C. Rockafellow. *il diags Electronics* 31:70-2 Ar 15 '58
- Heat program timer controls weld energy. J. V. Ranis. *il diags Electronics* 31:76-8 Je 6 '58
- Welding control designed for work on small parts. A. V. Ranis. *diags Elec Manuf* 61:160+ Je '58

Cooling

- Portable cooler for welding equipment. *il Elec Manuf* 61:154 Mr '58
- Welding equipment cooler introduced by Bernard. *il Welding J* 37:68 Ja '58

Fixtures

- Designing jigs and fixtures for resistance-welding. I. V. Hale. *il Mach* 65:152-4 O '58
- ELECTRIC welding machines, Portable**
- Device welds tube to sheet; portable, automatic welder. *il Steel* 142:78 F 10 '58
- Mechanized gun traverse in new welder. *il Elec Manuf* 62:128+ S '58
- Portable spot-welder; Portable welders, Ltd. *il Engineering* 185:68 Ja 17 '58
- Spotwelder speeds assembly; Koch refrigerators inc. *il Steel* 141:108 D 16 '57

ELECTRIC wheel. See Motor vehicles

ELECTRIC wire

Acrylonitrile-acrylate copolymers for wire insulation. J. Rosenberg and H. L. Greenberg. *bibliog Mod Plastics* 35:173-4+ D '57
Effect of stock temperature on the physical properties of polyethylene coatings for wire. J. A. Durno. *diags Wire & Wire Prod* 33: 182-4+ F '58

Interrelationship between density and dielectric strength of high pressure polyethylene for high voltage applications in insulated wires. A. S. Silver. *bibliog Wire & Wire Prod* 33:70-2+ Ja '58

Miniature high temperature wire: Flexolon wire. *diags Electronic Ind* 17:92+ J1 '58

National electrical manufacturers association Wire and cable section annual meeting. Atlantic City. *Wire & Wire Prod* 33: 76+ Ja '58

National electrical manufacturers association Wire and cable section spring meeting. Rye, N.Y. April 30. *Wire & Wire Prod* 33:783-4 J1 '58

New magnet wire ready. *Product Eng* 29:12 My 19 '58

Nomograph to determine resistance of wire; engineering reference sheet. F. Strasser. *Elec World* 149:62 Je 2 '58

Signal corps 6th annual wire and cable symposium. Fort Monmouth, N.J. Dec. 3-5; abstracts of papers. *Rubber Age* 82:868-9 F '58; *Rubber World* 137:571-2 Ja '58

Thermalex-F. F. Cianchetti. *Wire & Wire Prod* 33:376+ Ag '58

Whisker growth from iodide titanium wire. A. M. Russell and R. C. Abbott. *Il J Ap Phys* 29:1130-1 J1 '58

See also

Electric cables
Telephone wire

Protection

Elongation as a factor in evaluating the thermal stability of enameled wire. D. C. Westervelt and E. J. Croop. *bibliog Il Power Apparatus & Systems* p814-17 O '58

Extrusion of fast curing neoprene wire and cable compounds. O. L. Simmons and C. E. McCormack. *Il diag Wire & Wire Prod* 33: 539-42 My '58

Techniques for insulating wire and cable with silicone rubber. D. C. Youngs and others. *Il diags Wire & Wire Prod* 33:285-90+ Mr '58

Testing

Elongation as a factor in evaluating the thermal stability of enameled wire. D. C. Westervelt and E. J. Croop. *bibliog Il Power Apparatus & Systems* p814-17 O '58

Evaluation and applications of fiber-insulated magnet wire. H. L. Saums and W. W. Pendleton. *bibliog Elec Manuf* 61:93-103 F '58

New temperature-aging data on aluminum-clad copper wire. C. L. Carlson. *Elec Manuf* 62:11 S '58

ELECTRIC wire strippers

Lead stripper cuts salvage time 90 per cent. W. E. Smith. *Il Elec World* 149:66 Mr 10 '58

ELECTRIC wiring

Architect's education in mechanical and electrical services of buildings. L. Axelbank. *Prog Arch* 39:111 My '58

Color coding; markings on electronic components and wiring. *diags Electronic Ind* 17: 51+ Je '58

Electrical lead for high-pressure apparatus. I. Simon. *diag R Sci Instr* 28:963-4 N '57

Electrical lead for vacuum systems. H. Wieder and A. W. Smith. *diags R Sci Instr* 23:794 S '58

High-voltage lighting features low-voltage control at Virginia's new state office building. *Il diags Elec Constr & Maint* 57:92-5 Mr '58

Laced-cord retention of wiring harnesses. *Il diags Machine Design* 30:102-3 My 1 '58

Official approval of residential electrical systems. W. J. McGuinness. *diag Prog Arch* 39:9 My '58

Primary wiring and bus duct distribution system; aluminum brazing plant of Trane co. *Il plans Elec Constr & Maint* 57:84-6 F '58

Punched cards, answer to wiring woes. D. W. Melville. *Il diags Product Engr* 29:58-60 Ja 20 '58

Space savings by altered wire construction. A. T. Hawthorne. *Il Elec Manuf* 62:127 S '58

Technique for connecting electrical leads to semiconductors. O. L. Anderson and others. *diags J Ap Phys* 28:923 Ag '57; Same cond. *Franklin Inst J* 264:358-9 O '57; Same cond. *Metal Prog* 73:196+ My '58

Wiring a small plant: Panoramic radio co. *Il diags Elec Constr & Maint* 57:96-8 S '58
Wiring by machine; plug-in electronic computers. *Il Electronics* 31:48 Ap 4 '58

See also

Electric cable troughs
Electric codes
Electric distribution
Electric fuses
Electric transformers—Connections
Electric transmission
Electricity in the home
Insulation (electric)
National electrical code

Diagrams

Photo composing electrical diagrams. P. E. DeLawter. *Il diags Machine Design* 30:22-4 Ag 21 '58

Simplified aircraft electrical diagrams. H. L. Yarbrough. *diags Elec Manuf* 62:95-9+ S '58
Wiring diagrams; their purpose and how to understand them. F. R. Cinco. *diags Automation* 6:147-8+ My '58

Specifications

Electrical specifications; residential wiring. *diag Elec Constr & Maint* 57:128-34 My '58

Symbols

See Electric symbols

ELECTRIC wiring tools

Pre-rounding rectangular magnet wire. B. B. Baschkin. *Il diags Elec Manuf* 61:148 F '58

ELECTRIC workers

Average wages, electric utility employees; all manufacturing employees, 1950-1957; tables. *Elec World* 149:108 Ja 27 '58
California union okays fifth-year training in electronic controls. S. Johnson. *Control Eng* 5:23+ Ap '58

ELECTRICAL inspectors, International association of. See International association of electrical inspectors

ELECTRICAL manufacturers association, National. See National electrical manufacturers association

ELECTRICITY

Electricity (cont.). N. Peach. *diags Power* 101: 144 N; 168 D '57; 102:144 Ja; 144 F; 152 Mr; 146 Ap; 133 My '58

See also

Corona (electricity)
Dielectrics
Electric current
Electrophysiology
Electrostatics
Ettingshausen effect
Hall effect
Insulation (electric)
Lighting
Magnetism
Photoelectric effect
Piezoelectricity
Polarization (electricity)
Thermoelectricity

History

Influence of fashion in the development of knowledge concerning electricity and magnetism. W. R. Amberson. *Il diags Am Scientist* 46:33-50 Mr '58

Study and teaching

Experiment on circuit theorems. J. G. Tillotson. *Am J Phys* 26:130-1 F '58

ELECTRICITY, Accidents from

See also

Electric equipment—Safety measures
ELECTRICITY, Injuries from.
Mechanical resuscitators for electrical accidents; abstract. T. M. C. Martin. *Safety Maint* 115:33 Ja '58
Safety in the chemical industry; safety in the use of electricity with particular reference to the chemical industry. S. J. Emerson. *diag Chem & Ind* p424-30 Ap 12 '58

See also

Electric shock
ELECTRICITY, Static.
Causes and prevention of static markings on motion-picture film. W. I. Kisner. *Il SMPTE J* 67:513-17 Ag '58
Charge transfer upon contact between metals and insulators. D. O. Van Ostenburg and D. J. Montgomery. *bibliog diags Textile Res J* 28:22-31 Ja '58
Electrical safety in hospital operating rooms. N. G. Griffin. *bibliog Power Apparatus & Systems* p698-702 O '58
Four ways to avoid hazards of static discharge. F. W. Frecker and A. R. Cowal. *Elec World* 149:54-5 My 5 '58

ELECTRICITY, Static—Continued

How to control static electricity in commercial tankage. W. M. Bustin and others. *diags Oil & Gas J* 55:89-94+ D 16 '57

Kill static in lab screening: pieces of dry ice placed on each screen, while humidified nitrogen gas passed upward through the screens countercurrent to the particle path. M. Allen. *diag Chem Eng* 55:176 S 22 '58

Laboratory and plant-scale experiments on the generation and prevention of static electricity. A. Klünkenberg. *bibliog Oil & Gas J* 55:204+ N 18 '57

Reducing static electricity inside storage tanks by use of radioactive material. J. J. Conradi and others. *bibliog diags Oil & Gas J* 55:197-8+ N 18 '57

Safer loading-rack operations at pipeline terminals. C. H. Scruggs and D. L. Hope. *il diags Oil & Gas J* 55:109+ O 28 '57

Static electricity in petroleum products. D. T. Rogers and others. *bibliog diags Oil & Gas J* 55:166+ N 18 '57

Static electricity in the petroleum industry. J. C. Howard. *bibliog diags Elec Eng* 77:610-14 JI '58; Abstract. *Safety Maint* 115: 56 Mr '58

Static electricity probed in new research effort by industry. *Oil & Gas J* 55:145-6 N 18 '57

See also

Textile fabrics—Electrostatic properties

ELECTRICITY in air conditioning
Air conditioning wiring and the National electrical code. W. J. Novak. *il diags Elec Constr & Maint* 57:65-77 Ap '58

For booming residential air-conditioning and heat-pump loads; single-phase service costs less. E. B. McBurney. *diag Elec World* 148: 54-7 O 28 '57

See also

Electric fans, Ventilating

ELECTRICITY in mining
Gunmar makes power all year 'round. *il diags Eng & Min J* 158:100+ D '57

New battery, the fuel cell; will it have an impact on mining? National carbon co. *il diags Eng & Min J* 159:89-91 My '58

Power cables, key to safe and steady production. *il diags Eng & Min J* 159:36-52 Mid-Je '58

See also

Coal mines and mining—Electric equipment
Coal mines and mining—Power
Mine hoisting, Electric

Safety measures

What mine management should know about ground fault protection. G. J. Reynolds. *il diags Eng & Min J* 159:53-61 Mid-Je '58

ELECTRICITY in refrigeration
Refrigeration not running right? trouble could be electrical. *diag Power* 102:122-3 F '58

Thermoelectric refrigeration. R. L. Eichhorn. *diags Refrig Eng* 66:31-5 Je '58

See also

Refrigerators

ELECTRICITY in the home
Builder sees gold in Medallion homes. *il Elec World* 150:113 Ag 18 '58

Calculation of residential cooling loads. G. Conklin. *il Prog Arch* 39:127-31 My '58

High-use homes; what distribution will they need? special report. *il plans diag Elec World* 149:61-72 Je 9 '58

Medallion Home spurs LBE plans. *Elec World* 148:47-9 O 28 '57

1958 residential sales will top '57 by 9.6 per cent; kw-hr cost down 2.3 per cent; tables and charts. *Elec World* 150:108-10 S 22 '58

Pennsylvania electric association Transmission and distribution committee meeting. Pocono Manor, May 1-2. *Elec World* 149:110 My 26 '58

Personalized service boosts OPPD load. B. E. Marsh. *Elec World* 148:80 N 11 '57

Residential wiring ideas. plans diags *Elec Constr & Maint* 57:69-72 Mr '58

Utilities go all out for Medallion Home program. *il Elec World* 150:62-3+ JI 28 '58

See also

Electric apparatus and appliances, Domestic
Electric heating

Electric industries—Electric homes exhibitions
House lighting

ELECTRICITY in the petroleum industry
Electrical engineer in the petroleum industry. J. M. Crothers. *Elec Eng* 77:45-8 Ja '58

Electrification of petroleum production. J. K. Howell and E. E. Hogwood. *il diags Westinghouse Eng* 18:134-8 S '58

See also

Petroleum—Pumping, Electric
Petroleum—Well drilling, Electric
Petroleum pipe lines—Pumping stations, Electric
Petroleum refineries—Power

Safety measures

Classification of hazardous areas for electrical installations on barges employed in drilling operations in Lake Maracaibo, Venezuela. J. C. K. Muhlenberg. *bibliog il plans diags*

Pet Eng 29:B 143+ N '57

ELECTRICITY on the farm

Alabama power co. likes poultry water-warming load. W. L. Baker, Jr. *diags Elec World* 149:80 Ja 13 '58

Engineer designs economical grain dryer. *il Elec World* 150:111 JI 14 '58

4-Hers look for new electrical ideas. *Elec World* 149:43 Ja 6 '58

Heat pump + hydroponics = grass in six days. *il Elec World* 149:108 My 12 '58

Induction motor for farmers. *diags Engineering* 185:325 Mr 14 '58

Infrared helps farm and fertilizer operations. R. B. Bowen and R. Alexander. *il Elec World* 150:66 S 1 '58

Utilities back Farm better electrically program. *Elec World* 150:152+ S 22 '58

See also

Fences, Electrified
Rural electrification administration

ELECTRICITY supply

Statistics

Electrical World industry statistics; 54th annual report. *Elec World* 149:85-132 Ja 27 '58

U.S. power pace increasing over Soviets. *Elec World* 150:42 S 1 '58

Argentina

Argentina plans long 380-kv line from hydro site. *il map diags Elec World* 149:64-6 My 26 '58

Canada

Canadian power situation with particular reference to thermal-electric power. C. E. Baltzer. *maps Can Min & Met Bul* 51:34-41 Ja '58

Power production and distribution. *il Eng J* 41:65-74 Ap '58

Europe

Heat and power for western Europe; abstract. H. McNeill. *Chem & Ind* p521 My 3 '58

Union promotes Europe's power pool; Union for coordination of the production and transport of electric power. *diag Elec World* 149:47-9 Je 16 '58

France

Centralized supervision of a 65-kilovolt power network in the Lorraine region of France. L. R. Gillon. *il maps diags Elec Com* 35 no 1:3-12 '58

French 380-kv system; measurement of corona losses on transmission lines under normal operating conditions. F. M. Cahen and J. M. Carteron. *il maps diags Power Apparatus & Systems* p 1525-31; Discussion. P. A. Abetti. 1531-3 F '58

Planning of large thermal generating stations. J. Pimpaneau. *Engineer* 204:899-900 D 20 '57

Germany

400 kv overlays German 220-kv grid. G. V. Boll. *il map diag Elec World* 149:56-9 My 26 '58

Great Britain

Grid control centres. *il Engineer* 205:859-60 Je 6 '58

Nuclear energy for Britain's electricity supply. C. Hinton. *Engineer* 205:958-61; Discussion. 961-2 Je 27 '58

Standard control for the national Grid. *il map diag Engineering* 185:766-7 Je 13 '58

India

Energy development in India. *bibliog Engineer* 206:190-2 Ag 1 '58

Massachusetts

Western Massachusetts Electric projects generation, transmission growth. *map Elec World* 149:60-1 Ja 20 '58

ELECTRICITY supply—Continued**Quebec (province)**

St Lawrence estuary submarine power transmission system. O. W. Titus. *Il maps diag* Eng J 41:54-8 Mr '58

Russia

400 kv transmission systems in the Soviet Union. S. S. Rokotyan and B. P. Lebedev. *Il map plan diag* Inst E E Proc 104 pt A: 471-84 D '57

United States

Private utility capacity hits 100,000 mw; Tucson gas, electric light & power co. J. W. McAfee. *Il Elec World* 149:49 My 26 '58

US capacity will hit 410-million kw in 1975; panel discussion. *Elec World* 149:52-3 Mr 10 '58

U.S. power pace increasing over Soviets. *Elec World* 150:42 S 1 '58

Vermont

115-kv cable to cross Champlain. R. E. Moran. *map diag* Elec World 149:75-6 Mr 24 '58

ELECTRIFIED particle inspection method. See Metal protection—Testing

ELECTROACOUSTIC transducers**Standards**

Standards to aid sonar: calibration of electroacoustic transducers. W. J. Trott. *Il Mag of Stand* 29:166-7 Je '58

ELECTROANALYTICAL chemistry. See Electrochemical analysis

ELECTROCARDIOGRAPH

Cardiograph goes to patient. *Il Product Eng* 28:73 D 23 '57

Electrocardiographic survey of hotel employees in New York city. O. La Rotonda and F. P. Guidotti. *bibliog Ind Med* 27:18-20 Ja '58

ELECTROCHEMICAL analysis

Electroanalysis with controlled cathode potential of metallic copper applied to fabrics as metallo-organic fungicides. J. Bubernak and A. D. Baskin. *bibliog diag Textile Res J* 27:878-82 N '57

Electrochemical measurement of oxide formation. D. G. Hill and others. *bibliog Electrochem Soc J* 105:408-12 J '58

Electrochemical methods for process-stream analysis and control. T. C. Wherry and D. D. DeFord. *Il diag* Control Eng 5:115-21 Mr '58

New twist to electroanalysis: novel method of analyzing solutions; abstract. M. J. Joncich and H. P. Holmes. *Chem & Eng N* 36:54 Ap 28 '58

Review of fundamental developments in analysis: electroanalysis and coulometric analysis. D. D. DeFord and R. C. Bowers. *Anal Chem* 30:813-19 *bibliog* (p818-19) pt 2 Ap '58

ELECTROCHEMICAL apparatus

Electrolytic saw for cutting metallic crystals. M. Metzger. *Il diag R Sci Instr* 29:620-1 J '58

Energy transducer appears promising; solon. *diag Power* 102:89 F '58

Principles of very low power electrochemical control devices. R. M. Hurd and R. N. Lane. *bibliog diag* Electrochem Soc J 104: 727-30 D '57

ELECTROCHEMICAL cutting

Electrochemical machining provides high metal removal rates on large dies. *Il Am Mach* 102:133 S 22 '58

Electrochemical process speeds metal removal. *Il Iron Age* 182:98 S 13 '58

Machine tough metals with electrochemical-tool technique. *Il Machine Design* 30:15 J 10 '58

Study electrochemical machining method. *Il Tool Eng* 41:163 S '58

ELECTROCHEMICAL society

Annual report of the board of directors, January 1, 1957-March 31, 1958. *Electrochem Soc J* 105:sup 123C J '58

Board of directors' meeting, Buffalo, N.Y. Oct. 6. *Electrochem Soc J* 105:sup8C-9C Ja '58

Financial statement, April 1, 1957-March 31, 1958. *Electrochem Soc J* 105:sup 124C-7C J '58

Meeting, 113th, New York, April 27-May 1; program and abstracts of papers. *Electrochem Soc J* 105:sup87C-57C Mr '58

Meeting, 114th, Ottawa, Sept. 28-Oct. 2; program and abstracts of papers. *Electrochem Soc J* 105:sup 145C-67C Ag '58

ELECTROCHEMISTRY

Electrochemical deterioration of graphite and high-silicon iron anodes in sodium chloride electrolytes. S. Tudor and others. *bibliog Il Corrosion* 14:53-9 F '58

Fundamentals of the theory of electrodes and galvanic cells. E. Lange and P. Van Rysselberghe. *bibliog Electrochem Soc J* 105:420-8 J '58

Investigation of the electrochemical properties of organic compounds. R. Glicksman and C. K. Morehouse. *bibliog Electrochem Soc J* 105:299-306 Je '58

Research: its care and nourishment. N. Hackerman. *Electrochem Soc J* 105:sup 119C-21C J '58

Use electrochemical process to mark metal specimens. R. A. Eotosan. *Il Ind Lab* 9:8-9 Mr '58; *diag Tool Eng* 40:104-6 Mr '58; Abstract. *Metal Prog* 73:111-12 Ap '58

See also

Electrochemical analysis

Electrodeposition of metals

Electrodes

Electrolysis

Electrolytes

Electrolytic cells

Electrometallurgy

Electroplating

Ionization, Electrolytic

Metal cleaning, Electrolytic

Reduction, Electrolytic

Bibliography

Book reviews. Published in monthly numbers of Journal of the Electrochemical society

ELECTRODEPOSITION of metals

Coating; hard, flexible nickel electroforms. *Product Eng* 29:24 Mr 24 '58

Electrodeposition of iron-molybdenum alloys. L. O. Case and A. Krohn. *bibliog Il diag* Electrochem Soc J 105:512-20 S '58

Electrodeposition of metal powders. G. G. Gabrielson. *bibliog diag Ind Chem* 34:529-32 O '58

Electroforming. S. Flakoff and others. *Product Eng* 28:D 14-15 Mid-O '57

Electroforming of telephone drop wire conductor. R. J. Bachman. *Il Metal Prog* 72:88-92 N '57

Electroforms feature new type of nickel; Microgram nickel. *Il Iron Age* 181:92 My 1 '58

Fused bath for electrodeposition of molten cadmium-indium alloy. G. L. Schnable and J. G. Javes. *bibliog Il Electrochem Soc J* 105:84-8 F '58

Hydrogen overpotential on electrodeposited Ni in NaOH solutions. I. A. Ammar and S. A. Awad. *bibliog Electrochem Soc J* 104: 686-90 N '57

Relation of the conditions of electrodeposition of manganese dioxide to the discharge characteristics. A. Kozawa and W. C. Vosburgh. *bibliog Electrochem Soc J* 105:59-63 F '58

Twinned epitaxy of copper on copper. T. H. Orem. *bibliog Il diag J Res Nat Bur Stand* 60:597-608 Je '58

Use of nickel-aluminum alloy coatings for the protection of molybdenum from oxidation. D. E. Couch and others. *Electrochem Soc J* 105:485-6 Ag '58

See also

Electroplating

ELECTRODES

Adsorption kinetics and electrode processes. P. Delahay and I. Trachtenberg. *bibliog Am Chem Soc J* 80:2094-100 My 5 '58

Arc movement due to the magnetic field of current flowing in the electrodes. A. E. Guile and S. F. Mehta. *bibliog Il diag Inst E E Proc* 104 pt A:533-40 D '57

Chronopotentiometric studies at solid electrodes. R. N. Adams and others. *bibliog Anal Chem* 30:471-5 Ap '58

Copper sulfate electrode. G. N. Scott. *bibliog Il Corrosion* 14:36-40 Mr '58

Corrosion of the zinc electrode in the silver-zinc-alkali cell. T. P. Dirkse and F. De Haan. *bibliog Electrochem Soc J* 105:311-15 Je '58

Current-voltage relationship of galvanic anode arrays in cathodic protection. L. J. Waldron and M. H. Peterson. *Il Corrosion* 14:47-50; Discussion. A. J. deBethune. 50-1; Reply. 51-2 Je '58

Determination of the electrodes required to produce a given electric field distribution along a prescribed curve. F. T. Kirstein. *bibliog diag Inst Radio Eng Proc* 46:1716-22 O '58

ELECTRODES—Continued

- Effect of adsorbed films on kinetics of electrode reactions. H. A. Laithen and W. J. Subcasky. *bibliog Am Chem Soc J* 80:2623-8 Je 5 '58
- Effect of gamma irradiation on the potential behavior of platinum and stainless steel electrodes. W. B. Clark. *bibliog Electrochem Soc J* 105:433-5 Ag '58
- Effects of electrode materials and surface preparation on CdS-metal contacts. R. A. Greiner and others. *J Ap Phys* 28:1358-9 N '57
- Electrochemical deterioration of graphite and high-silicon iron anodes in sodium chloride electrolytes. S. Tudor and others. *bibliog Il Corrosion* 14:53-9 F '58
- Electrode cutter and modified arc stand for spectrochemical analysis. J. McAndrew. *Il J Sci Instr* 35:183-4 My '58
- Electrode holder for the porous cup technique of spectrographic analysis. G. W. J. Kingsbury and A. Fursey. *diags J Sci Instr* 35:350-1 S '58
- Electrodes for thin metal films. S. Chandra and G. D. Scott. *J Sci Instr* 35:349-50 S '58
- Electrolytic cell for precision electrode kinetic studies. S. Shoff and others. *diags R Sci Instr* 29:531-2 Je '58
- Formation of manganese(II) ion in the discharge of the manganese dioxide electrode. W. C. Vosburgh and others. *bibliog Electrochem Soc J* 105:1-4 Ja '58
- Fundamentals of the theory of electrodes and galvanic cells. E. Lange and P. Van Rysselberghe. *bibliog Electrochem Soc J* 105:420-8 Jl '58
- Hydrodynamic voltammetry at solid indicator electrodes. J. Jordan and others. *bibliog diags Am Chem Soc J* 80:3346-52 Ag 5 '58
- Impressed current anodes installed and back-filled at depth of 350 ft. J. F. Tatum. *Il Corrosion* 14:98-100 Ap '58
- Indium as an anode material. T. L. Boswell. *bibliog Electrochem Soc J* 105:239-41 My '58
- Influence of electrode materials on fluorescent lamp discolorations. A. W. Wainio and F. M. Craven. *Il Illum Eng* 53:481-2 S '58
- Investigation of the pervesances and beam profiles of an aperture disk emission system. E. R. Harrison. *bibliog diags J Ap Phys* 29:909-13 Je '58
- Isolation of the diffusion layer at an electrode and the determination of concentration polarization. T. Yannakopoulos and A. Brenner. *bibliog Il diag Electrochem Soc J* 105:521-8 S '58
- Lead dioxide anode for commercial use. J. C. Griggier and others. *bibliog Il Electrochem Soc J* 105:100-2 F '58
- Magazine feed for electrodes; automatic airborne searchlight. *Il diag Automation* 5:94 F '58
- Nature of anode slime. D. A. Vermilyea. *Il Electrochem Soc J* 105:547-8 S '58
- New electrode raises efficiency of precipitators. *diags Power Eng* 62:76 Mr '58
- New tool probes process streams; Beckman metallic electrode for chloride ion analyzer. *Chem & Eng N* 36:50 Ja 13 '58
- Pilot plant fermentor with continuous platinum electrode potential measurement. R. W. Squires and P. Hosler. *diag Ind & Eng Chem* 50:1263-6 S '58
- Polarization capacity at solid electrodes and true surface area values. R. J. Brodd and N. Hackerman. *bibliog diags Electrochem Soc J* 104:704-9 D '57
- Potential of an electrode of a voltaic cell; a new definition with justification for the use of two sign conventions. J. B. Ramsey. *bibliog Electrochem Soc J* 104:255-60 Ap '57; Discussion. 105:359-60 Je '58
- Reversible chlorine electrode for the measurement of electromotive force in molten salt cells. S. Senderoff and G. W. Mellors. *bibliog R Sci Instr* 29:151-2 F '58
- Schlieren studies of concentration gradients at a Cu/HCl anode. R. S. Cooper. *bibliog diag Electrochem Soc J* 105:506-12 S '58
- Service performance of cast magnesium alloy anodes. G. L. Christie. *Il diags Corrosion* 14:61-4 Jl '58
- Structure of the double layer and corrosion processes. M. Breiter and others. *bibliog diags Am Chem Soc J* 80:5111-17 O 5 '58
- Studies of natural convection at vertical electrodes. N. Ibi and R. H. Müller. *bibliog Il diags Electrochem Soc J* 105:346-53 Je '58
- Use of magnesium anodes to protect steel mains. H. C. Boone. *Il Corrosion* 14:21 Jl '58
- Voltammetry at solid electrodes; anodic polarography of sulfa drugs. J. D. Voorhies and R. N. Adams. *bibliog diag Anal Chem* 30:346-50 Mr '58
- Zinc alloy anodes. J. T. Crennell and W. C. G. Wheeler. *J Ap Chem* 8:571-6 S '58

See also

Cathodes

Electric furnaces—Electrodes

Electric welding—Electrodes

Electric welding, Arc—Electrodes

Electrolytic cells

Manufacture

Making giant electrodes; problems magnified, too; process flow sheet. *Il Chem Eng* 66:128-31 Ap 7 '58

Relation of the conditions of electrodeposition of manganese dioxide to the discharge characteristics. A. Kozawa and W. C. Vosburgh. *bibliog Electrochem Soc J* 105:59-63 F '58

ELECTRODES, Glass

Large-scale fermentations; a practical system for pH control. R. W. Denison, Jr. and others. *bibliog Il diags Ind & Eng Chem* 50:1260-2 S '58

ELECTRODIAGNOSIS

See also

Electroencephalography

ELECTRODIALYSIS. See Dialysis

ELECTRODYNAMICS

See also

Electric conductivity

Inductance

Wave mechanics

ELECTROENCEPHALOGRAPHY

Computer analyzes brain waveforms. C. J. Zander. *Il diags Electronics* 31:68-72 Jl 18 '58

Time-multiplex oscilloscope for electroencephalography. T. J. McDermott. *Il diags Electronic Eng* 30:65-70 F '58

Transistor electroencephalograph. *Il Wireless World* 64:439 S '58

Unit telemeters scalp voltages. R. W. Vree-land and others. *Il diag Electronics* 31:86 Jl 18 '58

ELECTROFAX. See Facsimile transmission

ELECTROFORMING. See Electrodeposition of metals

ELECTROGRAVITICS. See Gravity

ELECTROHYDRAULIC control

Describing function for the multiple non-linearities present in two-stage electrohydraulic control valves. J. Zaborszky and H. J. Harrington. *bibliog diags Applications & Ind* p394-401; Discussion. 408-9 Ja '58

Electro-hydraulic control; how well does it work installed on a catalytic cracker? C. D. Gingrich. *Il diags Pet Eng* 30:C6-10 Ag '58

Electrohydraulic drive improves contour milling accuracy. *Il diags Tool Eng* 40:97-8 Mr '58

Generalized charts of the effects of non-linearities in two-stage electrohydraulic control valves. J. Zaborszky and H. J. Harrington. *bibliog diags Applications & Ind* p401-8; Discussion. 408-9 Ja '58

Giant Polaris launcher simulates the sea. *diags Control Eng* 5:26-8 S '58

Hydraulic and electrohydraulic servo systems. R. Hadekel. *diags Automation* 5:71-6 Ag '58

Ladle stopper control apparatus; patent. *diag Iron & Steel Eng* 35:32-4 S '58

Mr Gus' position controls; automatic and semiautomatic electrohydraulic servos. *Il Control Eng* 5:33-4- My '58

Resistor smooths lift-truck drive. *Il diag Product Eng* 29:47 Ag 4 '58

Testing electrical actuators. *Il Engineering* 184:618 N 15 '57

Testing electrohydraulic servo valves. K. S. Knapp. Jr. *Il diag Ap Hydraulics* 11:106-4 Je '58

Variable simulated dither in electrohydraulic servos. L. Hesse. *diags Elec Manuf* 61:12 Mr '58

Variable volume at lower cost. L. Strosser and J. Sharp. *Il diags Ap Hydraulics* 11:72-3 Je '58

ELECTROHYDRAULIC effect

Soviets report disintegration with electrohydraulic effect. *Machine Design* 30:10 Jl 10 '58

ELECTROLUMINESCENCE. See Luminescence

ELECTROLYSIS

Alkaline electrolytic de-scaling of ferrous metals and alloys. *Wire & Wire Prod* 33:533-4 My '58

ELECTROLYSIS—Continued

- Alternating current electrolysis of concentrated acids. R. Bentley and T. R. Prentice. bibliog. *J Appl Chem* 7:619-26 N '57
- Apparatus for automatic controlled potential electrolysis using an electronic coulometer. L. L. Merritt, Jr. and others. bibliog. *diags Anal Chem* 30:487-92 Ap '58
- Continuous regeneration for copper etching solutions. *Elec Manuf* 61:10 My '58
- Destruction of cyanide wastes by electrolytic chlorination. J. T. Byrne and others. bibliog. *Electrochem Soc J* 105:607-9 O '58
- Electrolytic lifting of films from metals for infrared analysis. H. A. Szymanski and R. T. Conley. *diag Anal Chem* 30:552 Ap '58
- Electrolytic migration of carbon in steels. W. Hume-Rothery. *Iron & Steel Inst J* 188:113 F '58
- Electrolytic production of oxygen. *Welding Eng* 43:58 Je '58
- Electrolytic production of sodium perchlorate using lead dioxide anodes. J. C. Schumacher and others. bibliog. *il Electrochem Soc J* 105:151-5 Mr '58
- Germanium rectifier equipment for electrolytic processes. L. G. Miller and W. R. Hodgson. *il diags Applications & Ind* p353-7 Ja '58
- Glow-discharge electrolysis in aqueous solutions. A. R. Denaro and A. Hickling. bibliog. *diag Electrochem Soc J* 105:265-70 My '58
- Interpretation of the literature on the mechanism of the Hall process; electrolysis of aluminum from cryolite melts; abstract. J. J. Stokes, Jr. *Min Eng* 10:Trans 496 Ap '58
- Preparation of uranium metal by fused salt electrolysis. G. Meister and W. C. Lillien-dahl. *J Metals* 9:Trans 1445-7 N '57
- Science for electroplaters: cyanide waste treatment, ozonation and electrolysis. L. Serota. *diags Metal Finishing* 56:71-4 F '58
- Silver-recovery apparatus for operation at high current densities. N. J. Cedrone. bibliog. *il diag SMPTE J* 67:172-4 Mr '58

See also

- Electrochemical analysis
Electrodeposition of metals
Electrodes
Electrolytic cells
Electrolytic corrosion
Ions
Metal cleaning, Electrolytic
Moving boundary system

ELECTROLYTES

- Activity coefficients of strong electrolytes: the halide salts. R. M. Diamond. bibliog. *Am Chem Soc J* 80:4808-12 S '58
- Amplification in an electrolyte. J. F. Dewald. *il diags Engineering* 185:696 My '58
- Same. *Ind Lab* 9:72 Je '58
- Anion-exchange studies: activity coefficients of some electrolytes in the resin phase. F. Nelson and K. A. Kraus. bibliog. *Am Chem Soc J* 80:4154-61 Ar 20 '58
- Behavior of a bacterial polypeptide as a polyelectrolyte. H. Edelhohe and J. B. Bateman. bibliog. *Am Chem Soc J* 79:6093-100 D '57
- Behavior of ammonium aurintricarboxylate as a colloidal electrolyte. A. K. Mukherji and A. K. Dey. bibliog. *J Colloid Sci* 13:99-102 F '58
- Bell Telephone field effect transistor amplifier. *diags Engineer* 205:331 My 30 '58
- Cast stainless pump handles corrosive electrolytes. E. A. Schoefer. *il Plating* 45:366-7 Ap '58
- Electrochemical deterioration of graphite and high-silicon iron anodes in sodium chloride electrolytes. S. Tudor and others. bibliog. *il Corrosion* 14:53-9 F '58
- Electrolytic method for transient mixing measurements. M. P. Norrin. *il diag Frank-lin Inst J* 266:229-32 S '58
- Field effect amplifying device uses electrolyte/semiconductor interface. *il Electrochem Soc J* 105:sup 105C Je '58
- Flocculation of sodium montmorillonite by electrolytes. A. Kahn. bibliog. *J Colloid Sci* 13:51-60 F '58
- Natural and synthetic polyelectrolytes as coagulant aids. J. M. Cohen and others. bibliog. *Am Water Works Assn J* 50:463-78 Ap '58
- Preparation and use of snake-cage polyelectrolytes. M. J. Hatch and others. *il diags Ind & Eng Chem* 49:1812-19 N '57
- Removal of electrolytes from sugar solutions. R. C. Hughes and W. J. Whelan. bibliog. *Chem & Ind* p884-5 J1 12 '58

- Solubility measurements test Debye-Hückel; abstract. M. H. Lietzke. *Chem & Eng N* 36:50-1 S 15 '58
- Some further comments on the properties of bivalent electrolytes. S. A. Rice. bibliog. *Am Chem Soc J* 80:3207-14 J1 5 '58
- Technique for purifying electrolytic solutions. D. A. Vermilyea. *Electrochem Soc J* 105:286-7 My '58
- Vapor pressure and heat of vaporization of some simple molten electrolytes. H. Bloom and others. bibliog. *Am Chem Soc J* 80:2044-6 My 5 '58

See also

- Electrodes
Electrolysis
Electrolytic cells
Moving boundary system

Conductivity

- Electrodeless method for the measurement of electrolytic conductivity and magnetic susceptibility. R. R. Myers. *diags J Sci Instr* 35:173-5 My '58
- Equivalent conductivities of AgNO₃-KNO₃ mixtures. F. R. Duke and R. A. Fleming. *Electrochem Soc J* 105:412 J1 '58
- Ionic association; the equilibrium between ion pairs and free ions. R. M. Fuoss. bibliog. *Am Chem Soc J* 80:5059-61 O 5 '58
- Solvents having high dielectric constants; the conductometric behavior of several salts in formamide at 25°. L. R. Dawson and others. bibliog. *Am Chem Soc J* 79:5906-8 N 20 '57
- Transport numbers in pure fused salts; lead chloride, lead bromide, thallous chloride, and silver nitrate. R. W. Laity and F. R. Duke. bibliog. *Electrochem Soc J* 105:97-9 F '58
- Transport numbers of the pure fused salts. LiNO₃, NaNO₃, KNO₃, and AgNO₃. F. R. Duke and B. Owens. bibliog. *Electrochem Soc J* 105:548-9 S '58
- Transport processes in electrolyte solutions. R. J. Podolsky. bibliog. *Am Chem Soc J* 80:4442-51 S 5 '58
- ELECTROLYTIC cells**
- Deep electrolytic tank for the solution of 2- and 3-dimensional field problems in engineering. E. R. Hartill and others. bibliog. *il diags Inst E E Proc* 104 pt A:401-11; Discussion. 411-13 O '57
- Effect of current drains on cadmium standard cells. G. D. Vincent. bibliog. *diag Electrochem Soc J* 104:712-16 D '57
- Electrolytic cell for precision electrode kinetic studies. S. Sheff and others. *diags R Sci Instr* 29:531-2 Je '58
- Electrolytic tank design of electron guns with curved electron trajectories. E. J. Cook. *diags Inst Radio Eng Proc* 46:497 F '58
- Halogen-activated solid electrolyte cell. J. L. Weininger. bibliog. *diags Electrochem Soc J* 105:439-41 Ag '58
- High-capacity, long-life fluorine cell. S. P. Vardoulakis and others. *il diags Ind & Eng Chem* 50:178-80 F '58
- New cells use wax electrolyte. *il Electronics Ind* 16:118 D '57
- New electrolytic cell for isolating carbides and nonmetallic inclusions in steel; abstract. N. Backstrom and others. *Metal Prog* 73:180-4 Mr '58
- Simple method of constructing duct models for the electrolytic tank. J. F. Norbury and A. Platt. *diags Roy Aeronautical Soc J* 61:775-6 N '57
- Some testing cells for the study of electroplating devices. J. K. Skwirzynski and M. Hattly. bibliog. *diags Electrochem Soc J* 104:650-8 N '57
- Technique of simulation of space charge in an electrolytic tank; abstract. G. Brewer. *Instruments & Automation* 31:1549 S '58
- Temperature inequalities in the electrolytic tank. A. Platt and J. F. Norbury. *Roy Aeronautical Soc J* 62:456 Je '58
- Transformer magnetic field plotting by electrolytic tank. P. H. G. Allen and J. H. Foster. *il R Sci Instr* 28:1095 D '57
- Tube tells time; subminiature electrochemical device. *il Electronics* 31:86-4 Mr 28 '58
- 25-pound-per-hour fluorine plant. J. Dykstra and others. *il diags Ind & Eng Chem* 50:181-6 F '58
- ELECTROLYTIC corrosion**
- Corrosion experiences with dissimilar metals. A. A. Brouwer. *Ind & Eng Chem* 50:sup73A-4A Ap '58
- Corrosion of the zinc electrode in the silver-zinc-alkali cell. T. P. Dirkse and F. De Haan. bibliog. *Electrochem Soc J* 105:311-15 Jn '58

ELECTROLYTIC corrosion—Continued

Electrochemical properties of PbO_2 and the anodic corrosion of lead and lead alloys. P. Rüetschi and B. D. Cahan. bibliog. *Electrochem Soc J* 105:369-77 J1 '58

How oxidative corrosion occurs. R. V. Jellinek. bibliog. *diags Chem Eng* 65:125-30 Ag 25 '58

How to make a corrosion motor. R. C. Tullis. *Corrosion* 14:89 J1 '58

Silver, cobalt, and positive-grid corrosion in the lead-acid battery. J. J. Lander. bibliog. *Electrochem Soc J* 105:289-92 Je '58; Discussion. J. F. Schaefer and H. R. Karas. *il* 105:761 D '58

Corrosion and anti-corrosives

ELECTROLYTIC depolarization. See Depolarization. Electrolytic

ELECTROLYTIC grinding. See Grinding. Electrolytic

ELECTROLYTIC ionization. See Ionization. Electrolytic

ELECTROLYTIC metal cleaning. See Metal cleaning. Electrolytic

ELECTROLYTIC polarization. See Polarization. Electrolytic

ELECTROLYTIC polishing. See Polishing. Electrolytic

ELECTROLYTIC reduction. See Reduction. Electrolytic

ELECTROLYTIC tanks. See Electrolytic cells

ELECTROMAGNETIC field

Definition of. B. J. M. Greenberg. *Am J Phys* 26:196-7 Mr '58

Electromagnetic field phenomena in shielded aerial cables under surge conditions. J. K. Delson. *il diag Power Apparatus & Systems* p247-52; Discussion. 252-3 Je '58

Electromagnetic forces in large aluminum furnaces. O. C. Beckman and J. Wiedel. *diags Electrochem Soc J* 105:417-20 J1 '58

Electro-magnetic protective device for automatically-fed power presses. D. Stevenson. *il diags Brit Inst Radio Eng J* 18:229-31 Ap '58

Fields in gap-excited rectangular ducts. J. Van Bladel. *diags J Ap Phys* 28:1479-83 D '57

See also
Field theories (physics)

ELECTROMAGNETIC shielding

Filtering and shielding the station receiver. D. T. Geiser. *il diags Q S T* 42:27-9 Ag '58

Magnetic shielding. W. S. Spring. *il diags Elec Manuf* 61:138-9 Je '58

Plastic shields for insulators stop flashovers. C. M. Wagner. *diags Elec World* 149:61 Mr 10 '58

Spherical coil as an inductor, shield, or antenna. H. A. Wheeler. bibliog. *diags Inst Radio Eng Proc* 46:1595-602 S '58

ELECTROMAGNETIC theory

Dimensions for a unified theory of electromechanics. L. W. Allen. bibliog. *diags Elec Eng* 77:134-40 F '58; Discussion. 77:665-7 J1 '58

See also
Ettingshausen effect

Hall effect

ELECTROMAGNETIC waves

Characteristics of an electromagnetic wave reflected from a moving object. C. F. Cole. *il bibliog diags Franklin Inst J* 265:463-71 Je '58

Ferrets; cold war insurance; detection by electronic means of electromagnetic radiation for military intelligence. *il(cover) Electronics* 31:16 Ag 22 '58

Production of millimeter waves by a spark generator. J. Hart. *J Ap Phys* 29:743 Ap '58

Propagation of slow waves; applied to particle accelerators and microwave electron tubes. J. Dain. bibliog. *diags Electronic Eng* 30:358-93 Je '58

Some new aspects of the reflection of electromagnetic waves on a rough surface. M. A. Biot. *diags J Ap Phys* 28:1455-63; 29:998 D '57, Je '58

Spectral characteristics of the radiation emitted by electrons accelerated in a synchrotron. D. H. Tomboulis and D. E. Bedo. *J Ap Phys* 29:804-3 My '58

See also
Radio waves

Diffraction

Diffraction by an aperture. J. B. Keller. *diags J Ap Phys* 28:426-44 Ap '57; Correction. 29:744 Ap '58

Scattering

Scattering of electromagnetic waves by long cylinders. A. W. Adey. bibliog. *diags Electronic & Radio Eng* 35:149-58 Ap '58

ELECTROMAGNETISM

Electromagnetic test measures effects of shot peening. F. M. Unterweiser. *Iron Age* 181:121-3 Je 5 '58

See also
Faraday effect

Magnetic field

ELECTROMAGNETS

Cryogenic electromagnets; feasibility study. H. L. Laquer and E. F. Hammel. bibliog. *diag R Sci Instr* 28:875-8 N '57

Develop powerful electromagnet at University of California. *il Product Eng* 29:24 Ag 4 '58

Efficient precision current regulator for low-voltage magnets. R. L. Garwin. *diags R Sci Instr* 29:223-4 Mr '58

High-intensity pulsed magnet for hyperon detection. K. A. Schluter. *diags R Sci Instr* 29:434-5 My '58

Magnetic handling devices. L. R. Moskowitz and A. F. Israelson. *il diags Automation* 5:43-51 Ja '58

Most powerful electromagnet allows closer approach to absolute zero. *il Chem & Eng N* 36:26 J1 28 '58

Recent advances in the design of high-field dc solenoid magnets. H. H. Kolm. bibliog. *J Ap Phys* 29:489-91 Mr '58

See also
Chucks, Magnetic

Lifting magnets

Solenoids

Manufacture

One-third billion dollar brazing job; magnets for magnetic separator. H. O. Quartz. *il Welding J* 37:127 F '53

ELECTROMECHANICAL devices

Applying electromechanical servo actuators. E. D. Dodge and S. Davis. *il diags Control Eng* 5:96-101 My '58

Control system directs and records all production from central point. *il Am Mach* 102:130+ Ap 7 '58

Dekatrons and electro-mechanical registers operated by transistors. G. B. B. Chaplin and E. Williamson. *diags Inst E E Proc* 105 pt B:231-6; Discussion. 266-70 My '58

Electric and magnetic properties of precision balls for electromechanical devices; chart. E. N. Shotts. *Elec Manuf* 61:145 Ap '58

Electromechanical light valve for motion-picture printers. F. P. Herrnfeld. *il diags SMPTE J* 67:27-8 Ja '58

Electromechanical modules through in-line packaging. B. D. Swirsky. *il diags Aviation Age* 29:136-9 Je '58

Electromechanical power amplifiers; abstract. R. H. Eisengrein. *il diags Elec Manuf* 62:71 J1 '58

Multiply torque this easy way; electromechanical amplifier reduces control problems. R. H. Eisengrein. *il diags Plant Eng* 12:97-9 J1 '58

New control system cuts costs; Telecontrol, a new electro-mechanical communications system. *il Iron Age* 181:64-5 My 8 '58

Newest components for reliable switching; multiple-ball relays. J. D. Cooney. *il diags Control Eng* 5:82-7 F '58

100+ knock rating is instrument problem; abstract. A. W. Pope, Jr. *diag S A E J* 66:105 Ag '58

Operation centerline; bedspread patterns printed through aid of two electro-mechanical devices. *Control and Edgetrol*. *il Textile Ind* 122:101-3 Je '58

Manufacture

Laboratory precision for electromechanical devices; North American Aviation's Autometrics div. C. O. Herb. *il Mach* 64:112-19 J1 '58

ELECTROMECHANICAL transducers

Applying proximity transducers. D. Elan. *il diag Automation* 5:69-71 F '58

Checking strain in power-operated flexible throat plates; transducer system in Bedford wind tunnel. *il Engineering* 185:25-6 Ja 3 '58

Design and operating characteristics of electromechanical transducers. A. I. Dranetz. *il diags Machine Design* 30:120-2-4 Ja 9 '58

Design, performance and application of the Vernier resolver. G. Kronacher. *il diags Bell System Tech J* 36:1487-500 N '57

Develop high precision resolver at Bell labs. *il Ind Lab* 9:27 Ja '58

Energy transducer appears promising; soliton. *diag Power* 102:39 F '58

ELECTROMECHANICAL transducers—Cont.

- Extending transducer transient response by electronic compensation for high-speed physical measurements. F. F. Liu and T. W. Berwin, bibliog (27 ref) *il* diags *R Sci Instr* 29:14-22 Ja '58
- High precision vernier resolver. Franklin *Inst* J 265:80 Ja '58
- High-precision vernier resolver. *il* Bell Lab Rec 36:35 Ja '58
- Improving performance of flat-armature torque motors. R. D. Atchley, *il* diags *Control Eng* 5:74-8 Ag '58
- Progress report on standardization of the vibratory-cavitation test. L. E. Robinson and others, diags *A S M E Trans* 80:103-7 Ja '58
- Sensitive defocusing photo-electric pressure transducer. J. R. Greer, bibliog *il* diags *Electronic Eng* 30:436-9 JI '58
- Shares and prices: transducer manufacturers. *Electronics* 31:7 F 21 '58
- Transducer monitor stretches telemetry accuracy. J. M. Rau, *il* diag *Aviation Age* 28:106-10 F '58
- Vibration pick-up which does not load the system being examined. S. K. Rushforth and A. Selwood, diags *J Sci Instr* 35:340-3 S '58

ELECTROMETALLURGY

- Electrolytic production of straight and alloyed metal powders. I. Ljungberg, bibliog *Iron & Steel Inst* J 189:303-6 Ag '58
- Electron beam welding and purification. *Engineering* 136:117 JI 25 '58
- Electron beam purifies alloys. diags *Steel* 142:108-9 Mr 24 '58
- Experimental electric smelting of ores and related materials, at the Department of mines and technical surveys, Ottawa; abstract. G. E. Viens and others, *Metal Prog* 73:152-4 Ja '58
- For higher purity metals: electron bombardment melting. *il* Chem & Eng N 36:51-2 F 10 '58
- High vacuum melting technique uses electron bombardment. *Elec Eng* 77:660-1 JI '58
- New dimension in metallurgy: combine high temperatures with ultrahigh vacuum. *il* Ind & Eng Chem 50:sup25A-6A Je '58
- Ultra-pure high-temperature materials by electron beam melting. *Elec Manuf* 61:12 Ap '58
- Ultrapur metals: levitation melting. *Elec Manuf* 61:9 Ja '58
- Ultra-pure metals prepared by levitation melting. *il* Materials in Design Eng 47:193-4 Ja '58
- Ultrapur metals yield to snake charmer's wiles: radio-frequency field floats, melts, stirs metals. *il* Machine Design 29:14-15 D 12 '57

See also

- Electrodeposition of metals
- Electrolytic cells
- Electroplating
- Smelting, Electric
- also subdivision Electrometallurgy under special subjects, e.g.
- Aluminum metallurgy
- Cadmium metallurgy
- Magnesium metallurgy
- Manganese metallurgy
- Nickel metallurgy
- Steel metallurgy
- Thorium metallurgy
- Titanium metallurgy
- Tungsten metallurgy
- Zirconium metallurgy

ELECTROMETERS

- Automatic quartz-fibre electrometer recording of β -activity. M. C. B. Russell and J. Leng, bibliog diags *J Sci Instr* 35:134-8 Ap '58
- Feedback electrometer amplifier. D. Allenden, bibliog *il* diags *Electronic Eng* 30:31-3 Ja '58; Discussion 30:614-15 O '58
- Simple electrometer employing an electrified, nonconducting fiber. B. Vonnegut and D. A. McCaig, *il* diag *R Sci Instr* 28:1097-8 D '57

ELECTROMOTIVE force. See Potential, Electric**ELECTRON accelerators**

- Beam stacking experiments in an electron model FTAG accelerator. K. M. Terwilliger and others, bibliog *il* diags *R Sci Instr* 28:987-97 D '57
- Electrons for sale. *il* Chem & Eng N 36:91 Mr 3 '58
- Low-energy electron accelerator aids fundamental research. *il* (cover) *Ind Lab* 9:9 Ja '58
- New facility offers radiation for rent: Midwest irradiation center. *il* *Ind Lab* 9:34-5 Ap '58

- New tools, old problem: Argonne's pulsed electron accelerator helps study radiation chemical reaction mechanisms. *Chem & Eng N* 36:47 F 10 '58
- Radiation processing; eight-million-volt linear electron accelerator. *Rubber World* 138:129 Ap '58
- Using electrons in chemical processing. J. W. Ratofil, *il* plan *Ind & Eng Chem* 50:196-8 F '58

See also

- Cyclotron
- Synchrotron
- ELECTRON beams. See Electrons—Beams**
- ELECTRON counters. See Counters (electrons, ions, etc.)**

ELECTRON diffraction cameras. See Cameras, Electron diffraction**ELECTRON gun**

- Electrolytic tank design of electron guns with curved electron trajectories. E. J. Cook, diags *Inst Radio Eng Proc* 46:497 F '58
- Electron gun alignment and mounting technique. L. C. Robinson, *il* diag *J Sci Instr* 35:112-13 Mr '58
- Electron gun operates high-speed printer. J. T. McNaney, *il* diags *Electronics* 31:74-7 S 26 '58
- High voltage electron injector gun for synchrotrons. E. W. V. Acton and K. T. W. Milne, bibliog *il* diags *J Sci Instr* 35:245-7 JI '58
- Investigation of the pervacances and beam profiles of an aperture disk emission system. E. R. Harrison, bibliog diags *J Ap Phys* 29:909-13 Je '58
- New high-transconductance electron gun for kinescopes. J. W. Schwartz, diags *RCA R* 19:222-3 Je '58
- New type of low-noise electron gun for microwave tubes. M. R. Currie, *Inst Radio Eng Proc* 46:911 My '58
- Space-charge-balanced hollow beam with uniform charge distribution. M. Chodorow and C. Susskind, *diag Inst Radio Eng Proc* 46:497-8 F '58
- Space-charge grid high-transconductance guns. P. H. Gleichauf, *diag Inst Radio Eng Proc* 46:1542 Ag '58

Design

- Determination of the electrodes required to produce a given electric field distribution along a prescribed curve. P. T. Kirstein, bibliog diags *Inst Radio Eng Proc* 46:1716-22 O '58

ELECTRON microscope

- Apparatus for the deformation of foils in an electron microscope. H. G. T. Wildsford, diags *R Sci Instr* 29:323-4 Ap '58
- Big eye looks at rubber; electron microscope aids studies of high-solids latex. *Chem & Eng N* 36:48-9 Je 16 '58
- Clue to stronger steel; abstract. A. Turkalo and J. R. Low, Jr, *il* *Steel* 141:90 N 25 '57
- Direct study of eutectic alloys by means of electron microscopy. N. Takahashi and K. Ashinuma, bibliog *il* diags *Inst Metals J* 87:19-23 '58-59
- Electron micrographs of Zircaloy-2. T. K. Bierlein and B. Mastel, *il* *Metal Prog* 72:71 D '57
- Electron microscope and electron diffraction studies of sintering of magnesite. A. Pande and R. Singh, *il* *Am Cer Soc J* 41:394-7 O 1 '58
- Electron microscope as an analytical tool. W. H. Carls, *il* *Pet Eng* 29:C20-2 N '57
- Electron microscope helps railroad select economy fuels. *il* *Diesel Power* 36:40 JI '58
- Experiment on the electron phase microscopy. K. Kanaye and others, bibliog *il* diags *J Ap Phys* 29:1046-9 JI '58
- Experimental study of electron scattering in electron microscope specimens. C. E. Hall and T. Inoue, *J Ap Phys* 28:1346-8 N '57
- Field desorption by alternating fields; an improved technique for field emission microscopy. E. G. Cooper and E. W. Muller, bibliog *il* diags *R Sci Instr* 29:309-12 Ap '58
- Field emission from silicon. L. A. D'Asaro, *il* diag *J Ap Phys* 29:33-4 Ja '58
- Foshagite; composition, unit cell and dehydration. J. A. Gard and H. F. W. Taylor, bibliog *il* diag *Am Mineralogist* 43:1-15 Ja '58
- Graphical method for estimation of contrast in electron microscopy. P. Sadhukhan, bibliog *J Ap Phys* 29:1235-7 Ar '58
- Instrument to trim specimen blocks prior to ultra-microtomy. A. L. Sims, diags *J Sci Instr* 35:72-3 F '58
- Internal structure of borosilicate glass by electron microscopy; abstract. M. Watanabe and H. Noake, *Glass Ind* 39:321-2 Je '58

ELECTRON microscope—Continued

- Microscopy in the examination of Diesel fuels. F. G. Rowe and H. F. Nicolaysen. *il diag Pet Eng* 29:C46-6+ D '57
- Microtopography of oxide films on niobium. J. V. Cathcart and others. *bibliog il Electrochem Soc J* 55:442-6 Ag '58
- Morphological study of rupture surfaces by electron microscopy; abstract. J. Plateau and others. *Metal Prog* 73:195-6 Ap '58
- Review of fundamental developments in analysis; electron microscopy. T. G. Rochow and M. C. Botty. *Anal Chem* 30:640-56 *bibliog* (p552-6) pt 2 Ap '58
- Selected area electron microscopy with electron microscope, model EMC. J. P. Lodge, jr. and B. R. Havlik. *il R Sci Instr* 29:656 J1 '58
- Some preliminary results of an electron microscope study of the oxidation of steels. A. M. Edwards and F. B. Pickering. *il Iron & Steel Inst J* 189:55-7 Mr '58
- Some results of an electron microscopical study of the metallographic structure of two alloys for permanent magnets (Ticonal G and Ticonal X). J. J. de Jong and others. *bibliog il J Ap Phys* 29:297-8 Mr '58
- Soviets describe huge microscope. *Electronics* 31:18 Ap 25 '58

Replica technique

- Curing process in phenolic resin; electron-microscopic analysis. R. A. Spurr and others. *bibliog il Ind & Eng Chem* 49:1839-42 N '57
- Electron mirror microscopy of patterns recorded on magnetic tape. L. Mayer. *bibliog il J A Phys* 23:650-1 Ja '58
- Method for making successive replicas of the same spot. J. T. Fourie. *il diags J Ap Phys* 29:608-10 Ap '58
- Microscopic examination of interior or highly curved surfaces by means of replicas. A. P. Young. *il R Sci Instr* 29:661 J1 '58
- Microstructure of ceramics for communication equipment. W. F. Janssen and M. D. Rigtierink. *bibliog il Am Cer Soc Bul* 37:152-6 Mr 15 '58
- New method for orienting electron microscope replicas applied to twinned quartz. R. V. Rice and A. J. Cohen. *bibliog il diag Am Mineralogist* 43:25-33 Ja '58
- Optical and electron microscope examination of preselected areas. T. K. Bierlein and B. Mastel. *diag R Sci Instr* 28:960-1 N '57

ELECTRON microscope society of America
Annual meeting, Cambridge, Mass. Sept. 9-11; abstracts of papers. *J Ap Phys* 28:1368-81 N '57**ELECTRON optics**

- Beam focusing in microwave amplifiers. P. P. Cioffi. *il diags Bell Lab Rec* 36:172-5 My '58
- Biperiodic electrostatic focusing for high-density electron beams. K. K. N. Chang. *il diags Inst Radio Eng Proc* 45:1522-7 N '57
- Effect of beam position on deflection in slit lenses. L. A. Harris. *Inst Radio Eng Proc* 46:815 Mr '58
- Electron optical action of an annular aperture lens. L. A. Harris. *diags Inst Radio Eng Proc* 46:1655-6 S '58
- Experimental demonstration of electron-optical regenerative image amplification. L. W. Jones and M. L. Perl. *bibliog diags R Sci Instr* 29:441-2 My '58
- Focusing procedures for electrostatic accelerators. C. H. Johnson and others. *bibliog diags R Sci Instr* 28:942-8 N '57
- Magnetic deflexion of electron beams without astigmatism. G. D. Archard and T. Mulvey. *diags J Sci Instr* 35:279-83 Ag '58
- Optical theory of thermal velocity effects in cylindrical electron beams. G. Herrmann. *bibliog il diags J Ap Phys* 29:127-36 F '58
- Slalom focusing. J. S. Cook and others. *il diags Inst Radio Eng Proc* 45:1517-22 N '57; Abstract. *Wireless World* 64:240 Mr '58
- Use of scanning slits for obtaining the current distribution in electron beams. K. J. Harker. *bibliog diags J Ap Phys* 28:1354-7 N '57
- X-rays come alive; fluorescent motion pictures; device using electron optics to intensify image brightness. *il diag Product Eng* 28:87 D 9 '57

See also

Electron microscope
Oscillographs, Cathode ray
Television**ELECTRONIC apparatus and appliances**

- Aluminum oxide film for electronic devices. *il Materials in Design Eng* 47:166+ Je '58

- Apparatus for producing and measuring high-energy electrical discharges. W. E. Richeson. *bibliog il diags R Sci Instr* 29:99-104 F '58
- Atomic lab good customer. *il Electronics Bsns* ed 30:24-5 N 10 '57
- Automatic line plotters are unveiled. *il Eng N* 159:69 N 21 '57
- Automatic reading machine. *Electronic Eng* 30:105 F '58
- Bell System keeps buying. *il Electronics* 31:18-19 My 2 '58
- Civil defense; \$6.7 million. *Electronics* 31:35 Ja 24 '58
- Color coding; markings on electronic components and wiring. *diags Electronic Ind* 17:51+ Je '58
- Conductive adhesive for electronic applications. T. J. Kilduff and A. A. Benderly. *bibliog il Elec Manuf* 61:148-52 Je '58
- Constant-amplitude random function generator. G. A. Hellwarth. *il diags Com & Electronics* p443-52 S '58
- De Havilland cable tester. *il Automobile Eng* 48:400-1 O '58
- Develop high accuracy electronic commutator. *Product Eng* 29:28 Ag 11 '58
- Device reads handwritten numerals. T. L. Dimond. *Franklin Inst J* 265:168 F '58
- Disclose how electronics aids chemical engineering. R. W. Olson. *Ind Lab* 9:14-18 F '58
- Dynamic gear tester. J. Bieger. *il Product Eng* 29:63 Ja 20 '58
- Effect of high intensity radiation on electronic parts and materials. C. P. Lascaro and A. L. Long. *diags Elec Manuf* 62:119-21+ S '58
- Efficiency noted in heat-to-electricity converter. G. Suits. *il diag Elec Eng* 77:273-4 Mr '58; Same. *Franklin Inst J* 265:279-80 Mr '58
- Electronic and electric power supplies. *il diag Machine Design* 30:100-1 My 29 '58
- Electronic anemometer. I. M. Gottlieb. *il diags Radio-Electronics* 29:82+ S '58
- Electronic automatic mail-sorting device. *Elec Manuf* 61:11 Ap '58
- Electronic control applied to coil winding. R. B. Shepherd. *il diag Brit Inst Radio Eng J* 18:227-9 Ap '58
- Electronic control system permits one drill-press to do work of five; Digmatic model C-202 point positioner. *il Am Mach* 101:167 D 15 '57
- Electronic conveyor controls. flow diag *il diags Coal Age* 63:106-7 Ag '57
- Electronic counters gain. *il Steel* 141:62 N 11 '57
- Electronic devices for the civil engineering field. *il Pub Works* 89:113-17+ Mr '58
- Electronic devices help water line maintenance. *il Eng N* 160:74 Je 12 '58
- Electronic earmuffs developed by army. *il Electronic Ind* 17:7 S '58
- Electronic equipment. Published in monthly numbers of *Electronic engineering*.
- Electronic finger checks, drills. *il diag Product Eng* 29:46 Ar 4 '58
- Electronic impulses converted to printed words. *Elec Eng* 77:865 S '58
- Electronic machine operation and accuracy fortified by air conditioning. *Air Cond Heat & Ven* 5:118 D '57
- Electronic reader sorts mail. A. I. Tersoff. *diags Electronic Ind* 17:56-60 J1 '58
- Electronic scales keep tabs on hung up material; Chesapeake and Ohio railway ease unloading facilities. *il Mod Materials Handling* 13:89 J1 '58
- Electronic signalizer reduces quench-cracking of steels. P. M. Unterweiser. *il Iron Age* 180:79-81 N 28 '57
- Electronic sorting slashes railroad's parcel handling time. *il Mod Materials Handling* 13:94-5 Je '58
- Electronic ultra-high vacuum pump. L. D. Hall. *bibliog il diags R Sci Instr* 29:367-70 My '58
- Electronics aids spectroanalysis. *il Ind Lab* 9:33 My '58
- Electronics saves punch press dies. *il Electronics* 31:178+ Mr 14 '58
- Error-correcting encoder and decoder of high efficiency. J. H. Green, jr. and R. L. San Soucia. *bibliog diags Inst Radio Eng Proc* 46:1741-4 O '58
- Experimental switching system using new electronic techniques. A. E. Joel. *il bibliog il diags Bell System Tech J* 37:1091-124 S '58
- Ferrites make possible better electronic parts; abstract. J. K. Galt. *Materials in Design Eng* 46:188+ N '57
- \$5 million for postal research and engineering. *Electronics* 30:15-16 D 20 '57

- ELECTRONIC apparatus and appliances—Cont.**
 For broadcasters, inexpensive audio switching. H. D. Schaaf. *il* diags *Electronic Ind* 17:supO 6-7 My '58
 Functions of guided missile checkout systems. J. Tampico and A. E. Resnik. *il* diags *Control Eng* 5:98-102 Ap '58
 General purpose electronic timer particularly suitable for time-lapse kinemicrography. D. McNish and R. E. Trotman. *bibliog* diags *J Sci Instr* 35:309-10 Ag '58
 Glow discharge trigger for shock wave studies. H. Harrison. *bibliog* diag *R Sci Instr* 29:175-6 F '58
 Head lamp alignment for production line use. *il* Elec *Eng* 77:662-3 JI '58
 Heat to electricity. V. C. Wilson. *il* Radio-Electronics 29:8 F '58
 Highlights of the IRE convention. *bibliog* *il* diags *Electronics* 31:62-5 Ap 25 '58
 High-speed electronic color separator introduced. *il* Inland *Pir* 141:75 JI '58
 High-speed tester checks tubes in groups; indication of opens and shorts with direct-reading localization by neon lamps. E. S. Gordon. *il* diags *Electronics* 31:76-8 My 9 '58
 How good is your welder power supply? electronic voltage drop counter. A. C. Johnson and F. B. Donathan. *il* diags *Welding J* 37:692-9 JI '58
 Human factors in electronic system design. M. A. Pape. *diags* *Electronic Ind* 17:134-4 JI '58
 Industrial electronics, 1957-1960; market report. E. DeJongh. *Electronics* Bans ed 30: 16A-16C N 20 '57
 Inside our satellite. *Electronics* 31:48 F 21 '58
 Instantaneous electronic color-film analyzer based on color-television. B. D. Loughlin and others. *il* diags *SMPTTE J* 67:17-26 Ja '58
 Instruments boxed on foam-cushioned base; tape recorders. *il* *Electronics* 31:110-4 My 9 '58
 Instruments for use in occupational hygiene; British occupational hygiene society conference, London, April 16-17; abstracts of papers. *bibliog* (29 ref) *J Sci Instr* 34:425-35 N '57
 International symposium on electronic components, Malvern; abstracts of papers. *Brit Inst Radio Eng J* 18:253-8, 304-6 Ap-May '58; *Electronic & Radio Eng* 34:428-31 N '57
 Load cells offer new solutions to industrial weighing problems. D. Vandeventer. *il* diags *Iron & Steel Eng* 34:168-4 N '57
 Machine reads handwritten numerals. *il* Elec *Eng* 77:369-70 Ap '58
 Magnesium parts in electronic equipment. H. R. Bullock. *il* diags *Elec Manuf* 62:50-5-4 JI '58
 Master control unit for audio tests. L. B. Hedge. *il* diags *Radio-Electronics* 29:54-7 Mr '58
 Materials for electronics; special report. J. Markus and D. A. Findlay. *il* diags *Electronics* 29:185-216 O '56; *Excerpts, Product Eng* 28:G32-3 Mid-O '57
 Mechanical fasteners for military electronic equipment; special report. G. H. Lines. *diags* *Elec Manuf* 61:109-24 Je '58
 Microwave component tester. A. F. Pomeroy. *il* diag *Electronics* 31:92-4 Je 6 '58
 Modular packaging of transistorized circuit assemblies. A. A. Lawson and J. D. Svedlow. *il* diags *Machine Design* 30:114-22 My 1 '58
 More sales to automakers; Chrysler's new 11-room vibration lab. *il* *Electronics* 31:18 Ag 8 '58
 New business in chemicals; electronic controls. *il* *Electronics* 31:15-16 JI 25 '58
 New device directly converts heat energy into electric power; thermionic converter. *il* *Ind Lab* 9:75 Ja '58
 New devices. Published in monthly numbers of *Radio-electronics*
 New for computers, Twistor and Persistor. M. U. Clauser. *il* *Electronic Ind* 17:5-4 Jm '58
 New ways to use electronic scales. *il* *Steel* 142:124-5 F 17 '58
 Nuclear resonance pulse apparatus; nuclear spin relaxation times measured. J. G. Buchta and others. *bibliog* diags *R Sci Instr* 29:55-60 Ja '58
 Number reader speeds paper work. *il* *Electronics* 31:96 Ja 17 '58
 Organized for electronics; Weirton steel co. *il* *Steel* 142:112-4 Mr 24 '58
- "Oscar" can cut road costs by millions; AUSCOR (automatic scanning correlator). *il* *Eng N* 160:23-4 Je 19 '58
 Packing goes electronic. *il* *Electronics* 31:8 Je 20 '58
 Post office electronic letter sorter. *il* *Electronic Eng* 30:548 S '58
 Production and sales; industrial sales hit record high. *Electronics* 31:23 Ja 10 '58
 Radiation-tolerant electronic materials. V. DeBiasi. *il* *Aviation Age* 30:72-4 Ag '58
 Reading handwritten characters; experimental device. *il* diags *Bell Lab Rec* 36:34-5 Ja '58
 Research and engineering progress, 1957; electronics. *il* *Gen Elec R* 61:38-42 Ja '58
 Scanners. *il* diags *Instruments & Automation* 31:1352-6 Ag '58
 Selection of urethane plastic foams for packaging electronic equipment. J. A. Meyer and H. Shapiro. *il* diags *Machine Design* 30:147-50 Mr 20 '58
 Semiconductor and electronics. *il* *Westinghouse Eng* 18:25-7 Ja '58
 Shipboard missile checkout set. M. R. Beck and D. M. Barger. *il* diag *Aviation Age* 28: 114-19 Ja '58
 Some dynamometric applications of an electronic integrator-differentiator. J. Grignat and F. Monfort. *diags* *Textile Res J* 28:47-59 Ja '58
 Sound-survey meter. R. P. Turner. *il* diag *Radio-Electronics* 29:114-17 F '58
 Space savings by altered wire construction. A. T. Hawthorne. *il* *Elec Manuf* 62:127 S '58
 Specifying and applying electronic power supplies. D. W. Tanner and others. *il* diags *Machine Design* 30:102-11 My 29 '58
 Swept frequency eddy-current device to measure overlay thickness. E. A. Hanysz. *diags* *R Sci Instr* 29:41-15 My '58
 Sync-circuit subber. W. G. Eslick. *il* diag *Radio-Electronics* 29:96-4 S '58
 Technical notebook. Published in monthly numbers of *Wireless world*
 Tester checks 1600 tubes per hour. *il* diag *I S A J* 5:118 Je '58
 Transistor test set. J. N. Prewett. *il* diags *Wireless World* 64:369-72 Ag '58
 Tubes convert heat; thermionic converter. *il* *Electronics* 30:29 D 10 '57
 Two-dimensional pulse-height analyzer. M. Eirk and others. *bibliog* diags *R Sci Instr* 29:203-9 Mr '58
 Use of microwave ferrite toroids to eliminate external magnets and reduce switching power. M. A. Treuhart and L. M. Silber. *diags* *Inst Radio Eng Proc* 46:1533 Ag '58
 Vanguard gear in Explorer. *il* diag *Electronics* 31:8 F 14 '58
 What's new? illustrations with text. *Radio-Electronics* 29:45 Ja '58
- See also*
 Clocks, Electronic
 Gages, Electronic
 Musical Instruments, Electronic
 Numerical control
 Transducers
 Translating machines
also subdivision *Electronic equipment under special subjects, e.g.*
 Airplanes
 Airplanes, Military
 Automobile factories
 Helicopters
 Printing offices
 Railroads
 Ships
 Submarine boats
 Textile mills
- Cleaning**
 Cleaning electronic device parts. F. J. Bondi. *il* *Bell Lab Rec* 36:288-93 Ag '58
- Control**
 Control panel design and human engineering; control knobs for military electronic equipment. T. G. Nessler. *il* diags *Elec Manuf* 62:115-18 S '58
 Some effects of wind and temperature gradients on the design of missile flight control systems. N. W. Lifson. *Aero/Space Eng* 17:49-52 S '58
- Cooling**
 Cool electronic equipment with forced convection. *il* *Plant* 17:53 Ap '58
 Cooling miniaturized electronic equipment. J. F. Welsh. *diags* *Product Eng* 28:1 4-6 Mid-O '57
 Equipment cooling techniques for supersonic aircraft. G. L. Roth. *bibliog* diags *Aero/Space Eng* 17:40-4 Ag '58

ELECTRONIC apparatus and appliances—Cooling—Continued

- Improved method of cooling electronic equipment on board ship. P. Meissner. *Il Elec Eng* 77:113 Ja '58
- Keeping equipment cool; electronic assemblies. R. L. Ives. *Il Q S T* 42:13-23 Ag '58
- Liquid cooling of electronic equipment. E. N. Shaw. *diag Electronic Eng* 30:516-23 S '58
- Novel evaporative cooling technique. *diag Elec Manuf* 61:156 F '58

Costs

- Economics of component parts selection; with cost data. E. F. Fuegel. *Com & Electronics* p 13-16 Mr '58

Design

- Designing for vibration and shock resistance. T. M. Billings. *Il diags Product Eng* 28: F31-3 Mid-O '57
- Electronic chassis design. F. W. Wood, Jr. *Il diags Machine Design* 30:116-21 S 4 '58
- Environmental testing of electronic equipment; special report. M. F. Tomaino. *bibliog il diags Electronics* 31:59-74, cover Mr 28 '58
- Reliability handbook for design engineers. F. E. Dreste. *diags Elec Eng* 77:508-12 Je '58

Exhibitions

- Electronics and the aircraft industry; exhibition of the Society of British aircraft constructors. Farnborough. *Brit Inst Radio Eng J* 18:539-40 S '58; *Il Electronic Eng* 30:618-21 O '58; *Wireless World* 64:491-4 O '58
- Electronics stars at Fair. *Il Electronics* 31: 13-14, cover Ap 18 '58
- French components industry exhibition, 21st. Paris. *Il Wireless World* 64:360-1 Ag '58
- French railways electronics exhibition. *Il diags Engineer* 206:312-14 Ag 22 '58
- IRE show; emphasis on components. E. J. Kompass. *Control Eng* 5:46+ Mr '58
- Instruments, electronics, and automation exhibition. London, April 16-26. *Il diags Engineer* 205:585-6, 623-4, 663-5 Ap 13-MY 2 '58; *Engineering* 135:488-9, 549-51 Ap 18, MY 2 '58; *Ind Chem* 34:250-2 MY '58; *Wireless World* 64:208-9, 284-90 MY-Je '58; *Control Eng* 5:18-19 Je '58
- Instruments, electronics and automation exhibition, London, April 16-26; list of exhibitors and floor plans. *Electronic & Radio Eng* 35:144-8 Ap '58
- New equipment at the exhibitions. *Il Electronic Eng* 30:216-23 Ap '58
- Previewing the Russians' sales pitch at Belgian world fair. D. Barlow. *Il Control Eng* 5:37-8 JI '58

Failure

- Dynamic programming and the reliability of multicomponent devices. R. Bellman and S. Dreyfus. *diags Op Res* 6:200-6 Mr '58
- Preventing equipment vibration failures. F. B. Safford and W. S. Inouye. *bibliog il diags Electronics* 31:92-4 Ap 11 '58
- Reliability and quality control symposium. *Control Eng* 5:42+ F '58
- Reliability handbook for design engineers. F. E. Dreste. *diags Elec Eng* 77:508-12 Je '58
- Reliability of electronic machine controls. H. L. Palmer. *Automation* 5:150+ F '58; *Abstract, Machine Design* 30:153+ Ja 23 '58
- Reliability of multi-moded systems. H. I. Zagor and others. *bibliog diags Electronic Ind* 17:101-4+ Ap '58
- Reliability seen key to space. *Electronics* 31: 8+ JI 4 '58

Maintenance and repair

- Electrical and electronic maintenance; University of California radiation laboratory. C. W. Jensen. *Il diags Elec Constr & Maint* 57:73-84 JI '58
- Forces' upkeep \$20 million daily. *Electronics* 31:12 Ja 17 '58
- How to maintain your electronic equipment. G. C. Skinner. *diags Mill & Factory* 62:122-6 F '58
- Maintainability. E. J. Engoron. *Am Soc Naval Eng J* 70:327-30 MY '58
- Military electronics; maintenance as a major problem. J. Meyer. *Control Eng* 5:40+ F '58

- Old-timer diversifies. J. Darr. *Il diag Radio-Electronics* 29:111-12+ O '58
- Proper installation and maintenance of electric control systems. J. W. Bauer, Jr. *Il diags Iron & Steel Eng* 35:128-31 Ap '58

Manufacture

- Automation emerging slowly. *Il Electronics* 31:18-19, cover Ap 18 '58
- Chemical milling aids electronics industry. *Ind Lab* 9:23 Ap '58
- Dip solder machine uses solder pumps. A. S. King and W. H. Hough. *Il diags Electronics* 31:108-13 Ja 3 '58
- Fixture design makes wire assembly easier. *Il Electronics* 31:64-6 Ag 2 '58
- Glass-to-metal seals. J. Comer. *Il diags Elec Manuf* 61:110-14 Mr; 62:102-7 Ag '58
- How to use electronic ceramics better. W. J. Baldwin. *Cer Ind* 71:88-92 Ag; 132-6 S '58
- Making a missile brain. *Il Electronics* 31: 26-7, cover F 21 '58
- New electronic assembly system. H. C. Ber-toya. *Il Electronic Eng* 30:58+ F '58
- Simple setups cut cost; production of complex electronic equipment at Hewlett-Packard co. G. H. De Groat. *Il diags Am Mach* 102:92-3 Ag 11 '58
- Specialize in lab automation; Instruments for industry and research. *Il Ind Lab* 9:31 F '58

Protection

- Protection of sensitive current devices with silicon diodes. P. L. Toback. *diags Control Eng* 5:91-3 JI '58

Specifications

- Army sets module specs. *Electronics* 31:16+ Je 20 '58

Standards

- Electronic standards for industrial equipment. *Elec Manuf* 62:121-5 Ag '58

Testing

- Automatic life testing and data recording. S. Fellers. *Il diags Elec Manuf* 61:14-7 Je '58
- Environmental testing of electronic equipment; special report. M. F. Tomaino. *bibliog il diags Electronics* 31:59-74, cover Mr 28 '58
- Fast electronic component check-out. *Il I S A J* 5:30 F '58
- Military standard test methods for components. *Instruments & Automation* 31:1210-11 JI '58
- Servos test servo components. R. Kelly. *Il diags Control Eng* 5:127+ Mr '58
- Spin testing electronic components as high as 50,000 G's. *Il Electronics* 31:88+ Ap 25 '58

Vibration

- Analytical technique of electronics equipment design for vibration; abstract. M. E. Gurtin. *Machine Design* 30:160 Ja 23 '58
- Preventing equipment vibration failures. F. B. Safford and W. S. Inouye. *bibliog il diags Electronics* 31:92-4 Ap 11 '58
- Random vibration testing for evaluation of electronic components for aircraft and missile environments. J. P. Monroe. *Il diags Aero/Space Eng* 17:78-80 MY '58
- ELECTRONIC calculator.** See *Calculating machines*

ELECTRONIC circuits

- Amplitude/frequency response display using a ratio method. H. L. Mansford and others. *diags Electronic Eng* 30:541-4, 595-7 S O '58
- Analyzing combinational circuits by boolean matrices and Karnaugh maps. B. Beizer and S. W. Leibholz. *diags Elec Manuf* 61: 98-108+ Je '58
- Bootstrap circuit technique. A. W. Keen. *bibliog diags Electronic & Radio Eng* 35: 345-54 S '58
- Carrier-energized bistable circuit using variable-capacitance diodes. E. O. Keizer. *Il diags RCA R* 18:475-85 D '57
- Circuit design for a large lathe; Baldwin-Lima-Hamilton corp. Z. C. Van Schwartz. *Il diag Ap Hydraulics* 11:80-1 JI '58
- Circuits micro-sized. *Il Electronics* 31:18 Je 27 '58
- Clipless clamshell breadboard. *Il Electronic Ind & Tele-Tech* 16:58+ O '57
- Comet shows crt beam direction. J. J. Wormser. *Il diag Electronics* 31:88+ MY 23 '58
- Copper is temporary base for inlaid circuits. *Il diags Electronics* 31:110+ Ag 15 '58
- Derivative via integration. M. Fogiel. *diag Instruments & Automation* 31:1525 S '58

ELECTRONIC circuits—Continued

- Design analysis of the low-Q circuit. R. L. Baddorf and J. Crookshanks, *diag Electronic Ind* 17:71-3 F '58; 82-4 Mr '58
- Design of magnetic circuits for miniature relays. W. J. Richert, *diags Electronic Ind & Tele-Tech* 16:56-7+ O '57
- Design trends; transistorized logical circuits. *il Electronics* 31:98 F 23 '58
- Differentiator for a-c computers. W. X. Johnson, *biblog diags Com & Electronics* p 1-4 Mr '58
- Diode clipper-limiter. R. P. Turner, *diag Radio-Electronics* 29:92 S '58
- Efficiency-diode scanning circuits. K. G. Beauchamp, *biblog il diags Electronic Eng* 30:490-7, 549-56 Ag-S '58
- Electronic chopper uses new photocells. R. G. Seed, *diag Electronics* 31:90+ M 23 '58
- Electronic circuitry. C. F. Kezer and M. H. Aronson, *diags Instruments & Automation* 30:2074-5, 2273-4; 31:474-5, 860-1, 1050-1, 1371, 1529 N-D '57, N-D, My-Je, Ac-S '58
- Electronic filtering circuit. R. G. T. Bennett and C. S. L. Keay, *diag Electronic Eng* 30:399 F '58
- Electronic switch doubles as cathode follower. E. Benjamin, *il diags Electronics* 31:81-3 Ja 17 '58
- Electronic tracing of oscilloscope displays. C. H. Hertz and E. Möller, *il diags R Sci Instr* 29:611-13 JI '58
- Evaporated thin magnetic, dielectric, and conductive films for micro-circuits. D. W. Moore, *il Elec Manuf* 61:11 Je '58
- Flip-flops and diode gates translate punched-tape program; Bendix numerical control system. G. H. McDaniel and R. C. Sims, *il diags Elec Manuf* 61:84-92 F '58
- Forty-megacycle scalar. M. Nakama, *biblog diags R Sci Instr* 28:1015-20 D '57
- Generalized theory of transistor bias circuits. H. Helleman, *diags Com & Electronics* p694-7 Ja '58
- Improved quenching circuit for Geiger counters. A. D. Currell and P. R. Low, *biblog diag R Sci Instr* 29:245-6 Mr '58
- Impulse voltage wave chopping circuit for use with a recurrent surge oscilloscope. J. W. Armitage, *il diags Electronic Eng* 30:186-8 O '58
- In-line modules, *diag Electronic Ind* 17:75+ My '58
- Latching counters. W. P. Anderson and N. A. Godel, *diags Electronic & Radio Eng* 35:362-7 O '58 (to be cont)
- Load-sharing matrix switch. G. Constantine, jr, *il diag Electronics* 31:118+ S 12 '58
- Logic circuit that tells correct controller action. R. A. Denning, *diags Control Eng* 5:123+ Je '58
- Matrix analysis of logical networks. E. J. Schubert, *biblog diags Com & Electronics* p 10-13 Mr '58
- Measurement of the properties of various ferrites used in magnetically tuned resonant circuits in the 2.5-45 mc/sec region. P. P. Lombardini and others, *J Ap Phys* 29:395-6 Mr '58
- Mechanics of electronics; practical translations of circuit diagrams; housing the equipment. W. D. Cussins, *diags Wireless World* 64:133-7 Mr '58
- Microelectronics; small circuits set for big role in future systems. Holahan, *il diags Space/Aeronautics* 30:20-1+ O '58
- Microminiature components for electronic circuits. N. J. Doctor and E. M. Davies, *il Elec Manuf* 62:94-7 Ag '58
- Microminiaturization of electronic parts. *il Elec Manuf* 61:154 Ap '58
- Micro-module design concept in electronics. A. W. Rogers, *il diag Elec Manuf* 62:46-9 JI '58
- Minimization of components in electronic switching circuits. T. J. Beaton, *biblog diags Com & Electronics* p239-41 JI '58; Abstract, *Elec Eng* 77:213 Mr '58; Discussion, *Com & Electronics* p291 JI '58
- More uses for solid-state art; Transistor and solid-state circuits conference, Philadelphia, *Electronics* 31:35 F 21 '58
- Multi-channel Dekatron scaling unit. F. W. Lovick, *diags Electronic Eng* 30:394-5 Je '58
- Network containing a periodically operated switch solved by successive approximations. C. A. Desoer, *biblog diags Bell System Tech J* 36:1403-28 N '57
- New method of frequency error correction in carrier systems; frequency-correcting circuit. B. R. Stachiewicz, *diags Com & Electronics* p 175-80 My '58
- Numerical-graphical method for synthesizing switching circuits. A. H. Scheinman, *diags Com & Electronics* p687-9 Ja '58
- One-step circuit production; vacuum deposition, *diags Electronics* 31:22 JI 11 '58
- Packaged circuits; Alphatype machine. *il Electronic Ind* 17:81 S '58
- Packaged circuits for computer design. Franklin Inst J 265:166-8 F '58
- Percussion circuits for electronic musical instruments. A. Douglas, *diags Electronic Eng* 30:420-3 JI '58
- Proposed standard method for high power testing of ferrite isolators. E. Wantuch, *il diags Electronic Ind* 17:83-5 Ap '58
- Radio electronic circuits. Published in monthly numbers of Radio-electronics
- Radio waves power transistor circuits. L. R. Crump, *il diags Electronics* 31:63-5 My 9 '58
- Response of a capacitance-resistance divider to the step-function, exponential-function and ramp-function. S. Turk, *diags Electronic Eng* 30:608-11 O '58
- Ring-modulator reads low-level dc. E. J. Keonjian and J. D. Schmidt, *diags Electronic Ind* 17:86-9 Ap '58
- Shorthand for electrical schematics. J. C. Zorn, *diags Am J Phys* 26:38-9 Ja '58
- Simplified circuitry for remote controls; abstract. E. K. Wagner, *diags Control Eng* 5:115 JI '58
- Simplified switching control of electronic circuits. *il diag Machine Design* 30:101 Ja 9 '58
- Static plug-in modules for annunciator system. *il diag Elec Manuf* 61:158+ Je '58
- Stereophonic sound with two tracks, three channels by means of a phantom circuit (2PH3). P. W. Klipsch, *biblog diags Audio Eng Soc J* 6:118-23 Ap '58
- Theorem for dissipationless networks. G. Szentnadi, *diags Inst Radio Eng Proc* 46:1538-9 Ag '58
- Theory of networks of linearly variable resistances. H. Levenstein, *biblog diags Inst Radio Eng Proc* 46:486-93 F '58
- Trigger circuits with multiple stable states. D. Midgley, *diags Electronic & Radio Eng* 35:275-6 JI '58
- Unusual transistor circuits. P. L. Burton and J. Willis, *diags Wireless World* 64:107-10 Mr '58
- Unusual tube effects cause circuit troubles. W. E. Babcock, *il diags Electronics* 31:90-3 S 12 '58
- Vibrato circuits for electrical musical instruments. A. Douglas, *biblog diags Electronic Eng* 30:26-30 Ja '58
- Why match impedances? P. Penfield, jr, *biblog diag Audio* 42:32+ Ap '58

See also

Electronic circuits
Phantastron (delay circuit)**Design**

- Analyzing specifications and designing circuits. B. Beizer and S. W. Leibholz, *diags Elec Manuf* 62:100-9 JI '58
- Circuit design using Boolean matrices and system synthesis using state coding. B. Beizer and S. W. Leibholz, *diags Elec Manuf* 62:108-17+ Ag '58
- Engineering applications of Boolean algebra; designing sequential circuits. B. Beizer and S. W. Leibholz, *diags Elec Manuf* 62:67-79 S '58
- Linear least-squares smoothing and prediction, with applications; derived from a circuit theory point of view. S. Darlington, *biblog diags Bell System Tech J* 37:1221-94 S '58
- Selenium rectifier selection and circuit design. R. C. Hitchcock, *diags Elec Manuf* 61:109-19 Ap '58
- Semiconductor circuit design philosophy for the central control of an electronic switching system. B. J. Yekelson and others, *il diags Bell System Tech J* 37:1125-60 S '58
- Simplified design of pulse-forming networks; reference sheet. K. H. Recorr, *diag Electronics* 31:94 Ag 1 '58

Models

- Models simplify circuit planning. W. W. Staley, *il Electronics* 31:200+ Mr 14 '58

Plastics embedment

- Electronics, miracle market for plastics. *il Mod Plastics* 35:31-5+ Mr '58
- Epoxy shells simplify potting of resistors. K. Stock, *il Electronics* 31:72+ Ja 31 '58
- Fluidized resin coats hot parts. *il Electronics* 31:111 S 26 '58
- Mixer degasses potting resin. *il Electronics* 31:126+ S 12 '58
- Plastic case reduces potting problem. *il Electronics* 31:112+ Ag 1 '58

ELECTRONIC circuits—Plastics embedment—*Continued*

Plastics and ceramic foams for electronic applications. W. R. Cumming and P. M. Address. *Il Elec Manuf* 61:100-4 My '58

Processing system for optimum design use of casting resins. W. A. Gammel. *bibliog il diags Elec Manuf* 62:80-5+ S '58

Setting-up a plastic section. Leeds & Northrup co.; illustrations with text. *Electronics Ind* 17:90 Ja '58

Transformer epoxy conducts heat. *Il Electronics* 31:102 My 9 '58

Printed circuits

Application of printed-circuit techniques to the design of microwave components. J. M. C. Dukes. *bibliog il diags Inst E E Proc* 105 pt B:155-72; Discussion 180-1 Mr '58

Arma switches to Stablène for printed circuit layouts. *Il Aviation Age* 29:80-1+ Ap '58

Army develops printed transistors. J. W. Lathrop and J. R. Nall. *Il diag Control Eng* 5:31-2 F '58

Broad-band slot-coupled microstrip directional couplers. J. M. C. Dukes. *bibliog diags Inst E E Proc* 105 pt B:147-54; Discussion. 180-1 Mr '58

Check for accuracy of printed circuit transparencies. C. J. Taylor. *Il diags Elec Manuf* 62:123-5 S '58

Circuit market leveling? *Electronics* 31:33 Mr 7 '58

Composite circuit layout guides satellite assembly. J. H. Perry. *Il Electronics* 31:92+ Ap 25 '58

Developments in printed microwave components. D. R. J. White. *diags Electronic Ind & Tele-Tech* 16:63-6+ N '57

Electrical characteristics of printed circuit panels. *Electronic Ind* 17:457-62 Je '58

Electronic circuit packaging for missile applications. S. G. Bassler. *bibliog il diags Elec Manuf* 61:123-9 Mr '58

Etched i-f amplifier pares color tv cost. L. Ruth. *Il diag Electronics* 31:135-7 Mr 14 '58

Etched wiring grows: copper-clad laminated panels. *Electronic Ind* 17:457-62 Je '58

Farrand controls Inductosyn resolver. J. D. Cooney and B. K. Ledgerwood. *Il diags Control Eng* 5:88-91 Ja '58

Foil clad laminates in printed circuitry. K. Rider. *Il diags Metal Prog* 74:81-5 S '58

Funnel flange eyelets for printed circuits. *diags Electronics* 31:108-9 My 9 '58

High-speed memory unit uses superconductivity principle; Persistor. *Elec Eng* 77:116 Ja '58

Improved baths solve lifting of plated circuit foils. E. C. Rinker and F. W. Jahns. Jr. *Il Iron Age* 181:113-20 Je 19 '58

Laminated bits to gather satellite weather information. *Il Elec Eng* 77:196 F '58

Miniaturized printed circuit fabrication. R. E. Overas. *diags Elec Manuf* 61:137-9 Ap '58

Models simplify circuit planning. W. W. Staley. *Il Electronics* 31:200+ Mr 14 '58

Modified silicone varnish coating for printed wiring boards. D. M. Hudson. *Elec Manuf* 61:145-6 Ap '58

Moldable boards for printed wiring. *Il Electronics* 31:122-4 Ja 17 '58

One etchant to handle several metal plates. *Il Electronics* 31:109-11 S 26 '58

Padless printed wiring board; illustration with text. *Electronics* 31:110 Ag 15 '58

Plates connect ribbon cable to terminals. *Il Electronics* 31:113-15 My 9 '58

Polyethylene film protects printed circuits. *Il Elec Manuf* 62:117 Ag '58

Preformed contacts for printed wiring. *Il diag Electronics* 31:193-4 Mr 14 '58

Printed circuit glossary. *Electronic Ind* 17:9 Je '58

Printed-circuit switches simplify kit construction; hi-f amplifier-amplifier. *Il diags Radio-Electronics* 29:53-5 cover F '58

Printed circuitry in aircraft. *Il Plastics Tech* 4:555 Je '58

Printed circuits. N. Ostfchin and S. J. Stockfleth. *Il Bell Lab Rec* 31:117-21, cover Ap '58

Printed circuits for guided missiles at Convair's Pomona (Cal) Missile div. E. D. Heller. *Il diags Am Mach* 101:113-15 N 4 '57

Printed circuits in new telephone design. M. Farr. *Il diags Elec Manuf* 61:96-7+ Ap '58

Printed circuits level off. *Il Steel* 142:66-7 Ap 7 '58

Printed circuits on irregular surfaces; photographic technique. E. P. Purpura. *Il Ind Phot* 7:18-19 F '58

Printed circuits users face puzzle. *Electronics* 30:41 D 10 '57

Printed filter coils. *diag Wireless World* 64: 132 Mr '58

Printed wiring boards link air defense system; SAGE. *Il Machine Design* 30:36+ Ja 23 '58

Re-entrant transmission-line filter using printed conductors. J. M. C. Dukes. *Il diags Inst E E Proc* 105 pt B:173-9; Discussion. 180-1 Mr '58

Short run drilling machine for etched circuit boards. J. Mosca. *Il diag Elec Manuf* 61:158 My '58

Smaller transistors, smaller missiles. *Il Product Eng* 38:20 D 16 '57

Standard test panel for printed-wiring boards. L. Cota and others. *diags Elec Manuf* 62:98-9+ J1 '58

Synchronized electronic switch. T. Jaski. *Il diags Radio-Electronics* 29:60-3 Ap '58

Temperature rise vs current rise of etched wiring lines. R. P. Noble. *Il diags Elec Manuf* 62:93-7 J1 '58

Three-dimensional printed wiring. E. A. Guditiz. *Il diags Electronics* 30:160-3 Je 1 '57; Same cond. *Ind Phot* 7:24-5+ Mr '58

Transfer process for printed circuits. *Electronic Eng* 30:337 Je '58

Transparent polyethylene bags protect printed circuits. *Il Electronics* 30:214 D 1 '57

12AX7 modulator unit utilizing printed circuit techniques. A. D. Middleton and J. M. Stueber. *Il diags Q S T* 42:40-1+ My '58

Wiring board pattern cut to size on film. *Il Electronics* 31:62+ Ag 29 '58

Standards

IRE standards on reference designations for electrical and electronic equipment, 1957. *diags Inst Radio Eng Proc* 45:1493-501 N '57 (reprints 70c); Same cond. *Product Eng* 29:1 4-7 Mid-S '58

Testing

High-speed continuity checker. W. D. Bell. *Il diags Control Eng* 5:178-9 S '58

Method of scaling and checking computer circuits. L. J. Lane. *diags Applications & Ind* p67-70 My '58

Punched-tape circuit analyzer. H. J. Kirschnick and B. D. Hrybyk. *Il diag Control Eng* 5:176 S '58

ELECTRONIC clocks. See Clocks, Electronic

ELECTRONIC computer. See Calculating machines

ELECTRONIC data processing

Accuracy control in electronic business data processing systems. J. C. Hammerton. *Il Electronic Eng* 30:483 6 Ag '58

Air traffic keyboard will translate flight data. *Machine Design* 30:38 J1 10 '58

Airborne recorder and computer speed flight-test data processing. A. T. Snyder. *I S A J* 5:44-8 J1 '58

All-transistor data-processing systems. *Elec Eng* 77:66 J1 '58

Analog computer study of the transient behavior and stability characteristics of serial-type digital data systems. O. I. Elgerd. *bibliog diags Com & Electronics* p358-66 J1 '58

Application of automatic digital-data-collection to boiler testing. J. H. Bail and others. *Il diags Mech Eng* 79:1016:21 N '57

Application of machine computation to petroleum research; symposium. *diags Anal Chem* 30:874-85 My '58

Application of operations research and computer techniques in airline operations; abstract. L. Rosenfeld. *Aircraft Eng* 30:242 Ag '58

Application of the X-Y recorder. F. L. Mosley. *diags Instruments & Automation* 31: 849 My '58

Automatic data processing. J. Diebold. *Ind Chem* 34:197-9 Ap '58

Automatic data system keeps tabs on Sterling power plant. L. E. Stewart. *Il diag Power* 102:104-5 Ag '58

Automatic life testing and data recording. S. Foldes. *Il diags Elec Manuf* 61:144-7 Je '58

Automatic preparation of flow chart listings. A. E. Scott. *flow charts Assn for Computing Mach J* 5:57-66 Ja '58

Automatic processing of photometric test data for street lighting luminaires. G. A. Horton and P. A. Zaphyr. *flow chart il Illum Eng* 53:341-9; Discussion. 349-51 Je '58

Automatic system for spectrometric data. A S T M Bul p67+ J1 '58

ELECTRONIC data processing—Continued

- Automatic testing, data recording, and statistical analysis system; Astrumatic system, E. Hoo. *II* *diags Elec Manuf* 61:104-8 Ja '58
- Automation finds home in big business offices. *Machine Design* 80:6 F '58
- Automation for small-tool producers; information processing, R. P. Milloto. *II* *diags Automation* 5:65-8 Mr '58
- Automation reaches weapon system maintenance; RACE (rapid automatic checkout equipment), A. J. Morrow. *diag S A IG J* 66:45 Ja '58
- Bankers buy more electronics. *II* *Electronics* 31:15-16 My '58
- Belter plants from better data. J. Johnston. *IE I S A J* 5:22+ F '58
- BIZMAC II tapefile. J. A. Brustman and J. Agin. *II* *diags Com & Electronics* p728-31 Ja '58
- Computer center for basic physical science data proposed. R. H. Müller. *Anal Chem* 30:sup5A-6A Ja '58
- Computer-controlled shipping center. *II* *Mech Eng* 79:1044-6 N '57
- Computer corrects itself. *II* *Electronics* 31:14- Je 20 '58
- Computer keeps an eye on spare parts. S. E. Farkas. *IE I S A J* 66:34-8 Ag '58
- Computer puts sales under control; California Packing. C. R. Havikhorst. *II* *Food Eng* 30:62-3+ Ja '58
- Control of a job-shop machine floor. W. H. Elmendorf. *diag Mech Eng* 80:61-4 O '58
- Coordinate data sets for military use; transmission of radar data over ordinary telephone circuits. W. Koenig. *II* *diags Bell Lab Rec* 36:166-70 My '58
- Cure for flight-test data indigestion; project DATUM. F. O. Lindfors. *II* *diags I S A J* 5:90-3 S '58
- Data handling for process control purposes. R. F. Wall. *II* *Ind & Eng Chem* 50:sup77A-8A S '58
- Data-logger for piecework tightens production control. J. D. Cooney. *II* *Control Eng* 5:25-6 My '58
- Data logging. W. J. A. Donnelly. *Ind Chem* 34:126-7 Mr '58
- Data processing device tapes shop records; Control data corp. *Automation* 5:14 F '58
- Data processing speeds customer service; Carborundum co. *Tool Eng* 40:118 My '58
- Data-processing system corrects errors at electronic speeds. *Mach* 64:141 Ag '58
- Data processing systems cut preventive maintenance costs. J. Weinberger. *diags Fet Reiner* 27:336-8 '58
- Data reduction needs differential amplifiers. F. Offner. *diags Control Eng* 5:103-4 Ap '58
- Data transmission testing set. J. E. Boughtwood and T. A. Christie. *II* *diags Com & Electronics* p 101-4 Mr '58; Same. *Elec Eng* 77:232-5 Mr '58
- Data unit aims radar at moon. *Electronics* 31:16+ Ap 25 '58
- Dataphone service in three Bell System areas. *II* *Bell Lab Rec* 36:148-9 Ap '58
- Decade decimal counter speeds printed readout. R. W. Wolfe. *II* *diags Electronics* 31:88-90 Ja 17 '58
- Design trends: pinboard programs data logger. *II* *diag Electronics* 31:90 Mr 28 '58
- Designing for electronic data processing; installation for Pacific gas and electric co. E. J. Ross. *II* *Gas Age* 122:17-20+ J1 10 '58
- Digital and pictorial photographic electronic recorder. R. G. McPherson and I. A. Sonderby. *II* *diags Com & Electronics* p194-6 My '58; Same. *Elec Eng* 77:616-19 J1 '58
- Digitizing system for directly collecting digital test data. *diag Aviation Age* 29:80 My '58
- Disclose how electronics aids chemical engineering. R. W. Olson. *Ind Lab* 9:14-18 F '58
- Electronic banks take shape; processing randomized paper checks. *II* *Electronics* 30:26 D 10 '57
- Electronic bidding; only the beginning. E. Eaves. *Eng N* 160:71-2 Je 19 '58
- Electronic computers; their power-field future looks bright. H. P. Kallen. *II* *diags Power* 102:71-7 Ja '58
- Electronic data processing machines; controls for design and engineering procedures. D. H. Ware and others. *Mech Eng* 79:832-3 J1 '57; Discussion. 80:120-1 Mr '58
- Electronic monetary system. G. M. Hunt and P. E. Lannan. *Elec Eng* 77:789 Ag '58
- Electronics opens new areas in engineering and maintenance. *Textile World* 108:100-1 F '58
- Electronics to start revolution in office; abstract. J. E. Johnson. *Franklin Inst J* 265:437-8 My '58
- Error rates in data transmission. S. Reiger. *Inst Radio Eng Proc* 46:919-20 My '58
- Forecast of an information center; A.S.M.'s research project at Western reserve university. M. R. Hyslop. *Metal Prog* 74:108-10 J1 '58
- GD system speeds missile data processing. *II* *Instruments & Automation* 31:378 Mr '58
- High-scanning-rate storage device for computer applications. D. M. Baumann. *bibliog diags Assn for Computing Mach J* 5:76-83 Ja '58
- How weekly sales analysis alerts management to trends; data-computer program; Stahl-Meyer. E. W. Wilson and T. C. Taylor. *II* *Food Eng* 30:66-7+ My '58
- Input and output facilities of data-link surface equipment. G. W. Reich, Jr. and H. J. Mills. *diags Elec Com* 54:200-18 S '57
- Instrument calibration scheduling simplified with electronic data processing machines. W. A. Lawrence. *II* *diags Ind Quality Control* 14:32-6 My '58
- It takes computer data from air photos; Terrain data translator. *II* *Eng N* 161:116 S 18 '58
- Machine abstracts. *Mech Eng* 80:93 Je '58
- Machines do speedy abstracts. *Product Eng* 29:28 Ap 7 '58
- Magnavox develops film data recorder and reader. *II* *diag and Lab* 9:53-5 O '58
- Magnetic reader speeds travelers-check processing. K. R. Eldredge and others. *II* *diags Control Eng* 5:79-83 J1 '58
- Magnolia expands data processing section. *II* *Pet Eng* 30:E6 Ja '58
- Mill may tie loom output control system into data processing unit. R. E. Bayha. *diag Textile Ind* 122:62-3 J1 '58
- New data-handling system uses a digital potentiometer. S. Meyer and M. Blynn. *II* *diags Instruments & Automation* 30:2270-2 D 15 '57
- New data processing system; IBM7070. *Engineer* 206:463-4 S 19 '58
- New survey reveals more on computers. *I S A J* 5:60 My '58
- New system for handling flight test data. H. W. Royce. *II* *S A E J* 65:54-5 D '57
- Nine guideposts in selecting a business-data processor. F. James. *Control Eng* 5:108-9 Ja '58
- Pushbutton inventory control. H. L. Lewis. *II* *diags Mill & Factory* 61:114-15 N '57
- Relay-design technique generates high accuracy and speed in analog-to-digital transducer measurements. A. F. Kay. *II* *diags Com & Electronics* p248-50 My '58
- Researchers seek to open literature logjam. *diags Chem Eng* 66:8+ F 10 '58
- Shares and prices; processing equipment manufacturers. *Electronics* 31:5 Ja 10 '58
- Shift register transistor. I. Wolff; J. T. Wallmark. *Franklin Inst J* 265:521-2 Je '58
- Spectroanalyzer obtains rapid chemical data on substances. *II* *Elec Eng* 77:560-1 Je '58
- Stability and physical realizability considerations in the synthesis of multiple control systems. H. Freeman. *diags Applications & Ind p* 1-5 Mr '58
- Stronger sales control the computer way. T. W. Sneed. *II* *Food Eng* 30:68-70 Ap '58
- System corrects errors at electronic speed without human help. *Elec Eng* 77:767-8 Ag '58
- Textile automation; new mass-counting system analyzes loom operations. *II* *Textile World* 108:102-3 F '58
- Thanks to integrated data processing, paperwork can't smother warehouse. R. G. Zilly. *II* *Mod Materials Handling* 13:126-30 Mr '58
- These fleeting thoughts convince me. *Engineering* 185:424-6 Ap 4 '58
- Total data processing may number days of the punched card as a business document. J. E. Johnson. *Gas Age* 121:31+ Mr 6 '58
- Utilization of domain wall viscosity in data-handling devices. V. L. Newhouse. *bibliog diags Inst Radio Eng Proc* 45:1484-92 N '57
- Warehouse order processing; integrated data processing system. *II* *plan Automation* 5:66-70 My '58
- Weapons systems and controls require automatic checkout equipment. L. S. Kilvans. *diags Electronic Ind* 17:70-5 Ap; 80-2+ My '58
- What's inside the coil? automatic data accumulation. R. R. Davison. *II* *diags Steel* 143:106+ S 8 '58

ELECTRONIC data processing—Continued

What's the best production control system? Mill & Factory 63:102-3 Ag '58
 Why we are using an automatic data collection system; Louisiana power & light co. D. L. Aswell. *diag Power Ind* 74:9 Mr '58
 X-Y records. E. J. Sadler. *il diag Instruments & Automation* 31:848 My '58

See also

Data-control systems, inc.
 Data processing service centers
 Numerical control

ELECTRONIC organ. See Organ, Electronic**ELECTRONIC stoves**

Prototype range uses eddy current heating. *Elec Manuf* 61:10 Ja '58

ELECTRONICS

Better electronics for neutron-gamma analysis. H. W. Lefevre and J. T. Russell. *il diags Nucleonics* 16:56-7 Je '58

Ceramics in electronics. E. C. Henry. *bibliog il Cer Ind* 70:160-8, 170 Ap '58

Controlled thermonuclear fusion; its meaning to the radio and electronic engineer. E. W. Herold. *bibliog diags RCA R* 19:162-86 Je '58; Abstracts. *Electronics* 31:141-142 Mr '58; Franklin Inst J 265:522-3 Je '58

Cryogenic electronics. J. Holahan. *il diags Aviation Age* 28:174-6-1 Mr '58

Design digest issue; electrical and electronic components. *diags Product Eng* 29:1 1-60 Mid-S '58

Design digest issue; electrical and electronic components. *il diags Product Eng* 28:1 1-94 Mid-O '57

Electronic handbook for design engineers. *il diags Electronics* 31:R 1-64 Mid-Je '58

Electronic imaging and intensification. J. Lempert. *diags Westinghouse Eng* 18:82-7 My '58

Electronics and the IRE, 1967. D. G. Fink. *Inst Radio Eng Proc* 45:1187-90 S '57

Electronics and the IGY. J. McQuay. *il diags Radio-Electronics* 29:36-9 F; 82-5 Mr '58

Electronics in space; editorial. H. Gernsback. *Radio-Electronics* 29:31 Ja '58

Electronics' part in IGY. *il Electronics Bsns* ed 30:22-3 N 20 '57

Fifty years hence; the electronic future begins in its past; editorial. H. Gernsback. *Radio-Electronics* 29:31 Ap '58

Fusion boosts electronics role. M. Benedict. *Electronics* 31:141-4 F 28 '58

Industrial electronics conference, 7th. Detroit. *Electronics* 31:8-4 S 26 '58

Marginal punched cards for a reference file in the field of electronics. W. G. Hoyle. *il diags Eng J* 41:61-6 Je '58

Planning ahead Soviet-style. *Electronics Bsns* ed 30:35 N 20 '57

Radio electronics; report on URSI commission. W. G. Shepherd. *Inst Radio Eng Proc* 46:1381-3 J1 '58

Radio valve industry in prospect and retrospect. T. E. Goldup. *il Inst E E Proc* 105 pt A:1-10 F '58; Excerpts. *Engineer* 204:516-18 O 11 '57

Review and preview; challenge to electronics. *il Chem & Eng N* 36:85-6 Ja 6 '58

Satellite electronics; editorial. H. Gernsback. *Radio-Electronics* 29:33 Mr '58

Some engineering of the past and for the future. T. A. Smith. *SMPTE J* 66:696-7 N '57

Space challenge to electronics. D. Flickinger. *Electronics* 31:144- Mr 14 '58

State of the art report. J. Holahan. *il Aviation Age* 28:30-1 Ja '58

Ultrasonics; the electronic art. J. E. Hickey, Jr. *bibliog il diags Electronic Ind* 16:58-62+ N; 71-4+ D '57

See also

Airplanes—Electronic equipment
 Armed forces communications and electronics association

Electron optics

Electronic circuits

Oscillographs, Cathode ray

Pulse technique (electronics)

Radio engineering

Bibliography

Book reviews. Published in monthly numbers of Electronic engineering

Books. Published in monthly numbers of Electronic industries

Books for electronic engineers. Published in monthly numbers of Electronic industries

International electronic sources; monthly digest of the world's top electronic engineering articles. Published in monthly numbers of Electronic industries

New books. *Electronics* 31:148-50 Ja 3 '58 [cont bi-weekly]

New books. Published in monthly numbers of ISA journal of instrumentation, automatic control and automation

New tech data for engineers. Published in monthly numbers of Electronic industries

International aspects

Brussels; electronic tooting. *Electronics* 31:42 Ag 3 '58

Can electronics check peace? *Electronics* 31:15-16 S '58

NATO; sharing electronics? *Electronics* 30:20-1 D 20 '57

Medical applications

Drip rate recorder for intravenous solutions. A. W. Melville and J. B. Cornwall. *diags Electronic Eng* 30:606-7 O '58

Electromedical instrument research in England. *Elec Manuf* 62:3 J1 '58

Electronic device aids delicate eye operation. *Elec Eng* 77:197 F '58

Electronic integrator with immediate digital output; testing synchronous activity of nerve fibers within a bundle. E. L. Hisey and E. R. Perl. *bibliog il diags R Sci Instr* 29:355-9 My '58

Electronics aids vision studies. *Electronics* 31:12+ S 12 '58

Electronics gives heat: heart block corrected. *il Electronics* 31:24 Mr 7 '58

Electronics probes human heart; abstract. A. Warnick. *Franklin Inst J* 265:492 Je '58

Electrons sterilize sutures. *il Electronics* 31:20 F 21 '58

Heart sound pickup detects inaudible murmur. *Elec Eng* 77:372 Ap '58

Instrument moves from missiles to medicine. *il S A J* 5:84 Je '58

Internal defibrillator with current measuring facilities. B. J. Perry and R. E. Trotman. *il diags Electronic Eng* 30:24-5 Ja '58;

Discussion. 30:458-9 J1 '58

International planning conference on medical electronics. Paris, June 26-28. *Electronic Eng* 30:503 Ag '58

Intracardiac catheter microphone. W. Welkowitz and M. Traite. *diag R Sci Instr* 29:230-40 Mr '58

Isometric recorder for small muscle tensions. S. M. Ross. *diag R Sci Instr* 29:319-20 Ap '58

Manometer checks blood pressure in veins. *il Electronics* 30:20+ D 1 '57

Medical aids through electronic devices. *Elec Eng* 77:866 S '58

Medical electronics conference, London. Wire-less World 64:361 Ag '58

Method of continuous measurement of heart diameter utilizing sonic energy. L. S. Higgins and others. *diag R Sci Instr* 29:71-2 Ja '58

Pickup aids heart study. *Electronics* 31:30-1 Ja 24 '58

Prospectus on medical electronics. R. G. Stranix. *il diags Electronic Ind* 17:64-7 Ja; 74-8 F '58

Recording in medicine and biology. A. R. Parsons. *il Instruments & Automation* 31:851 My '58

Servo circuit controls artificial heart. R. Schild and N. Wesson. *il diags Electronics* 31:73-5 Ap 11 '58

Spectroanalyzer obtains rapid chemical data on substances. *il Elec Eng* 77:560-1 Je '58

Unit telemeters scalp voltages. R. W. Vreeland and others. *il diags Electronics* 31:86 J1 13 '58

Using electronics to help blind. J. C. Button, Jr. *diags Electronics* 30:24 D 1 '57

Versatile stimulator for neurophysiological research. R. H. Kay and others. *diags Electronic Eng* 30:575-8 O '58

See also

Radio apparatus—Medical applications

Military use

Developments of U.S. army revealed. *il Elec Eng* 77:196-7 F '58

Ferrets; cold war insurance; detection by electronic means of electromagnetic radiation for military intelligence. *il (cover) Electronics* 31:16 Ag 22 '58

Forces' upkeep \$20 million daily. *Electronics* 31:12 Ja 17 '58

Limited war needs cited. *Electronics* 30:24 D 20 '57

Mechanical fasteners for military electronic equipment; special report. G. H. Lines. *diags Elec Manuf* 61:109-24 Je '58

Micro-module design concept in electronics. A. W. Rogers. *il diags Elec Manuf* 62:46-9 J1 '58

ELECTRONICS—Military use—Continued

Military electronics; maintenance as a major problem. J. Meyer. *Control Eng* 5:40+ F '58

Monitors ring A-bomb test. map *Electronics* 31:13-14 Je 13 '58

New infrared is all electronic. H. R. Walker. *Electronics* 31:8 F 23 '58

Outlines future military needs. J. P. Monroe. *Electronics* 31:8+ Ap 25 '58

Production and sales; military spending continues to climb. *Electronics* 31:17 Ap 4 '58

Research in components. J. D. Cooney. *Control Eng* 5:26+ J 1 '58

Role of military electronics. D. Quarles. *Elec Eng* 77:788-90 S '58

Trailers house military gear. *Il Electronics* 31:110+ S 12 '58

Weapons systems and controls require automatic checkout equipment. L. S. Kliwans. *diags Electronic Ind* 17:70-5 Ap; 80-2+ My '58

Patents

NATO tackles patents. *Electronics* 31:50 Mr 7 '58

Patent accords cut headaches. *Electronics* Bsns ed 30:30 N 10 '57

Patents. *diags Published in monthly numbers of Radio-electronics*

Safety measures

Intrinsic safety; will it spread? *Control Eng* 5:38-9 Ap '58

16 steps to safety in electronics. G. A. Endrich. *diags Safety Maint* 114:14-18 N '57

Scientific applications

Electronics to aid eclipse studies. *Electronics* 31:24 Ag 8 '58

Study and teaching

Learning electronics; Philco corp. *Il Engineering* 185:789 Je 20 '58

Pittsburgh's answer to Sputnik; editorial. *Il Instruments & Automation* 30:2053-4 N '57

Street goes scientific; Wall Street security analysts to attend course on electronics. *Electronics* 31:7 F 21 '58

Terminology

List of -ists. J. J. Rivera. *Electronics* 31:326+ Mr 14 '58

New definitions reflect changing technology. C. L. Dawes. *Il Mag of Stand* 29:3-13 Ja '58

Printed circuit glossary. *Electronic Ind* 17:9 Je '58

Textbooks

Review of new electronic textbooks. *Electronic Ind* 17:204+ Je '58

Traffic control use

Electronic highway of tomorrow in operation. V. K. Zworvkin. *Il Elec Eng* 77:654 J 1 '58; Same. *Franklin Inst J* 266:75-6 J 1 '58

Transistors catch British speeders; electronic vehicle speed measuring system. *Il Electronics* 31:33 Ja 10 '58

Russia

Report on Russian technology. C. L. Rouault. *Gen Elec R* 61:12-14 Mr '58

ELECTRONICS in aeronautics

Air force cites needs. C. S. Irvine. *Electronics* 31:57 Mr 21 '58

Aircraft instrument technicians; scarcer and harder to train. K. Anderson. *Il Control Eng* 5:23+ My '58

Airways blueprint for 1962. *Electronics* 31:13-14 My 2 '58

Astro now major market. *diag Electronics* 31:13-14 My 2 '58

Aviation electronics design digest. J. Holahan. *Published in monthly numbers of Aviation age*

Bombers; present and future. *Il Electronics* 31:13-14 F 7 '58

Calls components key to future air force. J. S. Lambert. *Electronics* 30:8+ D 1 '57

Drone market expanding fast. *Il Electronics* 31:13-14 My 30 '58

Electronics' role in ground support equipment. J. Holahan. *Il diag Aviation Age* 30:36-9+ S '58

Growing electronics business forecast for 1958-61. J. Holahan. *diags Aviation Age* 28:18-23 Ja '58

How ground support equipment stacks up in the field. R. M. Loebelson. *Il Aviation Age* 30:28-31+ S '58

Moon rocket by 1962? *Il Electronics* 30:13-14 D 20 '57

National conference on aeronautical electronics. Dayton. May 12-14; abstracts of papers. *Aviation Age* 30:118-25 J 1 '58

Spacemen reveal plans. *Il Electronics* 30:30 D 20 '57

20 years ahead in air force electronics. J. H. Vogelman. *diags Electronic Ind* 16:68-70+ D '57

What's coming in air control. *Electronics* 31:17-18 My 16 '58

See also

Airplanes—Electronic equipment

ELECTRONICS industry

AF; \$1½ billion to small firms. D. C. Sharp. *Electronics* 31:8+ Ja 31 '58

Air force outlines projects. *Electronics* 31:42-3 Mr 21 '58

A-plane awaits engines; electronics industry watches. *diag Electronics* 31:18 S 5 '58

Budget and us. *Electronics* 31:15-16 F 7 '58

Christmas story; Federation of the handicapped Electronics division shop. *Il Electronics* 30:35 D 20 '57

Contracting criticized. *Electronics* 31:9 Mr 21 '58

Control fund speaks; Automation shares, inc. *Control Eng* 5:43+ F '58

Custom tubes produce unexpected markets. *Electronics* 30:10+ D 1 '57

Distribution profits improving. map *Electronics* 31:17 Ag 22 '58

Electronics; what's coming after the missile age? W. R. G. Baker. *Inst Radio Eng Proc* 46:534-8 Mr '58

Executive salaries for top electronics executives. *Electronics* 31:6 S 19 '58

Failures drop in '57. *Electronics* 31:5 Ap 18 '58

Foreign aid electronics up. *Electronics* 31:28 Je 27 '58

Gearing up to conquer space. *Electronics* 31:15-16 Mr 7 '58

Government contract awards for 1957; electronic equipment. *Electronic Ind* 17:21 Je '58

Growing electronics business forecast for 1958-61. J. Holahan. *diags Aviation Age* 28:18-23 Ja '58

Hi-fi to pass \$250 million. *Il Electronics* Bsns ed 30:53 N 10 '57

If they shake up Pentagon; consolidation of activities in electronic procurement and research and development. *Electronics* 31:18-19 F 21 '58

Industry to get space work. *Electronics* 31:36 My 16 '58

IRE's 1958 Fellows predict future for the electronic industries. *Electronic Ind* 17:96+ Mr '58

Instrument sales bright. *Control Eng* 5:56+ S '58

Invited essay on transistor business. W. Shockley. *Inst Radio Eng Proc* 46:954-5 Je '58

Layoffs pose problem. *Electronics* Bsns ed 30:24 N 20 '57

Long-term sales outlook good. *Electronics* 31:1-1 Mr '58

Mapower; tightening up? *Electronics* 31:18 J 11 '58

Merger fancies shift. *Electronics* Bsns ed 30:5 N 20 '57

Merger pace holds. *Electronics* 31:5 J 11 '58

Mergers, acquisitions and finance (cont). *Electronics* 30:12 J 10; 6 N 20; 8 D 10; 6 D 20 '57; 31:6 Ja 10; 8 Ja 24; 6 F 7; 8 F 21; 6 Mr 7; 10 Mr 21; 6 Ap 4; 6 Ap 18; 6 My 2; 8 My 16; 6 Me 30; 6 Je 13; 6 Je 27; 6 J 11; 6 J 25; 6 Ag 8; 6 Ag 22; 6 S 5; 8 S 19; 6 O 3; 6 O 17; 6 O 31; 6 N 14 '58

Military budget \$4.9 billion; Office of naval material sixth annual survey of electronics industry capabilities. *Electronics* 31:8 My 23 '58

Moon push underway. *Electronics* 31:26 Ap 13 '58

Most firms small. *Electronics* 30:8 D 10 '57

New electrical engineer looks at industry. M. S. Oldacre and others. *Electronic Ind & Tele-Tech* 16:108-9+ N '57

1958 roster of associations serving the electronics industry. *Electronic Ind* 17:110-11+ Ap '58

1958: year of the high plateau. *Electronics* 31:13-15 Ja 10 '58

Our growing industry; radioelectronics leaps into the space age; editorial. H. Gernsback. *Radio-Electronics* 29:25 Ag '58

Our missile role grows. M. Schilling. *Electronics* 30:41 D 10 '57

Plant charge-offs. *Electronics* 31:5 My 30 '58

Plant spending firms; electronics held up best. *Electronics* 31:5 My 2 '58

ELECTRONICS industry—Continued

Plato creates new market. Electronics 31:49 F 21 '58

Primes give small firms 20 per cent. Electronics 31:26 Je 13 '58

Profits from space. Electronics 31:5 Ag 8 '58

RCA on the receiving end of indictment. Product Eng 29:23 Mr 17 '58

Recent export/import trends; special market report. Electronics 31:25-8 Ja 24 '58

Research spreads; more market research activity. E. Aitschuler. Electronics 31:5 F 7 '58

SAC's weapons timetable. Electronics 31:26 Ag 8 '58

Technological impact of transistors. J. A. Morton and W. J. Pietenpol. Inst Radio Eng Proc 46:955-9 Je '58

Transistors push \$100 million. Electronics 31:15-18 My 30 '58

Urge joint bidding. Electronics Bsns ed 30:11 N 10 '57

What's ahead in 1958? Electronics 31:22-3 Ja 24 '58

What's in those reports? Electronics 31:20-1 F 7 '58

What's your firm worth? Electronics 31:17 JI 11 '58

Your plant, lease or buy? J. M. Stahl. II Electronics 31:144 Ja 17 '58

See also

Adler electronics, inc.
Sieglar corporation

Women in the electronics industry

Directories

Directory of the western electronic manufacturers. Electronic Ind 17:101-3+ Ag '58

Directory section of the 1958-1959 Electronics buyers' guide. Electronics 31:D 1-242 Mid-Je '58

Electronic Industries directory, 1958. Electronic Ind 17:213-405 Je '58

1958 guided missile directory; electronic firms and military agencies. II Electronic Ind 17:153-4+ Je '58

Finance

Company outlooks. Control Eng 5:56+ S '58

Control and recession. bibliog. Control Eng 5:52+ My '58

Control firms file their annual reports. Control Eng 5:46+ Je '58

Easier money due. Electronics 30:5 D 20 '57

First quarter earnings. Electronics 31:7 My 16 '58

Funds eye military. Electronics 31:5 Je 27 '58

Higher research and development profits needed. H. Woodward and others. Electronics 31:17 Je 13 '58

Industrial electronics, 1957-1960; market report. E. DeJongh. Electronics Bsns ed 30:16A-16C N 20 '57

More lenders eye us. W. J. Drake. Electronics 31:7 Ja 24 '58

Nine-month roundup; sales and profits show rise. Electronics 30:21 D 10 '57

Optimism mounts; first half earnings reports. Electronics 31:5 S '58

Our industry at midyear. E. De Jongh. Electronics 31:13-15 Ag 22 '58

Prudential leads lenders. Electronics 31:7 F 21 '58

Puerto Rico profits. Electronics 31:5 JI 25 '58

Raising new money. Electronics 31:5 Mr 7 '58

Spending holds up for us. Electronics Bsns ed 30:21-2 N 10 '57

Yields lure investors. Electronics 30:7 D 10 '57

Securities

Expansion push seen. Electronics Bsns ed 30:6 N 20 '57

Over-the-counter market vital to us. II Electronics 31:16 Ap 18 '58

Sell to peg value; Hewlett-Packard common stock. Electronics Bsns ed 30:12 N 10 '57

Shares and prices (cont). Electronics 30:11 N 10; 5 N 20; 7 D 10; 5 D 20 '57; 31:5 Ja 10; 7 Ja 24; 5 F 7; 7 F 21; 5 Mr 7; 9 Mr 21; 5 Ap 4; 5 Ap 18; 6 My 2; 7 My 16; 5 My 30; 5 Je 13; 5 Je 27; 5 JI 11; 5 JI 25; 5 Ag 8; 5 Ag 22; 5 S 6; 6 S 19; 5 O 3; 5 O 17; 5 O 31; 5 N 14 '58

Stock options tempt execs. N. Schaffer and others. Electronics 31:25 F 21 '58

Stocks resist drop. Electronics 31:5 Ja 10 '58

Time for debentures? Electronics 31:5 Ap 4 '58

Statistics

How they did in 1957. Control Eng 5:54 My '58

Instruments for atomic energy; market report. G. Sideris. Electronics 31:21-4 My 16 '58

1957-1958 statistics of the radio-tv-electronic industries. Electronic Ind 17:14-16+ Je '58

Our industry at midyear. E. De Jongh. Electronics 31:13-15 Ag 22 '58

Production and sales statistics (cont). Electronics 30:22 N 10; 20 N 20; 18 D 10; 16 D 20 '57; 31:23 Ja 10; 18 Ja 24; 16 F 7; 19 F 21; 18 Mr 7; 25 Mr 21; 17 Ap 4; 14 Ap 18; 16 My 2; 18 My 16; 14 My 30; 14 Je 13; 16 Je 27; 16 JI 11; 16 JI 26; 16 Ag 8; 18 Ag 22; 14 S 5; 18 S 19; 14 O 3; 16 O 17; 16 O 31; 14 N 14 '58

Profits in 1957, fair. Electronics 31:18-19 Ap 4 '58

Statistics of the radio-tv-electronic industries, 1957-1958. Electronic Ind 17:58-60 Ja '58

Canada

Canadian market looks safe. Electronics 31:46 Ja 24 '58

China

China goes electronic. Electronics 30:44 D 10 '57

Colombia

Short survey of radio and electronics in Colombia. T. J. Meek. Inst Radio Eng Proc 46:692 Ap '58

Europe

Engineering firms in the free trade area; N. V. Phillips' gloeilampenfabrieken. Engineering 184:595-6 O 25 '57

West Europe's electronics industry; small but dynamic. I. Stambler. II diags Aviation Age 28:24-9 Ja '58

France

Tax effects worry French. Electronics 31:48 F 7 '58

Great Britain

Changes in the British scene. D. Barlow. Control Eng 5:43-4 My '58

Components gain in Britain. Electronics 31:50 My 16 '58

Iowa

Iowa: low-cost help. Electronics 30:42 D 10 '57

Japan

Japan eyes computer market. Electronics 31:60 Ap 4 '58

Japanese boom in automatic control. Control Eng 5:69+ JI '58

Japanese forming new trade group. Electronics 31:16+ Ap 11 '58

Japanese push radioisotopes. Electronics 31:40 S 19 '58

Latin America

Money issue in Latin America. Electronics 31:42 Je 13 '58

Long Island, New York

Long Island feels pinch. Electronics Bsns ed 30:33 N 20 '57

Maine

Maine dangles dollar bait. Electronics 31:47 Ja 10 '58

Oregon

Oregon taxes drop. Electronics 31:44 Ja 24 '58

Poland

Is Poland's door opening? Electronics 31:58 Mr 21 '58

Puerto Rico

Puerto Rico profits. Electronics 31:5 JI 25 '58

Russia

USSR plans more industrial gear. Electronics 31:14-4 Je 6 '58

USSR shifts industry heads. Electronics 31:44 Ja 10 '58

Western states

Directory of the western electronic manufacturers. Electronic Ind 17:101-3+ Ag '58

Production and sales; statistics; West posts 23 per cent of industry's 1957 sales. Electronics 31:14 Je 13 '58

Systems development engineering in the western area. J. Holland. II Electronic Ind 17:61-4 Ag '58

ELECTRONICS industry—Western states—*Continued*

- Wescon, 1958; statements from the area's outstanding leaders. I. W. Howard and others. *Electronic Ind* 17:49-4 Ag '58
- West coast; one big development laboratory; editorial. F. J. Oliver. *Elec Manuf* 62:57-9 Ag '58
- Western electronic show and convention, Los Angeles; abstracts of papers. *Bell Lab Rec* 36:348-9 S '58
- Western electronic show and convention, Los Angeles, Aug. 19-22; program and exhibits. *Electronic Ind* 17:51-4 Ag '58; *Electronics* 31:138-4 Ag 1 '58
- ELECTRONICS research**
- Electronics research laboratory. II *Engineer* 204:604-6 O 25 '57
- Higher research and development profits needed. H. Woodward and others. *Electronics* 31:17 Je 13 '58
- Implications of transistor research. J. Bardeen. *Inst Radio Eng Proc* 46:952 Je '58
- Industrial medical problems in an electronic research center. G. M. Knauft. *bibliog* A M A Archives Ind Health 17:383-8 My '58
- Research in circuits and systems. R. L. Wallace, jr. II *Bell Lab Rec* 36:198-201 Je '58
- Research in components. J. D. Cooney. *Control Eng* 5:26-7 J '58
- Semiconductor research. M. Sparks. II *diag* *Bell Lab Rec* 36:192-7 Je '58
- Status of transistor research in compound semiconductors. D. A. Jenny. *bibliog* *diags* *Inst Radio Eng Proc* 46:959-68 Je '58
- Ultra-high temperature component research launched in France. *Elec Manuf* 61:10 Je '58
- We're still ahead of Soviets in electronics. A. N. Weckler. *Aviation Age* 28:16-17 Ja '58
- What's ahead in research? L. C. Holmes and others. *Electronics* 30:17 D 20 '57
- What's doing in USAF labs. II *Electronics* 31:22-3 Mr 7 '58
- ELECTRONS**
- Accelerating components in particle spectrometers. H. Mendlowitz. *R Sci Instr* 29:701-3 Ag '58
- Absorption of activated gases by electron bombardment. D. G. Bills and N. P. Carleton. *bibliog* *J Ap Phys* 29:692-7 Ap '58
- Application of thorium-iridium as the source of ionizing electrons in mass spectrometry. C. E. Melton. *bibliog* *R Sci Instr* 29:250 Mr '58
- Atomic electrons in action. *Wireless World* 64:169-72 Ap '58
- Diffusion and elastic collision losses of the fast electrons in plasmas. G. Medicus. *bibliog* *diags* *J Ap Phys* 29:903-8 Je '58
- Effect of electronic mean free path on spin-wave resonance in ferromagnetic metals. G. T. Rado. *J Ap Phys* 29:330-2 Mr '58
- Electron deficient compounds; the crystal and molecular structure of trimethylindium. E. L. Amund and R. E. Rundle. *bibliog* *diags* *Am Chem Soc J* 80:4141-5 Ag 20 '58
- Electron paramagnetic resonance spectrometer of very high sensitivity. H. Misra. *bibliog* *diags* *R Sci Instr* 29:590-4 J1 '58
- Electron-permeable window for cathode-ray tubes. J. Seehof and others. *bibliog* II *diags* *R Sci Instr* 29:776-8 S '58
- Electronic spectra and molecular dimensions; the buttressing effect and other secondary steric interactions in electronic spectra. W. F. Forbes and W. A. Mueller. *bibliog* *diags* *Am Chem Soc J* 79:4495-58 Ag '58
- Electrons and ions; keys to mineral processing. J. W. Franklin. *diags* *Eng & Min J* 159:85-100 Ap '58
- Energy spectra of cascade electrons and photons. C. Olson and L. Spencer. *bibliog* *J Res Nat Bur Stand* 60:85-96 F '58
- Irradiation of polycaprolactam with γ -rays and electrons. T. G. Majury and S. F. Pinner. *bibliog* *J Ap Chem* 8:168-71 Mr '58
- Lamb shift; electron and its self-energy. *diags* *Electronic & Radio Eng* 35:52-5 F '58
- Magnetic resonance. G. E. Pake. II *diags* *Sci Am* 199:58-64-4 Ag '58
- Measurement of e/m by the Hoag method. Soemtro and others. *diags* *Am J Phys* 26:316-18 My '58
- Nature of the electron. J. L. Salpeter. *Inst Radio Eng Proc* 46:1588-98 D '57
- Noise and electron temperatures of some cold cathode arc discharges. E. W. Collings. *bibliog* *J Ap Phys* 29:1215-19 Ag '58
- Rhenium as an electron emitter in mass spectrometry. C. F. Robinson and A. G. Sharkey, jr. *bibliog* *R Sci Instr* 29:250-1 Mr '58
- Spectral characteristics of the radiation emitted by electrons accelerated in a synchrotron. D. H. Tomboularian and D. E. Bedo. *J Ap Phys* 29:804-9 My '58
- See also*
- Bremsstrahlung
- Counters (electrons, ions, etc.)
- Electric discharges
- Ionization, Gaseous
- Neutrons
- Photoelectric effect
- Positrons
- Vacuum tubes
- Beams**
- Appraisal of permanent magnet materials for magnetic focusing of electron beams. M. S. Glass. *J Ap Phys* 29:403-4 Mr '58
- Atoms used for sterilizing sutures. *Elec Eng* 77:377-8 Ap '58
- Beam focusing in microwave amplifiers. P. P. Cioffi. II *diags* *Bell Lab Rec* 36:172-5 My '58
- Beam-landing errors and signal-output uniformity of vidicons. R. G. Neuhauser and L. D. Miller. II *diags* *SMPTTE J* 67:149-53 Mr '58
- Beam stacking experiments in an electron model FFAG accelerator. K. M. Terwilliger and others. *bibliog* II *diags* *R Sci Instr* 28:987-97 D '57
- Bias systems for resonance transformer million-volt electron beam generators. W. F. Westendorp. *bibliog* II *diags* *Com & Electronics* p751-5 Ja '58
- Biperiodic electrostatic focusing for high-density electron beams. K. K. N. Chang. II *diags* *Inst Radio Eng Proc* 46:1522-7 N '57
- Comet shows crit. beam direction. J. J. Wormser. II *diag* *Electronics* 31:88-9 My 23 '58
- Design of linear electron accelerators with beam loading. R. B. Neal. *bibliog* *J Ap Phys* 29:1019-24 J1 '58
- Determination of the electrodes required to produce a given electric field distribution along a prescribed curve. P. T. Kirstein. *bibliog* *diags* *Inst Radio Eng Proc* 46:1716-22 O '58
- Effect of beam position on deflection in slit lenses. L. A. Harris. *Inst Radio Eng Proc* 46:615 Mr '58
- Effect of variation of dc current in a modulated electron beam. I. P. Shkarofsky. *J Ap Phys* 29:222-3 F '58
- Electron-beam machining for ultra-hard metals. E. C. Bishop. *Elec Manuf* 62:9-10 J1 '58
- Electron excitation of blayer screens. L. R. Koller and H. D. Coghill. *J Ap Phys* 29:1064-6 J1 '58
- Electron sterilization. *Mech Eng* 80:86 Ap '58
- Electrostatically focused traveling-wave-tube amplifier. K. K. N. Chang. *bibliog* II *diags* *RCA R* 19:386-97 Mr '58
- Excitation of short infrared pulses with high repetition rate by electron bombardment of chromium oxide. R. Frerichs and F. Weichman. *bibliog* II *diag* *J Ap Phys* 29:170-13 Ap '58
- Formation of negative ions in gases by secondary collision processes. E. E. Muschler. *jr. bibliog* *diag* *J Ap Phys* 28:1414-18 D '57
- Low-noise electron-beam parametric amplifier. R. Adler and others. *diags* *Inst Radio Eng Proc* 46:1756-7 O '58
- Magnetic deflexion of electron beams without astigmatism. G. D. Archard and T. Mulvey. *diags* *Inst Radio Eng Proc* 46:279-83 Ag '58
- Multiple sample holder for electron irradiation. A. MacLachlan. II *diag* *R Sci Instr* 29:790-1 S '58
- Observed bunched electron current in a velocity-modulated beam. H. Maeda. II *diag* *Inst Radio Eng Proc* 46:1536-7 Ag '58
- Optical theory of thermal velocity effects in cylindrical electron beams. G. Herrmann. *bibliog* II *diags* *J Ap Phys* 29:127-36 F '58
- Parametric amplification of the fast electron wave. R. Adler. *diags* *Inst Radio Eng Proc* 46:1300-1 Je '58
- Parametric electron beam amplifier. T. J. Bridges. II *diags* *Inst Radio Eng Proc* 46:494-5 F '58
- Positive-ion effects in pulsed electron beams. J. T. Senise. *bibliog* *diags* *J Ap Phys* 29:839-41 My '58
- Rippling of thin electron ribbons. W. E. Walters. *bibliog* *diags* *J Ap Phys* 29:100-4 Ja '58
- Slalom focusing. J. S. Cook and others. II *diags* *Inst Radio Eng Proc* 46:1617-22 N '57; *Abstract*. *Wireless World* 64:240 My '58

ELECTRONS—Beams—Continued

- Small signal power conservation theorem for irrotational electron beams. J. W. Klüver. *J Ap Phys* 29:613-22 Ap '58
- Space charge waves along magnetically focused electron beams. J. Lahus. bibliog diags *Inst Radio Eng Proc* 45:854-61 Je '57; Discussion. W. W. Rigrod. 46:358-9; Reply. 359-60 Ja '58
- Stability of an electron beam on a slalom orbit. J. F. Cook and others. diags *J Ap Phys* 29:583-7 Mr '58
- Structure in magnetically confined electron beams. H. F. Webster. bibliog il diags *J Ap Phys* 28:1388-97 D '57
- Tracing electron paths: mechanical analog of an electron tube. il *Gen Elec R* 61:39 J1 '58
- Ultra-pure high-temperature materials by electron beam melting. *Elec Manuf* 61:12 Ap '58
- Use of scanning slits for obtaining the current distribution in electron beams. K. J. Harker. bibliog diags *J Ap Phys* 28:1354-7 N '57

See also
 Electric welding, Arc—Electron beam vacuum process
 Electron gun
 Oscillographs, Cathode ray

Diffraction

- Application of the ion bombardment cleaning method to titanium, germanium, silicon, and nickel as determined by low-energy electron diffraction. H. E. Farnsworth and others. bibliog diags *J Ap Phys* 29:1150-61 A π '58
- Electron diffraction for magnetic analysis. S. Yamaguchi. il diags *R Sci Instr* 29:183-4 F '58
- Selected area diffraction with electron microscope, model EMC. J. P. Lodge, Jr. and B. R. Havlik. il *R Sci Instr* 29:656 J1 '58

Emission from metals

- Energy distribution half-widths for field emission electrons. E. L. Murphy. bibliog *J Ap Phys* 29:753-9 My '58
- Liberation of electrons by fast neutral helium atoms from a tungsten target. H. W. Berry. bibliog *J Ap Phys* 29:1219-25 A π '58
- Mechanism of electron emission in arcs with low boiling point cathodes. T. H. Lee. bibliog *J Ap Phys* 28:920 A π '57; Discussion. 29:734-5 Ap '58

See also
 Electrons—Thermionic emission
 Shot effect

Energy levels

- Conductors and insulators; electron energy levels in solids. diags *Wireless World* 64: 227-30 My '58
- Term analysis of the first spectrum of rhodium (Re I); with table of energy levels of the Re atom and table of classified lines of Re I. P. F. A. Klinkenberg and others. bibliog il *J Res Nat Bur Stand* 59:319-48 N '57

Mobility

- Drift mobility measurements. M. Green. bibliog il diags *J Ap Phys* 28:1473-8 D '57
- Electron mobility in boron trimethyl. G. A. Ferguson, Jr. and F. E. Jablonski. bibliog diags *R Sci Instr* 28:894 N '57
- Electron mobility in the germanium-silicon alloys. B. Goldstein. bibliog diags *RCA R* 18:458-65 D '57

Recombination

- Carrier generation and recombination in p - n junctions and p - n junction characteristics. C. T. Sah and others. bibliog diags *Inst Radio Eng Proc* 45:1223-43 S '57; Discussion. J. A. Hoerni. 46:502 F '58
- Electron recombination coefficient measurements in nitrogen at low pressures. A. C. Faire and others. diags *J Ap Phys* 29:928-30 Je '58
- Electrons, holes, and traps. W. Shockley. bibliog diags *Inst Radio Eng Proc* 46:973-90 Je '58
- Generation recombination noise in intrinsic and near-intrinsic germanium crystals. J. E. Hill and K. M. van Vliet. bibliog *J Ap Phys* 29:177-82 F '58
- Lifetime in pulsed silicon crystals; Shockley-Read recombination theory. C. A. Bittmann and G. Bemski. bibliog *J Ap Phys* 28:1423-6 D '57
- Recombination in semiconductors. G. Bemski. diags *Inst Radio Eng Proc* 46:990-1004 bibliog(p 1002-4) Je '58

Scattering

- Experimental study of electron scattering in electron microscope specimens. C. E. Hall and T. Inoue. *J Ap Phys* 28:1346-8 N '57

Secondary emission

- Electron multiplication processes in high-voltage electrical discharge in vacuum. A. I. Bennett. diags *J Ap Phys* 28:1251-3 N '57
- Interaction of low-energy electrons with ferroelectric materials. E. C. Miller and R. D. Heidenreich. bibliog il diags *J Ap Phys* 29: 957-63 Je '58
- Mechanism of secondary electron emission from MgO single crystals. N. R. Whetten and A. B. Laponsky. *J Ap Phys* 29:1374 S '58

Spin

- Demonstration of an atom transfer process by electron spin resonance. F. C. Adam and S. I. Weissman. *Am Chem Soc J* 80: 1518-19 Mr '58
- Electron spin resonance and electronic structure of triphenylmethyl. F. C. Adam and S. I. Weissman. bibliog *Am Chem Soc J* 80:2057-9 My '58
- Electron spin resonance spectra of aromatic mononegative and monopositive ions. E. de Boer and S. I. Weissman. bibliog *Am Chem Soc J* 80:4549-55 S '58
- Excitation of the hydrogen 21-cm line. G. B. Field. bibliog(26 ref) diags *Inst Radio Eng Proc* 46:240-50 Ja '58
- Simplified approach to spin in Dirac theory. H. Mendelwitz. bibliog *Am J Phys* 26:17-24 Ja '58
- Spin-lattice relaxation time in yttrium iron garnet. R. T. Farrar. diags *J Ap Phys* 29: 425-6 Mr '58

Thermionic emission

- Analysis of the dc and pulsed thermionic emission from BaO. G. A. Haas. bibliog diags *J Ap Phys* 28:1486-92 D '57
- Electrons and heat. diags *Wireless World* 64:279-83 Je '58
- Heat-to-electricity, a new approach; thermionic converter. il diags *Power* 102:86-7 Ja '58
- Thermionic emission from barium activated molybdenum. E. S. Rittner and R. H. Ahlert. *J Ap Phys* 29:61-3 Ja '58

Velocity

- Optical theory of thermal velocity effects in cylindrical electron beams. G. Herrmann. bibliog il diags *J Ap Phys* 29:127-36 F '58

ELECTRO-OPTICS

See also

Kerr cell

ELECTRO-OSMOSIS. See Osmosis

ELECTROPHORESIS

- Characterization and purification of subtilin by paper electrophoresis. L. E. Sacks and J. W. Pence. bibliog il *Anal Chem* 29:1802-5 D '57
- Effective electrophoretic radii of adsorbed protein molecules. H. B. Bull. bibliog *Am Chem Soc J* 80:1901-4 Ap '58
- Electrokinetic changes in the starch medium during zone electrophoresis. I. D. Raacke. bibliog *Am Chem Soc J* 80:3055-60 Je '58
- Electrophoresis and ultracentrifuge studies of milk proteins. H. Klostergaard and R. A. Pasternak. bibliog diags *Am Chem Soc J* 79:5671-6 N '57
- Electrophoretic behavior of chondromucoprotein. R. C. Warner and M. Schubert. bibliog diags *Am Chem Soc J* 80:5166-8 O '58
- Engineering problems in large-scale electrophoresis. R. Dobry and R. K. Finn. bibliog il diags *Chem Eng Prog* 54:59-63 Ap '58
- Filter paper electrophoresis of lipids in mixed solvent systems. D. F. H. Wallach and J. G. Garvin. bibliog diags *Am Chem Soc J* 80:2157-61 My '58
- High-voltage paper electrophoresis of some inorganic anions. D. Gross. *Chem & Ind p* 1597 D '57
- Improved method for performing density-gradient electrophoresis. R. L. Berg and R. G. Beer. bibliog diags *Anal Chem* 30: 128-9 Ja '58
- Mechanism of sludge suspension in engine oil. P. J. Agius and D. Mulvey. bibliog il *Inst Pet J* 44:229-36; Discussion. 237-42 A π '58
- Painless hypodermic electrophoretic chromatography; abstract. A. Karler. il *Chem & Eng N* 36:52-3 S '58

ELECTROPHORESIS—Continued

- Quantitative determination of serum proteins by paper electrophoresis. K. M. Formosa and others. *bibliog* *il Anal Chem* 29:1816-20 D '57
- Series solutions of the Dele equations and their implications for electrophoretic analysis. J. C. Nichol and L. J. Gosting. *bibliog* *diags Am Chem Soc J* 80:2601-9 Je 5 '58
- Size, shape and mobility of ionic zones in paper electrophoresis; a theoretical analysis. J. T. Edward. *bibliog* *diags Chem & Ind* p276-8 Mr 8 '58
- Weak electrolyte moving boundary systems analogous to the electrophoresis of two proteins. J. C. Nichol and others. *bibliog* *Am Chem Soc J* 80:2610-15 Je 5 '58

ELECTROPHYSIOLOGY

- Influence of fashion in the development of knowledge concerning electricity and magnetism. W. R. Amberson. *il diags Am Scientist* 46:33-50 Mr '58

Apparatus

- One-valve d.c. amplifier with high-impedance input. P. Belton. *bibliog* *il diags Electronic Eng* 30:454-6 JI '58

*See also***Electrocardiograph**

- ELECTROPLATERS** society, American. See American electroplaters society

ELECTROPLATING

- Abstracts of world's plating literature. Published in monthly numbers of Metal finishing
- Action of ultrasonic vibrations on metal plating processes; abstract. A. Roll. *Metal Finishing* 56:78 F '58
- Carbides co-deposited by plating boost wear resistance five to one or more. *il Am Mach* 102:80 JI 28 '58
- Coating beats wear; electroplated metallic coating that forms a matrix for finely divided particles of carbides and oxides. *il Chem & Eng N* 36:45-6 Je 30 '58
- Effective current density. J. B. Mohler. *Metal Finishing* 56:71 N '57
- Electric heat boosts production efficiency for plating and brazing. L. Albertson. *il Elec World* 149:106 Ap 21 '58
- Electrochemical society meeting, 12th, Buffalo, Oct. 6-10; abstracts of papers of interest to electroplaters. *Metal Finishing* 55:69-70 N '57
- Electroplating 22 karat gold-silver alloy. R. E. Harr and A. G. Cafferty. *Metal Finishing* 56:55-7 Ja '58
- Factors affecting residual stress in electro-deposited metals. J. B. Kushner. *bibliog* *il diags Metal Finishing* 56:46-51 Ap; 82-7 My; 56-40 Je; 52-5-1 JI '58
- Finishing pointers; buff rinsing. J. B. Mohler. *Metal Finishing* 56:70 F '58
- Firm adherent plating for aluminum. J. C. Withers and P. E. Ritt. *il Metal Finishing* 56:53-4 Ja '58
- Five rules to follow in designing for plating. *il diags Materials in Design Eng* 47:118-20 Je '58
- For better electroplating; drawings with text. F. C. Novy. *Product Eng* 29:94-5 Je 23; 74-5 JI 7 '58
- Fresh look at plating problems. *il diags Metal Prog* 74:112-14+ JI '58
- Here's how selective plating cuts preparatory work, lessons waste of plating metal. C. J. Stansfield. *il Plant Eng* 12:129+ Ja '58
- Industrial knowledge handbook. *il Mill & Factory* 62:MW4-1 My '58
- Influence of physical metallurgy and mechanical processing of the basis metal on electroplating; abstract. M. H. Jones. *Plating* 45:346 Ap '58
- Manufacturing a new high current density selenium rectifier. J. Loebenstein. *il diags Plating* 45:739-42 JI '58
- Mark finely-finished surfaces permanently without deformation: Electromark process. *il Diesel Power* 36:29 Ja '58
- Metalworking. 1962. M. B. Diggin. *diag Am Mach* 101:149 N 18 '57
- Organic solutions are used for electroplating light and refractory metals. *il Am Mach* 102:128 Ja 13 '58
- Peening cuts stresses in plated parts. W. W. Saeef. *Product Eng* 28:92-3 D 9 '57
- Plated finishes; the choice widens. R. T. Gore and R. M. Macintosh. *il Product Eng* 28:81-4 O 28 '57
- Science for electroplaters (cont). L. Serota. *flow sheet diags Metal Finishing* 55:72-5 N '57; 56:61-4+ Ja; 71-4 F; 72-5 Mr; 68-70 Ap; 83-6 My; 76-7 Je; 70-3 JI; 73-5+ Ag; 67-70 S '58

- Technical developments of 1957. N. Hall. *Metal Finishing* 56:40-9 *bibliog* (364 ref. p47-9) Ja '58
- Vacuum metallizing vs. electroplating; abstract. *Metal Finishing* 55:84 N '57

See also

- American electroplaters society
- Cadmium plating
- Chromium plating
- Copper plating
- Electrodeposition of metals
- Iridium plating
- Platinum plating
- Tin plating
- Titanium plating

Study and teaching

- Electroplating course conducted by Newark branch. F. J. La Manna. *Plating* 45:650-1 Je '58

Testing

- Accelerated testing developments; abstract. W. L. Pinner. *Tool Eng* 40:207-9 Je '58
- New approach to the measurement of coating thickness by fluorescent X-ray absorption. F. A. Achey and E. J. Serfass. *bibliog* *Electrochem Soc J* 105:204-5 Ap '58
- Platers seek better tests. *il diags Steel* 142:102+ Je 9 '58
- Some testing cells for the study of electroplating devices. J. K. Skwirzynski and M. Rutty. *bibliog* *diags Electrochem Soc J* 104:650-6 N '57

Waste

- Analysis for zinc, cadmium and copper in electroplating waste effluents. F. Stevens and L. B. Lancy. *bibliog* *Plating* 45:832-4 Ag '58
- Automatic treatment of acid wastes. C. G. Bueltman. *flow diag Control Eng* 5:170-1 S '58
- Conservation approach to industrial waste control. D. Milne. *il diags Plating* 45:842-6 Ag '58
- Destruction of cyanide wastes by electrolytic chlorination. J. T. Byrne and others. *bibliog* *Electrochem Soc J* 105:607-9 O '58
- Five years of ion exchange: service experience in plating department chemical waste treatment. S. Rothstein. *il plan diags Plating* 45:835-41 Ag '58
- How to dispose of cyanide plating wastes. B. H. Robbins. *il Iron Age* 180:92-4 N 28 '57
- Planning and operating an industrial waste disposal plant for a new plating facility. G. J. O'Kane. *flow diag Metal Prog* 74:178+ JI '58
- Science for electroplaters; acidification of cyanide waste. L. Serota. *flow sheet Metal Finishing* 55:72-5 N '57
- Science for electroplaters; cyanide waste treatment. L. Serota. *Metal Finishing* 56:61-4 Ja; 71-4 F '58
- Variations in the design of plating waste treat systems. R. Dvorin. *flow diags* *il diags Plating* 45:827-31 Ag '58

Bibliography

- Bibliography on metal finishing wastes, 1957. C. F. Gurnham and D. G. Foulke. *Plating* 45:861-2 Ag '58
- Review of the literature of 1957 on sewage, waste treatment, and water pollution; plating and cyanide wastes. *Sewage & Ind Wastes* 30:730-1 Je '58

- ELECTROPLATING** research. See *Plating* research

ELECTROPNEUMATIC control

- Electropneumatic control system utilizes communication circuits. *il plan Automation* 5:91 My '58

- High-pressure electro-pneumatic valves. *Engineering* 186:397 S 26 '58
- Teddington pneumatic size control equipment. *il Engineer* 206:425 S 12 '58

- ELECTROSTATIC** generator. See *Electric generators*, Electrostatic

- ELECTROSTATIC** paint spraying. See *Paint spraying*, Electrostatic

- ELECTROSTATIC** precipitators. See *Electric precipitators*

ELECTROSTATIC separators

- Electrostatic separation of minerals. M. B. Donald. *bibliog* *diags Research* 11:19-25 Ja '58

ELECTROSTATICS

- Analysis of a multipole state separator and focuser for polarizable molecules. F. O. Vonhuan. *bibliog* *diags J Ap Phys* 29:632-6 Ap '58

- Biperiodic electrostatic focusing for high-density electron beams. K. K. N. Chang. *il diags Inst Radio Eng Proc* 45:1522-7 N '57

ELECTROSTATICS—Continued

- Field of a linear electrostatic multipole. L. J. Laslett. *diags Am J Phys* 26:402-3 S '58
 Focusing procedures for electrostatic accelerators. C. H. Johnson and others. *bibliog diags R Sci Instr* 28:942-8 N '57
 Method of images, a special case. B. L. Miller. *diag Am J Phys* 26:131 F '58
 Numerical calculation of certain small electrostatic effects. R. Cade and K. A. Small. *diag J Ap Phys* 29:53-5 Ja '58
 Slalom focusing. J. S. Cook and others. *il diags Inst Radio Eng Proc* 45:1517-22 N '57; *Abstract. Wireless World* 64:240 My '58
See also
 Electric charges
 Electric discharges
 Textile fabrics—Electrostatic properties

Study and teaching

- New approach to the teaching of electrostatics in general physics courses. J. Rekved. *Am J Phys* 26:139-43 Mr '58

ELECTROTECHNICAL commission, International. See International electrotechnical commission**ELECTROVISCOSITY. See Viscosity****ELEMENTARY particles. See Particles, Elementary****ELEMENTS, Chemical. See Chemical elements****ELEVATORS**

- Look! the floor tilts. *il Textile Ind* 122:96 JI '58
 Man-lift speeds construction men to job. F. A. Williamson. *Elec World* 148:95 N 18 '57
 Will internal pressure stiffen hydraulic plungers? *diags Ap Hydraulics* 41:76 My '58
See also
 Hoisting machinery

Control

- Automatic elevators; here's what they can do. J. N. Millar. *il Power* 102:107-9 F '58

ELEVATORS, Grain. See Grain elevators**ELK mountains**

- Jurassic stratigraphy in Elk mountains, west-central Colorado. R. L. Langenheim, Jr. *bibliog map diag Am Assn Pet Geologists Bul* 41:2576-81 N '57

ELLAGIC acid

- Plant polyphenols; the benzylation of ellagic acid. L. Jurd. *bibliog Am Chem Soc J* 79: 6043-7 N 20 '57

ELLAGITANNINS. See Tannins**EMBANKMENTS**

- Embankment stability as a factor in adequate sheeting and bracing. W. S. Housel. *il diags Am Water Works Assn J* 50:287-96 F '58
 Sand embankment problems along the Calumet skyway. C. R. Shupe. *il maps diags Roads & Sts* 101:53-8 Je '58
See also

- Causeways
 Dikes (engineering)
 Railroads—Earthwork

EMBARGO

- East-West trade barriers relax. *Am Mach* 102:86 Ar 11 '58

EMBASSY buildings

- American embassy at Baghdad. *il plan diags Arch Rec* 123:126-33 Ja '58
 Compliment to traditional Japanese architecture: U.S. Consulate general headquarters in Kobe. *il plans diags Arch Rec* 123:157-64 F '58
 Handsome outpost in Japan: American Consulate in Kobe. *il plan Arch Forum* 108: 70-5 F '58
 United States embassy office building, Athens. *il plans diags Arch Rec* 122:159-66 D '57
 USA abroad; 15 embassy and consular buildings. *il plans diags Arch Forum* 107:114-23 D '57

EMBOSSING (plastics)

- Coating, printing, embossing; coordinated equipment produces vinyl coated fabric with any desired surface finish. *il diags Mod Plastics* 35:116-17+ Ap '58
 Embossing upgrades thermoplastic fabrics; Wagner embossing co. *il Textile World* 108:76-7 Ar '58

EMBROIDERY machines

- New embroidery techniques produce unusual fabrics. *il Textile World* 107:142+ D '57

EMERGENCY feeding. See Disasters—Food problem**EMETINE**

- Approaches to the synthesis of emetine from Reissert compounds. F. D. Popp and W. B. McDown. *bibliog Am Chem Soc J* 80: 1181-5 Mr '58
 Stereochemistry of emetine. A. Brossi and others. *Chem & Ind* p491-2 Ap 26 '58
 Synthesis of emetine and stereoisomers of emetine. M. Barash and J. M. Osbond. *Chem & Ind* p490-1 Ap 26 '58

EMINENT domain

- Right to condemn upheld. *Elec World* 149:195 Je 23 '58

EMMERICH, Fred J.

- Chemical industry medallist. *por Chem & Ind* p 1025 Ar 16 '58
 Emmerich, 1958 chemical industry medallist. *por Chem & Eng N* 36:152 O 6 '58

EMMETT, Paul Hugh

- P. H. Emmett received Kendall co. award in colloid chemistry. *por Chem & Eng N* 36:52 Ap 28 '58

EMOTIONS

- Control of emotional factors in dermatoses; scientific exhibits. H. M. Robinson Jr. and others. *Am A Archives Ind Health* 17: 340-4 Ap '58
 Severe nutritional macrocytic anemia in emotionally disturbed patients. R. W. Monto and others. *il Am J Clinical Nutrition* 6: 105-10 Mr '58

EMPIRE state paper research associates, Inc. European ESPRA 1st meeting, Amsterdam, The Netherlands, June 4-6. Tappi 41:sup9A-100A JI '58**EMPLOYEE communication. See Communication in management****EMPLOYEES**

- Employee health study; Du Pont medical division. *Safety Maint* 115:40 F '58

See also

- Absenteeism (labor)
 Age and employment
 Arbitration, Industrial
 Chemical workers
 Efficiency, Industrial
 Employment systems
 Foremen
 Government employees
 Handicapped
 Hygiene, Industrial
 Labor contracts
 Medical service, Industrial
 Municipal employees
 Physical examinations
 Research workers
 Sickness
 Suggestion systems
 Supervisory workers
 Trade secrets
 Wages
also subdivision Employees under special subjects, e.g.
 Atomic power plants
 Cement plants
 Cigaret factories
 Concrete plants
 Cotton mills
 Electric plants (central stations)
 Electric utilities
 Food factories
 Gas companies
 Gasoline companies
 Hosiery mills
 Hospitals
 Hotels
 Knitting mills
 Motor bus lines
 Munition factories
 Oil companies
 Paint shops
 Paper and pulp mills
 Petroleum refineries
 Power plants
 Printing offices
 Rapid transit
 Rock products plants
 Sewage disposal plants
 Waterworks

Clothing*See Clothing, Protective***Opinion polls**

- Can worker attitude studies give you the answers? I. C. Miller. *Food Eng* 30:66-6 Ap '58

- How poll your workers without a misfire? I. C. Miller. *Food Eng* 30:49-50 My '58

Physical examinations*See Physical examinations*

EMPLOYEES—Continued

Promotion

Six sure steps to the top. O. A. Battista. Chem Eng 66:165-6 F 24 '58
 Upgrade your maintenance personnel. G. O. Pitts and L. H. O'Donnell. diags Pet Refiner 37:129-31 Ja '58
 White-haired or the fair-haired? promotion problem. A. D. Christopher. Am Gas Assn Mo 40:25-6+ F '58

Rating

Evaluating performance in an engineering department. H. L. Johnston. bibliog Eng J 41:79-84 My '58
 How can you get sound merit ratings? I. C. Miller. Food Eng 30:49-50 J1 '58
 Is merit rating worth what it costs? I. C. Miller. Food Eng 30:48-50 Je '58
 Is rating of production workers feasible? I. C. Miller. Food Eng 30:61 S '58
 Will your workers buy merit rating? Food Eng 30:45 Ag '58

See also

Foremen—Rating

EMPLOYEES, Age of. See Age and employment

See also

EMPLOYEES, Dismissal of

Wages—Dismissal wage

EMPLOYEES, Government. See Government employees

EMPLOYEES, New. See Employment management—New employees

EMPLOYEES, Retirement of. See Retirement

EMPLOYEES, Training of

Atomic theory training aims at chain reaction spread of know-how; two-year basic training course at Consolidated Edison co. of New York. il Elec World 150:38-9 J1 '58
 Connecticut valley power exchange selects, trains operators. R. N. Youtz. il Elec World 149:45-6 Je 16 '58
 Disaster planning; training for disaster. il Pet Refiner 36:109-14 D '57
 Du Pont educates engineers. il Chem & Eng N 36:38-9 F 24 '58
 Electrical maintenance training; methods and bibliography. Tappi 40:sup 174A-7A D '57
 Engineers now do engineering; Atlantic refining co. trains engineering aids. il Oil & Gas J 56:106 My 19 '58
 Engineers tackle economics; Commonwealth Edison. il Elec World 150:37 Ag 11 '58
 Fansteel engineering technician training program fills vital need. il Ind Lab 9:107-9 Mr '58

Finding and training mine mechanics. W. C. Schott. il Min Cong J 43:50-2 N '57
 Finding, training maintenance men. J. B. Parchman and others. Plant Eng 12:112-14 Ja '58

Growth of a slide training program; Hawaiian pineapple co. V. Barnes. il Ind Phot 7:28 Ja '58

How Euclid teaches mechanics and service men. il Roads & Sts 101:88 Ap '58

How foundries are training engineers. J. C. Miske. Foundry 86:76-9 Mr '58

How to determine training needs. C. M. White. Pet Refiner 37:211-12+ F '58

How to train an engineer's right-hand man in 16 weeks; Southwestern public service co. E. W. Love. il Elec World 149:54-5 F 10 '58

How valuable are training programs? Product Eng 29:21 Je 1 '58

How we train men for an industrial power plant. J. S. Dickey. il Power Eng 62:66-8 My '58

Lessons learned in in-plant gear education. Am Mach 102:101 Je 16 '58

Loomer training pays off at Buck creek cotton mills. il Textile World 108:94-5 Ja '58

Making a cost cutting program permanent; Union steel products co. D. E. Webster. il Mill & Factory 62:98-101 Ap '58

More interest on your training dollar. C. M. White. Pet Eng 29:E8-10 D '57

New training program allows employees to advance on merit. il Oil & Gas J 55:176 N 11 '57

Operator rotation pays; training program at Spencer's polyethylene plant. il Chem & Eng N 36:54-5 Ag 11 '58

Operator training. E. D. Simmons. Engineering 185:753-4 Je 13 '58

Operator training, key to effective sewage treatment. H. F. Seidel. Pub Works 89:144-6 J1 '58

Oregon water and sewage plant operators short school program. F. C. Burgess and C. V. Wright. Water & Sewage Works 105:382-4 S '58

Organizing for productivity; industry spends big money on blackboards; engineering training. Machine Design 30:28-31 Mr 6 '58

Personnel and training. il diag Westinghouse Eng 18:63-4 Mr '58

Punch-card operators taught keyboard automatically. Elec Eng 77:570 Je '58

RCA trains for power maintenance. J. S. Cole. il Power Eng 62:80-2 Ag '58

Shell runs academy for its managers. J. P. O'Donnell. Oil & Gas J 56:70-2 F 10 '58

Taped talk helps operators learn new power equipment; steam generating plant, Richmond state hospital. Indiana. W. Brenizer. il Power Eng 62:77 O '58

They teach human factors, and always have a man to step in; Canada dry corp. Food Eng 30:44-5 J1 '58

Train for fast promotion; Esso standard oil co's Everett, Mass. refinery. F. Lewis. il Power 102:107-9 Ja '58

Training; foundation of better maintenance at Stonegate Coke & Coal. il Coal Age 63:110-12+ Ja '58

Training is a line responsibility; Union electric co. O. P. Stamstad. il Elec World 150:65-6+ Ag 4 '58

Training is a production tool. R. C. McLeod. il diag Textile Ind 122:140-1+ Mr '58

Training new men for power plant work; Commonwealth Edison co. of Chicago. il Power Eng 62:76-8 Ap '58

Training operating personnel for nuclear power plants. W. G. McKeown. diags Elec Eng 77:122-5 F '58

Training program gears workers to tape control concept. L. E. Laux. il Iron Age 180:130-2 N 7 '57

Training program up-grades craftsmen; men at Esso refinery learn more, earn more. il Plant Eng 12:132-4 Ja '58

Training the steelmen. Engineering 185:146 Ja 31 '58

Training today builds master pressmen tomorrow. G. M. Halpern. il Inland Ptr 140:70-1 F '58

Up the ladder at Columbia Gas; the accounting and treasury training program. O. Ullery. Am Gas Assn Mo 40:25-6 S '58

Upgrade your maintenance personnel. G. O. Pitts and L. H. O'Donnell. diags Pet Refiner 37:129-31 Ja '58

Venezuelans take isotopes course; Tracerlab conducts first out-of-country radioisotope handling course for Schlumberger engineers. il Chem & Eng N 35:66 D 16 '57

What the designer should know about production; Chrysler corp. training course. Product design and production processes. K. C. Butterfield. Mach 65:166-7 S '58

Why Carter likes its training plant. W. A. Bachman. Oil & Gas J 56:70-1 Ja 6 '58

See also

Apprentices

Coal miners—Training

Dramatization in training

Foremen—Training

Industrial education—Cooperative plan

Petroleum workers—Training

Safety instructions and training

Salesmen—Training

Supervisory workers—Training

Technical workers—Training

EMPLOYEES, Transfer of

Researchers move East on new product's heels; Dow Chemical to make Zefran commercially, sets up new division in Lee Hall, Va. il map Chem & Eng N 36:68-71 My '58

EMPLOYEES benefit plans

Expansion of fringe benefits and industrial dentistry. L. S. Morvay. Ind Med 27:402-3 Ag '58

They're richer than they think; workers are getting more fringe benefits. Chem & Eng N 36:32-3 Ag 18 '58

See also

Pensions, Industrial

EMPLOYEES clothing. See Clothing. Protective

EMPLOYEES conferences

Easing the growing pains; Gulton holds informal conferences at the president's house. Chem & Eng N 35:36 N 4 '57

How to run an effective meeting. W. L. Knighten. Chem Eng 65:157-8+ Ja 27 '58

Huyck team meetings benefit papermakers. Paper Ind 39:998-9 Mr '58

EMPLOYEES conferences—Continued

Texaco tells its story to key men, Oil & Gas J 56:102 My 19 '58

See also

Foremen's conferences
Safety conferences

EMPLOYEES inventions. See Inventions, Employees

EMPLOYEES loans. See Loans, Employees

EMPLOYEES lunches. See Lunches, Employees

EMPLOYEES lunchrooms and cafeterias. See Lunchrooms and cafeterias, Employees

EMPLOYEES magazines

But, what type of employee publication? I. C.

Miller, Food Eng 30:59-60 Ja '58

Can worker attitude studies give you the

answers? I. C. Miller, Food Eng 30:65-6

Ap '58

How pitch your facts in the plant paper?

I. C. Miller, Food Eng 30:59-60 Mr '58

How poll your workers without a misfire?

I. C. Miller, Food Eng 30:49-50 My '58

What's good copy for the company mag?

I. C. Miller, Food Eng 30:61-2 F '58

EMPLOYEES manuals

Very special handbook; Sandia corp. in-plant

publication of photo-instrumentation aids.

L. Lenz, II Ind Phot 7:20-1 F '58

EMPLOYEES suggestions. See Suggestion systems

EMPLOYEES trusts

Production-sharing plan outlined by OCAW;

sick-investment trust. Oil & Gas J 56:38

Mr 10 '58

EMPLOYERS liability

Soap companies and the law, L. T. Parker.

Soap & Chem Spec 34:52-5+ O '58

See also

Workmen's compensation

EMPLOYMENT

Chemical industry cuts work force, Chem &

Eng N 36:25-7 F 24 '58

Employment of diabetics, Ind Med 27:524-8

O '58

Employment opportunities, II Chem Eng 64:

478-82+ Mid-N '57

Employment to expand in automobile industry.

Automotive Ind 117:132 O 15 '57

Engineering teachers moonlighting? Product

Eng 28:25 N 4 '57

Hiring limitations on cardiacs in Chicago area

firms, W. Polner, Ind Med 27:316-20 J1 '58

Production and sales; communications employment

facts, Electronics 31:13 My 16 '58

See also

Age and employment

Handicapped

Labor requirements (for production)

Unemployment

EMPLOYMENT agencies

Nationwide job pools place professionals.

Chem Eng 65:133-4 Ag 26 '58

EMPLOYMENT management

Attracting and retaining competent personnel

for water utilities, W. T. Ingram, Am

Water Works Assn J 50:165-7 F '58

Breaking bottlenecks in spinning; high employee

morale is needed, M. Chagro, II Textile

Ind 122:145-7 Je '58

Effective personnel development, J. A. Olm-

stead, Am Gas Assn Mo 40:24-6+ Mr '58

Engineers can be found and kept, G. F. Nor-

denholz, Product Eng 23:75-9 N 25 '57

How dear boss letters spawn creativity, C.

Pacifico, Chem Eng 65:181-2+ Ja 13 '58

How to get the most out of your manpower;

use a plan, A. L. Simberg, Cer Ind 71:

92-4 J1 '58

Human relations can be dangerous, Pet Re-

finer 37:277-8+ My '58

Individual counts; Du Pont plan protects

personal identity; abstract, C. H. Greene-

walt, Chem & Eng N 36:40 My 26 '58

Let's get better acquainted; Monarch machine

tool co., Sidney, Ohio, Get acquainted

day program, II Mill & Factory 62:112 Je

'58

Let's have a little less perfection, P. B.

Nelson, Jr. Mill & Factory 63:99 J1 '58

Managing engineering personnel, F. L.

Ryder, Ind Lab 9:60-4 My '58

Organization and the human being, C.

Argyris, Product Eng 23:26-8 D 30 '57

Personal touch to personnel; Abbott labs.

Chem & Eng N 35:44 D 9 '57

Personnel administration; how companies

treat their engineers, Machine Design 30:

30-2 My 15 '58

Positive approach is better in dealings with

employees; abstract, L. F. McCollum, Oil

& Gas J 56:67 F 10 '58

Principles of personnel management for water

utilities, P. S. Miller, Am Water Works

Assn J 50:159-64 F '58

Recognition and management of problem cases

in refinery personnel, J. J. Thorpe, Pet Re-

finer 37:292+ My '58

Regulations need planning too, E. W. Fair.

Water & Sewage Works 105:380-1 S '58

Researchers have human problems, Chem &

Eng N 36:36-7 Je 23 '58

Selecting, training, and evaluating person-

nel, R. H. Hamilton, S A E J 66:66-7 Ja '58

Teach your supervisors human relations, C.

M. White, Pet Refiner 37:244+ J1 '58

To get and hold good finishers, J. Novak.

Ind Finishing 34:72-3 Mr '58

Toughest of all problems; people, indubitably.

W. P. Stevens, Tappi 40:sup22A+ D '57

Training to understand people, Z. M. T. Tar-

kowski, bibliog Engineering 186:377-8 S 19

'58

Upgrading personnel to keep pace with mecha-

nization, K. Curtis, Oil & Gas J 55:219-24 N

13 '57

See also

Absenteeism (labor)

Bonus system

Bulletin boards

Communication in management

Efficiency, Industrial

Employees

Employees—Opinion polls

Employees, Training of

Employees benefit plans

Employees conferences

Employees magazines

Employment systems

Factory management

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Foremen—Training

Government employees

Hygiene, Industrial

Industrial management

Industrial relations

Leadership

Medical service, Industrial

Organization in industry

Profit sharing

Psychology, Industrial

Safety devices and measures

Suggestion systems

Time study

Vacations

Alcohol problem

Alcoholism in industry, P. S. Morgan, Ind

Med 27:458-60 S '58

Problems resulting from the use of habitu-

ating drugs in industry; the problem within

industry, R. G. Bell, Am J Pub Health

48:585-9 My '58

Discipline

Back up your discipline decision, D. D.

McConkey, II Mill & Factory 63:77-80 Ag '58

New employees

How well do you handle new employees? Pet

Refiner 37:266+ Mr '58

Off on the right foot, E. Whitmore, Pet

Eng 30:23-5 Ag '58

EMPLOYMENT systems

Can you spot a creative engineer? F. Light-

garn, Product Eng 29:30-1 Je 16 '58

Final score; no one without a job offer, Chem

Eng 65:171-2 O 20 '58

How to hire sales engineers, Electronics 31:

19 S 19 '58

Organizing for productivity; engineering

placement, Machine Design 30:31-2 Mr 20

'58

Organizing for productivity; hiring, facts and

implications, Machine Design 30:32-4 F 6

'58

Survey raps recruiting practices of cost-plus

defense contractors, Electronic Ind 16:107-4

D '57

Taking the guesswork out of hiring, D. W.

Karger, Power Ind 74:14-15+ Mr '58

See also

Employment agencies

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Physical examinations

EMULSIFIERS

Canopool scales up, II Chem & Eng N 36:64-5

S 23 '58

Effect of nonionic emulsifiers on experimental

dietary injury of the liver in rats, P.

Gyorgy and others, bibliog J Agri & Food

Chem 6:139-42 F '58

Emulsifying properties of lanolin derivatives.

L. I. Conrad, bibliog II Am Perfumer &

Aromatics 71:70-1+ Je '58

EMULSIFIERS—Continued

- Emulsifying properties of natural and semi-synthetic gums. W. W. Myddleton. *Manuf Chem* 29:337 Ag '58
- Hydrophile-lipophile balance of gums. A. H. C. Chun and others. *bibliog flow diag* *Il Drug & Cosmetic Ind* 82:164-54, 312-13+ F-Mr '58
- New tall oil fraction, similar in physical and chemical properties to lanolin. M. G. Bestul and others. *flow diag Soap & Chem Spec* 34:49-51+ O '58
- Non-ionics as emulsifiers. F. E. Sterne. *Il Can Chem Process* 41:59+ D '57
- Pesticide emulsifiers. *Il J Agri & Food Chem* 5:174-5 Mr '58
- Polyethylene oxide gums in toilet goods. L. Osipow and L. D. Berger, Jr. *Il Drug & Cosmetic Ind* 82:166-74 F '58

See also

Dispersing agents

EMULSIONS

- Distance between emulsified oil globules upon coalescence. M. van den Tempel. *bibliog diag J Colloid Sci* 13:35-33 Ap '58
- Emulsion symposium. *bibliog Il Am Perfumer & Aromatics* 71:42-8+ Je '58
- Engineering aspects of emulsion polymerization. S. J. Baum. *bibliog diags Ind & Eng Chem* 49:1797-802 N '57
- Fat emulsions; effect of polyoxyethylene and alkyl content of emulsifiers on stability to sterilization. W. S. Singleton and others. *bibliog Am Oil Chem Soc J* 35:265-70 Je '58
- Leicithin in oil-in-water emulsions. D. A. Yeadon and others. *bibliog Am Oil Chem Soc J* 35:435-8 Ag '58; *Abstract. Drug & Cosmetic Ind* 83:357 S '58
- Non-plugging emulsions useful as completion and well-servicing fluids. G. G. Priest and T. O. Allen. *bibliog J Pet Tech* 10:11-14 Mr '58
- Preparation of uniform emulsions by electrical dispersion. M. A. Nawab and S. G. Mason. *Il diag J Colloid Sci* 13:179-87 Ap '58
- Printing with emulsions. R. D. Greene. *Am Dyestuff Rep* 47:191-3 Mr 24 '58
- Stability of emulsions containing sucrose esters. L. L. Osipow and others. *Am Oil Chem Soc J* 35:65-8 F '58
- Testing pesticide emulsions. R. W. Behrens. *Il J Agri & Food Chem* 6:20-4 Ja '58

See also

Emulsifiers

Latex

Petroleum—Emulsions

Petroleum—Water problem

Analysis

- Infrared analysis of emulsion polishes. J. E. Murphy and W. H. Schwerner. *bibliog Anal Chem* 30:116-26 Ja '58

EMULSIONS, Photographic. See Photographic emulsions**ENAMEL and enameling**

- Development of a single fired phosphorescent porcelain enamel. B. R. Eichbaum. *bibliog Am Cer Soc Bul* 37:148-51 Mr 15 '58
- Developments in porcelain enamel coatings. *Il Product Eng* 29:C2-3 Mid-S '58
- Electroluminescence in action; how to light up porcelain enamel and glass. A. V. J. Martin. *Il diags Cer Ind* 71:73-5 Ag '58
- Factors influencing the neutral point of porcelain enamels. D. C. Bowman. *bibliog Il diag Am Cer Soc J* 41:254-60 Ji 1 '58
- Five ways to apply porcelain enamel; how and when to select each method. *Il diag Cer Ind* 71:110-13+ S '58
- How ultrasonics are used in porcelain enameling. *Il Cer Ind* 71:66-9 Ag '58
- Industrial baking enamels. E. G. Shur. *Ind Finishing* 34:52-4+ Je; 34-+ F '58+ Mr '58
- Lower firing temperatures cut cost for porcelain coatings on steel. L. E. Fussell and H. P. Tripp. *Il Product Eng* 29:75-7 F 17 '58
- Porcelain enamel, corrosion protection for chemical process equipment. *Il Ind & Eng Chem* 50:sup75A-6A Je '58
- Porcelain enameling in Europe; abstract. E. Mackasek. *Cer Ind* 70:46 Mr '58
- Porcelain enamels and ceramic coatings. R. J. Fabian. *Il diag Materials in Design Eng* 48:103-13 Ji '58 (reprints 35c)
- Properties of materials; porcelain enamels. *Materials in Design Eng* 48:270-1 Mid-O '58
- Some experiments in comparing the resistance of enamels to corrosion by alkaline solutions. H. B. Kirkpatrick and others. *bibliog Il diag Am Cer Soc J* 40:389-95 N 1 '57

What is electroluminescence? bonanza for porcelain enamel and glass. A. V. J. Martin. *Il diag Cer Ind* 71:70-2 Ag '58

See also

- Ceramic coatings
- Enameled ware
- Furnaces, Enameling
- Porcelain enamel institute
- Sheet metal, Enameled

Adherence

- Adherence of porcelain enamel to sheet steel. J. Berk and J. de Jong. *bibliog Il Am Cer Soc J* 41:287-93 Ag 1 '58
- How to determine enamel opacity and adherence. P. A. Huppert. *Il Cer Ind* 69:76+ D '57
- Oxidation of iron pretreated for porcelain enameling. L. E. Fussell and R. L. Hadley. *bibliog Il Am Cer Soc J* 41:81-8 Mr 1 '58
- Study of the oxidation of steel plate as related to wettability and adherence of porcelain enamel. H. P. Still, Jr. *bibliog Il Am Cer Soc Bul* 37:22-6 Ja 15 '58

Alkali resistance

- Variables involved in accelerated alkali resistance testing of porcelain enamels. J. E. Cox. *Il diags Am Cer Soc J* 41:336-40; Discussion. J. T. Roberts. 341; Reply. 342-3 S 1 '58

Color

- Chemicals used in the manufacture of ceramic colors. F. Henry. *Am Cer Soc Bul* 36:431-2 N 15 '57
- How to make fluorescent colored porcelain enamels. B. R. Eichbaum. *Il Cer Ind* 70:92-3 Je '58

Defects

- How Maytag avoids defects in millroom. *Il Cer Ind* 69:63 N '57

Opacity

- How enamels, glasses and glazes are opacified. W. W. Coffeen. *bibliog diag Cer Ind* 70:120-3+ Ap; 76-7+ My '58
- How to determine enamel opacity and adherence. P. A. Huppert. *Il Cer Ind* 69:76+ D '57

Terminology

- Basic enamel terms you should know. *Materials in Design Eng* 48:107 Ji '58

Testing

- Quantitative high-temperature oxidation of porcelain enameled iron. H. G. Lefort and L. H. Friedberg. *bibliog Am Cer Soc J* 41:216-28 Je 1 '58

ENAMEL and enameling (arts and crafts)

- Thelma Winter turns to enamels; development of an artist. *Il Cer Ind* 70:124-5 Ap '58
- We're in love with Gerte Hacker. *Il Cer Ind* 69:74-5 D '57
- ENAMELED sheet metal. See Sheet metal. Enameled
- ENAMELED ware
- Ten-year forecasts; room for plenty of porcelain enamel in appliances. *diags Cer Ind* 70:66-7 Mr '58
- U.S. stamping expands decorated ware. *Il Cer Ind* 71:57-9+ Ji '58

Manufacture

- Here's a better way to prepare metal for enameling. *Il Cer Ind* 70:94-5 Je '58
- How to use conveyors in porcelain enameling. *Il Cer Ind* 71:72-5 O '58
- ENAMELING furnaces. See Furnaces, Enameling
- ENAMINES. See Amines
- ENAMO board. See Masonite
- ENCEPHALITIS, Epidemic
- Arthropod-borne encephalitis in the U.S.A. A. W. Donaldson. *bibliog Am J Pub Health* 48:1307-14 O '58
- Current views on the North American arthropod-borne virus problem. M. Schaeffer and others. *bibliog maps Am J Pub Health* 48:336-43 Mr '58
- ENCEPHALOMYELITIS
- Studies on the ecology of equine encephalomyelitis. D. D. Stamm. *bibliog Am J Pub Health* 48:328-35 Mr '58
- ENDORADIOSONDE. See Radio apparatus—Medical applications

ENDRIN

- Effects of chronic and acute exposure of rats to endrin. L. B. Speck and C. A. Maaske. *diags A M A Archives Ind Health* 18:268-72 S '58
- Endrin content of body tissues of steers, lambs, and hogs receiving endrin in their daily diet. L. C. Terriere and others. *bibliog J Agri & Food Chem* 6:516-18 J1 '58
- Endrin content of milk and body tissues of dairy cows receiving endrin daily in their diet. U. Kligenag and others. *bibliog J Agri & Food Chem* 6:518-21 J1 '58

Analysis

- Determination of endrin in agricultural products and animal tissues. J. M. Bann and others. *bibliog diags J Agri & Food Chem* 6:196-202 Mr '58

ENERGY. See Force and energy**ENGELHARD industries, inc.**

- Engelhard closes ranks. *Chem & Eng N* 36:26-7 Ja 13 '58

ENGINEERING

- Design abstracts. *Product Eng* 29:130+ Ja 6 '58 [cont bi-weekly]
- Design digest issue, general engineering. *diags Product Eng* 29:A 1-26 Mid-S '58
- Design digest issue, general engineering. *il diags Product Eng* 28:A 1-46 Mid-O '57
- Development of welding for engineering fabrication. J. H. Humberstone. *il Welding J* 37:9-15 Ja '58
- Economics as a science; abstract. A. G. Pandreou. *Chem & Eng Prog* 54:118+ Ag '58
- Engineering centenaries of 1958. *Engineering* 185:17 Ja 3 '58
- Engineering design; the background and basis of contemporary life. H. Clausen. *diag Engineering* 185:791 Je 20 '58; *Engineering* 205:920-2 Je 20 '58; *Product Eng* 29:33-9 S 1 '58; *Discussion, Engineer* 206:218, 296, 376 Ag 8, 22, S 5 '58
- Engineering properties of pattern waxes. C. J. Marsel and others. *il Tool Eng* 39:95-8 N '57
- Engineers notebook. *diags Published in monthly numbers of ISA journal*
- Heat and the engineer. O. A. Saunders. *Engineering* 185:383-4, 419-20 S 19-26 '58; *Same abr. Engineer* 206:418-20 S 12 '58
- Horizons in engineering. D. B. Steinman. *Civil Eng* 27:843 D '57
- Management and engineering in the age of automation. A. Harvey. *bibliog Mech Eng* 80:66-9 Mr '58
- Paper as an engineering material. M. W. Riley. *bibliog, il Materials in Design Eng* 48:107-18 Ag '58 (reprints 35c)
- Personal side of engineering (cont). E. C. Nevils. *Machine Design* 29:159-60 D 12 '57; 30:135-6 F 6; 147 F 20; 146 Mr 6; 136 Ap 17 '58
- Philosophy of engineering reliability. M. L. Miller. *diag Elec Eng* 77:579-83, 714-18 J1-Ag '58
- Today's challenge to engineering initiative. J. K. Hodnette. *Elec Eng* 77:682-5 Ag '58
- Tomorrow's engineering problems. C. C. Furnas. *Am Soc C E Proc* 83 [BD 2 no 1491]:1-9 D '57

See also**Aeronautic engineering****Aeronautics****Airports****Aqueducts****Architecture****Automobile engineering****Blasting****Chemical engineering****Civil engineering****County engineering****Curves****Dams****Drilling and boring (earth and rocks)****Electric engineering****Engineers****Grouting****Highway engineering****Hydraulic engineering****Lighting****Lighting engineering****Marine engineering****Mechanical engineering****Mechanics****Mining engineering****Nuclear engineering****Petroleum engineering****Plastics engineering****Public works****Pumping****Radio engineering****Railroad engineering****Refrigerating engineering****Reservoirs****Safety engineering****Standards, Engineering****Steam engineering****Structural engineering****Surveying****Technology****Telephone****Tunnels and tunneling****Water supply engineering****Bibliography**

- Book reviews. Published in monthly numbers of Electrical manufacturing Engineer's library. Published in bi-weekly numbers of Machine design Library notes; additions to the Institute library, reviews, book notes, standards. Published in monthly numbers of Engineering journal
- New books. *Product Eng* 29:134+ Ja 6 '58 [cont bi-weekly]
- New books. Published in monthly numbers of Industrial laboratories
- New books for the plant engineer. Published in monthly numbers of Plant engineering
- New engineering books. Published in monthly numbers of Power engineering
- Reviews of books and notes on books received in Engineering societies library. Published in monthly numbers of Mechanical engineering

Geology**See Engineering geology****History**

- Dams, their effect on some ancient civilizations. G. A. Hathaway. *bibliog il map Civil Eng* 28:26-31 Ja '58
- Engineer through the ages (cont). J. K. Finch. *il diags Civil Eng* 27:798-800, 860-2; 28:108-10, 176-9 N-D '57, 18-Mr '58
- Engineering history in Kent. *Engineering* 185:818 Je 27 '58
- History gives a lesson in applying creativity to speed engineering development. H. R. Buhl. *bibliog diags Machine Design* 30:98-103 F 6 '58

Social aspects

- Engineer comes into his own; engineer and social scientist; towards a meeting of minds. H. V. Perlmutter. *Product Eng* 29:93-6 Mr 31 '58
- Impact of engineering on society in the reign of Queen Victoria. S. E. Hamilton. *bibliog Engineering* 205:730-2 My 16 '58

Study and teaching

- Boys and girls come out to work. T. A. Prichard. *il Engineering* 185:278-80 F 28 '58
- How can engineering teaching be improved? C. E. Carver, Jr. *Civil Eng* 28:580-1 Ag '58
- I.C.I. Billingham engineering apprentice school. *Chem & Ind* p7 Ja 4 '58
- New engineering program at Carleton university. *il Eng J* 41:87-8 F '58
- Training Africans for operation and maintenance. A. Albu. *il Engineering* 185:657-8 My 23 '58

See also**Engineering education****Engineering teachers****also subdivision Study and teaching under special subjects, e.g.****Aeronautic engineering****Civil engineering****Electric engineering****Mechanical engineering****Mineral engineering****Tool engineering****Tables, calculations, etc.**

- Calculation of sheave diameters for V-drives knowing center distance. *Product Eng* 29: E9 Mid-S '58

- Electronic computer serves five areas as engineering's newest tool. D. G. Thoroman. *S A E J* 66:30-1 My '58

- How to construct network diagrams. W. J. Worley. *Machine Design* 30:163-70 F 20 '58

- Maintaining consistency of units in engineering calculations. G. C. Boyer. *Plant* 17:46-8 Ap '58

- Slide rule mathematics. I. Ritow. *diags Elec Manuf* 61:97-109 Mr; 101-8 Ap '58 (reprints \$1)

See also**Hydraulics—Tables, calculations, etc.**

ENGINEERING—Continued

Terminology

British say it differently; everyday power terms for mechanical and electrical engineers. J. M. Totten. Power 102:102 Mr '58

Textbooks

About that book. C. E. Heinle. Electronic Ind 17:193-Je '58
Study of collisions; survey of the textbooks. G. Barnes. bibliog diags Am J Phys 26: 8-12 Ja '58

Africa

Training Africans for operation and maintenance. A. Albu. Il Engineering 185:657-8 My 23 '58

Europe

Continental engineering; illustrations with text. Engineer 205:pl 15 Ja 10 '58
Continental engineering in 1957. Il Engineer 205:33-7 Ja 3 '58
Engineering in Europe. E. J. Tangerman. Il Product Eng 29:32-3 S 1 '58
European engineering industries, 1955-57. Engineer 206:234 Ag 8 '58
For a five year boom Western Europe owes it to engineering. Engineering 186:76-7 JI 13 '58

France

Trends in appearance design in France. J. Vienot. Il Product Eng 29:34-5 S 8 '58

Great Britain

Diverse demands of the petroleum and petrochemical industries on U. K. engineering. L. S. Davis. Il Ind Chem 34:325-8 Je '58
Impact of engineering on society in the reign of Queen Victoria. S. B. Hamilton. bibliog Engineer 205:730-2 My 16 '58

India

Indian engineering news. Il Engineer 205: 825 My 30 '58

Philippine Islands

Philippines engineering; abstract. Eng J 41: 87 Ag '58

Rome, Ancient

Architectus of the Roman empire. J. K. Finch. Il diags Civil Eng 27:720-1, 798-800, 860-2; 28:108-10, 176-9 O-D '57, F-Mr '58

Russia

Measurement in the U.S.S.R. A. V. Astin. Chem Eng Prog 54:8-Ap '58
Russian research and engineering. T. W. Lippert. S A E J 66:64-5 Ag '58

South Africa

Research in South Africa. Il Engineer 204: 943-5 D 27 '57

ENGINEERING, Structural. See Structural engineering

ENGINEERING colleges

ECPD accredited mineral engineering colleges. Min Eng 10:772 JI '58
New building for Ecole polytechnique. Montreal. Il plan Eng J 41:88-9 Ja '58
Not without honour, a contemplation of university, college of technology and student members. L. G. A. Sims. Inst E E Proc 105 Pt B:19-20 Ja '58

See also

Carleton university
Dalhousie university
Houston university—Cullen college of engineering
Israel institute of technology
Lehigh university
McMaster university
Manitoba university
Mount Allison university
New Brunswick university
Ottawa university
St. Francis Xavier university
Summer schools
Toronto university
Waterloo college

Curriculum

Basic undergraduate physics preparation. G. Q. Leffer. Am J Phys 26:33-40 Ja '58
Competent engineer. G. C. Dreher. J Metals 10:114-17 F '58
Electrical engineering schools update curricula. Electronics Bsns ed 30:23 N 10 '57
ECPD accreditation of engineering curricula. C. C. Chambers and G. F. Branigan. Elec Eng 77:686-8 Ag '58

Five-year curriculum in mineral engineering; abstract. D. H. Yardley. Min Eng 10: 671-2 Je '58
Report of Task committee on professional education. Civil Eng 28:111-23 F '58
So you want to be a petroleum engineer? H. H. Power. bibliog Pet Eng 30:ES-6 Ja '58
Training for the future; a proposed major revision of engineering curricula. J. C. Zeder. Mech Eng 80:43-60 S '58

Enrollment

Engineer enrollments to increase. Chem Eng N 35:23 N 11 '57
Engineering institute of Canada survey of engineering in training. Can Min & Met Bul 51:26 Ja '58
ECPD survey of engineering enrollment. Elec Eng 77:434 My '58
U.S. engineering enrollment reaches all-time peak. Machine Design 30:36 Mr 20 '58

Graduate work

Canada's graduate student problem. R. R. McLaughlin. Eng J 41:146 Je '58
Fundamental training in nuclear power; postgraduate course at Imperial college. J. M. Kay. Il Engineering 186:394-A Mr 28 '58
Postgraduate instruction for practicing engineers. M. L. Meyer. Il diag Engineer 205: 384-6 Mr 14 '58

Professors and Instructors

Supply and training of teachers for technical colleges. Inst E E Proc 105 Pt B:116-17 Mr '58

Relations with Industry

College-industry push for more technical personnel. Il Ind Lab 9:105-6 Mr '58
Fansteel engineering technician training program fills vital need. Il Ind Lab 9:107-9 Mr '58
Graduate-study program for Western Electric engineers. Mech Eng 79:1189 D '57
Industry's responsibility for more engineering graduates. C. Linsky. Tool Eng 40:71-7 F '58
Industry's viewpoint on co-operative research with engineering colleges. M. Williamson. Ind Lab 9:71-3 Ag; 27-8+ S '58
University viewpoint on college/industry research. M. Williamson. Ind Lab 9:124-8 O '58

See also

Engineering education—Industry cooperation

Research

ASEE reports on research in engineering colleges. Elec Eng 77:431-2 My '58
Engineering college research needs expansion, more support. Machine Design 30:34-5 Ap 3 '58
Industry's viewpoint on co-operative research with engineering colleges. M. Williamson. Ind Lab 9:71-3 Ag; 27-8+ S '58
University research in structural engineering. F. Baron. Am Soc C E Proc 83 (ST 5 no 1367):1-13 S '57; Discussion. 84 (ST 1 no 1522):95-8 Ja; (ST 2 no 1576):39-40 Mr '58; Reply. 84 (ST 5 no 1787):9-11 S '58
University viewpoint on college/industry research. M. Williamson. Ind Lab 9:124-8 O '58

ENGINEERING contracts

Competition tightens overseas. Il Eng N 159: 25-7 N 14 '57
Do pre-bid conferences really pay off? Il Eng N 161:21-3 S 11 '58
Estimating and bidding on heavy construction. E. Rau. Civil Eng 28:93-5 F '58
Flaming Gorge goes for \$30 million; Upper Colorado River project. Il map Eng N 160: 26-7 Jo 19 '58
One cent shift nets \$13 million job; Richard I. Bong air force base, Wisconsin. Eng N 160: 25 Je 19 '58
Road prices slip as bidders increase. Eng N 159:33-4 N 28 '57
Second biggest boom ahead. Eng N 161:21-3 Ag 7 '58

See also

Roads—Contracts

ENGINEERING departments

Communication, key to company survival; how Chevrolet, Cummins Engine, Thompson Products, Dana, Clark Equipment, and International Harvester organize for coordination of engineering and manufacturing. Gescheil. S A E J 66:33-6 Ag '58
Evaluating performance in an engineering department. H. L. Johnston. bibliog Eng J 41: 79-84 My '58
Good organization speeds up engineering projects. M. Tourtellotte. diags Combustion 29: 41-6 D '57

ENGINEERING departments—Continued

- How to measure engineering department efficiency. R. Paulson. *diag Machine Design* 29:122-5 J 12 '57
- How to organize engineering for product development. P. R. Marvin. *Machine Design* 29:10-4 D 26 '57
- How to use technical writers to increase efficiency of engineering functions. J. V. E. Hansen. *Machine Design* 29:94-7 N 28 '57
- Importance of workable project planning; engineering and research and development departments. H. W. Roos. *Pet Eng* 30:E48-9 My '58
- Lost in a maze of materials? materials engineering department. N. J. Petrella. *Product Eng* 29:20-1 Je 30 '58
- Organizing for productivity. *Machine Design* 30:22-5 J 9; 31-1 Ja 23; 33-4 F 6; 31-2 F 20; 28-31 Mr 6; 31-2 Mr 20; 28-30 Ap 3; 32-4+ Ap 17; 28-30 My 1; 30-2 My 15; 30-2 My 29; 30-2 Je 12 '58
- Solving the human equation in engineering-group management. C. R. Miner. *Machine Design* 30:96-9 Ja 9 '58
- See also*
- Industrial engineering
- ENGINEERING drawing.** *See* Drafting room practice
- ENGINEERING drawings**
- Armed forces to mechanize storage of drawings. *il Product Eng* 29:19-20 Mr 17 '58
- Convert engineering drawings to micro-film mounted in punched cards. *il Ind Lab* 9:40 Ag '58
- Exporting engineering drawings for overseas plant; Kaiser-Willis uses Autopositive materials and modified blueprinter. *il Ind Phot* 7:42+ F '58
- Filing equipment standards for engineering drawings. A. G. Negus. *il Product Eng* 28:A8-10 Mid-O '57
- Intermediates knit Ford plants together; Ford motor co.'s hardware and accessories group closely coordinated by photographic techniques. *il Mach* 64:136-8 Mr '58
- Isometrics for piping. F. Evans. *diags Pet Refiner* 37:145-6 Ag '68
- Microfilming at work; debulking over a million drawings. *il Ind Phot* 7:57 Ag '58
- Microfilming at work; productive bedfellows; microfilming and xerography solve navy's problem of storing engineering drawings. *il Ind Phot* 7:99 J1 '58
- Nondestructive testing symbols for use on drawings to specify nondestructive tests for determining the soundness of materials. *diags Product Eng* 29:A 12-13 Mid-S '58
- 105mm program helps solve distribution problem; Corps of engineers design drawings. J. Hughes. *il Ind Phot* 7:103 Mr '58
- Pointers on microfilming engineering drawings. E. Stanton. *il Ind Phot* 7:46+ Ap '58
- ENGINEERING economics**
- Chemical cost and profitability estimation. 1957; annual review. J. B. Weaver. *Ind & Eng Chem* 50:753-62 bibliog(p758-62) My '58
- Cost engineer's job; economic evaluation of proposed capital expenditures. J. B. Weaver. *Ind & Eng Chem* 50:sup 103A-4A+S '58
- Engineer comes into his own; economics and the engineer. R. Eggers. *Product Eng* 29:100-1 Mr 31 '58
- Engineers tackle economics; Commonwealth Edison. *Elec World* 150:37 Ag 11 '58
- Importance of economics in production and reservoir engineering. T. C. Frick. *J Pet Tech* 10:11-12 S '58
- ENGINEERING education**
- Education. H. C. Hoover. *il J Metals* 10:17-18 Ja '58
- Education and engineering. E. W. Mills. *Am Soc Naval Eng J* 70:187-90 My '58
- Education and the science frontiers. T. J. Watson. *jr. Elec Eng* 77:323-5 Ap '58
- Engineer comes into his own; what about education? P. N. Anderson. *Product Eng* 29:82-3 Mr 31 '58
- Engineering and scientific education. M. Kallischer. *Refriger Eng* 66:47+ F '58
- Engineering and scientific education; understanding science; conference, Chicago, Oct. 31-Nov. 2. *Illum Eng* 53:sup 10A F '58
- Engineering education; a view ahead. J. D. Ryder. *Inst Radio Eng Proc* 45:1459-62 N '57
- Engineering education, post Sputnik. J. C. Warner. *I S A J* 5:26+ Je '58
- Engineering education; retrospect and prospect. F. C. Lindvall. *il Electronic Ind* 17:88-9+S '58

- Engineering in an engineering curriculum. D. W. Ver Planck. *diags Mech Eng* 80:42-3 J1 '58
- Engineering science, the core of engineering training. N. A. Hall. *Mech Eng* 80:44 J1 '58
- Engineers need more liberal arts education. *Roads & Sts* 101:123 J1 '58
- Factors concerning education for science and engineering. F. Seltz. *Phys Today* 11:12-15 J1 '58
- Impact of new engineering concepts on engineering education. J. F. Calvert. *Elec Eng* 76:1041-4 D '57
- Knowledge plus wisdom. E. Weber. *Elec Eng* 77:575-9 J1 '58
- Look at American engineering education and training. K. R. Sturley. *Power Eng* 62:95-6 Ag '58
- New dimensions in post-graduate education for the young engineer. R. W. Rawson. *Eng J* 41:102-3 My '58
- Professional education for automation engineers. C. Linsky. *Tool Eng* 40:113-18 Ap '58
- Training for the future; a proposed major revision of engineering curriculums. J. C. Zeder. *Mech Eng* 80:48-50 S '58
- West Point for engineers? educator says yes. B. M. Aldrich. *Machine Design* 30:31-2 My 1 '58
- What effect have recent inventions and discoveries had on engineering curriculums and education? deans of engineering meet at Purdue. *Mech Eng* 79:1079-80 N '57
- What's wrong with engineering education. J. R. Killen, jr. F. H. Rhodes. *Chem Eng* 65:173-4 Ap 7 '58
- Your future demands; a survey of the engineering profession. W. F. Ryan. *Mech Eng* 79:1036-8 N '57
- See also*
- Engineering colleges—Curriculum
- Engineering students
- Engineers council for professional development
- Metallurgical education
- Technical education
- also* subdivision Study and teaching under special subjects, e.g.
- Aeronautical engineering
- Chemical engineering
- Civil engineering
- Electric engineering
- Engineering
- Mechanical engineering
- Mineral engineering
- Mining engineering
- Petroleum engineering
- Cooperative plan**
- Columbia tells upgrading plan. *Electronics* 31:12+ F 28 '58
- Education on the oil front; University of Zululand at Maracaibo. *il Pet Eng* 29:E 12-13 N '57
- Engineers can be found and kept. G. F. Noehrenholz. *Product Eng* 28:75-9 N 25 '57
- First year of co-operative engineering studies completed at Waterloo, Ont. *Eng J* 41:108-9 S '58
- Industry cooperation**
- Developing creativity in engineering. D. G. Taylor and R. C. Jordan. *Mech Eng* 80:74-5 F '58
- Engineer comes into his own; how industry helps tomorrow's engineers. D. K. Merris. *Product Eng* 29:84-5 Mr 31 '58
- Engineer comes into his own; how the engineer can go back to school. D. K. Merris. *Product Eng* 29:38 Mr 31 '58
- Engineering education and training by industry. W. H. Arata, jr. bibliog 11 maps *diag Aeronautical Eng R* 17:25-7+ Ja '58
- Engineers team up with college and company for management training. K. C. Harder. *Machine Design* 30:108-13 Ja 23 '58
- How valuable are training programs? *Product Eng* 29:21 Mr 17 '58
- Industry goes to the campus; Arizona state computer center, operated by General Electric. D. L. McCracken. *il Gen Elec R* 61:19-21 Mr '58
- Needed; better training. *Steel* 141:114-15 N 13 '57
- Organizing for productivity; industry spends big money on blackboards; engineering training. *Machine Design* 30:28-31 Mr 6 '58
- Preparing engineers for industry. L. L. Francis. *Tool Eng* 41:41-3 Ag '58
- Training tomorrow's personnel today; Pochontas industrial council for education. W. A. Raleigh, jr. *il Coal Age* 62:54-9 N '57
- Utilities give education a lift. *il Elec World* 149:44 Mr 10 '58

ENGINEERING education—Continued

Belgium

Belgium, building basics on the campus. *Il*
Control Eng 5:19+ M '58

Canada

Canada's graduate student problem. R. R.
McLaughlin. Eng J 41:146 Je '58

Europe

Comparison of U.S. and European engineering
schools. L. J. Parkinson. *Il* Min Eng 10:76-
80 Ja '58

Education in surveying and photogrammetry
in Europe. G. Gracie and H. Karara. *Am*
Soc C E Proc 84 [SU 2 no 17201:1-5 J '58
Education of engineers in European coun-
tries. S. J. Davies. *Inst Mech Eng Proc* 171
no 6:220-30; Discussion. 231-44 '57

France

French speed engineer study. *Product Eng*
29:26 Mr 24 '58

Great Britain

Cure-or-kill for getting technicians; details.
P. Ward; D. Barlow. *Control Eng* 5:10-11
My '58

Education for engineers. G. E. Middleton.
Inst E E Proc 105 pt B:21 Ja '58

Postgraduate instruction for practising en-
gineers. M. L. Meyer. *Il* diag Engineer
205:384-6 Mr 14 '58

Standards engineers; their education, train-
ing and work. *Engineering* 186:9 J1 4 '58
Too much and too little. M. G. Say. *Inst*
E E Proc 105 pt A:11-15 F '58

India

India's engineering education. R. W. Atkin-
son. *Elec Eng* 77:325-7 Ap '58

Peru

Sanitary engineering education; ICA assis-
tance in Peru. M. L. Granstrom. *Il* *Am*
Soc C E Proc 83 [SA 2 no 12241:1-11 Ap
'57; Discussion. H. E. Babbitt. 83 [SA 5
no 14221:11-13 O '57; Reply. 84 [SA 1
no 15571:15-16 F '58

Russia

Electrical engineering education and research
in the USSR. P. A. Abetti and G. F. Lincks.
biblog *Il* *Elec Eng* 77:384-90, 479-84 My-Je
'58

ENGINEERING ethics

Competitive bidding for professional work
should not be tolerated. W. G. Murphy.
Pub Works 89:95-6 O '58

Ethics in professional engineering. J. D.
Constance. *I S A J* 5:26+ Mr '58

Growing importance of ethics to engineers.
P. L. Alger. *Elec Eng* 77:42-5 Ja '58

Obtain engineering services by negotiation.
Civil Eng 28:569 Ag '58

Split fees condemned by Consulting engineers
council. *Air Cond Heat & Ven* 55:133-4 Je '58

Ten commandments of ethics proposed by
Engineers council. *Machine Design* 30:14
My 29 '58

ENGINEERING foundation

Annual report. 1957. W. J. Barrett. *Mech Eng*
80:125-6 F '58

Engineering foundation; its aims and
activities. E. I. Green. *Elec Eng* 77:390-2 My
'58

UET grants advance 26 projects. *Mech Eng*
80:131+ Ag '58

ENGINEERING geology

Geologic investigations of dam sites by the
Soil conservation service. G. M. Brune. bib-
liog plan diag *Am Soc C E Proc* 83 [SM 4
no 14291:1-13 N '57; Discussion. J. A. Tran-
tina. 84 [SM 2 no 16571:41-2 My '58; Reply.
84 [SM 4 no 18281:11-12 O '58

ENGINEERING graduates

EE grade to increase 20 per cent. *Electronics*
31:13 F '58

Final score; no one without a job offer.
Chem Eng 65:171-2 O 20 '58

For the graduating class, professional regis-
tration. J. J. Uicker. *Mech Eng* 80:72-3 Ap
'58

How Detroit Edison handles the engineer-
ing graduate. L. L. Knickerbocker. *Il* *Power*
Eng 62:92-4 S '58

More grads but not enough. *Chem & Eng* N
35:94+ D 9 '57

New electrical engineer looks at industry. M.
S. Oldacre and others. *Electronic Ind &*
Tele-Tech 16:108-9+ N '57

Some things to count on. R. Paxton. *Gen*
Elec R 61:38-40 S '58

Unified code of ethics for hiring engineering
grads. *Product Eng* 28:86 O 28 '57

What are the educational shortcomings of
your recently hired engineering graduates?
answers. *Product Eng* 28:38-9 N 4 '57

ENGINEERING Institute of Canada

Annual meeting. 72d. Quebec. May 21-23;
with program. Eng J 41:137-40 Ap; 85-7 Je
'58

Engineering Institute of Canada and the
Provincial associations of professional en-
gineers. Eng J 41:104-14 Mr '58

Library notes; additions to the Institute li-
brary, reviews, books notes, standards.
Published in monthly numbers of *Engineer-*
ing Journal

Members of council, committees and officers
of the branches. Eng J 41:148-50 Ap '58

Report of council and reports of committees
and branches. 1957. Eng J 41:supp 1-45 Ap
'58

ENGINEERING instruments

See also

Electric instruments

Surveying instruments

ENGINEERING Journal (periodical)

40 years of publication. Eng J 41:135-6 Ap '58

ENGINEERING laboratories

Building for engineering growth; Princeton
university's design for its future training
and research laboratories. *Il* *Chem & Eng*
N 36:106-7 Mr 31 '58

Cambridge laboratory extensions. *Il* *Engi-*
neering 185:275-6 F 28 '58

Electrical engineering building. University of
Ottawa. *Il* Eng J 41:95 My '58

Expansion of atomic research facilities; Gen-
eral electric co.'s beryllium laboratory. *Il*
Ind Chem 34:180 Ap '58

Extensions to P.E.R.A. laboratories. *Il* *Engi-*
neer 205:389-90 Je 13 '58

Laboratories for systems engineering re-
search; Short brothers and Harland limited.
Il *Engineering* 184:600 N 8 '57

New Atlas technical center; chemical re-
search department. *Il* *Drug & Cosmetic Ind* 82:775
Je '58

New metrology labs to serve industry; Stand-
ard pressed steel co. *Il* *Ind Lab* 9:62 Ap '58

Open days at Mechanical engineering research
laboratory. *Il* *diag Engineer* 205:385-8, 922-5
Je 13-20 '58

Plastic design of a four-storey steel frame;
Cambridge university's engineering labora-
tory. M. R. Horne. biblog *Il* plans diag
Engineer 206:204-8, 244-6 Ag 8-15 '58

Research facilities for polishing, shearing,
and threading know-how; Hill acme co. *Il*
Mach 64:174 F '58

Research-instrumentation; Stanford research
institute laboratories and facilities; illus-
trations with text. *Instruments & Automation*
30:2260 D '57

Research will shape next 100 years at Johns-
Manville. *Il* plans *Ind Lab* 9:8-11 Je '58

Sylvania swells research and development;
chemical and metallurgical division gets
own lab. *Il* *Chem & Eng* N 36:28-9 O 20 '58

See also

Automobile laboratories

Chemical engineering laboratories

Electric laboratories

Hydraulic laboratories

Metallurgical laboratories

See also

Automobile laboratories

Chemical engineering laboratories

Electric laboratories

Hydraulic laboratories

Metallurgical laboratories

See also

Automobile laboratories

Chemical engineering laboratories

Electric laboratories

Hydraulic laboratories

Metallurgical laboratories

See also

Automobile laboratories

Chemical engineering laboratories

Electric laboratories

Hydraulic laboratories

Metallurgical laboratories

See also

Automobile laboratories

Chemical engineering laboratories

Electric laboratories

Hydraulic laboratories

Metallurgical laboratories

See also

Automobile laboratories

Chemical engineering laboratories

Electric laboratories

Hydraulic laboratories

Metallurgical laboratories

See also

Automobile laboratories

Chemical engineering laboratories

Electric laboratories

Hydraulic laboratories

Metallurgical laboratories

See also

Automobile laboratories

ENGINEERING laboratories—Continued

Power

Lay out a sound power to grow plan for multivoltage labs. J. Cammarata. *Il Power* 102:106-8 Ag '58

ENGINEERING libraries

Filing for faster reference; time-saving system for engineering library. L. Galockin. *Product Eng* 28:82-3 D 9 '57

See also

Engineering societies library, New York Technical libraries

ENGINEERING literature

Should there be a standard classification system for engineering literature? W. F. Swanton. *Chem Eng Prog* 54:12 Ap '58; Discussion. 54:12-4 Ap; 10 My '58

See also

Technical writing

ENGINEERING reports

Guide for writing reports. *Electronics* 31:18 JI 25 '58

How to keep score on an engineering project. J. G. Adiletta. *Product Eng* 28:34-5 N 4 '57

How to report to your manager. R. F. Philip. *Product Eng* 28:65-6 D 23 '57

Industrial report preparation and evaluation. C. L. Tutt, jr. *Product Eng* 29:A2-4 Mid-S '58

It's how you say it; humor. S. Reitman. *Product Eng* 28:39-41 N 18 '57

See also

Technical writing

ENGINEERING research

Contract research for chemical engineers; open day at Sondes Place. *Il Engineering* 136:150 Ag 1 '58

Educators want more research. R. H. Ramsey and others. *Eng N* 160:25 Je 26 '58

Engineering research at Cyanamid. *Il Chem & Eng N* 36:48 F 10 '58

Engineering research leads; National science foundation report on basic research, a national resource. *Mech Eng* 79:1152 D '57

Engineering research with a solar furnace. P. E. Glaser. *bibliog il diags Mech Eng* 80:78-80 Je '58

High-temperature research at the National bureau of standards. *il diag Engineer* 206:390-3, 423-31, 467-9 S 5-19 '58

Machine tool research project. *Engineer* 204:815 D 6 '57

NSF promotes basic research in civil engineering. G. M. Nordby and R. N. Fatman. *il Civil Eng* 28:260-3 Ap '58

Nuclear developments stimulate other fields. L. R. Hafstad. *S A E J* 65:100 D '57

Our professional responsibility; development of new knowledge. M. A. Mason. *Civil Eng* 28:410-12 Je '58

Pametrada annual report. *il Engineer* 206:141-2 JI 25 '58

Production engineering research association expansion; new laboratories officially opened. *il Metallurgia* 58:10-12 JI '58

Research and engineering progress, 1957. *il diag Gen Elec R* 61:8-58 Ja '58

Research and higher education. R. G. Folsom. *il Mech Eng* 80:34-7 JI '58

Research in South Africa. *il Engineer* 204:943-5 D 27 '57

Shock tube works for research. *il diags Ind Lab* 9:6-9 F '58

Some applications of a digital computer in structural research. A. S. Veletos. *bibliog il Civil Eng* 28:344-7 My '58

Sondes research institute; performs sponsored research in the fields of applied chemistry, chemical engineering and mechanical engineering. *il Engineer* 206:104 JI 18 '58

UET grants advance 26 projects. *Mech Eng* 80:131-4 Ag '58

See also

Aeronautic research

Automobile research

Electric research

Engineering colleges—Research

Engineering laboratories

Industrial research

Lighting research

Mining research

Production engineering research association

Refrigeration research

Scientific research

Steel research

Canada

Research and development. *il Eng J* 41:133-4 Ap '58

Great Britain

Cambridge engineering research. *Engineering* 185:404 Mr 28 '58

Russia

Electrical engineering education and research in the USSR. P. A. Abetti and G. F. Lincks. *bibliog il Elec Eng* 77:384-90, 479-84 My-Je '58

What's doing in Russia. *Electronics* 30:24-5 D 10 '57

ENGINEERING societies

Engineering societies, big business. B. D. Koss. *Machine Design* 30:22-5 S 4 '58

Engineering societies of America (cont.). P. Hert and others. *il Gen Elec R* 61:36-8 Mr '58

First step for engineering unity; re-name Engineers joint council; abstract. M. G. Lockwood. *Machine Design* 30:56-7 JI 10 '58

How can engineering conventions be improved? points of view. *Product Eng* 29:34-5 Ap 7 '58

Technical societies speed nuclear progress. H. J. Stremba. *il A S T M Bul* p46-9 JI '58

See also

American institute of electrical engineers

American institute of mining, metallurgical and petroleum engineers

American institute of plant engineers

American society of civil engineers

American society of mechanical engineers

American society of tool engineers

Audio engineering society

Engineering institute of Canada

Engineers council for professional development

Engineers joint council

Illuminating engineering society

Institution of mechanical engineers

National society of professional engineers

New York (city)—United engineering center

Professional associations of professional engineers

Society of automotive engineers

Standards engineers society

Directories

Addresses of engineering societies, associations; data sheet. *Heating-Piping* 30:135-6 Je '58

ENGINEERING societies library, New York

Annual report, 1957. W. J. Barrett. *Mech Eng* 80:124-5 F '58

Library, key asset of new United engineering center. *Civil Eng* 28:204-5 Mr '58

New books received at Engineering societies library. Published in monthly numbers of

Electrical engineering

Recent books added to the Engineering societies library. Published in monthly numbers of

Civil engineering

Reviews of books and notes on books received in Engineering societies library. Published in monthly numbers of

Mechanical engineering

ENGINEERING societies of western Europe and the United States

Conference, 6th. New York, April 28-May 2. *Mech Eng* 80:92-4 JI '58

ENGINEERING standards. See Standards, Engineering

ENGINEERING students

Money, glamor, challenge decide today's engineer student on future. *il Product Eng* 29:37-8 S 15 '58

Potential machine designer. J. F. D. Smith. *Mech Eng* 80:76-7 F '58

65 engineering students win machine design awards. *Mach* 64:137-8 Ag '58

Wastage of students; editorial. *Brit Inst Radio Eng J* 18:69 F '58

ENGINEERING teachers

ASEE report sees engineer faculty costs tripled. *Civil Eng* 28:461 Je '58

Engineering teachers moonlighting? *Product Eng* 28:25 N 4 '57

Plan for increasing number of engineering teachers. *Elec Eng* 77:333 Ap '58

Supply and training of teachers for technical colleges; summary of report. *Inst E E Proc* 105 pt A:39-40; Discussion, 40-6 F '58

Teachers also should be educated. *Chem & Eng N* 36:100 F 24 '58

See also

Engineering colleges—Professors and instructors

Salaries

ASEE reports on salaries and earnings of engineering teachers. *Elec Eng* 76:1102 D '57

ENGINEERING writing

- Technical writing by engineers. M. K. Bonner. Machine Design 30:90-5 Je 28 '58
Writing program for engineers. P. R. Heinmiller. Machine Design 30:104-8 S 4 '58
Writing the report. J. W. Pearson. Electronic Ind 17:148-9+ S '58

ENGINEERS

- Air material command begins civilian engineer recruitment program. Ind Quality Control 14:18-19+ Mr '58
Attitudes of young engineers; a survey of recent graduates who are associate members of ASME. A. S. Goldstein and N. J. Viehmann. Mech Eng 80:148-9 Je '58
Basic statistics for the design engineer. J. L. Jenkins. diags Elec Manuf 61:105-24 My '58
Boston university professor suggests farming out of engineers to minor league firms. Product Eng 29:38 Ap 28 '58
Challenges ahead; engineering unity. E. R. Needles. Chem Eng Prog 54:8+ F '58
Demand for and supply of engineers and scientists. W. T. Cavanaugh. Elec Eng 77:590-1 J1 '58
Effective utilization of engineers. A. Iddles. Tool Eng 39:193-4 D '57
Elements of professionalism for the engineer. E. L. Chandler. Civil Eng 28:163-6 Mr '58
Engineer comes into his own; summary of current advanced thinking. bibliog il diags Product Eng 29:77-104 Mr 31 '58 (reprints 50c)
Engineer-retention; abstract. J. D. Staley. Tool Eng 41:223-4 S '58
Engineer shortage measured, remedies posed. Machine Design 29:10+ D 12 '57
Engineering manpower; a prediction of future supply and demand. Electronic Ind 17:200-3+ Mr '58
Engineering shortage. G. R. Wadleigh. Mech Eng 80:120 Mr '58
Engineering title standards proposed by NSPE. Elec Eng 77:368-9 Ap '58
Engineers and management; abstracts. E. Smith. Engineer 204:896-9 D '57; diag Engineering 184:776 D 20 '57; Chem & Ind p34-5 Ja 11 '58
Engineers can be found and kept. G. F. Nordenholt. Product Eng 28:75-9 N 25 '57
Engineers can provide direction. G. R. Henderson. Eng 41:114-16+ S '58
Engineers, do your own writing. J. L. Kent. Electronic Ind 16:108-9 D '57; Discussion. 17:168-70 Ap '58
Engineers gain stature. Steel 142:99-100 Ap 14 '58
Engineers gain student esteem but the scientist isn't rated nearly so high. il Chem & Eng N 36:66-7 J1 14 '58
Engineers in management? H. W. Johnson. Mech Eng 80:46-7 S '58
Engineer's place in industrial management. F. W. Miller. Mech Eng 80:145-6 My '58
Engineer's profile. Product Eng 29:33 Je 16 '58
Engineers should write! W. O. Hadlock. Electronic Ind 17:161-2 Ja '58; Discussion. 17:168-70 Ap '58
Engineers, skilled labor supply to rise sharply. Eng N 160:80-1 Mr 27 '58
Handle engineers carefully. J. W. Riegel. Steel 142:67 Ap 21 '58
How do European-trained engineers compare with American-trained engineers? points of view. Product Eng 29:38-9 F 24 '58
How sales engineers contribute to the instrument industry. H. E. Benson. I S A J 5:61 Mr '58
Human factors in engineering. L. A. Kilgore and V. B. Baker. Elec Eng 77:586-8 J1 '58
Increased productivity and creativity by engineers; abstract. T. E. Shea. Tool Eng 41:222-3 S '58
Management has responsibilities to engineers. P. Wainwright. Civil Eng 28:405 Je '58
Managing engineering personnel. F. L. Ryder. Ind Lab 9:60-4 My '58
Manpower forecast for '58; engineers harder to get than ever. Am Mach 102:140 F 10 '58
Manpower: tightening up? Electronics 31:18 J1 11 '58
Motivating factors in engineers. Electronic Ind 17:176-8+ Az '58
Needed; better training. Steel 141:114-15 N 18 '57
Nine problems to challenge tomorrow's engineers. C. C. Furnas. S A E J 68:46-7 Je '58
1958, how good for engineers? I S A J 5:65 F '58

Organization and the human being. C.

- Argyris. Product Eng 28:26-8 D 30 '57
OEEC reports on engineer shortage. Product Eng 29:28 Ja 27 '58
Organizing for productivity; industry spends big money on blackboards; engineering training. Machine Design 30:28-31 Mr 6 '58
Pay, advancement poor, government engineers complain. Machine Design 29:28+ N 28 '57
Personnel administration; how companies treat their engineers. Machine Design 30:30-2 My 15 '58
Plenty of jobs. Chem & Eng N 36:31 O 6 '58
Power engineer defines his job. J. S. Cole. Power Eng 61:57 N '57
President's committee reports its action, Soviet threat. Machine Design 29:28 D 26 '57
Problems of professional engineers in federal jobs. R. W. Johnson. Eng N 160:42-3 Mr 6 '58; Discussion. 160:6+ My 1 '58
Professionals or workers? E. C. Nevis. Machine Design 30:146 Mr 6 '58
Profile: the American plant engineer; AIPE survey. Plant Eng 12:119-21 Ja '58
Requirements for competitive employment contracts. A. W. Gray. bibliog Machine Design 30:98-101 My 1 '58
Running scared or, the advantages of insecurity. E. P. Partridge. Chem Eng Prog 54:8+ Mr '58
Science and technology in a changing environment; need for long-range training program. E. W. Engstrom. il Elec Eng 77:233-7 Ap '58
Scottish engineers and the Scottish electrical training scheme. E. O. Taylor. Inst E E Proc 105 pt B:14-16 Ja '58
Should congressional committees hire staff engineers to assist in research and development evaluation? points of view. Product Eng 29:32-3 My 19 '58
Should engineers be retired automatically at 65? points of view. Product Eng 29:40-1 F 10 '58
Should the engineering profession adopt collective bargaining techniques? points of view. E. L. Chandler; J. Amann. Product Eng 29:36-7 Ap 21 '58
So you want to work abroad! B. A. Leeburger, jr. Product Eng 29:34-6 Ja 29 '58
Survey raps recruiting practices of cost-plus defense contractors. Electronic Ind 16:107+ D '57
Survey rates attitudes of engineers toward their jobs. Roads & Sts 100:167 N '57
Taking the guesswork out of hiring. D. W. Karger. Power Ind 74:14-15+ Mr '58
Technical manpower issues and related educational problems; open letter to J. R. Killian, jr. H. A. Meyerhoff and G. E. Arnold. Elec Eng 77:248-9 Mr '58
That job overseas; should you take it? A. Boutelle. Chem Eng 64:213-14+ D '57
Tomorrow's engineer. N. C. Michels. Iron & Steel Eng 35:104-6 Fe '58
Transition from engineer to supervisor. H. M. Elliott. Machine Design 29:62-6 O 31 '57; Discussion. R. W. Jenny. 29:279-80+; Reply. 282+ D 12 '57
Unity of the profession. J. W. Barker. Chem Eng Prog 53:sup 19-21 N '57
Use engineers better by giving them help from technicians on routine jobs. Oil & Gas J 55:63 N 25 '57
Utilization of scientists and engineers conference. New Brunswick, N.J. Elec Eng 77:554 Je '58
Wanted; product design engineers. C. J. Scranton. S A E J 66:49 F '58
What it takes to be an executive. M. B. Foster. Pet Refiner 36:363-4+ N '57
What makes a systems engineer? panel discussion. Elec Manuf 61:14+ My '58
What moves engineers? A. S. Kaplan. Electronic Ind 17:132+ F '58
What should an engineer learn and unlearn to become a good manager? points of view. Product Eng 29:42-3 Mr 10 '58
Why engineers leave home. M. A. Pape and N. Kave. Electronic Ind & Tele-Tech 16:132-3 O '57
Your future demands; a survey of the engineering profession. W. F. Ryan. Mech Eng 79:1036-8 N '57

See also

- Aeronautical engineers
Automobile engineers
Chemical engineers
Civil engineers
Consulting engineers
County engineers

ENGINEERS—See also—*Continued*

Durand, William F.
Electric engineers
Engineering ethics
Engineering graduates
Engineering societies
Engineers council for professional development
Engineers joint council
Grant, Leroy Fraser
Highway engineers
Mechanical engineers
Petroleum engineers
Plastics engineers
Sanitary engineers
Tool engineers
Wenham, Francis Herbert

Registration

Engineering registration: what are the real issues? B. B. Kuist. Chem Eng Prog 54: 63-9 A^g '58
For the graduating class, professional registration. J. J. Uicker. Mech Eng 80:72-3 A^p '58
Moving day for your engineering license. J. D. Constance. I S A J 5:18+ Ja '58
Professional registration, a glance at licensing requirements. J. D. Constance. Product Eng 29:60-1 Je '58
Recognition and the engineer. P. Anderson. Product Eng 29:61+ Mr 17 '58
Registration in Canada moves ahead. J. M. Muir. Civil Eng 28:100 F '58
Value of a license. B. F. Harrison, jr. Product Eng 29:24 Ja 20 '58
Your next step: registration. A. E. Paige. Elec Eng 77:491-2 Je '58

See also

Civil engineers—Registration

Reports

See Engineering reports

Salaries

Are you selling your future short? rate yourself on Engineers and scientists of America's salary guide. Power Ind 74:4 My '58
Engineers' compensation; money comes first. Machine Design 30:30-2 My 29 '58
EJC salary survey. J Metals 9:1463 N '57
Government says this on overtime pay for engineers. R. D. Stevens. Product Eng 29: 29 JI 23 '58
NSPE has heady eye for pay proposal. Product Eng 29:28 F 24 '58
Salary increases for engineers taper off. Machine Design 29:25+ D 12 '57
Trend still up in engineers' starting salaries. Machine Design 30:27-8 A^g 7 '58
Will Congress boost engineers' pay? Eng N 160:21-2 Ja 9 '58

See also

Civil engineers—Salaries
Metallurgists—Salaries
Sanitary engineers—Salaries

Unions

Engineers and unions. bibliog Am Soc C E Proc 83 [BD 2 no 1487]:1-13 D '57
Few engineers joining unions. W. E. Ault. Oil & Gas J 56:71 Je 16 '58
Number of engineers in unions disclosed by NSPE tabulation. Machine Design 30:33+ JI 10 '58
Story of engineers on strike. Chem Eng 65: 156-8 O 6 '58
UAW organizing sputters. Control Eng 5:23 A^p '58

Germany

Engineer in Germany. H. B. Weisbecker. Electronic Ind 17:150+ S '58

Russia

How good are Soviet engineers? E. P. Ward. II diag. Engineering 184:322-5, 355-6, 409-11, 441-3, 460-1, 482-4 S 13-O 13 '57; Excerpt. Am Soc Naval Eng J 70:31-6 E '58
How Moscow designs; Soviet engineer and his rewards. Product Eng 29:50+ JI 14 '58

ENGINEERS as salesmen

How to hire sales engineers. Electronics 31:19 S 19 '58
Meet the average instrument sales engineer. J. D. MacNamara. I S A J 5:66-7 Je '58
What part salesman, what part engineer? instrument sales engineers. R. L. Rice. I S A J 5:62 F '58

ENGINEERS council for professional development

Annual meeting, 25th, and joint meeting with Engineers joint council, New York, Oct. 24-25, 1957. Elec Eng 77:80-2 Ja '58; Same cond. Mech Eng 80:129-31 Ja '58
Builders of Engineers' council for professional development. C. E. Davies. Elec Eng 77: 50-2 Ja '58; Same. Mech Eng 80:42-3 Ja '58
ECPD accreditation of engineering curricula. C. C. Chambers and G. F. Branigan. Elec Eng 77:586-8 A^g '58
Functional plan; report clarifying AIEE plan. W. J. Barrett. Elec Eng 77:119-21 F '58; Same. Mech Eng 80:57-9 F '58
Unity of the engineering profession. W. J. Barrett. Power Ind 74:15-16 Ja '58

ENGINEERS joint council

Engineers joint council policy statement on air pollution and its control. special report. Am Soc C E Proc 84 [SA 1 no 1541]: 1-8 F '58; Same abr. Heating-Piping 30: 167-70 My '58
First step for engineering unity: re-name Engineers joint council; abstract. M. G. Lockwood. Machine Design 30:6+ JI 10 '58
Functional plan; report clarifying AIEE plan. W. J. Barrett. Elec Eng 77:119-21 F '58; Same. Mech Eng 80:57-9 F '58
Joint meeting with Engineers council for professional development. New York, Oct. 24-25, 1957. Elec Eng 77:80-2 Ja '58; Same cond. Mech Eng 80:129-31 Ja '58
Unity now through EJC. M. Lockwood. Civil Eng 28:578-80 A^g '58
Unity of the engineering profession. W. J. Barrett. Power Ind 74:15-16 Ja '58

ENGINES

Reciprocating expansion engine can generate super cold temperatures. W. A. Morain. II diag. Plant 17:37-9 Je '58; Same, with tables. Iron & Steel Eng 55:130+ Je '58

See also

Air engines
Air turbines
Automobile engines
Crankshafts
Crankshafts
Diesel engines
Flywheels
Fuel
Heat engines
Internal combustion engines
Rocket engines
Steam turbines

Models

Reconstruct extinct engines. II Product Eng. 29:23 A^p 14 '58

ENGLAND*See also*

Carpet industry—England
Electric plants (central stations)—England
Water supply—England

ENGRAVING

Mill engraving for sharp reproduction of fine-line patterns; Cranston print works. II Textile Ind 122:154-6 O '58

See also

Lithography
Photoengraving
ENGRAVINGS

Printing

How electronic engravings speed letterpress. D. Saltman. II map Inland P^r 140:50-2 N '57

ENLARGING (photography). See Photography—Enlarging

ENOLS

Chemistry of enolates; self-condensation of methyl trityl ketone; a novel Claisen condensation. J. L. Greene and H. D. Zook. bibliog Am Chem Soc J 80:3629-32 JI 20 '58
Reaction of enolic β -ketoesters and β -diketones with phenylmagnesium bromide. J. P. Freeman. bibliog Am Chem Soc J 80: 1926-30 A^p 20 '58
Stereochemistry of ketonization. H. E. Zimmerman and J. E. Nevins. bibliog Am Chem Soc J 79:6554-61 D 20 '57

ENRICHED food. See Food, Enriched

ENSLOW, Linn Harrison

Obituary. por Am Water Works Assn J 49: sup44 D '57; Water & Sewage Works 104: 562 D '57
Tributes. Water & Sewage Works 105:349-53 A^g '58

ENTEROCOCCI. See Streptococci

ENTHALPY. See Thermodynamics

ENTRANCES

Progressive architecture selected details; entrance porch. H. Maize. *il Illum Eng* 52:597 39:111 J1 '58

Lighting

Lighting a night club entrance; lighting data sheet. G. H. Maize. *il Illum Eng* 52:597 N '57

ENTROPY

Correlation of solvolysis rates; solvent effects on enthalpy and entropy of activation for solvolysis of *t*-butyl chloride. S. Weinstein and A. H. Fainberg. *bibliog Am Chem Soc J* 79:5937-50 N 20 '57

Enthalpy and entropy data for hydrocarbon mixtures. M. Hobson and J. H. Weber. *bibliog Chem Eng* 64:272-4 D '57

Entropy of the compound formed between cyclopentane and 2,2-dimethylbutane at 0°K. R. N. Selby and J. G. Aston. *bibliog Am Chem Soc J* 80:5070-5 O 5 '58

Estimates of entropy of a message source. C. N. Campopiano. *Inst Radio Eng Proc* 46:1652 S '58

Heat, free energy and entropy of the ferrate(VI) ion. R. H. Wood. *bibliog Am Chem Soc J* 80:2033-41 My 5 '58

Heat of hydration of sodium sulfate; low temperature heat capacity and entropy of sodium sulfate decahydrate. G. Brodare and W. F. Glaque. *bibliog Am Chem Soc J* 80:2042-4 My 5 '58

Infrared spectrum, vibrational assignment and spectroscopic entropy of carbonyl chloride. E. Catalano and K. S. Pitzer. *bibliog Am Chem Soc J* 80:1054-7 Mr 5 '58

Low temperature heat capacities and entropies at 298.15°K. of lead sesquioxide and red and yellow lead monoxide. E. G. King. *Am Chem Soc J* 80:2400-1 My 20 '58

Low temperature heat capacities and entropies at 298.15°K. of some oxides of gallium, germanium, molybdenum and niobium. E. G. King. *bibliog Am Chem Soc J* 80:1799-800 Ap 20 '58

Problem concerning the Gibbs paradox. M. J. Klein. *Am J Phys* 26:80-1 F '58

Solubility, entropy and partial molal volumes in solutions of gases in non-polar solvents. J. E. Jolley and J. H. Hildebrand. *bibliog Am Chem Soc J* 80:1050-4 Mr 5 '58

Volumetric and thermodynamic properties of fluids; enthalpy, free energy, and entropy. R. F. Curl, Jr. and K. S. Pitzer. *bibliog Ind & Eng Chem* 50:265-74 F '58

See also

Mollier charts
Thermodynamics

ENVIRONMENT

Biological control of chemical factors in the environment. A. C. Redfield. *bibliog map diag Am Scientist* 46:204-21 S '58

Hospital environment and staphylococcal disease. R. T. Ravenholt and O. H. Ravenholt. *bibliog* (50 titles) *il Am J Pub Health* 48:277-87 Mr '58

See also

Ecology

ENZYMES

Enzymatic conversion of *D*-allohydroxy-proline to *L*-glutamate. E. Adams. *bibliog Am Chem Soc J* 79:6338-9 D 5 '57

Enzymatic conversion of uridine diphosphate *D*-glucuronic acid to uridine diphosphate galacturonic acid, uridine diphosphate xylose, and uridine diphosphate arabinose. E. F. Neufeld and others. *bibliog Am Chem Soc J* 80:4430-1 Ag 20 '58

Enzymatic formation of *D*-tagaturonic and *D*-fructuronic acid. A. J. Wahe and others. *bibliog Am Chem Soc J* 80:2594-5 My 20 '58

Enzymatic oxygen removal from packaged foods. D. Scott. *Food Tech* 12:sup7-8+ J1 '58

Enzymatic synthesis and reactions of tryptophan-adenylic acid anhydride. M. Karasek and others. *Am Chem Soc J* 80:2335-6 My 5 '58

Enzymatic synthesis of hydroxymethyltetrahydrofolic acid (active hydroxymethyl). M. J. Osborn and others. *bibliog Am Chem Soc J* 79:5565-6 D 20 '57

Enzyme action on partition chromatographic columns. E. T. Reese and M. Mandels. *Am Chem Soc J* 80:4625-7 S 5 '58

Enzyme converted starches as coating adhesives. M. L. Cushing and C. W. Turner. *bibliog Tappi* 41:345-9 J1 '58

Enzymes are something special. *il Chem & Eng N* 36:66-9 F 10 '58

Enzymes correct digester troubles and eliminate grease problems; Genoa, Ill. sewage treatment plant. P. R. Carlson and P. Cornell. *il Water & Sewage Works* 104:519-21 N '57

How does your desizing measure up? F. J. Di Carlo and others. *bibliog il Textile Ind* 122:98-100 My '58

Microscopic observations on cotton fibers subjected to enzymatic degradation. P. B. Marsh. *bibliog il Textile Res J* 27:913-16 N '57

Quick tenderizing poses challenge to packers; enzyme-treated low-cost beef. J. V. Ziembra. *il Food Eng* 30:120-1+ Ap '58

Simple microtitrimetric constant-pH method for accurate enzyme assays. M. Schwartz and T. C. Myers. *bibliog il Anal Chem* 30:1150-1 Je '58

Site of cleavage of *myo*-inositol by purified enzymes or rat kidney. F. C. Charalampous and others. *Am Chem Soc J* 80:2022 Ap 20 '58

Structural characterization of products of enzymatic disproportionation of lactose. J. H. Pazur and others. *bibliog Am Chem Soc J* 80:119-21 Ja 5 '58

p-m-diphenylpyrophosphorodiamidic acid; a new substrate for the colorimetric estimation of enzymes. E. Boger and O. M. Friedman. *bibliog Am Chem Soc J* 80:2583-4 My 20 '58

See also

Acetylcholinesterase
Amino acid oxidases
Carbonic anhydrase
Catalase
Chymotrypsin
Coenzymes
Cyclodehydrase
Dehydrogenases
Dextranase
Esterases
Fumarase
Glucosidases
Lysozymes
Oxidases
Papain
Pepsin
Peroxidases
Phosphorylases
Thrombin
Transaminases
Trypsin

Inactivation

α -chymotrypsin-catalyzed hydrolysis of methyl hippurate in aqueous solutions at 25° and pH 7.9, its inhibition by indole and its dependence upon added non-aqueous solvents. T. H. Applewhite and others. *bibliog Am Chem Soc J* 80:1457-64 Mr 20 '58

Determination of rate constants for coenzyme mechanisms. R. A. Alberty. *bibliog Am Chem Soc J* 80:1777-82 Ap 20 '58

Effect of ascorbic acid on the inactivation of tyrosinase. W. Scharf and C. R. Dawson. *bibliog diag Am Chem Soc J* 80:4627-31 S 5 '58

Effect of 1-phenyl-2-hydrazinopropane, a potent monoamine oxidase (MAO) inhibitor, on brain levels of norepinephrine and serotonin. J. H. Biel and others. *bibliog Am Chem Soc J* 80:1519 Mr 20 '58

Heat inactivation of sweet corn peroxidase in the temperature range of 210° to 310° F. J. L. Vetter and others. *bibliog Food Tech* 12:244-7 My '58

Inactivation of pectic enzymes by fruit phenolics. A. Pollard and others. *bibliog Chem & Ind* 1952 J1 26 '58

Inhibition of pectinolytic and cellulolytic enzymes in cucumber fermentations by scuppernon grape leaves. J. L. Etchells and others. *bibliog Food Tech* 12:204-8 My '58

Kinetics of the α -chymotrypsin-catalyzed hydrolysis of α -N-carbethoxy-L-tyrosinamide and its inhibition by α -N-carbethoxy-D-tyrosinamide. D. T. Manning and C. Niemann. *bibliog Am Chem Soc J* 80:1478-81 Mr 20 '58

Spectrophotometric evidence for enzyme inhibitor complexation. B. L. Vallee and others. *bibliog Am Chem Soc J* 80:397-401 Ja 20 '58

Stereochemistry of asymmetric phosphorus compounds; stereospecificity in the irreversible inactivation of cholinesterases by the enantiomorphs of an organophosphorus inhibitor. H. S. Aaron and others. *bibliog Am Chem Soc J* 80:456-8 Ja 20 '58

ENZYMES—Continued

- Specificity**
Enzyme action; a review of the Michaelis-Menten theory. J. A. Leeson. bibliog diags Research 11:345-55 S '58
Specificity of R-enzyme. I. D. Fleming and D. J. Manners. bibliog Chem & Ind p831-2 Je 28 '58
- Eocene period.** See Geology, Stratigraphic—Eocene
- EOPHOSPHORITE.** See Childrenite
- EPICHLOROHYDRIN**
Reaction of epichlorohydrin with secondary amines. D. L. Heywood and B. Phillips. bibliog Am Chem Soc J 80:1257-9 Mr 5 '58
- EPICYCLIC gearing.** See Gearing, Planetary
- EPIDEMICS**
Epidemic of enteritis blamed on cross-connection. F. M. Miller and B. Freedman. Pub Works 9:150+ O '58
See also Infectious diseases
- EPILEPSY**
Unit telemeters scalp voltages. R. W. Vreeland and others. II diag Electronics 31:86 JI 18 '58
- EPIMERIZATION.** See Isomerization
- EPOXIDES**
Base-catalyzed rearrangement of epoxides. A. C. Cope and others. bibliog Am Chem Soc J 80:2844-9 Je 5 '58
Mechanism of halide reduction with lithium aluminum hydride; reduction of certain bromohydrins and epoxides. E. L. Eliel and D. W. Delmonte. bibliog Am Chem Soc J 80:1744-52 Ap 5 '58
Revised structure for Δ^1 -carene-1:2-epoxide. E. P. Blanchard, Jr. bibliog Chem & Ind p293-4 Mr 3 '58
- EPOXY compounds**
Epoxidation of 1-acetoxycyclohexene and the rearrangement of 1-acetoxy-1,2-epoxycyclohexane. H. J. Shine and G. E. Hunt. bibliog Am Chem Soc J 80:2434-5 My 20 '58
Epoxy ketones derived from the reactions of 1,4-dihalo-1,4-dibenzoylbutanes with base. H. H. Wasserman and M. J. Gorbunoff. bibliog Am Chem Soc J 80:4563-73 S 5 '58
Epoxy plasticizers—stabilizers; symposium. bibliog Ind & Eng Chem 50:361-76 Je '58 (reprints \$1)
Epoxyethers; a bicyclo epoxyether. C. L. Stevens and A. J. Weinheimer. bibliog Am Chem Soc J 80:4072-5 Ar 5 '58
Epoxyethers; ketals from secondary monohydric alcohols. C. L. Stevens and others. bibliog Am Chem Soc J 80:2276-9 My 5 '58
Epoxyethers; reduction with lithium aluminum hydride. C. L. Stevens and T. H. Coffield. bibliog Am Chem Soc J 80:1319-21 Ap 20 '58
Ion exchange resin catalyst stability in situ epoxidation. W. Wood and J. Termini. bibliog II Am Oil Chem Soc J 35:331-5 JI '58
Rearrangement of α,β -epoxy ketones; the α -ethylbenzalacetophenone oxide system. H. O. House and D. J. Reif. bibliog Am Chem Soc J 79:6491-5 D 20 '57
Stereochemistry of base-catalyzed epoxidation. H. O. House and R. S. Ro. bibliog Am Chem Soc J 80:2428-33 My 20 '58
Theory and practice of resin-catalyzed epoxidation. A. F. Chadwick and others. bibliog Am Oil Chem Soc J 35:355-8 JI '58
- Spectra**
Infrared spectra of oxirane compounds correlations with structure. J. Bomstein. bibliog Anal Chem 30:544-6 Ap '58
- EPOXY resins.** See Resinous products
- EQUATION of motion**
Axially symmetric motions of thick cylindrical shells. I. Mirsky and G. Hermann. bibliog J Ap Mech 25:97-102 Mr '58
Co-ordinates which uncouple the equations of motion of damped linear dynamic systems. K. A. Foss. J Ap Mech 25:361-4 S '58
Escape from a circular orbit using tangential thrust. D. Benney. diag Jet Propulsion 28:167-9 Mr '58
Presenting the Hamiltonian. L. Z. Pollara. Am J Phys 26:195 Mr '58
Some solutions of the Navier-Stokes equations with time dependent density. R. D. Sullivan and C. D. Donaldson. J Aeronautical Sci 25:337-8 My '58
Theoretical analysis of the airborne path during take-off. W. R. Buckingham. Aircraft Eng 30:5-8 Ja '58

EQUATION of state

- Equations of state for ionized monolayers at the oil-water interface. D. A. Haydon. bibliog J Colloid Sci 13:159-62 Ap '58
Generalized equation of state for gases and liquids. J. O. Hirschfelder and others. bibliog diags Ind & Eng Chem 50:375-85 Mr '58
Temperature-dependent equations of state of solids. J. J. Gilvarry. bibliog (40 refs) J Ap Phys 28:1253-61 N '57
Use of shock wave observations for the determination of the equation of state. E. F. Lyne. diags A S M E Trans 80:1-8; Discussion. 8-10 Ja '58
- EQUATIONS**
Equation gives friction factor for fluid flow through pipelines. B. Miller. Chem Eng 64:253-4 D '57
Equations give time-value of dollar. G. C. Lammers. Chem Eng 65:126 JI 28 '58
Equations for finding tangent circles; data sheet. J. D. Rutter. diags Machine Design 23:111-12 O 31 '57
Equations predict chance of misfit in assembly. W. Hanka. diags Product Eng 29:61-3 My 26 '58
Formulation and solution of equations describing non-steady processes. W. Smith. diag Ind Chem 34:121-5 Mr '58
Graphical solution of the oxygen-sag equation. T. A. Wastler and N. D. Wastler. bibliog Sewage & Ind Wastes 30:1166-8 S '58
Simple derivation of an electroviscous equation. N. Street. J Colloid Sci 13:283-90 Je '58
Simplified equations for transient heat-conduction to insulated metal slab. J. H. Wiegand. bibliog Jet Propulsion 28:486-7 JI '58
Simplified form of the auxiliary equation for use in the calculation of turbulent boundary layers. T. J. Black. bibliog Roy Aeronautical Soc J 62:215-19 Mr '58
Vapor phase imperfections in vapor-liquid equilibria; semiempirical equation. C. Black. bibliog (55 ref) Ind & Eng Chem 50:391-402 Mr '58
See also Chemical equations
Differential equations
Donnell equation
Laxrange equations
Nernst equation
- EQUATIONS, Algebraic**
Algebraic approach to design of automatic controls. R. Oldenburger. bibliog A S M E Trans 80:433-41; Discussion. 441-3 F '58
- EQUATIONS, Difference.** See Difference equations
- EQUATIONS, Differential.** See Differential equations
- EQUATIONS, Integral.** See Integral equations
- EQUATIONS, Linear**
Linear computations over a complex field. J. Schmidtmayer. bibliog Roy Aeronautical Soc J 62:451-5 Je '58
Linear theory for the steered motion of ships in waves; abstract and discussion. L. J. Rydill. Engineer 206:170 Ag 1 '58
Numerical solution of certain linear boundary value problems. R. W. Cole. Assn for Computing Mach J 5:258-60 JI '58
Solution of systems of linear equations in analytical chemistry. D. J. Wilson. Anal Chem 30:1578-9 S '58
Solutions to Stoolman's external diffusion equation for instability of a normal shock inlet diffuser. C. C. Chang and C. T. Hsu. bibliog diag Jet Propulsion 28:457-60 JI '58
Solve second-order linear equations. W. E. Ball and R. C. Johnson. Chem Eng 65:145-50 F 24 '58
- EQUATIONS, Nonlinear**
Gain equalization of linear servomechanisms that solve nonlinear equations. G. E. Adams. diags Elec Com 35 no 1:15-27 '58
Natural forcing functions in nonlinear systems. T. J. Harvey. J Ap Mech 25:352-6 S '58
Nonlinear algebraic equations; Western simulation council, El Segundo, Calif.; panel discussion. Instruments & Automation 30:2087-8 N '57
Solution of non-linear simultaneous equations by successive approximations. W. J. Goodey. Roy Aeronautical Soc J 62:603-4 Ag '58
- EQUATIONS, Roots of**
Digital computer makes root locus easy. C. J. Dada. bibliog flow charts Control Eng 5:102-6 My '58; Discussion. R. M. Fleming. 5:11-12 Ag '58

EQUATIONS, Roots of—Continued

- Finding zeros of arbitrary functions. W. L. Frank. *Bibliog flow chart Assn for Computing Mach J* 6:154-60 Ap '58
- Numerical extraction of roots. *Electronic & Radio Eng* 35:25 Ja '58; Discussion, D. T. Broadbent. 35:115 Mr '58; Reply. 35:173-6 My '58
- Properties of root loci. C. S. Lorens. *Inst Radio Eng Proc* 46:1651-2 S '58
- Three approximation methods for finding roots of equations to any desired accuracy; data sheet. R. C. Boucher. *diags Machine Design* 30:125-7 A7 '58
- EQUATIONS, Simultaneous**
- Solution of non-linear simultaneous equations by successive approximations. W. J. Goodey. *Roy Aeronautical Soc J* 62:603-4 Ag '58
- EQUATIONS, Theory of**
- Application of statistics to the analysis of production decline data; combining principle of least squares with theory of equations. A. T. Chatas and W. W. Yankie, Jr. *bibliog J Pet Tech* 10:52-4 Ag '58

EQUILIBRIUM, Chemical. See Chemical equilibrium

EQUILIN

Steroids; the synthesis of equilin. J. A. Zderic and others. *Am Chem Soc J* 80: 2596-7 My '58

EQUINE encephalomyelitis. See Encephalomyelitis

EQUIPMENT industries

- Capital spending shows an upturn. *Am Mach* 102:91 S 22 '58
- Optimism high at Western handling show; poll reveals prices holding firm, sales picking up, and general business outlook good. *Mod Materials Handling* 13:60-1 J1 '58
- See also
- Associated equipment distributors
- Atomic power equipment industry
- Construction equipment
- Machine tool industry
- Petroleum equipment industries
- Plumbing supplies industry
- Welding equipment industry

Directories

- Buyer's guide; directory of water works equipment and supplies. *Water Works Eng* 11:369-76 S '58
- Buyers' guide of plant maintenance and engineering products and equipment. Published in monthly numbers of *Plant*
- Classified product section. *Welding Eng* 43: 29-32+ Mid-Je '58
- Coal Age mining guidebook; buying directory. *Coal Age* 63:135+ Mid-J1 '58
- Directory of sheet-foil manufacturers and their associated tripods. *Int Phot* 7:46+ Ja '58
- E&M's 1958 buying directory. *Eng & Min J* 169:217-56 Mid-Je '58
- Fact file; classified list of companies supplying products and services to the textile industry. *Textile World* 108:203-49 Mid-J1 '58
- Guide to buying. Published in monthly numbers of *Electrical manufacturing*
- Manufacturers' index. *Ap Hydraulics* 11:160-4 Ja '58
- 1958 directory; heating, piping, and air conditioning equipment for industrial, commercial, institutional and public buildings; classified by products, trade names, manufacturers' addresses. *Heating-Piping* 30: sup 1d-169d Ja '58
- 1958 directory of where to buy it locally. *Mod Materials Handling* 13:373-412 My '58 (reprints \$1)
- Where to buy materials, equipment, services for the light metals industry. *Mod Metals* 14:84-9 Je '58
- See also
- Diesel engines—Directories
- Electric apparatus industry—Directories
- Photographic supplies industry—Directories

Canada

Machines and equipment. *Eng J* 41:103-4 Ap '58

EQUIVALENT circuits. See Electric circuits, Equivalent

EQUIVALENT weights

Determination of equivalent weight of esters and halides with cation exchange resins. W. H. Baldwin and C. E. Higgins. *bibliog Anal Chem* 30:446-7 Mr '58

EREMOTHECIUM

Isolation of a new pteridine from eremothecium ashbyi and some observations on its structure. H. S. Forrest and W. S. McNutt. *bibliog Am Chem Soc J* 80:739-43 F 5 '58

ERGOMETERS

Ergometer measures bursts of energy. L. A. Rosenthal. *il diags Electronics* 31:79-81 Je 6 '58

ERGONOMICS. See Human engineering

ERGOSTEROL

S-adenosylmethionine and ergosterol synthesis. L. W. Parks. *bibliog Am Chem Soc J* 80:2023-4 Ap 20 '58

Thermal rearrangement of ergosterol peroxide. W. Bergmann and M. B. Meyers. *bibliog Chem & Ind* p655-6 My 31 '58

ERGOT

Biosynthesis of ergot alkaloids. R. J. Suhadolnik and others. *bibliog Am Chem Soc J* 80:3153-4 Je 20 '58

ERGOTHIONEINE. See Thioneine

ERIE, Lake

Gas hunt on. *il map Gas Age* 121:47+ My 1 '58

Mobile cable-tool platform. *il Oil & Gas J* 55: 128 N 11 '57

EROSION

Closure of the breach in Bayocan peninsula. Oregon. H. E. Brown and others. *il maps diags Am Soc C E Proc* 84 [WW 1 no 1516]: 1-20 Ja '58

Erosion control and backfill repair; Northern natural gas co. H. J. Averett. *il diags Oil & Gas* 56:213-14 S 15 '58

Hungry beach to be nourished by sand pumping plant; Palm Beach, Fla. F. H. Zurmuhlen. *il Eng N* 161:46-3 Ag 7 '58

Novel drain design stops hillside erosion. *il Eng N* 160:87 My 16 '58

Rio de Janeiro acts to save its beaches. *il map diags Eng N* 160:65 Ap 24 '58

Weathering of granite and associated erosional features in Hong Kong. B. P. Ruxton and L. Berry. *bibliog maps diags Geol Soc Bul* 68:1263-91, pl 1 O '57

See also

Alluvium

Soil conservation

United States—Soil conservation service

EROSION of metals

Catalyst erosion in cat crackers; case histories of its control. L. Resen. *diags Oil & Gas J* 55:101-3 D 9; 61-3 D 16; 61-3 D 23 '57; 56:106-9 Ja 6; 81-5 Ja 13 '58

Erosion in turbojet fuel nozzles; Battelle memorial institute, radiochemical techniques. H. E. Hazard and others. *il diags Mech Eng* 80:58-60 O '58

Index of cavitation erosion by means of radiolotopes. S. L. Kerr and K. Rosenberg. *bibliog il diags A S M E Trans* 80: 1305-11; Discussion. 1312-14 Ag '58

Olefin vapor and relay contacts. L. H. Germer and J. L. Smith. *il Bell Lab Rec* 36:122-6 Ap '58

Physical processes in contact erosion. L. H. Germer. *bibliog il diags J Ap Phys* 29:1067-82 J1 '58

Stress corrosion and cavitation-erosion damage. J. Z. Lichtman and others. *il diags A S M E Trans* 80:1325-39; Discussion. 1339-41 Ag '58

See also

Hydraulic machinery—Cavitation

ERRORS

Common errors in measurement of irrigation water. C. W. Thomas. *bibliog il diags Am Soc C E Proc* 83 [IR 2 no 1362]:1-24 S '57; Discussion. 84 [IR 2 no 1515]:23-30 Ap '58; Reply. 84 [IR 3 no 1784]:7-10 S '58

Compensating saturation in feedback control systems by excess error storage. S. S. L. Chang and R. W. Archibald. *bibliog diags Applications & Ind p* 16-20 Mr '58; Excerpts. *Control Eng* 5:168+ Mr '58

Effects of limiting error in feedback analysis. P. E. Straight, and F. Michaels. *diags I S A J* 5:44-9 My '58

Error bounds for the Runge-Kutta single-step integration process. J. W. Carr. 3d. *bibliog Assn for Computing Mach J* 5:39-44 Ja '58

Error-checking for five-channel telegraphic tape. R. A. Barbeau. *flow chart diags Com & Electronics p* 190-3 My '58

Error-correcting encoder and decoder of high efficiency. J. H. Green, Jr. and R. L. San Soucie. *bibliog diags Inst Radio Eng Proc* 46:1741-4 O '58

Error in temperature measurement due to the interdiffusion at the hot junction of a thermocouple. A. J. Mortlock. *bibliog diags J Sci Instr* 35:283-4 Ag '58

Error probabilities for binary symmetric ideal reception through nonselective slow fading and noise. G. L. Turin. *bibliog diags Inst Radio Eng Proc* 46:1603-19 S '58

ERRORS—Continued

- Error rates in data transmission. S. Reiger. *Inst Radio Eng Proc* 46:919-20 My '58
- Let's have a little less perfection. P. B. Nelson, Jr. *Mill & Factory* 63:99 J1 '58
- New method of frequency error correction in carrier systems; frequency-correcting circuit. B. R. Stachiewicz. *diags Com & Electronics* p 175-80 My '58
- Restoration in the presence of errors. R. N. Bracewell. *bibliog Inst Radio Eng Proc* 46: 106-11 J3 '58
- Some error bounds of givens. R. L. Causey. *Assn for Computing Mach J* 5:127-31 Ap '58
- Sources of error in microdetermination of arsenic. H. S. Satterlee. *bibliog* (28 titles) *diag. A M A Archives Ind Heath* 17:218-29 Mr '58
- Sources of errors in the measurement of yarn tensile forces with a combination of mechanical and electronic components. L. Waesterberg. *il diags Textile Res J* 27:925-35 D '57
- Surge measurement errors introduced by coaxial cables. J. H. Park. *il diags Com & Electronics* p343-7 J1 '58; *Abstract. Elec Eng* 77:238 Ap '58; *Discussion. Com & Electronics* p347-50 J1 '58
- System corrects errors at electronic speed without human help. *Elec Eng* 77:767-8 Ag '58
- Transmission error function for meteorburst communication. G. R. Montgomery. *Inst Radio Eng Proc* 46:1423-4 J1 '58

ERYTHROCENTAURIN

- Structure of erythrocentaurin. T. Kubota and Y. Tomita. *Chem & Ind* p230 F 22 '58

ERYTHROCYTES

- Effects of semistarvation on the distribution of erythrocytes and plasma in organs and tissues of the rat. E. P. Lasher and others. *bibliog J Nutrition* 65:317-26 Je '58
- Kinetics of the reaction of human erythrocyte carbonic anhydrase; basic mechanism and the effect of electrolytes on enzyme activity. R. P. Davis. *bibliog Am Chem Soc J* 80:5209-14 O 5 '58

ERYTHROIDINE

- Synthetic support for the α -erythroidine structure; the conversion of α - to β -erythroidine. V. Boekelheide and G. C. Morrison. *bibliog Am Chem Soc J* 80:3905-8 Ag 5 '58

ERYTHROMYCIN

- Erythromycin; structure of erythromycin. P. F. Wiley and others. *bibliog Am Chem Soc J* 79:6062-70 N 20 '57
- Erythromycin; structure of erythromycin B. P. F. Wiley and others. *bibliog Am Chem Soc J* 79:6070-4 N 20 '57
- Erythromycin; the isolation, properties partial structure of erythromycin C. P. F. Wiley and others. *bibliog Am Chem Soc J* 79:6074-7 N 20 '57

ERYTHROPENTULOSE

- Synthesis of D-erythro-pentulose tetraacetate. D. L. MacDonald and others. *bibliog Am Chem Soc J* 80:3379-81 J1 5 '58

ERYTHROSE

- Condensation of nitromethane with D-erythrose, D-rabinose, D-mannose and D-glycero-D-gala-heptose in aqueous alkali. J. C. Sowden and R. M. Thompson. *Am Chem Soc J* 80:2236-7 My 5 '58

ESCAMBIA chemical corporation

- Corporate profile. *J Agri & Food Chem* 6: 242-3 Mr '58

ESCHERICHIA coli

- Factors influencing the reliability of coliform indexes; abstract. R. E. Noble. *Am J Pub Health* 48:786-7 Je '58
- Isolation of enteric viruses and salmonellae from sewage; comparison of coliform and enterococcal incidence to the isolation of viruses. W. N. Mack and others. *bibliog Sewage & Ind Wastes* 30:957-62 Ag '58
- MPN coliform index. E. J. Laubusch. *bibliog Water & Sewage Works* 105:334-8 Ag '58
- Membrane filter media studies. J. A. McCarthy and J. E. Delaney. *bibliog Water & Sewage Works* 105:292-6 J1 '58
- Viability of E. coli treated with heat or chlorine. A. H. Walters. *Manuf Chem* 29: 210-1 My '58

ESKIMOS

See also Aleuts

ESPACH, Ralph Homeward

- Memorial. E. J. Boos and others. *por Am Assn Pet Geologists Bul* 42:2014-16 Ag '58

ESSENTIAL oil association

- Annual meeting. New York, Jan. 10. *Soap & Chem Spec* 34:195-6 F '58

ESSENTIAL oils

- Clove oils. S. Arctander. *il Drug & Cosmetic Ind* 82:602-3+ My '58
- Enfleurage. H. Sozio. *Drug & Cosmetic Ind* 82:797 J= '58
- Essential oils. D. Butterfield and J. Pickett. *Drug & Cosmetic Ind* 82:228-9 F '58
- Essential oils train bees for fruit blossom location. E. B. Boru. *il diag. Am Perfumer & Aromatics* 72:38-40 J1 '58
- Hard to get African rarities. S. Arctander. *il Drug & Cosmetic Ind* 83:166-7+ Ag '58
- Mouth wash flavors. *Drug & Cosmetic Ind* 83:354-5 S '53
- Perfumery and essential oils. G. B. Pickering. *bibliog Manuf Chem* 29:28-32 Ja '58
- Special terpeneless oils. *Drug & Cosmetic Ind* 82:82-3 Ja '58
- See also Citronella oil Eucalyptus oil Geranium oil Rose oil Sage oil Terpenes Vetiver oil

Analysis

- Analysis of phenol-containing volatile oils. M. L. Blake. *bibliog Anal Chem* 30:400-2 Mr '58
- Nature of the fixed phase or of the carrier in gas-liquid partition chromatography of essential oils and aromatics. Y. R. Naves. *Am Perfumer & Aromatics* 71:38 My '58

Manufacture

- Process-studded plant; key to fragrances; Van Ameringen-Haebler inc.; process flow-sheet. *il diags Chem Eng* 65:112-15 F 24 '58

ESSO research laboratories

- Career opportunities. *il Chem & Eng N* 36:29 p 2 Ja 27 '58

ESTERASES

- Kinetics of ester hydrolysis by horse liver esterase. N. C. Craig and G. B. Kistiakowsky. *bibliog Am Chem Soc J* 80:1874-9 Ap 5 '58
- Stepwise degradation of thymidine oligonucleotides by snake venom and spleen phosphodiesterases. W. E. Razzell and H. G. Khorana. *bibliog Am Chem Soc J* 80:1770-1 Ap 5 '58

ESTERIFICATION

- Chemical engineering unit processes. M. L. Peterson and J. W. Way. *bibliog Ind & Eng Chem* 50:1335-40 pt 2 S '58
- Conformational analysis; esterification rates of cyclohexanols. E. L. Eliel and C. A. Lukach. *bibliog Am Chem Soc J* 79:5986-92 N 20 '57
- Effects of the esterification of supplemental cholesterol and sitosterol in the diet. M. M. Best and C. H. Duncan. *bibliog J Nutrition* 65:169-81 Je '58
- Esterification of methylolated rosin. J. C. Minor and R. V. Lawrence. *bibliog il Ind & Eng Chem* 50:1127-30 Ag '58
- Liquid-phase esterification of oleic acid and isobutyl alcohol. W. C. Ling and C. J. Geankoplis. *bibliog Ind & Eng Chem* 50: 939-42 Je '58
- Structure and properties of paper; study of the mechanisms of beating and interfiber bonding by means of esterification. H. G. Higgins and others. *bibliog Tappi* 41:193-204 My '58
- Vapor-phase catalytic esterification of ethyl alcohol with acetic acid. C. Venkateswarlu and others. *bibliog diag Ind & Eng Chem* 50:373-8 Je '58

ESTERS

- Activation energies of the hydrolysis of esters and amides involving carbonyl oxygen exchange. M. L. Bender and others. *bibliog Am Chem Soc J* 80:1044-8 Mr 5 '58
- Determination of equivalent weight of esters and halides with cation exchange resins. W. H. Baldwin and C. E. Higgins. *bibliog Anal Chem* 30:446-7 Mr '58
- Developments in polyurethanes, unsaturated polyesters, polyvinyl chloride, and acrylonitrile copolymer blends, 1957. W. Cummings and R. L. Knapp. *Plastics Tech* 4:241-4 *bibliog* (p243-4) Mr '58
- Effect of structure on the stereochemistry of electrode reactions; unsaturated C-dibasic acids and esters; stereospecific reduction of the double bond. I. Rosenthal and others. *bibliog Am Chem Soc J* 80:3050-5 Je 20 '58

ESTERS—Continued

- Intramolecular bifunctional catalysis of ester hydrolysis. H. Morawetz and I. Oreskes. *Am Chem Soc J* 80:2591-2 My 20 '58
- Kinetics of ester hydrolysis by horse liver esterase. N. C. Craig and G. B. Kistiakowsky. *bibliog Am Chem Soc J* 80:1574-9 Ap 5 '58
- Polyester/glass sheet production. *il diags Brit Plastics* 33:372-74 '58
- Polyesters of dimethyl acids as intermediates for urethane foams. R. D. Aylesworth and others. *bibliog Mod Plastics* 35:145-6+ My '58
- Reaction of neutral esters of trivalent phosphorus acids with inorganic acid chlorides. A. C. Poskusz and J. E. Herweh. *bibliog Am Chem Soc J* 79:6127-9 D 5 '57
- Reaction of neutral esters of trivalent phosphorus acids with inorganic acid chlorides; the reaction of triphenyl phosphite with acid chlorides of sulfur acids. A. C. Poskusz and others. *bibliog Am Chem Soc J* 80:5022-7 O 5 '58
- Sugar-based ester coming. *il Chem & Eng N* 36:24 Ap 21 '58
- Synthesis of acetylenic acetals, ketals and orthoesters. B. W. Howk and J. C. Sauer. *bibliog Am Chem Soc J* 80:4607-9 S 5 '58
- Thermalax-F. E. Clanchetti. *Wire & Wire Prod* 33:376+ Ag '58
- Thiol esters of long-chain acids and long-chain alkanethiols. R. Sasin and others. *bibliog Am Oil Chem Soc J* 35:192-4 My '58

Analysis

- Chromatography of esters on florissil; detection as ferric hydroxamates. F. B. O'Neal and J. Carlton. *Anal Chem* 30:1061-3 Je '58
- Direct determination of saturated fatty acids in fats, oils, and methyl esters. D. F. Kuemmel. *diags Am Oil Chem Soc J* 35:41-5 Ja '58
- Organic acids and esters produced in pre-ferments. J. A. Johnson and others. *bibliog J Agri & Food Chem* 6:384-7 My '58

ESTHETICS

- Architecture and popular taste. D. Haskell. *il Arch Forum* 109:104-9 Ag '58

ESTIMATES

- Estimating and bidding on heavy construction. E. Rau. *Civil Eng* 28:93-5 F '58
- Estimating forum. R. Ashley. *Elec Constr & Maint* 57:98-9 Ja; 75 F; 91 Mr; 89 Ap; 80-1 Je; 88-9 J '58
- Estimating special equipment costs. R. G. Dexter. *il Automation* 5:52-4 My '58
- How computers aid economic studies; special report on costs. H. E. Jones and E. W. Kjellmark, Jr. *bibliog il diag Pet Refiner* 37:151-63 Je '58
- How to determine new-product costs. D. W. Karger. *Machine Design* 30:128-35 S 18 '58
- How to improve estimate accuracy; special report on costs. W. L. Gore. *diag Pet Refiner* 37:142-5 Je '58
- Process evaluation from lab to plant; special report on costs. R. L. Buchanan. *flow sheet Pet Refiner* 37:146-50 Je '58
- Sewage treatment construction estimates. 1957-1960. B. A. Poole and others. *Sewage & Ind Wastes* 30:301-4 Mr '58
- What affects estimate accuracy? special report on costs. J. W. Hackney. *il Pet Refiner* 37:128-34 Je '58

See also

- Building—Estimates
Chemical engineering—Estimates
Piping—Estimates
Roads—Estimates

ESTRADIOL

- Preparation and reactions of 11-substituted 1,3,5(10)-estratrienes. B. J. Magerlein and J. A. Hogg. *bibliog Am Chem Soc J* 80:2220-5 My 5 '58

ESTRADIOLONE

- Preparation of 5 β -estrane-3,17-dione and related derivatives and proof of their configuration. R. T. Rapala and E. Farkas. *Am Chem Soc J* 80:1008-9 F 20 '58

ESTRATRIENE

- Preparation and reactions of 11-substituted 1,3,5(10)-estratrienes. B. J. Magerlein and J. A. Hogg. *bibliog Am Chem Soc J* 80:2220-9 My 5 '58

ESTROGENS

- Characterization of coumestrol, a naturally occurring plant estrogen. E. M. Bickoff and others. *bibliog Am Chem Soc J* 80:3969-71 Ar 5 '58

- Isolation of a new estrogen from ladino clover. M. Bickoff and others. *bibliog J Agri & Food Chem* 6:536-9 J1 '58
- New estrogen synthesized. *il Chem & Eng N* 36:49-50 S 22 '58
- Synthesis of coumestrol, 3,9-dihydroxy-6H-benzofuro[3,2-c]benzopyran-6-one. O. H. Emerson and E. M. Bickoff. *bibliog Am Chem Soc J* 80:4381-3 Ag 20 '58
- Synthesis of 2-methoxyestrogens. J. Fishman. *Am Chem Soc J* 80:1213-16 Mr 5 '58

ESTROGENS, Analogs of

- Anthrasteroid rearrangement; the preparation of an analog of the androgens and estrogens. W. R. Nes and others. *bibliog Am Chem Soc J* 80:5233-5 O 5 '58

ESTRONE

- 16 α -Chloro- and 16 α -iodoestrone methyl ether, new and potent lipid-shifting agents. G. P. Mueller and others. *bibliog Am Chem Soc J* 80:1769-70 Ap 5 '58
- Configuration of the estrones; total synthesis of the remaining stereoisomers. W. S. Johnson and others. *bibliog diags Am Chem Soc J* 80:661-79 F 5 '58
- Preparation and reactions of 11-substituted 1,3,5(10)-estratrienes. B. J. Magerlein and J. A. Hogg. *bibliog Am Chem Soc J* 80:2220-5 My 5 '58

Spectra

- Infrared spectra of nitrated estrones. R. A. Pickering and H. Werbin. *bibliog Am Chem Soc J* 80:680-5 F 5 '58

ESTUARIES

- Capacity of estuaries to purify sewage and industrial wastes; abstract. B. A. Southgate. *Chem & Ind p* 1638-9; Discussion. 1639 D 21 '57
- Effects of heated discharges on the temperature of the Thames estuary. A. L. H. Gameson and others. *bibliog Engineer* 204:816-19, 850-2, 893-6 D 6-20 '57
- Long-term effects of training walls, reclamation, and dredging on estuaries. C. Inglis and F. Kestner. *Engineer* 205:507-8 Ap 4 '58

ETAMYCIN. See Antibiotics**ETCHING (ceramic materials)**

- Etching of refractories and cermets by ion bombardment. T. K. Elerien and others. *il diag Am Cer Soc J* 41:196-200 Je 1 '58

ETCHING (metals)

- Continuous process for etching copper. P. D. Garn and L. H. Sharpe. *Bell Lab Rec* 36:161 Mr '58; Same abr. *Chem & Eng N* 36:53-9 Ap 21 '58; Abstract. *Electronics* 31:24-5 My 2 '58
- Continuous regeneration for copper etching solutions. *Elec Manuf* 61:10 My '58
- Correlation of thermal etch pits with dislocations in silver. J. P. Hirth and L. Vassamillet. *bibliog J Ap Phys* 29:595 Mr '58
- Dislocation etch pits in antimony. J. H. Wernick and others. *bibliog il J Ap Phys* 29:1013-18 J1 '58
- Dislocations and selective etch pits in InSb. J. D. Venables and R. M. Broudy. *bibliog il diags J Ap Phys* 29:1025-8 J1 '58
- Effect of oxygen on etch-pit formation in silicon. R. A. Logan and A. J. Peters. *bibliog il J Ap Phys* 28:1419-23 D '57
- Etch pitting on single-crystal indium antimonide. R. E. Maringer. *il J Ap Phys* 29:1261 Ag '58
- Etching of germanium crystals by ion bombardment. G. K. Wehner. *bibliog il J Ap Phys* 29:217-21 F '58
- Hillocks, pits, and etch rate in germanium crystals. B. W. Batterman. *bibliog il diags J Ap Phys* 28:1236-41 N '57
- Jet spray automates transistor etching cycle. M. Doser. *il diags Electronics* 31:98+ F 23 '58
- New etch process: Becco Chemical etches printed circuits. *Chem & Eng N* 36:54 Ja 6 '58
- New process for regenerating copper etch baths. *il Iron Age* 181:135 My 22 '58
- One etchant handles several metal plates. *il Electronics* 31:109-11 S 26 '58
- Photoetching forms thin parts. *il diags Steel* 141:153-6 N 18 '57
- Photoetching produces thin metal parts without dies. G. R. Hockmeyer. *il Mach* 64:129-31 Mr '58
- Plasticity of solids explored by new technique. J. J. Gilman. *il diags Gen Elec R* 61:9-12 J1 '58
- Polygonization of copper. F. W. Young, Jr. *il diag J Ap Phys* 29:760-4 My '58

ETCHING (metals)—Continued

Selective electrolytic etching of germanium and silicon junction transistor structures. I. A. Lesk and R. E. Gonzalez, *bibliog* *il* *diags* *Electrochem Soc J* 105:469-72 Ag '58

Simple etching cutter. R. W. Armstrong and R. A. Rapp, *diags R Sci Instr* 29:433 My '58

ETCHING (minerals)

Etching studies on photographic grains. J. F. Hamilton and others, *bibliog* *il* *J Ap Phys* 29:800-3 My '58

Safe method for etching crystals. A. J. Newland, *diags Q S T* 42:20-1 Ja '58

ETHANE

McMahon plant complex; light-hydrocarbon fractionation. C. R. Hetherington, *flow diag Oil & Gas J* 56:104-6 J 7 '58

ETHANEDIAMINES. See Ethylenediamine**ETHANOL. See Alcohol****ETHANOLAMINE**

Compounds related to α -glycerophosphoric acid, phosphorylcholine and phosphoryl-ethanolamine. A. F. Rosenthal and R. P. Gevey, *bibliog* *Am Chem Soc J* 80:5240-1 O 5 '58

Ethanolamines; too much capacity. Chem. & Eng. N 36:34-5 F 10 '58

Longer life for monoethanolamine reboilers. L. Resen, *diags Oil & Gas J* 56:82-3 J 21 '58

Maintaining ethanolamine. J. C. Dingman and R. P. Monaghan, *bibliog* *flow diag Oil & Gas J* 56:125 F 10; 128 F 17; 127 My 5; 183 My 19; 133 Je 2 '58

Nutritional studies with glycine, amino-ethanol and related compounds in the chick. R. L. Wixon and others, *J Nutrition* 64: 13-31, *bibliog* (53 titles, p28-31) Ja '58

Packed column performance of carbon dioxide-monoethanolamine system. A. J. Teller and H. E. Ford, *bibliog* *il* *Ind & Eng Chem* 50:1201-6 Ag '58

Potentiometric titration of free amine and amine carbonate in carbonated monoethanolamine solutions. Y. C. Chang, *bibliog* *Anal Chem* 30:1095-7 Je '58

Manufacture

Ethanolamines, flow diag *Pet Refiner* 36:231 N '57

ETHERS

Chemistry of α,β -unsaturated ethers; condensation with aldehydes. R. I. Hoaglin and others, *bibliog* *Am Chem Soc J* 80: 3069-73 Je 20 '58

Dealkylation in connection with diazo coupling of phenol ethers. J. F. Burnett and G. B. Hoey, *bibliog* *Am Chem Soc J* 80: 3142-6 Je 20 '58

Grignard reagents and unsaturated ethers; the cleavage of diallyl ethers by aliphatic and aromatic Grignard reagents. C. M. Hill and others, *Am Chem Soc J* 80:3623-5 J 20 '58

How polyether foams compare. M. J. Sanger and others, *il* *Materials in Design Eng* 47: 101-3 Mr '58

Indanols; aminoalkyl ethers. S. L. Shapiro and others, *bibliog* *Am Chem Soc J* 80:3729-33 J 20 '58

Metalation of phenolic and phenol ether systems. L. Santucci and H. Gilman, *bibliog* *Am Chem Soc J* 80:4537-9 S 5 '58

Peroxides boost Grignards; new path to alcohols, phenols, and ethers. Chem. & Eng. N 36:50 S 22 '58

Petroleum ether extractives of aspen bark. R. L. Hossfeld and W. T. Hunter, *bibliog* *Tappi* 41:359-62 J 7 '58

See also

Ethyl ether
Vinyl ethers

Analysis

Estimation of trace and major quantities of lower alcohols, ethers, and acetone in aqueous solutions by gas liquid partition chromatography. S. L. Bodnar and S. J. Mayeux, *diags Anal Chem* 30:1384-7 Ag '58

Mass spectrometric analysis; aliphatic ethers. F. W. McLafferty, *bibliog* *Anal Chem* 29: 1782-9 D '57

ETHICS

Unified code of ethics for hiring engineering grads. *Product Eng* 28:36 O 28 '57

See also

Advertising ethics
Engineering ethics
Professional ethics

ETHICS, Engineering. See Engineering ethics**ETHIONINE. See Butyric acid****ETHOXYCARBONYL compounds**

Electrophilic character of carbethoxycarbene. P. S. Skell and R. M. Etter, *bibliog* *diags Chem & Ind* p624-5 My 24 '58

ETHOXY compounds

Reaction of α -ethoxymethylenecarboxylic esters with some cyclic amides. H. Antaki, *bibliog* *Am Chem Soc J* 80:3066-9 Je 20 '58

ETHYL acetate

Calculation of association constants for complex formation from spectral data; infrared measurements of hydrogen bonding between ethanol and ethyl acetate, and ethanol and acetic anhydride. E. Grunwald and W. C. Coburn, jr, *bibliog* *Am Chem Soc J* 80:1322-5 Mr 20 '58

Vapour-liquid equilibria of ethyl acetate-trichloroethylene system. M. Raja Rao and others, *bibliog* *diag J Ap Chem* 7:666-71 D '57

Spectra

Infrared carbonyl band intensity in some substituted ethyl acetates. T. L. Brown, *bibliog* *Am Chem Soc J* 80:3513-15 J 20 '58

ETHYLAMINE

Decrystallization of cotton cellulose. C. H. Haydel and others, *bibliog* *Ind & Eng Chem* 50:74-5 Ja '58

ETHYL benzene

Alkyl and Butamer, two from Universal Oil Products; method to make ethylbenzene from ethylene, another for butane isomerization. E. W. Grote, *diags Chem & Eng N* 36:54-4 Ap 7 '58

Disproportionation of alkylbenzenes; behavior of *n*-butyl- α -C¹⁴-benzene upon treatment with aluminum chloride; further results with ethyl- β -C¹⁴-benzene. R. M. Roberts and others, *Am Chem Soc J* 80: 2507-9 My 20 '58

Disproportionation of alkylbenzenes; ethylbenzene and diethylbenzene. D. A. McCaulay and A. P. Lien, *Am Chem Soc J* 79:5953-5 N 20 '57

Disproportionation of alkylbenzenes; ethylbenzene interaction with xylenes. D. A. McCaulay and others, *Am Chem Soc J* 79: 5808-9 N 5 '57

Hydrogen transfer; reaction of 1,3-dimethyl-4-ethylbenzene and ethylmethylstyrene with methylcyclohexene; transalkylation reaction of diarylethanes. H. Pines and J. T. Arrigo, *bibliog* *Am Chem Soc J* 80:4369-78 Ag 20 '58

Manufacture

Ethylbenzene, flow diag *Pet Refiner* 36:236 N '57

ETHYL cellulose

Properties of materials; cellulose nitrate and ethyl cellulose. *Materials in Design Eng* 48: 146 Mid-O '58

Relationship between viscosity and molecular weight of ethyl cellulose. W. R. Moore and A. M. Brown, *bibliog* *J Ap Chem* 8: 363-7 Je '58

ETHYL chloride. See Chloroethane**ETHYL corporation**

Career opportunities. *il* *Chem & Eng N* 36:32-3 pt 2 Ja 27 '58

ETHYL cyclohexane

Isomerization of saturated hydrocarbons; the aluminum bromide catalyzed isomerization of ethyl- β -C¹⁴-cyclohexane. H. Pines and others, *bibliog* *diags Am Chem Soc J* 80: 1930-3 Ap 20 '58

ETHYL ether

Etherates of lithium borohydride; the system lithium borohydride-diethyl ether. T. L. Kolski and others, *bibliog* *diag Am Chem Soc J* 80:549-52 F 5 '58

Manufacture

Ethyl alcohol and ethyl ether, flow diag *Pet Refiner* 36:235 N '57

ETHYLMALIMIDE

Spectrophotometric assay for reaction of *N*-ethylmaleimide with sulphydryl groups. E. Roberts and G. Rouser, *bibliog* *Anal Chem* 30:1281-2 J 7 '58

Spectrophotometric assay for sulphydryl groups using *N*-ethylmaleimide. N. M. Alexander, *bibliog* *Anal Chem* 30:1292-4 J 7 '58

ETHYL methyl ketone. See Butanone**ETHYL propionate**

Reactions of alkoxy radicals; photolysis of ethyl propionate. M. H. J. Wijnen, *bibliog* *Am Chem Soc J* 80:2394-400 My 20 '58

ETHYLATION

Relative rates of side-chain ethylation of aromatic hydrocarbons. H. Pines and L. Schaap. *bibliog Am Chem Soc J* 80:3076-9 *Je* 20 '58

ETHYLENE

Compressibility factors at low pressures. H. W. Piennig and J. J. McKetta. *bibliog Pet Refiner* 36:309-12 *N* '57

Ethylene still leads growth of petrochemicals; with survey of petrochemicals' growth. *Oil & Gas J* 56:179-81 *Ja* 27 '58

Ethylene; technology paints the market picture. J. W. Bradley and others. *Chem Eng* 65:83-4 *Ja* 27 '58

Heats of hydrogenation; heats of hydrogenation of some substituted ethylenes. R. B. Turner and others. *Am Chem Soc J* 80:1430-3 *Mr* 20 '58

Kinetics of the thermal reactions of ethylene. G. Dahlgren, Jr. and J. E. Douglas. *bibliog Am Chem Soc J* 80:5108-10 *O* 5 '58

Organic sulfur compounds; synthesis of ethylenes and ethylene sulfides by action of diazoalkanes on thioketones. A. Schönberg and others. *bibliog Am Chem Soc J* 79:6020-3 *N* 20 '57

Polymerization of ethylene by lower valent compounds of titanium. D. B. Ludlum and others. *bibliog Am Chem Soc J* 80:1380-4 *Mr* 20 '58

Reaction of stereoisomeric C¹⁴-labeled 1-bromo-2,2-diarylethylenes and β -bromostyrenes with butyllithium. D. Y. Curtin and others. *bibliog Am Chem Soc J* 80:4599-601 *S* 5 '58

Reactions of methylene; ethylene, propane, cyclopropane and *n*-butane. H. M. Frey and G. B. Kistiakowski. *bibliog Am Chem Soc J* 79:6373-9 *D* 20 '57

Spectrophotometric study of the interaction of bromine with tetrakis-(*p*-methoxyphenyl) ethylene. R. E. Buckles and W. D. Womer. *bibliog Am Chem Soc J* 80:5056-8 *O* 5 '58

Telomerization of ethylene with methyl bromoacetate. W. A. Skinner and others. *bibliog Am Chem Soc J* 79:5790-2 *N* 5 '57

Vinyl chloride from ethylene. flow diag *Pet Refiner* 36:290 *N* '57

Manufacture

Eastman process for cracking light hydrocarbons to acetylene and ethylene. G. A. Akin and others. *bibliog flow diag* *il diag Chem Eng Prog* 54:41-8 *Ja* '58; *Abstract. Oil & Gas J* 56:78-80 *Ja* 13 '58

Ethylene and propylene; Lumnum co. flow diag *Pet Refiner* 36:245 *N* '57

Ethylene; M. W. Kellogg co. flow diag *Pet Refiner* 36:246 *N* '57

Ethylene production; Stone & Webster engineering corp. flow diag *Pet Refiner* 36:243 *N* '57

Ethylene with pebble heater; Phillips petroleum co. flow diag *Pet Refiner* 36:244 *N* '57

Spectra

Structure of ethylene from infrared spectra. H. C. Allen, Jr. and E. K. Plyler. *bibliog Am Chem Soc J* 80:2673-6 *Je* 5 '58

Storage

Dual-purpose pipeline designed for both transport and storage of high-purity ethylene. *il Oil & Gas J* 56:100-4 *F* 10 '58

Ethylene storage and distribution. H. C. Schutt and A. R. Mattioli. *bibliog flow diag plan diag Oil & Gas J* 56:74-9 *Ag* 4; 80-4 *Ag* 25; 150-4 *S* 1 '58

Transportation

Dual-purpose pipeline designed for both transport and storage of high-purity ethylene. *il Oil & Gas J* 56:100-4 *F* 10 '58

Ethylene jumps state line; Interstate pipeline carries high purity ethylene from Lake Charles, La. to Orange, Tex. *il map Chem & Eng N* 35:22-3 *D* 16 '57

Ethylene storage and distribution; pipelines find favor in transporting ethylene. H. C. Schutt and A. R. Mattioli. *diag Oil & Gas J* 56:150-4 *S* 1 '58

First ethylene pipeline built for interstate shipments. *il Pet Eng* 30:D42-4 *F* '58

ETHYLENEDIAMINE

Amines; the base strengths of tetramethylated 1,2-ethanediamines. L. Spalter and R. W. Mosher. *bibliog Am Chem Soc J* 79:5955-7 *N* 20 '57

Cis-trans isomerization of dihydroxo- and diqua-bis-ethylenediamine-cobalt(III) ions. J. Y. Tong and P. E. Yankwich. *bibliog Am Chem Soc J* 80:2664-7 *Je* 5 '58

Organic sulfides and polysulfides; reactions with hydrazine, ethylenediamine and ammonia. Y. Minoura. *bibliog Rubber Chem & Tech* 31:612-14 *J* '58

Spectrophotometric determination of iron with ethylenediamine-di(*o*-hydroxyphenyl-acetic acid). A. L. Underwood. *Anal Chem* 30:44-7 *Ja* '58

ETHYLENEDIAMINE tetraacetic acid

Analysis control of tin bronze and gun metals; ethylenediaminetetraacetate (EDTA) titration method. J. Kinnunen and B. Wennerstrand. *bibliog Foundry* 86:97 *J* '58

Analysis for industry; Complexones. T. S. West. *bibliog Ind Chem* 34:37-9, 89-91 *Ja-F* '58

Chelometric titrations of metal ions with pentametric and polyelectrolytes; ethylenedinitrilo-tetraacetic acid. C. N. Reilly and others. *bibliog diags Anal Chem* 30:953-7 *My* '58

Chelometric titrations using an azoarsonic acid indicator. J. S. Fritz and others. *bibliog Anal Chem* 30:111-14 *Je* '58

Chemical solution of evaporator scale. N. O. Schmidt and W. S. Wise. *bibliog Ind & Eng Chem* 50:311-14 *My* '58

Complexometric titration of calcium in the presence of magnesium. A. D. Kenny and V. H. Cohn. *Anal Chem* 30:1366-8 *Ag* '58

Complexometric titration of copper and other metals in mixture; 1-(2-pyridylazo)-2-naphthol (dye) as indicator. K. L. Cheng. *Anal Chem* 30:243-5 *F* '58

Effect of edathamil calcium-disodium on retention of lead in the liver. J. Teisinger and others. *diag A M A Archives Ind Health* 17:302-6 *Ap* '58

Effect of edathamil calcium-disodium on the lead content of red blood cells and blood proteins. J. Teisinger and others. *bibliog il A M A Archives Ind Health* 17:295-301 *Ap* '58

Ethylenediamine tetra-acetic acid and allied compounds in metallurgical analysis. E. G. Brown. *bibliog Metallurgia* 58:149-59 *S* '58

EDTA sequestrant finds widening uses. H. Zimmerman and M. MacKinnon. *il Can Chem Process* 41:66-3 *D* '57

Evidence for the existence of a rhodium complex with EDTA. W. MacNevin and others. *Chem & Ind p* 101 *Ja* 25 '58

Fast sulphon black F as an indicator for the EDTA titration of copper. R. Belcher and others. *Chem & Ind p* 164 *Ag* 21 '57

Indirect complexometric analysis with aid of liquid amalgams. W. G. Scribner and C. N. Reilly. *bibliog diags Anal Chem* 30:1452-62 *S* '58

Influence of inert cations on the reduction of complex anions; polarography of the cadmium-EDTA complex. R. W. Schmid and C. N. Reilly. *bibliog Am Chem Soc J* 80:2101-5 *My* 5 '58

Is soap outdated? A. K. Prince and W. R. Merriman. *il Soap & Chem Spec* 34:39-42-4 *J* '58

Kinetics of the exchange of nickel ethylenediaminetetraacetate ion with nickelous ion. C. M. Cook, Jr. and F. A. Long. *bibliog Am Chem Soc J* 80:33-7 *Ja* 5 '58

Oral administration of edathamil calcium disodium (calcium disodium versenate). L. D. Pagnotto and others. *bibliog A M A Archives Ind Health* 17:29-33 *Ja* '58

Potentiometric titrations with (ethylenedinitrilo)tetraacetate; use of masking agents to improve selectivity. J. S. Fritz and others. *Anal Chem* 30:1347-50 *Ag* '58

Properties and infrared spectra of ethylenediaminetetraacetic acid complexes; alkaline earth chelates. D. T. Sawyer and P. J. Fautsen. *bibliog Am Chem Soc J* 80:1597-600 *Ap* 5 '58

Resolution of the quinquedentate cobalt(III) complexes with ethylenediaminetetraacetic acid. F. P. Dwyer and F. L. Garvan. *bibliog Am Chem Soc J* 80:4480-3 *S* 5 '58

Treatment of exposure to thorium and uranium with a chelating agent and supportive measures. W. N. Young and H. A. Telscock. *bibliog Ind Med* 27:229-32 *My* '58

ETHYLENE dichloride. See Dichloroethane

ETHYLENE glycol. See Glycol

ETHYLENEDIIMINE

Some addition compounds of bis-salicylaldehyde-ethylenediamine-copper. T. Tanaka. *bibliog Am Chem Soc J* 80:4108-10 *Ag* 5 '58

ETHYLENE oxide

Ethylene oxide addition to long-chain alcohols. H. F. Drew and J. R. Schaeffer, *bibliog Ind & Eng Chem* 50:1253-4 S '58

Ethylene oxide, big growth item. *il Chem & Eng N* 36:19-21 Je 30 '58

Glycol production, hydration of ethylene oxide. L. K. Othmer and M. S. Thakar, *bibliog Ind & Eng Chem* 50:1235-44 S '58

High molecular weight polymers of ethylene oxide. F. N. Hill and others, *bibliog il Ind & Eng Chem* 50:5-16 Ja '58

Improvement of soap with ethylene oxide condensation products. H. E. Tschakert, *il Manuf Chem* 29:233-6 Je '58

Improving soap with nonionics; ethylene oxide condensates. H. E. Tschakert, *Soap & Chem Spec* 33:213+ D '57

New high polymer entry; water soluble poly (ethylene oxide) resin family. *il Chem & Eng N* 35:62 N 11 '57

Nonionic surface active agents. L. Raphael, *bibliog Manuf Chem* 29:105-8 Mr '58 (to be cont)

Polyoxyethylation of alcohol. W. B. Satkowski and C. G. Hsu, *bibliog Ind & Eng Chem* 49: 1875-8 N '57

Review of ethylene oxide condensation with relation to surface-active agents. R. D. Fine, *bibliog Am Oil Chem Soc J* 35:542-7 O '58

Analysis

New titrimetric analysis for ethylene oxide condensates. L. E. Weeks and others, *bibliog Am Oil Chem Soc J* 35:149-52 Ap '58

Manufacture

Achieving top plant efficiency; Carbide Chemicals use a computer to derive optimum operation of ethylene oxide unit. *il Can Chem Process* 42:91-2+ Je '58

Ethylene oxide, flow diag *Pet Eng* 30:C51-2 Mr '58

Ethylene oxide and ethylene glycol; Stone & Webster engineering corp, flow diag *Pet Refiner* 36:242 N '57

Ethylene oxide; Atlantic refining co., Vulcan-Cincinnati, inc, flow diag *Pet Refiner* 36:240 N '57

Ethylene oxide; Scientific design co, flow diag *Pet Refiner* 36:241 N '57

General Aniline & Film backs air-oxidation for ethylene oxide; process flowsheet. *il Chem Eng* 65:100-3 J1 23 '58

ETHYLENE sulfide

Organic sulfur compounds; synthesis of ethylenes and ethylene sulfides by action of diazoalkanes on thioesters. A. Schönberg and others, *bibliog Am Chem Soc J* 79:6020-3 N 20 '57

ETHYLENIMINE

Reactions of ethylenimines; the mechanisms of ring openings of ethylenimines in acidic aqueous solutions. J. E. Earley and others, *bibliog Am Chem Soc J* 80:3458-62 J1 5 '58

ETHYNYL group

Ethynylated derivatives related to adrenosterone and a steroidal effect on experimental hyperlipaemia. L. Velluz and others, *bibliog Am Chem Soc J* 80:2026 Ap 20 '58

Ethynylation of 4-t-butylcyclohexanone and kinetics of saponification of the ethynylcarbinol esters. G. F. Hennion and F. X. O'Shea, *bibliog Am Chem Soc J* 80:614-17 F 5 '58

In vivo hydroxylation of 1-ethynylcyclohexyl carbamate. R. E. McMahon, *bibliog Am Chem Soc J* 80:411-14 Ja 20 '58

ETIQUET

See also
Courtesy

ETTINGSHAUSEN effect

Ettingshausen effect and thermomagnetic cooling. B. J. O'Brien and C. S. Wallace, *diags J Ap Phys* 29:1010-12 J1 '58

EUCALYPTUS

Neutral sulphite semichemical studies; fibration of pulps. W. J. Nolan, *Tappi* 41:41-8 Ja '58

Pulping studies on eucalyptus deglupta Bl., *brugiera parviflora* Wight, and *Arn. avicennia marina* (Forsk.) Vierh. A. von Koepen, *bibliog Tappi* 41:460-4 Ag '58

Studies on the nitration of eucalyptus rostrata and pinus halepensis. M. Lewin and J. A. Epstein, *bibliog Tappi* 41:240-5 My '58

Sulfite pulp from African eucalypts; abstract. H. Sadler and O. Trantina, *Paper Ind* 39: 803 D '57

EUCALYPTUS oil

Citriodora (eucalyptus citriodora), S. Arctander, *il Drug & Cosmetic Ind* 82:28-30+ Ja '58

EULICIN. See Antibiotics**EURATOM**. See European atomic authority**EUROPE**

See also subdivision Europe under special subjects, e.g.

Atomic power plants

Automobile industry and trade

Chemical research

Concrete construction

Electricity supply

Electronics industry

Engineering

Engineering education

Fuel supply

Gas, Natural

Machinery industry

Medical service

Petroleum pipe lines

Plastics industries

Rubber industry and trade

Soap industry and trade

Steel industry and trade

Steel works

Technical education

Technology

Television broadcasting

Commercial policy

Impact of the European free trade area on the British plastics industry. A. Renfrew, *Brit Plastics* 31:413-14 O '58

Economic union (proposed)

Engineering firms in the free trade area; preparing for D-day, *Engineering* 184:651-2 N 22 '57

See also**EUROPEAN economic community**

Euratom, *Metal Prog* 74:98 S '58

For Euratom; congressional snags, *Chem & Eng N* 36:28-9 Ag 4 '58

U.S.-Euratom joint nuclear programme, *Engl-News* 206:113 J1 18 '58

EUROPEAN corn borer. See Corn—Diseases and pests

EUROPEAN economic community

European free trade and plastics; common market, *il maps Brit Plastics* 31:176-87 My '58

EUROPEAN free trade area. See Europe—Commercial policy

EUROPEAN industrial conference. Conference, London, *Engineering* 185:307 Mr 7 '58

EUROPEAN nuclear energy agency. See Atomic power—International aspects

EUROPIUM

Configuration of the solvate iceberg about Eu^{+3} in aqueous and alcoholic solutions of EuCl_3 . D. G. Miller, *bibliog diags Am Chem Soc J* 80:3576-9 J1 20 '58

EUROPIUM borides

Europlum hexaboride and lanthanum tetraboride. E. J. Felten and others, *Am Chem Soc J* 80:3479 J1 6 '58

EUROPIUM chloride

Configuration of the solvate iceberg about Eu^{+3} in aqueous and alcoholic solutions of EuCl_3 . D. G. Miller, *bibliog diags Am Chem Soc J* 80:3576-9 J1 20 '58

EUROVISION. See Television broadcasting—Europe

EUTECTICS

Control of the properties of glazes by the aid of eutectics. A. S. Watts, *diags Am Cer Soc J* 41:249-53 J1 1 '58

Direct study of eutectic alloys by means of electron microscopy. N. Takahashi and K. Ashinuma, *bibliog il diags Inst Metals J* 87: 19-23 '58-59

Electromotive force series in molten lithium chloride-potassium chloride eutectic. H. A. Latinen and C. H. Liu, *bibliog Am Chem Soc J* 80:1015-20 Mr 5 '58

Systems $\text{CaF}_2\text{-LiF}$ and $\text{CaF}_2\text{-LiF-MgF}_2$. W. E. Roake, *bibliog Electrochem Soc J* 87: 661-2 N '57

EUXENITE

Chlorination of euxenite concentrates. A. W. Henderson and others, *diags Ind & Eng Chem* 50:611-12 Ap '58

EVAPORATED milk. See Milk, Evaporated

EVAPORATION

Chemical coating to halt evaporation. V. K. La Mer, *Elec Eng* 77:772-3 Ag '58

Economics of thermal compression evaporation; pulp mill waste cooking liquor. R. V. Kleinschmidt and others, *Tappi* 41:86-90 F '58

EVAPORATION—Continued

- Effect of a variable evaporation rate on the ballistics of droplets. C. C. Miesse, biblog Franklin Inst J 264:391-401 N '57
- Effects of unipolar air ions on microorganisms and on evaporation. A. P. Krueger and others, biblog diags Franklin Inst J 266:9-19 J '58
- Evaporation from free water surfaces at high altitudes. H. F. Blaney, biblog Am Soc C E Proc 82 (IR 3 no 11041):1-15 N '56; Discussion 83 (IR 1 no 1257):15-23 My '57; Reply 84 (IR 1 no 1521):3-5 J '58
- Measurement of instantaneous absolute barium evaporation rates from dispenser cathodes. W. C. Rutledge and others, biblog diags J Ap Phys 29:834-9 My '58
- Multiple-effect evaporator calculations. K. N. Leibovic, diag Chem Eng Prog 54:71-4 Mr '58
- Production of cadmium sulfide crystals by co-evaporation in a vacuum. R. J. Miller and C. H. Bachman, biblog il diags J Ap Phys 29:127-85 S '58
- Theory of recovering salt from sea-water by solar evaporation. D. M. Myers and C. W. Bonython, biblog diag J Ap Chem 8:207-19 Ap '58
- Theory of turbulent evaporating clouds. R. H. Milburn, biblog J Colloid Sci 13:114-24 Ap '58
- Unit operations in chemical engineering. W. L. Badger and R. A. Lindsay, biblog (50 ref) Ind & Eng Chem 50:438-41 pt 2 Mr '58
- Water reservoir evaporation control. R. G. Dressler and A. Johnson, biblog il map Chem Eng Prog 54:66-9 Ja '58
- See also*
- Distillation
- Drying
- Gasoline—Evaporation losses
- Petroleum—Evaporation losses
- Reservoirs—Evaporation control
- Sublimation
- Vaporization
- Volatility
- EVAPORATORS**
- Application of dropwise promoters to sea water evaporators. J. J. Brunt and J. W. Minkin, biblog il Ind Chem 34:219-24 My '58
- Design of climbing film evaporators. D. Pepper, biblog diags Ind Chem 34:191-4 Ap '58
- Domestic refrigerator engineering conference; refrigerator evaporators studied to solve deterioration problems; symposium. Refrig Eng 66:54-9 F: 47-9 Mr '58
- Evaluation of mesh entrainment separators in multifect evaporators. O. P. Morgan, Tabul 41:sup 137A J1 '58
- Evaporation of NSSC spent liquor. W. G. Dedert and J. N. Brown, Paper Ind 39: 914-15 F '58
- Evaporator or demineralizer; which is best? E. P. Partridge and S. R. Osborne, biblog Power Eng 62:84-6 Ja: 66-7 F '58
- Flash evaporator for continuous distillation of sea water. flow diag Engineer 204:572-3 O 18 '57
- Fresh water from salt; continuous high output flash evaporator, diag Engineering 185: 70-1 Ja 17 '58
- High-purity evaporator for waste concentration. T. C. Carnavos and J. W. Hagen, diags Nucleonics 16:125-7 F '58
- Low temperature evaporation plus energy economy. J. A. Cross, il diags Chem Eng Prog 54:132-4 Ap '58
- Planning economical kraft mill evaporators. E. B. Florine and W. G. Dedert, il Chem Eng Prog 54:64-8 Ap '58
- Raising heat transfer in seawater evaporators. Engineering 185:253 F 21 '58
- Turbulent film evaporators. W. L. Hardy, il Ind & Eng Chem 49:sup53A-4A D '57
- Vacuum evaporator for radioactive and toxic metals. M. C. Inman and D. Quigley, diags J Sci Instr 35:226-7 Je '58
- See also*
- Vaporizers
- Cleaning**
- Chemical solution of evaporator scale. N. O. Schmidt and W. S. Wise, biblog Ind & Eng Chem 50:811-14 My '58
- EVERETT, Washington**
- Lighting**
- Something had to be done about street lighting. H. Hathaway, il Pub Works 89: 99 My '58

Water supply

- City-industry cooperation makes adequate water supply possible. H. Hathaway, il map Pub Works 89:100-1+ S '58
- EVIDENCE (law)**
- See also*
- Expert evidence
- Identification
- Photographs as evidence
- EVOLUTION**
- See also*
- Man—Origin and antiquity
- EWINS, A. J.**
- Obituary, Jor Chem & Ind p224-5 F 22 '58
- EXAMINATIONS**
- See also*
- Physics—Examinations
- EXAMINATIONS, Physical.** *See* Physical examinations
- EXCAVATING machinery**
- Bulldozers and scrapers in anthracite strip-ping. J. Robert Bazley, Inc. H. H. Hughes, il diags Min Cong J 44:35-7 Ja '58
- Changing tubeless lines on earthmover rims. il Roads & Ssts 101:143-6 Ag '58
- Clark's dozer is a big one, il Eng N 160:61 Mr 13 '58
- Clark's new dozer, it's most powerful, il Diesel Power 56:64 Ap '58
- Compressed air has role in mucking innovations. il Comp Air Mag 63:19-20 Mr '58
- Contractor's eye-view earthmoving equipment design. D. A. Armstrong, Roads & Ssts 101: 62-4+ Je '58
- Correctly installed seals prevent damage and downtime on earthmoving machinery. J. B. Sinclair, il diags Pet Eng 29:D23-4 D '57
- Crawler-mounted dragline does a dredging job, il Pit & Quarry 51:140 Ag '58
- Design for pay dirt; answers from leading builders of earth-moving equipment, il Product Eng 28:80-4 D 23 '57
- Dozer blades speed spreading, il Eng N 160: 79 Je 12 '58
- Earthmoving conference stresses engineer-contractor cooperation. S A E J 66:90-1 Je '58
- Earth-moving equipment; illustrations with text, Engineer 204:761 N 22 '57
- Light equipment for small town sanitary landfill operations. E. R. Williams and others, biblog il Pub Works 89:89-91 F '58
- New backhoe line offered at lower cost, il Eng N 160:116+ My 15 '58
- Plow speeds line over rough terrain. V. J. Reilly, il Elec World 149:82 F 17 '58
- Ransomes and Rapier seven cubic yard walking dragline, il diags Engineer 205:287-90 F 21 '58
- Reel with knife-edge blades provides rotary loading action, il diags Machine Design 30:108-9 Ag 7 '58
- Rotary excavator, il Engineer 204:916 D 20 '57
- Rubber-tired dozer cuts hydraulic filling cost, il Roads & Ssts 101:127 Ag '58
- Turbocharging Diesels for earthmoving machines. J. Cazier, S A E J 66:117-18 Ja '58
- Universal excavator with pneumatic control, il Engineer 204:573 O 18 '57
- Using a backhoe for mosquito control, il Pub Works 88:110 N '57
- See also*
- Buckets
- Dredges
- Mining machinery
- Road making machinery
- Rock drills
- Scrapers
- Shoveling machines
- Trenching machinery
- Tunneling machines
- Bearings**
- Excavator slewing rings, il diag Engineer 204: 610 O 25 '57
- Manufacture**
- Automatic submerged-arc welders, prime aids at Harvester; bulldozer C-frames, D. L. Hansen, il Welding Eng 43:62+ F '58
- Heavy-duty bending is a familiar sight at Caterpillar plant. A. W. Johnson, il Mach 64:158-9 N '57
- Shop for large structural assembly work: Ransomes and Rapier, Ltd, il Engineer 206: 457-8 S 19 '58
- EXCAVATION**
- A-bomb might become super-excavator, Eng N 160:31-2 Mr 6 '58
- Embankment stability as a factor in adequate sheeting and bracing. W. S. House, il diags Am Water Works Assn J 50:287-96 F '58

EXCAVATION—Continued

Shelf road; small outfit had to do it. H. K. Glidden. *il diag Roads & Sts* 101:53-64 F '58

See also

Drilling and boring (earth and rocks)
Excavating machinery
Street openings
Subways—Construction
Trenches
Tunnel shields
Tunnels and tunneling

EXCAVATION, Subaqueous

Welland canal. W. A. O'Neill. *il maps Am Soc C E Proc* 84 [WW 2 no 1570]:1-20 Mr '58

See also

Blasting, Subaqueous
Bridges—Foundations and piers
Dredging
Gas, Natural—Well drilling, Subaqueous
Petroleum—Well drilling, Subaqueous
Tunnels and tunneling, Subaqueous

EXCAVATIONS (archeology)**See also**

Pompeii

EXCHANGES**See also**

New York coffee and sugar exchange

EXCISE tax

Looks like no excise tax refunds for manufacturers. *Am Mach* 101:157 D 16 '57

Taxable and non-taxable cosmetics. *Am Perfumer & Aromatics* 71:70-4 Mr '58; Same. *Drug & Cosmetic Ind* 82:337-4 Mr '58

EXCITATION equipment

F-m exciter for sight or scatter systems. A. E. Anderson and H. D. Hern. *il diag Electronics* 31:148-51 Mr 14 '58
Static exciter for aircraft a-c generators. H. H. Britter and D. L. Piette. *il diag Applications & Ind* p271-6; Discussion. 276-7 S '58

Transient performance of excitation systems. R. L. Krahn. *il Power Apparatus & Systems* p210-14; Discussion. 214 Je '58

Testing

Dynamic performance of a magnavolt cascade exciter. R. A. Stevens. *bibliog diag Inst E E Proc* 104 pt A:526-30 D '57

EXECUTIVES

Development of engineers for executive positions. C. O. Tongberg. *J Pet Tech* 10:11-12 Ap '58

No surplus at the top; executives with a scientific background are still in demand. *Chem & Eng N* 36:46 O 6 '58

Rx for unemployed executives. E. A. Butler. *Electronic Ind* 17:149-4 Mr '58

Seven tips on making ulcer-free decisions. *Elec World* 149:53 Ap 21 '58

Wanted; retired executive specialists. W. D. Fuller. *Pet Eng* 30:A31 Ap '58

What it takes to be an executive. M. B. Foster. *Pet Refiner* 36:363-4 N '57

See also

Corporations—Presidents
Industrial management
Office management
Organization in industry
Supervisory workers

Expense accounts

Start planning those tax deductions. P. Lockwood. *Pet Refiner* 37:252-4 Je '58

Health and hygiene

Executive health examinations. R. Clyne. A. M. A. Archives *Ind Health* 17:602-9 Je '58

Fight fat and fatigue. L. N. Katz. *Pet Eng* 30:E18 Ap '58

Physical examinations for executives. L. Wade. A. M. A. Archives *Ind Health* 17:175-9 Mr '58

Safeguarding executive health: what industry is doing. L. Strong. *Ind Med* 27:109-14 F '58
You can't live forever, but. E. W. Fair. *Pet Refiner* 37:280-4 Mr '58

Salaries

American and Canadian executives salaries up again in 1957. *Mech Eng* 80:123 F '58

Boss's paycheck reflects profits squeeze, survey finds. *Am Mach* 102:84 S 8 '58

Capitalized pay gives tax benefits; utilities can deduct full salaries of officers. W. F. Stanley. *Elec World* 149:64 F 24 '58

Executive compensation in our industry. P. H. Dutter. *Drug & Cosmetic Ind* 83:300-1 S '58

Executive compensation in the rubber industry. *Rubber Age* 82:489-90 D '57

Executive salaries for top electronics executives. *Electronics* 31:6 S 19 '58
Stock options tempt execs. N. Schaffer and others. *Electronics* 31:25 F 21 '58
What top food-firm men earn as compared with their opposite numbers in 17 leading industries. J. R. McIntosh. *Food Eng* 30:53-4 S '58

Training

Course focuses on controls; Syracuse university executive development program. W. T. Jerome. 3d. *il Pet Eng* 30:E7 My '58

Creative thinking added to Southwest executive program; University of Houston. D. A. Stonebarger. *Pet Eng* 30:E35 Apr '58

Management problems for executives; executive development course at University of Pittsburgh. C. L. Van Sickle. *Pet Eng* 30:E 17 Ap '58

Psychology helps make good executives better. W. G. Loftin. *Elec World* 150:64-5 Apr 4 '58

Use case discussion technique; Ohio university executive development program. E. T. Hellebrandt. *il Pet Eng* 30:C43 My '58

See also

Supervisory workers—Training

EXERCISE

Effects of exercise on blood (plasma) concentrations of vitamin A, carotene and tocopherols. R. W. Hillman and others. *bibliog J Nutrition* 64:605-13 Apr '58

EXETER university, England

University of Exeter. L. J. Lloyd; H. N. Rydon. *il map Chem & Ind* p767-72 Je 28 '58

EXHAUST systems

Controlled motor heat levels spinningroom temperature; Springs cotton mills heat exhaust system. *il Textile World* 108:59-4 My '58

Designing fume hoods for medium level radioactive conditions. J. M. Ruddy. *il diag Heating-Piping* 30:123-31 Mr '58

Enclosed hood operation on a modern coated book machine. R. L. Sleight. *il Tappi* 41:sup207A-10A Apr '58

Flexible fume removal system in all plastic. R. A. Barrows. *il Plant Eng* 12:132 Apr '58

Goodbye to ammonia fumes in the print room. H. Johnson. *il diag Product Eng* 29:74-5 JI 21 '58

Industrial exhaust system protected by facinated plastic and plastic coating on metal. E. J. St. Amant. *il diag Air Cond Heat & Ven* 55:61-3 Mr '58

Industrial ventilation: how is it designed? J. H. Clarke. *diag Heating-Piping* 30:104-9 Je '58; Discussion. H. P. Kauffuss. 30:97; Reply. 97-8 S '58

Plastic compound roof ventilator; Research laboratory for Monsanto chemical company's inorganic chemicals div. *il diag Air Cond Heat & Ven* 54:60-2 D '57

Plastisol coatings in ventilation systems. W. G. Cryderman. A. M. A. Archives *Ind Health* 17:486-8 My '58

Vacuum ends down collection; yields better yarns. G. A. Archer. *il Mod Textiles Mag* 39:33-4 Ja '58

See also

Airplane engines—Exhaust
Automobile engines—Exhaust
Diesel engines—Exhaust
Dust removal
Gas turbines, Aircraft—Exhaust
Internal combustion engines—Exhaust

EXHIBITION buildings

Berlin congress hall. *il plans diag Arch Rec* 122:143-50 D '57

Design award; exhibition house for Theme house, Inc. *il plans Prog Arch* 39:96-7 Ja '58

Design, construction are themes of U.S. pavilion at Vienna international autumn fair. *il Arch Rec* 123:326 Mr '58

Progressive architecture design awards seminar; exhibition house. *il Prog Arch* 39:181-2 S '58

World's biggest thin shell roof; Paris exposition hall. *il plans diag Eng N* 160:45-6-4 Ap 17 '58

See also

Brussels—Worlds fair, 1958

Electric equipment

Electrical modernization program provides high capacity for trade show power supply. C. L. Betts, Jr. *il plan diag Elec Constr & Maint* 57:85-7 JI '58

EXHIBITIONS

German industries fair, 1948. *il Mech Eng* 80:66 J1 '58

See also

Brussels—Worlds fair, 1958
New York (city)—World's fair, 1939-1940
also subdivision Exhibitions under special subjects, e.g.
Aeronautics
Agricultural machinery
Air conditioning equipment
Architecture
Atomic power
Automation
Automobiles
Chemical industries
Control equipment
Electric apparatus and appliances
Electronic apparatus and appliances
Foundry machinery
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Mechanical handling
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Physical apparatus and instruments
Radio apparatus
Refrigeration and refrigerating machinery
Rock products industry
Science
Scientific apparatus and instruments
Sound—Apparatus
Television apparatus
Textile machinery
Tools
Welding machines

EXHIBITS

Foundry processes portrayed at Oregon museum. *il Foundry* 62:108 O '58
Trade show exhibits. J. N. Bell. *il Rock Prod* 60:85-94 N '57

See also

Electric utilities—Exhibits
Medical exhibits
Paper industry and trade—Exhibits
Petroleum industry and trade—Exhibits
Safety exhibits, Traveling

EXHIBITS, Traveling

Appliances keep moving with kitchen on wheels. *il Northern Illinois gas co. R. E. Winter. il Gas Assn Mo* 39:34-5 D '57
Modern covered wagons. *il Comp Air Mag* 62:372 D '57

EXPANDED clay and shale association

Annual meeting. Chicago, Feb. 14-15. *Rock Prod* 61:115 Ap '58; *Pit & Quarry* 50:180-1 My '48

EXPANSION (heat)

Applied hydrocarbon thermodynamics; polytropic compression and expansion. W. C. Edmister. *bibliog Pet Refiner* 37:113-22 Ag '58
Ceramic coatings for experimental stress analysis. F. B. Stern. *il diag Machine Design* 30:147-9 My '58
Comparisons of materials; coefficient of thermal expansion. *Materials in Design Eng* 48:10 Mid-O '58
Easy-to-make device measures turbine stretch. *il diags Power Eng* 61:100 D '57
Effect of firing schedules on stress-temperature relations in enamel-metal systems. J. H. Laucher and others. *bibliog diags Am Cer Soc J* 40:410-15 D '57
Effect of some common alloying elements on the volume change at A_c of a 0.35 per cent carbon steel. A. S. Kenneford. *Iron & Steel Inst J* 189:135-8 Je '58
Heat expansion licked by cylindrical roller bearings. D. E. Batesole. *diags Aviation Age* 28:80-5 F '58
How to make Invar stay put. W. S. Eberly. *Product Eng* 28:80-1 D 9 '57
Nickel alloys for controlled thermal expansion. E. M. Wise. *il Product Eng* 28:68-71 O 28 '57
Simple expansion indicator. A. L. Sims. *diag J Sci Instr* 35:185 My '58
Some observations of flame stabilization in sudden expansions. P. A. Ross. *il diags Jet Propulsion* 28:123-5 F '58
Stress and deflexion studies of pipeline expansion bellows. C. E. Turner and H. Ford. *bibliog il diags Inst Mech Eng Proc* 171 no 15:528-44; Discussion. 544-50; Reply. 551-2 '57

Thermal expansion apparatus with a silicon carbide dilatometer for temperatures to 1500°C. S. D. Mark, Jr. and R. C. Eimanuelson. *bibliog il diags Am Cer Soc Bul* 37:193-6 Ap 15 '58
Thermal expansion coefficients for 51 metals; tables. W. A. Tucker. *Product Eng* 28:B 12-13 Mid-O '57
Thermal expansion of piping steels from 0 to 1400°F; nomograph; data sheet. J. F. Waters. *Power* 101:127 D '57

See also

Glass—Expansion and contraction

EXPERIMENTAL airplanes. *See* Airplanes Experimental

EXPERIMENTAL design

Contribution of statistics to the development program of a transformer for the L3 carrier system. G. J. Levenbach. *bibliog flow chart il diags Bell System Tech J* 37:23-54 Ja '58

Design of experiments. E. R. Schwarz. *Product Eng* 29:34-5 S 22 '58

Economy in the planning of experiments. plans *Ind Quality Control* 14:5-6 Ja '58

Evaluating alternative ingredients in the manufacture of a product. E. J. Delate and R. N. Walz. *bibliog Ind & Eng Chem* 50:309-12 Mr '58

Factorial design of experiments in ceramics. D. Smith and P. R. Jones. *diags Am Cer Soc J* 41:110-16 Mr 1 '58

Interlocked factorials; fewer runs; new experimental design. *diag Chem & Eng N* 36:40-1 My 5 '58

Latin squares for fewer tests, same accuracy. D. N. Chorafas. *Product Eng* 29:32-4 My 12 '58

Plan before you start experimenting. H. F. Smith. *bibliog diags Pet Refiner* 37:201-8 Mr '58

Presentation for action; dual reference program for cement industry. W. J. Youden. *Ind & Eng Chem* 50:sup89A-4A Ag '58

Problems of the experimenter. W. J. Youden. *Ind & Eng Chem* 50:sup89A-90A F '58

Random methods for seeking maxima. S. H. Brooks. *bibliog Op Res* 6:244-51 Mr '58

System optimization by steepest descent method; abstract. H. Meisinger. *diags Instruments & Automation* 31:1546-7 S '58

Worksheet gives optimum conditions. C. H. Li. *diags Chem Eng* 65:151-6 Ap 7 '58

EXPERIMENTAL plants. *See* Sawmills—Experimental plants

EXPERIMENTAL roads. *See* Roads, Experimental

EXPERT evidence

Geologist's day in court. D. S. Turner. *Oil & Gas J* 56:200+ Je 2 '58

See also

Physicians as witnesses

EXPLORATIONS

Training for hardship; naval curriculum contains the pioneering spirit; Iceland expedition. M. K. Matthews. *il map Engineering* 184:706-7 D 6 '57

EXPLORER. *See* Satellites, Artificial

EXPLOSIONS

Arrester failure blacks out Twin Cities. *Elec World* 148:55 N 11 '57

Blast cause sought; nitromethane suspected in rail freight explosion. *il Chem & Eng N* 36:28 Jc 16 '58

Claims and litigation resulting from explosions in utility installations. S. Hammon. *il Gas* 34:75-8 My '58

Electron tube works after explosion. V. E. Learned. *il Elec Eng* 77:369 Ap '58

Explosion in ice plant and what it showed. C. T. Baker. *Power Eng* 62:72 Mr '58

Explosion resisting window; patent. *diag Glass Ind* 38:568 O '57

Explosion suppression. G. J. Grabowski. *Safety Maint* 116:43-4 J1 '58

How to maintain explosion-proof trucks. W. Busse. *il diags Safety Maint* 115:20-2+ My '58

How to prevent lighting-off explosions in gas-fired industrial boilers and furnaces; gas safety control system. J. B. Smith. *diags Gas Age* 121:18-19+ F 20 '58; Same. *Iron & Steel Eng* 35:144+ My '58; Same. *Power Ind* 74:10-13+ J1 '58; Excerpts. *Iron Age* 180:134-5 N 7 '57

Low-temperature explosions of mixtures of potassium perchlorate with some combustible substances. J. Grodzinski. *bibliog J Ap Chem* 8:523-3 Ag '58

Mechanism of explosion in starting air lines; fire resistant lubricants for internal combustion engines. R. S. Ridgway. *diag Pet Refiner* 37:171-4 Je '58

EXPLOSIONS—Continued

- Study of explosions by flash absorption spectroscopy, F. R. Taylor, Franklin Inst J 265:501-2 Je '58
- Underground atomic explosions, Metal Prog 73:77 My '58
- What caused this dual-fuel engine starter housing explosion? answers, il diags Power 102:134-5 Ja '58

See also

- Coal mines and mining—Accidents and explosions
- Detonation
- Dust explosions
- Inflammable liquids
- Inflammable mixtures
- Mine fires
- Petroleum refineries—Explosions
- Pressure vessels—Failure
- Shock waves

EXPLOSIVE forming. See Sheet metal work

EXPLOSIVES

- Blasting explosives, W. D. Crater and others, il Ind & Eng Chem 50:sup40A-3A J1 '58
- Cutting of metal plates with high explosive charges, W. E. Drummond, il diags J Ap Mech 25:184-8 Je '58
- Design of explosives, G. R. Phare and J. F. C. Dixon, bibliog il diags Can Min & Met Bul 51:536-45 S '58
- Explosive metallurgy, H. P. Tardif and W. H. Erickson, bibliog il diags Can Min & Met Bul 51:352-9 Je '58
- Prediction of the explosive behavior of mixtures containing hydrogen peroxide, E. S. Shanley and J. R. Perrin, diags Jet Propulsion 28:382-5 Je '58
- Propellant explosives classification and the effect on field handling of missiles, W. F. Haite, diag Jet Propulsion 28:489-91 J1 '58
- Theoretical prediction of the behaviour of explosives; abstract and discussion, S. Paterson, Chem & Ind p512-13 My 3 '58

See also

- Ammonium nitrate
- Blasting
- Coal mines and mining—Explosives
- Cyclotrimethylene trinitramine
- Detonation
- Inflammable liquids
- Inflammable mixtures
- Mines, Military
- Nitrocyuanamide
- Pentaerythritol tetranitrate
- Trinitrophenylmethyl nitramine
- Trinitrotoluene

Analysis

- Analysis of explosives by nonaqueous titration, R. D. Sarson, diags Anal Chem 30: 932-7 My '58

Manufacture

- Phlegmatization of fine RDX, A. M. Pennie and T. S. Sterling, Can J Chem Eng 36: 82-4 Ap '58
- Preparation of a crystalline high explosive of controlled particle size by precipitation with water from acetone solution, A. M. Pennie, flow sheet diags Can J Chem Eng 36:78-81 Ap '58
- Safety in the chemical industry; safety in the manufacture of explosives, B. A. Weston and T. Wardle, diags Chem & Ind p239-45 Mr 1 '58

Testing

- Fusion-cast high explosives, W. O. Williamson, bibliog il diags Research 11:387-93 O '58
- Microstructure of a plastic explosive containing RDX, W. O. Williamson, bibliog J Ap Chem 8:658-61 O '58

EXPORT associations

See also

- Coal exporters association of the United States, inc.

EXPORT trade

- European common market? for U.S. chemicals, Chem & Eng N 36:28 F 17 '58
- Exports may hit \$1.2 billion, Chem & Eng N 36:36 Ja 13 '58
- 1958 exports should stand firm, A. M. Telford, Can Chem Process 42:sup 14A-15A Ja '58
- Recent export/import trends; special market report, Electronics 31:25-8 Ja 24 '58

Statistics

- Facts and figures for the chemical process industries; exports and imports, V. Kinard, Chem & Eng N 36:79-84 S 1 '58

EXPOSURE meters

- Built-in meters; useful or not? J. Wolbarst, il Mod Phot 22:60-3 J1 '58
- How to use incident and reflected light meters, il Mod Phot 22:97 J1 '58
- Is your exposure meter accurate? Mod Phot 22:98 J1 '58
- Super meters, N. Rothschild, il Mod Phot 22:64-5 J1 '58
- What makes your exposure meter tick? il Mod Phot 22:82 J1 '58

Directories

- Modern's 1958 directory of exposure meters, Mod Phot 22:114- J1 '58

EXPRESSWAYS

- California's land economic studies along controlled-access highways, F. C. Balfour, 2pls map Traffic Q 12:17-29 Ja '58
- City expressways; drive continues in U.S. for traffic jam solution, Eng N 159:28 D 12 '57
- Consultant designs-in economies; East Providence expressway, R. L. Pare, diags Eng N 161:53-4 Ag 21 '58
- Detroit is taming its traffic, R. Cantwell, il plans Arch Forum 108:96-101-7 Mr '58
- Expressway completion to bring economic growth, D. Wageck, il Pub Works 89:75-6 F '58
- Expressway contractor battles floods to build conduit roadbed; Baltimore's Jones Falls expressway, W. E. Halstead, il plan diags Roads & Sts 101:92-3-7 Ap '58
- Freeway operation and maintenance; report of regional seminar held by the Institute of traffic engineers, Roads & Sts 101:61-2-4 J1 '58
- Here's how to handle rush-hour traffic; Seattle's freeway, il map plan Eng N 161:30-1-4 Ag 14 '58
- How access control affects accident experience, C. W. Prisk, Pub Roads 29:266-7 D '57
- How much safer is limited access? il Eng N 161:21-2 J1 17 '58
- Integrated planning of highways and city streets, G. Kelcey and G. Leland, il maps plans Am Soc C E Proc 84 [HW 2 no 1628]: 1-31 My '58
- Left-side ramps were OK at start, but not for freeway; Mission Valley Road, San Diego, il map Eng N 161:46-7 J1 17 '58
- Massachusetts turnpike, W. F. Callahan, 2pls Traffic Q 12:90-101 Ja '58
- Mexico City expressway; viaducto Miguel Aleman, il Eng N 159:58 N 21 '57
- Modern freeway planned for Des Moines, Iowa, Civil Eng 28:555 J1 '58
- \$101 million skyway opens; Calumet skyway toll bridge, il map Eng N 160:26 Ap 24 '58
- Operation of urban expressways, J. Barnett, Am Soc C E Proc 83 [HW 4 no 1374]: 1-7 S '57; Discussion, il 84 [HW 2 no 1652]: 5-12 My '58; Reply, 84 [HW 3 no 1829]:5-6 O '58
- Planning our urban expressways, E. Maier, pl plans Traffic Q 12:132-47 Ja '58
- Right-of-way fencing along a turnpike, il Pub Works 89:108 S '58
- Seattle freeway, W. A. Bugge, plan diag Traffic Q 12:69-79 Ja '58
- State freeway net; \$10.5 billion, Eng N 161: 25 S 11 '58
- Tight schedule for largest British road, il Eng N 160:133-4 Je 19 '58
- Urban net to cost \$235 million; expressway loop for Portland, Ore. map Eng N 160: 24 My 22 '58

EXTENSOMETERS

- Digital flying extensometer for temper rolling mills, N. S. Wells, diags Applications & Ind p376-8 Ja '58
- Lateral extensometer for the determination of Poisson's ratio of rock, E. R. Leeman and C. Grobbelaar, diags J Sci Instr 34: 503-5 D '57
- Simple extensometer for tensile testing of polymers, A. E. Eagles and A. R. Payne, bibliog il Rubber Chem & Tech 31:673-9 J1 '58

Testing

- Calibration of mirror extensometers by optical interferometry, A. F. C. Brown, il diags Engineering 186:180-2 Ag 8 '58

EXTERIOR lighting. See Buildings—Exterior lighting**EXTRACTION apparatus**

- Gamma density controls extraction column, B. G. Ryle, il diags Chem Eng Prog 58:551-5 N '57

EXTRACTION apparatus—Continued

- Improved liquid-liquid extractor. R. P. A. Sims and G. A. Adams, bibliog diag Am Oil Chem Soc 35:139-40 Mr '58
- Laboratory solvent extraction apparatus. W. P. Kemp and K. W. Ponting, diags Chem & Ind p 1504 N 16 '57
- Liquid-liquid extraction; efficiency of a perforated-plate pulsed column. B. Choffé and Y. L. Gladel, bibliog diag J Ap Chem 8: 580-8 S '58
- Modified SO₂ extraction for aromatics recovery, diag Pet Eng 30:C47-8 Ja '58

Design

- Solution hold-up as a factor in oilseed extractor design. J. D. Keane and C. T. Smith, bibliog diag Am Oil Chem Soc J 35:193-203 My '58

EXTRACTION processes

- Alcoholic extraction of vegetable oils; pilot plant extraction of cottonseed by aqueous ethanol. R. K. Rao and L. K. Arnold, bibliog flow diag diag Am Oil Chem Soc J 35:277-81 Je '58
- Behavior of metals other than uranium in liquid-liquid extraction processes. C. J. Lewis and B. H. Crabtree, Min Cong J 44:65-7 Ja '58
- Beryllium, a continuous extractive process. K. B. Higbie and M. C. Farmer, bibliog flow sheet J Chem Eng Prog 54:51-4 Ap '58
- Big extraction plant is built; Eunice, La. II Oil & Gas J 56:64 Ap 28 '58
- Butadiene extraction; Esso research & engineering co. flow diag Pet Refiner 36:294 N '57
- Butadiene extraction (furfural); Phillips petroleum co. flow diag Pet Refiner 36:295 N '57
- Continuous analysis in nuclear processing; radiochemical pilot plant. C. L. Pleasance, bibliog II diags I S A J 5:39-42 Je '58
- Cuprous ammonium acetate butadiene extraction, diag Pet Eng 30:C38a-38b My '58
- Determination of end point in extraction of free amino acids from potatoes. E. A. Talley and others, bibliog J Agri & Food Chem 6:608-10 Ag '58
- Drying viable biological materials by solvent extraction and azeotropic distillation. R. R. Freeman and others, flow diags Chem Eng Prog 53:590-2 D '57
- Duo-Sol; the Milwite co. flow diag Pet Refiner 37:272 S '58
- Extracting thorium from its ore. Engineering 184:559 N 1 '57
- Extraction of tantalum and columbium. D. F. Taylor, diags Chem Eng Prog 54:47-50 Ap '58
- Extractive crystallization with urea, flow diag Pet Refiner 36:296 N '57
- Extractive distillation of alcohols; Stone & Webster engineering corp. flow diag Pet Refiner 36:298 N '57
- Furfural extraction of gas oils; Texaco development corp. flow diag Pet Refiner 37: 273 S '58
- HCl process pulls a switch; continuous two-stage solvent extraction purification process. II Chem & Eng N 36:66-7 S 15 '58
- Isobutylene extraction; Esso research and engineering co. flow diag Pet Refiner 36: 302 N '57
- Liquid-liquid extraction of uranium and plutonium from hydrochloric acid solution with tri(iso-octyl)amine; separation from thorium and fission products. F. L. Moore, bibliog Anal Chem 30:908-11 My '58
- Lithium extraction from run-of-mine spodumene ore. E. J. Andrews, II Chem Eng Prog 54:54-5 Ja '58
- Modified SO₂ extraction for aromatics recovery, diag Pet Eng 30:C47-8 Ja '58
- Modified SO₂ extraction; Stone & Webster engineering corp. flow diag Pet Refiner 36: 303 N '57
- New diffusion technique opens way for large scale helium extraction from gas. II Gas Age 121:28 Je 26 '58
- Petroleum ether extractives of aspen bark. R. L. Hunter and W. T. Hunter, bibliog Tappi 41:359-62 J1 '58
- Phenol extraction; M. W. Kellogg co. flow diag Pet Refiner 37:275 S '58
- Propane deasphalting and fractionation; M. W. Kellogg co. flow diag Pet Refiner 37: 276 S '58
- Reduced crude oil-dipropylene glycol; liquid-liquid extraction system. F. F. Papa-Branco and M. Van Winkle, bibliog Ind & Eng Chem 50:703-6 Ap '58

- Review of fundamental developments in analysis; extraction. G. H. Morrison and H. Freiser, Anal Chem 30:632-40 bibliog(p638-40) pt 2 Ap '58
- Separation and determination of plutonium by liquid-liquid extraction. F. L. Moore and J. E. Hudgens, jr. bibliog Anal Chem 29: 1767-70 D '57
- Separation of niobium and tantalum by liquid extraction. E. L. Koerner, jr. and others, bibliog flow diag II Chem Eng Prog 54:63-70 S '58
- Solvent extraction for recovering uranium. J. B. Clemmer and others, bibliog flow sheets II Min Cong J 44:88-92 Je '58
- Solvent extraction grows more useful. Chem & Eng N 36:56-7 Ap 21 '58
- Solvent extraction of uranium(VI) from carbonate solutions. W. E. Clifford and others. Am Chem Soc J 80:2959-61 Je 20 '58
- Solvent extraction system for enriched uranium. J. Dykstra and others, II diags Ind & Eng Chem 50:161-5 P '58
- SO₂ extraction; Stone & Webster engineering corp. flow diag Pet Refiner 37:278 S '58
- Tailor-made asphalts. E. J. Barth, II Pet Eng 30:C22-5 Mr '58
- Technique for the extraction and partial chemical analysis of fluid-filled inclusions from minerals. E. Roedder, diags Econ Geol 53:235-69 bibliog(p267-9) My '58
- Thermal extraction and solution of oil shale kerosen. W. R. Thompson and C. H. Ething, bibliog diag Ind & Eng Chem 50: 359-64 Mr '58
- Udex extraction; Universal oil products co. flow diag Pet Refiner 36:304 N '57
- Unit operations in chemical engineering; liquid extraction. R. E. Treybal, Ind & Eng Chem 50:463-73 bibliog(p470-3) pt 2 Mr '58
- Use graph to design for optimum economic extraction. R. S. Olson, bibliog Chem Eng 65:142-5 O 6 '58

See also

- Leaching
Solvents

EXTREME value theory. See Statistical methods

EXTRUSION dies. See Dies, Extrusion

EXTRUSION machines

- Extrudes aircraft shapes; huge extrusion press installed in Reynolds metals co. II Steel 142:31 Mr 3 '58
- Extrusion press tooling, diags R. Baugh and J. Lyons, Light Metal Age 15:19-20 D '57; 16:27-9 F '58
- Giant press for magnesium extrusions; abstract. K. F. Braeuninger, Automotive Ind 117:124-5 N 15 '58
- Reynolds metals co. operates new navy extrusion press. II Iron & Steel Eng 35:139-4 Ap '58
- Those heavy presses can pay off. R. W. Smith, II Product Eng 29:34-5 S 29 '58
- Variable volume at lower cost. L. Strosser and J. Sharp, II diags Ap Hydraulics 11: 72-3 Je '58

EXTRUSION machines (for plastics)

- Experimental determination of velocity profiles in an extruder screw. S. Ecker and A. Valentiniotti, bibliog II diags Ind & Eng Chem 50:329-36 My '58
- Interchangeable parts in the construction of extrusion equipment. F. P. Karger, II diags Brit Plastics 31:338-41 Ag '58
- New twin-screw disc kneader. II Brit Plastics 31:404 S '58
- Techniques and equipment for extrusion. A. Kennaway and others, bibliog II diags Brit Plastics 31:268-300 J1 '58
- Theory of mixing in the single screw extruder. W. D. Mohr and others, II diags Ind & Eng Chem 49:1857-62 N '57
- What a plastics engineer should look for when planning to buy an extrusion machine; with tables of comparative data. R. E. Monica, Plastics Tech 4:817-23 S '58

EXTRUSION process

- Aluminum extruders in a profit squeeze. F. J. Starin, Iron Age 181:58-9 F 6 '58
- Aluminum extrusion plant at Pietermaritzburg, II diag Engineer 204:912-14 D 20 '57
- Aluminum extrusion solves electrical design problem; portable radios. Elec Manuf 61: 156-4 My '58
- Aluminum impact extrusions. N. Marchak, II diags Product Eng 28:72-4 N 25 '57
- Aluminum impacts open new areas for design. E. J. Egan, jr. II diags Iron Age 181: 98-100 Ap 3 '58
- Application of aluminum sheaths to electric cables by direct extrusion. II Engineer 204: 579-81 O 18 '57

EXTRUSION process—Continued

- Cold extrusion of unalloyed titanium. A. M. Sabroff and others. *il* diags A S M E Trans 80:124-31 A '58; Same cond. Product Eng 28:D2-5 Mid-O '57; Discussion. A S M E Trans 80:131-2 Ja '58
- Colloidal graphite lubricant aids extrusion. *il* Light Metal Age 15:34 O '57
- Controlled pressure (valve) extrusion. B. H. Maddock and others. *il* diags Wire & Wire Prod 33:53-54 Ja '58
- Cored 80-mm gun tubes extruded in five minutes. H. J. Decelle and others. *il* diags Am Mach 101:158-61 N 18 '57
- Design considerations for cold extrusion of titanium. A. M. Sabroff and others. *il* diags Tool Eng 41:84-90 JI '58
- Experimental and theoretical pressures and velocity fields for various lead extrusions. E. G. Thomsen and J. Frisch. bibliog *il* diags A S M E Trans 80:117-22; Discussion. 122-3 Ja '58
- Extruded and die-cast aluminum parts effect economies at Chrysler. H. Chase. *il* diags Mach 64:147-9 Jo '58
- Extruded hub retains turbine blades. *il* Mach 64:168 JI '58
- Extruded steel parts help control aircraft. *il* Materials in Design Eng 47:178-4 Ja '58
- Extrusion cuts time from 3½ to 1.5 minutes at Raytheon. A. Ashburn. *il* diags Am Mach 102:83-5 JI 14 '58
- Extrusion handling systems save money, time; Extruded metals div. of Detroit gasket & mfg. co. K. Darby. *il* Mod Metals 14:66-7 JI '58
- Extrusion markets grow; with table. *il* Steel 142:183-4 Ap 21 '58
- Extrusion slashes wheel assembly costs. *il* Steel 142:88-9 My 5 '58
- Forms and shapes of materials; extrusions. diags Materials in Design Eng 48:300-1 Mid-O '58
- Heat treating affects aluminum extrusions. J. K. McLaughlin. *il* Metal Prog 74:105-7 JI '58
- Hot extruded steel shapes can save you money. R. L. Hugo. *il* Materials in Design Eng 46:124-5 N '57
- How UO₂ fuel cores are extruded. D. R. Stenquist and R. J. Anicetti. *il* Cer Ind 71:102-3 O '58
- Hydraulic extrusion Soviet style. E. Gros. diags Product Eng 29:94 My 12 '58
- Impact extrusion. H. W. Byles. *il* Automobile Eng 48:124-5 Mr '58; Abstract. Engineering 185:306 Mr 7 '58
- Ingenious aluminum extrusion is key to unusual lighting unit; receives citation in Materials in design engineering competition. *il* diags Materials in Design Eng 47:152-3 Ap '58
- Large aluminum extrusions. diags Engineering 186:159 Ag 1 '58
- Latest developments in impact extruded aluminum alloys; abstracts. R. A. Quadt. Automotive Ind 119:108 S 15 '58; *il* Steel 143:64-5 S 1 '58
- Making Cadillac's grille; Doehler-Jarvis impact extrudes aluminum ornaments. *il* Steel 142:87-8 F 17 '58
- Metalworking, 1962; extrusion. R. A. Quadt; W. Stulen. Am Mach 101:135-6 N 18 '57
- Modernization in heating for hot forming. P. W. Morse. *il* diag Metal Prog 73:85-90 F '58
- New extrusion; fabrication process reduces jet engine parts costs. N. J. Feola. *il* diag S A E J 66:32-6 F '58; Same. Iron Age 181:96-8 Mr 27 '58; Same cond. Tool Eng 40:203-5 Je '58
- One-piece rocket tubes as impact extrusion depth-to-diameter ratio is 32:1. Hunter Douglas aluminum corp. J. R. Saul. *il* Am Mach 101:69-71 D 30 '57
- Pellet extrusions beef up magnesium structures. G. S. Foerster and H. A. Johnson. *il* Product Eng 29:80-1 My 12 '58
- Preform blanks from bar stock to cut machining costs. *il* diags Iron Age 182:84-6 Ag 14 '58
- Raising the physicals of 6063 alloy extrusion billet. J. K. McLaughlin. *il* Mod Metals 14:56-7 JI '58
- Recrystallized surfaces of aluminum extrusions. G. V. Bennett. *il* diag Metal Prog 72:102-4 D '57; Discussion. K. F. Thornton. 74:126-7 Ag '58
- Semi-automatic coring of large extrusion billets. *il* Light Metal Age 16:28 Ap '58
- Shape changes of internal surfaces in extrusion. W. B. Nowak and E. J. Rappaport. diags J A P Phys 29:1382-3 S '58
- Stronger magnesium extrusions coming. *il* Product Eng 29:29 Mr 24 '58
- Test results on forming titanium extrusions. J. Wilson. *il* Am Mach 101:121-3 S 23 '57; Metal Prog 73:183-9-+ My '58; Product Eng 29:D2-3 Mid-S '58
- Three new forging and extrusion methods. J. F. Murphy. *il* diag S A E J 66:40-2 Je '58
- To correct extrusion dies; fundamentals of extrusion flow, proper tools and techniques. H. J. Flicker. diags Mod Metals 14:38-40+ Ag '58
- Turbine wheels can be made for \$100. *il* Am Mach 102:100 My 5 '58

Standards

Survey of existing standards in the aluminum extrusion industry. diag Light Metal Age 16:17-20 Ag '58

EXTRUSION process (concrete). See Pipes, Concrete—Manufacture

EXTRUSION process (plastics)

- Automated extrusion-thermoforming is used to produce large and intricate formed sheet pieces at high speeds in the manufacture of a scale model of the Graf Zeppelin. *il* Mod Plastics 35:104-7+ F '58
- Discontinuity in the flow curve of polyethylene. E. B. Bagley and others. *il* J P Phys 29:109-10 Ja '58
- Economics of plastics extrusion. *il* diags Mod Plastics 35:99-101+ N; 122-5+ D '57; 93 Mr '58
- Exploring fabrication techniques. L. J. Zukor. *il* diag Plastics Tech 4:656-7, 734-5, 836-7 JI-S '58
- Extrusion and forming of high-density polyethylene blown tubing. R. Doyle. *il* Mod Plastics 35:137-+ My '58
- Extrusion and vacuum forming of high density polythene sheet. Brit Plastics 31:352 Ag '58
- Extrusion of acrylic section. *il* Brit Plastics 31:396-7 S '58
- Extrusion of fast curing neoprene wire and cable compounds. O. L. Simmons and C. E. McCormack. *il* diag Wire & Wire Prod 33:539-42 My '58
- Extrusion of rigid polyethylene pipe. L. B. Groley and R. Doyle. *il* diag Plastics Tech 4:717-20+ Ag '58
- Improved wire extrusion technique for polytetrafluoroethylene. Elec Manuf 61:9 Ap '58
- Injection molding and extrusion of Moplen. A. Bosoni. Plastics Tech 4:556-9 Je '58
- Neck-in problem in polyethylene extrusion coating and film casting. D. Lewis and W. F. McDonald. Plastics Tech 4:918-19+ O '58
- Plastic extrusions. R. Marx. *il* diags Product Eng 28:84-7 N 25 '57
- Some aids to the design of dies for plastics extrusion. D. J. Weeks. bibliog *il* diags Brit Plastics 31:156-60+ 201-5 Ap-May '58
- Techniques and equipment for extrusion. A. Kennaway and others. bibliog *il* diags Brit Plastics 31:268-300 JI '58
- Teflon resin easier to extrude; available as film and powder. R. S. Mallouk and W. B. Thompson. Materials in Design Eng 47:171+ Ap '58
- Use of radiation gages in plastics extrusion. G. I. Doering. *il* diag Plastics Tech 4:344-7+ Ap '58
- EXTRUSION process (rubber).** See Rubber goods—Manufacture

EYE

Amateur scientist; experiments which demonstrate the remarkable properties of the human eye. R. Hayward. *il* diags Sci Am 198:100+ Ja '58

See also

Retina
Sight

Diseases and defects

Heat cataracts. Ind Med 26:524 N '57

Examination

How and why of a vision program. R. F. Ash. *il* Safety Maint 115:14-17 Mr '58

Vision tests cut accident frequency at Abney mills. *il* Textile Ind 122:77-8 S '58

See also

Color blindness—Testing

Movements

Detector plots eye movements. B. Shackel and others. bibliog *il* diags Electronics 31:36-9 Ja 31 '58

EYE—Continued

Protection

- Eye safety film. *il* Safety Maint 116:13+ Ag '58
 14,000th Wise Owl honored: Leonard Werble. *il* Safety Maint 115:60 Mr '58
 Keeping up with eye and face protection. *il* Safety Maint 115:60-6 Ap '58
 Sight saving conference of National society for the prevention of blindness. *il* Safety Maint 115:40 My '58

See also

Goggles

EYE make-up products. See Cosmetics

EYELASHES, Artificial

- Eyelashes. S. Goodman. bibliog *il* Drug & Cosmetic Ind 82:734-5+ Je '58
 Falsies are looking up! re-usable plastic eyelashes. *il* diags Ind & Eng Chem 50:sup32A-3A Ag '58

EYETRON. See Radio signals

F

FM. See Radio frequency modulation

FW-450. See Sodium dichloroisobutyrate

FABRICATION engineering. See Structural engineering—Design

FABRICS, Automobile. See Automobile fabrics

FABRICS, Military. See Military fabrics

FABRICS, Textile. See Textile fabrics

FACE

Protection

See Head—Protection

FACE powder. See Powder, Face

FACSIMILE transmission

- Color Electrofax process. J. S. Rydz and S. W. Johnson. bibliog diags RCA R 19:465-86 S '58
 Experimental facsimile communication utilizing intermittent meteor ionization. W. H. Bliss and others. *il* Inst Radio Eng Proc 45:1734-5 D '57
 Meteors relay vhf signals: experimental facsimile system. map Electronics 31:32 Ja 10 '58
 New narrow-band image transmission system. C. MacDonald. *il* diags Q S T 42:11-15+ Af; 31-64 S '58
 Signals bounced from meteor trails transmit images of printed material. Franklin Inst J 265:76-7 Ja '58
 Statistical encoding for text and picture communication. W. S. Michel. bibliog diags Com & Electronics 133:6 Mr '58
 Stop-go scanning saves spectrum space. H. E. Haynes and D. T. Heger. *il* diags Electronics 31:84-8 S 26 '58
 Transmitting facsimiles over the telephone. *il* Engineering 185:229 F 21 '58

FACTOR analysis

Factor analysis of personnel components of ship performance. A. S. Glickman. bibliog Op Res 6:106-15 Ja '58

FACTOR of safety

Synopsis of first progress report of committee on factors of safety. O. G. Julian. Am Soc C E Proc 83 (ST 4 no 1316):1-22 J1 '57; Discussion. T. A. 83 (ST 6 no 1442):41-3 N '57; 84 (ST 1 no 1522):69-70 Ja '58

FACTORIAL design. See Experimental design

FACTORIES

- Balloons substitute for falsework as aluminum dome factory is erected in 22 hours. *il* Eng N 159:24-5 N 28 '57
 Brand new meter factory of Hersey mfg. co. *il* Water & Sewage Works 105:25-7 Ja '58
 Building for industry. an architectural record book. Review. by K. K. Stowell. *il* plan Arch Rec 123:58-8 Mr '58
 Eliminating structural interferences in the modern factory. G. O. Rusk. diags Civil Eng 27:844-5 D '57
 Factories: building types study. *il* plans diags Arch Rec 123:161-82 Ja '58
 Gas air conditioning permits unique styling of new plant: Rockwell manufacturing co. *il* Gas 34:68-9 Je '58
 Industrial know-how handbook: plant building and services. *il* diags Mill & Factory 62: B3-52+ My '58

New plant construction: advance information on location, costs. Published in monthly numbers of Plant engineering
 Precast concrete factory construction: illustrations with text, Engineer 204:786 N 29 '57

Texas Instruments' new plant: space frame gives building operational flexibility. J. McDade and F. J. Snyder. *il* diags Plant Eng 12:99-106 Ap '58

See also

Airplane factories
 Carpet factories
 Cement plants
 Chemical plants
 Drug factories
 Factory management
 Flour mills
 Food factories
 Foundries
 Glass factories
 Industrial buildings
 Machine works
 Metal working plants
 Paper and pulp mills
 Rubber factories
 Steel works
 Textile mills
 Water supply for factories

Accounting

- Estimating special equipment costs. R. G. Dexter. *il* Automation 5:52-4 My '58
 How to figure payoff. R. W. MacWilliams. *il* Automation 5:50-5 My '58
 New ammunition for the cost battle: materials handling cost elements. F. Golden. Mod Materials Handling 13:99-101 F '58
 New approach to replacement studies. B. A. Margo. Tool Eng 40:73-8 Ja '58
 Progressive mechanization: economic justification and measurement of actual results. A. J. Dunkle. Mech Eng 80:76-7 Je '58

See also

Factories—Records
 Inventories—Accounting

Air conditioning

- Air conditioning costly? it doesn't have to be! A. T. Spangler. *il* plan Mill & Factory 63: 81-2 Ar '58
 Continually scour air in new atom fuel plant. *il* Heating-Piping 29:146-8 N '57
 Deep space truss gives plant room for air equipment: Texas Instruments, Inc. plant in Dallas. *il* Enr N 160:46-8 My 8 '58
 Employee turnover down in air conditioned plants. Heating-Piping 30:91 Mr '58
 Ever think of gas air conditioning? Rockwell mfg. co. H. C. Stuckeman. *il* Mill & Factory 62:77-8 Je '58
 Gas conditioning is best: Rockwell manufacturing co. H. C. Stuckeman. *il* Am Gas Assn M 39:8-10+ D '57; Same. Gas Eng 120:13-15 D 26 '57
 Gas heat cools this plant: Rockwell mfg. co. *il* Steel 142:94 Mr 3 '58
 HVAC services: the workhorses of automation. *il* Heating-Piping 29:92-4 D '57
 How not to design plant cooling. Heating-Piping 30:129 Ap '58
 How underground workshops are made livable. A. Rosell. *il* Heating-Piping 30:118-20 Mr '58
 Industrial know-how handbook: heating and air conditioning, ventilation and dust control. *il* diags Mill & Factory 62:B20-3 My '58
 Modern, simplified package: air conditioning units. J. Vonderheide. *il* Plant 18:27-9 Ag '58
 Multiple reflective aluminum insulation cuts over-all costs of air conditioning. *il* diags Plant 18:27-8 J1 '58
 Place new importance on design of industrial air supply systems. J. H. Clarke. *il* diags Heating-Piping 30:116-18 Ap '58
 Small home units used by factory for heating and air conditioning. *il* Air Cond Heat & Ven 54:69-71 N '57
 Today, you must control relative humidity. S. Elonka. *il* diags Power 102:110-11 S '58
 Unusual air conditioning system meets exacting tolerances: General electric co. Aircraft gas turbine div. plant. C. F. Mowrey. diags Heating-Piping 30:130-1 My '58

See also

Air conditioning, Industrial

Cleaning

- Change in janitorial system pays dividends. P. N. Brathen. *il* Plant Eng 12:118 Ja '58
 Dual role for vacuum cleaning: Boeing airplane co. *il* Safety Maint 116:13+ Mr '58

Factories—Cleaning—Continued

- How to pick the right cleaning process. W. L. McCracken. *Il Mill & Factory* 62:136 Mr '58
Is clean-up part of building maintenance? Plant 17:30 My '58
Vacuum slot speeds floor cleaning even with non-vacuum tools. *Il diag Safety Maint* 114:27 D '57

Cleanliness

- Super-clean plant areas a headache? *Power* 102:120 F '58

Design

- Advanced structure for flexibility: Texas Instruments semiconductor-components plant. *Il plans diags Arch Rec* 124:238-41 S '58
Architect and his community: Architects associated; tv components plant. *Il plan Prog Arch* 39:102-3 F '58
Plant with an upstairs basement: Texas Instruments, Inc. *Il diags Arch Forum* 109:132-5 S '58

Electric equipment

- Distributor service is important, too! L. E. Day. *Il Mill & Factory* 62:120-1 F '58
Electrical distribution: electrical industry, on several fronts, is doing something about the growing need for better planning of industrial electrical systems. *Power* 102:79-81 Mr '58
How to untangle your electrical distribution. M. R. Gavin. *Il plan Mill & Factory* 63:81-4 J '58
How we maintain electrical safety in hazardous areas. A. P. Osti. *Il Power* 102:124-5 F '58
Industrial know-how handbook: electrical. *Il diags Mill & Factory* 62:E3-52+ My '58
Industrial relaying faces bigger job. R. R. Peatfield. *diags Elec World* 148:59-62+ O 28 '57
1958 equipment buyer's guide: plant equipment, communications, and drives. *Il Mod Materials Handling* 13:347-71 My '58
Power to grow designs for primary subs can be space savers. *diags Power* 102:92-3 J '58
Practical methods. *Il Elec Constr & Maint* 57:116+ Ja '58
Two ways to figure s-c current. A. H. Knable. *diags Power* 102:97-102 Ja '58
Why the upsurge in d-c power? D. W. Borst and M. M. Morack. *Il Milli & Factory* 62:96-101 Ja '58

See also

- Electric driving
Electric tools, Portable
Factories—Lighting
Paper and pulp mills—Electric equipment

Equipment

- Applying the evaluation process in selecting capital equipment. T. W. Edwards. *Il Plant* 18:65-6 O '58
Capital improvement, today's biggest bargain. C. E. Whyte. *Power Ind* 74:14-15 O '58
Company puts own products to use to cut costs: Rapids-Standard co. *Il Mill & Factory* 61:84-6 D '57
Developments at scientific glassware factory: Quickfit and quartz, Ltd. *Il Engineer* 205:536 Ap 11 '58
Industrial know-how handbook: reference book for production and maintenance engineers. *Il diags Mill & Factory* 62:1-MW174 My '58
Making scientific glassware: Quickfit and quartz, limited. *Il Engineering* 185:381 Mr 21 '58
Mecanelec 58 exhibition: all classes of factory equipment. *Il Engineer* 206:466, 505-6 S 19-26 '58
Mechanised maltings: malting plant at Knapton in Yorkshire. *Il Engineering* 186:186 Ag 8 '58
New literature for ideas to improve your methods. Published in monthly numbers of *Mill and factory*
New products and processes. M. E. Henken, ed. *Il Published in monthly numbers of Plant engineering*
New products you will want to know about. Published in monthly numbers of *Mill and factory*
1958 equipment buyer's guide. *Mod Materials Handling* 13:1-44, 101-412 My '58
1958 production preview: plant service equipment. *Il Am Mach* 102:234-49 Ja 27 '58
Operation and production: pointers for the industrial plant engineer. V. T. Kempf, ed. Published in monthly numbers of *Plant engineering*

- Plant engineers' digest. M. E. Weissman, ed. Published in monthly numbers of *plant engineering*

- Production nuggets: information from American machinist and other publications, developments to watch: materials handling, services. *Il diag Am Mach* 102:H 1-3 Mid-S '58

- What's new in equipment. *Il Published in monthly numbers of Plant*

See also

- Automobile factories—Equipment
Chemical plants—Equipment
Conveying machinery
Equipment industries
Factories—Maintenance and repair
Machinery, Replacement of
Mechanical handling
Paper box factories—Equipment
Piping
Woodworking shops—Equipment

Expansion

- Planned facilities with built-in profits: Westinghouse electric corp. annual facilities planning program. W. C. Allen and T. Daly. *Am Mach* 101:137-44 D 16 '57
Plastic panels allow easy plant expansion. *Il Am Mach* 102:147 My 19 '58
Refinery expansion programme: Isle of Grain refinery. *Il Ind Chem* 34:337-9 Je '58
Vauxhall Motors' double-output plant. *Il Engineering* 185:634-6 My 16 '58
Vauxhall works extensions. *Il Engineer* 205:690-4 My 9 '58

Fire protection**See Fire protection****Floors**

- Industrial floor slabs: design and construction. J. L. Staunton. *diags Arch Rec* 123:245-9+ My '58
Industrial floor slabs: time-saver standards. J. L. Staunton. *diags Arch Rec* 123:257+ My '58
Industrial know-how handbook: plant floors. *Il Mill & Factory* 62:B 10-11 My '58
Keeping up with floor maintenance developments. *Il Safety Maint* 114:60-7 N '57
New chemical resistant floors. E. J. Grich. *Safety Maint* 114:32 O '57
Resilient tile flooring eases maintenance chores. W. Mueller. *Il Plant* 18:30-2 Ag '58

See also

- Food factories—Floors

Food services**See Lunchrooms and cafeterias, Employees****Heating and ventilation**

- Emergency formula for roof ventilation of industrial plants will aid fire control and minimize damage: abstracts. J. J. Cronin. *Air Cond Heat & Ven* 55:120 Mr '58; *Safety Maint* 115:55-6 Mr '58
Factory heating: Oilheat winter air conditioners made by Henry Wilson and co. *Il Engineer* 205:633 Ap 25 '58
HPAC services: the workhorses of automation. *Il Heating-Piping* 29:92-4 D '57
How to get a breath of fresh air. F. A. Westbrook. *Il Mill & Factory* 62:111-12 Ja '58
Industrial know-how handbook: heating and air conditioning, ventilation and dust control. *Il diags Mill & Factory* 62:B20-3 My '58
Industrial ventilation. J. H. Clarke. *diags Heating-Piping* 30:104-9 Je; 91-6 JI; 117-21 Ag '58
Industrial ventilation: how is it designed? J. H. Clarke. *diags Heating-Piping* 30:104-9 Je '58; *Discussion*. H. P. Kaulfuss. 30:97; *Reply*. 97-8 S '58
Industrial ventilation: how is its equipment selected? J. H. Clarke. *diags Heating-Piping* 30:91-6 JI '58
Infrared heating can be practical and economical. C. H. Foulds. *Il Power* 102:78-9+ Ja '58
Infra-red heating for the factory of the future. *Arch Rec* 122:242 N '57
Infra-red heating saves 55 per cent in New Jersey plant: AllCast non-ferrous metals co. *Il Gas Age* 121:24+ P 6 '58
Infra-red heating system developed for today's factory of tomorrow. C. H. Foulds. *Il diags Gas* 34:82-5 My '58
Infrared to heat tomorrow's factory. *Il diags Arch Rec* 123:184-5 Ja '58
Is your plant heating below par? R. H. Emerick. *plan diags Plant Eng* 12:105-9 My; 103-5+ Je '58

Factories—Heating and ventilation—*Cont.*
Point-of-use hot water system; Selas corporation of America. *II* Plant Eng 12:118 Ap '58
Radiant heat for Denver plant; Karen corp. *II* Plant 18:29 J1 '58

See also

Candy factories—Heating and ventilation
Exhaust systems

Layout

How good plant layout cuts costs. J. L. Martin. Iron Age 182:85-7 S 25 '58
Industrial plant map book: how to make and use this quick fact-finder. F. J. Eggert. *plans* Plant Eng 12:90-3 Je '58
New layout ups output ten per cent; Valve div. of Thompson products inc. *plan* Steel 142:100-1 My 26 '58
Plant engineering follow-through: how to minimize delays in plant projects. F. J. Eggert. *plans* *diags* Plant Eng 12:103-6 O '58
We modernized to up handling efficiency; Westinghouse, Newark, N.J. H. G. Weiss. *II* *plans* Mod Materials Handling 13:86-91 Ag '58

See also

Machine shops—Layout

Lighting

Designing instrument and panel lighting. R. Coburn. *II* *diags* Machine Design 30:142-6 Mr 20 '58
800-ma lamps provide general lighting for inspection; Preciscor tube co. *II* *diag* Elec Constr & Maint 67:97 Ja '58
Good illumination improves plant efficiency. W. Schweisheimer. Tool Eng 39:115-16 N '57
High-bay lighting. *II* Engineering 185:80 Ja 17 '58
How and why of a vision program. R. F. Ash. *II* Safety Maint 115:14-17 Mr '58
How much light is right? B. W. Wombacher. *II* Plant 18:62-3 O '58
Industrial know-how handbook; Industrial lighting systems. *II* *diags* Mill & Factory 62: E25-8 My '58
Industrial lighting; Holly carburetor plant; data sheet. V. Winn. *II* Illum Eng 53:103-4 F '58
Industrial lighting; manual for the economic analysis of lighting systems. E. G. Arnsow. *II* Plant Eng 12:136-46 Ja '58
Installation of a modern lighting system helps to trim costs. *II* Mill & Factory 63:117 J1 '58
Light is needed for best results. P. C. Bardin. Ind Finishink 34:94-5 My '58
Luminous ceilings costly? this engineering department says no. J. A. Gilroy. *II* Plant Eng 12:132-3 S '58
Management, lighting and engineers. W. Robinson. *II* *diag* Engineering 184:578-80, 626-30, 658-61 N 8-22 '57
New lighting puts end to production delays in Hetherington & Berner. P. Kimball. *II* Elec World 143:135 D 16 '57
New lighting reduces errors, maintenance; John McKenzie & co. H. M. White. *II* Elec World 149:134 Ap 7 '58
New lighting system aids safety, maintenance and production; Erickson tool co. *II* Safety Maint 115:18 My '58
New power unit for plant lighting; compact high-frequency converter has no moving parts. *II* *diag* Plant Eng 12:130-1 Ja '58
Spurs transformer production, cuts rejects; Airpax products co. W. H. Servary. *II* Elec World 148:120 N 25 '57
Tailored lighting spurs efficiency, output. R. L. Gordon. *II* Elec World 149:184 Je 23 '58
Without one cent of capital leased lighting plan improves illumination at low cost; Parker-Hannifan corp. E. C. Hartley. *II* Plant Eng 12:93-4 J1 '58

See also

Foundries—Lighting

Location

Factory in the country; Standard telephones and cables, ltd. *II* Engineering 185:348-9 Mr 14 '58
Women spark plant shifts. L. C. Yaseen. Electronics 31:20 Ja 24 '58

See also

Food factories—Location

Paper and pulp mills—Location

Lunchrooms

See Lunchrooms and cafeterias, Employ-

Maintenance and repair

Building simplicity into preventive maintenance; Mueller Climatrol, div. of Worthington corp. C. E. Hoerig. *II* Mill & Factory 62:102-3 Ap '58
Dangers of austerity programs. Plant 18:57-8 S '58
Developments in the analysis of maintenance problems. J. D. Quinn. *diags* Mech Eng 79: 931-3 O '57; Discussion. 80:86 J1 '58
Efficient maintenance in a small plant. H. W. Leadbeater. *II* Plant 17:42-4 Ap '58
Formula for plant betterment. R. H. Emmerick. *diags* Plant Eng 12:92-3+ Ap '58
Good maintenance sparks safety program; Gast manufacturing corp. *II* Safety Maint 115:20-2+ Ap '58
How the steel distributor helps solve maintenance problems. W. K. Creal. *II* Plant 17:56-7 Ja '58
How to make maintenance productive. Steel 143:38-9 Ag 11 '58
How to set up a preventive maintenance program. F. D. Manning. *II* Mill & Factory 62:77-84 Ja '58
Impact of automation on plant engineering and maintenance; abstract. B. J. Drummond. Automation 5:147 Ap '58
Ingenious production and maintenance cost-cutting case studies. Published in monthly numbers of Mill and factory
Maintenance has a place in the plans; Johnson & Johnson. C. V. Swank. *II* *plan* Plant Eng 12:98-101 F '58
Maintenance is key to big savings. Heating-Piping 30:120-1 Ap '58
Maintenance log. Published in monthly numbers of ISA journal
Maintenance measurement; pros and cons. B. W. Wombacher. Plant Eng 12:94-6 S '58
Maintenance operations for the plant of the future; abstract. G. J. Martin. Tool Eng 39: 195-6 D '57
Maintenance reduces accident costs. *II* Safety Maint 115:11-12 Ja '58
Maintenance shorts. Published in monthly numbers of Mill and factory
Manufacturing plant that gets best results with all-round maintenance men; Marchant calculators, inc. M. P. Laursen. *II* Power 101:107-9 N '57
Milwaukee roundtable; recent plant engineer and executive dinner meeting. H. E. Holensbe. Plant 18:59-62 S '58
Operation and production; pointers for the industrial plant engineer. V. T. Kempf, ed. Published in monthly numbers of Plant engineering
Philosophy of maintenance. S. A. Musser. *II* Plant 17:45-9 Ja '58
Plant maintenance and engineering conference. 9th, Jan. 27-29; program. Plant Eng 12:96-101 Ja '58
Plant maintenance and engineering conference, Chicago. Safety Maint 115:45 Ja '58
Plant maintenance and engineering conference, Chicago, Jan. 27-29; abstracts of papers. Automotive Ind 118:31+ Mr 1 '58
Plant maintenance and engineering show and conference, Chicago, Jan. 27-30; with abstracts of papers. Safety Maint 115:23-5+ Mr '58
Plant maintenance and engineering show and conference. 9th, Chicago; with abstracts of papers. Plant 17:52-5 Mr '58
Plant maintenance and engineering show, Chicago, Jan. 27-30. Elec Constr & Maint 57:183-8 F '58
Plant maintenance and engineering show and conference, Chicago, Jan. 27-30; preview of new developments in program, floor plan, guide to available literature. Plant 17:11-14+ Ja '58
Preventive maintenance procedures and forms in action, a record of experience. B. W. Wombacher. *II* Plant Eng 12:102-5 Ja '58
Production clinic; maintenance protection and repair of factory buildings. E. G. Thomssen. Soap & Chem Spec 33:147-8+ N '57
Reduce costs and boost profits with planned maintenance. P. J. Cathey. *II* Iron Age 181: 59-61 My 29 '58
Repairing corroded tanks, pipes, conduits with epoxy materials. *II* Plant Eng 12:114-15 O '58
Service and maintenance; forum on technical progress. Steel 143:397-8+ Ja 6 '58
Trouble-shooting on buildings and services. Mill & Factory 62:B35-42 My '58
Trouble-shooting on material handling equipment. Mill & Factory 62:MH35-40 My '58
Trouble-shooting on mechanical power transmission equipment. Mill & Factory 62:FT35-40 My '58

FACTORIES—Maintenance and repair—Cont.
Two halves = whole preventive maintenance system; Globe union inc. B. A. Weideman. *diags Mill & Factory* 61:100-2 N '57
What Maytag did to get better maintenance at less cost. T. Metaxas. *il Mill & Factory* 62:107-12 F '58

See also

Automobile factories—Maintenance and repair
Chemical plants—Maintenance and repair
Factories—Painting
Hoisting machinery—Maintenance and repair
Maintenance departments
Paint, Protective
Steel works—Maintenance and repair

Painting

Functional color pays off; Miller brewing co. J. V. Ziembra. *il Food Eng* 30:41-2 Je '58
How to beat painting problems. *diags Mill & Factory* 62:102-4 Ja '58

See also

Steel works—Painting

Protection

Big brother is listening; ultrasonic alarm guards classified papers. *il Mill & Factory* 62:91 F '58
Combine nuclear protection with everyday functions in new dual purpose industrial building. F. Orlando. *il diags Plant* 18:32-3 O '58; Same cond. *Plant Eng* 12:115-1 S '58
Production clinic; maintenance protection and repair of factory building. E. G. Thomssen. *Soap & Chem Spec* 33:147-8+ N '57

Records

Computer keeps an eye on spare parts. S. E. Parks. S. A. E. J. 66:34-8 Ag '58
Hancock telecontrol. *il Automobile Eng* 48:321-3 Ag '58
How to control project costs. D. P. Brautigam. *diag Plant Eng* 12:142-5 My '58
Two halves = whole preventive maintenance system; Globe union inc. B. A. Weideman. *diags Mill & Factory* 61:100-2 N '57

See also

Accidents, Industrial—Records
Maintenance departments—Records
Payrolls—Records
Production control
Punched card system

Roofs

Fire retardant roof construction. *il Safety Maint* 115:49-50 F '58
How Plastic Flashing does the job. R. W. Boone and D. J. Dirkse. *il Plant Eng* 12:94-7 Je '58
Industrial know-how handbook; roofing and insulation. *il diag Mill & Factory* 62:B8-9 My '58
Long-span roof for factory allows flexibility in use of space. *il Eng* N 160:52 Je 5 '58
Piggy-back roofing; cold-applied surface cuts costs. *il Plant Eng* 12:102-3 JI '58
Roof sprinklers cut heat gain. J. A. D'Entremont and M. B. MacPherson. *il Heating-Piping* 29:149 N '57

Sanitation

See Factory sanitation

Visitors

See Visitors

Water supply

See Water supply for factories

Yards

Movers of materials; equipment types for yard handling of palletized loads. A. T. Gaudreau. *il Plant Eng* 12:122+ Ag '58
Storing precision tools in the yard; protective coatings; Solar aircraft co. *il Mod Materials Handling* 13:114-16 Ap '58
Yard storage without aisles; Peterson co. put their stock of steel grating on wheels. *il Mod Materials Handling* 13:97 O '58
Yard use stretches investment dollar; Commonwealth Edison co. B. Marks and F. Thornhill. *il Mod Materials Handling* 13:103 Ap '58

FACTORIES, Underground

How underground workshops are made livable. A. Rosell. *il Heating-Piping* 30:118-20 Mr '58
Success of underground structure depends on air conditioning. T. H. Urdahl. *Heating-Piping* 30:108-11 Ap '58

FACTORY accounting. *See* Factories—Accounting

FACTORY communication

Control panel speeds foremen too. *il diag Product Eng* 29:49 Ag 4 '58
Controlling production; control panel of a system produced by the Control systems co. *il Mech Eng* 80:91 Je '58
Hancock telecontrol. *il Automobile Eng* 48:321-3 Ag '58
Nerve center masterminds production. *il Mill & Factory* 62:110-11 Je '58

See also

Bulletin boards
Radio telephone in factories

FACTORY costs

Controlling costs on plant orders; seven forms keep accurate check on material and cost estimates. R. J. Detuno. *Plant Eng* 12:88-9+ JI '58
Cut the fat from your indirect labor. L. R. Fagg. *Mill & Factory* 61:79-81 N '57
How to control project costs. D. P. Brautigam. *diag Plant Eng* 12:142-5 My '58
Measuring the cost of quality. L. J. Bayer. *Product Eng* 28:A 14-15 Mid-O '57
Reducing maintenance costs is painful, too. W. A. Sorenson and others. *Plant Eng* 12:114-16 Ja '58

We outfit rising costs with smarter tools and methods; Towmotor corp. N. K. Brothers. *il Mill & Factory* 62:79-81 Je '58

See also

Airplane factories—Costs
Guided missile factories—Costs
Material handling—Costs
Quantities (in production)

FACTORY fire brigades

Disaster planning; training for disaster. *il Pet Refiner* 36:109-14 D '57
Fire brigade sharpens up in competition; Dayton rubber co. *il Plant Eng* 12:137 My '58

FACTORY floors. *See* Factories—Floors

FACTORY laws and regulations

Court decisions; summary of legal findings of interest to the plant engineer. A. W. Gray. *Plant Eng* 12:81-2 Ja; 79-80 Mr; 85-6 My '58

FACTORY management

Building for the future; Leeds and Northrup's North Wales, Pa. plant. J. F. Parr. *il diags Tool Eng* 40:131-8 Ap '58
Cut the fat from your indirect labor. L. R. Fagg. *Mill & Factory* 61:79-81 N '57
Economics of plant renewal and replacement. C. W. Griffiths. *Inst Mech Eng Proc* 171 no 3:464-52, pl 1-2; Discussion. 483-92; Reply. 492-3 '57
Introducing into production new manufacturing techniques and processes. V. A. Dornes. S. A. E. J. 66:57-8 Mr '58
Magnetic tape, industry's Jack-of-all-trades. *il Mill & Factory* 62:117-19 F '58
Milwaukee roundable; recent plant engineer and executive dinner meeting. H. E. Holsenbe. *Plant* 18:59-62 S '58
Modern management for the small plant (cont). S. A. Tucker. *Am Mach* 101:125-8 N 4 '57; 102:135-9 Mr 10 '58
Philosophy of maintenance. S. A. Musser. *il Plant* 17:45-9 Ja '58

See also

Assembling methods
Bonus system
Bulletin boards
Control boards
Control charts
Efficiency, Industrial
Employees
Employment management
Employment systems
Engineering departments
Factories—Cleaning
Factories—Maintenance and repair
Factories—Records
Factory costs
Foremen
Foremen conferences
Hygiene, Industrial
Idleness, Industrial
Industrial engineering
Industrial management
Industrial relations
Inspection
Inventories
Janitors
Job work
Machine shop management
Machine works
Material handling

FACTORY management—See also—*Continued*

Mechanical handling
 Medical service, Industrial
 Office management
 Organization in industry
 Packing for shipment
 Production
 Production control
 Purchasing
 Quantities (in production)
 Research departments
 Routing systems
 Safety devices and measures
 Salvage (waste, etc)
 Schedules
 Shipment of goods
 Shipping departments
 Standardization
 Suggestion systems
 Tool engineering
 Tool rooms
 Vacations
 Visitors

also subdivision Management under special subjects, e.g.

Airplane factories
 Chemical plants
 Drug factories
 Flour mills
 Food factories
 Glass factories
 Hosiery mills
 Ice cream factories
 Knitting mills
 Machine works
 Metal working plants
 Paint shops
 Paper and pulp mills
 Rolling mills
 Steel works
 Textile mills

Machine load forecasting

Determining machine loading for the job shop, J. E. Epprecht, *il Tool Eng* 41:106-8 S '58

Schedule machine loads and cut shop costs; Canadian Westinghouse co. S. Manchuck, *il diag Am Mach* 102:113-15 Mr 24 '58

Quality control

Measuring the cost of quality, L. J. Bayer, *Product Eng* 28:A 14-15 Mid-O '57

Metalworking, 1962; quality control, J. Manuele, *Am Mach* 101:143-4 N 18 '57

Outgoing quality level (OQL) assurance system used at Bay state abrasive products co. J. R. Gilman, *Ind Quality Control* 14: 14-17 Ap '58

Practical application of management by exception; panel discussion, *Ind Quality Control* 15:30-2 Jl '58

Production nuggets; information from American machinist and other publications; developments to watch; inspection, testing, quality control, *il Am Mach* 102:E 1-5 Mid-S '58

Quality control do-it-yourself kit, E. R. Conolly, *Ind Quality Control* 15:28-30 Jl '58

Quality control, management's job, H. T. Halliwell, Jr, *Tool Eng* 40:323-6 Ap '58

Quality control of inventory turnover, L. B. Kahn, *Ind Quality Control* 14:4-7 Ap '58

Trends in quality control; abstract, L. R. Hafstad, *Tool Eng* 39:217-18 N '57

Why so many rejects? and service calls? D. Walker, *Ind Finishing* 34:46-7 Ja '58

See also

Inspection

FACTORY protection. See **Factories**—Protection

FACTORY sanitation

Building and equipment sanitation maintenance; review, J. L. Barron and A. J. Burner, *Safety Maint* 114:53-4 D '57

How is your working environment? B. Van Dyke, *il Safety Maint* 115:34-5+ F '58

How to reach your sanitation goals, W. A. Gerstmyer, *il Safety Maint* 115:24-9 My '58

See also

Drinking fountains
 Dust collectors
 Dust removal
 Food factories—Sanitation
 Trade waste

FACTORY transportation

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Conveying machinery
 Electric trucks, Industrial
 Material handling
 Mechanical handling
 Motor trucks, Industrial
 Pallets
 Tractors, Industrial
 Trucks

FACTORY visitors. See **Visitors**

FACTORY waste. See **Trade waste**

FACTORY yards. See **Factories**—Yards

FADING (radio waves). See **Radio transmission**—Fading

FAIR trade. See **Price fixing**, **Resale**

FAIRBANKS, Alaska

Water supply

Battling permafrost, sub-arctic weather and tough soil to give Fairbanks water, H. C. Westfall, *il map Water Works Eng* 111:128-31+ F '58

FAIRCHILD engine and airplane corporation. Company profile; Fairchild pushes diversification, R. M. Loebelson, *il Aviation Age* 29: 16-17+ My '58

FALLING bodies

Generalized trajectories for free-falling bodies of high drag, R. D. Turnaciff and J. P. Hartnett, *diags Jet Propulsion* 28:263-6 Ap '58

FALLOUT, Radioactive. See **Radioactive fallout**

FAMILY rooms. See **Rooms**, **Multiple purpose**

FANS, Automobile. See **Automobile engines**—Fans

FANS, Electric. See **Electric fans**, **Ventilating FANS, Mechanical**

Air gently separates fiber from rock in asbestos mill, *il Rock Prod* 61:89-4 Jl '58

Applying mixed-flow units in commercial air-moving systems, A. A. Atalla, *diags Air*

Cond Heat & Ven 55:64-7 Ap '58

Chart selects centrifugal fans, E. J. Gibbons, *Chem Eng* 65:144 Ja 27 '58

Compound flow fan; Keith Blackman, *ltd. il Engineer* 206:422 S 12 '58

Cooling jet aircraft, *Comp Air Mag* 63:32 F '58

Ducted fan design theory, C. G. Van Niekerk, *bibliog J Ap Mech* 26:325-31 S '58

Economics of colls vs fan or blower units in combination freeze and hold freezers; abstract, E. C. McKenna, *Refrig Eng* 66: 61-2 Ja '58

Guide to fan selection, *diags Product Eng* 29: 92-5 Ap 28 '58

See also

Electric fans, Ventilating

Testing

Plant-engineered fan testing tunnel; Trade-wind motorfans, inc. *il Plant Eng* 12:123 O '58

See also

Electric fans, Ventilating—Testing

FANS, Mine

Auxiliary fans at the face; more air at continuous-miner faces, R. W. Stahl, *diags Coal Age* 63:106-8+ Mr '58

Integrating multiple fans, D. S. Kingery, *diags Coal Age* 63:88-90+ Ag '58

FAR EAST

See also

Coal mines and mining—Far East
 Moving picture industry—Far East
 Petroleum industry and trade—Far East
 Television broadcasting—Far East

FARADAY effect

Paramagnetic Faraday effect, J. Soutif-Guichard, *bibliog J Ap Phys* 29:256-8 Mr '58

FARBWERKE Hoechst aktiengesellschaft

Sales up, *Chem & Eng N* 35:32 N 18 '57

FARM machinery. See **Agricultural machinery**

FARM management

Farm organization; influence of machinery developments, R. Paterson, *Engineering* 185: 563-4 My 2 '58

FARM organization. See **Farm management**

FARM produce

See also

Agricultural products
 Crops
 Drying (crops)

FARM tractors. See **Tractors**, **Farm**

FARMERS

What farmers think about fertilizers, *J Agri & Food Chem* 6:266-71 Ap '58

FARMERS cooperative associations

See also

Electric service, Rural—Cooperative lines
FARMS, Experimental. See Agricultural experiment stations

FARRINGTON, James

Obituary, por Iron & Steel Eng 35:101 F '58

FASHION

See also

Costume

FASTENINGS

Design better and cut costs with this fastener checklist, Product Eng 29:82-3 Mr 3 '58
 Design digest issue; fastening and joining, II diags Product Eng 28:G 1-78 Mid-O '57
 Design digest issue; fastening and joining, II diags Product Eng 29:G 1-44 Mid-S '58
 Epoxy resin putty for sandwich fastening, II Materials In Design Eng 47:202-4 F '58
 Fastener cuts forming time, II diag Roads & Sts 101:86 Ag '58
 Faster fastening, Avdel Lockbolt, diags Engineering 186:124 JI 25 '58

Fastener makers stress quality, II Iron Age 181:98 Ja 9 '58

Foamed-plastic fastening, II Machine Design 30:99 JI 10 '58

Industrial know-how handbook; fasteners, II Mill & Factory 62:MW38-9 My '58

Joining and assembly; forum on technical progress, Steel 142:368-70+ Ja 6 '58

Joining and fastening of materials; mechanical fasteners, diags Materials In Design Eng 48:389-93 Mid-O '58

Joining and fastening plastics, M. W. Riley, II Materials In Design Eng 47:143-4 Ja '58

Mechanical fasteners for military electronic equipment; special report, R. H. Lines, diags Elec Manuf 61:109-24 Fe '58

Metalworking, 1962; fasteners, R. J. Cooney, Am Mach 101:145 N 18 '57

Method for fastening honeycomb structures, R. J. Schwab, diags Materials In Design Eng 47:168-4 Mr '58

Multiple-function fasteners; drawings with text, Machine Design 30:120-3 Ap 17 '58

New fastener speeds wall assembly, II Eng N 159:59 D 12 '57

1958 production preview; parts and materials, II Am Mach 102:259-60 Ja 27 '58

Panel fasteners; drawings with text, Machine Design 30:164-7 Mr 2 '58

Pin fasteners, L. E. Spector, II diags Machine Design 29:122-31 N 14; 166:72 D 12 '57

Production man's guide to fastening devices, J. J. Dwyer, jr, II diags Am Mach 102:97-112 S 8 '58 (reprints 35c)

Progress report on titanium-alloy fasteners, J. Van Flammersveld, Machine Design 30:123-7 Ja 23 '58

Quick-release fasteners; drawings with text, M. Levine, Product Eng 28:G34-5 Mid-O '57

17 pre-assembled fasteners; drawings with text, Product Eng 29:78-9 Fe 9 '58

Ways to keep fasteners locked, F. Strasser, diags Iron Age 182:88-91 S 25 '58

Welded fastener cuts cost of machine; American machine & foundry co, II diags Steel 142:142-3 Ap 21 '58

See also

Bolts and nuts
 Latches
 Screws

Costs

Steel fastener costs compared, Eng N 161:82 S 18 '58

Manufacture

Mechanical thread comparators; how they monitor output of close-together fasteners, J. L. Harris, II Mach 64:137-9 F '58

FASTNESS of dyes. See Dyes, Fastness of

FAT

Animal fats; fifty years of progress, H. C. Black and others, Ind & Eng Chem 50:sup5A:3A Ja '58

Characterization of volatile carbonyl compounds isolated from meat fat subjected to gamma radiation, L. A. Witting and B. S. Schweigert, bibliog Am Oil Chem Soc J 55:413-16 Ag '58

Comparison of temperature responses to intravenous infusions of dextrose and fat emulsions, H. L. Upjohn and S. M. Levenson, Am J Clinical Nutrition 6:8-11 Ja '58

Dietary fat and human health; current recommendations; editorial, G. A. Goldsmith, Am J Clinical Nutrition 6:169-70 Mr '58

Effect of age, sex and feeding regimen on fat digestibility in individual rats as determined by a rapid extraction procedure, R. L. Squibb and others, J Nutrition 64:625-34 Ap '58

Effect of dietary fat on the fatty acid composition of cholesterol esters in rat liver, S. Mukherjee and others, bibliog J Nutrition 65:469-79 JI '58

Phenolic antioxidants and the stability of perirenal rat fat, A. R. Johnson and others, bibliog Am Oil Chem Soc J 35:496-501 O '58

Retention of fluoride by the skeleton, liver, heart and kidney as a function of dietary fat intake in the rat, W. Buttner and J. C. Muhler, J Nutrition 65:259-66 Je '58

Role of choline in the hepatic oxidation of fat, C. Arlom, Am J Clinical Nutrition 6:221-33 bibliog(p232-3); Discussion, 234 My '58

Why we store fat, S. R. Dickman, diags Am Scientist 46:255-93 S '58

FATIGUE

Measuring human effort, L. Brouha, bibliog II Mech Eng 80:81-3 Je '58

Thirst is a key factor in fatigue of workers, L. Brouha, II Foundry 86:248-50+ My '58

See also

Relaxation

FATIGUE in concrete. See Concrete—Failure

FATIGUE in metals

Behaviour of cold-worked copper in fatigue, D. S. Kemsley, bibliog II Inst Metals J 87:10-15 '58-59

Bubble study foreshadows crack detection technique, II Tool Eng 40:115 Mr '58

Effect of different surface treatments on the fatigue strength of drill steel, T. W. Wlodek, bibliog(26 titles) II Can Min & Met Bul 61:89-98; Discussion, 98-101 F '58

Effect of fretting on fatigue characteristics of titanium-steel and steel-steel joints, W. L. Starkey and others, Product Eng 29:F 15-17 Mid-S '58; Abstract, Machine Design 30:140 Ja 9 '58

Fatigue and its relation to the mechanical and metallurgical properties of metals; abstract, G. R. Gohn, Metal Prog 73:193-4+ F '58

Fatigue characteristics of single-lap joints of AISI 347 brazed with a Ni-Cr-Si-Bc alloy, R. G. Aspden and W. Feduska, bibliog II diags Welding J 37:sup 125-8 Mr '58

Fatigue failures in fatigue machines, W. H. Munse, II diag Welding J 37:sup54-6 F '58

Fatigue life as a function of surface conditions, D. E. Swets and R. C. Frank, Metallurgia 56:232 N '57

Fatigue of a nut and bolt, P. B. Walker, diags Roy Aeronautical Soc J 62:395-407 Je '58; Abstract, Automobile Eng 48:308-11 Ag '58

Fatigue of DC aluminum wire, C. E. Burley, Wire & Wire Prod 33:185-6+ F '58

Fatigue properties of comparable cast and wrought steels; abstract, E. B. Evans and others, Metal Prog 73:150+ Ap '58

Fatigue properties of gray iron, F. R. Brotzen and J. F. Wallace, bibliog II Machine Design 29:154-8 D 12 '57

Fatigue properties of zinc, D. M. Fegredo and others, bibliog II diags Inst Metals J 87:1-9 '58-59

Fatigue strength of silver-alloy brazed joints in steel, C. H. Chatfield and S. Tour, II Welding J 37:sup37-40 Ja '58

Fatigue strength of specimens cut from pre-loaded blanks, N. E. Frost, diags Metallurgia 57:279-82 Je '58

Fatigue testing machine for hot steel, K. W. Mitchell and H. King, II diags Engineering 185:402-4 Mr 28 '58

Fatigue tests on alpha-iron; abstract, M. Hempel and others, Engineer 204:603 O 25 '57

Fatigue tests proved by three statistical checks, L. G. Johnson, S A E J 66:72-3 Mr '58

Flexible fatigue test setup for fullscale structures, V. DeBlasi, II diag Aviation Age 30:46-7+ JI '58

How good are leaded steels in fatigue? G. W. Brock and G. M. Sinclair, Iron Age 181:59-62 Ja 9 '58

How grinding affects fatigue strength of steel, L. P. Tarasov, bibliog diag Am Mach 101:72-6 D 30 '57

Improving the fatigue life of spot welds, diags Welding J 37:sup315+ JI '58

Inclusions, nuclei for fatigue cracks? technical session at the A.S.T.M. meeting, Metal Prog 74:120-2 Ag '58

Influence of surface roughness on the fatigue strength of steels and nonferrous alloys; abstract, E. Siebel and M. Gaier, Metal Prog 73:174+ Ja '58

FATIGUE in metals—Continued

- Influence of understressing on the fatigue properties of flake graphite and nodular graphite cast irons; abstract. G. N. J. Gilbert and K. B. Palmer. *Metal Prog* 73:140-1 Mr '58
- Motion pictures of metal fatigue automatically record details; abstract. *Metal Prog* 73:183 Ja '58
- Observation concerning metal fatigue. II Welding J 37:sup342 Ag '58
- Size effects and their possible significance for non-propagating cracks in metal fatigue. W. J. Harris. *bibliog Metallurgia* 57:193-7 Ap '58
- Slipping-clutch fatigue-testing machine. N. B. Owen and H. L. Cox. *II diag Engng* 186:34-5 J1 18 '58
- Some metallurgical aspects of the blade fatigue problem in aircraft gas turbines. K. B. Young. *bibliog II diag Can Min & Met Bul* 51:279-87 My '58
- Surface fatigue of carbo-nitrized steel. G. W. Powell and others. *II diag Metal Prog* 73:67-9 Mr '58
- Surface structure of slip bands on copper fatigued at 293°, 90°, 20°, and 4-2°K. D. Hull. *bibliog II diag Inst Metals J* 86:425-30 My '58
- Tight bolts stop fatigue failures. R. Sproat. *II diag Iron Age* 181:105-8 Mr 13 '58
- Time saving in statistical fatigue experiments. N. T. Bloomer. *Engineering* 184:603 N 8 '57

FATIGUE in plastics

- Fatigue tests on glass-fibre-reinforced plastics. N. G. Calvert. *diag Engineer* 204:522-3 O 11 '57

FATS and oils. See Oils and fats**FAULTS (geology)**

- Geological and geophysical synthesis of the tectonics of portions of British Columbia, the Yukon Territory, and Alaska. P. St. Amand. *Geol Soc Bul* 68:1348-70, pl 1 bibliog(p 1369-70) O '57
- Lineaments in Avonlea area, Saskatchewan. W. O. Kupsch and J. Wild. *bibliog II map Am Assn Pet Geologists Bul* 42:127-54 Ja '58
- Los Bajos fault and its relation to Trinidad's oilfield structures. C. C. Wilson. *bibliog map diag Inst Pet J* 44:124-36 My '58
- Method of graben and horst formation. G. J. Lenson. *maps diag J Geol* 66:579-86 S '58
- Thrust faulting and oil accumulation in the Rocky mountains; abstract. F. A. Thurman. *Oil & Gas J* 66:199 My 12 '58

FAYALITE

- Olivine-spinel transition in fayalite. A. E. Ringwood. *Geol Soc Bul* 69:129 Ja '58

FECEs

- Deposition in tissues and fecal excretion of trans fatty acids in the rat. P. V. Johnston and others. *bibliog J Nutrition* 65:13-23 My '58
- Isolation and synthesis of a new sterol from rat feces. W. W. Wells and D. H. Neiderhiser. *bibliog Am Chem Soc J* 79:6569-70 D 20 '57
- Stool specimen collection for laboratory examination for infestations. H. J. Johnson and G. K. Ebbesen. *diag Ind Med* 27:370-1 J1 '58

Analysis

- Organ, urine and feces vitamin B₁₂ content of normal and starved rabbits. H. L. Rosenthal and L. F. Cravitz. *bibliog J Nutrition* 64:281-90 F '58
- FEDERAL communications commission
- FCC-IRAC frequency proposals; u.h.f. changes, 1800-2000 kc. changes. Q S T 42:63-4 Je '58
- FCC overhauling rules and policies. N. Regimbald. *Gas* 34:140 Ag '58
- FCC rules for gas companies. *Gas* 34:120 S '58
- FCC scans microwave. *Electronics Bsns ed* 30:48-9 N 10 '57
- FCC weighs business radio. *Electronics* 31:18 My 30 '58
- WAZABC de WVDEF; FCC announces new system for future call signs. Q S T 42:72-3 My '58

See also**Radio laws and regulations****FEDERAL housing administration**

- Conventional mortgage aid system under FHA. A. M. Cole. *Arch Rec* 123:264+ Ja '58
- Distressed rental projects cost FHA \$34 million. *Arch Forum* 109:7+ S '58

FHA authorizes research for projected homes survey. *Arch Rec* 124:298+ J1 '58

- FHA plans major survey on performance of housing. E. Mickel. *Arch Rec* 123:56 Je '58
- Housing for the aged; federal aid program makes progress slowly. E. Mickel. *Arch Rec* 123:32+ My '58
- Industry advice sought and used in FHA standards revision. E. Mickel. *Arch Rec* 122:32 D '57
- New home area tops old in FHA's latest report. E. Mickel. *Arch Rec* 122:48+ N '57
- FEDERAL Pacific electric company
- Federal Pacific Electric to acquire Roller-Smith. *Elec World* 143:162 D 16 '57
- FEDERAL power commission
- FPC drags its feet in requiring compliance with Memphis decision. *Oil & Gas J* 56:70 F 3 '58
- FPC enters Kansas gas case. *Oil & Gas J* 55:28 D 23 '57
- Give FPC credit for trying to regulate the gas industry. R. S. Knappen. *Oil & Gas J* 56:156-7+ J1 28 '58
- Highlights of cases before Federal power commission (cont.). *Am Gas Assn Mo* 39:56-7 N; 40-1 D '57; 40:43 Ja; 48-9 F; 40-1 Mr; 42-3 Ap; 42-3 My; 42-3 Je; 48-9 J1-Ag; 38-9 S; 43 O '58
- John Hussey, new voice on the FPC. *Oil & Gas J* 56:54-5 Je 30 '58
- \$167 million Transco expansion gets ok; Pennsylvania storage fields included. *Gas Age* 122:32 O 2 '58
- FEDERAL power projects. See Hydroelectric plants—Government ownership
- FEDERAL reserve banks
- See also
- Discount—Rates
- FEDERAL trade commission
- FTC accuses antibiotics makers. *Chem & Eng N* 36:27-9 Ag 11 '58
- FTC guide to clarify tire advertising. R. E. L. Adamson. *Rubber World* 137:421 D '57
- Federal trade commission issues advertising standards for tires. *Rubber Age* 82:495 D '57
- FEDERATION of Rhodesia and Nyasaland
- See also
- Floods—Federation of Rhodesia and Nyasaland
- Hydroelectric plants—Federation of Rhodesia and Nyasaland
- FEDERATION of sewage and industrial wastes associations
- Annual meeting, 30th. Boston, Oct. 7-10. *Sewage & Ind Wastes* 30:111-18 Ja '58
- Annual meeting, 30th. Boston; with abstracts of papers. *Water & Sewage Works* 104:554-61; 105:42-3 D '57-Ja '58
- Annual meeting, 31st. Detroit, Oct. 6-9; program. *Sewage & Ind Wastes* 30:1201-9 S '58
- Annual meeting, 31st. Detroit, Oct. 6-9; program. *Water & Sewage Works* 105:396-7 S '58
- Annual year book and directory, 1958. *Sewage & Ind Wastes* 30:329-478 Mr '58
- Constitution and bylaws. *Sewage & Ind Wastes* 30:321-8 Mr '58
- FEED mechanisms
- Automatic blank feed for forming dies. F. Strasser. *diag Mach* 64:180 Ja '58
- Boring tool feed; Herz engineering co. *II diag Ap Hydraulics* 11:76 J1 '58
- Combination cam controls stock feed of wire-forming machine. K. W. Nittel. *diag Mach* 64:114-15 Ag '58
- Device feeds compression molder. *II diag Automation* 5:59 Je '58
- Feeder positions screws for assembly. *II Iron Age* 180:70 O 31 '57
- Feeder slashes brushrushing costs 95 per cent; Lamson & Sessions co. *II Steel* 142:140-1 F 17 '58
- Feeders lengthen sheet runs. *II Iron Age* 181:17 Je 19 '58
- How to automate production equipment. R. Le Grand. *II diag Am Mach* 102:145-60 Ap 21; 73-5 Je 30; 81-3 J1 28; 102-4 S 22 '58
- Integrated line shaves and inspects cluster gears. *II diag Automation* 5:91 Ap '58
- Machine feeders. K. R. Treer. *diag Automation* 5:82-7 My '58
- Magazine feed for electrodes; automatic airborne searchlight. *II diag Automation* 5:94 F '58
- Magnetic handling; magnets in feed mechanisms for handling sheet steel. *II Steel* 143:118 J1 14 '58
- 1958 production preview; tools and accessories. *II diag Am Mach* 102:180-3 Ja 27 '58
- Operating card feeders; Bramwell automatic feeder. W. J. Crofts. *II diag Textile Ind* 122:86-91 S '58

FEED mechanisms—Continued

- Orientation by rotation feeds setscrews for automatic assembly. R. Gibbs. *II* *diags* Automation 5:77-9 Ap '58
- Seven basic selectors for parts; drawings with text. P. C. Nov. *Product Eng* 29:96-7 My 12 '58
- Sheet handling devices improve press operations. *II* *diag* Automation 5:89-90 My '58
- Simple wedge mechanism feeds progressive die. H. Dahl. *diag* *Am Mach* 102:116 Jl 14 '58
- Stock fed into lamination press at 2500 inches a minute. *II* *diags* *Mach* 64:154-5 F '58
- Twin-cylinder hydraulic gripper feed unit. *II* *Automotive Ind* 137:84 O 15 '57
- Work-loading devices to increase output from Wickman chucking automatics. *II* *Automobile Eng* 48:113-16 Mr '58

See also

- Feeders, Ore
Hoppers
- FEED mills**
Diesel feed mill goes to farmer. *II* *Diesel Power* 36:36 S '58
- FEED water**
Boiler drum level control. A. Waxman. *diags* *Instruments & Automation* 31:872-5 My '58
- Can we install a water meter in our boiler-feed line? answers. *diags* *Power* 102:134-5 F '58
- Deaeration for the small plant. R. F. Schaub. *II* *Power* 102:118-19 Ap '58
- Deaeration; which way is best? symposium abstracts. *Power Eng* 62:100-1 Ag '58
- Light-wall stainless pipe keeps makeup water pure. *II* *Power Ind* 74:24-5 Ja '58
- Packaged boilers; high-temperature water. R. C. Bellas. *II* *diags* *Power* 102:98-9 Ag '58
- See also**
Feed water regulators

Testing

- Automatic analysis for silica and hardness. G. Schneider. *II* *diag* *Water & Sewage Works* 105:270-2 Jl '58
- Gas content of steam and boiler feed water. W. E. Bartley and E. Moulit. *II* *diag* *Engineer* 206:484 S 26 '58
- New equipment automatically analyzes water and controls treatment. G. Schneider. *II* *diag* *Power Eng* 62:76-7+ Ja '58
- New, simple field test for nitrates. R. S. Robertson and B. J. Wachter. *II* *Power* 102:105-7 Jl '58
- Sodium test measures steam purity accurately. J. J. Maguire. *II* *diag* *Power Eng* 62:81-2 S '58
- FEED water heaters**
Adapter helps spot heater tube leaks. J. B. Osbourn. *II* *diag* *Elec World* 150:86 Ag 18 '58
- Borough of Lansdale plans to use new feed-water heater. R. T. Cooney and others. *diags* *Power* 102:78-80+ My '58
- Evaluate your deaerator performance. A. E. Kittredge. *diags* *Power* 102:88-90+ Ap '58
- Feedwater heaters built for 4730 psig. *diag* *Power* 102:105 Je '58
- Spherical-head feedwater heater. A. E. Pickford and J. M. Phelps. *II* *diag* *Power* 102:103+ Mr '58
- What's wrong with this heater setup? answers. *diags* *Power* 102:126-7 Jl '58

Maintenance and repair

- Right rods, materials, welding technique saved heater. S. Elonka. *II* *Power* 102:110-11 Ja '58
- FEED water heating**
Turbine governors for paper mill power plants simplify control of mill power and heat balance. W. B. Wilson and G. H. Gibb. *II* *diags* *Tappi* 40:885-94 N '57
- FEED water pumps.** See *Pumps*, *Feed water*
- FEED water purification**
A. B. C's of demineralizing. F. N. Kemmer. *diags* *Combustion* 29:41-4 Ap '58
- Boiler feedwater treatment. P. Hamer. *bibliog* *II* *Manuf Chem* 29:279-82+ Jl '58
- Boiler water treating systems. T. L. Pankey. *diags* *Power Eng* 62:92-4 Je; 92-4 F '58
- Breakthrough in condensate purification. V. J. Calise. *bibliog* *diags* *Combustion* 29:40-5 Mr '58
- Combination hot process softener and de-aerator solves space problem and gives steam savings. A. G. Ziegler. *flow diag* *II* *Combustion* 30:47-50 Ag '58

- Condensate demineralizers combat deposits for potential one per cent heat-rate gain. S. B. Applebaum. *II* *diags* *Power* 102:94-6+ My '58
- Corrosion and the destination of corrosion products in a high pressure power plant. R. C. Tucker. *bibliog* *flow diag* *II* *Corrosion* 14:19-22 My '58
- Counterflow regeneration improves deionizer effluent; boiler-feed water. P. H. Caskey and T. P. Harding. *diags* *Textile World* 103:82+ Je '58
- Deaeration panel; American power conference; abstracts of papers. *Combustion* 29:62-4 Ap '58
- Demineralizing systems. R. H. Marks. *flow diag* *II* *diags* *Power* 102:71-8 F '58
- Evaporator or demineralizer; which is best? E. P. Partridge and S. R. Osborne. *bibliog* *Power Eng* 62:84-6 Ja; 66-7 F '58
- Feedwater equipment designs and methods. L. Limon. *diags* *Tappi* 41:sup236A-41A Je '58
- How automatic controls apply to feedwater treatment systems. E. A. Strahlendorf. *flow diag* *II* *diags* *Power Eng* 62:86-9 O '58
- How should we modernize water-treating facilities? answers. *diags* *Power* 102:136-7 Ap '58
- Internal self-purification; what it is, how it works. V. J. Calise. *II* *Power Ind* 74:11-12+ O '58
- New equipment automatically analyzes water and controls treatment. G. Schneider. *II* *diag* *Power Eng* 62:767+ Ja '58
- Shall we use evaporators or demineralizers for makeup treatment? question and answers. *diag* *Power* 102:138-9 Je '58
- Timer halts salt loss in water softeners. D. C. Brown and F. E. Titus. *diag* *Elec World* 143:115-4 D 16 '57
- Water treatment; American power conference; abstracts of papers. *Combustion* 29:62-4 My '58

See also

- Boiler scale
Water softening
- FEED water regulators**
Can hydraulic couplings double as feedwater regulators? I. J. Karassik. *Combustion* 29:34-7 D '57
- FEEDBACK in amplifiers.** See *Amplifiers*, *Vacuum tube*
- FEEDBACK phenomena**
Analysis of sampled-data systems containing nonlinear element. J. Tou. *diags* *Inst Radio Eng Proc* 46:915 My '58
- Binary symmetric decision feedback systems. E. Harris and K. C. Morgan. *Com & Electronics* 4:43-43 S '58
- Compensating saturation in feedback control systems by excess error storage. S. S. L. Chang and R. W. Archibald. *bibliog* *diags* *Applications & Ind* p 16-20 Mr '58; *Experiments* *Control Eng* 5:169-4 Mr '58
- Control systems engineering; the challenge. E. F. Johnson. *II* *Chem Eng Prog* 54:41-5 Mr '58
- Digital compensation for control and simulation. J. Tou. *bibliog* *diags* *Inst Radio Eng Proc* 45:1243-8 S '57
- Effect of quantization in sampled-feedback systems. J. E. Bertram. *bibliog* *diags* *Applications & Ind* p 177-82 S '58
- Effects of limiting error in feedback analysis. P. E. Straight and F. Michaels. *diags* *I S A J* 5:44-9 My '58
- Electronic feedback seismograph. M. J. Tucker. *bibliog* *II* *diags* *J Sci Instr* 35:167-71 My '58
- Energy stabilization of the Berkeley proton linear accelerator. H. B. Knowles. *bibliog* *diags* *II* *J Sci Instr* 29:130-6 F '58
- Extended switching criterion for second order saturated servomechanisms; abstract. J. W. Diesel. *diag* *Elec Eng* 77:49 Ja '58
- Feedback controlled steel slab cutoff. T. Filmer and C. C. Roberts. *diags* *Automation* 5:72-4 Jl '58
- Feedback runs tinplate line. *II* *Electronics* 31:14+ Ag 1 '58
- Feedback stabilizes flip-flop. P. Cheilik. *diag* *Electronics* 31:92+ My 9 '58
- Feedback theory; further properties of signal flow graphs. S. J. Mason. *diags* *Inst Radio Eng Proc* 44:920-6 Jl '56; *Discussion*. W. W. Happ. 45:1293 S '57
- For transistor amplifiers, designing multiple feedback loops. F. H. Blecher. *bibliog* *diags* *Electronic Ind* 17:78-82 Ap; 64-8 My '58; *Correction*. 17:138+ Jl '58

FEEDBACK phenomena—Continued

- General analysis and stability study of finite pulsed feedback systems. G. Farmanfarma. bibliog diags Applications & Ind p 148-62; Discussion. 162 J1 '58
- Here's operation of feedback controls on crude and product-pipeline pumping stations. W. M. Bliss. diags Oil & Gas J 56: 100-2 Ag 4 '58
- Innovation in technology. J. R. Pierce. II diags Sci Am 199:116-18 J '58
- Negative resistance. R. S. Mackay. bibliog diags Am J Phys 26:60-9 R '58
- Objectives and trends in feedback control systems progress; panel discussion. Elec Eng 77:58-63 Ja '58
- Phase-space method for analysis of nonlinear control systems. Y. H. Ku. bibliog diags A S M E Trans 79:1897-903 N '57
- Postcast control of damped oscillatory systems. O. J. M. Smith. bibliog diags Inst Radio Eng Proc 45:1249-55 S '57
- Power reactor control; today's control design; inherent and external feedback. J. MacPhee. bibliog diags Nucleonics 16:66-70 My '58
- Sensitivity of the poles of linear, closed-loop systems. R. Y. Huang. diags Applications & Ind p 182-6; Discussion. 186-7 S '58
- Some studies on delayed feedback circuits. H. Seki. bibliog diags Inst Radio Eng Proc 46:758-63 Ap '58
- Stability study of a third-order servomechanism with multiplicative feedback control. Y. H. Ku and C. F. Chen. bibliog diags Applications & Ind p 131-6 J1 '58
- Stacked valve circuits; simplified analysis. J. B. Earnshaw. diags Electronic & Radio Eng 34:404-6 N '57
- Statistical design theory for sampled-data feedback control systems. S. S. L. Chang. diags Elec Eng 77:602-3 J1 '58
- Voltage feedback and thermal resistance in junction transistors. J. J. Sparkes. Inst Radio Eng Proc 46:1305-6 Je '58

FEEDERS

- Air-excluding constant feeder. T. J. Dixon. diags Chem Eng 65:142 Ja 27 '58
- Disk springs of reinforced plastics make vibratory feeder last longer; receives citation in Materials in design engineering competition. II diags Materials in Design Eng 47: 144-6 Ap '58
- Inventory of new equipment and accessories; diags and mixers. II Chem Eng 64:249-50+ Mid-N '57
- Inverted bottle makes a constant-head feeder. H. L. Bullock. diags Chem Eng 65: 170 O 20 '58
- Water-powered device treats acid water automatically; Tasa coal co. II Coal Age 63:148 Mr '58

Control

- Automation and remote control of chemical feeders. P. A. Coffman, jr. diags Am Water Works Assn J 49:1378-86 N '57

FEEDERS, Ore

- Belt feeders. R. A. Wilson. diags Mech Eng 79:1042-3 N '57
- Heavy-duty pan feeder for rock crushing plant. II Engineer 204:611 O 25 '57

FEEDING and feeding stuffs

- Animal nutrition research. II J Agri & Food Chem 6:340-1 My '58
- Card-controlled feed mixing. J. F. Sharp. II diags Control Eng 5:181 S '58
- Effect of trichloroethylene-extracted meat scrap on young cattle. C. E. Rehfeld and others. bibliog J Agri & Food Chem 6:227-30 Mr '58
- Liberation and determination of riboflavin in natural feedstuffs. V. M. R. Murthy and others. bibliog J Agri & Food Chem 6: 129-30 R '58
- Liquid feed with alcohol; available hydrogen promotes livestock's effective use of urea and low-cost feeds. II J Agri & Food Chem 6:261-3 Ap '58
- Nutritive values and utility of passion fruit by-products. K. K. Otagaki and H. Matsu-moto. bibliog II J Agri & Food Chem 6:54-7 Ju '58
- Protein by-products of the meat packing industry. H. E. Robinson and others. II Ind & Eng Chem 50:sup42A-4A Ap '58

See also

- Alfalfa
Cottonseed meal
Poultry—Feeding
Soybean meal
Swine—Feeding

Analysis

- Microdetermination of the medicaments furazolidone and nitrofurazone. H. F. Beckman. J Agri & Food Chem 6:130-2 F '58

Energy value

- Comparison of metabolizable energy and productive energy determinations with growing chicks. F. W. Hill and D. L. Anderson. bibliog J Nutrition 64:587-603 Ap '58
- Studies of the metabolizable and productive energy of glucose for the growing chick. D. L. Anderson and others. J Nutrition 65: 561-74 Ag '58

FEES

- See also
Architects—Fees

FELDSPAR

- Alkali feldspars in a tertiary porphyry near Hillsboro, N. Mex. F. J. Kuehlmer. bibliog maps diags J Geol 66:151-62 Mr '58
- Alkali feldspars; the cooling history of high-temperature sodium-rich feldspars. J. V. Smith and W. S. MacKenzie. bibliog II diags Am Mineralogist 43:872-89 S '58
- Effect of temperature, structural state and composition on the albite, periclase and accline-A twins of plagioclase feldspars. J. V. Smith. bibliog Am Mineralogist 43: 546-51 My '58
- Family team develops new mill, mine; Lawson-United feldspar & minerals co. B. C. Herod. flow diags II Pit & Quarry 61:112-17 Ag '58
- Feldspar. 1957. T. de Polo. Eng & Min J 159:158 F '58
- Fine coal cleaning with the feldspar jig; Northern Pacific railway co. E. R. McMullan. II Min Cong J 44:44-7 Ja '58
- Porphyritization in Destor and Duparquet townships, Atlati West county, Quebec, Canada. R. B. Graham. bibliog II map Econ Geol 53:737-53 S '58
- Scheelite in feldspathized granodiorite at the Victory mine, Gabbs, Nev. F. L. Humphrey and M. Wyatt. II maps diags Econ Geol 53:38-64 Ja '58
- Simple fusion method for determination of plagioclase feldspar from thin section. R. Gradwell. II Am Mineralogist 43:368-70 Mr '58
- FELL locomotive. See Locomotives, Diesel
- FELLOWSHIPS. See Scholarships and fellowships

FELT

- Factors influencing the air permeability of felt and felt-like structures. N. C. Davis. bibliog Textile Res J 28:318-24 Ap '58
- Felting investigation; potential substitutes for rabbit fur in hat felts. R. D. B. Fraser and T. A. Pressley. II diags Textile Res J 28:478-85 Je '58
- Needle felting. E. F. Didier. II diags Textile Ind 122:117-18+ S '58

Industrial applications

- Applications and treatments for felts. diags Product Eng 28:C8-10 Mid-O '57
- Properties of materials; mechanical felts. Materials in Design Eng 48:242-3 Mid-O '58
- Synthetic-fiber and wool felts; their design characteristics and uses. T. J. Gillick, jr. II diags Elec Manuf 61:126-31+ Ap '58
- FELTS (paper making)
Dryer felt arrangement; patent. diags Paper Ind 40:319-20 Ag '58
- Performance of paper machine wet felts; role of iron bacteria in the plugging of felts. R. F. Drescher. bibliog II Tappi 40:904-10 N '57
- Physical properties of synthetic fibers which contribute to wet felt performance. R. H. Beaumont. Tappi 40:sup 187A-90A D '57
- Picture tour of Huyck's new felt mill. II Textile World 107:108-11 D '57

FENCES

- Design of highway fences. Pub Works 88: 158-9 N '57
- Right-of-way fencing along a turnpike. II Pub Works 89:108 S '58

Painting

- How to paint a fence economically. G. Conrad. Ind Finishing 34:105-6 N '57

FENCES, Electrified

- Grounding chain-link fence and gate; engineering reference sheet. diags Elec World 149:84 Mr 24 '58
- Solar powered electric fence charger. G. W. Isaacs. II Electronics 30:188+ D 1 '57

FENCHONE

Rearrangement of bromofenchone by base; the structure of γ -fencholenic acid and the synthesis of dihydro- α -fencholenic acid. D. S. Farbell and F. C. Lovelless. *bibliog Am Chem Soc J* 80:1963-7 Ap 20 '58

FENDERS, Boat

Polyethylene for marine applications; bilge pump and boat fender. *il Mod Plastics* 35:94-5 Ag '58

FENDERS, Dock

Docking fenders, key to pier protection. L. A. Voise. *il diags Eng N* 160:40-2+ My 3 '58
New retractable marine fender system. P. W. Roberts. *il diag Am Soc C E Proc* 84 [WW I no 1513]:1-8 Ja '58

What woods make good pier fenders? P. W. Roberts. *il Eng N* 160:40-1 Je 26 '58

FERMENTATION

Chemical engineering unit processes. S. C. Beech and F. W. Tanner, Jr. *Ind & Eng Chem* 50:1341-54 *bibliog* (p 1352-4) pt 2 S '58

Factors affecting loss of nitrogen and fermenting power of rehydrated active dry yeast. R. K. Sant and W. H. Peterson. *bibliog Food Tech* 12:359-62 *Il* '58

Glycerol via fermentation; Prairie regional laboratory of the National research council (in Saskatoon). *il Can Chem Process* 41:113-14+ N '57

pH control in fermentation processes; symposium. *il diags Ind & Eng Chem* 50:1259-66 S '58

Measurement and mechanism of oxygen transfer in submerged culture. G. L. Solomons and M. P. Perkin. *bibliog J Ap Chem* 8:251-9 Ap '58

Microbiological production of beta-carotene in shaken flasks. R. F. Anderson and others. *bibliog J Agri & Food Chem* 6:543-5 *Il* '58

Microbiological production of organic chemicals; abstract and discussion. J. J. Hastings. *Chem & Ind* p348-7 Mr 22 '58

Organic acids and esters produced in preferences. J. A. Johnson and others. *bibliog J Agri & Food Chem* 6:334-7 My '58

Oxygen transfer in laboratory fermenters. G. L. Solomons. *bibliog J Ap Chem* 8:445-8 *Il* '58

Production of calcium 2-ketogluconate by fermentation with species of pseudomonas. V. F. Pfeifer and others. *bibliog flow sheet* *il Ind & Eng Chem* 50:1009-12 *Il* '58

Studies on fermentation aeration. R. E. Campani and J. M. Roxburgh. *bibliog* (28 ref) *Can J Chem Eng* 36:73-7 Ap '58

Studies on sludge digestion and methane fermentation. K. L. Schulze and B. Naga Raju. *bibliog diag Sewage & Ind Wastes* 30:28-45, 164-84 Ja-F '58

Toxic effects of oil peroxides formed during fermentation. I. Horváth and others. *Chem & Ind* p916-17 *Il* 19 '58

What's ahead in fermentation? *Chem & Eng N* 35:47 D 2 '57

See also

Alcohol—Manufacture

FERRATES

Behavior of the TE modes in ferrite loaded rectangular wave guide in the region of ferrimagnetic resonance. W. J. Crowe. *J Ap Phys* 29:397-8 Mr '58

Cutoff phenomena in transversely magnetized ferrites. R. F. Soohoo. *Inst Radio Eng Proc* 46:738-9 Ap '58

Design advances from magnetism research; ferrites, garnets. *il diags Elec Manuf* 61:98-100+ Ja '58

Design of optimum inductors using magnetically hard ferrites in combination with magnetically soft materials. J. T. Ludwig. *J Ap Phys* 29:497-9 Mr '58

Effect of cobalt on the relaxation frequency of nickel-zinc ferrite. F. J. Schnettlar and F. K. Monforte. *J Ap Phys* 29:477-8 Mr '58

Effect of hydrostatic pressure and temperature on the magnetic properties of a nickel-zinc ferrite. C. Q. Adams and C. M. Davis, Jr. *J Ap Phys* 29:372-3 Mr '58

Energy distribution in partially ferrite-filled wave guides. J. E. Tompkins. *J Ap Phys* 29:399-400 Mr '58

Ferrite components in microwave systems. B. L. Humphreys. *bibliog diags Electronic Eng* 30:341-5 My '58

Ferrite cores filter out radio noise with low loss. J. C. Senn. *Aviation Age* 28:56-61 Ja '58

Ferrite cores gain momentum. *Electronics* 31:35 Ja 24 '58

Ferrite microwave amplifier developed. *Electronics* 31:32-3 F 21 '58

Ferrite microwave detector. D. Jaffe and others. *bibliog diags Inst Radio Eng Proc* 46:594-601 Mr '58

Ferrite radiators shrink missile antenna systems. H. C. Hanks, Jr. *il Electronics* 31:49-51 Ap 25 '58

Ferrites for high-power r-f tuning; Penn-Princeton proton synchrotron. P. P. Lombardini and R. F. Schwartz. *bibliog diags Elec Manuf* 62:60-71 Ag '58

Ferrites make possible better electronic parts; abstract. J. K. Galt. *Materials in Design Eng* 46:183+ N '57

Ferrites sell \$15 million. *il Electronics* 30:30-1 D 10 '57

Ferromagnetic resonance frequency converter. K. M. Poole and P. K. Tien. *bibliog diags Inst Radio Eng Proc* 46:1387-96 *Il* '58

Frequency modulation by inductance variation; a magnetically-stable ferrite modulator. F. Slater. *bibliog il diags Brit Inst Radio Eng J* 18:189-204 Mr '58

Frequency shifts in cavities with longitudinal magnetized small ferrite discs. H. Seidel and H. Bayet. *bibliog diags Bell System Tech J* 37:637-55 My '58

Heat, free energy and entropy of the ferrate(VI) ion. R. H. Wood. *bibliog Am Chem Soc J* 80:2038-41 My 5 '58

Hysteresis heating of microwave ferrites. W. N. Honeyman and R. S. Cole. *Inst Radio Eng Proc* 46:1285-6 '57

Improved X-ray method for determining cation distribution in ferrites. L. P. Skolnik and others. *bibliog J Ap Phys* 29:198-203 F '58

Influence of copper and vanadium on the sintering of magnesium-type ferrites. L. C. F. Blackman. *J Ap Phys* 29:151-12 D '57

Low-frequency rotational hysteresis losses in ferrites. H. Seiwatz. *J Ap Phys* 29:994-5 Je '58

Magnetic resonance of ferrites with a compensation temperature. J. Pauvele. *bibliog J Ap Phys* 29:259-63 Mr '58

Magnetocrystalline anisotropy of Mg-Fe ferrites; temperature dependence, ionic distribution effects, and the crystalline field model. V. J. Folen and G. T. Rado. *bibliog J Ap Phys* 29:438-40 Mr '58

Measurement of ferrite loss-factors at 10Gc/s. C. M. Srivastava and J. Roberts. *bibliog diags Inst E E Proc* 105 pt B:204-9 Mr '58

Microwave frequency conversion studies in magnetized ferrites. E. N. Skomal and M. A. Medina. *J Ap Phys* 29:423-4 Mr '58

Miniature ferrite tuner covers broadcast band. E. A. Abbot and M. Lafer. *il diags Electronics* 31:72-3 F 28 '58

Magnetized resonant antenna using ferrites. D. M. Grimes. *J Ap Phys* 29:401-2 Mr '58

Morphological and phase changes during quench-aging of ferrite containing carbon and nitrogen; abstract. G. Lagerberg and B. S. Lement. *Metal Prog* 72:204+ N '57

Multiple-unit feedthrough capacitors. J. H. Foster and E. M. Williams. *il diag Electronics* 31:98-9 Je 20 '58

New technique in ferrite phase shifting for beam scanning of microwave antennas. F. Reggia and E. G. Spencer. *bibliog il diags Inst Radio Eng Proc* 45:1510-17 N '57

Operating range of a memory using two ferrite plate apertures per bit. M. M. Kaufman and V. L. Newhouse. *J Ap Phys* 29:437-8 Mr '58

Phono cartridge uses reverse generator movement; nonmetallic ferrites. *il diags Machine Design* 30:38 Ap 3 '58

Phonograph cartridge uses ferrite armature. *il diags Elec Manuf* 61:151-2 My '58

Preferential volatilization of cations from ferrites during sintering. J. M. Brownlow. *J Ap Phys* 29:373-5 Mr '58

Proposed standard method for high power testing of ferrite isolators. E. Wantuch. *il diags Electronic Ind* 17:83-5 Ap '58

Radio-frequency permeameter techniques for testing ferrite cores. A. L. Rasmussen and A. E. Hess. *il diags Elec Manuf* 61:86-91+ My '58

Relationship between single crystal and effective polycrystalline anisotropy constants in ferrites. C. J. Kriessman and others. *J Ap Phys* 29:452-3 Mr '58

Simple circuit stabilizes ferrite fm modulator. A. B. Przepelski. *diags Electronic Ind* 17:56-7 F '58

Small uhf ferrite unit shifts phase 360 deg. *il diag Electronics* 31:102 Ag 15 '58

Solid-state microwave amplifier and oscillator using ferrite; abstract. M. T. Weiss. *J Ap Phys* 29:421 Mr '58

FERRATES—Continued

- Some applications of ferrites to microwave switches, phasers, and isolators. A. C. Brown and others. bibliog diags Inst Radio Eng Proc 46:722-7 Ap '58
- Spontaneous magnetization of some garnet ferrites and the aluminum substituted garnet ferrites. R. Pauthenet. bibliog J Ap Phys 29:253-5 Mr '58
- Survey of ferrites and their applications: abstract. R. M. Trier. Brit Inst Radio Eng J 18:138 F '58
- Switching in rectangular loop ferrites containing air gaps. U. F. Gianola. il J Ap Phys 29:1122-4 JI '58
- Temperature dependence of microwave permeabilities for polycrystalline ferrite and garnet materials. J. Nemanich and J. C. Cacheris. bibliog J Ap Phys 29:474-6 Mr '58
- Theory of magnetostriction and σ factor in ferrites. N. Tsuya. bibliog J Ap Phys 29:449-51 Mr '58
- Theory of nonreciprocal ferrite phase shifters in dielectric-loaded coaxial line. K. J. Button. diags J Ap Phys 29:998-1000 Je '58
- Two short low-power ferrite duplexers. R. S. Cole and W. N. Honeyman. il diags Electronic & Radio Eng 35:282-6 Ag '58
- Ultrasonics machines, brittle ferrite. Franklin Inst J 264:525-6 D '57
- Use of microwave ferrite toroids to eliminate external magnets and reduce switching power. M. A. Treuhart and L. M. Silber. diags Inst Radio Eng Proc 46:1538 Ag '58
- Veining in ferrite. A. Hultgren and others. bibliog il diags Iron & Steel Inst J 188:247-61 Mr '58
- See also
Nickel ferrates
Rare earth ferrates

Spectra

- Ferromagnetic resonance in uniaxial polycrystalline materials. C. A. Morrison and N. Karayianis. J Ap Phys 29:339-40 Mr '58

Testing

- Measurement of losses of magnetic materials at high inductions at frequencies up to 100 megacycles. I. Bady. diags J Ap Phys 29:393-4 Mr '58
- Measurement of the properties of various ferrites used in magnetically tuned resonant circuits in the 2.5-45 mc/sec region. P. P. Lombardini and others. J Ap Phys 29:395-6 Mr '58

FERRETTI, Alfred John

- Sketch. Mech Eng 80:146 Je '58

FERRIC chloride. See Iron chlorides**FERRIC salts. See Iron compounds****FERRICYANIDES**

- Determination of cysteine with ferricyanide by amperometric titration with two polarized electrodes. H. G. Waddill and G. Gorin. bibliog diags Anal Chem 30:1069-71 Je '58
- Preparation and properties of tetraalkylammonium hexacyanocobaltates(III) and hexacyanoferrates(III). B. Jaselskis and H. Diehl. Am Chem Soc J 80:4197-8 Ag 20 '58
- Reactivity of sulphydryl and disulphide in proteins; oxidation with ferricyanide of sulphydryl in native and denatured bovine serum albumin. I. M. Kolthoff and A. Anastasi. bibliog Am Chem Soc J 80:4248-50 Ag 20 '58

FERRIHEMOGLOBIN. See Methemoglobin**FERRIMAGNETIC resonance. See Magnetic resonance****FERRIMAGNETISM. See Magnetism****FERRITES. See Ferrates****FERROCENE. See Iron compounds****FERROCYANIDES**

- Preparation or regeneration of a silver bleach solution by oxidizing ferrocyanide with persulfate. E. A. Hutchins and L. E. West. SMPTE 66:764-8 D '57

FERROELECTRIC effect

- Ferroelectrics as solid-state devices. R. A. Fotland. bibliog diags Elec Manuf 61:130-7 Mr '58

FERROMAGNETIC materials. See Magnetic materials**FERROMAGNETIC resonance. See Magnetic resonance****FERROMAGNETISM. See Magnetism****FERROMANGANESE**

- Exothermic ferromanganese. il J Metals 10:611-14 S '58
- Ferromanganese from lean ore. B. R. Nijhawan. diags Metal Prog 73:112-16 Ja '58

- New ferromanganese producer has begun output; Pittsburgh coke & chemical co. Eng & Min J 151:111 My '58
- Pittsburgh coke & chemical co. starts ferromanganese production. il Iron & Steel Eng 35:164+ Mr '58
- Pittsburgh Coke branches out: firm adapts blast furnace to make ferromanganese. il Chem & Eng N 36:29 F 17 '58

FERROPHOSPHORUS

- Iron and phosphate slag from byproduct ferrophosphorus. J. M. Potts and others. bibliog diags Electrochem Soc J 106:148-51 Mr '58

FERROSILICON**Analysis**

- Methods for the rapid determination of silicon in ferrosilicon. S. Velken. bibliog Iron & Steel Inst J 188:119-21 F '58

FERROUS chloride. See Iron chlorides**FERROUS sulfate. See Iron sulfates****FERROXYPLANA materials. See Magnetic materials****FERRYBOATS**

- Another car ferry. M. V. Compiegne. G. W. Tripp. il Engineer 206:293-4 Ag 22 '58
- Car ferry M. V. Artevelde. G. W. Tripp. il Engineer 206:98 JI 18 '58
- Corn propelled ferries. il Engineer 206:352 Ag 29 '58
- Roll-on/roll-off British style; Transport ferry service. J. Kerr. il Marine Eng/Log 63:76-7 JI '58

FERTILISER society

- Anniversary dinner, London, Feb. 27. Chem & Ind p290 Mr 8 '58

FERTILIZATION of forests. See Forests and forestry**FERTILIZATION of plants****See also****Sterility in plants****FERTILIZER factories**

- Coastal Chemical starts up; fertilizer plant. il Chem & Eng N 36:29 F 10 '58
- Corporate profile; Mississippi chemical corp. J Agri & Food Chem 6:158-9 F '58
- Corporate profile; 76-year veteran in the mixed fertilizer industry; Federal chemical co. J. D. Stewart, Jr. J Agri & Food Chem 6:148-7 Je '58
- Inventory of new plants and facilities; fertilizers and fertilizer chemicals. Chem Eng 64:145-6 Mid-N '57

Equipment

- Fertilizer works at Leith. flow diags il Engineer 205:530-3 Ap 11 '58
- Food for the soil; factory for concentrated complete fertilizer. flow diag il diags Engineering 185:506-8 Ap 13 '58
- New Scottish fertilizer factory. flow diag il Ind Chem 34:173-9 Ap '58
- Scotland's latest fertilizer works. flow diags il Chem & Ind p406-12 Ap 5 '58
- Scotland's new £3 million fertilizer works. il Manuf Chem 29:109-10 Mr '58

FERTILIZER industry

- Agricultural public relations; Nitrogen division of Allied chemical corp. J. D. Waugh. il J Agri & Food Chem 6:436-9+ Je '58
- Farmer and dealer attitudes; fertilizers. J Agri & Food Chem 6:176 Mr '58
- Farmer attitudes toward fertilizer. il Chem & Eng N 36:32-3 Mr 10 '58
- Fertilizers and pesticides; annual review 1957. G. L. Eridger, L. S. Hitchner. Ind & Eng Chem 50:sup48A-52A+ Ja '58
- Fertilizers hit by weather. il Chem & Eng N 36:36-8 Je 16 '58
- Fifty years of fertilizer progress. K. D. Jacob. il Ind & Eng Chem 50:sup40A-3A. My '58
- 1957-58 fertilizer season. il J Agri & Food Chem 6:428-36 Je '58
- TVA's fertilizer program. J Agri & Food Chem 6:90-1+ F '58

Advertising

- Joint advertising for fertilizers. W. E. McGuirk, Jr. J Agri & Food Chem 6:506 JI 58

Statistics

- Annual statistical review; agricultural chemicals. Can Chem Process 42:sup8-9 Je '58
- Fertilizer use, 1956-57; Scholl report. il J Agri & Food Chem 6:498+ JI '58

Canada

- Annual statistical review; agricultural chemicals. Can Chem Process 42:sup8-9 Je '58
- Fertilizers and pesticides in sound position for '58. D. K. Jackson. Can Chem Process 42:sup23A-30A Ja '58

FERTILIZER industry—Continued

Japan

Urea forges ahead in Japan. Chem & Eng N 36:72-3 Ap 14 '58

Scotland

Fertilizer works at Leith. flow diag II Engi- near 205:530-3 Ap 11 '58
Food for the soil; factory for concentrated complete fertilizer. flow diag II Engi- near 185:506-8 Ap 18 '58
New Scottish fertilizer factory. flow diag II Ind Chem 34:173-2 Apr '58
Scotland's latest fertilizer works. flow diag II Chem & Ind p406-12 Ap 5 '58
Scotland's new £3 million fertilizer works. II Manuf Chem 29:109-10 Mr '58

FERTILIZERS

Application equipment for fertilizers. II J Agri & Food Chem 6:14-16 Ja '58
Cation adsorption and forest fertilization. W. H. Hinson and B. C. Reynolds. bibliog Chem & Ind p 194-6 F 15 '57
Colors, odors for fertilizers. II J Agri & Food Chem 6:574-6 Ag '58
Corrosion of metals by liquid mixed fertilizers. J. D. Hatfield and others. bibliog II diag J Agri & Food Chem 6:524-31 JI '58
Economics of solids vs. liquids. II J Agri & Food Chem 6:642-4 S '58
Effect of particle size of raw materials on granulation of fertilizers. A. B. Phillips and others. bibliog II J Agri & Food Chem 6: 449-53 Je '58
Fertilizers and pesticides; annual review 1957. G. L. Bridger. Ind & Eng Chem 50:sup48A- 51A Ja '58
Fertilizers and plant nutrients. D. P. Hopkins. bibliog Manuf Chem 29:116-17, 252-4, 391-3 Mr, Je, S '58
Fertilizing for optimum crop production. F. App. II J Agri & Food Chem 6:508-11, cover JI '58
Hood spreads fertilizer evenly. II diag Prod- uct Eng 29:68 F 3 '58
Microscopic study of the mechanism of cak- ing and its prevention in some granular fertilizers. J. Silverberg and others. bibliog II diag J Agri & Food Chem 6:442-3 Je '58
Nation's plant food larder; abstract and dis- cussion. G. W. Cooke. Chem & Ind p734-6 Je 21 '58
New sources of fertilizer N. II J Agri & Food Chem 6:649-50 S '58
Nitrogen and agriculture; S.C.I. Agriculture group meeting, London; abstracts and dis- cussion of papers. Chem & Ind p750-4 Je 21 '58
Nitrogen's future; further growth. R. P. Westerhoff. II J Agri & Food Chem 6:578-80 Ag '58
Preparation of radioactive polynutrient fertilizers having specified phosphate solubilities. G. A. Wiczorek and J. H. Caro. J Agri & Food Chem 6:34-8 Ja '58
What farmers think about fertilizers. J Agri & Food Chem 6:266-71 Ap '58

See also

Lime as fertilizer
Potash
Refuse as fertilizer
Sewage irrigation
Sewage sludge as fertilizer

Manufacture

Artificial guano; first magnesic fertilizer salt proposed from mineral acidulation study; abstract. W. H. Macintyre and H. L. Mar- shall. Chem & Eng N 36:64+ S 22 '58
Boon to fertilizer makers; two ammoniating solutions by Spencer Chemical. Chem & Eng N 36:65+ S 29 '58
Inventory of new plants and facilities; fertiliz- ers and fertilizer chemicals. Chem Eng 64: 145-6 Mid-N '57
Outlook bright for cal meta; plant hydrolyzes and ammoniates calcium metaphosphate in high concentration of sulfuric acid. J. L. Jenista and others. Chem & Eng. N 36: 60-1 S 22 '58
Simplified approach to calculations for formu- lating high-analysis mixed fertilizers. J. G. MacArthur and J. W. Jones. J Agri & Food Chem 6:684-7 S '58

See also

Phosphates—Manufacture

FETUS

N-terminal residues of human fetal hemo- globin. W. A. Schroeder and G. Matsuda. Am Chem Soc J 80:1521 Mr 20 '58

Transistor unit detects foetal heart sounds; Photoscope. T. I. Humphreys. II diag Elec- tronics 31:52-3 Ap 25 '58

FETUS, Death of

Research in human reproductive wastage; implications for public health. J. Whit- ridge, Jr. Bibliog Am J Pub Health 48:22-8 Ja '58
Research in reproductive wastage. G. W. Anderson. bibliog(56 titles) Am J Pub Health 47:1542-51 D '57

FIBER board

Coating hardboard. Ind Finishing 34:86 JI '58
Preparation of particle board for painting or finishing. P. C. Bardin. II diag Ind Finishing 34:60-2+ JI '58

See also

Masonite

Wall board

Manufacture

Particle board plant gets natural gas. II Gas Age 121:17 Mr 20 '58

Permeability

Procedure for measuring the water vapor permeability of insulation board. R. D. Ziegler. II diag Tappi 40:381-4 N '57

Testing

Evaluation of furnishes used in producing in- sulating board. C. K. Textor. Tappi 41:sup 114A-20A JI '58

FIBER tubes. See Tubes, Fiber

FIBERS

Amino acid composition of keratins; compari- son of the chemical composition of merino wools of differing crimp with that of other animal fibers. D. H. Simmonds. bibliog Tex- tile Res J 28:314-17 Ap '58
Coarseness of pulp fibers by projection; new suggested method T 234 sm. Tappi 41:sup 175A-7A Je '58
Equilibrium weight of fibers immersed in water as a method for quick consistency determinations. D. A. Feagley, Jr. bibliog II Tappi 41:sup 194A-5A Mr '58
Fiber length indices for mixed pulps. D. S. Davis. Paper Ind 40:301 Ag '58
Fiber length measurements with a semi- automatic recorder; Finnish pulp and paper research institute; abstract. M. S. Ilves- salo-Piiffi and G. v. Alfthan. II Paper Ind 82:1052 Mr '58
Fiber length of pulp by projection; revision of suggested method T-232 sm-53. diag Tappi 41:sup 179A-81A Je '58
Importance of fiber strength to sheet strength. J. A. Van den Akker and others. bibliog II diag Tappi 41:416-25 Ag '58
Mechanical separation of fiber in rubber re- claiming. R. M. Boyles and D. J. Sullivan. II Rubber World 137:256-8 N '57
Process of fiber separation; abstract. C. M. Stewart and others. Paper Ind 40:398 S '58
Properties of materials; mineral fibers. Ma- terials in Design Eng 48:237 Mid-O '58
Simple electrometer employing an electrified, nonconducting fiber. B. Vonnegut and D. A. McCaig. II diag R Sci Instr 28:1097-8 D '57
Stabilization of fiber suspensions. A. J. de Roos. bibliog diag Tappi 41:354-3 JI '58
Study of tropical woods; chemical and fiber characteristics of some tropical woods. K. Lauer. Tappi 41:334-5 JI '58
Thermal insulation materials; organic fibers and felts. R. J. Fabian. Materials in De- sign Eng 47:134 Mr '58
Time dependence of mechanical breakdown in bundles of fibers; infinite ideal bundle under oscillating loads. B. D. Coleman and D. W. Marquardt. bibliog J Ap Phys 29:1091-9 JI '58
Tracer techniques in fiber research. H. J. White, Jr. bibliog(29 ref) II diag Anal Chem 29:1744-7 D '57

See also

Asbestos

Bast fibers

Carbon wool

Cotton fibers

Glass fibers

Jute

Metal fibers

Paper making materials

Textile fibers

Wool

FIBRIN

Equilibria in the fibrinogen-fibrin conversion; kinetics of the conversion of fibrinogen to fibrin monomer. S. Ehrenpreis and others. bibliog Am Chem Soc J 80:4255-63 Ag 20 '58

FIBRINOGEN

Equilibria in the fibrinogen-fibrin conversion; kinetics of the conversion of fibrinogen to fibrin monomer, S. Ehrenpreis and others, *bibliog Am Chem Soc J* 80:4255-63 Ag 20 '58

Physicochemical and clotting properties of γ -tolylazofibrinogen, J. E. Fitzgerald and W. L. Koltun, *bibliog Am Chem Soc J* 79:6383-7 D 20 '57

FIBROGRAPHS

Improvement on the servo conversion of manual fibrographs, J. D. Tallant, *Textile Res J* 28:815 S '58

Use of dial gauges in calculating the results of fibrograph length tests, J. T. Rouse, *Textile Res J* 28:606-10 Je '58

FIELD emission microscope. See **Electron microscope**

FIELD houses. See **Gymnasiums**

FIELD theories (physics)

Calculation of transmission line lightning voltages by field concepts, R. Lundholm and others, *bibliog diags Power Apparatus & Systems* p 1271-81; Discussion, 1281-3 F '58

FILAMENTS

Deposition of metals other than those of the titanium group by the hot filament technique, R. A. J. Shelton, *bibliog J Metallurgy* 56:283-9 D '57

Filament scintillation counter, G. T. Reynolds and P. E. Condon, *Il R Sci Instr* 28:1098-9 D '57

New strain gage filament, *Il Electronic Ind* 17:74-7 My '58

Rate-of-rise control for filaments, J. T. Keefe, *Il diag Electronics* 31:94+ S 26 '58

Rhenium toughens tubes, *Electronics Bsns* ed 30:36 N 10 '57

FILAMENTS, Plastic

New chamber for cosmic research; filaments of plastic scintillator material, *Chem & Eng N* 35:58 D 2 '57

FILARIASIS

Fu-riasis, F. Hawking, *Il Sci Am* 199:94-101 bibliog(p 126) JI '58

FILES and filing (documents, etc.)

Filing for faster reference; time-saving system for engineering library, L. Galockin, *Product Eng* 28:82-3 D 9 '57

Good filing keeps knowledge at your fingertips; E&MJ coordinated indexing-filing-reference library scheme, *Eng & Min J* 159:114-16 Mid-Je '58

Marginal punched cards for a reference file in the field of electronics, W. G. Hoyle, *Il diags Eng J* 41:61-6 Je '58

Paperwork gets a real trimming; Kellogg co., *Il Food Eng* 30:72-4 Je '58

Standards

Filing equipment standards for engineering drawings, A. G. Negus, *Il Product Eng* 28: A8-10 Mid-O '57

FILING machines

Close shaves with a rotary file, *Il Tool Eng* 40:116 Je '58

Ford discloses new template-making method, *Il Mach* 64:125-8 Ja '58

Rivet shaver; tungsten carbide rotary file, *Il Steel* 142:108 Je 9 '58

FILLING

Man made island for oil drilling; Rincon Island, *Il Eng N* 160:31+ My 8 '58

Pickle liquor disposal made practical; A. O. Smith corp.; byproduct for land fill, *Il diag Steel* 143:76-7 JI 28 '58

Special rig places crushed stone backfill, *Il Elec World* 149:98 Ap 28 '58

See also

Causeways

Hydraulic filling

Mine filling

FILLING machines

Low-cost filler; Hope machine co. Drug & Cosmetic Ind 82:789 Je '58

Smooth fill of sticky food; Hilpolite's new automatic filling line for marshmallow creme, *Il diag Food Eng* 30:79 Mr '58

With a new filling system, one man fills one drum a minute, *Il Mill & Factory* 62:122 Je '58

FILLING materials**See also**

Paper making—Fillers

Rubber, Artificial—Fillers

FILM boiling. See **Boiling**

FILM strips. See **Slide films**

FILMS

Analysis of films formed by radioactive e-p additives, E. H. Loesser and S. B. Twiss, *bibliog Lub Eng* 14:343-9 Ag '58

Curie-point writing on magnetic films, L. Mayer, *Il J Ap Phys* 29:1003 Je '58

Determination of water vapor from the change in electrical resistance of a hydroscopic film, E. R. Weaver and others, *bibliog diags J Res Nat Bur Stand* 60:439-508 My '58

Effect of adsorbed films on kinetics of electrode reactions, H. A. Laitinen and W. J. Szebasky, *bibliog Am Chem Soc J* 80:2823-8 Je '58

Elastic moduli in monolayers, N. W. Tschoegl, *bibliog diags J Colloid Sci* 13:500-7 O '58

Electron-permeable window for cathode-ray tubes, J. Seehof and others, *bibliog Il diags R Sci Instr* 29:776 S '58

Film thickness determination from substrate X-ray reflections, D. T. Keating and O. F. Kammerer, *Il R Sci Instr* 29:34-6 Ja '58

Film thickness versus corrosion resistance, N. Gaynes, *Ind Finishing* 34:103-4 Ag '58

Laminar film condensation of pure saturated vapors on inclined circular cylinders, K. E. Hassan and M. Jakob, *bibliog diags A S M E Trans* 80:887-94 My '58

Molecular ion dissociation by thin films, F. A. White and others, *R Sci Instr* 29:182 F '58

Molecular structure in surface films of saturated monolayers, *bibliog J Colloid Sci* 13:500-7 O '58

Physical adsorption; adsorbed monolayers of argon and nitrogen on boron nitride and on a graded series of partially graphitized carbon blacks, S. Ross and W. W. Pultz, *bibliog J Colloid Sci* 13:397-406 Ag '58

Possibilities in the field of dry lubricants; abstracts, R. L. Johnson, *Machine Design* 30:138+ Mr 20 '58; *Tool Eng* 40:205-7 Je '58

Relationship of wax crystal structure to the water vapor transmission rate of wax films, R. C. Fox, *bibliog Il diags Tappi* 41:283-9 Jn '58

Reservoir evaporation cut 30 per cent by monomolecular film, U. Stephens, *Water Works Eng* 117:76 Ag '58

Sensitizing, super-sensitizing and irridizing compounds, S. Wein, *Glass Ind* 38:625-8+ 679-84+ N-D '57

Super-thin bonded insulating films, W. K. W. Chen and W. E. Estey, *diags Elec Manuf* 62:34-9+ Ag '58

Surface phenomena associated with application of organic films to phosphor screens, R. W. Dudding and D. J. Finnett, *Il diags Electrochem Soc J* 105:388-92 JI '58

Surface viscosities of mixed unimolecular films, G. E. Boyd and F. Vaslow, *bibliog J Colloid Sci* 13:275-85 Je '58

Tacky adhesion, H. Strasburger, *bibliog diags J Colloid Sci* 13:218-31 Je '58

See also

Cellophane

Membranes

Oil films

Permeability

Heavy waterproof versus breathe-through films, *Ind Finishing* 34:100-2 JI '58

Testing

Apparatus for the deformation of foils in an electron microscope, H. G. F. Wilsdorf, *diags R Sci Instr* 29:233-4 Ap '58

Film applicators; devices for preparing test films of known thickness, P. N. Gardner, *Il diag Ind Finishing* 34:48-50+ Ag '58

FILMS, Metallic

Aluminum oxide film for electronic devices, *Il Materials in Design Eng* 47:166+ Je '58

Analysis of films on copper by coulometric reduction, R. H. Lambert and D. J. Trevoy, *bibliog diags Electrochem Soc J* 105:18-23 Ja '58

Cathodic reduction of oxide films on iron, K. H. Buob and others, *bibliog Il Electrochem Soc J* 105:74-8 F '58

Convection and film instability; copper anodes in hydrochloric acid, R. S. Cooper and J. E. Bartlett, *bibliog Electrochem Soc J* 105:109-16 Mr '58

Design advances from magnetism research; thin films, memory elements, *Il diags Elec Manuf* 61:95-8 Ja '58

FILMS, Metallic—Continued

- Diffusion of oxygen in zirconium and its relation to oxidation and corrosion. J. P. Pemster, bibliog diags Electrochem Soc J 105:315-22 Je '58
- Direct study of eutectic alloys by means of electron microscopy. N. Takahashi and K. Ashinuma, bibliog II diags Inst Metals J 87:19-23 '58-59
- Domain-wall structure in permalloy films. E. E. Fisher, Jr. and others, II diags J Ap Phys 29:294-5 Mr '58
- Effects of heat treatment of thin ferromagnetic films at intermediate temperatures. E. N. Mitchell, J Ap Phys 29:286-7 Mr '58
- Electrodes for thin metal films. S. Chandra and G. D. Scott, J Sci Instr 35:349-50 S '58
- Evaporated thin magnetic, dielectric, and conductive films for micro-circuits. D. W. Moore, II Elec Manuf 61:11 Je '58
- Ferromagnetic resonance at uhf in thin films. R. H. Kingston and P. E. Tannenwald, J Ap Phys 29:232-3 F '58
- Ferromagnetic resonance in ultra-thin films. M. H. Seavey, Jr. and P. E. Tannenwald, bibliog J Ap Phys 29:292-3 Mr '58
- Film pots; over 500 C. Electronics 31:34 F 21 '58
- Flux reversal in thin films of 82 per cent Ni, 18 per cent Fe. C. D. Olson and A. V. Pohm, bibliog II diags J Ap Phys 29:274-82 Mr '58
- Lead powder connects superconducting film. J. A. Kurtz, II Electronics 31:92-4 JI 4 '58
- Make Al_2O_3 films one millionth of an inch thick. II Cer Ind 71:96-7 Ag '58
- Metal films and fluid flow. diag Engineering 184:781-2 D 20 '57
- Metal oxide film potentiometers; abstract. G. V. Planer, Brit Inst Radio Eng J 18: 177 Mr '58
- Microtopography of oxide films on niobium. J. V. Cathcart and others, bibliog II Electrochem Soc J 105:22-6 Ag '58
- Motion pictures of magnetic writing on thin films of MnBi. H. J. Williams and R. C. Sherwood, II J Ap Phys 29:296 Mr '58
- Optical measurement of film growth on silicon and germanium surfaces in room air. R. J. Archer, bibliog Electrochem Soc J 104:619-22 O '57; Discussion 105:365-6 Je '58
- Oxidation of niobium between 375°C and 700°C. E. A. Gulbransen and K. F. Andrew, bibliog II Electrochem Soc J 105:4-9 Ja '58
- Reaction of hydrogen with preoxidized Zircaloy-2 at 300° to 400°C. E. A. Gulbransen and K. F. Andrew, bibliog II Electrochem Soc J 104:709-12 D '57
- Reversible rotation in magnetic films. R. M. Sanders and T. D. Rossing, J Ap Phys 29: 288-9 Mr '58
- Sensitizing, super-sensitizing and irridizing compounds. S. Wein, Glass Ind 38:625-8+, 679-84+ N-D '57
- Static and dynamic behavior of thin permalloy films. D. O. Smith, bibliog II diags J Ap Phys 29:264-73 Mr '58
- Steady-state and pulse measurement techniques for thin magnetic films in the vhf-uhf range. D. O. Smith and G. P. Weiss, II diags J Ap Phys 29:290-1 Mr '58
- Studies of the anodic behavior of aluminum. J. E. Lewis and R. C. Plumb, bibliog diag Electrochem Soc J 105:496-506 S '58
- Study of the effect of chloride ion on films formed on iron in sodium nitrite solutions. G. W. Mellors and others, bibliog II Electrochem Soc J 105:332-8 Je '58
- Theory of double Bloch walls in thin films. J. Kaczer, bibliog diags J Ap Phys 29: 569-72 Mr '58; Discussion. R. E. Behringer, 29:1380-1 S '58
- Thin metal film corrosion indicators. D. Roller, bibliog II diags Corrosion 14:21-5 Je '58
- Transparent electrically conductive coating. E. R. Olson and E. H. Lougher, bibliog Elec Manuf 61:143-54 Mr '58
- Vacuum coatings go industrial. P. J. Clough, II Product Eng 28:67-9 D 23 '57

See also
Silvering

Analysis

Electrolytic lifting of films from metals for infrared analysis. H. A. Szymanski and R. T. Conley, diag Anal Chem 30:552 Ap '58

FILMS, Photographic. See Moving picture films; Photography—Films

FILMS, Plastic. See Plastic films

FILTER bags

Siliconed glass fibers are extending the range and practicability of bag-filtering of dusts and fumes. II Ind & Eng Chem 50:sup28A+ JI '58

FILTER cloth

Filter cloths. G. F. Fynn, Water & Sewage Works 105:388 S '58

FILTER paper

- Critical evaluation of a filter-strip smoke sampler used in domestic premises. R. J. Shepherd and others, bibliog II A M A Archives Ind Health 17:236-52 Mr '58
- Dyeing method for quantitative determination of lipides and lipoproteins directly on filter paper. K. F. Talluto and others, bibliog Anal Chem 30:1059-62 Je '58
- New method for determination of suspended solids. I. Nusbbaum, Sewage & Ind Wastes 30:1066-9 Ag '58
- Reversal of electro-osmotic flow in glass fibre paper. R. Thomas, bibliog Chem & Ind p 1571-2 N 30 '57
- Simplified technique for the preparation of glass paper impregnated with silicic acid. J. W. Dieckert and others, Anal Chem 30: 1442 Ag '58
- Spreading of low vapor pressure liquids in paper. T. Gillespie, bibliog diags J Colloid Sci 13:32-50 F '58
- Use of glass fibre filter medium in the suspended solids determination. G. Chahin and others, Sewage & Ind Wastes 30:1062-6 Ag '58
- What the automotive industry needs in filter paper. L. A. Dow, Tappi 41:sup214A-16A Je '58

FILTERS, Air. See Air filters

FILTERS, Optical. See Light filters

FILTERS and filtration

- Experiments with diatomite filtration of lime-soda softened water; abstract. R. Enzweiler, Water & Sewage Works 105:243 Je '58
- Factors affecting filtration rates. H. E. Hudson, Jr., Am Water Works Assn J 50: 271-7 F '58
- Filter operating experiences. Water Works Eng 111:705 JI '58
- Filtered mountain water augmented by battery of untreated upland wells. J. M. Hunter, Jr., II Water Works Eng 111:750-1 Ag '58
- How's your water works psychology working these days? M. P. Robinson, Water & Sewage Works 105:230-1 Je '58
- Media characteristics in water filtration. G. Ghosh, bibliog diag Am Soc C E Proc 84 [SA 1 no 1533]:1-25 F '58; Discussion. H. E. Hudson, Jr. 84 [SA 3 no 1638]:21-3 Je '58
- Porous plate filter bottoms. F. C. Roe, bibliog II diags Water & Sewage Works 105: R 191-1 S 15 '58
- Porous plate filter bottoms are now of age. F. C. Roe, bibliog II diags Water & Sewage Works 105:157-63 Ap '58
- Pulsometer water purification plant at the Admiralty's research laboratories, Teddington. Research 11:280-1 JI '58
- Tests on filter sands show how to install subdrains that won't clog. J. M. Robertson, II diags Roads & Streets 81: A 25
- Water for the pharmaceutical industry. A. H. Waddington, II diag Manuf Chem 29:276-8 JI '58

See also

Sewage disposal—Filtration

FILTERS and filtration (bacteriology)

- Acceptance of membrane filter procedure, bibliog Am Water Works Assn J 50:72-4 Ja '58
- Application of molecular filter techniques to the bacterial assay of sewage. J. E. McKee and others, bibliog Sewage & Ind Wastes 30:129-37, 245-52 F-Mr '58; Abstract. Water & Sewage Works 104:561 D '57
- Comparison of standard dilution and membrane filter methods. R. B. Adams, Am Water Works Assn J 49:1452-3 N '57
- Improved membrane filter medium for the detection of coliform organisms. C. W. Fifield and C. P. Schaufus, Am Water Works Assn J 50:193-6 F '58
- Membrane filter media studies. J. A. McCarthy and J. E. Delaney, bibliog Water & Sewage Works 105:292-6 JI '58
- What you should know about the membrane filter. E. J. Laubusch, bibliog II Pub Works 89:106-13+ Ad '58

FILTERS and filtration (technical chemistry)

- Automation of filtration equipment. J. F. Zievers and C. W. Riley, diag Chem Eng Prog 54:53-5 JI '58
- British Titan terylene filters; illustrations with text. Engineer 204:825 D 6 '57
- Considerations in filter selection. H. A. Wilson, II Lub Eng 14:208-10+ My '58
- Continuous contact filtration; Filtril corp. flow diag Pet Refiner 37:293 S '58

FILTERS and filtration (technical chemistry)

- Continued
 Continuous pressure filtration pilot plant; application to vegetable oils. D. C. Bergstedt and others. flow sheet *il Ind & Eng Chem* 49:1863-70 N '57
 Coolant filtration improves product quality. V. G. Drake. *il Tool Eng* 40:101-2 Je '58
 Durco-Ezinger cake indicator automates filter. *il diag Chem Eng* 65:98+ Ja 13 '58
 Engineers big filtering economy; Union sugar co. A. Woods. *il diag Food Eng* 30:112-14 Ap '58
 Filter materials resist heat. *Iron Age* 182: 94 Ag 7 '58
 Filtering hydraulic circuits. J. J. Taborek. *diag Machine Design* 30:138-43 S 18; 128-34 O 2; 133-7 O 16 '58
 Filtering out a production problem. *il Mach* 64:130 Je '58
 Filtration and control of moisture content on taconite concentrates. A. F. Henderson and others. *diag Min Eng* 9:Trans 349-55 Mr '57; Discussion 10:Trans 596 My '58
 Filtration cut-off for use at low temperatures. P. J. H. Carnell and G. W. A. Fowles. *diag J Sci Instr* 35:227 Je '58
 Filtration resistance on the Fourdrinier table roll section. W. L. Ingmanson. *bibliog Tappi* 40:936-43 D '57
 How thick is your cake? *Chem & Eng N* 35:58 N 25 '57
 Inventory of new equipment and accessories; filters and dust collectors. *il Chem Eng* 64: 258+ Mid-N '57
 Metal filters in complex shapes produced by fiber-metallurgy. *Machine Design* 29:22+ D 12 '57
 New filter plates: plastic displaces metal. *il Chem Eng* 65:8+ Je 30 '58
 Percolation filtration; Minerals & chemicals corp. of America. flow *diag Pet Refiner* 37:306 S '58
 Polythene filters for laboratory use. E. G. Heath. *Chem & Ind p* 1111-12 Ag 23 '58
 Porous metal filter media solve tough operating problems. J. Kovacs. *il Materials in Design Eng* 47:126-8 Ja '58
 Reinforced plastics filter plates benefit process industries. *il Mod Plastics* 35:93 Ag '58
 Relationship between the capacity and efficiency of dewaxing filters. R. M. Butler. *Can J Chem Eng* 36:182-6 Ag '58
 Rotary filter uses endless belt. *il Chem Eng Prog* 54:87 My '58
 Rotobelt filter: new tool in minerals beneficiation. C. F. Cornell and others. *il diag Min Eng* 10:Trans 253-7 F '58
 Theory of aerosol filtration. S. K. Friedlander. *bibliog Ind & Eng Chem* 50:1161-4 Ag '58
 United Specialties new filter machines use sonic principle. *Ind Lab* 9:91 Ap '58
 Use of ultrafine filters in the osmometry of non-aqueous solutions. M. F. Vaughan. *Chem & Ind* p555 My 10 '58

See also

Filter paper
 Oil filters

Vacuum filters

- Chart finds precoat filter cake time. S. Tolin. *Chem Eng* 65:150 Mr 24 '58
 Flocculation improves vacuum filtration. P. S. Jacobson and J. E. Mauser. *diag Coal Age* 62:74-5 D '57
 Precoat scale-up from lab-size filter test leaf. E. L. Neu and others. *il Chem Eng Prog* 64:65-8 Je '58
FILTRATION plants
 Imported multiple-source waters help make San Diego desert proof; Alvarado filter plant. P. E. Allison. *il plan Water Works Eng* 111:212-15+ cover Mr '58
 New Clague filter plant is fourth for Cleveland. *il Water Works Eng* 111:483 My '58

See also

Filters and filtration

Equipment

- Ashford Common filtration works. *il plan diag Engineer* 206:171-5 Ag 1 '58
 Continuous turbidity monitoring controls chemical coagulation; Dalecarlia filter plant. N. E. Jackson and others. *il plan diag Water Works Eng* 111:744-7 Ag '58
 Design of Chicago's central filtration plant. F. G. Gordon. *Am Soc C E Proc* 84 [SA 5 no 1778] 1-7 S '58
 Dubuque automates new plant with all-pneumatic controls; softening-filtration plant. J. A. Hall and M. W. Williams. *il Water Works Eng* 111:654-5+ JI '58

- Largest experimental waterworks ever; Chicago's south district filtration plant on Lake Michigan. *il Eng N* 160:124-6+ Ap 17 '58
 Making Thames water drinkable; M.W.B.'s Ashford common filtration works. *plan Engineering* 186:255-6 Ag 22 '58
 World's largest filtration plant; Chicago's Central district filtration plant. D. Van Corp. flow *diag il map plan diag Civil Eng* 28:183-3 Mr '58

FINANCE

See also

- Credit
 Gold as money
 Inflation (finance)
 Investments
 School finance
 Silver as money
 also subdivision Finance under special subjects, e.g.
 Airports
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 Chemical industries
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 Gas industry
 Mineral industries
 Petroleum industry and trade
 Railroads
 Real estate business
 Roads
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 Rubber industry and trade
 Scientific research
 Sewerage
 Steel industry and trade
 Street lighting
 Waterworks
 France

See also

Money—France

United States

See also

- Budget—United States
FINERAN, Edward V.
 E. V. Fineran wins first annual industrial and commercial achievement award sponsored by Gas age and Industrial gas. *por Gas Age* 120:19 O 31 '57

FINGER nails

- Nail brittleness; abstract. *Drug & Cosmetic Ind* 82:669-70 My '58

Diseases

- Diseases of the nails, 792 cases. C. J. White and T. C. Laipply. *Ind Med* 27:325-7 JI '58

FINING of glass. See Glass manufacture

FINISHERS of textile fabrics, National association of. See National association of finishers of textile fabrics

FINISHING

See also

Metal finishing
 Plastics—Finishing
 Textile finishing

FINISHING materials

- Aerosol protective coatings. L. J. Hecht. *il Soap & Chem Spec* 34:93-6 Mr '58
 Automatic application of special brick coatings. R. J. Verba. *Am Cer Soc Bul* 37: 364-5 Ag 15 '58
 Choosing materials on cost plus performance. N. Gaynes. *Ind Finishing* 34:72+ JI '58
 Design digest issue; nonmetallic materials and finishes. *il Product Eng* 29:C 1-44 Mid-S '58
 Don't tamper with essential quality. C. R. Syer. *Ind Finishing* 34:68+ My '58
 Inventory of new chemicals and materials; protective coatings. *il Chem Eng* 64:182+ Mid-N '57
 Is adhesion the missing link? B. G. Brand. *Ind Lab* 9:10-11 Ja '58
 Magic words may confuse you. *Ind Finishing* 34:48-9 My '58
 Materials of construction for chemical engineering; protective coatings. F. Scofield. *bibliog Ind & Eng Chem* 50:1479-81 pt 2 S '58
 Metalworking, 1962; organic finishes. N. E. Van Stone. *Am Mach* 101:150 N 18 '57
 Modern organic coatings; what is in them, and why. P. Grossman. *Ind Finishing* 34: 32-4 JI '58

FINISHING materials—Continued

- New materials that the design engineer should know about: coatings and finishes. Mech Eng 73:730-2 Ag '57; Same. Am Soc Naval Eng J 70:154-8 F '58
- Organic finishes over metal surfaces. M. Perez. II Plating 45:239-44 Mr '58
- Organic finishing developments of 1957. D. A. Marino. bibliog (70 ref) Metal Finishing 56:50-2 Ja '58
- Properties of materials; finishes and coatings. Materials in Design Eng 48:257-77 Mid-O '58
- Protective coatings; annual review 1957. H. Burrell. II Ind & Eng Chem 50:sup32A-3A Ja '58
- Science for the coatings technologist. E. S. Beck. II diags Metal Finishing 55:50-5 N '57; 56:52-54 Ap '59-92 My; 53-5+ Je; 56-9 JI; 64-6+ S; 56-80 O '58
- Selecting the finish; factors to consider. Ind Finishing 34:110-11 Mr '58
- Stability of materials stored in containers. Ind Finishing 34:71+ Ae '58
- Table compares the principal finishes for wood. A. J. Kirsch. II Materials in Design Eng 46:114-19 D '57
- Weight per gallon of finishing materials. I. Norman. Ind Finishing 34:52+ Mr '58
- See also
- Lacquer and lacquering
- Paint
- Resinous products—Finishing materials
- Standards
- Guide to materials standards and specifications; finishes and coatings. S. P. Kaidanovsky. Materials in Design Eng 48:101-3 Ag '58

Testing

- Approach to testing samples of organic finishes. F. W. Porter. II Ind Finishing 34:38+ D '57

FINITE differences. See Difference equations**FINK, Donald G.**

- President of IRE, 1958. por Inst Radio Eng Proc 46:2 Ja '58

FINLAND

- See also
- Mines and mineral resources—Finland
- Petroleum industry and trade—Finland

FIR

- Chemical nature of the extracts from the bark of red fir. E. S. Becker and E. F. Kurth. bibliog Tappi 41:380-4 JI '58

See also**Douglas fir****FIRE alarms**

- Fire alarm tubing stands test of time. II diag Safety Maint 116:51-2 Ag '58
- Fire alarm ups electric contract. II Elec Constr & Maint 57:100+ Ag '58
- Home fire alarms may be worthless. Safety Maint 116:48 Ag '58
- Power for fire alarm headquarters; Metairie, La. II diags Elec Constr & Maint 57:79-81 Ag '58

FIRE ant. See Ants**FIRE apparatus**

- Fire-fighting cart. II Plant Eng 12:119 My '58
- Industrial know-how handbook; fire protection equipment. II diags Mill & Factory 62:B24-5 My '58
- Safe movement plans are discussed for emergency vehicles. R. C. Lee. plans Traffic Q 12:80-9 Ja '58

See also

- Fire extinguishers
- Fire protection
- Sprinkling systems

FIRE apparatus, Electric

- First electric-powered firefighting vehicle. T. B. Edwards. II Elec Manuf 61:148+ Ap '58

FIRE apparatus, Motor

- Fire truck beats below zero conditions at Yellowstone. North West Territory. II Safety Maint 115:48 F '58
- Fire unit with the nine-way punch. II Safety Maint 115:39 My '58
- Mine fires get the works; maneuverable fire truck; Pittsburgh consolidation coal co. II Safety Maint 115:49+ Mr '58

FIRE boats

- New York city's new fireboats. T. E. Baker. II plans diag Marine Eng/Log 63:59-62+, cover JI '58

FIRE brick

- Correlating glass furnace operation and basic refractories. J. J. Webber. II Am Cer Soc Bul 36:243-6 JI 15 '57; Excerpts. Glass Ind 38:695-6 D '57

- Investigation and testing of 32 high-grade mortars for fireclay brick. G. R. Eusner and J. R. Bachman. bibliog II diag Am Cer Soc Bul 37:12-21 Ja 15 '58

- Mineral placement of the constituents in five types of basic brick. N. B. Dodge. bibliog II Am Cer Soc Bul 37:139-43 Mr 15 '58

- Tar bonds oxygen vessel bricks. J. P. Holt. II diag Steel 143:74+ JI 7 '58

Manufacture

- Electrical baking speeds carbon brick manufacture; National carbon co. II Automation 5:48 Ag '58

FIRE brigades, Factory. See Factory fire brigades**FIRE control (aerial gunnery)**

- Automatic interception; F-1B's fire control system. II Engineering 186:92 JI 18 '58

- Fighter fire control; called AIRPASS. II Engineer 206:29 JI 4 '58

- Firing circuits trigger airborne machine guns. M. Hallio. II diags Electronics 31:86-9 Ag 1 '58

- New radar fire control system. Electronic Eng 30:472 Ag '58

FIRE damp

- Ignition of firedamp by stationary metal particles and frictional sparks. F. P. Bowden and R. D. Lewis. bibliog II Engineering 186:241-3 Ag 22 '58

FIRE departments**See also****Firemen**

- Helicopters—Fire department use

FIRE detectors. See Detectors**FIRE extinction**

- Evaluating fire protection equipment. L. Blendermann. Air Cond Heat & Ven 55:98-100+ Je '58

- Fight fire faster; more viscous, more opaque water puts out fires ten times faster than ordinary water. II Chem & Eng N 36:40 O 20 '58

- Fighting a mine fire with CO₂. F. J. Haller and F. G. Michels. diags Min Cong J 43:53-5 N '57

- Fire has new enemy; traveling foam plugs control fires. II Chem & Eng N 36:62 O 20 '58

- Foam blankets benzol fires. II Safety Maint 116:49-50 Ag '58

- How to be a fire eater without getting burned; American LaFrance industrial fire school. II Plant Eng 12:134 Ap '58

- Safety code for maintenance of fixed foam systems. II diag Safety Maint 115:46-8 Je '58

- They deliberately ignite gas fires; East Ohio gas co. sets gas ablaze under pressure to show firemen, safety experts how to extinguish flame. II Am Gas Assn Mo 40:20-1 O '58

- Water-resistant foam. II Safety Maint 115:55 Ap '58

- What you should know about fires. J. L. Risinger. II Pet Refiner 36:369-70+ N '57

See also

- Coal mines and mining—Fires and fire protection

Fire boats**Fire extinguishers**

- Fire service (water supply)

Sprinkling systems**FIRE extinguishers**

- Dry chemical fire fighting unit. II Paint Oil & Chem R 121:26 My 1 '58

- First Pyrene fire extinguisher. Comp Air Mag 63:34 F '58

- Rockets and rackets top fire hazards racketeer salesmen of worthless fire extinguishers. P. Bugbee. Safety Maint 115:51 Ap '58

- Which extinguishers perform best on small flammable liquid fires. II Safety Maint 114:54-7 N '57

FIRE extinguishers, Carbon dioxide

- Fire protection for pump stations. diag Safety Maint 114:45 D '57

- How to use CO₂ for coal bunker fire protection. H. V. Williamson. flow diag II Power Eng 62:78-80 JI '58

FIRE hose

- Care of fire hose. Safety Maint 114:51+ N '57

FIRE hydrants. See Hydrants**FIRE losses**

- 1957 fire toll hit record high. Safety Maint 115:56-7 Ap '58

- 1957 losses top \$1 billion; tables. Safety Maint 115:46 Mr '58

- Unsprinklered plants make neither dollars nor sense. R. J. Casey. II Plant 17:27-9 My '58

FIRE protection

- Automatic electric co.'s main building covers 35 acres, yet it is soundly protected against fire. *11 Plant 18:29-31 O '58*
- Check-list helps prevent fires on construction jobs. *Power Eng 62:82 F '58*
- Check list prevents construction fires. *Safety Maint 114:52-3 N '57*
- Fire-fighting equipment for small plants. *J. W. Graack. 11 Safety Maint 115:52-4+ Ap '58*
- Fire front. Published in monthly numbers of *Safety maintenance*
- Fire prevention, a safety duty. *N. MacDonald. Safety Maint 114:41 D '57*
- Fire prevention and fire fighting for the public works department. *D. E. Magness. Pub Works 89:168+ F '58*
- Fire prevention code. *Safety Maint 116:47-8 Ag '58*
- Fire prevention guide on construction jobs; engineering reference sheet. *Elec World 148:72 D 30 '58*
- Fire protection of electrical equipment. *H. M. Hills. 11 Plant 17:36-8 Ap '58*
- Fire safety for roof heliports. *Safety Maint 114:59 O '57*
- How to keep painting and finishing safe from fire. *E. A. Zahn. Ind Finishing 34:34+ Ja '58*
- Industry helps fire safety. *J. A. Neale. Safety Maint 116:43 JI '58*
- Keeping up with fire protection developments. *11 Safety Maint 114:66-70 O '57*
- New fire research lab. *B. W. Beadle. Safety Maint 115:57 Ap '58*
- Planned maintenance can produce savings; check all fire-fighting equipment. *Ind Finishing 34:108-9 Mr '58*
- Plaster-backed curtain wall adds fireproofing, cuts building costs. *diag Arch Rec 124:223 Ag '58*
- Safe storage and handling of flammable liquids. *11 Safety Maint 115:37-8 My '58*
- They deliberately ignite gas fires; East Ohio gas co. sets gas ablaze under pressure to show firemen, safety experts how to extinguish flame. *11 Am Gas Assn Mo 40:20-1 O '58*
- Windowless buildings. *Safety Maint 114:60-1 O '57*

See also

- Fire boats
- Fire extinction
- Fire extinguishers
- Fire service (water supply)
- Fireproof construction
- Fireproofing of textiles
- Inflammable liquids
- Inflammable mixtures
- Magnesium—Fire hazards
- Rubber, Cellular—Fire hazards
- Sprinkling systems
- also subdivision Fires and fire protection under special subjects, e.g.
- Automobile factories
- Chemical plants
- Coal mines and mining
- Electric plants (central stations)
- Hazards
- Newspaper offices
- Oil tanks
- Paper and pulp mills
- Petroleum industry and trade
- Pipe lines
- Power plants
- Pumping stations
- Steel works

Laws and regulations

- Firemen up-date standards. *Chem & Eng N 36:55 F 10 '58*
- National fire codes. *Safety Maint 115:53-4 Ja '58*

FIRE resisting materials

- Cost keeps fire-resistant fluids out of mines. *S. P. Polack. Ap Hydraulics 11:86+ F '58*
- Fire-resistant fluids for hydraulic systems. *Engineering 185:149 Ja 31 '58*
- Fire resistant hydraulic fluids. *H. R. Iker. Iron & Steel Eng 34:145-7 N '57*
- Fire retardant roof construction. *11 Safety Maint 115:49-50 F '58*
- Fire-resistant turbine lubricants; Duquesne Licht co. *J. J. O'Connor. 11 diag Power 102:73-7 My '58*
- Flame resistance of neoprene. *D. C. Thompson and others. biblog 11 diag Rubber Age 83:819-24 Ag '58*
- Heat-resistant clothing; Silvestros. *11 Safety Maint 116:54 Ag '58*
- How fire-resistant lubes affect turbine bearings. *A. E. Truran. Power 102:107+ Je '58*

- Man in the glass fiber suit. *11 Safety Maint 115:27 F '58*
- Mill uses fireproof hydraulic fluid; Alan Wood steel co. *11 Steel 142:117+ F 3 '58*
- Progress in developing fire-resistant hydraulic fluids. *S. P. Polack. Iron & Steel Eng 35:87-92 Ag '58*

See also

- Asbestos
- Concrete construction—Fire resistance
- Gumite
- Paint, Fire resisting
- Refractory materials
- Silicones

Testing

- Exploratory fire tests with small-scale specimens. *H. D. Foster. A S T M Bul p66-7 F '58*

FIRE service (water supply)

- Airline taps city water supply for jet hanger fire service. *11 Water Works Eng 111:136+ F '58*
- Designing for future water demands. *A. H. Gent. Pub Works 89:210-13 S '58*
- Fire protection without water mains. *Pub Works 89:132 Mr '58*
- Fire rating change saves city \$90,000 per year. *B. G. Smith. 11 Pub Works 89:118 Je '58*
- Fires mean shock water demands. *M. M. Braidech. 11 Water Works Eng 111:561+ JI '58*
- Water in modern fire control. *M. M. Braidech. 11 diag Am Water Works Assn J 50:1315-29 O '58*

See also

- Sprinkling systems

FIRE trucks. See Fire apparatus, Motor**FIREARMS***See also*

- Rifles

FIREBOATS. See Fire boats**FIREMEN**

- Safety for firemen. *11 Safety Maint 114:43-4 D '57*

Training

- Firemen learn their A,B,C's. *11 Safety Maint 116:45-6 JI '58*

FIREPLACE screens

- Special machines weave, trim, treat, and paint fireplace screen fabric. *11 Am Mach 102:124 F 24 '58*

FIREPLACES

- Techniques for lighting fireplace walls; lighting data sheet. *B. Waggenger and others. 11 diag Illum Eng 52:535-6 N '57*

FIREPROOF construction

- Direct-to-steel fireproofing for Portland building; spraying vermiculite acoustical plastic. *R. S. Rosé. 11 Civil Eng 28:256-7 Ap '58*

- Spray fireproofing on steel floors. *11 Eng N 160:47-8 Ap 3 '58*

See also

- Concrete construction—Fire resistance

FIREPROOFING of textiles

- Chemically modifying cellulose for flame resistance. *R. F. Schwenker, jr. and E. Pacsu. biblog 11 Ind & Eng Chem 50:91-6 Ja '58*

Patents

- Flameproofing with diammonium phosphate; adding polyamine compounds, nitrogen compounds and certain softeners; patent. *Am Dyestuff Rep 46:981 D 16 '57*

FIRES

- Emergency formula for roof ventilation of industrial plants will aid fire control and minimize damage; abstracts. *J. J. Cronin. Air Cond Heat & Ven 55:120 Mr '58; Safety Maint 115:55-6 Mr '58*
- Fire hazards of jet aircraft fuels. *Safety Maint 115:35-6 My '58*
- Fire limits. *Safety Maint 114:41-2 D '57*
- What burned in large loss fires? *Safety Maint 115:45+ Je '58*

See also

- Electric fires
- Fire extinction
- Fire protection
- Flames
- Forest fires
- Inflammable liquids
- Inflammable mixtures
- Mine fires
- Oil fires

FIREWORKS

Alchemy hangs on in fireworks manufacturing. *Ind & Eng Chem* 49:sup34A+ D '57

FIREWORKS, Military

Survey of available literature on the rapid combustion of metals in air; metal pyrotechnics; abstract. *S. Haffner. Metal Prog* 73:172+ F '58

FIRING

See also
Bollers—Firing

Fuel
Open hearth furnaces—Firing

FIRST aid in illness and injury

Cardiac emergencies. *S. E. Chapin. Ind, Med* 27:278-80 Je '58

Chemical burns, proper treatment of. *S. M. MacCutcheon. Ind & Eng Chem* 50:sup81A-2A My '58

See also
Burns and scalds
Mine rescue work

FISCHER indole synthesis. See Indole

FISCHER reagent

Determination of traces of water in hydrocarbons in gasoline boiling range; sample handling and interferences. *J. W. Loveland and others. bibliog diags Anal Chem* 30:1316-21 Ag '58

Some applications of the Karl Fischer reagent to sugar confectionery analysis; abstract. *A. G. Sansome and M. J. Phillips. Chem & Ind p 146-7; Discussion. 147-8 F* '58

FISCHER-TROPSCH process

Fischer-Tropsch; Amoco chemicals corp. flow diag *Pet Refiner* 36:247 N '57

Fischer-Tropsch synthesis; nitriles and carbonitriles of iron as catalysts. *J. F. Shultz and others. bibliog Ind & Eng Chem* 49:2055-60 D '57

Fischer-Tropsch synthesis with iron catalysts; effect of reaction temperature on product composition. *D. Gall and P. J. Kipping. bibliog Inst Pet J* 44:243-52 Ag '58

Some factors affecting the activity of sintered iron catalysts for the Fischer-Tropsch synthesis. *T. A. Dorling and others. bibliog J Ap Chem* 8:533-49 S '58

FISH, Canned. See Canned fish

FISH, Dried

Drying fish and beef prior to solvent extraction. *L. K. Arnold and P. R. Hsia. bibliog J Agri & Food Chem* 6:231-2 Mr '58

Effects of dehydration on actomyosin in fish and beef muscle. *S. M. V. Hunt and N. A. Matheson. bibliog J Food Tech* 12:410-16 Ag '58

FISH, Frozen

Automates refrigeration; fish processing and freezing plant in Bangkok, Thailand. plans *Food Eng* 30:97-8 Ji '58

Do breedings cause spoilage? pre-cooked frozen seafood. *M. A. Benarde. J Food Eng* 30:113 Ja '58

New pack boosts mullet. *C. E. Wright. J Food Eng* 29:71 N '57

FISH as food

Problems in determining fish freshness. *M. E. Stansby. Food Tech* 12:280-2 My '58

Testing for differences between methods of preparing fish by use of discriminant function. *W. D. Baten and others. bibliog Ind Quality Control* 14:6-10 Ja '58

See also

Canned fish

Sardines

Analysis

2-Thiobarbituric acid method for the measurement of rancidity in fishery products; the quantitative determination of malonaldehyde. *R. O. Sinnhuber and T. C. Yu. bibliog Food Tech* 12:9-12 Ja '58

Preservation

Comparative effectiveness of tetracycline antibiotics for fish preservation. *B. A. Southcott and others. bibliog Food Tech* 12:108-10 F '58

Potential application of antibiotics in the salmon canning industry. *J. A. Stern and others. bibliog J Food Tech* 12:132-7 Mr '58

Spoilage

Changes in the total volatile base, volatile reducing substances and bacterial count as indices of fresh water fish spoilage. *M. N. Moorjani and others. bibliog Food Tech* 12:385-6 Ag '58

Do breedings cause spoilage? pre-cooked frozen seafood. *M. A. Benarde. J Food Eng* 30:113 Ja '58

FISH oil

Antagonistic effect with antioxidants for unsaturated fats. *H. S. Olcott and E. Einset. bibliog Am Oil Chem Soc J* 35:519-60 Ap '58

Bureau of commercial fisheries oil research program. *M. E. Stansby and C. Butler. bibliog Am Oil Chem Soc J* 35:sup8+ Ji '58

FISH poisons

Deadly mix; major fish kill hints that salt water pollutants have synergistic or additive effects at low pH. *G. Chanin and R. P. Dempster. J Chem & Eng N* 36:70 Ap 21 '58

Highlights of research in sanitary engineering; Monsanto chemical co.; toxicity investigations on aquatic and marine life. *J. T. Garrett. Pub Works* 38:95-6 D '57

Poisonous tides; explosive multiplication of certain marine microorganisms kill fish by the millions. *S. H. Hutner and J. J. A. McLaughlin. J map diags Sci Am* 199:92-6+ Ag '58

FISH protection

How not to catch fish; electric fish screens. *P. S. Burkey. J Power Ind* 74:14-16 Ap '58

See also

Dams—Fish problem

FISHER award

Hasler, Lingane receive Beckman, Fisher awards. *Anal Chem* 30:sup26A My '58

James J. Lingane received award in analytical chemistry. *J Chem & Eng N* 36:48 Ap 23 '58

FISHER scientific company

Career opportunities. *J Chem & Eng N* 36:84 pt 2 Ja 27 '58

FISHERY research

Coexistence of fish and dams; Columbia River salmonoid fishery. *H. A. Preston and L. E. Rydell. map Am Soc C E Proc* 83 [PO 5 no 1414]:1-21 O '57; Discussion. *M. H. Benson. 84 [PO 2 no 1618]:7-8 Ap '68; Reply. 84 [PO 5 no 1830]:13-14 O '58*

FISHES

See also

Dams—Fish problem

Lampreys

Mullet

Nutrition

Effect of diet on the fatty acid composition of several species of fresh water fish. *P. B. Kelly and others. bibliog Am Oil Chem Soc J* 35:503-5 O '58

Nutrition of salmonoid fishes; protein requirements of chinook salmon at two water temperatures. *D. C. DeLong and others. bibliog J Nutrition* 65:589-99 Ag '58

FISHES, Fossil

Fishing for fossils near Lander, Wyo. *J Comp Air Mag* 63:23-4 Mr '58

FISHING boats

Motor trawler Boston Vanguard. *J Engi-neering* 184:663 N 22 '57

FISK, James Brown

J. B. Fisk heads U.S. scientist group for nuclear-test talks. *por Bell Lab Rec* 36:264 Ji '58

FISSION, Nuclear. See Nuclear reactions

FISTULAS

Anorectal abscess and fistula. *C. E. Pope. bibliog J Ind Med* 27:448-55 S '58

FITS (machinery)

Limits and fits. *H. G. Conway. Product Eng* 28:A 11-13 Mid-O '57

Probability applied to assembly fits. *G. D. Phell. diags Product Eng* 28:38-9 N 25 '57

Shrink-fit assemblies gain in popularity. *D. W. Thomas. J diags Mach* 64:112-14 Je '58

Shrink-fit nomograph for steel and cast-iron rings of equal length; reference book sheet. *S. Rappaport. diags Product Eng* 29:85+ Ap 14 '58

See also

Tolerance

FIXTURES, Lighting. See Lighting fixtures; Street lighting fixtures

FIXTURES, Machine tool. See Machine tools—Fixtures

FIZEAU fringes. See Interference (light)

FLAGELLATA

Significance of coccolithophorids in calcium-carbonate deposition. *M. N. Bramlette. bibliog Geol Soc Bul* 69:121-6 Ja '58

FLAGELLATES

See also
Dinoflagellates

FLAME arresters

Flame arresters for gas or vapour explosions. K. N. Palmer. *Engineering* 185:438 Ad 4 '58

FLAME hardenings. See Case hardening**FLAME propagation**

See also

Internal combustion engines—Combustion research

FLAMES

Calculation of theoretical flame temperatures in furnaces. J. W. Myers and others. *bibliog A S M E Trans* 80:202-16 Ja '58

Cyanogen-oxygen flame under pressure. J. B. Conway and A. Y. Grosse. *bibliog diag Am Chem Soc J* 80:2972-6 Je 20 '58

Evaluation of flame stability at high Reynolds numbers. L. E. Bollinger. *bibliog Jet Propulsion* 28:334-5 My '58

Evidence for the wrinkled continuous laminar wave concept of turbulent burning. J. K. Richmond and others. *bibliog il Jet Propulsion* 28:393-9 Je '58

Film tells flame temperature. *il diag Chem Eng* 65:64-4 Ja 27 '58

Flame quenching. B. S. Massey and B. C. Lindsey. *Roy Aeronautical Soc J* 62:32-42 *bibliog* (101 titles, p40-2). Ja '58

Flame spread properties of building finish materials. D. Gross and J. J. Loftus. *il A S T M Bul* p56-60 My '58

Flame stabilization in the boundary layer of heated plates. R. W. Ziemer and A. B. Cambel. *bibliog il diag Jet Propulsion* 28:592-9 S '58

Flame-stabilizing effects of inclined air jets. D. P. Duclos and others. *bibliog il diag Ind & Eng Chem* 49:2063-6 D '57

Flame studies; methods and results; tr. by T. H. Elmer. R. Gunther. *bibliog il diag Glass Ind* 39:473-7-4 S '58

Heat transfer by radiation from flames; a summary of the work of the International flame research foundation. R. A. Sherman. *bibliog il plans diag A S M E Trans* 79:1727-38; Discussion. 1738-41 N '57

Measurement of flame speeds by a nozzle burner method. C. Halpern. *bibliog il diag J Res Nat Bur Stand* 60:535-46 Je '58

Rational choice of flame-holder shape. A. A. Putnam. *Jet Propulsion* 28:60-1 Ja '58

Recent progress in flame theory; abstract. D. B. Spalding. *Aircraft Eng* 30:234-5 Ag '58

Shock wave and flame interactions; abstract. G. Rudinger. *Aircraft Eng* 30:234 Ag '58

Some observations of flame stabilization in sudden expansions. P. A. Ross. *il diag Jet Propulsion* 28:123-5 F '58

Study of sampling of flame gases. C. Halpern and F. W. Ruegg. *bibliog diag J Res Nat Bur Stand* 60:29-37 Ja '58

Temperature determination in flames by X-ray absorption using a radioactive source. G. J. Mullaney. *bibliog il diag R Sci Instr* 29:87-91 F '58

See also

Gas burners
Ignition
Inflammable mixtures
Oxyacetylene flame

FLANGES

Design of bolted, flanged joints of pressure vessels. G. F. Lake and G. Boyd. *bibliog diag Inst Mech Eng Proc* 171 no 31:843-58; Discussion. 859-68; *eply* 870-2 '57

Flanges feed cutting coolant. *il Electronics* 31:144-5 F 14 '58

How to design for tight sealing by specifying the correct flange pressures in gasketed joints. E. M. Smoley. *diag Machine Design* 30:133-7 Je 12 '58

New tool for use in selecting the right gasket. E. M. Smoley. *diag S A E J* 66:76-8 My '58; Same cond. *Product Eng* 29:F2-3 Mid '58

Pressure-flange design extended; reference book sheet. G. P. Stoats. *diag Product Eng* 28:117-4 D 9 '57

Short-cut method for calculating design of bolted flange connections. *diag Ind & Eng Chem* 50:sup59A-60A Ap '58

See also

Pipe flanges
Pipe joints

Standards

Cooperation; key to new flange design methods. M. McArdle. *Mag of Stand* 29:138 My '58

FLANNEL

Carolina naps flannel at 33 yds. per min. *il Textile World* 108:93 S '58

Constant care in winding reduces broken yarn ends; Carolina mills, inc. *il Textile World* 108:142-3 Mr '58

FLARE stacks. See Petroleum refineries—Flare stacks

FLARES, Solar. See Sun—Prominences

FLASH welding. See Electric welding

FLASHING, Plastic

How plastic flashing does the job. R. W. Boone and D. J. Dirkse. *il Plant Eng* 12:94-7 Je '58

FLASHING lamps. See Electric lamps, Flashing

FLASHLIGHT photography. See Photography, Flashlight

FLASHLIGHTS, Electric. See Electric flashlights

FLASHOVER of insulation. See Insulation (electric)—Failure

FLASKS, Foundry. See Foundry flasks

FLAVANDIOL

Synthesis of the fourth racemate of a flavan-3-ol. M. D. Kashikar and R. B. Kulkarni. *bibliog Chem & Ind p* 1084-5 Ag 16 '58

FLAVAZOLE

1-Phenyl-flavazole derivatives of starch dextrans. P. Nordin and D. French. *bibliog Am Chem Soc J* 80:1445-7 Mr 20 '58

FLAVINS

See also

Isoalloxazine

FLAVONES

Alkylation of flavonol acetates. L. Jurd. *bibliog Chem & Ind p* 1452-3 N 2 '57

Extensions of the Westly-Moser rearrangement. D. M. A. Donnelly and others. *bibliog Chem & Ind p* 82-112 '58

Relative stability of 5-8- and 5-6- dihydroxy-flavanones. B. Kelly and others. *bibliog Chem & Ind p* 282 Mr 1 '58

FLAVONOIDS

Flavonoid compounds of hops and of malt concerned in the formation of beer hazes. G. Harris and R. W. Kicketts. *bibliog diag Chem & Ind p* 686-7 Je 7 '58

Flavonoids of citrus; isolation of a new flavonol from lemons. R. M. Horowitz. *Am Chem Soc J* 79:5561-2 D 20 '57

FLAVONOLS. See Flavones

FLAVOPEREIRINE. See Alkaloids

FLAVOR

Concentrating advances bring superior flavors; A. F. Murch co. A. F. Murch and J. V. Ziembra. *il Food Eng* 29:90-2 D '57

Factors influencing consumer opinion of canned Bartlett pears. R. M. Pangborn and S. J. Leonard. *Food Tech* 12:284-90 Je '58

Flavor. K. S. Konigsbacher. *Drug & Cosmetic Ind* 83:220 Ag '58

Influence of added monosodium glutamate on the flavor of processed green beans. L. A. Pettit and others. *bibliog Food Tech* 12:372-4 J1 '58

Influence of test location and accompanying sound in flavor preference testing of tomato juice. L. A. Pettit. *Food Tech* 12:55-7 Ja '58

Informational bias in flavor preference testing. L. A. Pettit. *Food Tech* 12:12-14 Ja '58

Makes better peach concentrates; EURDD. N. H. Eisenhardt and others. *diag Food Eng* 30:95-6 Ja '58

Physicochemical research on flavor; symposium. *Anal Chem* 30:sup17A-20A-4 F '58; Excerpts. *Drug & Cosmetic Ind* 82:508-9 Ap '58

Quantity of sample, swallowing, and rinsing factors in flavor preference testing of tomato juice. L. A. Pettit. *bibliog Food Tech* 12:1-4 Ja '58

Radiation-induced changes in bread flavor. R. C. Nicholas and others. *bibliog il Food Tech* 12:52-4 Ja '58

Relationship between pyroldonecarboxylic acid and off-flavor in beet puree. R. S. Shallenberger and J. C. Moyer. *bibliog J Agri & Food Chem* 6:604-6 Ag '58

FLAVORING materials

Flavor notes. *Am Perfumer & Aromatics* 71:44 My '58

Frozen-dessert standards. R. A. Osborn. *Food Eng* 30:115 S '58

One-step mixing cuts time 75 per cent; flavor maker; Henry H. Ottens mfg. co. G. C. Robinson. *diag Food Eng* 30:94 Ap '58

Volatile flavors of strawberry. K. P. Dimick and J. Corse. *bibliog diag Am Perfumer & Aromatics* 71:45-4 F '58

See also

Essential oils
Spices

FLETCHER, L. C.
Obituary. *por Elec Manuf* 61:74-5 My '58

FLETT, Lawrence
Flett gets AIC gold medal. *por Chem & Eng*
N 36:106 Ap 21 '58

FLEXIBLE doors. See Doors

FLEXIBLE tubes. See Tubes, Flexible

FLEX-SET process. See Photomechanical processes

FLICKER. See Lighting—Flicker

FLIES

Effect of earth cover on fly emergence from sanitary landfills. R. J. Black and A. M. Barnes. *il Pub Works* 89:91-4 F '58

FLIGHT

See also
Aerodynamics

FLIGHT, Interplanetary. See Space flight

FLIGHT simulators

Aerodynamic flight simulation on a general-purpose digital computer; abstract. D. Sonheim. *Instruments & Automation* 31:1224-5 J1 '58

Aircraft and missile simulation. R. E. Kopp. *il Instruments & Automation* 31:1386-8 Ag '58

Controls fly trainer, almost; the simulated helicopter. *il diags Product Eng* 29:71 J1 21 '58

Electronic simulation for the jet age. E. G. Schwarm. *flow diag il Aero/Space Eng* 17:34-7 My '58

Evaluator and trainer for Tacan data link. W. B. Sudduth and J. F. Sullivan. *il diags Elec Com* 34:271-3 S '57

Jets boosting computer calls. *il Electronics* 31:16+ F 14 '58

New helicopter flight simulator. *il Aircraft Eng* 30:19 Ja '58

Pilot analog for airplane pitch control. N. D. Diamantides. *bibliog diags J Aeronautical Sci* 25:361-70+ Je '58

Projector simulates helicopter flight. *il diags Product Eng* 28:92-3 N 11 '57

Simulating helicopter flight. *il Engineering* 184:500-1 O 18 '57

Techniques of flight simulation for ramjet engines. R. Greenberg. *il diags Jet Propulsion* 28:308-14 My '58

Three axis flight simulator systems. W. E. Gibson. *bibliog il diags Aero/Space Eng* 17:36-9+ Ag '58

Use of flight tables in simulation; Western simulation council meeting. Point Mugu, Calif. March 13; abstracts of papers. *Instruments & Automation* 31:877-80 My '58

See also

Air pilots, Military—Training

Design

Shifting counters; logical design of a digital computer for real-time simulation of airplane flight. C. Eldert and others. *diags Com & Electronics* p70-4 Mr '58

FLOATING bodies

Motion of a buoyant body. R. A. Collacott. *il Engineering* 185:760-1 Je 13 '58

FLOATING bridges. See Bridges, Floating

FLOATING containers. See Containers, Floating

FLOATING floors. See Floors

FLOCCULATION

Flocculation improves vacuum filtration. P. S. Jacobsen and J. E. Mauser. *diag Coal Age* 62:74-5 D '57

Flocculation of slimes by guar. L. E. Peterson and J. W. Opie. *bibliog il diags Ind & Eng Chem* 50:1013-16 J1 '58

Flocculation of sodium montmorillonite by electrolytes. A. Kahn. *bibliog J Colloid Sci* 13:51-60 F '58

Floccing slimes increases uranium output. *Ind & Eng Chem* 50:sup42A Ag '58

New polyacrylamide-type flocculant for improved filler retention. J. F. Reynolds and R. F. Ryan. *il Tappi* 40:318-20 N '57

See also

Water purification—Coagulation

FLOOD control

Ball Mountain dam to provide flood relief for Connecticut River valley. R. W. Sapora. *il Comp Air Mag* 63:16-18 Mr '58

City speeds flood control; Torrington, Conn. *il Eng* N 159:142 D 12 '57

Engineering in the soil conservation service; watershed protection and flood prevention program. C. J. Francis. *Am Soc C E Proc* 84 [IR 1 no 1493]:1-13 Ja '58

Flood control in New England. A. K. Sibley. *il maps Am Soc C E Proc* 84 [WW 1 no 1517]:1-31 Ja '58

Flood control system nurses runoff and groundwater recharger. San Bernardino, Calif. *il map Eng* N 160:47-8 Mr 6 '58

Flood routing pays off; \$66 million of damage prevented at Chattanooga. *Eng* N 160:22 Ja 9 '58

Floodwall holds new ideas for foundations, forms. G. E. Skinner. *il diags Eng* N 161:42-4 J1 17 '58

Hurricane protection planning in New England. J. B. McAleer and G. E. Townsend. *bibliog il maps plans diags Am Soc C E Proc* 84 [HY 4 no 1726]:1-36 Ag '58

Northeastern floods of 1955; flood control hydrology. E. F. Childs. *map Am Soc C E Proc* 84 [HY 3 no 1663]:1-24 Je '58

Pumping plant provides last link in floodwall at Louisville. H. J. Meeker. *il Pub Works* 89:80-1 F '58

Pumping requirements for leveed agriculture areas; with cost data. H. W. Adams. *Am Soc C E Proc* 83 [IR 1 no 1236]:1-23 My '57; Discussion. G. E. Williams. *83 [IR 2 no 1377]:3-4 S '57; Reply. 84 [IR 2 no 1616]:3-4 Ap '58*

Shell-Condor tames wild Magdalena. *il Oil & Gas J* 55:80-1 N 25 '57

State pioneers flood plain zoning. *il map Eng* N 160:46-7, cover My 22 '58; Discussion. F. B. Marsh. 161:10+ J1 10 '58

Taming the Molly Ann; 1900-foot-long tunnel will drain overflow waters from Molly Ann brook. R. J. Nemmers. *il map Comp Air Mag* 62:360-3 D '57

See also

Dikes (engineering)

Mississippi river—Flood control projects

Rivers—Regulation

Spillways

Costs

Flood control dam, Connecticut; unit prices. *Eng* N 161:66 J1 3 '58

FLOODING of soils. See Soils, Flooding of

FLOODLIGHTING. See Light projection

FLOODS

Expressway contractor battles floods to build conduit roadbed; Baltimore's Jones Falls expressway. W. F. Halstead. *il plan diags Roads & Sts* 101:92-3+ Ap '58

Flood alarm guards bridge; Tangiwal, New Zealand. *il Eng* N 161:86 S 25 '58

Flood warning system readied. *Product Eng* 29:25 Ap 21 '58

Mechanical analogs aid graphical flood routing. M. A. Kohler. *bibliog il diags Am Soc C E Proc* 84 [HY 2 no 1555]:1-14 Ap '58

Northeastern floods of 1955. C. S. Gilman and others. *maps diags Am Soc C E Proc* 84 [HY 3 nos 1661-1663] Je '58

Rampaging river aids gravel plant; Windsor sand & gravel co. W. B. Lenhart. *il Rock Prod* 60:94-5+ N '57

See also

Flood control

Power plants—Damage from floods

Rain and rainfall

Forecasting

Computer evaluates rainfall and predicts flood crests. *Automation* 5:12+ F '58

Flood frequencies derived from rainfall data. J. L. H. Paulhus and J. F. Miller. *map Am Soc C E Proc* 83 [HY 6 no 1451]:1-18 D '57; Discussion. 84 [HY 3 no 1690]:11-19 Je; [HY 6 no 1856]:13-17 N '58; Reply. 84 [HY 6 no 1856]:17-23 N '58

100 frequency curves of North American rivers. E. Kuiper. *Am Soc C E Proc* 83 [HY 5 no 1395]:1-31 O '57; Discussion. 84 [HY 1 no 1553]:61-3 F; [HY 2 no 1616]:19-24 Ap '58; Reply. 84 [HY 6 no 1832]:59-60 O '58

California

Major flooding problem solved through joint citizen-community effort; Torrance, Calif. R. Perkins. *il Pub Works* 89:198 S '58

Connecticut

Connecticut highways and the 1955 floods. N. E. Argraves. *il Am Soc C E Proc* 84 [HW 2 no 1621]:1-9 My '58

State pioneers flood plain zoning. *il map Eng* N 160:46-7, cover My 22 '58; Discussion. F. B. Marsh. 161:10+ J1 10 '58

Federation of Rhodesia and Nyasaland

Flood tops Kariba cofferdam. *il Eng* N 160:31 Mr 6 '58

New England

Hurricane protection planning in New England. J. B. McAleer and G. E. Townsend. *bibliog il maps plans diags Am Soc C E Proc* 84 [HY 4 no 1726]:1-36 Ag '58

FLOOR cleaning

Needed, floor care expertal film strip training program; Multi-Clean Products, D. McNeely, *Il Ind Phot* 7:28-9+ *Jl* '58

FLOOR coverings

Selecting resilient floor coverings, H. J. Rosen, *Prog Arch* 39:135 *Jl* '58
See also
Carpets

FLOOR finishes

Floor finishes based on polystyrene emulsions, R. M. Avery, Jr. and L. H. Perry, *Il Soap & Chem Spec* 34:88-91 *F* '58
New floor-surfacing material for wet and corrosive locations, *Power Eng* 62:83 *F* '58

Testing

Wear evaluation of floor finishes; radioisotopic method, G. J. Fuld and others, *Il Soap & Chem Spec* 34:93+ *Ap* '58

FLOOR polishers

Air turbine drives brushes in high-speed rotary polisher; illustrations with text, *Machine Design* 30:159 *F* 20 '58

FLOOR polishes

Emulsion polymers for floor polishes, M. Potash and others, *bibliog* *diags Soap & Chem Spec* 34:61-4+ *Ag* '58

FLOOR wax

Clear polymers for floor waxes, A. A. Kroner, *Il Soap & Chem Spec* 34:125+ *My* '58
New lanolin fraction for wax dispersions, D. Schoenholz and G. D. Burns, *Soap & Chem Spec* 34:92-3+ *Ja* '58
Nontoxic emulsion polishes, K. J. Wasserman, *Soap & Chem Spec* 34:103+ *S* '58

Testing

Control testing and specifications of polymers for use in floor coatings, R. H. Cahill and R. M. Avery, Jr, *floor sheet Il Soap & Chem Spec* 34:78-81+ *S* '58

FLOORING

Adhesives applications in the shoe, flooring, and automotive industries, L. H. Blyler, *Rubber World* 137:883-4+ *Mr* '58
Conductive flooring for hospitals, *Il Safety Maint* 115:37-8 *Je* '58
Resilient floor problems, *Safety Maint* 116:23 *Ag* '58

FLOORING, Plastic

New chemical resistant floors, E. J. Grich, *Safety Maint* 114:32 *O* '57
Repairs problem floors; Mondie, *Il Food Eng* 30:113 *My* '58

FLOORING, Tile

Resilient tile flooring eases maintenance chores, W. Mueller, *Il Plant* 18:30-2 *Ag* '58

FLOORS

Clean up your floor accidents, F. L. Burnell, *Il Safety Maint* 114:25-6+ *O* '57
Electrical floor warming, J. W. Moule and W. M. Stevenson, *bibliog Il plan diags Inst E E Proc* 104 pt A:424-36; Discussion, 437-46; Reply, 446-7 *O* '57
Flexible, high strength raised floors for computers, heavy equipment, *Il Arch Rec* 124:201 *Jl* '58
Floating floors, *Il Plant* 18:33-4 *Ag* '58
Floor on floor supports load, *Il Plant Eng* 12:128 *Mr* '58

See also

Bridges—Floors
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FLOORS, Concrete

Built with 12,000 precast pieces; Reynolds metals co.'s aluminum reduction plant in Listerhill, Ala., *Il Eng N* 161:54-6+ *Jl* 17 '58
Concrete floor finishes, H. J. Rosen, *Prog Arch* 39:178+ *Mr* '58
Design of concrete floors on ground for warehouse loadings, F. F. Rice, *plans diags Am Concrete Inst J* 29:106-13 *Ag* '57; Discussion, H. S. Heaps, 29:799-801; Reply, 801-2 *Mr* '58
Emery concrete takes severe punishment at American brake shoe co. plants, *Il Plant* 17:31 *Je* '58

Flat-plate floors gain time and space; Miami Beach's new 670 room Carillon hotel, J. Feld, *Il Eng N* 160:51-2 *Ap* 24 '58
Floor lath forms utility floor system; Spanform system, D. H. Butler, *Il Arch Rec* 123:231 *F* '58

Floor slab problems in factories and warehouses, J. L. Staunton, *Arch Rec* 123:179-82 *Ja* '58

Industrial floor slabs; design and construction, J. L. Staunton, *diags Arch Rec* 123:245-9+ *My* '58

Industrial floor slabs; time-saver standards, J. L. Staunton, *diags Arch Rec* 123:257+ *My* '58

Resurfacing

Key factors in resurfacing concrete floors, L. Libberthson, *Il Plant* 17:54-5 *Ja* '58

Standards

Minimum standard requirements for precast concrete floor and roof units (ACI 711-58), *Am Concrete Inst J* 30:83-94 *Jl* '58; Discussion 29:1191-5 *Je* '58

Testing

Load test on flat slab floor with embedded steel grillage caps, D. D. Meisel and others, *Il diags Am Concrete Inst J* 30:123-32 *Jl* '58

FLOORS, Steel

Air condition new building via cellular steel floor, S. Sachs, *Il Heating-Piping* 30:97-100 *Je* '58

FLOORS, Wood

Underfoot wood, *Il Engineering* 185:32 *Ja* 3 '58

FLORIDA**See also**

Gas, Natural—Florida, Supply to also subdivision Florida under special subjects, e.g.
Architecture
Architecture, Domestic
Mines and mineral resources
Phosphate rock
Sewerage

Industries and resources

Land of the count-down comes of age, M. L. Stone, *Tool Eng* 41:95-6 *Jl* '58

FLORISIL, See Adsorbents**FLOTATION cells**

Improved method for measuring aeration in flotation cells, J. B. Gayle, *diag Min Eng* 10:Trans 796 *Jl* '58

FLOTATION process

Agglomeration flotation of manganese ores, E. H. Gates, *bibliog flow sheet Il diags Min Eng* 9:Trans 1368-72 *D* '57
Bretz mine gets large-scale new reactivation, *diag Eng & Min J* 159:144+ *Mr* '58
Chemicals in ore processing; a fifty-year review, R. E. Byler, *Il Ind & Eng Chem* 50:sup50A-3A *S* '58
Effect of chemical reagents on the motion of single air bubbles in water, D. W. Fuerstenau and C. H. Wayman, *bibliog Il diag Min Eng* 10:Trans 694-9 *Je* '58
Flotation starts on the Mesabi; Hill annex tallings reclamation plant, R. W. Livingston, *Il plans diags Eng & Min J* 159:90-3 *Ja* '58

Iron oxide slime coatings in flotation, D. W. Fuerstenau and others, *bibliog Min Eng* 10:Trans 792-5 *Jl* '58

Unit operations in chemical engineering; flotation, N. Arbitier, *Ind & Eng Chem* 50:442-6 *bibliog* (p444-6) pt 2 *Mr* '58

FLOTATION process (coal)**See also**

Coal washing

FLOTATION process (non-metals)

Behaviour of xanthates in flotation, C. H. G. Bushell, *bibliog diag Can Min & Met Bul* 51:137-49 *Mr* '58

Correlation of contact angles, adsorption density, zeta potentials and flotation rate, D. W. Fuerstenau, *bibliog Min Eng* 9:Trans 1365-7 *D* '57

Family team develops new mill, mine; Lawson-United feldspar & minerals co., B. C. Herod, *flow diag Il Pit & Quarry* 51:112-17 *Ag* '58

Flotation of a Canadian kyanite, R. A. Wyman, *bibliog diags Min Eng* 10:Trans 111-12 *Ja* '58

Polarographic estimation of starch and its application in flotation, S. C. Sun and others, *bibliog Anal Chem* 30:1074-8 *Je* '58

Relative effectiveness of sodium silicates of different silica-soda ratios as gangue depressants in nonmetallic flotation, C. L. Sollenberger and R. B. Greenwalt, *Min Eng* 10:Trans 691-3 *Je* '58

Unit operations in chemical engineering; flotation, N. Arbitier, *Ind & Eng Chem* 50:442-6 *bibliog* (p444-6) pt 2 *Mr* '58

See also

Sewage disposal—Flotation process
Trade waste disposal—Flotation process

LOUR

Essential fatty acid retention during certain oxidation flour and dough treatments and in bread-baking, N. Fisher and others, *Chem & Ind* p720-2 *Je* 14 '58

FLOUR—Continued

Flour lipid characterization; chromatographic and other studies; abstract. N. Fisher and others. *Chem & Ind* p 147; Discussion. 148-9 F 8 '58

Nutritive value of bread flour proteins as affected by practical supplementation with lactalbumin, nonfat dry milk solids, soybean proteins, wheat gluten and lysine. H. W. Howard and others. *bibliog J Nutrition* 64:151-65 Ja '58

Objective tests of quality in wheat and wheat products. M. A. Barnore. *bibliog flow diag diags Food Tech* 12:291-6 Je '58

Polar lipids in wheat flour. D. G. H. Daniels. *bibliog Chem & Ind* p653-4 My 31 '58

Analysis

Determination of choline in egg products, flour, and noodles. H. Salwin and others. *bibliog J Agri & Food Chem* 6:476-9 Je '58

Testing

Effect of wheat on storage properties of flour. J. A. Shellenberger and others. *bibliog il Food Tech* 12:213-21 My '58

FLOUR handling

Flexible bulk system speeds handling pneumatic flour unloader; Borden co.'s Lake-shire-Marty div. C. R. Labudde. *il Food Eng* 30:91 Ja '58

Hired deliveries expand bulk benefits; permit smaller millers and bakers to profit through bulk deliveries. *il Food Eng* 30:121 F '58

Speeds high-bin unloading; pneumatic-probe system. *diags Food Eng* 30:95 S '58

FLOUR mills

New product development key to success at General Mills. H. A. Bullis. *il Food Eng* 30:53-6 Ja '58

Equipment

Cereals get heat treatment, grain products automatically sterilized; Fisher flouring mills co. *il diag Plant Eng* 12:126-7 O '58

Grinding and fluting rolls on one machine. *il Engineering* 186:365 S 19 '58

New product cleans up wheat problem. *il Mill & Factory* 62:117 A '58

This heat-treating includes carton; Fisher flouring mills co. *il diag Food Eng* 30:83 Je '58

Management

10-M potent way to boost profits; ideas of Pillsbury decision makers. J. V. Ziemba. *Food Eng* 30:41-2 My '58

Quality control

Pillsbury's code sampling gives can't-miss quality control. K. Scherch. *il Food Eng* 30:116-17+ Ja '58

FLOW charts. See Flow sheets**FLOW indicators**

Bailey solid flow detector. *il Engineering* 185:101 Ja 24 '58

Detector for flow failure in solid materials. *Engineer* 204:871 D 13 '57

FLOW meters

Analysis of the effect of pulsations on the response of mercurial-type differential-pressure recorders; abstract. R. J. Martin and D. S. Moseley. *Control Eng* 5:172+ Je '58

Dall flow tube, a new metering primary. R. B. Dowdell. *il Gas* 34:156+ O '58

Flange gets final pass as Northern Natural adopts new welding process. *il Oil & Gas J* 56:73 Ag 25 '58

Flow measurement in the chemical industry. *il Manuf Chem* 29:9-14 Ja '58

Flow measurement; meter types and selection considerations. C. S. Beard. *il diags Plant Eng* 12:119-21 Mr '58

Flowmeter servo for difficult liquids. *diag Elec Manuf* 62:126 Ag '58

Flowmeter unaffected by temperature. *il diag Product Eng* 29:85 My 12 '58

Gyro integrating mass flowmeter; abstract. L. T. Akeley and others. *Control Eng* 5:170+ Je '58

High-capacity p/d meters; three barrels per second. M. J. Dabney. *il I S A J* 5:54-7 F '58

Induction flowmeter. V. Cushing. *diags R Sci Instr* 29:692-7 Ag '58

Measuring mass flow. G. T. Gebhardt. *diags Product Eng* 28:J20-3 Mid-O '57

Metal films and fluid flow. *diag Engineering* 184:781-2 D 20 '57

Meter without orifice handles small flows. C. M. Fair. *diag Chem Eng* 65:154 O 6 '58

New turbine-type meters for custody transfer of crude petroleum and petroleum products. A. R. Dunlop and C. A. McCutcheon. *il Oil & Gas J* 56:83-5 S 22 '58

Simple flowmeter handles small liquid flows. R. G. Bierbower. *diag Chem Eng* 65:152 F 10 '58

Straightening vanes for flow measurement. R. E. Sprengle and N. S. Courtright. *diags Mech Eng* 80:71-3 F '58; Discussion. 80:92-5 Ag '58

What you should know about velocity flowmeters. R. W. Henke. *il diags Control Eng* 5:95-100 Je '58

See also

Gas meters
Orifice meters
Penetrometers
Rotameters
Venturi flumes
Water meters

Maintenance and repair

Common troubles with head flowmeters. L. Gess. *diags I S A J* 5:58-61 F '58

Testing

Does your meter need proving? calibrate tank cars at the same time. T. Y. Yang. *il diag Pet Refiner* 37:167-9 Ja '58

Meter contest; turbine-type positive displacement. *il Oil & Gas J* 56:67 Ap 14 '58

Meter proving. M. L. Barrett, jr. *il diags Oil & Gas J* 56:153-5 F 24; 201-2+ Mr 10; 213-15 Mr 24; 179-81 Ap 21; 133+1, My 5 '58

Quick calibration for small gas flowmeters. M. V. Kunte and M. U. Pal. *diag Chem Eng* 65:160 Ap 7 '58

FLOW of fluids. See Fluids

FLOW of gas. See Gas flow

FLOW of rocks. See Rocks—Deformation

FLOW regulators

Adjustable fluid-flow control in a fixed-stroke piston pump. *diags Machine Design* 30:96 Je 26 '58

Applications of regulators. F. D. Marton and C. S. Beard. *diags Instruments & Automation* 30:2057-60 N '57

Controlling flow of rapid-settling slurries. C. W. Roos. *diag Chem Eng* 64:290+ D '57

Simplicity in control systems pays dividends. C. S. Beard. *il diags Water & Sewage Works* 104:536-9 D '57

Straightening vanes for flow measurement. R. E. Sprengle and N. S. Courtright. *diags Mech Eng* 80:71-3 F '58; Discussion. 80:92-5 Ag '58

Tapered orifice controls fluid flow. *il diags Tool Eng* 40:92 Mr '58

See also

Proportioning equipment

FLOW sheets

Automatic preparation of flow chart listings. A. E. Scott. *flow charts Assn for Computing Mach J* 5:57-66 Ja '58

E&MJ's flowsheet design book. *Eng & Min J* 153:145-60 D '57

Flow sheet plans your shutdown. F. D. Macy. *Pet Refiner* 37:136 Ja '58

Handy way to scale drawings for flow sheets. R. H. Berg. *Chem Eng* 65:174+ My 19 '58

FLOWERING of plants. See Plants, Flowering of

FLOWERS

Cut flowers kept fresh. *Ind & Eng Chem* 50:sup35A F '58

FLU. See Influenza

FLUE dust

Don't dump your fly ash. *il Plant* 18:42-3 S '58

Fly ash as a raw material for structural clay products. D. J. Bowers and M. J. Snyder. *Am Cer Soc Bul* 37:220-1 My 15 '58

Gives better distribution, less fuel bed disturbance with cinder return. *il diag Power* 14:16-17 O '58

How to cope with flyash disposal. C. A. Gal-laei. *il Power* 102:90-1 Ja '58

New incinerator designed to reduce fly ash emission. J. W. Watson. *il plan Pub Works* 89:97-8 Ap '58

New use for slag and fly ash. G. W. Hollon. *Power Eng* 62:102 Ap '58

Proportioning concrete mixtures using fly ash. C. E. Lovewell and G. W. Washa. *bibliog Am Concrete Inst J* 29:1093-101 Je '58

TVA uses non-specification fly ash; Johnsonville steam plant and Wilson Dam lock. G. K. Leonard and P. A. Schwab. *il Civil Eng* 28:188-92 Mr '58

FLUE dust—Continued

Treat flue dust to recover iron; ferro coke. J. Mitchell and A. C. Sediachek. *Il Iron Age* 182:96-7 S 25 '58
Treatment of water-borne wastes from steel plants; with cost data. R. Nebolsine, *diags Iron & Steel Eng* 34:130-4 D '58

FLUE gas

Costs of scrubbing out SO₂ from flue gases. J. H. Field and others, *bibliog diags Combustion* 29:61-6 N '57
Effect of temperature variation on composition, fouling tendency, and corrosiveness of combustion gas from a pulverized-fuel-fired steam generator. J. D. Piper and H. Van Vliet, *bibliog diags A S M E Trans* 80: 1251-61; Discussion 1261-3 Ag '58
Formation of sulphuric acid in boiler flue gases. W. F. Harlow, *bibliog diags A S M E Trans* 80:225-32; Discussion. 232-3; Reply. 233-4 Ja '58
Gas tagging technique exposes guilty plant. Heating-Piping 30:92 Mr '58
Lead lining stops flue gas corrosion; Consolidated mining & smelting co. of Canada sinter gas handling facilities. *Il Eng & Mtn J* 159:104 Je '58
Miscible displacements of reservoir oil using flue gas. H. A. Koch, Jr. and C. A. Hutchinson, Jr. *bibliog diags J Pet Tech* 10:Trans 7-10 Ja '58
Model studies save money in flue gas duct design. *Il Power Eng* 62:84 Mr '58
Non-corrosive inert gas from flue gas. D. Wittenberg, *diag Chem Eng* 54:294 D '57
Oxyact burner handles flue gases; Stanotex El Paso plant. L. Resen, *il diags Oil & Gas J* 56:110-11 Ja 6 '58
Reduction of oxides of nitrogen in vent gases. H. R. L. Strick, *bibliog diags Can J Chem Eng* 36:3-11 F '58
Sulfur in flue gas. D. E. Pierce, *Ind & Eng Chem* 49:sup85A-6A N '57
Sulphur in flue gases. W. J. Peck and B. J. Zaczek, *diags Engineering* 184:597 N 29 '57
Sulphuric acid for uranium from iron smelter gases. *il Can Chem Process* 42:75-7 My '58

Analysis

Analyze for combustibles, too; Standard steel works div. of Baldwin-Lima-Hamilton corp. *il diags Steel* 142:108+ My 26 '58
Cascade impactor for adiabatic measurements. J. A. Brink, Jr. *bibliog diags Ind & Eng Chem* 50:645-8 Ap '58
How to improve glass tank efficiency with oxygen analysis. J. P. Puckett, *il diags Cer Ind* 70:136-7 Ap '58
Improving combustion efficiency! oxygen analyzers. *il Can Chem Process* 42:98-9+ F '58
Measuring flue-gas SO₂ and SO₃. R. E. Matty and E. K. Diehl, *il diag Power* 101:94-7 N '57

Cleaning

Considerations for controlling dust and fumes. R. F. O'Mara and C. R. Flodin, *bibliog diags Chem Eng* 55:139-42 My 5 '58
Filtering radioactive particles from stack gas. H. E. Anderson, *bibliog diags Air Cond Heat & Ven* 55:71-7 F '58
Giant fume catcher stops fluoride emission; U.S. steel corp. *il Chem Eng* 65:66+ F 24 '58
Model studies of flue design. *il diags Air Cond Heat & Ven* 55:74-6 Je '58
Scrubber combines high collection efficiency with economical operation. *Iron & Steel Eng* 35:143 My '58

Sampling

Collection of integrated samples of gaseous effluents. R. S. Brief and P. A. Drinker, *bibliog diag A M A Archives Ind Health* 17:654-8 Je '58
How to record and control furnace flue gases automatically. R. K. Gunsaulus, *diags Cer Ind* 70:70-3+ Mr '58; Excerpts, *Glass Ind* 39:331-2 Je '58
Practical application of flue gas analysis to glass melting furnaces. P. M. Spatz, *Glass Ind* 39:332-3 Je '58

FLUES

Low cost tooling for stud welding. C. F. Brown, *diags Welding Eng* 43:40-1 F '58
See also
Chimneys

Models

Flue-design models. *Il Mech Eng* 80:92-3 Ap '58
Model studies of flue design. *il diags Air Cond Heat & Ven* 55:74-6 Je '58
Model studies save money in designing of flues. *Il Elec Eng* 77:465-7 My '58

FLUID meters. See Flow meters

FLUID motors. See Hydraulic motors

FLUIDITY

Superfluidity. E. M. Lifshitz, *il diags Sci Am* 198:30-5 Je '58

FLUIDIZATION

Calculate height of a fluidized bed. A. W. Francis and D. J. Carbone, *Chem Eng* 65:158 Mr 10 '58
Carbon monoxide reduction of iron ore. O. Stellink, *diags J Metals* 10:290-5 Ap '58
Coal desulfurization in a fluidized carbonizer. J. K. Jacobs and J. D. Mirkus, *bibliog diag Ind & Eng Chem* 50:24-6 Ja '58
Factors affecting density transients in a fluidized bed. J. M. Dotson, *diags Chem Eng Prog* 54:188+ My '58
First fluid bed dryer. K. R. Draw, *il Mod Textiles Mag* 33:39+ CN '57
Fluid bed desulfurizes fuel gas; Appleby-Frodingham steel co. *il diag Chem Eng* 65:74 O 20 '58
Fluid-bed pretreatment of bituminous coals and lignite; direct hydrogenation of chars to pipeline gas. K. C. Channabasappa and H. E. Linder, *bibliog (29 titles) diag Ind & Eng Chem* 50:637-44 Ap '58
Fluid bed roasting of pyrites; abstract. H. Chwalibog, *Ind Chem* 34:99+ F '58
Fluid catalyst design data. F. A. Zenz, *bibliog diags Pet Refiner* 36:173-8 Ap; 261-5 My; 139-45 J; 175-85 J1; 147-55 Ag; 162-70 O; 321-3 N '57
Fluid coking development; a mechanically fluidized reactor. B. V. Molstedt and J. F. Moser, Jr. *bibliog diags Ind & Eng Chem* 50:21-3 J '58
Fluidized bed techniques; inception, growth, and future prospects; FluoSolids process. D. W. Beeken, *il diags Ind Chem* 34:329-32 Je '58
Fluidized polymer deposition; air-agitated plastic powder bed as a means of applying protective coatings and as a general plastic fabrication technique. R. L. Checkel, *bibliog diags Mod Plastics* 36:125-6+ O '58
Fluidizing process gives nylon-clad sleeve bearings. D. L. Penney and F. J. Bockhoff, *il Product Eng* 29:52-4 Mr '58
Iron powder made by the H-iron process. J. F. Kuznick and K. W. Bruland, *flow sheets il Metal Prog* 73:92-6 Mr '58
Liquidlike properties of fluidized systems. J. Furukawa and T. Ohmaga, *bibliog diags Ind & Eng Chem* 50:821-8 My '58
Mass transfer between fluidised particles and gas; abstract. J. F. Richardson and A. G. Bakhtiar, *Ind Chem* 34:134 Mr '58
Mechanics of moving vertical fluidized systems. D. L. Struve and others, *bibliog diags Can J Chem Eng* 36:14-52 Je '58
Minimum fluidizing velocities for coal in air. C. G. Sinclair and D. B. Robinson, *bibliog il Can J Chem Eng* 36:51-8 Ap '58
New process makes nylon coatings possible; fluidization process applicable to other resins. *il Iron Age* 180:160-1 N 14 '57
Particle size control in fluid coking. D. D. Dunlop and others, *il diags Chem Eng Prog* 64:39-43 Ag '58
Spouting of large particles. C. B. Cowan and others, *bibliog diags Eng J* 41:60-4 My '58
Sulfate roasting copper-cobalt sulfide concentrates. L. F. Theys and L. V. Lee, *bibliog il J Metals* 10:134-6 F '58
What fluid beds can do. J. Wilson and F. G. Audas, *diags Mod Textiles Mag* 38:45+ N '57

FLUIDS

Analysis of a process-fluid-flow network by electrical analogy. C. F. Kayan and J. A. Balmford, *diags A S M E Trans* 79:1957-62 N '57
Butterfly valve flow characteristics. M. B. McPherson and others, *bibliog flow diag il diags Am Soc E Proc* 83 [HY 1 no 11671-23 F '57; Discussion. 83 [HY 4 no 13481:31-55 Ag '57; Reply. 84 [HY 1 no 15581:39-16 F '58
Chart for finding kinematic viscosity and Reynolds number; data sheet. K. A. Merz, *diags Machine Design* 29:173-4 D 12 '57
Chemical Engineering flow file (cont). M. Brooke, *diag Chem Eng* 64:298 D '57; 65: 170 Ja 13; 140 Ja 27 '58
Comparison of experimental information and analytical prediction for laminar entrance pressure drop in ducts with rectangular and triangular cross sections. T. F. Irvine, Jr. and E. R. G. Eckert, *bibliog diag J Ap Mech* 25:288-90 Je '58

FLUIDS—Continued

- Computer representations of engineering systems involving fluid transients. F. D. Ezekiel and H. M. Paynter. diags A S M E Trans 79:1840-9; Discussion. S. L. Kerr. 1849-50 N '57
- Controlling fluid processes with continuous viscometers. A. Beerbower. diags Control Eng 6:107-12 Je '58
- Criterion for flow of a Bingham plastic between two cylinders loaded by torque and pressure gradient. P. R. Paslay and A. Silbar. diags J Ap Mech 26:284-5 Je '58
- Determination of free convection heat transfer properties of fluids. J. E. Bohberg and P. S. Starrett. biblog diags Ind & Eng Chem 50:807-10 My '58
- Drag unit for the artificial generation of turbulent shear flow. H. G. Elrod. biblog diags R Sci Instr 29:762-4 S '58
- Effect of fluid-flow rate and viscosity on laboratory determinations of oil-water relative permeabilities. C. R. Sandberg and others. biblog diags J Pet Tech 10:Trans 38-43 F '58
- Effect of heat transfer on flow field at low Reynolds numbers in vertical tubes. T. J. Hanratty and others. biblog diags Ind & Eng Chem 50:815-20 My '58
- Effects of lateral boundaries on natural convection. R. K. Soberman. diags J Ap Phys 29:872-3 My '58
- Equation gives friction factor for fluid flow through pipelines. B. Miller. Chem Eng 64:253-4 D '57
- Evaluation of flame stability at high Reynolds numbers. L. E. Bollinger. biblog Jet Propulsion 28:334-5 My '58
- Flow characteristics of distributor rolls and perforated plates. H. W. Bennett. biblog diags Tappi 40:978-83 D '57
- Fluid dynamics; annual review. A. K. Oppenheim and others. diags Ind & Eng Chem 50:525-42 biblog(9539-42) pt 2 Mr '58
- Fluid dynamics during an underground combustion process; abstract. L. A. Wilson and others. J Pet Tech 10:60A JI '58
- Fluid mechanics. J. M. Robertson. diags Power Ind 74:26-32 Ja; 19-21 F; 24-5 Mr '58
- Forces on cylinders and plates in an oscillating fluid. G. H. Keulegan and L. H. Carpenter. biblog diags J Res Nat Bur Stand 60:423-40 My '58
- Heat transfer between a flat plate and a fluid containing heat sources. I. R. Whitman. A S M E Trans 80:360-2 F '58
- Heat transfer in laminar pipe flow with uniform coolant injection. S. W. Yuan and A. B. Finkelstein. biblog diags Jet Propulsion 28:178-81 Mr '58
- Heat transfer in swirling laminar pipe flow. R. Siegel and M. Perlmutter. diags J Ap Mech 25:295-7 Je '58
- Heat transfer in turbulent pipe flow. R. R. Hunziker. biblog(41 ref) Franklin Inst J 265:205-25 Mr '58
- Heat transfer to flow in a round tube with arbitrary velocity distribution. I. R. Whitman and W. E. Drake. A S M E Trans 80:728-32 Ap '58
- Heat transfer to fluids with low Prandtl numbers for flow across plates and cylinders of various cross section. R. J. Grosh and R. D. Cess. biblog diags A S M E Trans 80:667-76 Ap '58
- Heat transmission to fluids with low Prandtl numbers for flow through tube banks. R. D. Cess and R. J. Grosh. biblog diags A S M E Trans 80:677-82 Ap '58
- Hydrodynamics of countercurrent flow in wetted-wall columns. W. J. Thomas and S. Portalski. biblog diags Ind & Eng Chem 50:1081-8 JI '58; Correction. 50:1266 S '58
- Instance of Reynolds number. A. G. Rouse. Am J Phys 26:405 S '58
- Laminar flow in an annulus with porous walls. A. S. Berman. J Ap Phys 29:71-5 Ja '58
- Laminar flow over an enclosed rotating disk. S. L. Soo. biblog diags A S M E Trans 80:287-94; Discussion. 294-6 F '58
- Longitudinal mixing of fluids flowing in circular pipes. O. Levenspiel. biblog diags Ind & Eng Chem 50:343-6 Mr '58
- Mixing of high viscosity Newtonian and non-Newtonian fluids. R. E. Lee and others. biblog diags Ind & Eng Chem 49:1849-54 N '57
- Modes of adiabatic and diabatic fluid flow in an annulus with an inner rotating cylinder. J. Kaye and E. C. Elgar. biblog diags A S M E Trans 80:763-63; Discussion. R. C. Dean, Jr. 763-5 Ap '58
- New integrating circuit and electrical analog for transient diffusion and flow. J. R. Macdonald. diags R Sci Instr 28:924-6 N '57
- New technique for study of fluid flow and phase distribution in porous media. O. K. Kimbler and B. H. Caudle. diags Oil & Gas J 55:55-8 D 18 '57
- Nonlinearities of fluid flow in nonrigid tubes. J. W. Lambert. biblog Franklin Inst J 266:83-102 Ag '58
- Non-Newtonian flow. W. L. Wilkinson. biblog(32 ref) Ind Chem 34:79-84 F '58
- Non-Newtonian flow in annuli. A. G. Fredrickson and R. E. Bird. biblog diags Ind & Eng Chem 50:347-52. 1599-600 Mr; O '58; Discussion. W. R. Wilcox. 50:1600 O '58
- Shear flow of a viscoelastic fluid past a flat plate with suction. A. S. Gupta. J Aero/Space Sci 25:591-2 S '58
- Simple method of estimating the Reynolds number effects on aircraft gas-turbine engines operating at high altitudes. R. W. Pinnes. A S M E Trans 80:1264-72 Ag '58
- Skewed boundary-layer flow near the end walls of a compressor cascade. R. W. Moore, Jr. and D. L. Richardson. biblog diags A S M E Trans 79:1789-97; Discussion. 1797-800 N '57
- Skin friction experiments on rough walls; Reynolds numbers. G. M. Sacks. biblog diags Am Soc C E Proc 84 (HY 3 no 1664):1-19 Je '58
- Some design suggestions for multiphase flow in pipelines. O. Baker. biblog diags Gas Age 121:34-40 Je 12; 42-3+ Je 26 '58
- Temperatures get hotter; high temperature polymers and fluids. Chem & Eng N 35:49 N 18 '57
- Total-count technique in the refinery; new principle in flow measurements. D. E. Hull. diags Ind & Eng Chem 50:199-200 F '58
- Transition from laminar to turbulent flow in a pipe. M. R. Carstens. diags Am Soc C E Proc 83 (HY 6 no 1450):1-30 D '57; Discussion. J. M. Robertson. 84 (HY 6 no 1856):5-11 N '58
- Two-phase flow in rough tubes. D. Chisholm and A. D. K. Laird. biblog diags A S M E Trans 80:276-84; Discussion. 284-6 F '58
- Unit operations in chemical engineering; flow of fluids. M. Weintraub. Ind & Eng Chem 50:447-52 biblog(9451-2) pt 2 Mr '58
- Variable fluid-property problem in free convection. E. M. Sparrow and J. L. Gregg. biblog diags A S M E Trans 80:879-86 My '58
- Viscous flow in multiparticle systems. J. Happel. biblog Can J Chem Eng 36:227 O '58
- Volumetric and thermodynamic properties of fluids enthalpy, free energy, and entropy. R. E. Curl, Jr. and K. S. Pitzer. biblog Ind & Eng Chem 50:265-74 F '58
- Volumetric and thermodynamic properties of fluids; two component solutions. K. S. Pitzer and G. O. Hultgren. biblog Am Chem Soc J 80:4793-6 S 20 '58

See also

- Couette flow
Drops
Equation of state
Flow meters
Gas flow
Hydraulic engineering
Hydraulics
Hydrodynamics
Jets
Liquids
Solution (chemistry)
Turbulence
Vaporization
Viscosity
Vortex motion

FLUMES

- Australians stop plant growth in flumes. diags Eng N 160:81 Ap 10 '58

See also

- Venturi flumes

FLUORENE

- Derivatives of fluorene; stereoisomerism and polymorphism of N-aryl azomethines. M. E. Taylor and T. L. Fletcher. biblog Am Chem Soc J 80:2246-9 My 5 '58
- Fluoradene (indeno[1,2,3-*jk*]fluorene), an unusually acidic hydrocarbon. H. Rapch and G. Smolinsky. Am Chem Soc J 80:2910 Je 5 '58
- Reaction of 9-chloromethylene-fluorene with butyl- and phenyl-lithium. D. Y. Curtin and others. biblog Chem & Ind p 1463-4 N 2 '57

FLUORENE—Continued

Solvent effects in the reactions of N-bromo-succinimide with toluene, fluorene and acenaphthene; evidence for a polar mechanism in propylene carbonate. S. D. Ross and others. *bibliog Am Chem Soc J* 80: 4327-30 Ag 20 '58

FLUORENONE

Wittig reaction with fluorenone; formation of cyclopropane derivatives. R. Mechoulam and F. Sondheimer. *Am Chem Soc J* 80: 4386-8 Ag 20 '58

See also

Benzofluorenone

How to make fluorescent colored porcelain enamels. B. R. Eichbaum. *Il Cer Ind* 70:92-3 Je '58

Instrument to measure fluorescence lifetimes in the millimicrosecond region. S. S. Brody. *bibliog Il diags R Sci Instr* 28:1021-6 D '57

Leak prevention through in-process leak detection; fluorescent penetrants and fluorescent additives. E. F. Turner. *Il Welding J* 36: 1167-71 D '57

Luminescence, fluorescence, phosphorescence; what's the difference? C. Hobard. *Ind Finishing* 34:70-+ F '58

Nondestructive testing; penetrant tests use fluorescent liquids dye and black light. S. Elonka. *Il Power* 102:134-7 Mr '58

Phase equilibria and fluorescence in a portion of the system $ZnO-MnO-P_2O_5$. F. A. Hummel and F. L. Katnack. *bibliog diags Electrochem Soc J* 105:528-33 S '58

Temperature dependence of fluorescence of tin-activated orthophosphates. R. W. Moon-ey. *bibliog diags Electrochem Soc J* 105: 456-61 Ag '58

X-ray techniques for analyzing product streams; fluorescence and diffraction. P. S. Goodwin. *Il diags Control Eng* 5:94-9 Ag '58

See also

Fluorimetric analysis**Luminescence**

FLUORESCENT Ink. See Ink. Fluorescent

FLUORESCENT lamps. See Electric lamps, Fluorescent

FLUORINATION of water. See Water supply—Fluorine content

FLUORIDES

Availability of fluorination chemicals; joint discussion. M. C. Metzger; O. Gullans. *Am Water Works Assn J* 50:1083-9 Ag '58

Fluoride complexes of zinc, copper and lead ions in aqueous solution. R. E. Connick and A. D. Paul. *bibliog Am Chem Soc J* 80:2063-71 My 5 '58

Fluorides and the solubility of powdered tooth enamel. S. D. Gershon and others. *bibliog (34 titles) Il Drug & Cosmetic Ind* 82: 160-1+ F '58

Giant fume catcher stops fluoride emission; U.S. steel corp. *Il Chem Eng* 65:66-+ F 24 '58

Performance of equipment for control of fluoride emissions. K. E. Lunde. *bibliog Il Ind & Eng Chem* 50:293-3 Mr '58

Spectrophotometric study of the system titanium(IV)-peroxide-fluoride. K. Herrington and D. E. Kingsbury. *bibliog Am Chem Soc J* 79:5893-5 N 20 '57

Survey of fluoride availability. *Am Water Works Assn J* 50:1090-2 Ag '58

Systems CaF_2 -LiF and CaF_2 -LiF-MgF₂. W. E. Roake. *bibliog Electrochem Soc J* 104:661-2 N '57

Transformation of toluene-*p*-sulphonates into fluorides. E. D. Bergmann and I. Shahak. *bibliog Chem & Ind* p 157 F 8 '58

See also

Aluminum fluoride**Boron fluorides****Calcium fluoride****Chlorine fluorides****Chromyl fluoride****Cryolite****Curium fluorides****Fluorspar****Hafnium fluorides****Indium fluorides****Iodine fluorides****Osmium fluorides****Perchloryl fluoride****Phosphorus fluorides****Platinum fluorides****Sodium fluoride****Uranium fluorides****Vinyl fluoride****Water purification—Fluoride removal****Water supply—Fluorine content****Zirconium fluorides****Analysis**

Amperometric titration of fluoride with thorium using a rotating palladium electrode. W. E. Harris. *bibliog diags Anal Chem* 30:1000-3 My '58

Cellulose supported thorium-alizarin red S reagent for fluoride ion determination. S. K. Yasuda and J. L. Lambert. *bibliog Anal Chem* 30:1435-9 S '58

Determination of fluoride ion by turbidimetric titration. W. W. Brandt and A. A. Duswalt. *jr. bibliog diags Anal Chem* 30: 1120-2 Je '58

Determination of microgram quantities of fluoride. H. M. Nielsen. *bibliog Anal Chem* 30:1009-11 My '58

Determination of total fluoride content in uranium tetrafluoride using ion exchange columns. K. F. Sporek. *Anal Chem* 30:1030-2 J '58

Fluoride analysis of glasses and silicate materials by pyrohydrolysis separation. P. B. Adams and J. P. Williams. *bibliog Il diags Am Cer Soc J* 41:377-80 S 1 '58

Separation of fluoride from inorganic compounds by pyrolysis. R. H. Powell and O. Menis. *bibliog diags Anal Chem* 30:1646-9 S '58

Ultraviolet spectrophotometric determination of sulfate, chloride, and fluoride with chloranilic acid. R. J. Bertolucci and J. E. Barney. *2d. bibliog Anal Chem* 30:202-5 F '58

FLUORIMETRIC analysis. See Fluorometric analysis

FLUORINATION

Engineering design of Oak Ridge fluoride volatility pilot plant. R. P. Milford. *bibliog Il diags Ind & Eng Chem* 50:187-91 F '58

Fluorination of DDT with hydrogen fluoride and mercuric oxide. S. Cohen and others. *bibliog Am Chem Soc J* 79:5979-81 N 20 '57

Indirect fluorination of cyanuric chloride. A. F. Maxwell and others. *Am Chem Soc J* 80:548-9 F 5 '58

Preparation and fluorination of addition products of bromochloromethane and bromo- and chloroolefins. P. Tarrant and others. *bibliog Am Chem Soc J* 80:1711-13 Ap 5 '58

FLUORINE

By-product fluorine. *Il J Agri & Food Chem* 6:258-9 Ap '58

Rearrangement accompanying the addition of fluorine to 1,1-diphenylcyclohexene. J. Bornstein and M. R. Horden. *bibliog Chem & Ind* p441-2 Ap 12 '58

Recent developments in the chemistry of fluorine; abstracts of symposium papers. *Chem & Ind* p381-2 Ji 12 '58

See also

Water supply—Fluorine content

Analysis

Determination of fluorine in quantitative organic microanalysis. T. S. Ma. *bibliog Anal Chem* 30:1567-60 S '58

Microdetermination of fluorine. J. Samachson and others. *bibliog diags Anal Chem* 29: 1839-51 D '57

Micro-Parr bomb assembly suitable for microdetermination of fluorine in organic compounds. A. Steyermark and F. P. Biava. *bibliog diags Anal Chem* 30:1579-80 S '58

Spectrochemical determination of fluorine in porcelain enamel frits. D. C. Spindler and M. F. Smith. *bibliog Anal Chem* 30:1330-2 Ag '58

Titrimetric determination of fluorine particularly in aluminum fluoride. L. V. Hall and others. *bibliog diags Anal Chem* 30:984-9 My '58

Manufacture

High-capacity, long-life fluorine cell. S. P. Vavalides and others. *Il diags Ind & Eng Chem* 50:178-80 F '58

25-pound-per-hour fluorine plant. J. Dykstra and others. *Il diags Ind & Eng Chem* 50: 181-6 F '58

Physiological effect

Effect of various levels and sources of fluorine in the fattening ration of Columbia, Rambouillet, and Targhee lambs. L. E. Harris and others. *bibliog J Agri & Food Chem* 6: 365-8 My '58

FLUORINE compounds

Chemicals cut transformer size; fluorochemicals can replace oil as transformer coolant. *Chem & Eng N* 35:38 D 23 '57

New inorganic chemicals; fluorine. J. F. Gall. *Ind & Eng Chem* 49:sup62A-4A N '57

FLUORINE compounds—Continued

Reactions of highly fluorinated organic compounds; the oxidation of fluoro-olefins by potassium permanganate in acetone, J. Burdon and J. C. Tatlow, *bibliog J Ap Chem* 8:293-6 My '58

See also

Carbonyl fluoride

Teflon

FLUORINE in the body

Retention of fluoride by the skeleton, liver, heart and kidney as a function of dietary fat intake in the rat, W. Buntner and J. C. Muhler, *J Nutrition* 65:259-66 Je '58

Studies of the effects of dietary sodium fluoride on dairy cows, J. W. Suttle and others, *bibliog J Nutrition* 65:293-304 Ja '58

FLUOROALCOHOLS. See Alcohols

FLUOROBENZENE

Pressure-volume-temperature properties of fluorobenzene, D. R. Douslin and others, *bibliog diags Am Chem Soc J* 80:2031-8 My '58

FLUOROCARBONS

Fluorocarbon gas bubble chamber, B. Hahn and G. Riepe, *Il R Sci Instr* 29:184-5 F '53

Fluorocarbon nitrogen compounds; some reactions of bis-(trifluoromethyl)-amine, $(CF_3)_2NH$, J. A. Young and others, *bibliog Am Chem Soc J* 80:3604-6 JI '58

Fluorocarbon nitrogen compounds; the synthesis and properties of perfluorodimethylglycine, $(CF_3)_2NCF_2COOH$, J. A. Young and R. D. Dresdner, *bibliog Am Chem Soc J* 80:1889-92 Ap '58

Fluorocarbon-phosphinoboranes and related chemistry, A. E. Burg and G. Brendel, *bibliog Am Chem Soc J* 80:3198-202 JI '58

Fluorocarbon-phosphorus-nickel carbonyls, A. E. Burg and W. Mahler, *Am Chem Soc J* 80:2334 My '58

Fluorochemicals, J. P. Farrell, *Pet Refiner* 36:203 N '53

Fluoro polymers and intermediates; abstract, M. Hauptschein, *Chem & Eng N* 36:48 S 22 '58

High-temperature-stable gaseous dielectric; abstract, F. W. Blodgett, *Elec Manuf* 61:11-12 Ap '58

High temperature, vapor phase reactions of some fluorocarbon derivatives with oxidizing agents, W. A. Severson and T. J. Brice, *bibliog Am Chem Soc J* 80:2313-16 My '58

Our own glossary; guide to fluorine plastics, *Product Eng* 29:17 Ap '58

Properties of fluorocarbon elastomer 214, A. Wilson and others, *Rubber Age* 83:647-52 JI '58

Properties of materials, *Materials in Design Eng* 48:149 Mid-O '58

Synthesis of perfluoro-(2,4-dimethyl-2,4-dimethyl-1,3-dithiacyclobutane), a fluoro-

carbon-C-S-C-S heterocycle, and related

reactions, M. Hauptschein and M. Braid, *Am Chem Soc J* 80:853-5 F '58

See also

Tetrafluoroethylene

Analysis

Gas-liquid partition chromatography of fluorocarbons, T. M. Reed, 3d, *bibliog Anal Chem* 30:221-8 F '58

FLUORODIOMETHANE

Hydrolysis and deuterium exchange of dibromodifluoromethane and fluorodifluoromethane, J. Hine and others, *bibliog Am Chem Soc J* 80:819-24 F '58

FLUOROMETRIC analysis

Fluorometric and colorimetric estimation of cyanide and sulfide by demasking reactions of palladium chelates, J. S. Harker and others, *bibliog Anal Chem* 30:93-5 Ja '58

Fluorometric determination of adrenalin and noradrenalin in aqueous solution, S. Roston, *Anal Chem* 30:1363-6 Ag '58

Fluorometric determination of gibberellic and gibberellic acids in fermentation products, commercial formulations, and purified materials, F. Kavanagh and N. R. Kuzel, *bibliog J Agri & Food Chem* 6:459-63 Je '58

Fluorometric determination of *o*- and *m*-hydroxybenzoic acids in mixtures, G. A. Thommes and E. Leininger, *Anal Chem* 30:1361-3 Ag '58

Fluorometric determination of 1- and 2-naphthol in mixtures, D. M. Hercules and L. B. Rogers, *bibliog Anal Chem* 30:96-9 Ja '58

Review of fundamental developments in analysis, C. E. White, *Anal Chem* 30:729-34, pt 2 *bibliog*(p733-4) Ap '58

Simple fluorimetric scheme speeds uranium tests, *Il Eng & Min J* 158:83 D '57

Spectrophotofluorimetry for pesticide determinations, L. Hornstein, *bibliog J Agri & Food Chem* 6:32-4 Ja '58

FLUOROPLATINATES

Fluoroplatinates; preparation, density and solubility of the fluoroplatinates of magnesium and the alkaline earth metals, M. K. Norr and others, *Am Chem Soc J* 80:5035-6 O '58

FLUOROSCOPE

For a better look inside; X-ray microfluoroscope, *Il Product Eng* 29:14 Mr '58

New navy fluoroscope proves out in light metals inspection trial; aluminum and magnesium castings, *Il Light Metal Age* 16:24 F '58

Solid-state amplifying fluoroscope screen, B. Kazan, *bibliog Il diags RCA R* 19:19-34 Mr '58

FLUOROSCOPY

Fluoroscopy, W. R. Hampe, *Il Metal Prog* 74:130-1 JI '58

Nondestructive testing; fluoroscopy is fast, low cost, gives you story at a glance, S. Blonka, *Il diags Power* 102:120-1 Mr '58

FLUOROSTEROIDS

6-Fluoro analogues of steroid hormones, J. A. Hogg and others, *bibliog Chem & Ind* p 1002-3 Ag '58

Steroids; a new class of potent cortical hormones, 6 α -fluorocorticoids, A. Bowers and H. J. Ringold, *bibliog Am Chem Soc J* 80:4423-4 Ag '58

Two of a kind; both Upjohn and Syntex come up with 6 α -fluoro steroids, J. Hogg, C. DiGrassi, *Chem & Eng N* 36:51-2 JI '58

FLUORSPAR

Fluorspar for the glass industry, R. C. Keady, *Glass Ind* 39:541-4 O '58

Fluorspar mining in Hardin county, Ill, plans diags *Min Eng* 10:65-7 Ja '58

Fluorspar, 1957, R. D. McDougal, *Eng & Min J* 159:157-8 F '58

Fluorspar producers worry, *Chem & Eng N* 36:38-9 Mr '58

Geologic characteristics of fluorspar deposits in the western United States, W. C. Peters, *Il diags diags Econ Geol* 53:663-88 *bibliog* (p687-8) S '58

FLUOSILICATES

See also

Chondrodite

FLUX

Bonded fluxes for submerged-arc welding of alloy steels, H. C. Campbell and W. C. Johnson, *Il Welding J* 36:1078-84 N '57

Brazing; processes, joint designs and fluxes, *Il Welding Eng* 43:33-4 Ag '58

Faster production with fluxing innovation, *Il Tool Eng* 41:117 JI '58

See also

Solder and soldering

FLUXMETERS

Desiccant flux linkage generators for calibrating flux-meters and ballistic galvanometers, T. M. Palmer, *bibliog diags J Sci Instr* 35:139-42 Ap '58

FLY ash. See Flue dust

FLYING platforms. See Helicopters

FLYWHEELS

Flywheel locomotive, *Engineering* 135:123 Ja '58

Second flywheel gives double-duty press, *Il diag Product Eng* 29:41 S 1 '58

Sentinel electrolyro shunting locomotive, *Engineering* 204:333 D '57

WR² or flywheel effect, *Product Eng* 28:10 18-19 Mid-O '57

FOAM

Foam blankets benzol fires, *Il Safety Maint* 116:49-50 Ag '58

Froth control at Bay Park, A. E. Sparr, *Il plans diags Sewage & Ind Wastes* 30:306-12 M '58

Incomplete equilibrium in dilute solutions of a cationic soap by the foam density method, T. Naah, *bibliog diag J Ap Chem* 8:440-4 JI '58

Safety code for maintenance of fixed foam systems, *Il diag Safety Maint* 116:46-8 Ja '58

Water-resistant foam, *Il Safety Maint* 115:55 Ap '58

FOAM concrete. See Concrete, Porous

FOAM plastics. See Plastics, Cellular

FOAMED aluminum. See Aluminum, Cellular

FOAMED metals. See Metals, Cellular

FOAMING

Defoaming of synthetic detergent solutions by soaps and fatty acids, H. Peper, *bibliog J Colloid Sci* 13:190-207 Je '58

FOAMING *Continued*

- Forming emulsions with water-zone slowdowns. H. M. Reed. *Oil & Gas J* 56:97-101 *2* '58
How to handle water during air drilling: foaming agent tests. *Drilling Oil & Gas J* 56:131 *1* *Ag* 11 '58
Latex foam reduced. *Oil Chem & Eng N* 56:40 *Ag* 6 '58
Milestone defoamers. R. C. Gergely and others. *Biblog II Drugg & Cosmetic Ind* 82:36-7+ *Ja* '58
Ultrasonic coating color defoaming. F. R. Adams. *Biblog druggs Pappt* 41:sup 173A-7A *1* *Ag* '58

FOAMOPHRENE. See **Plastics, Cellular****FOAMSLIL**. See **Refractory materials****FOCUS** (optics)

- Critical method of focusing an optical diffractometer. C. A. Taylor and B. J. Thompson. *Biblog II druggs J Sci Instr* 35:294-7 *Ag* '58

FOCUSING. See **Photography** **Focusing****FOG**

- Clear view through the foggy-foggy dew: polarizing technique developed at New York university's College of engineering for the air force. *Product Eng* 29:38 *Ap* 28 '58
Highway visibility in fog. C. Marsh. *II Illum Eng* 52:621-7 *Discussion*, 627 *S D* '57
Polarized light seen through fog. A. Nathan. *II Safety Maint* 11:13 *Jo* '58

FOIL printing. See **Printing on metal****FOILS**. See **Metal foils****FOLDING** roofs. See **Roofs, Folding****FOLDS** (geology)

- En echelon folding. J. D. Campbell. *II maps druggs Econ Geol* 55:448-72 *Jo* '58
Unfolding, a bending process. V. C. Kelley and R. Del Mar. *druggs Am Assn Pet Geologists Bul* 49:1094-9 *My* '58
Fold de R. James Anthony

- Memorial. C. R. Norton and L. W. Kessler per *Am Assn Pet Geologists Bul* 42:908-11 *Ap* '58

FOLIC acid

- Enzymatic synthesis of hydroxymethyltetrahydrofolic acid (active hydroxymethyl). M. J. Osborn and others. *Biblog Am Chem Soc* 79:866-6 *D* 20 '57
Metabolism of pteroylglutamic acid and liver nucleic acid levels in certain vitamin deficiencies. S. Balov and K. Guggenheim. *Biblog J Nutrition* 65:77-87 *My* '58

FOLSOM, Richard G.

- ASME elects five to grade of Fellow member. *Mech Eng* 80:147 *Mr* '58

FOND DU LAC, Wisconsin**Sewerage**

- Sewer department utilizes hydraulic crane. *II Sunel II Water & Sewage Works* 105:1361 *B* 15 '58

FOOD

- Cysteine, tyrosine, and essential amino acid content of selected foods of plant and animal origin. C. H. Edwards and C. H. Allen. *Biblog J Agri & Food Chem* 6:219-23 *Mr* '58

- Food additives. *J Agri & Food Chem* 6:341-2 *My* '58

- Polysaccharides and some of their applications in the food industry: abstract. R. G. Stilton. *Chem & Ind* p379; *Discussion*, 379 *So* *Mr* '58

- Residues of pesticides in foodstuffs, pesticide residues and public health. E. P. Edson. *Biblog Chem & Ind* p694-9 *Jo* 14 '58

- Toxicological aspects of common food and drugs. L. G. Panzer. *Ind Med* 27:285 *6 Jo* '58

*See also***Iskors and bakeries****Cereals, Prepared****Diet****Foodstuffs****Foodstuffs—Food problem****Foodstuffs****Food industry and trade—Advertising****Food inspection****Food preservation****Food supply****Foodstuffs food****Foodstuffs****Foodstuffs****Foodstuffs****Foodstuffs****Foodstuffs****Foodstuffs****Foodstuffs****Foodstuffs****Foodstuffs****Foodstuffs**

- Technological and analytical problems involved in the use of food additives: abstracts of papers. *Chem & Ind* p 1665-6; *Discussion*, 1666-7 *D* 33 '57

*See also***Fish as food—Analysis****Milk—Analysis****Bacteriology**

- Bacteriological content of marketed precooked frozen foods in relation to public health. A. D. Ross and F. S. Thatcher. *Biblog Food Tech* 12:369-71 *Jo* '58

- Enterococcus-like organisms in citrus juices. R. Patrick and E. C. Hill. *Biblog Food Tech* 12:357-40 *Jo* '58

- Factors affecting quality of prepackaged meat: microbiological studies; cultural studies on bacterial flora of fresh meat; classification by genera. F. E. Halleck and others. *Food Tech* 12:197-203 *My* '58

- Freezing and irradiation. J. T. R. Nickerson and others. *Biblog drugg Am J Pub Health* 48:1041-8 *Ag* '58

- Importance of pH value in meat microbiology: abstract. M. Ingram. *Chem & Ind* p68 *Ja* 25 '58

- Microbiological spoilage of canned fruit: abstract. T. G. Gillespie. *Chem & Ind* p545; *Discussion*, 545-6 *My* 10 '58

- Microbiological standards for foods. F. S. Thatcher. *Biblog Food Tech* 12:117-22 *Mr* '58

- Simultaneous determination of total count and fluorescent pseudomonads in fresh meat and poultry. J. H. Silliker and others. *Biblog Food Tech* 12:355-7 *My* '58

- Studies on microbiological methods for predicting shelf-life of dressed poultry. W. L. Mallmann and others. *Biblog Food Tech* 12:122-6 *Mr* '58

- Studies on the microbiological quality of precooked frozen meals. D. A. Huber and others. *Biblog Food Tech* 12:190-4 *Ap* '58

Chemistry

- Chemicals in food as a public health problem: editorial. *Am J Pub Health* 48:1066-3 *Ag* '58

- Effect of various additives on the stability of cured hams. A. M. Mullins and others. *Biblog Food Tech* 12:227-30 *My* '58

- Safety evaluation procedures and interpretations: food additives. H. E. Smyth, Jr. *Food Tech* 12:sup 17-18+ *Ag* '58

*See also***Coloring matter in food****Proteins****Color**

- Color measurements of foods. A. C. Little and others. *Biblog Food Tech* 12:403-9 *Ag* '58

- Method of evaluating modifications in sample presentation to the Hunter color-difference meter. A. H. Bockian and R. W. Hirzel. *II Food Tech* 12:49-52 *Ja* '58

- Objective criteria for storage changes in tomato paste. R. S. Loh and others. *Biblog Food Tech* 12:347-51 *Jo* '58

- Predicting the color of canned sockeye salmon from the color of the raw flesh. P. J. Schmidt and D. R. Litter. *Biblog Food Tech* 12:44 *8 Ja* '58

- Procedures for conversion of color data from one system into another. P. Essau. *Biblog Food Tech* 12:167-8 *Mr* '58

*See also***Coloring matter in food****Insect infestation**

- Method for fly egg counts in tomato products. C. D. Bues. *Biblog Food Tech* 12:391-2 *Ag* '58

*See Food, Irradiated**See also***Blanching****Manufacture****Spillage***See also***Fish as food****Standards****Food—dessert standards****Food—meat standards****Food—milk standards****Food—oil standards****Food—sugar standards****Food—vegetable standards****Food—wine standards****Food—yeast standards****Food—zinc standards****Food—zinc standards****Food—zinc standards**

FOOD—Continued

Storage

Keeping warehouse costs down. *il Food Eng* 30:86-7 O '58

See also

Canned food—Storage

Cold storage

Fruit—Storage

Testing

Consumer survey versus panel testing for acceptance evaluation of Maine sardines. E. F. Murphy and others. *bibliog Food Tech* 12:222-6 My '58

Problems in determining fish freshness. M. E. Stansby. *Food Tech* 12:260-2 My '58

Sampling method for household surveys. F. Filippello and others. *Food Tech* 12:387-90 Ag '58

Sensory difference tests. D. R. Pervam. *bibliog diags Food Tech* 12:231-6 My '58

Transportation

Shipments overheated? paper strips tell. H. J. Peppier and R. F. Dale. *il Food Eng* 30:90-1 Ag '58

To move your goods faster and cheaper; new transportation equipment. *il Food Eng* 30:88-9+ O '58

FOOD, Canned. See Canned food

FOOD, Concentrated

See also

Fruit, Concentrated

FOOD, Dried

Advances in vacuum dehydration in the United Kingdom. S. W. F. Hanson. *bibliog Food Tech* 12:194-5 Ap '58

Freeze-drying ups quality of QM quick-serve rations; Quartermaster food & container institute for the armed forces. R. G. Tischer and M. C. Brockmann. *il Food Eng* 30:110-13 Ja '58

Fundamental aspects of the dehydration of foodstuffs; report on Aberdeen conference, March 25-27. *Chem & Ind* p821-6 Je 28 '58

Future work on dehydration; discussion meeting at Torry. *Chem & Ind* p825-6 Je 28 '58

Here's chart for fast figuring of air-dryer performance. R. R. Haugh. *Food Eng* 30:106-7 My '58

Micro-wave sublimation of foods; freeze-drying. D. A. Copson. *diag Food Tech* 12:270-2 Je '58

New developments in dehydration. D. K. Tressler. *Refrig Eng* 66:50+ Mr '58

Prepared foods for the Canadian armed services. R. M. Ballantyne and others. *Food Tech* 12:470-2 S '58

See also

Meat, Dried

Milk, Dried

FOOD, Enriched

Food additives. *J Agri & Food Chem* 6:341-2 My '58

Fortification of bread with lysine. R. Culik and H. R. Rosenberg. *bibliog il diag Food Tech* 12:169-74 Ap '58

How lysine ups protein value of cereal foods. C. Feldberg and C. P. Hetzel. *bibliog il Food Eng* 30:110-11 Mr '58

Supplementation of diets with proteins and amino acids. N. W. Flodin. *bibliog diag Am J Pub Health* 48:1315-22 O '58

FOOD, Frozen

Bacteriological content of marketed precooked frozen foods in relation to public health. A. D. Ross and F. S. Thatcher. *bibliog Food Tech* 12:369-71 JI '58

Freezing and irradiation. J. T. R. Nickerson and others. *bibliog diag Am J Pub Health* 48:1041-8 Ag '58

Freezing preservation of foods; freezing of precooked and prepared foods. D. K. Tressler and C. F. Evers. Review, by J. W. Barclay. *Food Tech* 12:18+ F '58

Latest dehydrofrozen cut costs. C. L. Ras-mussen and others. *Food Eng* 29:117-18 D '57

Mobile unit freezes foods in multiple locations. *il Refrig Eng* 66:96 Ja '58

Modern freeze tunnels really boost performance. M. R. Overbye. *il diag Food Eng* 29:112-15 D '57

Outlook for freezing and dehydrofreezing in food preservation. M. J. Copley. *il diag Refrig Eng* 66:48-51+ F '58

Studies on the microbiological quality of pre-cooked frozen meals. D. A. Huber and others. *bibliog Food Tech* 12:190-4 Ap '58

See also

Bread, Frozen

Candy, Frozen

Fish, Frozen

Meat, Frozen

Pies, Frozen

Poultry, Frozen

Shrimps, Frozen

Vegetables, Frozen

Advertising

What's needed to push frozen? F. A. Stewart. *Food Eng* 30:71 Ap '58

Moisture content

Moisture migration in frozen canned bread. J. G. Woodroof and H. R. Malcom. *il Food Tech* 12:268-9 Je '58

Packages

Bigger role for boil-bags assured by new low-cost pouch. *il Food Eng* 30:30-2 O '58

How to make your packaging line really click; Ventura farms frozen foods, inc. D. Mead. *il diag Food Eng* 30:30-2 Ap '58

Luxury-look package builds market for specialty, fast. *il Food Eng* 30:74-6 S '58

Packaged quick freezing equipment; abstract. R. P. Nott. *Refrig Eng* 66:64+ Ja '58

This 180-deg stainless conveyor solves pack-age-transfer problem. *il Food Eng* 30:105 O '58

Storage

Effect of storage conditions on nutrients in frozen green beans, peas, orange juice, and strawberries. P. H. Dorse and L. J. Teply. *J Agri & Food Chem* 6:309-12 Ap '58

Time-temperature tolerance of frozen foods. D. G. Guadagni and others. *bibliog Food Tech* 12:36-43, 306-10 Ja, Je '58

Testing

Biochemical methods for determining shrimp quality. M. Gaxnon and C. R. Fellers. *bibliog Food Tech* 12:340-6 JI '58

Specialized research facilities determine temperature tolerance of frozen foods. E. Lowe and others. *bibliog diags Refrig Eng* 66:51-8+ Ja '58

FOOD, Irradiated

Activity of certain water-soluble vitamins after exposure to gamma radiations in dry mixtures and in solutions. L. R. Richardson and others. *J Nutrition* 65:409-18 JI '58

Biochemistry of myoglobin; production and identification of a green pigment formed during irradiation of meat extracts. J. B. Fox, Jr. and others. *bibliog J Agri & Food Chem* 6:692-6 S '58

Determination of micro quantities of methyl mercaptan in gamma-irradiated meat. R. A. Silwinski and D. M. Doty. *bibliog J Agri & Food Chem* 6:41-4 Ja '58

Food irradiation makes strides; Quartermaster food & container institute for the armed forces. G. E. Danauld. *il Food Eng* 29:57-9 D '57

Radiation-induced changes in bread flavor. R. C. Nicholas and others. *bibliog il Food Tech* 12:52-4 Ja '58

Short-term rat feeding studies with gamma-irradiated food products. M. S. Read and others. *bibliog J Nutrition* 65:39-51 My '58

FOOD and drug administration. See United States—Food and drug administration

FOOD blenders

Non-metal parts featured in food blender. *il Product Eng* 28:65 O 28 '57

FOOD brokers

Your food broker. W. Rogers. *Food Eng* 29:65-8 N '57

See also

Food industry and trade

FOOD containers

Flu-id can lets housewife season to taste; Broadcast chili. *il Food Eng* 30:82-3+ Mr '58

Getting the most from your shipping cases. J. V. Ziemba. *il Food Eng* 30:62-5+ Ag '58

Latest container materials and closing units. *il Food Eng* 30:78-9 Ap '58

Multi-pack units move into high gear; food products. *il Food Eng* 30:76-7 Mr '58

New packages and products. Published in monthly numbers of Food engineering

Pressure dispensed food packaging. P. B. Gottschall and E. D. Giggard. *Food Tech* 12:sup8+ Ja '58

FOOD containers—Continued

- Pushbutton foods: fad or trend? T. C. Taylor. *Il diag Food Eng* 30:64-7 My '58
 Putting new convenience in paper cans. *Il Food Eng* 29:84-6 D '57
 Taps away-from-home sales with squeeze-tube product; Kitchen King peanut butter. *Il Food Eng* 30:76-7 My '58
 Vended food trays of oriented polystyrene. J. F. Murphy. *Il Plastics World* 16:22-3 My '58

*See also***Milk containers****FOOD contamination**

- Contamination of food by fall-out from nuclear explosions; abstract and discussion. J. Hawthorn. *Chem & Ind* p402-3 Ap 5 '58
 Residues of pesticides in foodstuffs; abstracts of papers and discussion. *Chem & Ind* p 1536-7 N 23 '57
 Some foods are hot; Food and drug administration survey of radioactive residues in foods before and after 1945. *Chem & Eng N* 36:38 O 27 '58

FOOD factories

- Modern-plus plant; Frito's new Houston facility called model structure. *Il Food Eng* 30:97 Mr '58

See also

- Bakers and bakeries
 Ice cream factories
 Packing houses

Cleaning

- Rings up seven benefits with systematized floor cleaning; Fisher nut co. B. R. Aronson. *Il Food Eng* 29:99 D '57

Costs

- Licking problems the brain way. C. E. French and M. M. Snodgrass. *Il Food Eng* 29:52-6 N '57

Electric equipment

- Quaker Oats revamping strives for safety and economy. W. H. Froescholdt. *Il diag Elec World* 149:61-3+ Ja 13 '58

Employees

- Ole Sage episode; boss-worker problems in the food plant. I. C. Miller. Published in monthly numbers of Food engineering
 Supervisory training is no. 1 interview with A. L. Bechtold. *Food Eng* 30:54-6 Mr '58

*See also***Food technologists****Equipment**

- Automates refrigeration; fish processing and freezing plant in Bangkok, Thailand. plans *Food Eng* 30:97-8 J '58
 Balanced handling trims costs; McCormick co.'s Schilling div. *Il Food Eng* 30:87-8 My '58
 5,250 shrimp an hour; DeJean packing co. W. Fornea and J. V. Ziemba. *diag Food Eng* 30:80 J '58
 Food men lament obsolescence in off-the-record comments. *Food Eng* 30:58 O '58
 Food packers ask; who's to pay for new instrument development? panel discussion. *Control Eng* 5:50+ Ja '58
 Food-plant obsolescence is disturbingly high. *Il Food Eng* 30:56-7 O '58
 Handles fragile items safely; Thomas J. Lipton, inc. *Il Food Eng* 30:91 Ag '58
 Here are latest machines for updating your plant. *Il Food Eng* 30:66-9+ O '58
 Infra-red processing is really catching on; new quartz lamps open door to top-efficient cooking, baking, drying. *Il Food Eng* 30:110-14 F '58
 Libby units speed processing. *Il Food Eng* 30:89 S '58
 Makes pies thirty per cent faster; Libby, McNeill & Libby. *Il Food Eng* 30:80-1 Je '58
 Modern freeze tunnels really boost performance. M. R. Overbye. *Il diag Food Eng* 29:112-15 D '57
 New equipment and supplies. Published in monthly numbers of Food engineering
 New food machines at chem show; illustrations with text. *Food Eng* 30:116-19 F '58
 PVC piping proves maintenance-free in pickle plant operation. L. J. Turney. *Il Heating-Piping* 30:88-90 J '58
 Smooth fill of sticky food; Hipolite's new automatic filling line for marshmallow creme. *Il diag Food Eng* 30:79 Mr '58
 Sterile packing in drums achieved with new process; bulk-packed concentrates. C. R. Havighorst. *Il diag Food Eng* 30:86-8, cover S '58

- System perfects batching by remote control; Remoco controlled batching system. *Il Food Eng* 30:153 Ap '58
 This improved equipment produces puffed rice cereals continuously. *diag Food Eng* 30:123 S '58
 What questions are posed by automation? I. C. Miller. *Food Eng* 29:61-2 N '57

*See also***Canneries—Equipment****Food machinery****Poultry processing plants—Equipment****Equipment financing**

- Five ways to pay for it; equipment-financing. *Food Eng* 30:99-100+ O '58

Floors

- Repairs problem floors; Monile. *Il Food Eng* 30:113 My '58

Heating

- Infra-red saves on space heating; food plants. C. H. Foulds. *Il Food Eng* 30:121 Mr '58

Location

- New technique averts site selection hazards. L. V. Riches and J. H. Forbes. *Food Eng* 30:59-62 Ap '58

Management

- Blueprinted teamwork bags profits; Quaker Oats' successful program. J. V. Ziemba. *Il Food Eng* 30:65-8 S '58
 Computer puts sales under control; California Packing. C. R. Ravighorst. *Il Food Eng* 30:62-3+ Ja '58
 Copier breaks data jam; Thomas J. Lipton, inc. G. Heath. *Il Food Eng* 30:59-60 S '58
 How can you communicate with workers? I. C. Miller. *Food Eng* 29:61-2 D '57
 How to put your finger on profit-eating machines. *Food Eng* 30:93-4+ O '58
 Licking problems the brain way. C. E. French and M. M. Snodgrass. *Il Food Eng* 29:52-6 N '57
 Paperwork gets a real trimming; Kellogg co. *Il Food Eng* 30:72-4 Je '58
 Stronger sales control the computer way. T. W. Snead. *Il Food Eng* 30:68-70 Ap '58

Painting

- Paint stops mold. *Il Food Eng* 29:122 D '57

Quality control

- Controls consistency in-stream; controlling directly on the production line automatically guards product quality; Bowman apple products co. P. Payne. *Il diag Food Eng* 30:111-12+ S '58
 Quality control of food; symposium abstracts. *Chem & Ind* p 1557-63 N 30 '57
 Statistical development of objective quality scores for evaluating the quality of food products. M. G. Tarver and A. M. Schenck. *bibliog Food Tech* 12:127-31 Mr '58

Sanitation

- But are you hitting all the vermin spots? A. M. Breiman. *Il Food Eng* 30:96-9 Je '58
 Fool-proof sanitation, five-point plan. J. Stanley and A. E. Armstrong. *Food Eng* 30:43-6 My '58
 Here are latest machines for updating your plant; sanitation. *Il Food Eng* 30:69 O '58
 Paint stops mold. *Il Food Eng* 29:122 D '57
 This three-phase attack routs sanitation hazards. T. L. Huge. *Food Eng* 30:51-2 S '58
 Topnotch sanitation program cuts cleanup costs; Gerber food products. P. McGowan and H. Delo. *Il diag Food Eng* 30:84-6 Ja '58

Waste

- This woodland spray system disposes billion gallons of waste water annually; Seabrook farms co. B. L. Seabrook. *Il map Food Eng* 29:112-14+ N '57

Bibliography

- Review of the literature of 1957 on sewage, waste treatment, and water pollution; food processing wastes. *Sewage & Ind Wastes* 30:717-19 Je '58

FOOD habits

- Adapting therapeutic diets to the eating patterns of Italian-Americans. M. Cantoni. *bibliog Am J Clinical Nutrition* 6:548-55 S '58

FOOD handling

- Effect of delayed handling upon shrimp quality during subsequent refrigerated storage. E. A. Fieger and others. *bibliog Food Tech* 12:297-300 Je '58

FOOD industry and trade

- Case histories reveal modernization payoff. *il Food Eng 30:60-14 O '58*
- Case history of month; marketing. Published in monthly numbers of Food engineering. Chemist and engineer in fifty years of food processing. C. G. King. *bibliog Ind & Eng Chem 50:sup89A-93A Ja '58*
- Grow larger to survive. C. E. French and W. A. Jarrett. *Food Eng 30:47-50 Mr '58*
- Irradiated foods: what will it take to sell them? E. W. Chester. *Food Eng 30:43-54 Je '58*
- Low-cost distribution rings bell in booming market. C. R. Havighorst. *il Food Eng 30:45-50+ Ag '58*
- Market and cost trends call for modernization. *Food Eng 30:54-5 O '58*
- Marketing savvy parlays quality into success; Chun King sales. T. C. Taylor. *il Food Eng 30:52-4 My '58*
- Still no recession in eating. T. C. Taylor. *il Food Eng 30:41-3 JI '58*
- Ten tips to up your '58 marketing. T. Taylor. *Food Eng 29:68-70 D '57*
- Top executives look at '58. *Food Eng 30:49-52 Ja '58*
- Trends challenge management. P. S. Willis. *Food Eng 29:49-51 N '57*
- What can you expect in tomorrow's food market? *Food Eng 29:64-6 D '57*
- What retailers want from food manufacturers. T. C. Taylor. *Food Eng 30:52-4 Je '58*
- What top food-firm men earn as compared with their opposite numbers in 17 leading industries. J. R. McIntosh. *Food Eng 30:53-4 S '58*

See also

Bakers and bakeries
Canned food
Chain stores
Food, Frozen
Food brokers
Food packages
Grocery trade
Supermarkets

Advertising

- Blueprinted teamwork bags profits; Quaker Oats' successful program. J. V. Ziembra. *il Food Eng 30:65-8 S '58*
- Ethics of food advertising. E. Godbold. *Chem & Ind p 120-1 F 1 '58*
- Food advertising law. C. A. Adams. *Chem & Ind p 116-19 F 1 '58*

Bibliography

Just off the press. Published in monthly numbers of Food engineering

Finance

- Get the most calories from your working dollars. D. L. Salinger. *Food Eng 29:57-9 N; 54-6 D '57*

Laws and regulations

See also
Food laws and regulations

Patents

Recent inventions. Published in monthly numbers of Food engineering

Statistics

- Map for market progress. *map Food Eng 30: 64 S '58*

Federation of Rhodesia and Nyasaland

Southern Rhodesia; its food economy in review. W. R. Carr. *il Food Tech 12:sup 10-12+ My '58*

FOOD laboratories

- Food laboratory; T. Wall & sons, Ltd. *il Ind Chem 34:369 JI '58*
- How versatile new pilot plant pioneers advanced processing; Strong Scott mfg. co. *il Food Eng 29:94-6 N '57*
- Laboratory of the month; search for better foods; General foods corp. *il Anal Chem 30:sup43A-5A JI '58*
- Low temperature research station. Cambridge. *il Chem & Ind p171 Je 14 '58*

FOOD laws and regulations

- Additives law, boon or problem? *Chem & Eng N 36:30-1 S 8 '58*
- Additives stalemate unresolved. *Chem & Eng N 36:38 Ap 23 '58*
- 11 questions block additive bill. R. S. McBride. *Food Eng 29:51-3 D '57*
- Ethics of food advertising with reference to special claims; abstracts of two papers and discussion. C. A. Adams; E. Godbold. *Chem & Ind p 1613-14 D 14 '57*

Food additives, a summary of the differences in pending legislation. *Food Tech 12:sup26+ A '58*

Food additives; the case for the Ad hoc scientific advisory committee. B. L. Oser. *Food Tech 12:sup8+ Mr '58*

Functional value of food additives. B. L. Oser. *bibliog il Food Tech 12:sup 10+ Je '58*

Needed additive to food additive legislation. W. E. Baier and C. W. Wilson. *Food Tech 12:sup20-1 My '58*

New food law costly, complex; abstract. B. L. Oser. *Chem & Eng N 36:28-9 S 22 '58*

Residues of pesticides in foodstuffs; existing regulations in the United Kingdom and overseas. J. I. Hendrie. *Chem & Ind p666-8 Je 7 '58*

To the prejudice of the purchaser. H. Jephcott. *Chem & Ind p 1075-80 Ag 16 '58*

See also

Coloring matter in food
Milk supply—Laws and regulations

Great Britain

Food advertising law. C. A. Adams. *Chem & Ind p 116-19 F 1 '58*

Food standards committee; recommended limits for copper in foods. *Chem & Ind p 1255 S 27 '58*

FOOD machinery

Cuts starch-molding costs. F. Rose. *diag Food Eng 29:125 N '57*

Here are latest machines for updating your plant; size reduction. *Food Eng 30:76+ O '58*

How versatile new pilot plant pioneers advanced processing; Strong Scott mfg. co. *il Food Eng 29:94-6 N '57*

New equipment and supplies. Published in monthly numbers of Food engineering

New food machines at chem show; illustrations with text. *Food Eng 30:116-19 F '58*

See also

Peeling machines

FOOD mixers

Here are latest machines for updating your plant; mixing. *il Food Eng 30:72 O '58*

Melamine makes a drink mixer. *il Mod Plastics 35:98-100 F '58*

See also

Food blenders

FOOD mixes

Prepared foods for the Canadian armed services. R. M. Ballantyne and others. *Food Tech 12:470-2 S '58*

See also

Cake mixes

FOOD packages

Creating the package. Published in monthly numbers of Food engineering

Disposable food packages in polystyrene. *il Brit Plastics 31:140-3 Ap '58*

Eight food cartons hailed as tops; Folding paper box association's annual carton competition. *il Food Eng 30:85 Ap '58*

Enzymatic oxygen removal from packaged foods. D. Scott. *Food Tech 12:sup7-8+ JI '58*

Fast-openers up package value. *il Food Eng 30:63 My '58*

Getting sharper competition? you may need a label change; Dole label. C. R. Havighorst. *il Food Eng 29:76-8 D '57*

Health safety of plastics for food-contact applications. D. D. McCollister and W. J. Sauber. *Plastics Tech 4:312-14+ S '58*

History and background of pressurized foods. W. E. Graham. *bibliog Food Tech 12:317-19 JI '58*

Implications of new developments in food and milk processing; packaging, storing, and vending. W. D. Tiedeman. *Am J Pub Health 48:854-60 JI '58*

Latest developments in plastics food packages. L. C. Barall. *il Plastics World 16:30 My '58*

Microbiological aspects of pressure packaged foods. G. L. Hays and D. W. Riestler. *bibliog il Soap & Chem Spec 34:113+ S '58*

New packages and products. Published in monthly numbers of Food engineering

New process cuts sealing cost of foil-wrapped packages. *il Food Eng 30:129+ Je '58*

Punch-card system speeds case handling, cuts costs; Pillsbury Mills' warehouse. *il Food Eng 30:67-8 F '58*

Stand-out package design flags busy shop-
per. *il Food Eng 30:84-5 JI '58*

Switch to pictorial packages sets off sales boom; illustrated cartons boost butter volume. J. V. Ziembra. *il Food Eng 30:74-5+ Ja '58*

Thermofomed plastics add new food-packaging values. *il Food Eng 29:74-7+ N '57*

FOOD packages—Continued

This all-out attack assured best design; Kitchens of Sara Lee. *il Food Eng* 30:86-8 Apr '58
 Trims thousands off packaging; Diamond Crystal Salt. D. MacDonald. *il Food Eng* 30:78-9 Mr '58
 Twist ups chili sales twenty per cent; brick-type product is cardboard-molded in plastic bag. *il Food Eng* 30:66 Je '58
 What retailers want from food manufacturers. T. C. Taylor. *Food Eng* 30:52-4 Je '58

See also

Food, Frozen—Packaging
 Food containers
 Meat—Prepackaging

Testing

Determination of gas space in pulverant solids. I. J. Scott and F. B. Hammer. *diag Food Tech* 12:492-3 S '58
 Moisture condensation and cold stored military rations. E. K. Heaton and J. G. Woodroof. *bibliog il diag Food Tech* 12:24-9 J '58

FOOD packaging

Equip for new package materials. *il Food Eng* 30:84-5 O '58
 16 new units for better packaging; PMMI Atlantic City show; illustrations with text. *Food Eng* 30:71-3 My '58
 Five basics in choosing ball-bag film. L. M. Berlin. *il Food Eng* 30:72 JI '58
 Food processor in the pressurized food field. V. J. DiRocco. *Food Tech* 12:335-6 JI '58
 How a food manufacturer can start and complete a pressurized food program. R. C. Webster. *bibliog Food Tech* 12:330-4 JI '58
 Packaging requirements for pressure propelled foods. D. W. Riestler and others. *Food Tech* 12:320-4 JI '58
 Sales-focused packages; American management assn. exposition. New York. *il Food Eng* 30:71-2 JI '58

FOOD poisoning

Characteristics of heat-resistant clostridium welchii in carcase meat; abstract. B. C. Hobbs. *Chem & Ind* p88-9 Ja 25 '58

FOOD preferences

Variation in preference ratings for foods served at meals. D. E. Peryam and N. J. Gutman. *Food Tech* 12:30-3 Ja '58

FOOD preservation

Chlorotetracycline for preserving Gulf oysters. A. F. Novak and others. *bibliog Food Tech* 12:237-9 My '58
 11 questions block additive bill. R. S. McBride. *Food Eng* 29:51-3 D '57
 Heat preservation of pressure dispensed food products. E. D. Chagard and P. E. Gottschall. *bibliog Food Tech* 12:324-9 JI '58
 Kinetics of bacterial inactivation by heat. S. E. Charm. *bibliog il Food Tech* 12:4-8 Ja '58
 Plant carotenoids with particular reference to their stability in food preservation; abstract. A. E. Joyce. *Chem & Ind* p669-70; Discussion. 670-1 Je '58
 Recent developments in food preservation technology. J. H. Taylor and E. A. Walker. *bibliog il Research* 11:61-6 F '58
 Refrigerated preservation of fruit, vegetables and nuts. W. T. Pentzer. *Refrig Eng* 66: 90-2 F '58

See also

Canned food
 Canning and preserving
 Cold storage
 Fish as food—Preservation
 Food, Frozen
 Food, Irradiated
 Meat—Preservation
 Milk—Pasteurization
 Poultry as food—Preservation

Radiation sterilization

Characterization of volatile carbonyl compounds isolated from meat fat subjected to gamma radiation. L. A. Witting and E. S. Schweigert. *bibliog Am Oil Chem Soc J* 35: 413-16 Ag '58
 Effects of sodium sorbate and ascorbic acid on attempted gamma radiation pasteurization of apple juice. E. A. Asselbergs and others. *Food Tech* 12:156-8 Mr '58
 Food preservation. *Nucleonics* 16:91 S '58
 Food preservation by radiation as of 1958; a report to management. K. G. Shea. *bibliog Food Tech* 12:sup:6-8+ Ap '58
 Freezing and irradiation. J. T. R. Nickerson and others. *bibliog diag Am J Pub Health* 48:1041-8 Ag '58

Gamma is safe; foods sterilized with gamma radiation are nontoxic in animal tests; abstract. M. S. Read. *Chem & Eng N* 38:44 My 5 '58

Irradiated foods; what will it take to sell them? E. W. Chester. *Food Eng* 30:43-5+ Je '58

Nutritional value of a synthetic diet sterilized by gamma rays, as measured by reproduction and life span of rats. L. R. Richardson and R. Brock. *J Nutrition* 65: 353-60 JI '58

Preservation by irradiation. W. M. Urbain. *Refrig Eng* 66:66-1 Mr '58
 Theoretical considerations in food processing by gamma radiations. S. E. Charm and others. *diag Food Tech* 12:209-13 My '58

FOOD research

Chemist and engineer in fifty years of food processing. C. G. King. *bibliog Ind & Eng Chem* 50:sup89A-93A Ja '58
 Dance hall becomes modern food and drug research lab. *il plans Ind Lab* 9:76-3 JI '58
 Effect of freezing on the hydration characteristics of rice. A. S. Roseman. *bibliog il Food Tech* 12:464-8 S '58
 Effect of storage conditions on nutrients in frozen green beans, peas, orange juice, and strawberries. F. H. Dorse and L. J. Teply. *Agri & Food Chem* 6:309-12 Ap '58
 How research sparks business; General foods corp. R. H. Walters. *il Food Eng* 30:52-4 F '58
 New product development key to success at General Mills. H. A. Bullis. *il Food Eng* 30:53-6 Ja '58

Some aspects of food defence research in Canada; abstract. J. H. Hulst. *Chem & Ind* p 1102-3; Discussion. 1103 Ag 23 '58

See also

Food laboratories
 Nutrition research
 FOOD service, Industrial. See Lunchrooms and cafeterias, Employees

FOOD stores**See also**

Kroger company
 Supermarkets

FOOD supply

Facts about food supplies. H. Nicol. *Chem & Ind* p 189 F 15 '58
 Problems connected with the possible use of plankton for human nutrition. E. Geiger. *bibliog Am J Clinical Nutrition* 6:394-400 JI '58
 Whales, plankton and man. W. E. Pequegnat. *diag Sci Am* 198:84-6+ Ja '58

See also

Lumber camps—Food supply
 FOOD technologists
 Education of a food technologist. N. W. Desrosier. *Food Tech* 12:10-12 F '58
 Food technologist, selections from a symposium. *Food Tech* 12:sup 18-1 Je '58; Abstract. *Food Eng* 30:58 F '58
 1958 Careers in food technology day. B. Klinker. *Food Tech* 12:sup 14-+ Mr '58

FOOD technology

Advances in technology. Published in monthly numbers of Food engineering
 Advances in vacuum dehydration in the United Kingdom. S. W. F. Hanson. *bibliog Food Tech* 12:194-5 Ap '58
 Technologists create foods for air- and space-men. J. V. Ziembra. *il Food Eng* 30:50-3 Mr '58

Bibliography

Abstracts. H. A. Campbell, comp. Published in monthly numbers of Food technology
 Literature on food research and technology. Published in monthly numbers of Food technology
 Useful new books. Published in monthly numbers of Food engineering

Study and teaching

What training should a four-year food technology student receive? summary report on the educational conference. Institute of food technologists, Monticello, Ill. *Food Tech* 12:7-8+ S '58

FOOD workers**See also**

Food technologists

FOOT

Treatment for os calcis fractures. C. R. Zeiss. *il Ind Med* 27:139-41 Mr '58

Protection

See also
 Shoes, Safety

FOOT bridges. See Bridges, Foot

FOOTBALL

All Americans all; football honor roll shows that scholarship and intercollegiate athletics can mix. *Il Chem & Eng N 35:80-2 D 2 '57*

FOOTBALL players as salesmen. See Salesmen**FOOTE mineral company**

Career opportunities. *Il Chem & Eng N 36:35 pt 2 Ja 27 '58*

FOOTINGS

Finding depth of footing for a pole subject to lateral load. L. M. Nelidov. *diag Civil Eng 28:196 Mr '58*

Special mud firms up tower footings; Aquajel. *Il diag Elec World 150:67 J1 21 '58*
Transmission-line-tower footing design. L. B. Levesconte and others. *bibliog Power Apparatus & Systems p 1498-503; Discussion. 1503-4 F '58*

Use graphs to simplify footing design. J. B. Grant and R. J. Smith. *diags Pet Refiner 36:130-2 D '57*

FOOTINGS, Concrete

Bearing capacity of concrete. W. Shelson. *bibliog Il diag Am Concrete Inst J 29:405-14 N '57; Discussion. 29:1183-9 Je '58*

Inverted stepped footings for savings with safety. F. Rogers. *diags Civil Eng 28:128-7 F '58; Discussion. R. Traum. 28:440-1 Je '58; Reply. 28:672 S '58*

Ultimate shear strength of reinforced concrete flat slabs, footings, beams, and frame members without shear reinforcement. C. S. Whitney. *bibliog diags Am Concrete Inst J 29:265-98 O '58; Discussion. 29:1157-62; Reply. 1162-4 Je '58*

FOOTINGS, Steel**Protection**

Corrosion and protection of galvanized steel transmission tower footings. J. D. Piper. *Il diags Corrosion 14:119-25 Mr '58*

FORAGE plants

Simple colorimetric method for the determination of nitrates in forage crops. M. P. Morris and A. González-Más. *bibliog J Agri & Food Chem 6:456-7 Je '58*
See also

Clover
Indigofera

FORAMINIFERA, Fossil

Miocene foraminifera of Gulf of Suez region. Egypt. R. Said and M. A. Basiouni. *bibliog Il maps diags Am Assn Pet Geologists Bul 42:1958-77 Ag '58*

FORCE and energy

Calculation of drawing force and die pressure in wire drawing. P. W. Whitton. *bibliog Inst Metals 36:417-21 My '58*

Concept of energy as the theme of a general education course in physics. R. B. Lindsay. *Am J Phys 26:290-6 My '58*

Contact of metallic bodies; effect of tangential force. J. S. Courtney-Pratt and E. Elsnor. *bibliog Engineering 185:182-8 F 7 '58*

Ductility and energy relations in Charpy tests of structural steels. J. H. Gross and R. D. Stout. *bibliog Welding J 37:sup 151-6; Discussion. sup 156-8; Reply. sup 158-9 Ap '58*

Energy-size reduction relationships in comminution. R. J. Charles. *bibliog Min Eng 9:Trans 80-8 Ja '57; Discussion. 10:Trans 481-4 Ap '58*

Evaluation of interface energies in metallic systems. J. W. Taylor. *bibliog Inst Metals J 38:486-83 Je '58*

How far out? light scattering gives more definite idea of range of molecular forces. *Chem & Eng N 36:37-8 Ag 4 '58*

Impact forces in mechanisms. R. C. Johnson. *diags Machine Design 30:138-46 Je 12 '58*

Look at energy terms. J. M. Campbell. *diag Oil & Gas J 58:148 Ja 20 '58*

Method for calculating the energy available in the exhaust gas at the inlet end of an exhaust pipe of a two- or four-stroke cycle engine. R. S. Benson. *Roy Aeronautical Soc J 62:132-5 F '58*

Propagation of cracks and the energy of elastic deformation. H. F. Buckner. *bibliog diags A S M E Trans 80:1225-9; Discussion. 1229-30 Ag '58*

Work capacities of energy storage systems on basis of unit weight and unit volume. L. V. Kline and others. *A S M E Trans 80:909-14 My '58*

See also

Dynamics
Impact
Mechanics
Power (mechanics)
Pressure

FORD motor company

Ford calls time on Edsel. *Il Steel 142:75-6 Ad 7 '58*

FORECASTS (economics)

Basic economic trends. J. L. Ritchie. *Tappi 41:sup 40A-4 Mr '58*

Economic decline, yes; but no collapse. M. Nadler. *Oil & Gas J 55:134-5 N 18 '57*

FOREMEN

Manager or super mechanic? *Am Mach 101:201-2+ D 16 '57; 102:174+ Ja 13 '58*

Why some foremen lose interest. *Ind Finishing 34:96-7 My '58*

See also

Mine foremen
Supervisory workers

Rating

How do your foremen rate? R. D. Stevens. *Mach 64:104-5 Je '58*

Training

Operation super safe for foremen. *Safety Maint 114:42 N '57*

See also

Foremen's conferences
Supervisory workers—Training

FOREMENS conferences

Supervisory development programs. G. E. Keegan. *Tool Eng 39:73-7 D '57*

FOREST fertilization. See Forests and forestry**FOREST fires**

Fire record. *Tappi 40:sup 144A D '57*

FOREST management

See also

Wildlife management

FOREST mensuration

Forest inventory; Kimberly-Clark corp., Continuous forest inventory system. *Il Tappi 41:sup 101A-2A My '58*

FOREST products

See also

Naval stores
Turpentine
Wood pulp

FOREST products industry

Forest products world statistics. *Tappi 41:sup 100A-1A My '58*

FORESTRY research

Development and organization of the TAPPI forest biology committee. P. E. Nethercut. *Tappi 41:145 Ap '58*

Experimental control of environmental factors and their effect upon some aspects of wood anatomy in loblolly pine. J. P. van Buijtenen. *bibliog Tappi 41:175-8 Ap '58*

Forest biologist's stake in the TAPPI forest biology committee. F. Mergen. *Tappi 41:146 Ap '58*

Problems of defining wood quality objectives for tree improvement programs. M. N. May. *Tappi 41:147-8 Ap '58*

Qualitative tree improvement for dissolving pulp production. F. E. Pollock. *Tappi 41:148-50 Ap '58*

St. Regis southern woodlands operations. *Tappi 40:sup 139A-40A N '57*

Woodlands department's stake in the forest biology committee. P. T. Lannan, Jr. *Tappi 41:147 Ap '58*

FORESTS and forestry

Cation adsorption and forest fertilization. W. H. Hinson and E. R. C. Reynolds. *bibliog Chem & Ind p 194-5 F 15 '58*

Effect of site and spacing on the specific gravity of wood of plantation-grown red pine. B. A. Jayne. *bibliog Tappi 41:162-6 Ap '58*

Forest fertilization; abstract. E. T. York. *Tappi 41:sup 126A-7A F '58*

Pulp and paper industry's role in American forestry. A. C. Shaw. *Tappi 40:sup 153A-5A N '57*

See also

Forest fires
Lumbering
Wood
Woodlots

FORGE shops**Costs**

Estimating forging costs. *Il diags Iron Age 182:98-101 Ag 21 '58*

Equipment

Allegheny Ludlum steel corp.'s new forge shop. Dunkirk, N.Y. E. Kern and J. E. Trahitt. *Il Iron & Steel Engr 35:73-80 Je '58*
Conveyorized forging line speeds hot billet handling; Oldsmobile forge plant. *flow diag Il Automation 5:75-7 Ja '58*

FORGE shops—Equipment—Continued

- Ford discloses new template-making method. *II Mach* 64:126-8 Ja '58
- Handling connecting rods in automatic equipment; Forge plant of Oldsmobile division, H. Chase. *II Automotive Ind* 119:60-1+ Ag '58
- Low-cost conveyor units speed forging lines; Leifere forge and machine co. R. H. Eschelman. *II plan Iron Age* 182:110-12 Ji '58
- Mechanical handling expedites forging of axle shafts, H. Chase. *II Automotive Ind* 117:53 D '57

See also

Furnaces, Forging

FORGE welding. See Welding

FORGING

- Closing of internal cavities in forgings by upsetting, A. Tomlinson and J. D. Stringer. *II diags Iron & Steel Inst J* 188:209-17 Mr '58
- Cold forging strengthens jumbo bolts, Iron Age 181:86 My '58
- Die lubricant improves metal flow. *II Iron Age* 180:182-3 N '4 '57
- Extra forging steps yield special benefits; Lindcoot forging & mfg. co. H. Chase. *II Iron Age* 181:81-3 My '58
- Forgeability tests; are the results reliable? P. M. Unterwieser. *II Iron Age* 180:153-6 N '4 '57
- Forging blooms from ingots, J. E. Decker. *II diags Metal Prog* 74:71-3 S '58
- Forging huge crankshaft; Park drop forge co. C. H. Wick. *II Mach* 65:113-16 O '58
- Forging industry; abstract, C. H. Smith, jr. *Metal Prog* 72:144+ D '57
- Guide to forging methods. *II diags Iron Age* 182:93-5 Ag '57
- How iron affects forgeability of copper alloys, C. H. Hannon. *II Iron Age* 180:126-7 N '7 '57
- Indentation and forging and the action of Nasmyth's anvil, W. Johnson, bibliog diags Engineer 205:348-50 Mr '58
- Lower costs with no draft forgings, H. Harvey. *II Materials in Design Eng* 48:94-5 Ag '58
- Metalworking, 1962, C. H. Smith, jr. *Am Mach* 101:134-5 N '18 '57
- Modernization in heating for hot forming, P. W. Morse. *II diag Metal Prog* 73:65-90 F '58
- No draft forging; abstract, C. Fugua. *Light Metal Age* 15:30 D '57
- Present limitations and future possibilities in titanium forgings; abstract, J. J. Russ. *Metal Prog* 72:130 D '57
- Rotary forging aids industry; Curtiss-Wright imports Austrian process, K. W. Bennett. *Iron Age* 181:64 Ap '58
- Switch to cold heading cuts costs. *Iron Age* 180:188-9 N '4 '57
- Three new forging and extrusion methods, J. P. Murphy. *II diag S A E J* 66:40-2 Je '58
- Uses one lubricant for all operations. *II Iron Age* 180:152-3 N '7 '57

See also

Dies

Furnaces, Forging

FORGING machinery

- Automation triples forging output. *II Steel* 143:90-1 S '58
- Bolt forging is automated. *II Steel* 142:83 Ja '58
- Designed for user wants; Erie foundry co.'s new 2500-ton forging press. *II Steel* 142:108 Mr '58
- Forging press features large capacity. *II Iron Age* 180:180-1 N '4 '57
- Heavy press forgings for aircraft, E. C. Wright. *II diags Metal Prog* 72:105-10 D '57
- Mechanical forging press is easy to operate and maintain. *II Steel* 142:133 F '58
- Modern forging press and its control, O. Hoffmann and A. Krynytzky. *II diags Iron & Steel Eng* 85:81-93 Je '58
- 1958 production preview; forming, forging, casting. *II Am Mach* 102:179-201 Ja '58
- Those heavy presses can pay off, R. W. Smith. *II Product Eng* 29:34-5 S '58
- 2000-ton steel forging press installation at Dunkirk, New York. *II diags Engineer* 206:274-7 Ag '58
- Universal forging press. *II Engineer* 204:638 N '57

See also

Hammers, Drop

FORGINGS

- Designing for cored forgings, C. J. Pfeiffer. *II diags Materials in Design Eng* 47:122-4 F '58
- Forms and shapes of materials. *Materials in Design Eng* 48:308-10 Mid-O '58

- Large forgings for aircraft; abstract, C. R. Cramer and A. Kastelowitz. *Tool Eng* 40:326-8 Ap '58
- New aluminum forging alloy, W. Bomhardt. *II Product Eng* 28:62-3 D '58
- Precision forgings minimize machining, A. G. Jones. *II Tool Eng* 41:95-7 S '58
- Solution heat treatment of magnesium forgings. *II Materials in Design Eng* 47:147+ Mr '58
- Ultrasonic inspection makes turbine forgings safer; Allis-Chalmers mfg. co. R. N. Hafemeister. *II diags Am Mach* 101:85-9 D '57

See also

Steel forgings

FORMALDEHYDE

- Biosynthesis of methyl groups of choline from formaldehyde by liver preparations, R. Venkataraman and D. M. Greenberg. *Am Chem Soc J* 80:2025 Ap '58
- Cross-linking action of formaldehyde on the proteins of the groundnut; a physico-chemical investigation, A. M. G. Kinnear and W. E. F. Naismith. *Bibliog J Ap Chem* 8:286-90 My '58
- Evaluation of formaldehyde pretreatment for wool bleaching, J. E. Moore and R. A. O'Connell. *Bibliog Textile Res J* 28:687-90 Ag '58
- Mechanism of chromic acid oxidations; oxidation of formaldehyde by chromic acid, A. C. Chatterji and S. K. Mukherjee. *Bibliog Am Chem Soc J* 80:3600-4 Ji '58
- Mineral acid-catalyzed reaction of cyclohexene with formaldehyde, A. T. Blomquist and J. Wolinsky. *Bibliog diags Am Chem Soc J* 79:6025-30 N '57
- New knowledge concerning the functional properties of formaldehyde in cotton and rayon finishing; abstract, A. J. Hall, *Am Dyestuff Rep* 46:377-8 D '57
- Reaction of formaldehyde with wool and its effect on digestion by insects, J. R. McPhee. *Bibliog Textile Res J* 28:303-14 Ag '58
- Reaction of nitric acid with formaldehyde and with formic acid and its application to the removal of nitric acid from mixtures, T. H. Healy. *Bibliog diags J Ap Chem* 8:552-61 S '58
- Reaction of the cystine of wool with formaldehyde, S. Blackburn. *Bibliog Soc Dyers & Col J* 73:506-7 N '57
- Treatment of glue and gelatine with formaldehyde, A. M. Kragh. *Manuf Chem* 29:103-4 Mr '58
- Urea formaldehyde concentrate-85, a promising control for potato scab, J. F. Bartz and K. C. Berger. *Bibliog J Agri & Food Chem* 6:675-7 S '58

See also

Paraformaldehyde

Analysis

- Formaldehyde evolution from textiles, O. C. Bacon and others. *Bibliog Am Dyestuff Rep* 46:933-6 D '57; Abstract, *Textile World* 108:80-1 My '58
- Polarographic determination of hydrogen peroxide, formaldehyde, and acetaldehyde in mixtures, S. Sandler and Y. H. Chung. *Bibliog Anal Chem* 30:1252-5 Ji '58

Manufacture

- Formaldehyde and acetaldehyde. flow diag Pet Refiner 36:249 N '57
- Formaldehyde grows abroad; Montecatini builds third air-oxidation formaldehyde plant. *II diag Chem & Eng N* 35:68+ My '58
- Formaldehyde (Uhd); A. G. McKee & co. flow diag Pet Refiner 36:248 N '57
- Methanol and formaldehyde production; Inventa process. *Manuf Chem* 29:63 F '58

FORMAMIDE

- Solvents having high dielectric constants; the conductimetric behavior of several salts in formamide at 25°. L. R. Dawson and others. *Bibliog Am Chem Soc J* 79:5906-8 N '57

FORMAMINE

- Oxidation-reduction potentials of the system; oxalourea-formamidine diselenide, P. W. Preisler and T. N. Scottia. *Bibliog Am Chem Soc J* 80:2309-10 My '58

FORMATES

- Mechanism of formate activation, H. R. Whiteley and others. *Am Chem Soc J* 80:757-8 F '58

FORMIC ACID

- Chemicals recovery from pulping liquors, D. F. Othmer. *Bibliog flow sheet diag Ind & Eng Chem* 50:sup60A-2A Mr '58

FORMIC acid—Continued

- Reaction of nitric acid with formaldehyde and with formic acid and its application to the removal of nitric acid from mixtures. T. V. Healy, bibliog diags J Ap Chem 8:553-61 S '58
- Studies involving isotopically labelled formic acid and its derivatives; positive and negative ions produced by electron impact in formic acid and deuterioformic acids. G. A. Ropp and C. E. Melton, bibliog Am Chem Soc J 80:3509-12 JI 20 '58
- Unsaturated amines; the course of formic acid reduction of enamines. N. J. Leonard and R. R. Sauers, bibliog Am Chem Soc J 79:6210-14 D 5 '57

Spectra

- Infrared spectra of dimeric and crystalline formic acid. R. C. Millikan and K. S. Pitzer, bibliog diag Am Chem Soc J 80:3515-21 JI 20 '58

FORMING tools

- Economy forming tool. J. P. Essex, diag Am Mach 102:124-8 '58
- Projector adapted to grinder solves form-tool problems; illustrations and drawings with text. J. R. Sloan, Am Mach 101:114-15 D 16 '57

FORMS and blanks, Business*See also***Factories—Records****FORMYL group**

- Use of N-formylamino acids in peptide synthesis. J. C. Sheehan and D. H. Yang, bibliog Am Chem Soc J 80:1154-8 Mr 5 '58

FORSTERITE

- Forsterite offers advantages as shell mold material. W. H. Owen, J Foundry 86:134+ F '58

FORT LAUDERDALE, Florida**Sewerage**

- Sewerage for the Venice of America. C. E. Wright, JI Pub Works 89:98-9 F '58

FORT WAYNE, Indiana**Water supply**

- Development of master plans to meet future water needs. H. A. Kerby, plan Am Water Works Assn J 50:203-6 F '59

FORTIFICATION

- Norman castles. B. Hope-Taylor, JI diags Sci Am 198:42-3 Mr '58

FORTIFIED food. See Food, Enriched**FORTISAN. See Textile fibers, Synthetic****FOSHAGITE**

- Foshagite; composition, unit cell and dehydration. J. A. Gard and H. F. W. Taylor, bibliog JI diag Am Mineralogist 43:1-15 Ja '58

FOSSIL fishes. See Fishes, Fossil**FOSSIL foraminifera. See Foraminifera, Fossil****FOSTER-SEELEY discriminator. See Radio receiving apparatus—Frequency modulation receivers****FOUCAULT pendulum**

- Amateur scientist; how to make a pendulum that will demonstrate the rotation of the earth. C. L. Stong, diags Sci Am 198:115-16+ Je '58

FOULING organisms*See also***Mussels****FOUNDATION soils**

- Chemical grouting progress report of the task committee; with patent abstracts, diags Am Soc C E Proc 83 [SM 4 no 1426]:1-106 bibliog(210 titles, p87-104) N '57
- Mixed soils require five designs for ore dock reconstruction. E. M. Cummings, JI plan diags Civil Eng 27:792-5 N '57

*See also***Dams—Foundations****Marshes****Roads—Subgrades****Sand****Soil mechanics****Wellpoint system****Testing**

- Don't ignore soil studies; symposium. JI Pub Works 89:112-194 My '58
- Procedure for rapid consolidation test. H. L. Su, bibliog diags Am Soc C E Proc 84 [SM 3 no 1729]:1-13 Ag '58
- Subsurface exploration with the A-G soil penetrometer. E. T. Apfel and others, JI Pub Works 88:105-6 D '57

FOUNDATIONS

- Analysis of finite beams on elastic foundation. D. Gaziz, diags Am Soc C E Proc 84 [ST 4 no 1721]:1-18 JI '58
- Foundation design and methods cut sky-scraper cost. R. C. Johnston and N. W. Koziakin, JI Eng N 161:34-6+ JI 24 '58
- House anchorages; time-saver standards. A. G. H. Dietz, map diags Arch Rec 123:224+ JI 201+ D '57
- Model helps on a tough foundation job; Crown-Zellerbach building in San Francisco. JI Eng N 160:55-6+ Mr 13 '58
- Numerical solutions for beams on elastic foundations. H. Malter, bibliog diags Am Soc C E Proc 84 [ST 2 no 1562]:1-20 Mr '58;
- Discussion, 84 [ST 5 no 1787]:41-61 S; [ST 6 no 1827]:29-34 O '58
- Pier slab foundation system prevents failures, cuts construction costs. JI Arch Rec 124:199-200 JI '58
- Pressure relief system tames Florida boil; grit structure for Northeast sewage treatment plant for St Petersburg. B. J. Prugh, JI diag Civil Eng 28:582-4 Ag '58
- Skyscraper sprouts through railroad terminal tracks; Union Carbide's 60 story headquarters. D. Byrne, JI diags Eng N 161:34-6 JI 10 '58
- This basement must be dry; special construction protects computer. R. Isetts, JI diag Plant Eng 12:146 My '58
- Vibration of sand cuts foundation costs 20 per cent. E. H. Wells, JI Eng N 161:30-2 A 28 '58

*See also***Dams—Foundations****Footings, Concrete****Foundation soils****Machinery—Foundations****Piers (foundations)****Piles and pile driving****Roads—Foundations****Shoring and underpinning****Settlement**

- Controlled settling of tank foundations on weak soils. J. Martinson, JI diag Pet Eng 29:C 16-18 N '57

Tables, calculations, etc.

- Pattern for calculating transmission-line tower foundations. E. Fritz, bibliog diags Power Apparatus & Systems p763-73; Discussion, 774-5 O '58

FOUNDATIONS, Subaqueous

- Mixed soils require five designs for ore dock reconstruction. E. M. Cummings, JI plan diags Civil Eng 27:792-5 N '57
- St Lawrence seaway; soil and foundation problems. F. L. Peckover and T. G. Tustin, JI maps plan diags Eng J 41:69-76+ S '58

*See also***Bridges—Foundations and piers****Dams—Foundations****Piles and pile driving****FOUNDING. See Aluminum founding; Foundry practice; Iron founding****FOUNDRIES**

- Foundry for small precise steel castings; Osborn precision castings, Ltd, JI Engineer 205:904 Je 13 '58
- Foundry unit broadens scope; Draper corp. JI Iron Age 180:187-8 N 14 '57
- How to reduce noise in foundry cleaning rooms. W. L. Lea, Foundry 86:162+ JI '58
- New foundry for Ford motor co. JI Mech Eng 80:67 JI '58
- Precision steel foundry; Samuel Osborn and co. Engineering 185:829-30 Je 27 '58
- Sales promotion campaign produces new business; East St Louis castings co. R. H. Herrmann, Foundry 86:200+ Ap '58
- Thames foundry; Ford motor co.; illustrations with text. Engineer 204:788 N 29 '57

*See also***Foundry practice****International foundry congress****Accounting***See Foundry accounting***Costs***See Foundry costs***Electric equipment**

- Electrification speeds foundry production; Union Iron works, Spokane. W. L. King, JI Elec World 149:90 F 24 '58
- Expandable 12-kv plant distribution for electrical facilities at Austenal, Inc., investment-casting plant. D. Campbell, JI diags Elec Constr & Maint 57:102-5 O '58

FOUNDRIES—Electric equipment—Continued.

Primary planned for future, capacity permits 650 per cent expansion; Austenal co.'s new precision casting plant. *diag* Plant Eng 12:119 O '58

Employees

Founders set stage for pay talks. K. W. Bennett. *Iron Age* 181:42 Ag '58
How foundries are training engineers. J. C. Miske. *Foundry* 86:76-9 Mr '58
How government work affects your employees. R. D. Stevens. *Foundry* 86:278+ My '58
Meditations of a sandman. H. E. Henderson. Published in monthly numbers of *Foundry Molder's touch*. C. W. Ammin. *Foundry* 86:170-2 Ag '58
Shell molding incentive plan increases production 35 per cent; Production pattern & foundry co. E. W. Jahn. *il Foundry* 86:160-2+ Mr '58
Thirst is a key factor in fatigue of workers. L. Brouha. *il Foundry* 86:249-50+ My '58

Equipment and supplies

Air hoists permit precision control; General steel castings corp. *il Comp Air Mag* 62:342-3 N '57
Air pressure times cylinder; foundry core pasting machine. *diags* *Ap Hydraulics* 11:82 Mr '58
Aircraft and missile castings; Pacific alloy engineering corp. W. G. Gude. *il Foundry* 85:102-5 N '57
Are you paying for equipment you don't have? *il Foundry* 86:130-45 My '58
Automated foundry system is flexible; George Fischer Ltd. *il Steel* 142:93-9 Je 16 '58
Automated molding and pouring; installation at the George Fischer Ltd. malleable iron foundry in Switzerland. *il Foundry* 86:70-6 Je '58
Automatic foundry; Pontiac motor div. *il Mech Eng* 80:64-6 Ja '58
Automatic mold production; foundry of Pontiac motor div., General Motors corp. *il plan Automation* 5:38-41 Ag '58
Automatic system conditions aluminum molding sand. R. H. Hermann. *il Foundry* 86:150+ Ap '58
Bath foundry at Bilston; Bilston foundries, Ltd. *il Engineer* 205:779-80 My 23 '58
Brass foundry can have good working conditions. W. G. Gude. *il diag Foundry* 86:76-9 O '58
Cutting foundry costs with air tools and hoists. A. C. Ringer. *il Foundry* 86:317-18+ My '58
Diecasting foundry makes automotive hardware parts. R. H. Hermann. *il Foundry* 86:110-13 Ap '58
Domestic bath; semi-automatic production of thin castings; Bilston foundries. *il diag Engineering* 185:837-8 My 16 '58
Ford motor co.'s advanced new foundry. *il plan Engineering* 184:701 N 29 '57
Ford motor company's Thames foundry at Dagenham. *il Engineer* 205:852-3 Je 6 '58
Ford Thames foundry. *il plan diag Automobile Eng* 48:233-46 Je '58
Ford Thames foundry, Dagenham. *il plan Engineering* 185:732-3 Je 6 '58
Ford's new foundry at Dagenham. *il plan Metallurgia* 57:16-18 Ja '58
Ford's new Thames foundry sets high standard in design. *il Foundry* 86:82-3+ Ag '58
Foundry modernization to double production in ten years; foundries operated by General electric co. R. H. Hermann. *il plans Foundry* 86:70-5 Mr; 158-63 My; 62-4 Je '58
Future trends in design of shell molding equipment. *il Foundry* 86:89-93 Ap '58
Gleason works achieves newness in a foundry; with list of equipment suppliers. R. H. Hermann. *il plan Foundry* 86:78-83 F '58
Gray iron foundry pursues continued plant improvement; Inter-State foundry co. K. L. Mountain. *il plan Foundry* 86:98-101 J '58
Handling units speed foundry cycle; Pontiac motor div. *il plan Iron Age* 180:134-5 D 5 '57
Hoppers and trucks provide efficient material handling; Auto specialties mfg. co. *il Foundry* 86:119-20+ O '58
Layout to reduce materials handling; Blackheart malleable iron foundry. *il plan Engineering* 186:156-7 Ag 1 '58
Link-Belt's foundry, picture of efficiency. *il Steel* 143:60-1 Ag '58
Link-Belt's new foundry provides efficient operations. R. H. Hermann. *il plan diag Foundry* 86:40-7 Ag '58

Malleable iron castings; new foundry for Shotton bros. Ltd. flow chart *il Automobile Eng* 48:316-20 Ag '58
Malleable iron foundry; Shotton brothers, Ltd. *il Engineer* 206:142-3 J 25 '58
Mechanized foundry operations at English Ford plant. D. Scott. *il plan Automotive Ind* 119:64-5 J 15 '58
Mechanized molding line produces gray iron brake drums. R. H. Herrmann. *il Foundry* 86:90-3 J '58
Mercury patterns for precision castings; Sankey-Telcon, Ltd. *il Metallurgia* 58:130-4 S '58
New foundry for precision casting steel; Samuel Osborn & co. *il plan diag Metallurgia* 58:29-31+ J '58
Planning the melting department of a nonferrous foundry. *il diag Foundry* 85:160-1+ N '57
Pneumatic handling of bulk materials. *il Foundry* 86:184+ S '58
Portable dynamometers handle many weighing jobs. E. L. Lapp. *il Foundry* 85:242 N '57
Proper depreciation helps finance equipment replacement. R. L. Berry. *Foundry* 86:161-3 My '58
Swiss foundry modernizes melting plant. V. Frey. *il Foundry* 86:56-61 S '58
Viscosity measurements for thick slurries. D. J. Keny and P. A. Rutt. *il diag Foundry* 86:238+ My '58
What's new in foundry equipment and supplies. *il diags Foundry* 86:180-201 My '58

See also

Core ovens
Crucibles
Cupola furnaces
Foundry equipment manufacturers association
Foundry flasks
Foundry ladles
Foundry machinery
Grinding machines
Molding machines
Molds (for casting)
Oxyacetylene apparatus
Sand, Foundry

Heating and ventilation

Brass foundry can have good working conditions. W. G. Gude. *il diag Foundry* 86:76-9 O '58
Heating and ventilating a mechanized foundry. *il Metallurgia* 56:294-5 D '57
Infrared system efficient in heating high-bay buildings. C. H. Foulds. *il diags Foundry* 86:217-18+ Ja '58

Layout

Layout to reduce materials handling; Blackheart malleable iron foundry. *il plan Engineering* 186:156-7 Ag 1 '58
Modernization program can pay its way. L. B. Knight. *plans Foundry* 86:146-50 My '58

Lighting

Better lighting pays off in several ways; Lynchburg foundry co. W. H. Puryear. *il Foundry* 86:77-9 Je '58

Maintenance and repair

Cutting cleaning costs through preventive maintenance. T. F. Hameline. *il Foundry* 86:164+ Ag '58

Management

See Foundry management

Safety measures

Safety and hygiene; abstracts of AFS papers. *Foundry* 86:140+ Ag '58
Safety saves money at Albion malleable iron co. J. C. Miske. *il Foundry* 86:54-7 Ag '58

Statistics

Foundry statistics. Published in monthly numbers of *Foundry*

FOUNDRY accounting

Cost accounting procedures for the gray iron foundry. A. E. Grover. *il diag Foundry* 85:110-13 N; 94-7 D '57; 86:103-7 Ja; 89-91 F; 146-9 Je '58
Incentive plans are aid to accounting procedure. J. Taylor. *Foundry* 86:210-13 J '58
Proper depreciation helps finance equipment replacement. R. L. Berry. *Foundry* 86:161-3 My '58
FOUNDRY costs
Reduced costs keep foundry competitive; Bushings inc. centrifugal casting, better sand handling. *il Steel* 142:136-7 My 19 '58

FOUNDRY costs—Continued

Typical savings through using the right equipment. *Il Foundry* 86:133-5 My '58

See also

Foundry accounting

Foundry educational foundation

College-industry conference, 11th, Cleveland, March 12-13. *Foundry* 86:134+ Ap '58

FEF makes first awards of Wheelabrator fellowships. *Foundry* 86:134+ Ag '58

Wheelabrator's \$100,000 grant will promote graduate study. *Foundry* 86:142+ Ap '58

FOUNDRY equipment manufacturers association

Annual meeting, 39th, White Sulphur Springs, Oct. 17-19. *Foundry* 85:162+ D '57

FOUNDRY flasks

Aluminum-coated steel flasks are expendable. W. E. McFee. *Il Foundry* 86:196+ S '58

FOUNDRY laboratories

Ross-Meehan completes modern metallurgical laboratory. *Il Foundry* 86:172+ O '58

See also

Foundry research

FOUNDRY ladles

Hot steel ladle built in Australia. *Il Welding Eng* 43:70 Mr '58

Ladle stopper control apparatus; patent. *diag Iron & Steel Eng* 35:32+ S '58

Nozzle changes pay off; success of the steel pouring operation depends on quality of these freelay parts; abstracts of papers. *Steel* 142:144+ Ap 21 '58

Platform casts ladle relining costs; Timken roller bearing co. *Il Steel* 142:88 Je 30 '58

FOUNDRY machinery

Automatic machine blows shell molds, cores. *Il Foundry* 86:158 J1 '58

It's time to reappraise foundry automation. F. Miller. *Il Iron Age* 181:97-9 My 8 '58

Mechanized molding line is fast and flexible; Albion malleable iron co. W. G. Gude. *Il diag Foundry* 86:62-5 S '58

Pontiac's automatic foundry; cylinder block production. flow diag *Il Automotive Ind* 117:56-8 D 1 '57

Pontiac's new molding line. E. J. Texler. flow diag *Il Foundry* 85:110-13 D '57

Scale models aid in designing machines. R. H. Herrmann. *Il diag Foundry* 86:120+ J1 '58

See also

Die casting machines

Molding machines

Exhibitions

Foundry show, 62d, Cleveland. *Iron Age* 181:49 My 29 '58

FOUNDRY management

Close control keeps foundry on schedule. G. E. Loftin. *Il Iron Age* 181:100-3 My 8 '58

Creating a climate for management development; abstract. R. B. Parker. *Foundry* 86:181-2 J1 '58

How foundrymen look at equipment replacement. *Foundry* 86:136-45 My '58

How to set production standards for pouring, shifting, shakeout. J. E. Keith. *Foundry* 86:85-9 J1 '58

Improved casting design can cut foundry costs. G. A. Pealer. *Il Foundry* 86:120-1 Mr '58

Industrial engineering; abstracts of AFS papers. *Foundry* 86:142+ Ag '58

Maintaining a profit when volume is low. R. B. Sinclair. *Foundry* 86:110-12+ Mr '58

Methods analysis pays off; Electric steel foundry co. reduced scrap 60 per cent in three months. *Il Steel* 141:112-13 N 18 '57

Modernization program can pay its way. L. B. Knight. plan *Foundry* 86:146-50 My '58

People problems and problem people. R. L. Lee. *Foundry* 85:180+ N '57

Practical production controls. C. E. Andres. flow chart *Il Foundry* 85:91-3 D '57

Scrap control in nonferrous foundries. M. G. Dietl. *Foundry* 85:106-9 N '57

Weathering a recession. J. L. Carter. *Foundry* 86:39+ S '58

See also

Castings—Cleaning

Foundries—Employees

Foundry accounting

Foundry practice

Pattern storage

Quality control

Cutting costs through quality control. K. M. Smith. *Foundry* 86:65-9 Je '58

Delivery by pneumatic tubes speeds foundry tests; Adirondack steel castings co. *Il Iron Age* 181:106 Ap 10 '58

Quality control tests in the shell process. E. W. Jahn. *Il Foundry* 86:80-1 O '58

FOUNDRY practice

Buyers get better castings; hot blast melting. *Steel* 142:144+ F 17 '58

Cast-in tubing. H. L. Kee. *Il Product Eng* 29:76-9 My 12 '58

Casting magnesium-thorium alloys. T. A. Dickinson. *Il Foundry* 86:156+ F '58

Casting theory and practice discussed at AFS technical sessions; abstracts of papers. *Foundry* 86:168-70+ J1 '58

Cast a large propeller with CO₂ process. *Il Foundry* 86:96+ Je '58

Cast 150 engine blocks an hour; Pontiac's automated foundry line. *Il diag Steel* 141:122-4 D 2 '57

Control of castings with the aid of radioactive isotopes; abstract. B. B. Gulyayev and L. G. Demina. *Aeronautical Eng R* 17:17 Ja '58

Controlling the CO₂ process. F. L. Turk and others. *Il Foundry* 86:94-7 Ja '58

Foundry casts eye screws by the thousands. A. B. Chance co. *Il Foundry* 85:234+ N '57

Gray iron chilling practice. V. Pulsifer. *diag Foundry* 86:66-72 S '58

Inserts simplify rotor casting; hydraulic turbine runners. *Il Iron Age* 181:120 Je 5 '58

Light metals; abstracts of AFS papers. *Foundry* 86:148+ Ag '58

Mass production, it began in a foundry; comment on De la pirotechnica by Biringuccio. W. K. Bock. *Foundry* 86:214-15 Ja '58

Metals casting conference, 10th, Lafayette, Oct. 31-Nov. 1; with abstracts of papers. *Foundry* 85:148+ D '57

Metalworking, 1962; casting and molding. W. Ruten. W. O. Sweeney. *Am Mach* 101:136 N 18 '57

Michigan regional foundry conference, Michigan state university, Oct. 3-4; with abstracts of papers. *Foundry* 85:144+ N '57

Missouri Valley regional conference; Rolla, Mo. Sept. 27-28; with abstracts of papers. *Foundry* 85:170+ N '57

New England regional foundry conference, 17th, Cambridge, Oct. 18-19; with abstracts of papers. *Foundry* 85:138+ D '57

Niagara frontier regional foundry conference, Buffalo, Oct. 24-25; with abstracts of papers. *Foundry* 85:163+ D '57

Problems in making stainless steel castings. E. A. Schoefer. *Il Foundry* 86:114-19 Ap '58

Recent developments in the manufacture of castings. J. L. Rice and others. bibliog plan *diag Inst Mech Eng Proc* 172 no 4:133-51, pl 1-10; Discussion. 152-8; Reply. 158-60 '58

Reduced costs keep foundry competitive; Euhns Inc. centrifugal casting; better sand handling. *Il Steel* 142:136-7 My 19 '58

Rising of steel castings with exothermic sleeves. H. F. Bishop and others. *Il Foundry* 86:54-9 Je '58

Semicontinuous casting of beryllium copper. K. G. Winkle. *Il diag Metal Prog* 73:85-9 Ap '58

Southeastern foundry conference, 26th, Chattanooga, Feb. 20-21. *Foundry* 86:204+ Ap '58

Super-strong light-alloy castings. M. C. Flemings and H. F. Taylor. bibliog *Il Machine Design* 30:22-4 Je 12 '58

Vibration can improve casting quality. A. H. Freedman and others. bibliog *Il Foundry* 85:98-101 N '57

Wisconsin foundrymen conference, 21st, Milwaukee, Feb. 13-14; abstracts of papers. *Foundry* 86:217-18+ Ap '58

See also

Aluminum founding

American foundrymens society

Bronze founding

Cast iron

Casting, Centrifugal

Castings—Cleaning

Copper founding

Cores

Cupola furnaces

Die casting

Foundry machinery

International foundry congress

Iron founding

Lost wax process

Magnesium founding

Molds (for casting)

Pattern making

Steel castings

Bibliography

Russian foundry practice; abstracts from articles published in recent issues of the Russian publication *Litneoe proizvodstvo* (foundry industry). *Foundry* 86:126+ S '58

FOUNDRY practice—Continued

Mericast process

- Frozen mercury patterns, *il* Engineering 185: 797 Je 20 '58
 Investment casting with frozen mercury, *il* Engineering 186:177-8 Ag 8 '58
 Investment castings from mercury patterns, *il* Engineer 206:183-4 Ag 1 '58
 Mercury patterns for precision castings; Sankey-Telcon, *ltd.* *il* Metallurgia 58:130-4 S '58
 New casting process, *Electronic Eng* 30:611 O '58

Shaw process

See Molds (for casting)—Ceramic molds

Shell molding

- Controlling variables in processing shell molding sands, *J. E. Bolt*, *Foundry* 86:107-9 Ap '58
 D molds make precise steel castings, *il* Steel 141:110-13 N 11 '57
 Forsterite offers advantages as shell mold material, *W. H. Owen*, *il* Foundry 86:134-5 F '58
 How five foundries use shell molding, *R. H. Herrmann and J. C. Miske*, *il* Foundry 86:93-103 Ap '58
 Investment casters push ceramic shell use, *T. Operhall*, *il* Foundry 86:68-70 O '58
 New foundry for precision casting steel; Samuel Osborn & Co, *il* plan diag Metallurgia 58:29-31+ J1 '58
 Quality control tests in the shell process, *E. W. Jahn*, *il* Foundry 86:80-1 O '58
 Shell cores for problem jobs, *R. M. Ronne*, *il* Foundry 86:166+ Je '58
 Shell cores save machining; Foundry products div., Cooper alloy corp, *il* diag Steel 143:102 S 8 '58
 Shell-molded crankshafts require less stock removal, *J. R. Vnette*, *il* Mach 64:146-8 F '58
 Shell molding incentive plan increases production 35 per cent; Production pattern & foundry co., *E. W. Jahn*, *il* Foundry 86:160-2+ Mr '58
 Shell molding: ten years of progress, *il* Foundry 86:80-93 Ap '58
 Shell molds add to steel's uses, *il* Steel 142: 70-1 F 24 '58
 Shell pattern equipment must meet high standards, *R. Olson*, *il* Foundry 86:104-6 Ap '58
 Sodium-silicate bonded shell molds, *P. J. Ahearn and G. I. Gartner*, *il* diag Foundry 86:98-101 F '58

Study and teaching

- American foundrymen's society institute expands training courses, *E. E. Betterley*, *Foundry* 86:176+ Mr '58
 Caloric built-in domestic ranges glamorize Brooklyn foundry, *W. H. Ruten*, *il* Am Gas Assn Mo 39:50-1 N '57
 Cleveland's new trade school includes modern foundry and pattern shop, *il* Foundry 86: 130+ D '57
 Eastern apprenticeship conference discusses foundry training needs, *Foundry* 86:172 Ag '58
 Education and our industry's survival; panel discussion by American foundry congress, *Foundry* 86:138+ Ag '58
 Why management must train employees, *F. G. Seifing*, *Foundry* 86:155-6 Ja '58

See also

Foundry educational foundation

FOUNDRY research

- Investigation of metallurgical and mechanical effects in the development of hot tearing, abstract, *H. F. Bishop and others*, *Metal Prog* 73:153+ Mr '58
 Launch castings-for-aircraft research, *Am Mach* 101:159 D 16 '57
 Mold-metal interface reactions, *H. F. Taylor and J. Navarro*, *bibliog* *il* diags Foundry 85:76-80 D '57
 Personnel needs of the foundry industry, *C. J. Freund*, *Foundry* 86:104+ O '58
 Research run amuck, *R. L. Lee*, *Foundry* 86:144+ D '57

FOUNDRY sand. See Sand, Foundry

FOUNDRY workers. See Foundries—Employees

FOUNTAIN pens

- Nylon parts lengthen life of ball point pen, *A. E. Simon, jr.*, *il* diags Materials in Design Engr 47:124-5 Ja '58
 Single pushbutton operates combination pen and flashlight, *il* diags Machine Design 30: 120 Je 26 '58

FOUNTAINS

- Water and architecture, *E. B. Kassler*, *il* diags Arch Rec 123:137-52 Je '58

Lighting

- Fountain of lights on in Rockefeller center, *Elec Eng* 77:860 S '58
 Illuminated fountain; New York's international airport, *il* diags Elec Constr & Maint 57:83-80 Mr '58

FOUNTAINS, Drinking. See Drinking fountains

4-H clubs

- 4-Hers look for new electrical ideas, *Elec World* 149:43 Ja 6 '58

FOURDRINER machines. See Paper making machinery

FOURIER series

- Analogue computer for Fourier transforms, *D. G. Tucker*, *bibliog* *il* diag Brit Inst Radio Eng J 18:233-5 Ap '58
 Analysis of continuous beams by Fourier series, *J. L. Lee*, *diags Am Soc C E Proc* 83 [EM 4 no 1399]:1-13 O '57; Discussion, *84 J. Medwadowski*, *84 [EM 1 no 1520]:33-4 Ja '58*; Reply, *84 [EM 4 no 1831]:5-8 O '58*
 Calculator for numerical Fourier synthesis, *V. Timbreil*, *il* diags *J Sci Instr* 35:313-18 S '58
 Fourier series representation of the dispersion curves for circular iris-loaded waveguides, *P. N. Robson*, *bibliog diags Inst E E Proc* 105 pt B:69-72 Ja '58
 Numerical Fourier transformation, with special reference to Lipson-Beevers strips, *P. Felgett*, *J Sci Instr* 35:257-8 J1 '58
 Resolution of doublet lines in spectra by a Fourier series technique, *B. F. Canty and A. D. Franklin*, *J Ap Phys* 29:370-1 My '58
 Semiautomatic, two-dimensional Fourier analog computer, *L. V. Azaroff*, *il R Sci Instr* 29:317-18 Ap '58

FRACTION collector. See Distillation apparatus

FRACTIONAL horsepower motors. See Electric motors—Fractional horsepower

FRACTIONATOR. See Separation

FRACTIONATOR. See Distillation apparatus

FRACTURE of glass. See Glass—Fracture

FRACTURES

- Immobilization of fractures, *J. L. Fleming*, *Ind Med* 27:410-12 Ag '58
 Treatment for os calcis fractures, *C. R. Zeiss*, *il Ind Med* 27:130-41 Mr '58

FRAMED structures

- Analysis of frames with curved and bent members, *J. J. Tuma and others*, *diags Am Soc C E Proc* 84 [ST 5 no 1764]:1-32 bibliog(p30-2) S '58
 Analysis of rigid frames by successive replacement, *L. K. Chon and S. F. Li*, *diags Am Soc C E Proc* 84 [ST 5 no 1761]:1-18 S '58
 Behavior of welded corner connections; welded continuous frames and their components progress report no. 23, *J. W. Fisher and others*, *bibliog* *il diags Welding J* 37:sup216-32 My '58
 Circuit analysis of laterally loaded continuous frames, *F. Baron*, *diags Am Soc C E Proc* 83 [ST 1 no 1147]:1-32 bibliog(p31-2) Ja '57; Discussion, *Y. Nubar*, *83 [ST 5 no 1382]: 33-6 S '57*; Reply, *84 [ST 1 no 1522]:9-10 Ja '58*
 Dynamic elasto-plastic response of rigid frames, *F. L. DiMaggio*, *diags Am Soc C E Proc* 84 [EM 3 no 1693]:1-29 J1 '58
 Framing of small tank vessels, *F. O. Karppi*, *bibliog diags Marine Eng/Log* 63:66-9 My '58

- How to get better, less costly welded connections, *V. F. Saxe*, *il diags Eng N* 161: 34-6 Ag 21 '58

- Pin-ended gabled frames; solving by the method of consistent deformations, *J. Chinn*, *bibliog diags Am Soc C E Proc* 83 [ST 5 no 1353]:1-12 S '57; Discussion, *84 [ST 1 no 1522]:93-4 Ja*; [ST 2 no 1576]:23-9 Mr '58; Reply, *84 [ST 7 no 1857]:3-12 N '58*

- Rigid frame analysis with the aid of digital computers, *E. Czerniak*, *diags Am Soc C E Proc* 84 [ST 3 no 1634]:1-31 My '58

- Steel frame building to cost \$19 million; Criminal court building for New York city in Queens borough, *il Eng N* 161:99 S 18 '58

- Temperature stresses in continuous frames, *S. Hassid*, *diags Am Concrete Inst J* 29: 415-20 N '57

- Welded steel frame collapses; headquarters of the Union carbide co. of Canada, *il Eng N* 161:27 S 11 '58

FRAMING (building)

- Analysis of braced frames. K. H. Gerstle. diags Am Soc C E Proc 84 [ST 2 no 1560]: 1-11 Mr '58; Discussion. 84 [ST 3 no 1656]: 87-8 My; [ST 6 no 1827]: 23-7 O '58
- Analysis of frames with knee braces. S. L. Lee. diags Civil Eng 28:670-1 S '58
- Analysis of multi-story building frames. T. F. Hickerson. diags Am Soc C E Proc 83 [ST 3 no 1233]: 1-13 N '57; Discussion. 83 [ST 6 no 1442]: 7-13 N '57; Reply. 84 [ST 3 no 1656]: 11-14 My '58
- Building a factory fast with steel and concrete. Boeing developmental center, Seattle. *il* Eng N 160:48-51 Ja 23 '58
- Building frame analyzed by computer. E. S. Brandon. plan Eng N 159:34-5 D 19 '57
- Cost study of four types of hospital floor framing. G. S. Feldman. plan Eng N 160: 106-8 Mr 20 '58
- Demonstrations of plastic behaviour of steel frames. H. M. Nelson and others. bibliog *il* diags Am Soc C E Proc 83 [EM 4 no 1390]: 1-37 O '57; Discussion. Z. Sobotka. 84 [EM 2 no 1619]: 9-12 Ap '58; Reply. 84 [EM 4 no 1831]: 3 O '58
- Design of rigid frame bents. R. Z. Zimmermann, Jr. diags Am Soc C E Proc 83 [ST 6 no 1434]: 1-33 N '57; Discussion. 84 [ST 2 no 1576]: 47-58 Mr; [ST 3 no 1656]: 43-71 My '58; Reply. 84 [ST 5 no 1787]: 17-18 S '58
- Foundation design and methods cut skyscraper cost. R. C. Johnston and N. W. Kozlakin. *il* Eng N 161:34-6+ J1 24 '58
- Girders span building width; welded-frame for Union Carbide Canada Ltd., Toronto. *il* Eng N 161:59 J1 3 '58
- Lateral deflections and stresses in building frames. R. E. McClellan. diags Am Soc C E Proc 83 [ST 5 no 1354]: 1-13 S '57; Discussion. E. N. W. Lane. 84 [ST 3 no 1656]: 29-32 My '58
- Load tests lead to better roof framing. *il* Eng N 161:113-14 S 11 '58
- Outside frame skeleton on all-welded building gives clean inner area. cuts cost; Crown Hall at the Technology Center of Illinois Institute of Technology. R. Zeh. *il* diag Welding J 37:136-7 P '58
- Piles by water. girders by land; apartment over New York city's East River drive. *il* Eng N 161:54-5 J1 3 '58
- Pin connection speeds erection; tubular steel building frame. *il* diags Eng N 161:57 Ag 14 '58
- Plastic design of a four-storey steel frame; Cambridge university's engineering laboratory. M. R. Horne. bibliog *il* plans diags Engineer 206:204-8, 244-6 Ag 8-15 '58
- Prestressed bars wind-brace new hotel; Queen Elizabeth hotel in Montreal. *il* diags Eng N 159:33-44 N 14 '57
- Slope beam system cuts cost of low profile roofs. *il* diag Arch Rec 122:197 D '57
- Steel erector comes and goes. *il* Eng N 160:26 Ap 3 '58
- Texas Instruments' new plant; space frame gives building operational flexibility. J. McDade and F. J. Snyder. *il* diags Plant Eng 12:99-106 Ap '58
- Ultimate shear strength of reinforced concrete flat slabs, footings, beams, and frame members without shear reinforcement. C. S. Whitney. bibliog diags Am Concrete Inst J 29:265-98 O '57; Discussion. 29:1157-62; Reply. 1162-4 Je '58
- Welded cantilevered trusses frame elevated school. O. Blodgett. *il* diags Prog Arch 39:138-41 Ag '58
- Welded steel trusses span three-use building housing two gyms and an auditorium. *il* Eng N 160:57-8 Mr 6 '58
- Welded-steel tubing; curtain-wall applications. *il* diags Prog Arch 39:140-5 F '58

FRANCE

- See also subdivision France under special subjects, e.g.
- Aluminum industry and trade
- Atomic power plants
- Chemical engineering
- Chemical industries
- Coal
- Electric railroads
- Electric utilities
- Electricity supply
- Electronics industry
- Engineering
- Engineering education
- Gas, Natural
- Mines and mineral resources
- Money
- Petroleum
- Petroleum industry and trade
- Railroads
- Science and state

Politics and government

- What will happen in the French and European chemical industry with de Gaulle in power? Chem & Eng N 36:23 Je 16 '58
- FRANKFURTERS. See Sausage
- FRANKLIN institute
- Annual medal day, 32d. Chem & Eng N 36: 105-6 O 27 '58
- Annual meeting, Philadelphia, Jan. 15. Franklin Inst J 265:145-7 F '58
- Annual report of the board of managers for the year 1957. *il* Franklin Inst J 265:227-52 Mr '58
- Franklin Institute and Central high school in their early days. J. S. Hepburn. bibliog Franklin Inst J 265:43-8 Ja '58
- Franklin Institute museum; anchors; exhibit. T. Coulson. Franklin Inst J 266:135-6 Ag '58
- Franklin Institute museum; from atoms to kilowatts; exhibit. T. Coulson. Franklin Inst J 265:263-4 Mr '58
- Franklin Institute museum; pulp and paper making exhibit. T. Coulson. Franklin Inst J 265:63-4 Ja '58
- Franklin Institute museum; research and patents. T. Coulson. Franklin Inst J 265: 499-500 Je '58
- Medal day proceedings. Franklin Inst J 264: 181-501 D '57
- FREE energy
- Dissociation pressure of sodium bifluoride; the free energy and enthalpy change for the reaction of NaHF_2 (s) \rightarrow NaF (s) + HF (g) from 157 to 263°. J. Fischer. Am Chem Soc J 79:6363-4 D 20 '57
- Gibbs potentials as work functions. A. J. deBethune. bibliog Ind & Eng Chem 50: 129-30 Ja '58
- Heat, free energy and entropy of the ferrate(VI) ion. R. H. Wood. bibliog Am Chem Soc J 80:2038-41 My 5 '58
- Some ionic free energies in liquid ammonia. K. Schug and H. L. Friedman. bibliog Am Chem Soc J 80:45-9 Ja 5 '58
- Volumetric and the thermodynamic properties of fluids; enthalpy, free energy, and entropy. R. F. Curl, Jr. and K. S. Pitzer. bibliog Ind & Eng Chem 50:265-74 F '58
- FREE piston engines. See Gas turbines—Free piston engines
- FREE piston system of gas production. See Gas, Natural—Production methods
- FREE ports and zones
- Free trade zone for Ohio? Am Mach 102:72 Je 30 '58
- FREE radicals. See Radicals (chemistry)
- FREE trade and protection
- Britain pushes FTA. Chem & Eng N 36:92 O 27 '58
- FREENESS testing. See Paper making—Freeness testing
- FREEWAYS. See Expressways
- FREEZE drying. See Drying
- FREEZERS
- Economics of coils vs fan or blower units in combination freeze and hold freezers; abstract. B. C. McKenna. Refrig Eng 66:61-2 Ja '58
- Packaged quick freezing equipment; abstract. F. P. Neff. Refrig Eng 66:64+ Ja '58
- Vapor-proofs freezer unit with low-cost sheeting; Alumiseal Zero Perm. *il* Food Eng 30: 119 Ja '58
- FREEZERS, Portable
- Mobile unit freezes foods in multiple locations. *il* Refrig Eng 66:96 Ja '58
- FREEZING
- Freezing and drying; Institute of biology's 2d international symposium. Chem & Ind 1997-8 Ag 9 '58
- Freezing in towers, condensers poses serious problem during winter operation. S. Sussman. Heating-Piping 30:98 F '58
- Freezing of liquids in porous media with special reference to frost heave in soils. K. A. Jackson and B. Chalmers. diags J Ap Phys 29:1178-81 Ag '58
- Potable water from saline sources; a refrigeration opportunity. W. R. Woolrich. Refrig Eng 66:52-3+ F '58
- Saline water conversion by freezing; with cost data. H. M. Hendrickson. *il* diags Refrig Eng 66:31-7+ Ag '58

FREEZING—Continued

X-rays measure fruit freezing. *Electronics* 31:8 Ap 11 '58

See also

Concrete Freezing
Fish, Frozen
Food, Frozen
Gas, Natural—Pipe lines—Freezing
Refrigeration and refrigerating machinery
Soils—Freezing
Steam pipes—Freezing
Water pipes—Freezing

FREEZING points

Automatic cryoscopic determination of molecular weights. E. L. Simons. *bibliog diag* Anal Chem 30:979-82 My '58

See also

Cryoscope

FREIGHT airplanes. See Airplanes, Freight

FREIGHT and freightage

See also

Freight ships
Packing for shipment
Shipment of goods

FREIGHT car service

See also

Trailers—Transportation

FREIGHT cars

Gas is used in infrared car thawing. *Il Am Gas Assn Mo* 40:22-3 F '58

Heavy transporter wagon to move a large stator for a 21mva generator. *Il Engineer* 205:517 Ap 4 '58

Westinghouse shows how to haul a giant. *Il Elec World* 148:41 D 23 '57

You don't have to live with rail damage; cushioned underframe boxcar. G. C. Thomas. *Il diags Mod Materials Handling* 13:99-102 Ap '58

See also

Loading and unloading—Cars

Maintenance and repair

See also

Car shops
Railroads—Shops

Manufacture

Steel plant kondola cars fabricated by welding. R. Losee. *Il Welding Eng* 43:41-2 Jl '58

Weight

Calculation of bulk materials remaining in hopper cars. T. S. Abbott. *diags Power Ind* 74:26-7 Jl '58

Railroad cars weighed without uncoupling; system called railweight. Iron & Steel Eng 34:177 D '57

FREIGHT handling

See also

Cargo handling
Container system (freight handling)
Containers (for shipping)
Freight ships
Hoisting machinery
Loading and unloading—Ships
Motor trucks in freight service
Ore handling
Terminals

FREIGHT rates

See also

Shipping—Rates

FREIGHT ships

American Export's fast cargo liner. *Il diag Marine Eng/Log* (Yearbook no) 63:129-4 My 31 '58

American President's Sea Racers. *Il diag Marine Eng/Log* (Yearbook no) 63:131-2 My 31 '58

Cargo-passenger ships; illustrations with text. *Engineer* 205:pl 7 Ja 10 '58

Cargo ships; illustrations with text. *Engineer* 205:pl 10 Ja 3 '58

Converted Liberty delivers 9000 tons of cement per trip. *Il plans diags Marine Eng/Log* 63:79-81 Mr '58

Designed to cut cargo-handling costs. J. L. Goldman. *plan diags Marine Eng/Log* 63:43-7 Ja '58

Evolution of the cargo ship. *diags Am Soc Naval Eng* J 70:423-31 Ar '58

Gas turbine ship John Sergeant. flow diag *Il Engineer* 204:542-5 O 11 '57

Introduce new bulk carrier design. *plan diags Marine Eng/Log* 63:68-9 Jl '58

Losses of small ships; discussion. *Engineer* 205:539 A 11 '58

Lykes' bulk and general cargo ship. *Il diag Marine Eng/Log* (Yearbook no) 63:130-4 My 31 '58

Moore-McCormack's new freighter. *Il diag Marine Eng/Log* (Yearbook no) 63:128-4 My 31 '58

New steamship services to Hawaii and Alaska. *Il Marine Eng/Log* 63:33F Ar '58

New York Ship welcomes the opportunity to build first nuclear merchant ship. *Il Marine Eng/Log* 63:58-9 Ja '58

Something new in dry bulk carriers; MV Alexander T. Wood. *Il Marine Eng/Log* 63:62-3 F '58

USNS Comet; vehicle-cargo ship, designated as a roll-on/off carrier, built for the Military sea transportation service. T. Pavlik and D. Myrick. *Il plans diags Marine Eng/Log* 63:61-9 Mr '58

USNS Titanin, a prototype ship for MSTs; ice-strengthened cargo vessels. *Il plans Marine Eng/Log* 63:49-57 F '58

USNS Point Barrow, cargo ship (dock). *Il plans diags Marine Eng/Log* 63:49-56 Ar '58

Unusual arrangement for extra capacity; World Japonica. *Il plans Marine Eng/Log* 63:64-7 Ja '58

What type of cargo ship is best? abstract. S. A. Vincent. *Marine Eng/Log* 63:86 Ap '58

See also

Tank ships

FREIGHT yards. See Railroads—Yards

FRENCH language

Language translation. A. F. R. Brown. *Assn for Computing Mach J* 5:1-3 Ja '58

FREEON. See Chlorofluoromethanes

FREEON 11. See Trichlorofluoromethane

FREEON 12. See Dichlorodifluoromethane

FREEON 22. See Chlorodifluoromethane

FREQUENCY changers

Amplitude/frequency response display using a ratio method. H. L. Mansford and others. *diags Electronic Eng* 30:541-4, 595-7 S-O '58

Ferronagnetic resonance frequency converter. K. M. Poole and P. K. Tien. *bibliog diags Inst Radio Eng Proc* 46:1387-96 Jl '58

Frequency-converter welding control using counting tubes. L. R. Broniak and W. A. Chaisson. *Il diags Welding J* 37:336-41 Ap '58

Harmonic amplifier for X-band local oscillator. W. J. Dauksner. *Il diags Electronics* 31:80-2 Je 20 '58

Harmonic generation with nonlinear reactances. K. K. N. Chang. *bibliog Il diags RCA R* 19:455-64 S '58

High frequency lighting with only one moving part. S. Krasnow. *Il diags Plant Eng* 12:96-8 O '58

Magnetic-core dividers for tv sync generators. A. Rose. *Il diags Electronics* 31:76-7 Ap 11 '58

Microwave frequency conversion studies in magnetized ferrites. E. N. Skomal and M. A. Medina. *J Ap Phys* 29:423-4 Mr '58

New power unit for plant lighting; compact high-frequency converter has no moving parts. *Il diag Plant Eng* 12:130-1 Ja '58

Regenerative divider drives precision clock. D. P. Henderson. *Il diags Electronics* 31:77-9 Ar 1 '58

Reluctance motors for adjustable frequency drives. C. G. Helmick and A. T. Bachler. *Il diags Westinghouse Eng* 16:118-22 Jl '56

Same. *Product Eng* 28:H22-5 Mid-O '57

Same abr. *Machine Design* 28:142-4 O 18 '56

Three-phase induction-motor control using static-frequency doublers. A. Strauhen and others. *bibliog diags Applications & Ind* 68-66 My '58

Transistorized high-frequency power source for lighting; Westinghouse electric corp. *Il Plant* 17:67 Ja '58

Vanguard 108; two-tube 108-mc converter. R. Giesham. *bibliog Il diag Radio-Electronics* 29:101-3 Ja '58

Variable-speed drives using ac equipment; abstract. H. S. Neuville. *diags Machine Design* 29:114-15 D 26 '57

Noise

Gain and noise figure of a variable-capacitance up-converter. D. Lenov. *diags Bell System Tech J* 37:989-1008 Jl '58

Shot noise in a p-n junction frequency converter. A. Uhlin. *Il bibliog diags Bell System Tech J* 37:951-88 Jl '58

FREQUENCY conversion in superheterodynes. See Radio receiving apparatus—Superheterodyne receivers

FREQUENCY converters. See Frequency changers

FREQUENCY distribution (statistics)

Control charts for log-normal universes. E. B. Ferrell. *Ind Quality Control* 15:4-6 Ag '58
Here's a simple way to interpret data; use an orive. N. FitzSimons. *Eng N* 160:47-9+ Je 12 '58

100 frequency curves of North American rivers. E. Kuiper. *Am Soc C E Proc* 83 [HY 5 no 1395]:1-31 O '57; Discussion. 84 [HY 1 no 1558]:61-3 F; [HY 2 no 1616]:19-24 Ap '58; Reply. 84 [HY 5 no 1832]:59-60 O '58

Predicting ends down from small lot spinning tests. H. K. C. Woo. *Textile Res J* 28:612-16 Ji '58

FREQUENCY dividers

Special timing techniques employed on guided missile ranges using a crystal oscillator and frequency dividers. R. J. Garvey. *Il diags Electronic Eng* 30:2-9 Ja '58

FREQUENCY measurement

Measurement of natural frequency. A. B. Kaufman. *Il diags Instruments & Automation* 30:2266-9 D '57

Measuring frequency of X-band standard cavities. W. A. Gerard. *Il diags Electronic Ind* 17:66-70 F '58

Pulse-type frequency measurement; apparatus for the checking of crystal oscillators. J. C. Muller. *diags Wireless World* 64: 83-5 F '58

See also

Clocks—Atomic clocks

Radio standards

FREQUENCY meters

All-transistor direct-reading audio-frequency meter. D. Stone. *Il diag Radio-Electronics* 29:51-3 Ja '58

Direct-reading frequency meter. A. V. J. Martin. *diag Radio-Electronics* 29:109 Ji '58

400-cycle transient frequency meter. F. E. Dickey. *Il diags Elec Eng* 76:1076-8 D '57

Provides frequency deviation. J. Cowan. *Il Elec World* 149:78 Ja 13 '58

FREQUENCY mixing

Parametric amplification and frequency mixing in propagating circuits. P. K. Tien. *bibliog diags J Ap Phys* 29:1347-57 S '58

FREQUENCY modulation. See Radio frequency modulation

FREQUENCY modulation receivers. See Radio receiving apparatus—Frequency modulation receivers

FREQUENCY modulation transmitters. See Radio transmitters—Frequency modulation transmitters

FREQUENCY standards

Experimental evaluation of the oxygen microwave absorption as a possible atomic frequency standard. J. M. Richardson. *bibliog diags J Ap Phys* 29:137-45 F '58

50-kc transistor-multivibrator frequency standard. R. E. Berke. *Il diag Q S T* 42: 18 Ji '58

Magic crystal. R. A. Sykes. *Il Mag of Stand* 29:160-2 Je '58

FREYSSINET, Eugene

Sketch. *por Am Concrete Inst J* 29:sup:3-4 Mr '58

FRICTION

Analysis of equilibrium operating temperatures of railroad journal bearings. W. M. Keller and G. L. Pigman. *Lub Eng* 14:108-15 Mr '58

Coefficients of flat-surface friction. A. O. Schmidt and E. J. Weiter. *bibliog diags Mech Eng* 79:1130-6 D '57; Abstract. *Machine Design* 29:178+ N 14 '57

Contact of metallic bodies; effect of tangential force. J. S. Courtney-Pratt and E. Eisner. *bibliog Engineering* 185:132-3 F 7 '58

Experiment on flat plate turbulent boundary layer flow; effect of local fluid addition on friction and velocity distribution. H. Barrow. *bibliog Il Roy Aeronautical Soc J* 62:135-8 F '58

Factors influencing wear and friction of solid film lubricants. R. E. Crump. *Product Eng* 28:C24-7 Mid-O '57

Friction and heat transfer in a rough tube at varying Prandtl numbers. R. C. Hastrup and others. *diag Jet Propulsion* 28:259-63 Ap '58

Friction and lubrication of machine tool slideways. T. M. Birchall and A. I. W. Moore. *Il diags Engineer* 206:476-9 S 26 '58

Friction characteristics for hydraulic seals; chart. R. W. Carlson. *diags Product Eng* 28:J6 Mid-O '57

Friction coefficients of graphite over the temperature interval 25°C to 2450°C. A. R. Driesner and P. Wakner. *bibliog diag J Ap Phys* 29:901-3 Je '58

Friction in cold rolling. G. T. van Rooyen and W. A. Backofen. *bibliog Il diags Iron & Steel Inst J* 186:235-44 Je '57; Correction. 188:353 Ap '58

Friction of polytetrafluoroethylene dry bearings. S. B. Twiss and others. *bibliog diags Lub Eng* 14:255-61+ Je '58

Friction under control. Progrev treatment. *Engineering* 184:597 N 8 '57

Frictional resistance of steel H-piling in clay. E. Vey. *bibliog diags Am Soc C E Proc* 83 [SM 1 no 1160]:1-31 Ja '57; Discussion. 83 [SM 2 no 1228]:49-52 Ap; [SM 3 no 1319]: 25-30 Ji; [SM 4 no 1430]:15-17 N '57; Reply. 84 [SM 2 no 1657]:7-8 My '58

Gas-friction; heat transfer charts for ducted flows. S. V. Manson. *A S M E Trans* 80: 733-5; Discussion. F. Landis. 735; Reply. 735-8 Ap '58

Heat transfer and fluid friction during flow across banks of tubes; the effect of internal leakages within segmentally baffled exchangers. O. F. Bergelin and others. *bibliog Il diag A S M E Trans* 80:53-60 Ja '58

How to calculate and apply annular friction losses between tubing and casing. R. W. Brown. *Pet Engr* 30:B22-6 Ag '58

Institute of paper chemistry friction meter. W. W. Apple. *Il diag Tappi* 41:sup 151A-2A My '58

IBM paper friction tester. H. O. George and J. E. Arnout. *Il diags Tappi* 40:972-4 D '57

Lubrication in the refinery; using lubricants to fight friction. *diags Oil & Gas J* 55:244 N 18 '57

Method for studying the behavior of cutting fluids in wear of tool materials. L. V. Colwell. *Il diags A S M E Trans* 80:1054-8 Ji '58

New apparatus for studying static and dynamic glass-to-glass friction; abstract. R. D. Southwick. *Cer Ind* 69:86 D '57

New method of determination of coefficient of sliding friction and its application to the study of adsorptional lubrication; abstract. G. I. Epifanov and others. *diag Lub Eng* 14:186-7 Ap '58

Pipe chart for water friction; to get pipe size, chart the rate of flow and friction loss. W. W. Gaylord. *Plant Eng* 12:39 F '58

Plastics as solid lubricants and bearings; friction and wear of plastics with particular reference to polytetrafluoroethylene. A. J. G. Allan. *bibliog Lub Eng* 14:211-15 My '58

Plowing theory of yarn surface friction. E. J. Kaliski. *bibliog diags Textile Res J* 28:325-9 As '58

Resistance to rolling and sliding. A. C. Dunk and A. S. Hall, Jr. *Il diags A S M E Trans* 80:915-19; Discussion. 919-20 My '58

Scuffing. L. A. Cooper. *Engineering* 185:355-6 Mr 21 '58

Static friction in dynamic systems. C. F. Branson. *diags J Aero/Space Sci* 25:654-5 O '58

Turbulent friction factor of flow through narrow annuli. L. N. Tao. *J Aeronautical Sci* 24:915 D '57

Viscosity-pressure effect on friction and temperature in a journal bearing. S. J. Needs. *A S M E Trans* 80:1099-102; Discussion. H. A. Hartunak. 1102-3 Ji '58

Wear of Teflon sliding on Teflon. D. G. Flom. *J Ap Phys* 28:1361-2 N '57

See also

Skin friction

FRICTION, Internal

Effect of suspension position on apparent values of internal friction determined by Forster's method. J. B. Wachtman Jr and W. E. Tefft. *bibliog diag R Sci Instr* 29: 517-20 Je '58

Internal friction in aluminum at low temperatures. A. J. Filmer and others. *bibliog J Ap Phys* 29:146-8 F '58

Internal friction measurements. A. Sosin and others. *diag R Sci Instr* 29:657-9 Ji '58

Investigation of low-temperature internal friction. E. L. Caswell. *bibliog J Ap Phys* 29:1210-14 Ag '58

FRICTION materials

Considerations for friction materials. T. W. Driesch. *Il Product Eng* 29:C 16-17 Mid-S '58

Friction materials for power transmission. *diags Product Eng* 28:E8-9 Mid-O '57

Friction materials; today and tomorrow. A. W. Shearer. *Il diag Automotive Ind* 118:62-7+ Ap 1 '58

FRICTION materials—*Continued*

- Properties of friction materials. P. R. Bassford and S. B. Twiss, bibliog *diags A S M E Trans* 80:402-10 F '58
 Selecting friction materials. E. J. Salter, *II Materials in Design Eng* 46:130-3 O; 134-7 N '57
 Sintered friction elements. *II Engineer* 205: 630 Ap 25 '58

Testing

- Determining the coefficient of friction for moulded and laminated brake-lining materials. H. W. Baker, *II Engineering* 155:785-6 Je 20 '58

FRIEDEL-CRAFTS reaction

- Chemical engineering unit processes; Friedel-Crafts acylations. K. L. Nelson, *Ind & Eng Chem* 50:1414-25 bibliog (p 1423-5) pt 2 S '58
 Effect of various Friedel-Crafts catalysts on the rates and kinetics of the reaction of benzoyl chloride with aromatics. F. R. Jensen and H. C. Brown, bibliog *Am Chem Soc J* 80:3039-47 Je 20 '58
 Friedel-Crafts condensation of *trans*-2-hydroxycyclohexanecarboxylic acid lactone with aromatic hydrocarbons. D. D. Phillips and D. N. Chatterjee, bibliog *Am Chem Soc J* 80:1360-6 Mr 20 '58
 Friedel-Crafts condensation of *trans*-2-hydroxycyclohexanecarboxylic acid lactone with aromatic hydrocarbons; *p*-xylene, tetralin and α -methyl-naphthalene. D. D. Phillips and D. N. Chatterjee, bibliog *Am Chem Soc J* 80:1911-15 Ap 20 '58
 Kinetics of the Friedel-Crafts benzoylation of benzene with aluminum chloride as catalyst and benzoyl chloride as solvent. H. C. Brown and F. R. Jensen, bibliog *diags Am Chem Soc J* 80:2291-6 My 5 '58
 Kinetics of the Friedel-Crafts sulfonylation of aromatics with aluminum chloride as catalyst and nitrobenzene as solvent. F. R. Jensen and H. C. Brown, bibliog *Am Chem Soc J* 80:4058-41 Ag 5 '58
 Kinetics of the Friedel-Crafts sulfonylation of benzene, chlorobenzene and toluene with aluminum chloride as catalyst and benzene-sulfonyl chloride as solvent. F. R. Jensen and H. C. Brown, bibliog *Am Chem Soc J* 80:4042-5 Ag 5 '58

FRIEDMAN, Bernard S.

- Potshots at crazy ideas. *por Chem & Eng N* 36:96 O 13 '58

FRINGE benefits. See Employees benefit plans**FRINGES (optics). See Interference (light)****FRITS**

- Frit for vitreous enamelling. *II Engineer* 206:139-40 Jl 25 '58

Analysis

- Spectrochemical determination of fluorine in porcelain enamel frits. D. C. Spindler and M. F. Smith, bibliog *Anal Chem* 30:1330-2 Ag '58

FRITS, Agricultural

- Borosilicate glass as a continuing source of boron for alfalfa. E. R. Holden and A. J. Engel, *J Agri & Food Chem* 6:303-6 Ap '58
 Effect of composition and reactivity of borosilicate glass on boron status of alfalfa. E. R. Holden and W. L. Hill, bibliog *J Agri & Food Chem* 6:531-6 Jl '58
 Frits for the soil. *J Agri & Food Chem* 6: 422-3+ Je '58

FRITZ, John, medal

- Dr Kelly to receive 1959 medal. *Bell Lab Rec* 36:351 S '58
 John R. Suman receives 1958 medal. *Pet Eng* 29:114 D '58
 J. R. Suman to receive John Fritz medal for 1958. *Elec Eng* 77:85 Ja '58

FRITZSCHE award

- George Buchi received award. *Chem & Eng N* 36:60 Ap 28 '58

FROST heaving

- Freezing of liquids in porous media with special reference to frost heave in soils. K. A. Jackson and B. Chalmers, *diags J Ap Phys* 29:1178-81 Ag '58

FROTH. See Foam**FROZEN brine. See Brine, Frozen****FROZEN candy. See Candy, Frozen****FROZEN citrus fruit juice. See Citrus fruit juice, Frozen****FROZEN fish. See Fish, Frozen****FROZEN food. See Food, Frozen****FROZEN meat. See Meat, Frozen****FROZEN poultry. See Poultry, Frozen****FROZEN shrimps. See Shrimps, Frozen****FROZEN vegetables. See Vegetables, Frozen****FRUCTOSE**

- 3,6-Anhydro- α -D-galactopyranosyl 1,4;3,6-dianhydro- β -D-fructoside; a chemical proof of the configuration at the anomeric center of the fructose moiety of sucrose. R. U. Lemieux and J. P. Barrette, bibliog *Am Chem Soc J* 80:2243-6 My 5 '58
 Cheaper fructose on way? gamma rays can convert inulin to this sugar. D. K. Salunkhe and F. Y. Moser, *Food Eng* 30:110 My '58

FRUCTURONIC acid

- Enzymatic formation of D-tagaturonic and D-fructuronic acid. A. J. Wahba and others, bibliog *Am Chem Soc J* 80:2594-5 My 20 '58

FRUIT

- Chlorogenic acids of some stone fruits; abstract. J. Corse and R. Bean, *Chem & Ind* p213-14 F 22 '58
 Free amino acids of certain fruits; abstract. L. P. Burroughs, *Chem & Ind* p483; Discussion. 483-4 Ap 26 '58
 Isolation of chlorogenic acid from several vegetables, fruits and medicinal plants; abstract. K. Herrmann, *Chem & Ind* p215 F 22 '58
 Relationship of chemical composition to quality in fruit and vegetables for canning; abstract. D. Dickinson, *Chem & Ind* p482-3; Discussion. 483-4 Ap 26 '58

See also

Apples
 Blueberries
 Cherries
 Grapes
 Passion fruit
 Peaches
 Pears
 Strawberries

Preservation

- Evaluating concentrations of spectrally absorbing vapors in dynamic systems; spectro-photometric techniques and equipment. F. A. Gunther and others, bibliog *II diags Anal Chem* 30:1089-95 Je '58
 Methods of prevention in fresh fruit; abstract. V. L. S. Charley, *Chem & Ind* p545; Discussion. 545-6 My 10 '58
 Microbiological spoilage of canned fruit; abstract. T. G. Gillespy, *Chem & Ind* p545; Discussion. 545-6 My 10 '58
 Post-harvest spoilage; chemicals and antibiotics hold much promise for control of produce decay. *II J Agri & Food Chem* 6: 16+ Ja '58

See also

Canning and preserving

Respiration

- Studies on cherry scald. R. L. Pollack and others, bibliog *Food Tech* 12:102-8 F '58

Storage

- Gas-tight plastic storage units, handy-plus. C. A. Eaves, *II diags Food Eng* 29:121-2 N '57

Transportation**See also**

Bananas—Transportation

FRUIT, Concentrated

- Better thermal process guards product quality; Libby, McNeill & Libby. W. C. Cheal and C. R. Havighorst, *diags Food Eng* 30: 89-91 Mr '58
 Florida freeze; concentrators map way out. C. E. Wright, *II Food Eng* 30:94-5 F '58
 Makes better peach concentrates; EURDD. N. H. Eisenhardt and others, *diags Food Eng* 30:95-6 Ja '58
 Sterile packing in drums achieved with new process; bulk-packed concentrates. C. R. Havighorst, *II diags Food Eng* 30:86-8, cover S '58

FRUIT, Frozen

- Some effects of sweeteners on frozen fruits used for preserve manufacture. A. H. Bocklan and M. Aref, bibliog *Food Tech* 12:393-7 Ag '58

See also

Cherries, Frozen
 Raspberries, Frozen
 Strawberries, Frozen

FRUIT, Ripening of

- Influence of ripening temperature, ripeness level, and growing area on quality of canned Bartlett pears. L. L. Claypool and others, bibliog *Food Tech* 12:376-80 Jl '58

FRUIT flies

Esters of 6-methyl-3-cyclohexene-1-carboxylic acid as attractants for the Mediterranean fruit fly, S. I. Gertler and others. *bibliog J Agri & Food Chem* 6:592-4 Ag '58

FRUIT Juices

Concentrating advances bring superior flavors; A. F. Murch co. A. F. Murch and J. V. Ziemba. *il Food Eng* 29:90-2 D '57
Process conditions fruits and berries then separates juices from pulp. *diag Food Eng* 30:113 O '58

See also

Apple juice

FRUIT Juices, Dried

See also

Pineapple juice, Dried

FRUIT Juices, Frozen

See also

Citrus fruit juice, Frozen

FRUIT trade

See also

Citrus fruit industry

FRYING

Quality evaluation of deep-fat fried peas. W. Sathirasvasti and D. K. Salunkhe. *bibliog Food Tech* 12:351-5 JI '58

FUCOSE

See also

Methyl fucose

FUEL

AIME, ASME, and CIM 20th annual joint solid fuels conference, Quebec, Oct. 10-11. *Min Eng* 9:1382-3 D '57

ASME-AIME joint solid fuels conference, Quebec City, Oct. 10-11. *Mech Eng* 79:1196-8 D '57

Energy resources and our future. H. G. Rickover. *Combustion* 29:47-50 JI '57

Nuclear, solar energy to aid gas. M. A. Elliott and M. Chandler. *Am Gas Assn Mo* 40:29-30+ Ap '58

See also

Boilers—Firing

Coal

Coke

Gas, Natural

Gas as fuel

Gasoline

Liquid fuel

Oil fuel

Petroleum coke

Propellants

Waste fuel

also subdivision Fuel under special subjects e.g.,

Airplane engines

Automobile engines

Diesel engines

Electric plants (central stations)

Gas turbines

Gas turbines, Aircraft

Locomotives, Diesel

Motor boat engines, Outboard

Nuclear reactors

Petroleum refineries

Power plants

Analysis

Four methods of determination of carbon dioxide in solid fuels. P. O. Krumin and K. Svanks. *bibliog diags A S T M Bul* p51-7 Ja '58

Testing

Dynamic hot cell; fuels, lubricants, and hydraulic fluids tested for radiation damage; Inland testing laboratories. *il Chem & Eng* N 35:48 N 4 '57

FUEL, Irradiated

Nuclear energy helps bring better fuels; abstract and discussion. R. McBrien. *il S A E J* 66:64-6 My '58

See also

Coal, Irradiated

FUEL cells. See Electric batteries—Fuel cells**FUEL economy**

Economy fuels cut costs at Ipswich power plant. *il Power Eng* 62:75 Ja '58

Fuel economy on the bridge. J. van Overhagen. *diags Marine Eng/Log* 63:69-71 F '58

See also

Soot blowers

Waste fuel

FUEL Injection. See Airplane engines—Fuel feeding; Automobile engines—Fuel feeding

FUEL oil. See Oil fuel

FUEL pumps. See Pumps, Fuel

FUEL research

See also

Coal research

Coke research

Gas research

FUEL supply

Are we really running out of fossil fuels? T. R. Scollon. *il Power Ind* 74:12-13+ Je '58
Fuels figure in our future. H. G. Rickover. *Ind Lab* 9:22-5 Mr '58

Europe

Heat and power for western Europe; abstract. H. McNeil. *Chem & Ind* p521 My 3 '58

India

Energy development in India. *bibliog Engineer* 206:190-2 Ag 1 '58

FUEL tanks. See Airplanes—Fuel tanks; Airplanes, Jet propelled—Fuel tanks; Guided missiles—Fuel tanks

FULBRIGHT law. See Scholarships and fellowships, International

FULLING. See Woolen and worsted fabrics—Fulling

FULLMER, Irvin Henry

ASME acts four members to grade of Fellow. *Mech Eng* 80:140 Ap '58

FULVENES

Reaction of free radicals with non-benzenoid aromatic hydrocarbons; 6-phenylfulvenes and benzofulvenes. J. L. Kice and F. M. Parham. *bibliog Am Chem Soc J* 80:3792-7 JI 20 '58

Spectra

Infrared spectra of fulvenes. J. C. Wood and others. *bibliog Anal Chem* 30:1339-42 Ag '58

FUMAGILLIN

Chemistry of fumagillin. J. G. McNally, jr. and others. *bibliog Am Chem Soc J* 80:3676-86 JI 20 '58

FUMARASE

Studies of the enzyme fumarase; series solutions of integrated rate equations for irreversible and reversible Michaelis-Menten mechanisms. R. A. Alberty and B. M. Koerber. *bibliog Am Chem Soc J* 79:6379-82 D 20 '57

FUMARIC acid

Fumaric modified rosin. N. J. Halbrook and R. V. Lawrence. *bibliog Ind & Eng Chem* 50:321-2 Mr '58

Isolation and identification of fumaric acid in raw cotton fiber. L. E. Gregory and G. V. Merola. *Textile Res J* 28:813-14 S '58

FUMES

Considerations for controlling dust and fumes. R. F. O'Mara and C. R. Flodin. *bibliog il diags Chem Eng* 65:139-42 My 5 '58

Designing fume hoods for medium level radioactive conditions. J. M. Ruddy. *il diags Heating-Piping* 30:128-31 Mr '58

Dust and fume control. J. C. Somers. *Mech Eng* 79:1022-4 N '57; Discussion. 80:87 JI '58

Fume control for metal coating ovens. *il diags Safety Maint* 114:51-2+ D '57

Fume extractor. *il Engineering* 184:521 O 25 '57

Keeping up with dust and fume control developments. *il Safety Maint* 114:54-7 D '57

Reduction of oxides of nitrogen in vent gases. H. R. L. Streight. *bibliog diags Can J Chem Eng* 36:3-11 F '58

FUMIGANTS

Evaluating concentrations of spectrally absorbing vapors in dynamics systems; spectrophotometric techniques and equipment. F. A. Gunther and others. *bibliog il diags Anal Chem* 30:1089-95 Je '58

Fumigants, fungicides, and the soil. J. P. Martin and P. F. Pratt. *il J Agri & Food Chem* 6:346-8 My '58

FUNCTIONS

Adjustable nonlinear function generator. L. Scott. *il Electronics* 31:84+ JI 4 '58

Constant-amplitude random function generator. G. A. Hellwarth. *il diags Com & Electronics* p443-52 S '58

Core-reset functions in magnetic-amplifier analysis. G. C. Feth. *bibliog diags Com & Electronics* p503-19 S '58

Describing function for the multiple non-linearities present in two-stage electrohydraulic control valves. J. Zaborsky and H. J. Harrington. *bibliog diags Applications & Ind* p394-401; Discussion. 408-9 Ja '58

Function generator. N. Hambley. *diags Electronic Eng* 30:31-4 F '58

Function tables in digital control computers. B. J. Schubert. *diags Com & Electronics* p316-19 JI '58

FUNCTIONS—Continued

- Generalized charts of the effects of non-linearities in two-stage electrohydraulic control valves. J. Zaborszky and H. J. Harrington. *Biblog diags Applications & Ind* p401-8; Discussion. 408-9 Ja '58
- Hydraulic servos for function generation? E. Kennelly and R. Kopp. *il diags Control Eng* 6:129 Mr '58
- Natural forcing functions in nonlinear systems. T. J. Harvey. *J Ap Mech* 25:352-6 S '58
- Obtaining the frequency response characteristics of a nonlinear servomechanism from an amplitude- and frequency-sensitive describing function. W. A. Stein and G. J. Thaler. *diags Applications & Ind* p31-5 My '58; Abstract. *Elec Eng* 77:689 Ag '58; Discussion. *Applications & Ind* p96 My '58
- Output is function of two variables. *Electronics* 31:106+ Ap 11 '58
- Resistance potentiometers as function generators. R. W. Williams and H. Marchant. *diags Electronic Eng* 30:579-85 O '58
- Response of a capacitance-resistance divider to the step-function, exponential-function and ramp-function. S. Turk. *diags Electronic Eng* 30:608-11 O '58
- Synthesis of series-parallel network switch-link functions. W. Semon. *biblog diags Bell System Tech J* 37:877-98 J1 '58
- Testing for differences between methods of preparing fish by use of a discriminant function. W. D. Baten and others. *biblog Ind Quality Control* 14:6-10 Ja '58

See also

- Bessel functions
Dirac function
Transfer functions

FUNCTIONS, Exponential

Electric analogies

- Hyperbolic analogs using varistors. G. W. Holbrook. *diags Inst Radio Eng Proc* 46: 1762 O '58

FUNCTIONS, Trigonometric

- Sine-cosine encoders beat angle encoders. W. I. Frank. *il Control Eng* 5:131 F '58

FUNGI

- Genetical and structural relationships of some fungal metabolites. W. B. Whalley. *biblog Chem & Ind* p 131-2 F 1 '58
- Cellulose breakdown in wood by fungi; abstract and discussion. J. G. Savory. *Chem & Ind* p433-4 Ap 12 '58
- Degradation of pectic substances by plant pathogens; abstract and discussion. R. K. S. Wood and M. Cole. *Chem & Ind* p433 Ap 12 '58
- Microbiological transformations of steroids; tertiary hydroxylation of steroids by fungi of the order, mucorales. S. H. Eppstein and others. *biblog Am Chem Soc J* 80: 3382-9 J1 '58
- Nature and cause of spots on coated insulating boards. D. W. French and C. M. Christensen. *il Tappi* 41:309-12 Je '58
- Nutritional requirements of nine common sewage fungi. W. B. Cooke. *biblog Sewage & Ind Wastes* 29:1243-51 N '57
- Pectin plugs cause wilts; mechanism of various fungus diseases; abstract. M. A. Stahmann and J. C. Walker. *il Chem & Eng N* 36:47 Ap 21 '58
- Predatory fungi. J. J. Maio. *il diags Sci Am* 199:67-70+ *biblog (p 126)* J1 '58
- Structure of pachyman, the polysaccharide component of *poria cocos* Wolf. S. A. Warsi and W. J. Whelan. *biblog Chem & Ind* p 1573 N 30 '57

See also

- Bacteriology
Leptomitux lacteus
Mildew
Molds (botany)
Mushrooms
Saccharomycetes

FUNGI, Pathogenic

- Cercosporin; a pigment of *cercosporina* Kikuchii Matsumoto et Tomoyasu. S. Kuyama and T. Tamura. *biblog Am Chem Soc J* 79:5725-9 N 5 '57

See also

- Sporotrichosis

FUNGICHRROMIN

- Fungichromin; determination of the structure of the pentaene chromophore. A. C. Cope and H. E. Johnson. *biblog Am Chem Soc J* 80:1504-6 Mr 20 '58

FUNGICIDES

- Captan's chemical kin: Phlantan, effectively controls fungus attack of vegetables and small fruit. D. E. Pack and others. *il Chem & Eng N* 36:73-4 Ap 28 '58
- Devices and techniques for use in fungicide testing. S. Shapiro. *biblog il diags Am Dyestuff Rep* 47:73-8 F 10 '58
- Electroanalysis with controlled cathode potential of metallic copper applied to fabrics as metallo-organic fungicides. J. Bubnerak and A. D. Baskin. *biblog diags Textile Res J* 27:878-82 N '57
- Fumigants, fungicides, and the soil. J. P. Martin and P. F. Pratt. *il J Agri & Food Chem* 6:345-8 My '58
- Fungitoxicity of some substituted pyridines and quinolines related to 8-quinolinol (oxine). A. B. Durkee. *biblog J Agri & Food Chem* 6:194-6 Mr '58
- Identification and estimation of phenolic fungicides in mildewproof materials. C. L. Hilton. *biblog Textile Res J* 28:263-6 Mr '58
- Mechanism of liquid seed treatment. O. Lindström. *biblog (27 ref) il diags J Agri & Food Chem* 6:283-98 Ap '58

Analyses

- Determination of tetrachloro-1,4-benzoquinone (Spengler) residues on food crops. J. R. Lane. *biblog J Agri & Food Chem* 6:667-9 S '58

FUR

- Felting investigations; potential substitutes for rabbit fur in hat felts. R. D. B. Fraser and T. A. Pressley. *il diags Textile Res J* 28:478-85 Je '58

See also

- Dyes and dyeing—Fur

FURAN

- Detection and structural analysis of furans by proton magnetic resonance. E. J. Corey and others. *biblog Am Chem Soc J* 80: 1204-6 Mr 5 '58
- Hydrogenation of furans; abstract. R. Ercoll and E. E. Rafael. *Ind Chem* 34:570-1 O '58
- Mechanism of the nitration of furans; conversion of the nitration intermediate derived from furfural into 5-nitro-2-furfural diacetate. J. G. Michels and K. J. Hayes. *biblog Am Chem Soc J* 80:1114-16 Mr 5 '58
- Synthesis of furan derivatives; 5-nitrofurfuryl polyene aldehydes. H. Sakachi and H. Ogawa. *biblog Am Chem Soc J* 80:3642-5 J1 20 '58
- Synthesis of 3-substituted furans. H. Wynberg. *biblog Am Chem Soc J* 80:364-6 Ja 20 '58

Spectra

- Characteristic infrared absorption bands for substituted furans. A. H. J. Cross and T. E. H. Watts. *Chem & Ind* p 1161 S 6 '58
- Characteristic infrared absorption bands for substituted furans. L. W. Daasch. *Chem & Ind* p 1113-14 Ar 23 '58
- Some characteristic infrared absorption frequencies of furan compounds. A. H. J. Cross and others. *biblog J Ap Chem* 7: 562-5 O '57

FURANONE

- 2-Desyllidene-4:5-diphenyl-3(2H)-furanone. P. Yates and J. A. Welsbach. *biblog Chem & Ind* p 1482-3 N 9 '57

FURANOSE

- Potential anticancer agents; synthesis of nucleosides derived from 6-deoxy-D-alfuranose. E. J. Reist and others. *biblog Am Chem Soc J* 80:3962-6 Ar 5 '58

FURANOSIDE

- Synthesis of the four possible methyl 3-amino-3-deoxy-D-xylosides; a novel ring expansion of a furanoside to a pyranoside. R. E. Schaub and M. J. Weiss. *biblog Am Chem Soc J* 80:4633-92 S 5 '58

FURAZOLIDONE Analyses

- Microdetermination of the medicaments furazolidone and nitrofurazone. F. Beckman. *J Agri & Food Chem* 6:130-2 F '58

FURFURAL

- Furfural extraction of gas oils; Texaco development corp. flow diag *Pet Refiner* 37: 273 S '58
- Furfural monitor saves money; ultraviolet analyzer helps control furfural loss in butadiene and butene-2 streams. *il Chem & Eng N* 36:52 O 20 '58
- Furfural refining; Texaco development corp. flow diag *Pet Refiner* 37:274 S '58

FURNACES

Experiments with a vortex furnace. T. R. Cave-Browne-Cave. *diags Engineer* 206:292-3 Ag 22 '58

New stationary furnace design may permit higher temperatures. G. A. Zotos. *il diags Chem Eng Prog* 54:162 My '58

Small tunnel-furnace test for measuring surface flammability. H. D. Bruce and V. P. Miniutti. *bibliog il diags A S T M Bul* p61-8 My '58

See also

Blast furnaces
Cupola furnaces
Draft
Fuel
Glass furnaces
Kilns
Refuse incinerators
Solar furnaces

FURNACES, Annealing

Continuous annealing on a grand scale; Weirton steel co. C. E. Peck. *il plan Steel* 142:74+ Ja 20 '58

Direct fired coil annealing revives. *il Steel* 142:94+ My 12 '58

New method speeds annealing. *il Metal Prog* 73:97-8 Je '58

Single stack annealing gets the nod at Republic Steel's plant. H. E. Miller. *il Steel* 141:118+ N 11 '57

Where continuous annealing is going. N. B. Jones. *il diags Steel* 143:72+ J1 28 '58

See also

Electric furnaces, Annealing

Atmosphere control

Automated unit ups annealing quality. *il Iron Age* 181:150 My 22 '58

Bright annealing of sheet metal with non-oxidizing gas. *Metallurgia* 57:27 Ja '58

Generation and use of prepared atmospheres in the annealing of low carbon steel strip. G. J. Campbell. *Steel* 141:160+ N 18 '57

Large scale continuous annealing of coils with carbon restoration. J. D. Armour. *il diags Wire & Wire Prod* 33:655-7+ Je '58

Control

Tube annealing furnace with electronic control. *il Engineer* 206:498-9 S 26 '58

FURNACES, Boiler

Calculation of theoretical flame temperatures in furnaces. J. W. Myers and others. *bibliog A S M E Trans* 80:202-16 Ja '58

Cyclone fired boiler installation. *il diags Engineer* 204:670-3 N 8 '57

Power plant for titanium production; cyclone fired boiler. *il diags Metallurgia* 56:290-2 D '57

See also

Slag (in boilers)

FURNACES, Brazing**Vacuum furnaces**

Vacuum processing improves material and product quality. R. F. Gunow. *il diags Tool Eng* 40:112-14 My '58

FURNACES, Carburizing

Cast alloy fixture has long life in high shock service. E. A. Schoefer. *il Metal Prog* 73:106-8 Je '58

Atmosphere control

Furnace atmospheres from liquids. I. L. S. Golding. *bibliog Metallurgia* 57:23-5 Ja '58

Heat-treatment of mild steel in raw town-gas and ammonia atmospheres. M. A. H. Howes and E. Mitchell. *bibliog il Iron & Steel Inst J* 187:177-90 N '57

FURNACES, Cupola. See Cupola furnaces**FURNACES, Enameling**

Experimental cone series designed for use in pottery decorating kilns and enameling furnaces. L. E. Shipley. *bibliog Am Cer Soc Bul* 37:9-11 Ja 15 '58

Firing

Effect of firing schedules on stress-temperature relations in enamel-metal systems. J. H. Lauchner and others. *bibliog diags Am Cer Soc J* 40:410-15 D 1 '57

Furnace key to 30 per cent production boost; 105-foot unit highlights U.S. Porcelain Enamel's expansion. R. E. Smith, Jr. *il Cer Ind* 71:70-1 O '58

FURNACES, Forging

Car-type multipurpose furnace; Struthers Wells corp. R. A. Butler. *il Plant Eng* 12:104-6 J1 '58

Control

Automatic controls cut forging cost. *il Iron Age* 180:157-8 D 5 '57

FURNACES, Foundry

Melting pot life. C. W. Ammen. *diags Foundry* 86:210 O '58

See also

Cupola furnaces
Foundry practice

FURNACES, Heat treating

Automation in heating and quenching. N. K. Koebel. *il diags Metal Prog* 73:72-8 F '58
Crankshaft heat-treatment; equipment by the Incandescent heat co. for the Scottish stamping and engineering co. *il Automobile Eng* 48:62-3 F '58

18 ways to move parts in a furnace. D. Beggs. *diags Steel* 142:90-1 Je 23 '58

Furnace line speeds spring output; Union spring & mfg. co. *il Steel* 143:101 Ag 18 '58
Glass bath heats forging billets. A. di Giulio. *il Steel* 143:74 Ag 11 '58

Hardening automotive parts in furnaces with vertical radiant tubes. K. Rose. *il Automotive Ind* 119:48-9 J1 15 '58
Heat billets with molten glass. *il Iron Age* 182:87 Ag 14 '58

Heat treating of roller bearings is geared to automatic production; Timken Bucyrus, Ohio, plant. L. H. Everitt and O. E. Cullen. *il diags Metal Prog* 73:67-73 Je '58

Large oven furnace is versatile, automatic. J. N. Helfat. *il diags Gas* 34:106+ O '58

Modern heat treatment facilities; Holo-Krome screw corp. D. A. Tullock, Jr. *il Metal Prog* 72:75-8 N '57

1958 production preview; heating and heat treating. *il Am Mach* 102:213-16 Ja 27 '58

One furnace does three jobs; Farmal works, International harvester co. *il Steel* 142:74-5 F 24 '58

Processing with continuous heating. F. O. Hess. *il diags Metal Prog* 73:99-105 Je '58

Production furnace turns out scale-free billets. H. C. Bostwick. *il Iron Age* 182:82-3 Ag 14 '58

Recent heat treatment furnace installations; annual survey. *il diags Metallurgia* 57:283-302 Je '58

Where faster heating saves. C. A. McFadden. *il diags Steel* 143:68+ S 1 '58

See also

Electric furnaces, Heat treating

Atmosphere control

Applying infrared analyzers to control furnace atmospheres. J. L. Garrison. *il diags Automation* 5:46-8 Je '58

Atmosphere protects finish. *il Steel* 143:80 Ag 11 '58

Combine brazing and hardening in one operation; General electric co. R. E. Wright. *il Iron Age* 182:80-1 J1 17 '58

Control

New combustion process for temperature uniformity in heat treating furnaces. F. C. T. Daniels and S. Stasko. *plans diags Iron & Steel Eng* 35:85-90; Discussion. 90-1 J1 '58

Gas firing

How to prevent lighting-off explosions in gas-fired industrial boilers and furnaces; gas safety control system. J. B. Smith. *diags Gas Age* 121:18-19+ F 20 '58; Same, *Iron & Steel Eng* 35:114+ My '58; Same, *Power Ind* 74:10-13+ J1 '58

Vacuum furnaces

Heat treating in vacuum. H. B. Drever. *il Metal Prog* 73:108-9 Mr '58

Vacuum processing improves material and product quality. R. F. Gunow. *il diags Tool Eng* 40:112-14 My '58

FURNACES, Heating

Billet heating; new Johnstown rod mill. F. R. Pullen. *il plan Iron & Steel Eng* 34:134-40 N '57

Heating at high speed. N. H. Davies and R. J. Reed. *il Metal Prog* 73:79-84 F '58

High velocity gas stress relieving furnace. E. M. Yard. *il diags Iron & Steel Eng* 35:95-8; Discussion. 98-100 F '58

Processing with continuous heating. F. O. Hess. *il diags Metal Prog* 73:99-105 Je '58

FURNACES, Heating—Continued

Scaling of 18-8 stainless steel in reheating furnace atmospheres. J. O. Edström, bibliog (45 ref) *il* *diag* Iron & Steel Inst J 185: 450-66 Ap '57; Abstract, Metal Prog 73: 111-2+ Ja '58

Selection of furnace tubes for refinery and petrochemical service. T. M. Krebs, bibliog *il* *Pet Eng* 30:C54-6+ F; C36-7+ Mr '58

Strip preheat ends galvanizing pot downtime. E. J. Udick and C. A. Turner, jr. *il* *diags* Iron & Steel Eng 35:145-6+ Ag '58

See also

Furnaces, Recuperative and regenerative

FURNACES, Iron founding

See also

Cupola furnaces

FURNACES, Laboratory

Differential thermal analysis above 1200°C. T. F. Newkirk, bibliog *diags* Am Cer Soc J 41:409-14 O 1 '58

High-temperature measurements at the National bureau of standards; measuring, generating high temperatures and determining high temperature properties of materials. bibliog *il* *Glass Ind* 39:480-1+ S '58
Some further laboratory applications of the gradient furnace. J. D. Welterlen and R. S. DuFrene, Am Cer Soc Bul 36:467-9 D 15 '57

See also

Electric furnaces, Laboratory

FURNACES, Metallurgical

Pelletizing in shaft furnaces. F. D. DeVaney, *diags* J Metals 10:125-8 F '58

See also

Blast furnaces

Cupola furnaces

Open hearth furnaces

Lining

How molten aluminum affects plastic refractories. H. A. MacDonald and others. *il* J Metals 10:35-7 Ja '58

Suspended basic roofs for copper furnaces. G. Bridgstock and others. *diags* J Metals 10:412-13 Je '58

FURNACES, Non-ferrous melting

Now, chances of a fire are reduced; switch in hydraulic medium; melting furnaces. *il* Plant Eng 12:108-9 J1 '58

Planning the melting department of a non-ferrous foundry. *il* *diag* Foundry 85:160-1+ N '57

FURNACES, Portable

Portable furnace speeds Atlantic's flanging operation. *il* *Pet Refiner* 37:214+ Ap '58

FURNACES, Recuperative and regenerative

Developments in metallic recuperators. T. E. Dixon and H. A. Kuhne, *diags* Iron & Steel Eng 35:127-34; Discussion. 134-8 Ja '58

FURNACES, Solar. See Solar furnaces**FURNACES, Steel making**

Europe expands steel-making capacity. D. L. McBride, S A E J 66:62-3 Je '58

See also

Electric furnaces, Steel making

Furnaces, Heating

Open hearth furnaces

Open hearth process

Lining

Tar bonds oxygen vessel bricks. J. P. Holt, *il* *diag* Steel 143:74+ J1 7 '58

FURNACES, Warm air

Applying mixed-flow units in commercial air-moving systems. A. A. Atalla, *diags* Air Cond Eng 34:56-7 Ap '58

Pulsations in residential gas furnaces with multiple-port burners. A. A. Putnam, *diags* Heating-Piping 30:143-9 Ap '58

FURNITURE

See also

Interior decoration

Office furniture

Painting and finishing

Big refinishing job gives trouble. *Ind Finish-* ing 34:98-9 Je '58

Clear lacquer finish for new white furniture. *il* *Ind Finishing* 34:120 Ap '58

Color control in finishing furniture. H. Hardesty, *Ind Finishing* 34:35-6+ N '57

Custom finishing furniture on a conveyor; John Widdicombe co. T. Burba, *il* *Ind Fin-* ishing 34:64-6+ Ag '58

Diversified furniture finished on a conveyor; Lenoir furniture corp. F. Abel, *il* *plans* *Ind* Finishing 34:38-10+ Ja '58

Drexel's profile finish. N. C. Hatcher, jr. *il* *Ind Finishing* 34:54-6+ My '58

Silicone wax fish eye trouble and remedies. J. J. Vaughn; G. A. Soderberg, *Ind Finish-* ing 34:109-10+ D '57

Why wash coats are so important. G. Conrad, *Ind Finishing* 34:101-3 My '58

FURNITURE, Metal

Finishing steel office furniture. E. Fritz, *il* *Ind Finishing* 34:24-6+ Ag '58

Something new in aluminum furniture. M. J. Schmidt, *il* *diags* Mod Metals 14:46+ Ag '58

Manufacture

Easier living through welding; O. Ames co.

H. O. Eads, *il* *diags* Welding Eng 43:58+ Ag '58

FURNITURE, Plastic

Plastics' stake in furniture. *il* *Mod Plastics* 35:114-17+ Je '58

See also

Drawers, Plastic

FURNITURE factories**Power**

Eastern furniture plant served by compact boiler installation; Sprague & Carleton inc. J. E. Byler, *il* *Plant* 17:32-3 F '58

FURNITURE industry and trade

Good year forecast for furniture. E. A. Farrell, *il* *Mod Metals* 14:56-8+, cover F '58

Exhibitions

At the furniture shows; American furniture mart and the Merchandise mart in Chicago. R. Flank, *il* *Ind Finishing* 34:46-8+ F '58

FUSAIN

Observations on fusain. H. Skolnick, bibliog *il* *Am Assn Pet Geologists* Bul 42:2223-36 S '58

FUSED salts. See Salts, Fused

FUSELAGE. See Airplanes—Fuselage; Airplanes, Military—Fuselage

FUSES**Manufacture**

CO₂ process useful in producing experimental castings; producing experimental rigid fuze bodies at Frankford arsenal. R. L. Fehr and R. C. Harris, *il* *Foundry* 86:80-2 Mr '58

Testing

Counter monitors fuze assemblies; Atomon-itor, *il* *Electronics* 31:16 J1 18 '58

FUSES, Electric. See Electric fuses

FUSION, Heat of

Calorimetric assembly for the measurement of heats of fusion of inorganic compounds. J. Goodkin and others, bibliog *diags* R Sci Instr 29:105-8 F '58

Dynamic heat storage system; using the latent heat of fusion of disodium phosphate dodecahydrate. T. L. Etherington, bibliog *diags* Heating-Piping 29:147-51 D '57

Find heat of fusion and sublimation. W. R. Gambill, *Chem Eng* 64:147-9 Mr 10 '58

Heat capacity, heat of fusion, heat of transition and heat of vaporization of chlorodifluoromethane between 16°K. and the boiling point. E. F. Neilson and D. White, bibliog Am Chem Soc J 79:5618-21 N 6 '57

Perchloryl fluoride; vapor pressure, heat capacity, heats of fusion and vaporization failure of the crystal to distinguish O and F. J. K. Koehler and W. F. Glaueque, Am Chem Soc J 80:2659-62 Je 5 '58

FUTURES

How to use the rubber futures market to lessen price risks. S. Gold and K. Sahagian, *Rubber Age* 83:1006-7 S '58

G**GABO, Naum**

Art, artists and architecture; sculpture by N. Gabo, por Arch Rec 122:175-8 N '57

GAGES

Automatic inspection. D. H. McConnell, *il* *diag* Mech Eng 30:85-7 O '58

Building-block gages cut jig fabrication costs. J. Less and L. Willick, *il* *diags* Tool Eng 40:37-9 F '58

Carl Edward Johansson + Brown + Sharpe = precision gaging. *il* *Mach* 64:132-5 Ap '58

Cincinnati shear equipped with special gage. *il* *Mach* 64:207 D '57

GAGES—Continued

- Contour-finishing missile noses to two micro-inches. R. Le Grand. *il* diags *Am Mach* 102:101-3 Mr '58
- Control of strip width in hot rolling mills; Evershed width gauge. *il* *Engineering* 185: 382 Mr 21 '58
- Determination of the tread and tread rubber profile; XactRay gauge. C. B. Zimmer. *il* *Rubber Age* 82:1021-2 Mr '58
- Dimensional controlling systems. R. A. Souler. *il* diags *Automation* 5:81-4 Ja; 73-4 Mr '58
- Functional gaging for flat springs. A. W. Ullmann. diags *Product Eng* 28:76-9 D 9 '57
- Gage carts cut setup time; wooden racks, mounted on casters, hold the gaging elements for different parts. *il* *Steel* 142:102-3 Ap 28 '58
- Gage modules advance machine-control design. *il* *Elec Manuf* 62:110-13+ J '58
- Gage tightens control of wire coating process. *il* *Iron Age* 180:132-3 N 21 '57
- Gaging is basic missile problem. E. J. Egan, Jr. *il* *Iron Age* 182:75 S 25 '58
- Gauge and tool exhibit. London. *il* *Engineer* 205:735-7 My 16 '58
- Heat coolant to hold tolerances. *il* *Am Mach* 102:88-9 JI 14 '58
- Height setting gage. C. McLaughlin. *diag* *Tool Eng* 39:83 N '57
- Hot strip mill width gauge. *Engineer* 205: 294 F 21 '58
- How to standardize gaging techniques; Argus cameras div. Sylvania electric products, inc. H. O. Lesperance. *il* *Mill & Factory* 62:89-91 Je '58
- Magnetic gauge utilizing the magnetron effect. W. Fulop. *bibliog* diags *J Sci Instr* 35:62-5 F '58
- Metalworking, 1962; inspection methods and gaging. W. J. Darmody. *Am Mach* 101:142 N 18 '57
- Now, tool control to five millionths; micro-inch dimensional control of centerless grinders. *il* diags *Am Mach* 102:120-1 Mr 24 '58
- Optical gaging checks one-ft error in one mile; Daco instrument co. W. W. Henninger. *il* *diag* *Am Mach* 101:92-3 D 30 '57
- Performance of thin-film gauges in high-temperature shock tube flows. R. G. Jahn and D. Weimer. *diag* *J Ap Phys* 29:741-2 Ap '58
- Pitch-error compensating device for height gage. J. Gilmour. *il* diags *Mach* 64:131-4 Je '58
- Plug-pin gage speeds inspection. R. G. Cavaiani. *diag* *Am Mach* 101:159 N 4 '57
- Portable height gages. T. J. Bizzoco. diags *Tool* 40:79 Ja '58
- Practical basis for selecting gage blocks. O. W. Elistrom. *il* *Tool Eng* 41:70-2 JI '58
- Precision height measurement using gage components. *il* *Tool Eng* 40:96 Mr '58
- Putting safety into gaging-source designs. G. B. Foster. *il* diags *Nucleonics* 16:128+ F '58
- Quality control begins with a gaging policy; Warner & Swasey. R. Le Grand. *il* *Am Mach* 101:100-4 D 2 '57
- Telescoping gage with adapters checks ring grooves. B. England. *diag* *Am Mach* 102:127 F 24 '58
- Tighter tolerances, new trends spur refresher courses in gaging. *Am Mach* 102:70 JI 28 '58
- Tooling and gaging; forum on technical progress. *Steel* 142:335-6+ Ja 6 '58
- Ultrasonic resonance gaging detects corrosion from outside of tubes and tanks. P. K. Bloch. *il* *diag* *Plant* 18:43-4 JI '58
- What's new? R. A. Wylie, ed. Published in monthly numbers of Industrial quality control
- See also*
Ionization gages
Micrometers
Pressure gages
Strain gages
Thickness measurement
Vacuum gages
- Testing**
Calibration of gage blocks; reference book sheet. R. E. Roeger. plan diags *Am Mach* 102:267+ Ja 27 '58
- Checking master gage blocks with an interferometer. *il* diags *Tool Eng* 40:115-16 Ja; 41:70-2 Ag '58
- Gage-block checker saves time. *il* *diag* *Tool Eng* 40:93 Ja '58
- Interferometer for measuring gage block parallelism. *il* *diag* *Engineer* 205:595-6 Ap 18 '58

GAGES, Electric

- Eddy current gauge for measuring aluminum corrosion. W. E. Ruther. *bibliog* diags *Corrosion* 14:61-2 Ag '58
- Width measurement in hot strip mill. *Electronic Eng* 30:181 Ap '58

GAGES, Electronic

- Fuel gage sales hit \$20 million. *Electronics* 31:16 Ja 3 '58
- Go, no-go gage checks out Bomarc automatically. G. A. Harter and F. A. Buuck. *il* diags *Electronics* 31:43-5 JI 4 '58
- Tones may control satellites; electronic gage; abstract. A. J. Dessler. *Electronics* 31:22 S 6 '58

GAGES, Pneumatic

- Air gage checks hub; Bullard co. *il* *Steel* 142:113 Je 9 '58
- Air gauging applications. *il* *Engineering* 185: 220-2 F 14 '58
- Automatic gaging, key to great productivity. H. Boppel. *il* *diag* *Tool Eng* 40:75-80, cover Mr '58
- Continuous thickness measuring of thin, soft sheet. J. C. Evans and others. *il* diags *Engineering* 184:631-3 N 15 '57
- Pneumatic gauging techniques. J. C. Evans. *bibliog* *il* diags *Research* 11:90-7 Mr '58

GAGES, X ray

- Automatic X-ray gage checks foil thickness. *Iron Age* 180:166 N 21 '57
- J&L uses simplified gage control. *il* *diag* *Steel* 142:110+ Ap 7 '58
- X-ray tin thickness gage. R. R. Webster. *il* diags *Instruments & Automation* 31:276-7 F '58

GAGING

- See also*
Liquid level indicators

GALACTIC systems

- Galactic model for production of cosmic rays and noise. L. Marshall. *bibliog* *il* diags *Inst Radio Eng Proc* 46:215-20 Je '58
- Stellar populations. M. Burbidge and G. Burbidge. *il* diags *Sci Am* 199:44-60 N '58

GALACTOMANNAN

- Galactomannan from soy bean hulls. R. L. Whistler and J. Saarnio. *bibliog* *Am Chem Soc J* 79:6055-7 N 20 '57

GALACTOSAMINE

- Preparation and properties of acetochlorogalactosamine. R. Hevworth and D. H. Leaback. *Chem & Ind* p 1145 Ag '58

GALACTOSE

- Action of diazomethane on the pentaacetates of *aldehydo*-D-glucose and *aldehydo*-D-galactose. M. L. Wolfrom and others. *bibliog* *Am Chem Soc J* 79:6454-7 D 20 '57
- Cyclic acetals of D-galactose. J. G. Buchanan and K. J. Miller. *bibliog* *Chem & Ind* p 625 My 24 '58
- Immunological specificities involving multiple units of galactose. M. Heidelberger and others. *bibliog* *Am Chem Soc J* 80:113-16 Ja 5 '58
- Reversible transgalactosylation. J. H. Pazur and others. *bibliog* *Am Chem Soc J* 80: 1433-4 Mr 20 '58

GALENA

- Galena in pyrometamorphic deposits. P. Geijer. *bibliog* *Econ Geol* 53:210-14 Mr '58
- Lead isotope composition of Peruvian galenas. J. L. Kulp and others. *bibliog* *map Econ Geol* 52:914-22 D '57

GALLIC acid

- Oxidation of gallic acid and gallic acid esters to acetic acid. E. A. H. Roberts and G. R. Russell. *bibliog* *Chem & Ind* p 1598-9 D 7 '57

GALLIUM

- Lower oxidation states of gallium; the constitution of GaCl_3 and its analogy with $\text{Ga}(\text{AlCl}_4)_3$. R. K. McMullan and J. D. Corbett. *bibliog* *Am Chem Soc J* 80:4761-4 S 20 '58
- Process extracts gallium. *Chem & Eng N* 36:94-5 Mr 3 '58

GALLIUM alloys

- Redetermination of the aluminum-gallium equilibrium diagram. J. W. H. Clare. *il* *Inst Metals J* 36:431-2 My '58

GALLIUM arsenide

- Crystal growing made easier by new method; Bell telephone laboratories. *il* *Ind Lab* 9:61 Je '58
- Gallium arsenide microwave diode. D. A. Jenny. *bibliog* diags *Inst Radio Eng Proc* 46:717-22 Ap '58
- Some properties of gallium arsenide-germanium mixtures. D. A. Jenny and R. Braunstein. *il* *J Ap Phys* 29:596-7 Mr '58

GALLIUM bromides

Lower oxidation states of gallium; the Ga₂Br₂-GaBr₃ system. J. D. Corbett and A. Hershaft, *bibliog Am Chem Soc J* 80:1530-2 Ap 5 '58

GALLIUM chlorides

Lower oxidation states of gallium; the constitution of Ga₂Cl₄ and its analogy with Ga₂(AlCl₃)₃. R. K. McMullan and J. D. Corbett, *bibliog Am Chem Soc J* 80:4761-4 S 20 '58

GALLIUM halides

New method for the preparation of gallium dihalides and some observations on their properties. R. C. Carlston and others, *bibliog Am Chem Soc J* 80:1532-4 Ap 5 '58

GALLIUM oxides

Low temperature heat capacities and entropies at 298.15°K. of some oxides of gallium, cerium, molybdenum and niobium. J. O. King, *bibliog Am Chem Soc J* 80:1799-800 Ap 20 '58

GALVANIZED iron. See Iron, Galvanized

GALVANIZED steel. See Steel, Galvanized

GALVANIZING

Automatic galvanizing plant; Armco-Sendzimir installation at Ebbw Vale, *il diag Engineering* 186:78-9 Jl 18 '58

Beta-ray gauge for measurement of galvanizing thickness. G. B. Wills, *il Engineer* 204:201-2 D 20 '57

Continuous galvanizing; Armco-Sendzimir process, *il Research* 11:281 Jl '58

Continuous galvanizing instrumentation. W. R. Hand, *il Instruments & Automation* 31:278-9 F '58

Continuous galvanizing line at Ebbw Vale works of Richard Thomas and Baldwins, Ltd, *il diags Engineer* 205:746; 206:102-4 My 16, Jl 18 '58

Continuous galvanizing of steel strip; Armco-Sendzimir line installed at Ebbw Vale, *il diag Metallurgia* 58:76-9 Ag '58

Developments in hot-dip tube and wire galvanizing; abstract. R. W. Bailey, *Metal Finishing* 55:85 N '57

International galvanizing conference, 5th, Scheveningen and Knokke-le-Zoute, June 22-27; abstracts of papers, *Engineer* 206:193-4 Ag 1 '58

New continuous process for hot-dip galvanizing wire; abstract. L. Cazzaniga, *Metal Finishing* 55:85 N '57

New radiant tube furnaces for processing in galvanizing and patenting lines. W. D. Hawdon, *il diags Wire & Wire Prod* 33:585-7 Ag '58

See also

Steel, Galvanized

GALVANOMETERS

Calibration of ballistic galvanometers for magnetic measurements. B. L. Miller, *diag Am J Phys* 26:123-30 F '58

Device for matching a galvanometer or dc indicator to its associated circuit. T. M. Dauphinee, *diag R Sci Instr* 29:240-1 Mr '58

Selecting a recording galvanometer. L. Moyer, *diag Instruments & Automation* 31:838-40 My '58

Taut band panel meters, *il diag Electronics* 31:84 Jl 4 '58

Versatile galvanometer, *il diag I'S A J* 5:86-7 Ag '58

See also

Fluxmeters

GAMES

Neon lamp logic gates play tick-tack-toe. C. E. Hendrix and R. B. Purcell, *il diags Electronics* 31:68-9 Je 20 '58

GAMES, Theory of

Intercept dynamics; key to missile guidance. J. W. Follin, Jr, *diag Aviation Age* 80:172-9 S '58

Theory of games; a tool for operational research. S. Vajda, *diags Engineering* 185:369 Mr 21 '58

GAMMA ray cameras

Scintillation camera. H. O. Anger, *bibliog il diags R Sci Instr* 29:27-33 Ja '58

GAMMA ray spectrometers. See Spectrometers, Gamma ray

GAMMA rays

Activity of certain water-soluble vitamins after exposure to gamma radiations in dry mixtures and in solutions. L. R. Richardson and others, *J Nutrition* 65:409-18 Jl '58

Better electronics for neutron-gamma analysis. H. W. Lefevre and J. T. Russell, *il diags Nucleonics* 16:56-7 Je '58

Calculation of energy dissipation by gamma radiation near the interface between two media. M. J. Borker, *bibliog diag J Ap Phys* 28:1502-8 D '57

Cavity ionization as a function of wall material. F. H. Attix and others, *bibliog diags J Res Nat Bur Stand* 60:235-48 Mr '58

Characterization of volatile carbonyl compounds isolated from meat fat subjected to gamma radiation. L. A. Witting and E. S. Schweigert, *bibliog Am Oil Chem Soc J* 35:413-16 Ag '58

Combination ion chamber-proportional counter dosimeter for measuring gamma-ray contamination of neutron fields. M. Slater and others, *bibliog diag R Sci Instr* 29:601-5 Jl '58

Damage to various films by gamma irradiation, *il Paint Oil & Chem R* 121:6-7+ Ja 23 '58

Detergents by nuclear process; use of gamma rays to trigger sulfoxidation reaction with most of the liquid paraffins. J. F. Black and E. F. Baxter, Jr, *bibliog il Soap & Chem Spec* 34:43-6+ O '58

Determination of uranium-235 by gamma scintillation spectrometry. G. H. Morrison and J. F. Cosgrove, *bibliog Anal Chem* 29:1770-1 D '57

E2-M1 mixing ratios in 2⁺→2⁺→0⁺ transitions. V. R. Potnis and C. E. Mandeville, *Franklin Inst J* 266:226-8 S '58

Effect of gamma radiation on the hydrogenation of cottonseed oil. L. F. Albright and others, *bibliog diags Am Oil Chem Soc J* 35:240-4 My '58

Effect of high intensity radiation on electronic parts and materials. C. P. Lascaro and A. L. Long, *diags Elec Manuf* 62:119-21+ S '58

Effects of gamma radiation on cotton. F. A. Blouin and J. C. Arthur, Jr, *bibliog (48 ref) Textile Res J* 28:198-206 Mr '58

Efficiencies of sodium iodide crystals. A. L. Stanford, Jr, and W. K. Rivers, Jr, *diag R Sci Instr* 29:406-10 My '58

Gamma-dose enhancement from neutron capture in Cd. D. Kline and F. J. Remick, *bibliog il diag Nucleonics* 16:97-101 Mr '58

Gamma-irradiation facilities in the United States. R. H. Ellis, Jr, *map Nucleonics* 16:108-9 Jl '58

Gamma is safe; foods sterilized with gamma radiation are nontoxic in animal tests; abstract. M. S. Read, *Chem & Eng N* 36:44 My 5 '58

Gamma-radiation absorption coefficients of air in the energy range 0.01 to 100 mev. J. W. Allison, *J Ap Phys* 29:176-8 Ag '58

Gamma-ray detector aids oil field surveys. F. E. Armstrong, *il diags Electronics* 31:61-3 My 23 '58

γ-ray initiated reactions; the addition of silicon hydrides to alkenes. A. M. El-Abadly and L. C. Anderson, *bibliog Am Chem Soc J* 80:1737-9 Ap 5 '58

Irradiation of p-n junctions with gamma rays; a method for measuring diffusion lengths. R. Gremmelmaier, *bibliog diags Inst Radio Eng Proc* 46:1046-9 Je '58

Irradiation of polycrystalline material with γ-rays and electrons. T. G. Majury and S. H. Pinner, *bibliog J Ap Chem* 8:168-71 Mr '58

Molecular weights found through use of gamma rays. Aero/Space Eng 17:27 Mr '58

New capture gamma ray measurements; abstract. R. W. Kenney and J. T. Mattingly, *Nucleonics* 16:85 Ja '58

Nutritional value of a synthetic diet sterilized by gamma rays, as measured by reproduction and life span of rats. L. R. Richardson and R. Brock, *J Nutrition* 65:353-60 Jl '58

Radical and molecular yields in the γ-irradiation of liquid methanol. G. E. Adams and J. H. Baxendale, *bibliog Am Chem Soc J* 80:4215-19 Ag 20 '58

Radionuclides arranged by gamma-ray energy; data sheet. G. W. Smith and D. R. Farnelo, *Nucleonics* 16:80-1 F '58

Reservoir parameters from the gamma-ray log. Cardium sand, Pembina field. T. P. Cutmore, *map diags Oil & Gas J* 56:97-100 F 3 '58

Response of a liquid scintillator to fast neutrons and γ radiation. J. E. Hardy, *diags R Sci Instr* 29:705-9 Ag '58

Sample calculations of gamma-ray penetration into shelters; contributions of sky shine and roof contamination. M. J. Berger and J. C. Lamkin, *diags J Res Nat Bur Stand* 60:109-16 F '58

Syntheses of butadiene-styrene elastomers and of polysulfones by gamma radiation. H. M. d'Emaus and others, *bibliog diags Ind & Eng Chem* 49:1891-6 N '57

GAMMA rays—Continued

Theoretical considerations in food processing by gamma radiations. S. E. Charm and others. *diag Food Tech* 12:209-13 My '58
 Variation of gamma radiation rates for different elements following an underwater nuclear detonation. W. J. Helman. *bibliog diag J Colloid Sci* 13:329-36 Ag '58

Attenuation

Attenuation of γ -rays from an infinite plane; data sheet. M. G. Chasanov and M. Shatzkes. *Nucleonics* 16:63 Je '58
 Gamma-ray attenuation with buildup in water; nomogram; data sheet. D. G. Chapell. *Nucleonics* 16:80 Ji '58

Industrial applications

Atomic radiations of gamma rays make furnace control precise and fast. *il Mill & Factory* 62:134 Ja '58
 Cheaper fructose on way? gamma rays can convert inulin to this sugar. D. K. Salunkhe and F. Y. Moser. *Food Eng* 30:110 My '58
 Elastomers for use in radiation fields. R. Harrington. *bibliog il diag Rubber Age* 81: 971-80; 82:461-70, 1003-15; 83:472-81 S, D '57, Mr, Je '58
 Gamma radiographic control of welded transmission lines. C. C. Bates. *bibliog il map diags Welding J* 34:1081-96 N '55; Discussion. F. C. Parker. 36:1096-7 N '57
 Gamma ray density meter improves oil well cementing. J. P. Moran and D. G. Hartweg. *il diag Pet Eng* 30:B40-4 My '58
 LPG storage well logging; gamma-ray logging tool. R. E. Sippel and H. D. Hodges. *diag Pet Eng* 30:B 118+ Ap '58
 Surface gamma ray logging of subsurface cores. R. E. Jenkins and M. C. Meurer. *il Pet Eng* 30:B64+ F '58
 Transistorized gamma ray radioactive relay. *Elec Manuf* 61:3 Ap '58
 Unique gamma facility. *il Chem Eng Prog* 54:81 My '58

Measurement

Determination of the gamma-ray emission of radium. F. H. Attix and V. H. Ritz. *bibliog (73 ref) il diags J Res Nat Bur Stand* 59:293-306 N '57
 Gamma measurement. *diag Nucleonics* 16:84 S '58
 Improved method of gamma-ray calorimetry. I. T. Myers. *bibliog diag R Sci Instr* 23: 758-61 S '58
 NaI summing spectrometer. P. Shapiro and R. W. Higgs. *bibliog diag R Sci Instr* 23: 939-41 N '57
 Neutron, gamma measurements for in-pile power monitoring. A. C. Lapsley. *bibliog diags Nucleonics* 16:106+ F '58

Measurement uses

Gamma density controls extraction column. B. G. Ryle. *il diags Chem Eng Prog* 53:561-5 N '57
 Radioisotopes in petroleum refining. W. H. King, Jr. *bibliog diags Ind & Eng Chem* 50:201-4 F '58

GANTRIES. See Cranes, derricks, etc.

GARAGES

Automatic parking garage to be run by cashier's key. *il Arch Rec* 123:242+ Mr '58
 Commercial parking garages. *il diags Arch Rec* 124:181-8 S '58
 Downtown bank adds garage with drive-in service; First national bank of Oklahoma City. *il plans diag Arch Rec* 123:256+ Ja '58
 Height record goes up again for lift-slabs in the U.S.; Tower parking garage in Columbus. P. J. Ford. *il plan diag Eng N* 161:30-2 Ji '58
 New twist in parking garages; car lift and shaft move; Parkersburg, W.Va. *il diag Eng N* 161:28 Ag 14 '58
 New York to have automatic parking garage. *il Civil Eng* 28:146 F '58
 Parabolic garage. *il diag Arch Forum* 108:127 F '58
 Photocells size cars for automatic garage. *Control Eng* 5:25 S '58
 See also
 Automobile parking

Costs

Garage costs \$4.41 per sq ft. *il Eng N* 160: 108 Mr 20 '58

Heating and ventilation

Electric heat saves stack of dollars. C. E. Dopeke. *il Elec World* 149:82 Ja 13 '58

See also

Garages, Underground—Heating and ventilation

GARAGES, Municipal

Our downtown parking garage handled 142,313 cars in nine months; Saginaw, Mich. J. W. Federhart. *il Pub Works* 89:110-11 S '58

GARAGES, Underground**Heating and ventilation**

CO concentration is critical in underground garage ventilation. *il Air Cond Heat & Ven* 55:64, cover Mr '58

GARDEN pools

Water and architecture. E. B. Kassler. *il diags Arch Rec* 123:137-52 Je '58

GARDEN state parkway. See Roads—New Jersey

GARDEN tools

Plastics for the gardener. C. Craig. *il Brit Plastics* 31:220-7 Je '58
 Trends in appearance design; redesign of the Montgomery Ward & co. line of garden equipment and supplies. *il Product Eng* 29: 20-1 Je 2 '58
 Variety by attachment; Gardenmaster 34. *il Engineering* 185:352 Mr 14 '58

GARMENT bags, Plastic

Dry cleaning; big new market for polyethylene film bags; Clopay corp. *il Mod Plastics* 35:106-7 Ap '58

GARMENT factories**Air conditioning**

Large room evenly cooled with three centrifugal chillers; Stone manufacturing plant. *Refriger Eng* 66:344-4 Ja '53
 World's first completely air-conditioned men's clothing plant uses package units; H. Daroff & sons, Inc. D. Hartley. *il Power Ind* 74: 20-1 Ja '58

GARMENT hangers. See Hangers, Coat, dress, etc.

GARMENT industry

Wash-and-wear problems of merchandising. P. J. Fynn. *Mod Textiles Mag* 39:55-6 Ji '58

GARNET

Andradite-spessartite garnet from Pajsberg, Sweden. I. H. Lee. *bibliog Am Mineralogist* 43:208-15 Mr '58

Composition and physical properties of garnet. H. Winchell. *bibliog Am Mineralogist* 43: 595-600 My '58

Design advances from magnetism research; ferrites, garnets. *il diags Elec Manuf* 61: 98-100+ Ji '58

Ferrimagnetic resonance in gadolinium iron garnet. B. A. Calhoun and others. *bibliog J Ap Phys* 29:427-8 Mr '58

Ferrimagnetic resonance in single crystals of rare earth garnet materials. R. V. Jones and others. *bibliog J Ap Phys* 29:434-5 Mr '58

Ferromagnetic resonance and nonlinear effects in yttrium iron garnet. R. C. LeCraw and others. *J Ap Phys* 29:326-7 Mr '58

Ferromagnetic resonance in yttrium iron garnet at low frequencies. E. G. Spencer and others. *bibliog J Ap Phys* 29:429-30 Mr '58

Growth of magnetic garnet crystals. J. W. Nielsen. *J Ap Phys* 29:390-1 Mr '58

Magnetic germanates isostructural with garnet. A. Tauber and others. *bibliog J Ap Phys* 29:385-7 Mr '58

Microwave properties and applications of garnet materials; abstract. G. P. Rodrigue. *il Radio Eng Proc* 46:669 Mr '58

Microwave properties of polycrystalline rare earth garnets. M. H. Sivetz and J. E. Zneimer. *J Ap Phys* 29:431-3 Mr '58

Mixed garnets for nonreciprocal devices at low microwave frequencies. B. Ancker-Johnson and J. J. Rowley. *Inst Radio Eng Proc* 46:1421-2 Ji '58

Observation of domains in the ferrimagnetic garnets by transmitted light. J. F. Dillon, Jr. *bibliog il diags J Ap Phys* 29:1286-91 S '58

Optical properties of several ferrimagnetic garnets. J. F. Dillon, Jr. *bibliog il J Ap Phys* 29:539-41 Mr '58

Preparation of polycrystalline ferrimagnetic garnet materials for microwave applications. W. P. Wolf and G. P. Rodrigue. *bibliog flow chart J Ap Phys* 29:105-8 Ja '58

GARNET—Continued

- Resistivity and density of polycrystalline yttrium iron garnet. L. G. Van Uiter and P. W. Swanekamp. *J Ap Phys* 28:1513-14 D '57
- See-through crystals show magnet secrets. *Product Eng* 29:14 Ja 27 '58
- Single-crystal yttrium/iron garnets (YIGs) replace ferrites in high-frequency electronic systems. *Chem & Eng N* 35:62 D 9 '57
- Spin-lattice relaxation time in yttrium iron garnet. R. T. Farrar. *diags J Ap Phys* 29: 425-6 Mr '58
- Spontaneous magnetization of some garnet ferrites and the aluminum substituted garnet ferrites. R. Pauthenet. *biblog J Ap Phys* 29:253-5 Mr '58
- Substitution for iron in ferrimagnetic yttrium-iron garnet. M. A. Gilileo and S. Geller. *biblog J Ap Phys* 29:350-1 Mr '58
- Temperature dependence of microwave permeabilities for polycrystalline ferrite and garnet materials. J. Nemarich and J. C. Cacheris. *biblog J Ap Phys* 29:474-6 Mr '58
- Transparent ferromagnetic light modulator using yttrium iron garnet. C. S. Porter and others. *il diag J Ap Phys* 29:495-6 Mr '58
- Transparent magnetic oxides. *Bell Lab Rec* 36:36 Ja '58
- Transparent magnetic oxides; rare-earth-iron garnets. *Elec Eng* 77:371 Ap '58
- Transparent magnetic oxides; yttrium iron garnet. *Electronic Eng* 30:105 F '58; Same. *Franklin Inst J* 265:144 F '58
- Yttrium garnet uhf isolator. F. R. Morgenthaler and D. L. Fye. *diags Inst Radio Eng Proc* 45:1551-2 N '57

Spectra

- Ferromagnetic resonance in uniaxial polycrystalline materials. C. A. Morrison and N. Karayianis. *J Ap Phys* 29:339-40 Mr '58

GARRISON dam. See Dams**GARVAN medal**

- Arda, A. Green received medal. *Chem & Eng N* 36:123 Ap 28 '58

GARY, Indiana**Water supply**

- Persistence of combined available chlorine residual in Gary-Hobart distribution system. H. L. Flowman, Jr. and J. M. Rademacher. *diag Am Water Works Assn J* 50:1250-8 S '58

GAS

- Radiation from combustion gas. S. Matsunaga. *diag Jet Propulsion* 28:125-6 F '58

See also

- Gas as fuel
Gas industry
Gas producers
Liquefied petroleum gas
Sewage sludge—Gas production

Analysis**See Gas analysis****Laws and regulations****See also**

- Gas, Natural—Laws and regulations

GAS, Natural

- Automatic techniques of oil and gas production. N. E. Armstrong. *il Automation* 5:57-61 Ar '58
- Economic factors dictate shutdown of world's first gas synthesis plant. *flow diag il Pet Eng* 28:C56+ N '57
- Field processing; special section. *flow plan il diags Oil & Gas J* 56:113-30+ Ap 21 '58
- Flow formulas for natural gas. M. Brooke. *diag Chem Eng* 64:298 D '57
- Gas cutting steadily into oil market. *Oil & Gas J* 55:110-11 D 30 '57
- Helium policy charted; helium will be extracted from helium-containing natural gas. *Chem & Eng N* 36:19 My 19 '58
- Industry's greatest challenge; gas supply. J. J. Hedrick. *Gas Age* 121:37-8 Ja 9 '58
- Natural gas and natural-gas pipelining; special report. *il map diags Oil & Gas J* 56:107-22+ Mr 10 '58
- New diffusion technique opens way for large scale helium extraction from gas. *il Gas Age* 121:28 Je 26 '58

- Process could hit helium jackpot; Bell labs find helium separates from natural gas by diffusing through walls of glass tubing. *il Chem & Eng N* 36:42 My 12 '58

See also

- Columbia gas system, inc.
Ethane
Gas as fuel—Natural gas
Gasoline, Natural—Manufacture
Independent natural gas association of America
Methane

Competition with oil fuel

- See Oil fuel industry—Natural gas competition**

Compression

- Compressibility factor charts for natural gas calculations. C. Gatlin. *biblog Pet Eng* 29:D31-4 Ag '57; Correction. 29:D33 D '57; 30:E 1e Je '58
- Gas stored underground, gas engines put it there. *Laclede gas co. il Diesel Power* 35: 40-1 D '57
- Laclede gambles on sandstone, and wins. *il Am Gas Assn Mo* 39:32-3+ D '57
- Method for predicting supercompressibility factors for natural gas. R. H. Zimmerman and others. *biblog Gas Age* 120:38-41 D 12 '57
- Need more power? convert by turbocharging. C. E. Gotterba. *il diags Diesel Power* 36: 16-18 Je '58

See also

- Gas, Natural—Pipe lines—Compressor stations

Condensate wells

- Ingenuity pays off at Krotz Springs, L. Resen. *il diags Oil & Gas J* 55:123-4 D 9 '57
- Phase relations of gas-condensate fluids; test results, apparatus, and techniques; review. *Am Gas Assn Mo* 39:53 N '57

See also

- Gas, Natural—Recycling

Corrosion problem

- Complexity of oil and gas corrosion. H. E. Waldrup and J. A. Rowe. *il diags Corrosion* 14:108+ F '58

Conditioning

- Acid-gas removal by the hot-carbonate method. A. G. Eickmeyer. *Oil & Gas J* 56:106-8+ S 22 '58
- Aqueous-amine acid-removal process needn't be corrosive. J. S. Connors. *biblog flow diag Oil & Gas J* 56:100-2+ Mr 3 '58
- Chromatographic analyzer used to control debutanizer. *diag Pet Eng* 30:C22 My '58
- Cycling plant planned by Humble on King ranch. *Oil & Gas J* 56:114 S 15 '58
- Gas treating by new method. J. L. Foster. *diag Pet Eng* 30:D34 F '58
- Gas-treating tool pays off; molecular sieves. E. L. Clark. *diag Oil & Gas J* 56:83 Mr 17 '58
- Glycol-amine gas treating. *flow sheet Pet Eng* 30:C40a-40b Je '58
- How CO₂ is removed by the hot potassium carbonate process. *flow diag Oil & Gas J* 56:98-9 F 10 '58
- Investigate the hot potassium carbonate process for acid gas removal. R. A. Graff. *biblog diag Pet Eng* 30:C24+ My '58
- Method found to save helium. *il Oil & Gas J* 56:107 My 19 '58
- New Lone Star Gas treating plant will use hot potash-amine method. *diag Gas Age* 121:39+ F 20 '58
- Pacific petroleum, ltd.'s field-processing-plant complex. C. R. Hetherington. *flow diags il maps diags Oil & Gas J* 56:93-103+ Jl 7 '58
- Petrochem has designed a commercial hot potassium carbonate plant for CO₂ removal from natural gas. B. O. Buck and A. R. S. Letch. *biblog flow diags Oil & Gas J* 56: 99-100+ S 22 '58
- Price tags on seven methods of removing CO₂ from high-CO₂-content gas. J. F. Mulowney. *flow diags Oil & Gas J* 56:93-3 F 10 '58
- Short cut to gas processing; Townsend process. L. S. Reid and F. M. Townsend. *Oil & Gas J* 56:67 S 22 '58
- Silica strains helium from natural gas. *diag Electronics* 31:20-1 Jl 25 '58
- Three ways to purify gas; amine, iron sponge, and hot-potassium carbonate processes. F. Zapffe. *Oil & Gas J* 56:100-3 S 8 '58; Same cond. *Pet Eng* 30:C 19-20+ My '58

GAS, Natural—Continued

Conservation

See also

Gas, Natural—Proration

Dehydration

- Different dehydration plant; Lone star gas co. F. Zapffe. flow diag *Oil & Gas J* 56:102-5 *Je* 2 '58
- Effects of hydrates on automation. W. M. Owen. *Oil & Gas* 34:108+ *S* '58
- Gas treating by new method. J. L. Foster. diag *Pet Eng* 30:D34 *F* '58
- Glycol-amine gas treating; Fluor corp. flow diag *Pet Refiner* 37:304 *S* '58
- McMahon plant complex; treating and dehydration facilities. C. R. Hetherington. *Oil & Gas J* 56:100-2 *Il* 7 '58
- Natural-gas dehydration at Gabe Ky. A. G. Harrell. *Oil & Gas J* 55:121+ *O* 28 '57

Fuel use

See Gas as fuel—Natural gas

Geology

- Deep drilling through Cumberland overthrust block in southwestern Virginia. D. M. Young. *Il* map diag *Am Assn Pet Geologists* *Bul* 41:2567-73 *N* '57
- Differential entrapment of oil and gas in Arbuckle dolomite of central Kansas. R. F. Walters. maps diags *Am Assn Pet Geologists* *Bul* 42:2133-73 bibliog(p2172-3) *S* '58
- Gulf Coastal province; how and where its oil and gas occur. G. E. Murray. maps *Oil & Gas J* 55:109-16 *N* 4 '57
- Northeastern British Columbia; giant of the future. G. L. Gray. maps diags *Oil & Gas J* 56:128-35 *Ar* 18; 74-9 *Ag* 25 '58
- Pre-cretaceous, Alberta's big source of oil; cretaceous, Alberta's big source of gas. J. R. Fow. maps diags *Oil & Gas J* 56:151-3 *Ap* 28 '58

Helium content

- Method found to save helium. *Il* *Oil & Gas J* 56:107 *My* 19 '58

Hydrates

- Effects of hydrates on automated transmission and gathering systems. W. M. Owen. *Gas Age* 121:49-50+ *My* 1 '58

Laws and regulations

- Busy days in court facing gas industry. N. Regeimbal. *Gas* 34:17+ *F* '58
- Colorado Interstate; problem for all. *Oil & Gas J* 55:66-7 *N* 25 '57
- CATC gas deal hit by new court ruling. *Oil & Gas J* 56:82 *Jl* 7 '58
- Conservation story sold in Alabama. *Il* *Oil & Gas J* 56:96-7 *Mr* 17 '58
- Does FPC control raise gas prices? interview with Ralph E. Davis. *Oil & Gas J* 56:98-9 *Mr* 10 '58
- Federal grand jury in Milwaukee indicts natural gas companies on monopoly. *Gas Age* 121:32 *My* 15 '58
- FPC, courts tighten grip on gas. H. Lippitt. *Oil & Gas J* 56:153+ *Mr* 10 '58
- Federal regulation of gas production is here to stay. C. Lyons. *Gas Age* 121:34-6 *F* 20 '58
- Gas cut required by Alberta for exports to U.S. by two pipeline firms. *Oil & Gas J* 56:59 *S* 22 '58
- Gas hit hard again. *Oil & Gas J* 55:70 *D* 2 '57
- Gas-market fight under study. *Oil & Gas J* 55:71 *D* 2 '57
- Gas price freedom is more important to oil industry than import restrictions. H. B. Hiltz. *Gas Age* 121:38 *Ap* 17 '58
- Gas producer must be free of fixed cost regulation. R. B. Brown. *Gas Age* 120:23+ *N* 14 '57
- Give FPC credit for trying to regulate the gas industry. R. S. Knappen. *Oil & Gas J* 56:156-7+ *Jl* 28 '58
- Harris bill needs joint help. O. Harris. *Oil & Gas J* 56:82 *My* 5 '58
- How far should gas regulation go? interview with W. R. Connoie. B. F. Linz. *Oil & Gas J* 56:70-1 *Je* 2 '58
- Independents lose fight in lawsuit testing FPC authority over unintegrated gas producers. *Oil & Gas J* 55:69 *N* 25 '57
- Interior department proposes to increase helium supply; encourage private capital. *Gas Age* 122:34-5 *O* 16 '58
- Memphis case rouses gas industry. J. K. Kuykendall. *Am Gas Assn Mo* 40:22-4 *Ja* '58

- Model form operating agreement. 1957. R. L. Hughston. *Pet Eng* 30:B 113+ *Je* '58
- Natural gas bill is down but may not be out. *Gas Age* 121:13-14+ *Mr* 20 '58
- Natural gas production; 90 per cent free or 100 per cent enslaved? Harris-O'Hara bill. C. Hankamer. *Gas Age* 121:41 *Mr* 6 '58
- Regulatory and legislative trends. Published in monthly numbers of *Gas*
- Some key issues are before Congress. B. F. Linz. *Oil & Gas J* 55:106-7 *D* 30 '57
- Trends for '58; budding missile age will influence Capital activity. N. Regeimbal. *Gas* 34:112+ *Ja* '58
- Trends for '58; gas discovery incentives will get more attention. *Gas* 34:58-63+ *Ja* '58
- Trends in state regulation. Published in bi-weekly numbers of *Gas age*
- Two crucial problems in 1958: Harris bill, Memphis case. S. E. Rubenstein. *Gas Age* 121:17-18 *Ja* 9 '58
- Variety of viewpoints accompany FPC ok of non-price-conditioned independent-producer certificate. *Gas Age* 121:54 *My* 1 '58
- Wanted; solutions to three major problems. N. Regeimbal. *Gas* 34:17+ *Mr* '58

See also

Gas, Natural—Rates
Pipe lines—Right of way

Liquefaction

- Economics of gas liquefaction. P. B. Lederman and B. Williams. bibliog diags *Gas Age* 120:41-7 *N* 14 '57
- Vast liquefied gas markets will be tapped by Constock. *Oil & Gas J* 56:82 *F* 10 '58

Measurement

- Computation of orifice-meter gas coefficients. W. J. Kennedy. *Instruments & Automation* 31:1537-40 *S* '58
- Eliminating noise at gas meter stations. R. C. Lisk. *Il* diags *Instruments & Automation* 31:661-3 *Ap* '58
- Instrument unit measures pressure. diag *Oil & Gas J* 56:221 *S* 15 '58

Odorizing

- Odorization of an integrated gas system; Montana-Dakota utilities co. A. F. Kynous. map *Gas* 34:76-9 *Ap* '58

Peak load

- Peak shaving with LPG; Peoples gas light and coke co. J. K. Dawson. flow diags *Il* *Gas* 34:37-44 *Jl* '58
- Trends in peak shaving methods and planning in New England. W. P. Earley. *Gas Age* 121:15-17 *Mr* 20 '58
- What February's cold wave revealed. *Il* *Gas Age* 121:19-22+ *My* 1 '58

See also

Gas, Natural—Storage

Pipe lines

- Aneth gas goes to El Paso. *Oil & Gas J* 55:45 *D* 23 '57
- Automatic shut-off valves for gas and oil transmission lines. C. S. Beard. *Il* diags *Instruments & Automation* 31:1373-6 *Ar* '58
- California line a rugged job. A. E. Garrissere. *Il* *Pet Eng* 29:D 19-21 *D* '57
- Communications role in pipeline automation. F. V. Long. *Gas* 34:153-4 *Mr* '58
- CATC gas deal hit by new court ruling. *Oil & Gas J* 56:82 *Jl* 7 '58
- Contracts are let for nearly half of Coastal Transmission's main line. *Oil & Gas J* 56:49 *S* 29 '58
- Cooperation essential. J. J. Hedrick. *Am Gas Assn Mo* 39:14+ *N* '57
- Electrical analog computer cuts line pack calculation time in half at Panhandle. *Gas Age* 122:40 *Ag* 7 '58
- Expansion started by Southern Natural with pipeline contract awards. *Oil & Gas J* 56:55 *Jl* 21 '58
- FPC gets Transco plan for big pipeline expansion in Gulf. map *Oil & Gas J* 56:108 *Ap* '58
- Flow equations for natural gas pipelines. R. F. Bukacek. *Am Soc C E Proc* 84 [PL 2 no 1691]:1-9 *Je* '58; Excerpts, diags *Pet Eng* 30:D20-3 *My* '58; Discussion. J. H. Dorough. *Am Soc C E Proc* 84 [PL 2 no 1691]:5-6 *Je* '58
- Gas line gets nod for big expansion project in Oklahoma's Laverne area. *Oil & Gas J* 55:70 *Je* 9 '58
- Gas-market fight under study. *Oil & Gas J* 55:71 *D* 2 '57
- Gas merger ends peril of financial trouble for Pacific Northwest. El Paso. P. Kayser. *Oil & Gas J* 56:67 *S* 22 '58

GAS, Natural—Pipe lines—Continued

Gas project delayed by Memphis decision. Oil & Gas J 55:116 D 30 '57

Gas system looped by Humble. Oil & Gas J 56:52 My 26 '58

Highlights of cases before Federal power commission (cont.). Am Gas Assn Mo 39: 56-7 N; 40-1 D '57; 40:43 Ja; 48-9 F; 40-1 Mr; 42-3 Ap; 42-3 My; 42-3 Je; 48-9 JI-Ag; 38-9 S; 43 O '58

How about using thin-wall pipe when it satisfies job requirements? R. S. Ryan. il diags Oil & Gas J 56:68-9 Ag 25 '58

How to calculate unsteady-state flow of natural gas in long pipelines. J. M. Nelson and J. L. Powers. bibliog diag Oil & Gas J 56:80-4 Je 30 '58

How to cut design hours to computer seconds. flow chart il diag Pet Eng 30:D28-30 Ag '58

Improved gas flow equations; flow phenomena in large-diameter natural gas pipelines. W. R. Staats and D. T. Ellington. bibliog Pet Eng 30:D 19-21 JI '58

Internal line coating may boost gas flow efficiency; abstracts. R. M. Johnson. Oil & Gas J 56:100 Mr 24 '58; il Gas 34:19 My '58

Intrastate gas line planned in Texas. Oil & Gas J 56:79 S 3 '58

Lake Superior cities get Alberta gas. il Gas Age 121:17-18 + Mr 6 '58

Linking a widespread system; Transcontinental gas pipe line corp. microwave system. F. Chapman. Gas 34:133 Ap '58

Little Inch makes final hurdle. Oil & Gas J 55:117 D 30 '57

Memphis-case challenge is lodged before U.S. Supreme court. Oil & Gas J 56:102-3 S 1 '58

Midwest gas plans hit by PPC attorneys. Oil & Gas J 56:115-19 Ap 7 '58

Midwest gas plans opposed. Oil & Gas J 56:93 My 12 '58

Midwestern gets break; opposition to southern section of pipeline folds. map Oil & Gas J 56:90-1 Mr 10 '58

Natural gas and natural-gas pipelining; special report. il map diags Oil & Gas J 56: 107-22 + Mr 10 '58

New design in long-span river crossings. R. N. McManus. il Gas Age 121:31-3 + Je 12 '58

Niagara Mohawk bolsters gas supply via new 24-in. line. il map Gas Age 122:33-5 Ag 21 '58

Outlook for 1958; prospective good year with some caution marks. F. O. Prior and others. Pet Eng 30:D20-3 Ja 13 '58

Pacific Lighting's pipeline system. J. F. Ebdon. il map diag Gas 34:105-15 + Ag '58

Pipe, its control; symposium. Gas Age 122:22-4 + JI 10 '58

Pipeline contractors' costs; special report. P. Reed and G. Kinney. Oil & Gas J 56:105-18 Ja 20 '58

Pipeline report. Published in bi-weekly numbers of Gas age

Pipeline route survey by photogrammetry. M. E. Fuller. Gas Age 122:33-5 JI 10 '58

Pipelining begins strong rebound. map diag Oil & Gas J 56:146-7 JI 28 '58

Plans filed for gas line to California; Transwestern pipeline co. map Oil & Gas J 56: 100-1 Ap 21 '58

Plastic tape pays off for A-L on large-diameter pipe laying. N. E. Miley. Gas Age 120:48-51 N 14 '57

Preventive maintenance for pipeline systems; symposium. Gas Age 121:32-5 + Mr 20 '58

Producer gas sales increase. Oil & Gas J 55:74 N 25 '57

Proposed or planned pipelines. Pet Eng 30: D3+ Ja '58

Prospects for international pipelines between Canada and the United States. W. R. Connoles. Gas Age 121:46-7 + Ap 3 '58; Same. Am Soc C P Proc 84 [PL 2 no 1674]:1-6 Je '58; Abstract. Oil & Gas J 56:70 Mr 3 '58

Purchases by natural gas pipelines directly from producers of natural gas, 1956; tables. Gas Age 121:31-9 Ja 23 '58

Recent developments in telemetering and remote control equipment and its application to pipeline stations. G. C. Wilson. il diags Gas Age 122:30-3 O 16 '58

62 inch casing jacked under fill; Carnegie natural gas co. near Homestead. Pa. il Engr N 161:69 Ag 21 '58

Some design suggestions for multiphase flow in pipelines. O. Baker. bibliog diags Gas Age 121:34-40 Je 12; 42-3 + Je 26 '58

Southern Natural Gas plans to expand delivery capacity 30 per cent. map Gas Age 121:43+ Ap 3 '58

TGT taps giant offshore reserves. map Oil & Gas J 56:114-15 JI 28 '58

Texas-Florida gas line. map Oil & Gas J 56:46-7 Ag 25 '58

Tough new coating; Transcontinental gas pipe line corp. il diags Oil & Gas J 55: 70-2 D 16 '57

Transco. rushes looping. Oil & Gas J 56:110 S 15 '58

Trunkline Gas to expand pipeline system. Oil & Gas J 56:82 JI 14 '58

See also

Tennessee gas transmission company

Compressor stations

Claims and litigation resulting from spread blasting and compressor station operation. S. Hammon. Gas 34:123-30 Ap '58

Compressor station is overhauled; illustrations with text. Pet Eng 30:D30-1 F '53

Conditioning engine inlet air. O. H. Moore. Gas Age 122:32 JI 10 '58

Eliminating noise at gas meter stations. R. C. Lisk. il diags Instruments & Automation 31:661-3 Ap '58

Estimate cost of compression plants. I. Bromberg. Pet Refiner 37:225-6 My '58

Everything's up to date at Panoma. B. Hunsaker. il Oil & Gas J 56:92-4 Mr 3 '58

Gas pipeline power facilities; Big-inch line of Westcoast transmission co. W. T. Hall. il Power Eng 62:98-9 Ap '58

Gas pulsations; the problem. Southern gas association's approach. results. E. N. Henderson. il diags Oil & Gas J 56:115-20 + My 12 '58

How to increase hp 17 to 40 per cent. K. B. Anderson. il diags Pet Eng 30:D24-9 Je '58

How to reduce surge and valve losses. C. S. Kenworthy. il diags Oil & Gas J 56:170 + Mr 10 '58

Jet air compressors; gas turbine powered compressors at Texas eastern transmission corp. flow chart il Gas Age 122:36-8 S 4 '58

Logistics of maintenance in the Far North; Westcoast's transmission co. il Plant Eng 12:128-30 + My; 100-2 Je '58

New desert station boosts Cal-Counties import supply. J. Joseph. il plans Gas 34:113-18 R '58

New Needles station adds quarter billion to southern California daily gas supply. il Gas Age 122:35-7 Ag 7 '58

No major breakdown the year-round. C. Freeman. il Pet Eng 29:D25-6 D '57

Noise abatement in pipeline operations. S. Lascoe. Pet Eng 30:D4-5 + JI '58

Operation of Westcoast stations. J. Joseph. flow sheets il map diag Gas 34:97-101 Je; 99-100 + JI; 91-3 S '58

Piping design stops pulsating flow. R. James. bibliog diags Pet Refiner 37:185-90 My '58

Preventive maintenance practices for gas engines. H. Ramsey and D. M. Taylor. il Pet Eng 29:D34-6 + D '57; 30:D38-43 Ja; D36-7 + Mr '58

Saving by modernizing; Southern California gas co. replacing huge compressors with smaller units. C. H. Vivian. il map Comp Air Mag 63:12-18 Ja '58

\$750,000 saving in compressor stations; Texas gas transmission corp. J. B. Eaton. il Oil & Gas J 56:176 + Mr 10 '58

Synchronous motors are paying off. F. P. Goertzen. il diag Oil & Gas J 56:97-101 Ja 6 '58

Unlocking the Peace River reserves; 650-mile-long, 30-inch-diameter natural gas link brings fuel to British Columbia and Pacific Northwest of United States. D. Eckman. il map Comp Air Mag 62:364-7 D '57

Updating a pipeline system. M. J. Paul. diags Pet Eng 29:D53-6 N '57; Same. Gas Age 120:32-5 N 28 '57

Valve operator control systems for compressor stations. H. L. Ledeer. il diags Gas 34: 140-2 + My '58

Waste heat harnessed to cool compressor units. flow diag il Pet Eng 30:D32-3 JI '58

Westcoast stations designed for cold weather operation. L. O. Rowland. flow diag il Pet Eng 30:D36 + F '58

Westcoast transmission pipeline. il Gas Age 121:31-6 Ap 17 '58

Westcoast's engine-driven centrifugal compressor units are a first. R. W. Boehinger. il map Oil & Gas J 56:160 + Mr 10 '58

What to do about the noise problem at pressure-reducing stations. R. M. Watson. diags Pet Eng 30:D9 + JI '58

GAS, Natural—Pipe lines—Continued

Compressor stations, Electric

Automatic control in pipeline systems. K. Kridner. plan Gas Age 121:36-8+ Mr 20 '58

Automatic control systems for gas transmission pipelines. G. A. Barnard, 3d. il Pet Eng 30:D47+ My '58

Automatic pipeline moves nearer. il Oil & Gas J 56:184-5 Ja 27 '58

Automatic 660-hp compressor key to added gas supply for Southern counties gas co. area. il Gas Age 122:14 S 18 '58

Automating the gas transmission system. N. E. Armstrong. diag Pet Eng 30:D24+ J1 15 '58

Automation in gas industry operations. 1958: symposium. Gas 34:45-50 J1: 66-8+ Ag '58
Electrical control of gas turbines in gas transmission service. R. A. Yannoni and others. il plans diag Applications & Ind 96:12 Mr '58

Emergency power for microwave stations. W. E. Freese. Oil & Gas J 56:225-7 Ag 18 '58

First push-button gas pipeline is now in successful operation. S. Orlofsky. il diag Oil & Gas J 56:114-19 J1 14 '58

Hope National push-button compressor station. il Gas Age 121:37-42 Ap 3 '58

Push-button compressor station ups gas flow il Am Gas Assn Mo 40:24-6 Ap '58

Supervisory control of gas pipelines. F. V. Long. diag Oil & Gas J 55:118-20 O 21 '57; Same. Pet Eng 29:D66-70 N '57; Same. Gas Age 120:42-6 D 12 '57

Trends for '58: tomorrow's automated pipeline. N. E. Armstrong. Gas 34:97-8 Ja '58

Trends in automation. J. F. Ebdon. Gas 34:93-6 Ja '58

Construction

Blasting with fertilizer helps build a pipeline in rough country. il Oil & Gas J 56:78-9 Ja 20 '58

Claims and litigation resulting from spread blasting and compressor station operation. S. Hammon. Gas 34:128-30 Ap '58

Do it yourself pipelining. Southern natural gas co. il Gas 34:143 Mr '58

How to cut welding costs. R. A. Clemens. diag Gas Age 121:40-2+ Mr 6 '58

Joint venture by utilities builds pipeline in Gotham. il map Gas 34:65-8 My '58

New joint design is needed in pipeline welding. Northern natural gas co. field tests. L. J. Cunningham. il Oil & Gas J 56:144-5+ Mr 10 '58

Pipeline building has biggest year. 1957. map Oil & Gas J 56:182-3 Ja 27 '58

Pipeline construction report; who's laying line and where. Oil & Gas J 56:131-6 Ja 6 '58 [cont bi-weekly]

Pipeline job short but rugged. il Oil & Gas J 56:85 Je 23 '58

Pipelining in marsh, swamp and open water. W. T. Ivey. il Civil Eng 28:640-3 S '58

Southern Natural slashes through Louisiana swamps. J. F. Ebdon. il map diag Gas 34:87-96+ J1 '58

Tennessee gas transmission co. sets a standard for marine pipelaying. P. Reed and G. Kinney. il diag Oil & Gas J 56:124-8 S 15 '58

Failure

Line breaks detected by system which sounds alarm at nearest attended station. J. H. Stannard, Jr. Oil & Gas J 56:104 My 19 '58

Pacific Gas & Electric designs unique pipeline-break control and alarm system. J. H. Stannard, Jr. and T. Morcott. diag Gas 34:94-8+ S '58

Finance

Gas transmission pipelines earmark more money for construction. F. H. Love. Pet Eng 30:D 18+ Je '58

Way out of our problem. P. Kayser. Gas Age 120:31-2 O 31 '57

Freezing

Effects of hydrates on automated transmission and gathering systems. W. M. Owen. Gas Age 121:49-50+ My 1 '58

Gathering lines

Automatic alcohol-injection system prevents wet-gas line plugging. diag Oil & Gas J 55:189+ N 11 '57

Automatic control systems for gas transmission pipelines. G. A. Barnard, 3d. il Pet Eng 30:D47+ My '58

Creole to lay Big-Inch line. il Oil & Gas J 56:66 Mr 31 '58

Effect of uphill flow on pressure drop in design of two-phase gathering systems. O. Flanagan. bibliog Oil & Gas J 56:132-3+ Mr 10 '58

Effects of hydrates on automated transmission and gathering systems. W. M. Owen. Gas Age 121:49-50+ My 1 '58

Empirical method of predicting pressure drop in gas-condensate pipelines. A. L. Berry and B. L. Moreau. diag Oil & Gas J 56:108-10 F 17 '58

Pipeline analyzer tackles three-part chore on a gas-gathering system. P. C. Constant. il diag Oil & Gas J 56:160-1+ Ap 21 '58

Slug catcher at gas-separation plant handles incoming slugs of liquid in offshore line. L. Resen. il diag Oil & Gas J 56:148+ Mr 10 '58

Location

How highway engineers and pipeliners can solve mutual problems. C. D. Richardson. plans Gas Age 122:24-7+ S 18 '58

Panhandle Eastern relocates lines for federal highway; illustrations with text. Gas Age 122:38-9 Ag 7 '58

Pipeline route survey by photogrammetry. M. E. Fuller. il Pet Eng 30:D28-31 J1 '58

Maintenance and repair

Colorado Interstate believes in do it yourself. J. W. Hawkins. il Oil & Gas J 56:128-30 Mr 10 '58

Erosion control and backfill repair. Northern natural gas co. H. J. Averett. il diag Oil & Gas J 56:213-14 S 15 '58

Logistics of maintenance in the Far North. Westcoast transmission co. il Plant Eng 12:128-30+ My; 100:2 Je '58

Maintaining high-pressure gas line for top capacity operation. Natural gas pipeline co. of America. D. C. Palm. il Oil & Gas J 56:140-2+ S 15 '58

New way to repair shorted casings. T. Pazzdral and J. Duke. diag Pet Eng 30:D48-9 My '58

No major breakdown the year-round. C. Freeman. il Pet Eng 29:D25-6 D '57

Protection

Cathodic protection of gas pipelines. T. L. Canfield. Gas Age 121:43+ Mr 6 '58

How Natural Gas Pipeline hot-coats pipe on its Texas-Oklahoma transmission line. P. Reed. il Oil & Gas J 56:117-18+ Ja 13 '58

How PG&E protects its Super-Inch line; monitor system for line rupture control. J. H. Stannard, Jr. and T. Morcott. diag Gas Age 121:38-42 Je 26 '58

Southern Natural specifies new coating for water construction. P. Reed and G. Kinney. il Oil & Gas J 56:129-31 S 15 '58

Three kinds of pipe protection are being applied on NGP's major project. P. Reed. il map Oil & Gas J 56:98-100 D 9; 134+ D 16; 223-4+ D 30 '57

Safety measures

Safety in gas transmission operations. E. S. Murray. Pet Eng 30:D46-9 Mr '58

Testing

Hydrostatic testing of line through fringe area of city. K. Bentz. il diag Gas 34:150+ O '58

Argentina

Argentine pipelines started. il Oil & Gas J 56:83 S 8 '58

Canada

Canadian pipeline projects. Eng J 41:89-90 F; 95-6 Mr; 93-4+ My; 81-2 Je; 90-2 J1; 96 Ag; 110 S '58

Canadians gain control of Trans-Canada Pipe Line. Oil & Gas J 55:80 N 4 '57

Delivery of Alberta gas to Lakehead cities, a reality. il Pet Eng 30:D65 Mr '58

Finishing Trans-Canada will be tough. il Oil & Gas J 55:65 D 9 '57

Kenora crossing a tough one! L. O. Rowland. il diag Pet Eng 30:D24-6 Mr '58

Last lap progress on Trans-Canada pipeline promises Alberta gas for Montreal in fall. Gas Age 122:40 Ag 7 '58

Northern Ontario Natural Gas passes halfway mark in linking 32 towns. il map Gas Age 122:32-3 S 4 '58

Trans-Canada pipeline nears completion. G. Kinney. il Oil & Gas J 56:204-5 Ag 18 '58

What it took to build the Westcoast pipeline. il Pet Eng 30:D21-3 Je '58

Great Britain

British line built to help move methane soon to be imported by ship. Oil & Gas J 55:33 D 23 '57

GAS, Natural—Pipe lines—Continued

Pakistan

Expansion planned for Pakistan's natural-gas pipeline. Oil & Gas J 56:109 Ap 21 '58

Venezuela

Building a line over mountains is no easy job for engineers in Venezuela. Oil & Gas J 56:120-1 Ap 7 '58

Creole lays Super-Inch pipe in Lake Maracaibo. Oil & Gas J 56:58 Ar 11 '58

Fuel gas for Venezuela's progress. M. A. Romero. Oil map diag Pet Eng 23:D32-5+ N '57

Production methods

Free piston has quick payout. N. F. Brown. diag Oil & Gas J 56:110-11+ N 25 '57

Maximum recovery; how far have we come. V. E. Stepp and E. R. Browncombe. Oil & Gas J 56:171-3+ S 1 '58

Production methods on gas wells in the San Juan basin of New Mexico. A. J. Dudenhofer. bibliog map diag Oil & Gas J 56:163-4+ My 19 '58

Sand exclusion in oil and gas wells. G. H. Tausch and C. B. Corsey. dr. bibliog diag Pet Eng 30:B33+ Je; 558+ J1 '58

Stimulation techniques that enable gas production to keep up with growing demand. A. B. Waters and others. bibliog Oil & Gas J 56:77-81 Mr 31 '58

Proration

Gas proration, still a Texas problem. W. Bowman; R. Thompson. Oil & Gas J 56:56-7 My 26 '58

Prospecting

Californians look at Sacramento valley. Oil & Gas J 56:273 Ar 18 '58

Canadian exploration flourishes. map Oil & Gas J 56:154-5 S 8 '58

Eastern Canada bids for share of spotlight. J. D. McAlary and B. V. Sanford. maps Oil & Gas J 56:206-8 Ar 18 '58

Exploration steps up in Arkansas valley. N. S. Morrissey. map diag Oil & Gas J 56:194-6 Ja 20 '58

Gas search quickens in north Arkansas. N. S. Morrissey. diag Oil & Gas J 56:112-14 F 17 '58

How successful is gas exploration? F. H. Lahee. Oil & Gas J 56:97-9 Ar 4 '58

Northeastern British Columbia; giant of the future. G. L. Gray. maps diag Oil & Gas J 56:128-35 Ar 18 '58

Successful wildcats. maps Oil & Gas J 56:276+ Mr 24 '58

Rates

Big gas refunds due under Memphis case. Oil & Gas J 56:74-5 Ja '58

Colorado Interstate Gas's rebate offer rejected. Oil & Gas J 56:67 Je 9 '58

Cost data dangerous; panel discussion. Oil & Gas J 56:53 S 22 '58

Does FPC control raise gas prices? interview with Ralph E. Davis. Oil & Gas J 56:98-9 Mr 10 '58

Examiner ignores FPC policy in rate case. Oil & Gas J 56:102 Mr 24 '58

Fair value wins again. Gas 34:11-12 Ap '58

FPC drags its feet in requiring compliance with Memphis decision. Oil & Gas J 56:70 F 3 '58

FPC enters Kansas gas case. Oil & Gas J 56:28 D 23 '57

FPC gives new hope to rate-bound gas firm. Oil & Gas J 56:60 Je 30 '58

FPC ignores Memphis ruling, permits El Paso rate increase to become effective. Gas Age 121:44-5 Ja 23 '58

FPC must fix price for gas sold at the Christmas tree; Saturn oil and gas co. Gas 34:11-12 My '58

FPC ok's independent-producer boosts, questions value of rate-base formula. Gas Age 121:54 My 1 '58

FPC price discretion. Gas 34:11-12 Ar '58

FPC rate approval; first clear-cut increase since Memphis decision. Oil & Gas J 56:133 Ja 27 '58

FPC reverses staff in accepting field prices as basis for setting rates. Oil & Gas J 56:79 Ap 14 '58

FPC told no shortage of gas in prospect. A. E. Kahn. Gas Age 120:39 O 31 '57

Gas bill chances hurt. Oil & Gas J 56:66 F 17 '58

Gas bill depends on Ike. Oil & Gas J 56:87 F 24 '58

Gas case reviewed is asked by FPC to remove customer control on rates. Oil & Gas J 56:70-1 D 9 '57

Gas customers refuse refund offered by Colorado Interstate. Oil & Gas J 56:101 Mr 24 '58

Gas firm makes refund offer to settle rate cases, avoid bankruptcy. Colorado Interstate gas co. Oil & Gas J 56:94 Mr 17 '58

Gas price case ready for decision by Supreme court. Oil & Gas J 56:89 Ja 20 '58

Gas project delayed by Memphis decision. Oil & Gas J 56:116 D 30 '57

Good-bye minimum gas prices. Gas 34:11-12 J1 '58

Highlights of cases before Federal power commission (cont). Am Gas Assn Mo 39:56-7 N; 40-1 D '57; 40:43 Ja; 48-9 F; 40-1 Mr; 42-3 Ap; 42-3 My; 42-3 Je; 48-9 J1-Ag; 38-9 S '43 O '53

How blue are those Memphis blues? interview with W. F. Stanley. Pet Eng 30:D20-3 Mr '58

How gas prices vary. Oil & Gas J 56:80 Ja 20 '58

Industry feeling impact of court's Memphis decision. Gas 34:132 F '58

Industry outlook under the Memphis decision. J. K. Kuykendall. Gas Age 121:40-3 Ja 23 '58; Abstract. Oil & Gas J 56:52-3 Ja 13 '58

Kansas law killed by Supreme court; price of gas can't be fixed by states. Oil & Gas J 56:136 Ja 27 '58

Malignant Memphis case. Gas 34:11-12 Je '58

Memphis-case challenge is lodged before U.S. Supreme court. Oil & Gas J 56:102-3 S 1 '58

Memphis decision. Gas 34:11+ Mr '58

Open letter to Congress on the Harris bill; editorial. Oil & Gas J 56:62-3 F 17 '58

Phillips hearings end. Oil & Gas J 56:51 D 23 '57

Troubled gas firm asks help; Colorado interstate case co. Oil & Gas J 56:97 Ja 20 '58

23.9-cent gas price approved for Texas eastern transmission corp. Oil & Gas J 56:92 Ap 21 '58

22.8-cent gas price approved; Southern natural gas co. Oil & Gas J 56:54 Ap 28 '58

Two crucial problems in 1958; Harris bill, Memphis case. S. E. Rubenstein. Gas Age 121:17-18 Ja 9 '58

What's the price of gas? H. D. Ralph. Oil & Gas J 56:110-14 Mr 10 '58

Recycling

Big extraction plant is built; Eunice, La. Oil & Gas J 56:64 Ap 28 '58

Cycling plant is one-man operation. L. Resen. flow diag Oil & Gas J 56:98-9 O 28 '57

Cycling plants in United States. Oil & Gas J 56:154+ Ap 21 '58

Salt removal

Ingenuity pays off at Krotz Springs. L. Resen. fl diag Oil & Gas J 56:123-4 D 9 '57

Sampling

How to take a sample, and live. J. Pearson. Oil & Gas J 56:108, 112-13 Ar 4 '58

Statistics

Crude reserves fall below '57 figures. Oil & Gas J 56:80-2 Mr 17 '58

Field wells classified by depth. Published in weekly numbers of Oil and gas journal

Gas continues record growth; tables. Oil & Gas J 56:73 Ar 11 '58

How natural gas has led in industry advances since war; charts. Oil & Gas J 56:108-9 Mr 10 '58

IPAA finds natural gas wellhead value to be over \$1.1 billion; 1957 production. Gas Age 122:16-17 S 4 '58

Industry building for future. R. W. Otto. Am Gas Assn Mo 40:3-5 Ja '58; Same. Gas Age 121:19-22 Ja 9 '58 Same. Gas 34:62-4 F '58

Natural-gas liquids drop 4.9 per cent. Oil & Gas J 56:141 J1 28 '58

Natural gas marketed production rose to 10.7 trillion in 1957. Gas Age 121:39+ Ja 23 '58

Natural gas production and use reached all-time peak in 1956. Gas Age 120:9-12 D 26 '57

Pipelines are large buyers, relatively small producers; with tables of direct sales by producers to natural gas pipeline companies, 1956. Gas Age 120:26-41+ D 26 '57

Purchases by natural gas pipelines directly from producers of natural gas, 1956; tables. Gas Age 121:31-9 Ja 23 '58

GAS, Natural—Statistics—Continued

Reserves climb to all-time record. *il Am Gas Assn Mo 40:4-8 Ap '58*
 Shale, coal gas to supplement natural. *M. A. Elliott, Oil & Gas J 56:110-11 Ap 7 '58*
 Statistics on natural-gas discoveries. *F. H. Lahee, Am Assn Pet Geologists Bul 42: 2037-47 S '58*
 Supply of natural gas; a review. *Gas Age 122: 13-16 Jl 10 '58*
 U.S. natural gas reserves climb to record 246 trillion cu. ft. *Gas Age 121:15-19+ Ap 3 '58*

Storage

British gas board goes underground for help in meeting its gas supply problems. *Gas Age 121:22 F 20 '58*
 Chicago adds another underground storage field; Cooks Mills natural gas storage project. *il Gas Age 121:37-9 Mr 6 '58*
 Gas stored underground, gas engines put it there; Laclede gas co. *il Diesel Power 35: 40-1 D '57*
 Herscher dome; storage despite leak. *il diag Oil & Gas J 56:114-16 Ag 18 '58*
 How gas storage wells behave. *C. J. Walker and others, bibliog Pet Eng 29:D35+ Ag; D29-31 S '57; 30:D36-8+ Je '58*
 Laclede gambles on sandstone, and wins. *il Am Gas Assn Mo 39:32-3+ D '57*
 More gas being stored underground. *R. B. Bizal, il Oil & Gas J 56:84+ My 12 '58*
 New way to halt gas flaring. *Oil & Gas J 56: 66 F 17 '58*
 Northern Illinois Gas begins test injection at Troy Grove underground facility; 1960 is target date. *Gas Age 122:40 Ag 21 '58*
 Northern Illinois gas co. makes plans for backyard underground natural gas storage. *il map Gas Age 121:37 Je 26 '58*
 \$167 million Transco expansion gets FPC ok; Pennsylvania storage fields included. *Gas Age 122:32 O 2 '58*
 Playa del Rey underground gas storage. *E. Duffy, il Instruments & Automation 30: 2080-2 N '57*
 See steady growth in gas storage. *Am Gas Assn Mo 40:2-3 My '58*
 Turbodrills competing in drilling gas-storage wells in Illinois. *il Oil & Gas J 56:108-9 Jl 28 '58*
 Turbodrills used at Herscher for an underground-storage reservoir for Natural gas storage co. *il Oil & Gas J 56:80 Jl 7 '58*
 Two central Pennsylvania gas fields to be converted to underground storage. *map Gas Age 121:37+ Ap 17 '58*
 Washington conducts inert gas injection tests at Brandywine storage formation. *il Gas Age 122:22-3 S 18 '58*

Sulfur content

Cheap way to remove S from H_2S ; Claus process. *G. M. Franklin and others, flow diag il diags Oil & Gas J 55:144-6+ N 4 '57*
 Development of the Lacq natural gas field. *M. Moyal, flow sheet il diags Ind Chem 34: 27-32 Ja '58*
 Girbotol; Girdler construction div. of Chemotron corp. flow diag *Pet Refiner 37:303 S '58*
 Glycol-amine gas treating; Fluor corp. flow diag *Pet Refiner 37:304 S '58*
 Handling sour gas and oil production. *R. S. Birmingham, flow diag Oil & Gas J 55:132 O 28; 139 D 9 '57*
 Phosphate desulfurization; Shell development co. flow diag *Pet Refiner 37:307 S '58*

Tables, calculations, etc.

Computation of orifice-meter gas coefficients. *W. J. Kennedy, Instruments & Automation 31:1537-40 S '58*
 Flow equations for natural gas pipelines. *R. F. Bukacek, Am Soc C E Proc 84 [PL 2 no 1667]1-9 Je '58; Excerpts, diags *Pet Eng 30:D20-3 My '58; Discussion, J. H. Dorough, Am Soc C E Proc 84 [PL 2 no 1691]5-6 Je '58**

Taxation

Effect of taxation on valuation and production engineering. *C. W. Breeding and J. R. Herzfeld, bibliog J Pet Tech 10:21-5 S '58*
 Louisiana gas tax might grow. *Oil & Gas J 56:107 S 1 '58*
 Louisiana pushes new gas tax. *Oil & Gas J 56:55 My 26 '58*

Tideland development

Gas off Texas moves to market for first time. *map Oil & Gas J 55:61 N 25 '57*
 Gulf gas reserves up. *R. M. Davis, Oil & Gas J 55:70 D 9 '57*

Near-shore wildcat attracts attention in California. *Oil & Gas J 56:133-4 Jl 21 '58*
 Trunkline buys offshore gas. *Oil & Gas J 56:121 Ar 18 '58*

See also

Gas, Natural—Well drilling, Subaqueous

Transportation

Economics of gas liquefaction. *P. B. Lederman and B. Williams, bibliog diags Gas Age 120:41-7 N 14 '57*
 England to get natural gas by ship. *map Oil & Gas J 55:59-61 D 16 '57*
 Transportation of natural gas. *Ind Chem 34: 125 Mr '58*

Water problem

Effects of hydrates on automation. *W. M. Owen, il Gas 34:108+ S '58*
 Use this chart for water content of natural gases. *J. J. McKetta and A. H. Wehe, bibliog Pet Refiner 37:153-4 Ag '58*

Well completion

Four in one gas well. *il diag Gas Age 122:29 Jl 10 '58*

Well drilling

Field wells classified by depth. Published in weekly numbers of Oil and gas journal. Gas search quickens in north Arkansas. *N. S. Morrissey, diags Oil & Gas J 56:112-14 F 17 '58*
 How to set a drilling record. *E. McGhee, il Oil & Gas J 56:172+ My 19 '58*
 Key states drilled fewer gas wells, 1957; with tables. *Oil & Gas J 56:168-9 Ja 27 '58*
 Phillips writes history in Pecos well. *il diag Oil & Gas J 56:33-6 S 29 '58*
 Successful wildcats. *maps Oil & Gas J 56: 276+ Mr 24 '58*
 Turbodrill really makes hole at Herscher Dome storage field. *il Gas 34:106-7 S '58*
 Well drilling activity down last year. *F. M. Porter, Gas Age 121:20 F 6 '58*

Costs

New plan to cut drilling costs; central clearing house for air and gas drilling data. *il Oil & Gas J 56:66 F 3 '58*

Well drilling, Subaqueous

Gas hunt on in Lake Erie. *il map Gas Age 121:47+ My 1 '58*
 Gulbick gives up its treasure. *J. E. Jensen, map Air Gas Assn Mo 40:36-40 Jl-Ag '58*
 Lake Erie test is scheduled. *il map Oil & Gas J 56:116 Ap 7 '58*
 Mobile cable-tool platform. *il Oil & Gas J 55:128 N 11 '57*
 Offshore cable tool rig; New York State Natural Gas exploration in Lake Erie. *il Pet Eng 30:B 125 Je '58*

See also

Gas, Natural—Tideland development

Well pressure

Applications of sub-surface pressure data. *E. Stoian, bibliog diags Can Min & Met Bul 51:234-44 Ap '58*
 Non-graphical solution of back-pressure tests on gas wells. *H. N. Dunning and others, Pet Eng 30:B77-8+ Ja '58*

Well protection

See Coal mines and mining—Gas well protection

Well spacing

Spacing of natural gas wells. *R. C. Craze, map diags J Pet Tech 10:Trans 213-19 S '58*

Africa

Petroleum developments in Africa in 1957. *H. D. Hedberg, maps Am Assn Pet Geologists Bul 42:1631-79 Jl '58*

Alaska

Alaskan land rush expected. *map Oil & Gas J 56:55 Ap 28 '58*
 Alaska's Gubik gas field leases lure bids by six companies. *Oil & Gas J 56:68-9 S 8 '58*
 High Gubik offers total \$224,000. *Oil & Gas J 56:112-13 S 15 '58*

Alberta

Alberta has another big find; A8-4-59-23 Berland river. *map Oil & Gas J 56:65 Jl 7 '58*
 Alberta has world's biggest gasser. *il map Oil & Gas J 56:108-9 S 15 '58*
 Deep reach gets gas in Canada. *Oil & Gas J 56:287-8 My 19 '58*
 Delivery of Alberta gas to Lakehead cities, a reality. *il Pet Eng 30:D66 Mr '58*

GAS, Natural—Alberta—Continued

- Four-section spacing marks a progressive step by Conservation board. N. S. Morrissey. maps Oil & Gas J 56:141-2 Ar 18 '58
- Gas cut required by Alberta for exports to U.S. by two pipeline firms. Oil & Gas J 56:59 S 22 '58
- Gas strike in Alberta. Oil & Gas J 56:206 F 17 '58
- Gas trend blossoming along Alberta's foothills belt. map Oil & Gas J 56:30 Mr 17 '58
- Gas well looks like a champ. Oil & Gas J 56:53 Ag 4 '58
- Grande Prairie gas strikes add reserves. Oil & Gas J 56:270-1 Mr 24 '58
- Lake Superior cities get Alberta gas. il Gas Age 121:17-18+ Mr 6 '58
- Pre-Cretaceous, Alberta's big source of oil; cretaceous, Alberta's big source of gas. J. R. Pow. maps diag Oil & Gas J 56:151-3 Ap 28 '58
- Refraction surveys work well in Alberta foothills. J. L. Robinson. diag Oil & Gas J 56:143-4 Ar 18 '58
- Reserves in East Calgary field boosted by discoveries. Oil & Gas J 56:135 Je 23 '58
- Return to Grande Prairie nets big gas strikes. J. C. McCaslin. map Oil & Gas J 56:229 Ap 21 '58
- Savanna Creek gas field, Alberta. J. C. Scott and others. il maps diag Can Min & Met Bul 51:270-8 My '58
- Texaco extends Castyle river. map Oil & Gas J 56:78 Je 2 '58

Algeria

- Gas field grows in Algeria. Oil & Gas J 56:68-9 JI 21 '58

Arizona

- Developments in Arizona and western New Mexico in 1957. H. Budd. maps Am Assn Pet Geologists Bul 42:1384-93 Je '58

Arkansas

- Development in Arkansas and north Louisiana in 1957. E. H. Morrow and W. L. Champion. bibliog map Am Assn Pet Geologists Bul 42:1319-26 Je '58
- Exploration steps up in Arkansas valley. N. S. Morrissey. map diag Oil & Gas J 56:194-6 Ja 20 '58
- Gas search quickens in north Arkansas. N. S. Morrissey. diag Oil & Gas J 56:112-14 F 17 '58

Australia

- Aussies find gas shows at Fitzroy wildcat. Oil & Gas J 56:121 S 1 '58

British Columbia

- Gas heads north in British Columbia. N. S. Morrissey. map Oil & Gas J 56:167 My 5 '58
- Northeastern British Columbia: giant of the future. G. L. Gray. maps diag Oil & Gas J 56:128-35 Ar 18; 74-9 Ar 25 '58

British Columbia, Supply to

- Unlocking the Peace River reserves; 650-mile-long, 30-inch-diameter natural gas link brings fuel to British Columbia and Pacific Northwest of United States. D. Eckman. il map Comb Air Mag 62:364-7 D '57

California

- Californians look at Sacramento valley. Oil & Gas J 56:272 Ar 18 '58
- Near-shore wildcat attracts attention in California. Oil & Gas J 56:133-4 JI 21 '58

California, Supply to

- New gas contract made by Transwestern. Oil & Gas J 56:92 F 24 '58
- Oklahoma-Texas gas may go to California market. map Oil & Gas J 56:66-7 Ar 11 '58
- Plans filed for gas line to California; Transwestern pipeline co. map Oil & Gas J 56:100-1 Ap 21 '58

Canada

- Canada bags biggest gaswell. Oil & Gas J 56:151-3 Ag 11 '58
- Canada has good year. H. G. Cochrane. il Pet Eng 30:E 1-4 Mr '58
- Canadian exploration flourishes. map Oil & Gas J 56:154-5 S 8 '58
- Canadian gas policy awaiting elections. Oil & Gas J 56:91 Mr 10 '58
- Consumers' Gas spokesman outlines gas distributor's needs at Borden hearing. O. L. Jones. Gas Age 122:21-2 Ag 7 '58

- Developments in eastern Canada in 1957. J. D. McAlary and B. V. Sanford. bibliog maps Am Assn Pet Geologists Bul 42:1427-33 Je '58

- Developments in western Canada in 1957. H. A. Hiles and G. J. McMurtry. bibliog maps Am Assn Pet Geologists Bul 42:1413-26 Je '58

- Eastern Canada bids for share of spotlight. J. D. McAlary and B. V. Sanford. maps Oil & Gas J 56:206-8 Ar 18 '58

- Gas discoveries spark news north of border. map Oil & Gas J 56:230+ Ja 27 '58

- Natural gas. il Eng J 41:62-4 Ap '58

- Petroleum and natural gas. Can Min & Met Bul 51:54-6 Ja '58

- Prospects for international pipelines between Canada and the United States. W. R. Conole. Gas Age 121:46-7+ Ap 3 '58; Same, Pet Eng 30:D50-2 Ap '58; Abstract. Oil & Gas J 56:70 Mr 3 '58

- Year of accomplishment. H. C. Darroch. Gas Age 121:30-1+ Ja 9 '58

See Gas

Gas, Natural—Pipe lines—Canada

- Charlotte, North Carolina, Supply to When natural gas came to Charlotte. A. Q. Smith. il Gas Age 121:22-3+ Mr 6 '58

Chicago, Supply to

- Chicago adds another underground storage field; Cooks Mills natural gas storage project. il Gas Age 121:37-9 Mr 6 '58
- Chicago gas plan filed. map Oil & Gas J 56:70-1 Ap 14 '58

Colorado

- Colorado gas gets outlet. Oil & Gas J 56:65 My 26 '58

- Developments in Colorado and western Nebraska in 1957. R. L. Pott and others. map Am Assn Pet Geologists Bul 42:1375-83 Je '58

Europe

- Petroleum developments in Europe in 1957. R. E. Kink. maps Am Assn Pet Geologists Bul 42:1589-630 JI '58

Florida, Supply to

- Florida line upheld by Appeals court. Oil & Gas J 55:73 D 16 '57
- Gas to go to Florida. Chem & Eng N 36:32 S 8 '58
- Texas-Florida gas line. map Oil & Gas J 56:46-7 Ar 23 '58
- Trends for '58; natural gas will invade Nation's last undeveloped frontier. D. Wright. il Gas 34:53-7 Ja '58

France

- Development of the Lacq natural gas field. M. Moyal. flow sheets il diag Ind Chem 34:27-32 Ja '58
- French push gas project at Lacq. Oil & Gas J 56:122 JI 23 '58
- Natural gas in France. Mech Eng 80:97 My '58

Great Britain

- Natural gas in Great Britain. il Engineering 184:728 D 6 '57

Great Britain, Supply to

- England to get natural gas by ship. map Oil & Gas J 55:59-61 D 16 '57

Gulf Coast region

- Gulf Coastal province; how and where its oil and gas occur. G. E. Murray. maps Oil & Gas J 55:109-16 N 4 '57
- Gulf gas reserves. up. E. E. Davis. Oil & Gas J 55:70 D 9 '57

Illinois

- Developments in Illinois in 1957. A. H. Bell and V. Kline. map Am Assn Pet Geologists Bul 42:1182-9 Je '58

India

- Red crew hits gas in Punjab. Oil & Gas J 56:73 My 26 '58

Iran

- Iran puts gas to work. Chem & Eng N 36:62 JI 14 '58

Kansas

- Differential entrapment of oil and gas in Arbuckle dolomite of central Kansas. R. F. Walters. maps diag Am Assn Pet Geologists Bul 42:2133-73 bibliog(p2172-3) S '58

GAS, Natural—Continued

Kentucky

Oil and gas developments in Kentucky in 1957. E. Nosow and E. O. Ray. map Am Assn Pet Geologists Bul 42:1172-9 Je '58

Louisiana

Developments in Arkansas and north Louisiana in 1957. E. H. Morrow and W. L. Champion. bibliog map Am Assn Pet Geologists Bul 42:1312-26 Je '58

Developments in Louisiana Gulf coast in 1957. L. L. Limes. bibliog maps Am Assn Pet Geologists Bul 42:1303-18 Je '58

Louisiana pushes new gas tax. Oil & Gas J 56:55 My 28 '58

Two new horizons in northeastern Louisiana. Oil & Gas J 56:192 Jl 7 '58

Mexico

Petroleum developments in Mexico in 1957. E. J. Guzmán and T. Mina. U. maps Am Assn Pet Geologists Bul 42:1523-36 Jl '58

Michigan

Developments in Michigan in 1957. R. E. Ives and G. D. Ellis. map diag Am Assn Pet Geologists Bul 42:1194-206 Je '58

Michigan oil finders keep busy. maps diags Oil & Gas J 56:206-8+ Je 2 '58

Michigan, Supply to

Trunkline Gas to expand pipeline system. Oil & Gas J 56:82 Jl 14 '58

Mid-continent region

Developments in north Mid-continent in 1957. G. Q. Williams. map Am Assn Pet Geologists Bul 42:1207-19 Je '58

Middle western states, Supply to

Midwestern gas plan blocked by Justice dept. Oil & Gas J 56:93 Mr 17 '58

Tennessee Gas Transmission files new plans with EPC for Midwestern line. Oil & Gas J 56:92 Mr 24 '58

Three gas companies indicted by federal grand jury on charges of conspiring to monopolize sale of natural gas in upper Midwest. Oil & Gas J 56:79 My 5 '58

Montreal, Supply to

Pre-dawn flaring ceremony marks start of conversion in Montreal; Quebec natural gas corp. il Gas Age 121:13-14+ F 20 '58

Nebraska

Developments in Colorado and western Nebraska in 1957. R. L. Pott and others. map Am Assn Pet Geologists Bul 42:1375-83 Je '58

Nevada

Oil and gas developments in Utah and Nevada in 1957. G. S. Campbell. bibliog maps diag Am Assn Pet Geologists Bul 42:1360-74 Je '58

New England, Supply to

Trends in peak shaving methods and planning in New England. W. P. Earley. Gas Age 121:15-17 Mr 20 '58

New Mexico

Developments in Arizona and western New Mexico in 1957. H. Budd. maps Am Assn Pet Geologists Bul 42:1384-93 Je '58

Developments in west Texas and southeastern New Mexico in 1957. S. L. Smith and others. bibliog map Am Assn Pet Geologists Bul 42:1248-58 Je '58

Production methods on gas wells in the San Juan basin of New Mexico. A. J. Dudenhoeffer. bibliog map diags Oil & Gas J 56:163-4+ My 19 '58

New York (city), Supply to

FPC defers ruling on Con Ed gas case. il Elec World 150:34 S 22 '58

Gas for Gotham. W. W. Clark; J. F. Ebdon. il maps Gas 34:55-64, 123-38 My '58

New York (state)

Explorers seek Oriskany gas. map Oil & Gas J 56:270+ Jl 28 '58

1957 gas and oil developments in New York. W. L. Kreidler. map Am Assn Pet Geologists Bul 42:1143-6 Je '58

Offshore cable tool rig; New York State Natural Gas exploration in Lake Erie. il Pet Eng 30:B125 Je '58

Northwestern states, Supply to

Impact of natural gas on the economy of the Pacific Northwest. C. A. Trexel, jr. Chem Eng Prog 53:sup 130-2+ N '57

Northwest's first year of natural gas. C. H. Gueffroy. Gas Age 120:18-19 N 28 '57

Unlocking the Peace River reserves; 650-mile-long, 30-inch-diameter natural gas link brings fuel to British Columbia and Pacific Northwest of United States. D. Eckman il map Comp Air Mag 62:364-7 D '57

Ohio

Clinton successes draw drillers to Ohio's Perry county. map Oil & Gas J 56:115 S 23 '58

Oil and gas developments in Ohio in 1957. R. L. Alkire and others. map Am Assn Pet Geologists Bul 42:1159-66 Je '58

Oklahoma

Developments in Oklahoma in 1957. M. C. Roberts. map Am Assn Pet Geologists Bul 42:1220-33 Je '58

Developments in Texas and Oklahoma Panhandles in 1957. R. M. Lilly. maps Am Assn Pet Geologists Bul 42:1234-47 Je '58

Oil and gas possibilities of Ouachita structural belt in Texas and Oklahoma. A. Goldstein, jr. and P. T. Flawn. Am Assn Pet Geologists Bul 42:876-81 Ap '58

Oklahoma-Texas gas may go to California market. map Oil & Gas J 56:66-7 Ag 11 '58

Oklahoma's new gas success. map Oil & Gas J 56:92 Mr 10 '58

Wildcat hits gas-distillate pay. map Oil & Gas J 56:79 Je 16 '58

Wildcatters set hot pace in Oklahoma. map Oil & Gas J 56:58-60 Jl 21 '58

Pacific coast

Developments in West Coast area in 1957. H. L. Popenoe. bibliog maps Am Assn Pet Geologists Bul 42:1394-412 Je '58

Pennsylvania

Developments in Pennsylvania in 1957. W. S. Lytle. bibliog map Am Assn Pet Geologists Bul 42:1147-58 Je '58

Lake Erie test is scheduled. il map Oil & Gas J 56:116 Ap 7 '58

Oriskany pays in Pennsylvania. C. H. Roberts. map Oil & Gas J 56:149 S 8 '58

Rocky Mountain region

Devonian is new mountain target. J. C. McCaslin. map Oil & Gas J 56:212-14 Mr 3 '58

Green River basin has what it takes to increase Rockies gas reserves and to become a major oil province. N. S. Morrissy. map Oil & Gas J 56:132+ Ag 4 '58

Russia

Gas in Soviet Russia. map Gas Assn Mo 39:13 D '57

Russia is making an all-out bid for gas reserves. C. L. Adams. il map Pet Eng 30: D30-3 Je '58

Soviet 1958 plans for oil and gas. Pet Eng 30: E5 My '58

Scotland

Natural gas to be included in Scottish gas board supply; first time in Britain. Gas Age 121:36-7 Ap 17 '58

Southeastern states

Developments in southeastern states in 1957. E. R. Hines jr. and G. T. Thomas. bibliog maps Am Assn Pet Geologists Bul 42: 1327-38 Je '58

Tennessee

Tennessee's '57 score is 32. H. C. Milhous. map Oil & Gas J 56:154-5 Ap 28 '58; Same. Am Assn Pet Geologists Bul 42:1180-1 Je '58

Texas

Big gas strike spurs interest. Oil & Gas J 56:100 Mr 10 '58

Developments in east Texas in 1957. D. A. Mabry, jr. and G. D. Gardner. map Am Assn Pet Geologists Bul 42:1289-98 Je '58

Developments in north Texas in 1957. D. R. Cooley. map Am Assn Pet Geologists Bul 42:1259-67 Je '58

Developments in south Texas in 1957. W. J. Hendy and others. maps Am Assn Pet Geologists Bul 42:1279-88 Je '58

Developments in Texas and Oklahoma Panhandles in 1957. R. M. Lilly. maps Am Assn Pet Geologists Bul 42:1234-47 Je '58

GAS, Natural—Texas—Continued

- Developments in upper Gulf coast of Texas in 1957. K. L. Cockerham, jr. bibliog map Am Assn Pet Geologists Bul 42:1299-307 Je '58
- Developments in west-central Texas in 1957. R. P. Norris, map Am Assn Pet Geologists Bul 42:1268-78 Je '58
- Developments in west Texas and southeastern New Mexico in 1957. S. L. Smith and others. bibliog map Am Assn Pet Geologists Bul 42:1248-58 Je '58
- East Texas gains Smackover hit. Oil & Gas J 56:155 S 8 '58
- Four hits boost Texas exploration. map Oil & Gas J 56:147 S 22 '58
- Gas line gives Wise county new zest. II map Oil & Gas J 56:76 Ja 6 '58
- Gas off Texas moves to market for first time. map Oil & Gas J 56:61 N 25 '57
- Gas proration; still a Texas problem. W. Bowman; R. Thompson. Oil & Gas J 56:56-7 My 26 '58
- New giant gas field is in the making. II map Oil & Gas J 56:106-8 Ag 18 '58
- Oil and gas possibilities of Ouachita structural belt in Texas and Oklahoma. A. Goldstein, jr. and P. T. Plawn. Am Assn Pet Geologists Bul 42:876-81 Ap '59
- Oklahoma-Texas gas may go to California market. map Oil & Gas J 56:66-7 Ag 11 '58
- Pescadito test taps good pay. Oil & Gas J 56:91 My 12 '58
- Texas prospects hint big gas field. C. Hoot. map Oil & Gas J 56:240-1 Mr 17 '58

United States

- FPC told no shortage of gas in prospect. A. E. Kahn. Gas Age 120:39 O 31 '57
- Long-term gas supply outlook good. D. Parson. Am Gas Assn Mo 40:21-3+ Je '58
- New Journal oil and gas maps of principal producing areas. Oil & Gas J 56:103-20 Mr 17 '58
- Reserves climb to all-time record. II Am Gas Assn Mo 40:4-8 Ap '58
- Supply of natural gas; a review. Gas Age 122:13-16 Ji 10 '58
- U.S. natural gas reserves climb to record 246 trillion cu. ft. Gas Age 121:15-19+ Ap 3 '58

United States, Supply to

- Prospects for international pipelines between Canada and the United States. W. R. Con-nole. Gas Age 121:46-7+ Ap 3 '58; Same, Pet Eng 30:D50-2 Ap '58; Abstract. Oil & Gas J 56:70 Mr 3 '58

Utah

- Oil and gas developments in Utah and Nevada in 1957. G. S. Campbell. bibliog maps diag Am Assn Pet Geologists Bul 42:1360-74 Je '58

Venezuela**See also**

- Gas, Natural—Pipe lines—Venezuela

Virginia

- Deep drilling through Cumberland overthrust block in southwestern Virginia. D. M. Young. II map diag Am Assn Pet Geologists Bul 41:2567-73 N '57

West Virginia

- Oil and gas developments in West Virginia in 1957. R. C. Tucker. Am Assn Pet Geol-ogists Bul 42:1167-71 Je '58

Western states**Maps**

- Oil and gas fields of the Four Corners area; map. Pet Eng 29:supp D '57 (reprints \$1.50)

Wyoming

- Developments in Wyoming and Idaho in 1957. A. L. Lyth, jr. and P. R. May. maps Am Assn Pet Geologists Bul 42:1350-9 Je '58

GAS, Producer

- Producer-gas-fired lime kilns. B. J. Gee. II Chem & Ind p 140-4 F 8 '58

See also

- Gas producers

GAS absorption. See Absorption**GAS age (periodical)**

- Gas age celebrates 75th birthday. Gas Age 121:18+ F 6 '58

GAS analysis

- Chromatographic analysis of gas mixtures containing nitrogen, nitrous oxide, nitric oxide, carbon monoxide, and carbon dioxide. R. N. Smith and others. diags Anal Chem 30:1217-18 Ji '58
- Determination of carbon dioxide in gas streams. P. E. Toren and E. J. Heinrich. diag Anal Chem 29:1854-6 D '57
- Determination of naphthalene in gas; the solubility of picric acid in water and the dissociation of naphthalene picrate. A. B. Densham and L. A. Ravald. bibliog J Ap Chem 8:267-70 Ap '58
- Determination of naphthalene in town gas by the picrate method. R. A. Moit and J. Moulson. bibliog J Ap Chem 7:546-62 O '57
- Gas chromatography for trace analysis. J. D. Boggs and N. G. Adams. bibliog diags Anal Chem 30:1471-3 S '58
- Gases by polarography; abstract. D. T. Sawyer and R. S. George. II Chem & Eng N 36:58+ Ap 28 '58
- Infra-red absorption of gases; abstract. H. Hummel. Ind Chem 34:261-2 My '58
- Infra-red gas analysers for plant control. A. E. Martin and others. bibliog II diags Research 11:258-65 Ji '58
- Instruments measure unburned hydrocarbons in auto exhaust. J. C. Neerman and G. H. Millar. diags S A E J 65:58-60 N '57
- Integrator determines total emission of automotive exhaust gas components. R. T. VanDerveer and others. S A E J 65:61-2 N '57
- Review of fundamental developments in analysis. A. E. Hobbs. Anal Chem 30:778-92 bibliog(p789-92) pt. Ap '58
- Some comments on the analysis of gas mixtures. J. A. Barnard and H. W. D. Hughes. bibliog diags Chem & Ind p 1109-10 Ag 23 '58
- Tracers monitor gases. Chem & Eng N 35:57+ D 16 '57
- Vacuum fusion apparatus for gas analysis. P. D. Blake. bibliog diag Iron & Steel Inst J 188:261-4 Mr '58

See also

- Flue gas—Analysis

- Gases—Apparatus

GAS appliance industry

- 1958 home laundry appliance sales expected to remain at high level. Gas Age 121:21+ F 6 '58
- Outlook for appliance sales good. C. V. Coons. Am Gas Assn Mo 40:11 Ja '58; Same, Gas Age 121:39-40 Ja 9 '58; Same, Gas Age 121:65 F '58
- Stop! look! think! then re-evaluate. J. H. Brinker. Am Gas Assn Mo 40:31-5 Mr '58
- Trends for '58. II Gas Age 121:72-3 My 1 '58
- What's the score? S. H. Hobson. Gas Age 120:34+ O 31 '57

Statistics

- Five year gas appliance outlook. Gas Age 121:16-17 My 15 '58
- Gas appliance outlook for the years 1958-62. Am Gas Assn Mo 40:14-17 Ap '58

GAS appliance manufacturers association

- Annual meeting. White Sulphur Springs, March 30. Gas Age 121:72-3 My 1 '58
- Officers. Gas Age 120:17+ O 31 '57

GAS appliances

- Gas digest; new products and trade literature. II Published in monthly numbers of Gas

See also

- Gas industry
Gas ovens
Gas water heaters
Refrigerators, Gas

Control

- Understanding and use of gas appliance pressure regulators. H. J. Evans. Gas Age 121:20-2+ My 15 '58

Installation

- Service training, sales go hand in hand at Con Edison. W. W. Clark, ed. II Gas 34:80-5 Ap '58

Maintenance and repair

- Service training, sales go hand in hand at Con Edison. W. W. Clark, ed. II Gas 34:80-5 Ap '58

Merchandising

- Big PEP bandwagon is rolling. II Am Gas Assn Mo 40:29-30 S '58

Standards

- Revisions to 16 standards adopted. Am Gas Assn Mo 40:13-14+ My '58

GAS appliances—Continued

Testing

Engineer designs test panel to solve service problems. *il* Gas 34:109-10 O '58

GAS appliances, Domestic

All-gas home modeled after Japanese design. *il* Am Gas Assn Mo 40:42-3 JI-Ag '58

Builders hail new all-gas wall. *il* Am Gas Assn Mo 40:12-13 Je '58

Industry hails new incinerator. *il* Am Gas Assn Mo 40:2-5 Mr '58

Introducing all-gas multistatic wall; new A.G.A. appliance unit includes cooking, refrigeration, water heating, laundering, house heating; cooling can be added. *il* plan Gas Age 121:10-11+ Je 12 '58

Modern appliances require new methods of determining home hot water needs. J. J. McKearin. *il* Gas Age 120:22-3 N 14 '57

New smokeless-odorless incinerator is described in Research bulletin 78. *il* Am Gas Assn Mo 40:16-17 JI-Ag '58

Smokeless-odorless gas incinerator on its way; co-op demonstration. *il* Gas Age 121:16-17+ F 20 '58

Smokeless, odorless incinerators introduced. *il* diag Gas 34:85-6 Mr '58

Trends for '58; kitchen demands. B. Hall. *il* Gas 34:49-52 Ja '58

Trends for '58; spectacular changes due in domestic appliances. *il* Gas 34:44-8 Ja '58

West Coast domestic gas research and utilization conference. Los Angeles, June 4-5. *Am Gas Assn Mo 40:10-12 JI-Ag '58*

See also

Gas ovens, Baking

Gas stoves

Gas water heaters

Control

What the serviceman should know about gas clothes dryer controls. E. W. Wechsler. *il* diags Gas 34:51-5 JI; 75-8 F '58

Length of service

How long do appliances last? C. M. Jaeger and J. L. Pennock. *Gas Age 121:27-8 Mr 6 '58*

Merchandising

Appliances keep moving with kitchen on wheels; Northern Illinois gas co. R. E. Winter. *il* Am Gas Assn Mo 39:34-5 D '57

East Ohio vetoes cheap cooking, promotes carriage trade. *il* Gas Age 122:34-5 S 4 '58

Lone Star Gas pushes Mayfair package kitchen. *il* Am Gas Assn Mo 39:20-3 D '57

See also

Gas companies—Appliance selling

Gas stoves—Merchandising

GAS as fuel

Air pollution and the gas industry. F. R. Rehm. *Gas Age 122:15-19 Ag 7 '58*

A.G.A.-S.E.G.A. 2d annual textile symposium. Greensboro, N.C. Sept. 8-9. *Am Gas Assn Mo 40:31-2+ O '58; Gas Age 122:18-19 O 16 '58*

Gas is used in infrared gas thawing. *il* Am Gas Assn Mo 40:22-3 F '58

Nuclear, solar energy to aid gas. M. A. Elliott and M. Chandler. *Am Gas Assn Mo 40:29-30+ Ap '58*

See also

Boilers—Gas firing

Carbon monoxide as fuel

Furnaces, Heat treating—Gas firing

Gas, Producer

Gas appliances, Domestic

Gas cooking

Gas heaters

Gas heating

Gas heating, Industrial

Gas producers

Gas stoves

Liquefied petroleum gas

Propane

Natural gas

Boiler fuel gas gets a ride. *Gas 34:11-12 O '58*

Conversion to gas increases lime output at Mercer lime & stone co. *il* Pit & Quarry 50:160-1 Ja '58

Gas atomizes open-hearth fuel; Empire-Reeves steel corp. V. E. Thompson. *diags Steel 142:144+ Ap 14 '58; Same abr. Power 102:123 Ag '58; Same cond. J Metals 10: 273 Ap '58*

Gas may top fuel-oil demand; abstract. L. S. Marshman. *Oil & Gas J 55:65 My 26 '58*

More gas for steam generation; California utilities make pact. *Oil & Gas J 55:80-1 N 4 '57*

Natural gas for cheaper cutting. W. J. Semple. *il* Am Mach 102:69-71 Ag 25 '58

New trends in firing practices for open hearths. J. E. Goodin. *Iron & Steel Eng 34: 158-9 D '58; Excerpts, J Metals 10:272-3 Ap '58*

Particle board plant gets natural gas. *il* Gas Age 121:17 Mr 20 '58

Salesmen! use the Zinder report; energy comparisons are valid for ordinary residential use. I. E. Rowe. *Am Gas Assn Mo 40:22+ O '58*

What February's cold wave revealed. *il* Gas Age 121:19-22+ My 1 '58

When natural gas came to Charlotte. A. Q. Smith. *il* Gas Age 121:22-3+ Mr 6 '58

See also

Oil fuel industry—Natural gas competition

GAS bearings. See Bearings

GAS burners

How port design, gas composition influence flame. *il* Am Gas Assn Mo 40:13 Mr '58

Control

What a serviceman should know about heating controls. R. L. Farmer. *il* diags Gas 34: 64-8 Ja; 75-80 F '58

Ignition devices

What the serviceman should know about gas clothes dryer controls; electric ignition controls. E. W. Wechsler. *il* diag Gas 34:51-5 JI '58

Manufacture

Home built special machines solve production problem; new type of gas range burner at George D. Roper corp. G. H. Rikeman. *il* diag Tool Eng 40:117-18 Mr '58

Noise

Pulsations in residential gas furnaces with multiple-port burners. A. A. Putnam. *diags Heating-Piping 30:143-9 Ap '58*

Safety measures

How to prevent lighting-off explosions in gas-fired industrial boilers and furnaces; gas safety control system. J. B. Smith. *diags Gas Age 121:18-19+ F 20 '58; Same. Iron & Steel Eng 35:144+ My '58; Same. Power Ind 74:10-13+ JI '58; Excerpts. Iron Age 180:134-5 N 7 '57*

Tables, calculations, etc.

How change in gas pressure affects gas flow; data sheet. P. Hahn. *Power 102:99 S '58*

GAS burning equipment

See also

Gas heating, Industrial

Gas water heaters

GAS chromatography. See Chromatographic analysis

GAS cleaners

Self-induced-spray cleaner for gases. *il* diag Engineer 204:536 O 11 '57

GAS cleaning

Gas cleaning. R. V. Kleinschmidt. *Mech Eng 80:84-6 Je '58*

See also

Gas purification

Venturi scrubbers

GAS companies

Awards presented for top achievements; annual A.G.A. convention. *il* Am Gas Assn Mo 39:10-12+ N '57

Gas companies sponsor scholarships at IGT. *il* Am Gas Assn Mo 40:33+ O '58

Making PAR possible; list of companies. *il* Am Gas Assn Mo 40:24-5 My '58

Making PAR possible; regional list. *Am Gas Assn Mo 40:14-15 JI-Ag '58*

See also

Brooklyn union gas company

Gas, Natural—Pipe lines

Gas industry

Pacific lighting corporation

Accidents

Gas industry improved safety record in 1957. *Safety Maint 116:21 Ag '58*

Industry employee accident experience continues to improve; tables for first nine months of 1957. *Am Gas Assn Mo 40:40 Ja '58*

Investor-owned utilities show higher employee safety records; accident-frequency rate. *il* Gas Age 120:19 N 28 '57

Sample indicates improvement in employee safety during '57. *Am Gas Assn Mo 40:23 Ap '58*

GAS companies—Continued

Accounting

- Progress of accounting emphasized; A.G.A. Accounting section annual meeting. Am Gas Assn Mo 39:31-2+ N '57
- There's a hole in your pocket; one way to save money is to get customers to enclose that stub when paying. C. F. Wahl. Am Gas Assn Mo 40:29-30 JI-Ag '58
- Therm billing becomes routine with punched card system. C. V. Griffith. Il Gas 34:66+ F '58
- Uniform general plant system urged. L. E. Nash. Am Gas Assn Mo 40:19-20 Je '58
- Up the ladder at Columbia Gas; the accounting and treasury training program. O. Ullery. Am Gas Assn Mo 40:25-6 S '58
- Use of electronic machines increasing; electronics seminar. Detroit, Dec. 2-4. Am Gas Assn Mo 40:12-14+ Ja '58
- You can make every day pay day; Philadelphia electric co. controls costs by scheduling salary payments over the five working days. C. F. Mills. Am Gas Assn Mo 40:24-6+ O '58

See also

National conference of electric and gas utility accountants

Appliance selling

- Lone Star Gas hitches its wagon to the packaged all-gas kitchen. Il Gas Age 120: 20-1 N 28 '57
- Lone Star Gas pushes Mayfair package kitchen. Il Am Gas Assn Mo 39:20-3 D '57
- Mountain goes to Mahomet; Northern Illinois gas company's mobile unit has helped to bring gas appliance story to its customers. R. E. Winter. Il Gas Age 121:20-2 Ap 17 '58
- Professional football players and coaches form hard-hitting gas light selling team. Il Gas Age 122:42-3 Ag 7 '58
- Refrigerator sales drive pays off for Peoples Gas. Il Am Gas Assn Mo 40:8-10 O '58

Buildings

- Designing for electronic data processing; installation for Pacific gas and electric co. E. J. Ross. Il Gas Age 122:17-20+ JI 10 '58
- Tidewater in new building. Il Am Gas Assn Mo 40:13 O '58

Claims

- Claims and litigation resulting from explosions in utility installations. S. Hammon. Il Gas 34:75-8 My '58

Costs

- New guide for utility costs; Zinder report. Il Am Gas Assn Mo 40:6-8 Ja '58
- Next ten years in distribution expenses. W. B. Tippy. Gas Age 121:13-16+ Ap 17 '58

Customer relations

- Budget billing; Central electric & gas co., Lincoln, Neb. R. Smith. Il Gas 34:107-8+ O '58
- Keep your commercial customers. J. S. McElvain. Am Gas Assn Mo 40:29-30+ F '58
- Troubled gas firm asks help; Colorado interstate gas co. Oil & Gas J 56:97 Ja 20 '58

Dealer relations

- Big PEP handwagon is rolling. Il Am Gas Assn Mo 40:29-30 S '58
- How Philadelphia Gas sells matchless range. J. F. Short. Il Am Gas Assn Mo 40:10-12 Mr '58
- How to build better appliance dealer relations. D. O. Burdick. Gas 34:89-93 Ap '58
- Service training, sales go hand in hand at Con Edison. W. W. Clark, ed. Il Gas 34: 80-5 Ap '58

Development work

- Gas utility's place in area industrial development. G. R. Walton. Gas Age 122:36-40 Ag 21 '58

Electric utility competition

- Gas cooking wins in another test. W. Eggers. diags Gas Age 122:18-19+ Ag 21 '58
- Long look at electric heating competition. T. Hart. Gas Age 122:20-1 Ag 7 '58
- Salesmen! use the Zinder report; energy comparisons are valid for ordinary residential use. L. E. Rowe. Am Gas Assn Mo 40:22+ O '58
- Zinder report; what does it mean? Il Elec World 149:66-7 Mr 24 '58

Emergency problems

- Operating plans for major gas outages; panel discussion. Gas Age 121:20 My 29 '58

Employees

- Effective personnel development. J. A. Olmstead. Am Gas Assn Mo 40:24-6+ Mr '58
- Gas industry goes to college campus for most recruits; AGA survey on recruiting, salaries. Il Am Gas Assn Mo 40:12-14 S '58
- Human factors in good supervision. E. W. Fair. Pet Eng 30:14-15 Mr '58
- Operating man's role in utility finance. C. E. Eble. Am Gas Assn Mo 40:15-17+ My '58
- They deliberately ignite gas fires; East Ohio gas co. sets gas ablaze under pressure to show firemen, safety experts how to extinguish flame. Il Am Gas Assn Mo 40:20-1 O '58
- Up the ladder at Columbia Gas; the accounting and treasury training program. O. Ullery. Am Gas Assn Mo 40:25-6 S '58
- White-haired or the fair-haired? promotion problem. A. D. Christopher. Am Gas Assn Mo 40:25-6+ F '58

Equipment and supplies

- Automotive and mobile equipment meetings; A.G.A. distribution, production, transmission conferences. Gas Age 121:24-5+ Je 12 '58
- Designing for electronic data processing; installation for Pacific gas and electric co. E. J. Ross. Il Gas Age 122:17-20+ JI 10 '58
- Equipment and product news. Published in bi-weekly numbers of Gas age
- Gas digest; new products and trade literature. Il Published in monthly numbers of Gas
- Trends for '58; increased use of computers. J. F. Ebdon. Il Gas 34:99-101+ Ja '58
- Uniform general plant system urged. L. E. Nash. Am Gas Assn Mo 40:19-20 Je '58
- Yardstick for vehicle replacement. H. J. Wurth. Gas Age 122:19+ JI 24 '58

Finance

- Degree days, a utility problem; equalization reserve might serve to offset impact of weather on earnings. H. M. Henry. Am Gas Assn Mo 40:18-22+ S '58
- Gas companies' operating revenues top \$3.2 billion in 1957. FPC figures show. Gas Age 122:42-3 JI 24 '58
- Gas customers refuse refund offered by Colorado Interstate. Oil & Gas J 56:101 Mr 24 '58
- Gas firm makes refund offer to settle rate cases, avoid bankruptcy; Colorado interstate gas co. Oil & Gas J 56:94 Mr 17 '58
- Round-up of gas utility annual reports for 1957. Am Gas Assn Mo 40:38 Mr; 43 Ap '58
- Roundup of the gas company annual reports for the year 1957. Am Gas Assn Mo 40:49 JI-Ag '58
- Second half's construction outlay by gas utilities to exceed \$500 million. Gas Age 121:15 Je 26 '58
- Utility sales increase seven per cent in past year. Am Gas Assn Mo 40:17-18 Je '58
- Utility's part in unity. M. Chandler. Gas Age 120:32-3 O 31 '57

Laws and regulations

- Round-up of state legislative actions affecting gas utilities. Gas Age 121:22+ My 15 '58
- See also
- Gas, Natural—Laws and regulations

Management

- Commercial census can aid sales; Equitable Gas made a complete study of its commercial market. F. E. Jones. Il Am Gas Assn Mo 40:9-10+ Ap '58
- Construction planning and forecasting; Southern counties gas co. J. Davis, Jr. Gas 34: 60-3 Je '58
- Operating man's role in utility finance. C. E. Eble. Am Gas Assn Mo 40:15-17+ My '58
- Operating problems analyzed; A.G.A. Operating section annual convention. Am Gas Assn Mo 39:35-7 N '57
- Raise your long-range sights for better long-term planning. B. Ginzberg. Am Gas Assn Mo 40:27-30 O '58

Meter shops

- Air conditioning eliminates delay in meter proving. Il Gas Age 121:11-12 Ag 21 '58
- Illinois meter shop makes use of modern handling methods. Il Gas Age 121:26 Je 26 '58

GAS companies—Meter shops—Continued

New Northern Illinois Gas meter shop is as modern as tomorrow. *il plan Gas Age* 120: 15-17 N 14 '57
 Northern Illinois gas co. opens new meter shop. *il Am Gas Assn Mo* 40:10-11 F '58
 Washington streamlines its meter shop. *il plan Gas Age* 121:17-19+ Ap 17 '58

Public relations

Cincinnati Gas & Electric's annual cooking contest clicks again. *il Gas Age* 121:24+ Ap 17 '58
 Gas industry helps teach youth business. *il Am Gas Assn Mo* 40:18-20 My '58
 How Boston gas co. benefits from Mrs. Amer-ica program. W. H. Geller, jr. *Gas Age* 121: 30-1 Mr 6 '58
 Junior Achievement program offers unique opportunity for civic effort. *il Gas Age* 121: 9-12 My 15 '58
 Public relations keeping pace in gas industry. S. F. Silloway. *Am Gas Assn Mo* 40:15-19 Mr '58
 Workshop calls public relations the key to prestige, profit, progress. *Am Gas Assn Mo* 40:19 Mr '58

Radio communication

Communications and automation. F. Chapman, ed. Published in monthly numbers of *Gas*
 New central base radio station links Ohio Fuel Gas' 27-station, 162-unit network. *il Gas Age* 121:46 Mr 6 '58
 Report of the special Washington representative of the communications committee; abstract. J. E. Keller. *Gas Age* 121:38 My 29 '58
 Ssb and similar systems; wise allocation of the spectrum will be important for gas utilities and other members of the Land mobile radio services. R. P. Gifford. *Gas Age* 122:23-4+ Ag 7 '58

Safety measures

Accident prevention conference, 10th, Louis-ville, Sept. 15-17; with program. *Am Gas Assn Mo* 40:27-8 JI-Ar; 6-7 O '58
 Enthusiasm reigns at A.G.A. safety work-shops. *Am Gas Assn Mo* 40:20-1 Mr '58
 Gas industry plans 1958 safety crusade. *Safety Maint* 115:17 F '58
 Informed supervision=safety: A.G.A. ac-cident prevention committee to conduct safety courses for supervisors. J. T. Wolfe. *map Am Gas Assn Mo* 39:16-18 D '57
 Supervisors praise A.G.A. safety course. *Am Gas Assn Mo* 40:23-4 S '58
 They crusade for employee safety: 9th annual A.G.A. accident prevention conference. *Am Gas Assn Mo* 39:26-8+ N '57
 They deliberately ignite gas fires: East Ohio gas co. sets gas ablaze under pressure to show firemen safety experts how to ex-tinguish flame. *il Am Gas Assn Mo* 40:20-1 O '58

Securities

Looking into tax-free dividends. C. H. Domke. *Am Gas Assn Mo* 40:27-8+ Ap '58

Service

A.G.A. home service workshop, Minneapolis, Jan. 6-8. *il Am Gas Assn Mo* 40:6-9+ F '58
 Customer service: Minneapolis gas co. P. W. Kraemer. *il Gas* 34:55-9 Je; 56-9 JI '58
 Gas appliance service manual has new look. *il Am Gas Assn Mo* 40:17-18 O '58
 Home service boosts gas by showing it in action: East Ohio gas co. E. M. Winkes. *il Gas* 34:79-81 My '58

Stores systems

Two tested material handling procedures. *il Gas Age* 121:14-15 My 15 '58

GAS compressors

Adiabatic compressor for p-v-t measurements on gases to 100,000 pounds per square inch. D. Price and G. T. Lalos. *biblog il diag Ind & Eng Chem* 49:1987-92 D '57
 Case study of drives for petrochemical com-pressors. Sarnia refinery of Imperial oil limited. B. Eirrell. *diag Can J Chem Eng* 36:59-68 Ap '58
 Compressing of gases in the pure state to high pressures. R. C. Wolf and J. C. Bowen. *biblog il diag Ind & Eng Chem* 49:1962-4 D '57
 Compressors in the refinery. *diag Oil & Gas J* 56:153 Ja 20; 109 F 3; 123 F 10; 135 F 17; 143 F 24; 179 Mr 17 '58

Elements of field processing; calculation of compressor horsepower. J. M. Campbell. *Oil & Gas J* 56:94-5 Je 30 '58

Equivalent performance parameters for tur-boblowers and compressors. H. Davis. *bib-log diag A S M E Trans* 80:108-13; Discus-sion. W. A. Clark. 113-16 Ja '58

Gas pulsations; the problem. Southern gas association's approach, results. E. N. Hen-derson. *il diag Oil & Gas J* 56:115-20+ My 12 '58

How important are fuel costs in natural gas compressor drivers? method of evaluation. *Gas Age* 122:26-7 O 16 '58

Keep your gas centrifugals on the line: Surgetrol surge detection and control de-vices. F. V. Long. *il diag Gas* 34:125-7 Ap '58

Metallic packing, best for gases. K. C. Worman. *il diag Power* 102:120-2 Ag '58
 Social's Ducommun Street station: new look in peak load compression. W. H. Krammes and H. C. Vander Heyden. *il Gas Age* 122: 36-40+ O 16 '58

Survey shows compressor pulsation won't be a problem. *il Power Ind* 4:16 JI '58
 Unhoused compressor plant, Standard oil co. of California's synthetic ammonia plant. D. H. Stormont. *il Oil & Gas J* 55:85 N 25 '57

See also

Gas, Natural—Pipe lines—Compressor stations
Cooling
 Compressor and engine jacket systems require proper water conditioning. O. H. Preis. *flow diag Pet Eng* 29:D53-60+ N '57
 Waste heat harnessed to cool compressor units. *flow diag il Pet Eng* 30:D32-3 JI '58

Lubrication

Proper lubrication=longer compressor life. H. P. Henderson. *il Pet Eng* 30:D26-8 Ap '58
 Tables, calculations, etc.
 Power and cost of gas compression. W. L. Nelson. *Oil & Gas J* 56:102 Ag 25 '58

Testing

Use these equations when testing centrifugal compressors. F. C. Koenig. *Pet Eng* 30:C 11-15 Ag '58

GAS containers

Cylinder getting bigger. *Mill & Factory* 62: 258+ Mr '58

Manufacture

New demands on gas cylinders are met by reliable welds; Christy Park works of U.S. steel corp.'s National tube div. *il Welding Eng* 43:27-8 Ja '58
 Pressure-cylinder manufacturing changes. *il Comp Air Mag* 63:28-9 F '58

GAS cooking

Chinese chefs say gas best. *il Am Gas Assn Mo* 40:12-13 Ap '58
 Cincinnati Gas & Electric's annual cooking contest, clicks again. *il Gas Age* 121:24+ Ap 17 '58
 Five teens bake way to victory: Pittsburgh's natural gas companies sponsor bake-off at county fair. *il Am Gas Assn Mo* 40:11-12 O '58
 Gas cooking wins in another test. W. Eggers. *diag Gas Age* 122:18-19+ Ag 21 '58
 Gas gives banking concern's new 350-seat employee cafeteria top service efficiency. A. Q. Smith. *il Gas Age* 121:19 Ap '58
 Modern gas range shows its flexibility; Chi-nese flame-cooking techniques. *il Gas Age* 121:18-19 My 15 '58
 Sixty-six families prove economy of gas serv-ice: Greenray project, Sidney, N.Y. C. C. Turner. *Gas Age* 121:16-20 Ja 23 '58

GAS detectors

Bunker Hill designs a gas detector. G. C. Ponoff. *il diag Eng & Min J* 159:112-15 Ap '58
 New tool finds gas leaks quickly; infrared analyzer. *il Oil & Gas J* 56:105 My 19 '58
 Pushmobile leak detector devised by BU. *il Gas Age* 122:13-14 Ag 7 '58
 Testing the underground air. A. F. Cascioli. *il Safety Maint* 114:44-7+ O '57

GAS discharge tubes. See Vacuum tubes**GAS distribution**

Automation in gas industry operations, 1958; symposium. *Gas* 34:45-50 JI; 66-8+ Ag '58
 Experience with one-inch mains in high-pressure distribution. P. B. O'Rourke. *Gas Age* 121:17+ Je 12 '58
 Flexibility, automation in regulator station design. E. Roark. *il map diag Gas* 34:73-5 Ap '58

GAS distribution—Continued

Gas distribution system of the future. H. H. Fitzgerald. Gas Age 122:69-70 O 2 '58
 Next ten years in distribution expenses. W. B. Tippy. Gas Age 121:13-16+ Ap 17 '58

Pacific lighting system; distribution systems. J. F. Ebdon. *il* Gas 34:60-5 Ag '58

Rapid method of collecting load data for low-pressure distribution analysis. D. K. Kesel and J. D. Slater. *il* plan diag Gas Age 121:12-16 Je 12 '58

Receiver-controller transmitter systems applications. C. S. Beard. *il* diags Gas 34:145-9 O '58

Regulation pitfalls. W. L. Masheter. diags Instruments & Automation 31:1060-1 Je '58
 Trends for '58; tomorrow's automated pipeline. N. E. Armstrong. Gas 34:97-8 Ja '58

Trends in automation. J. F. Ebdon. Gas 34:93-6 Ja '58

Use of instrumentation in gas distribution at Long Island lighting co. E. S. Bance. *il* Gas Age 122:31-3+ S 18 '58

See also

Gas, Natural—Pipe lines
 Gas flow
 Gas pipes
 Manholes

Change over

Pre-down flaring ceremony marks start of conversion in Montreal; Quebec natural gas corp. *il* Gas Age 121:13-14+ F 20 '58

Electric analogies

Gas network analogy program for high-speed computer; Cincinnati gas & electric co. F. L. Duffy. diags Gas 34:47-54 Je '58

Long distance lines

Atlantic Seaboard pressure tests old 20-in. pipeline. W. W. Clark. *il* Gas 34:114+ Je '58

See also

Gas, Natural—Pipe lines

Tables, calculations, etc.

Analog computing systems for corrected Q. D. D. Pierson and F. W. Helming, jr. *il* diags Gas Age 120:22-4+ D 12 '57

Computer program can help solve gas network problems. R. L. McIntire. diag Oil & Gas J 56:106 F 3 '58

Polynomials replace tables in engineering calculations. J. M. Ryan. Oil & Gas J 56:150 Ja 20 '58

Selection of flow equations for use in distribution system network calculations; abstract. G. G. Wilson and R. T. Ellington. Gas Age 121:22-3 My 29 '58

GAS ejectors

Gas ejectors. A. G. Filimonov. diags Automobile Eng 48:271-4 J1 '58

GAS engineering

See also

Gas distribution

Bibliography

Good reading. Published in bi-weekly numbers of Gas age

Study and teaching

Education for the gas industry at Institute of gas technology. R. T. Ellington. *il* Gas 34:134-7 Ap '58

Tables, calculations, etc.

Non-graphical solution of back-pressure tests on gas wells. H. N. Dunning and others. Pet Eng 30:B77-8+ Ja '58

GAS engines

Gas stored underground. gas engines put it here; Laclede gas co. *il* Diesel Power 36:40-1 D '57

Air supply

Conditioning engine inlet air. O. H. Moore. Gas Age 122:32 J1 10 '58

Cooling

Air turbocooler ups gas-engine performance. *il* diag Chem Eng 65:80+ S 3 '58

Pulls more engine hp with less fuel; turbocooler. *il* diag Power Ind 74:32 Ap '58

Turbocooling—newest Cooper-Bessemer development for pulling more engine hp with less fuel. *il* diag Gas Age 121:37-8 F 20 '58

Turbocooling of intake air proves effective. *il* diag Diesel Power 36:35-6 Ap '58

Maintenance and repair

Preventive maintenance practices for gas engines. H. Ramsey and D. M. Taylor. *il* Pet Eng 29:D34-5+ D '57; 30:D38-43 Ja; D36-7+ Mr '58

Specifications

1958 engine specifications. Diesel Power 36:sup 1-16 Ap '58

Superchargers

Multiple small turbochargers boost big engine performance. *il* Diesel Power 36:22 F '58
 Need more power? convert by turbocharging. G. E. Gotterba. *il* diags Diesel Power 36:16-18 Je; 73-4+ J1 '58

GAS flow

Beoons pace gas velocity. L. Babcock. Chem Eng 65:148 Mr 24 '58

Boundary conditions for the flow of a multi-component gas. D. E. Rosner. bibliog Jet Propulsion 28:555-6 Ag '58

Characteristics and sound speed in nonisentropic gas flows with nonequilibrium thermodynamic states. E. L. Resler, jr. bibliog J Aeronautical Sci 24:785-90 N '57; Discussion. J Aero/Space Sci 25:460-1 J1 '58

Compressible gas-flow in commercial pipes. E. Mills and B. N. Cole. bibliog diags Inst Mech Eng Proc 171 no 19:617-32 '57

Concurrent flow of air, gas-oil, and water in a horizontal pipe. D. P. Sobocinski and R. L. Huntington. bibliog diag A S M E Trans 80:262-5; Discussion. 255-6 Ja '58

Effect of uphill flow on pressure drop in design of two-phase gathering systems. O. Flanigan. bibliog Oil & Gas J 56:132-3+ Mr 10 '58

Flow equations for natural gas pipelines. R. F. Buckacek. Am Soc C E Proc 84 (PL 2 no 16671:1-9 Je '58; Excerpts. diags Pet Eng 30:D20-3 My '58; Discussion. J. H. Dough. Am Soc C E Proc 84 (PL 2 no 16911:5-6 Je '58

Gas flow and heat transfer in conductor-cooled machines. L. T. Rosenberg. bibliog *il* diags Power Apparatus & Systems p 1267-71 F '58

Gas flow rate; nomograph. W. J. Bailey. Power Ind 74:27 Je '58

Gas-friction; heat transfer charts for ducted flows. S. V. Manson. A S M E Trans 80:733-5; Discussion. F. Landis. 735; Reply. 735-8 Ap '58

How to calculate unsteady-state flow of natural gas in long pipelines. J. M. Nelson and J. E. Powers. bibliog diag Oil & Gas J 56:88+ Je 30 '58

How uphill and downhill flow affect pressure drop in two-phase pipelines through hilly country. W. E. Brigham and others. bibliog *il* Oil & Gas J 55:145-6+ N 11 '57; Same. Pet Eng 29:D39-42 N '57; Discussion. O. Baker. Oil & Gas J 55:150+ N 11 '57; Pet Eng 29:D42+ N '57

Improved gas flow equations; flow phenomena in large-diameter natural gas pipelines. W. R. Staats and R. T. Ellington. bibliog Pet Eng 30:D 19-21 J1 '58

Models pretest designs for gas flow. *il* Iron Age 181:116 Mr 13 '58

Propagation of weak waves in a dissociated gas. F. K. Moore. bibliog J Aeronautical Sci 25:279-30 Ap '58

Selecting flow equations for system network calculations. G. G. Wilson and R. T. Ellington. bibliog Gas 34:45-52+ S '58

Teflon sheet as a large-area gas seal for gas flow radioactivity counters. K. A. Bargh. R Sci Instr 29:536-7 Je '58

Transparent models crack gas-flow mysteries; Research-Cottrell. *il* Chem Eng 65:70+ Mr 24 '58

See also

Air flow
 Couette flow
 Fluidization
 Fluids
 Gas meters
 Turbulence

GAS generators. See Gas producers

GAS governors

Testing

Accelerated performance testing of house service regulators; abstract. F. J. Frederick. Gas Age 121:18 My 29 '58

GAS heaters

Let's take a look at separately fired space heaters. S. Elonka. *il* diags Power 101:116-17 N '57

See also

Gas water heaters

GAS heating

Heating value of refinery gases. Oil & Gas J 55:86 D 23 '57

House heating customers increase seven per cent; market now numbers 17.9 million homes. Gas Age 121:22-3 Je 12 '58

Promoting insulation helps Brooklyn Union sell gas for house heating. il Gas Age 121:21-2 F 20 '58

Pulsations in residential gas furnaces with multiple-port burners. A. A. Putnam. diags Heating-Piping 30:143-9 Ap '58

Sixty-six families prove economy of gas service. Greenray project, Sidney, N.Y. C. C. Turner. Gas Age 121:16-20 Ja 23 '58

Weather trends and their effect on the gas utility. D. Parson. map Gas Age 120:18-21 N 14 '57

What February's cold wave revealed. il Gas Age 121:19-22+ My 1 '58

See also

Gas heaters
Gas water heaters

Statistics

Gas heated homes up 1.1 million. Am Gas Assn Mo 40:9-10+ Mr '58

GAS heating, Industrial

Furnace key to 30 per cent production boost: 105-foot unit highlights U.S. Porcelain Enamel's expansion. R. E. Smith, Jr. il Cer Ind 71:70-1 O '58

High velocity gas stress relieving furnace. E. M. Yard. il diag Iron & Steel Eng 35: 95-8; Discussion. 98-100 F '58

Radiant gas heat in glass bending operations. H. A. McMaster. il diags Glass Ind 39:426-7+ Ag '58

Save with direct-fired gas. L. M. Polentz. Chem Eng 65:150 S 8 '58

Weird things they do with heat. R. F. Dempewolf. il diag Am Gas Assn Mo 40: 19-21+ Ap '58

When natural gas came to Charlotte. A. Q. Smith. il Gas Age 121:22-3+ Mr 6 '58

GAS holders

Long Beach, Calif. gasholder to have octagonal design, automatic controls. il Gas Age 122:27 J 24 '58

Snubbers eliminate pulsation in Philadelphia gas works holders. il Gas Age 121:23 Je 26 '58

GAS in air conditioning

Action program mapped for air conditioning. Am Gas Assn Mo 40:9 Mr '58

Air conditioning eliminates delay in meter proving. il Gas Age 122:11-12 Ag 21 '58

Air conditioning potential huge; Cincinnati gas & electric co. J. E. Delaney. il Am Gas Assn Mo 40:25-7+ Ja '58

Air conditioning; year-round profit. W. W. Selzer. il Am Gas Assn Mo 40:4-8 My '58

Building profitable summer load with gas air conditioning. J. R. Shipman. Gas Age 121: 19-21 Mr 6 '58

Ever think of gas air conditioning? Rockwell mfg. co. H. C. Stuckeman. il Mill & Factory 62:77-8 Je '58

Free piston boosts air conditioning. il Am Gas Assn Mo 40:16 Je '58

Gas air conditioning permits unique styling of new plant; Rockwell manufacturing co. il Gas 34:68-9 Je '58

Gas at work in Los Angeles; nine-building county civic center to be year 'round conditioned. J. Joseph. il Gas Age 120:11-14+ N 28 '57

Gas conditioning is best; Rockwell Manufacturing co. H. C. Stuckeman. il Am Gas Assn Mo 39:8-10+ D '57; Same. Gas Age 120:13-15 D 26 '57

Gas conditioning makes shopping real pleasure. il Am Gas Assn Mo 40:12-14 F '58

Gas cooling challenge is cited. J. T. Wolfe. Am Gas Assn Mo 39:9 N '57

Gas-fired air conditioning, modern kitchen head features of Ohio department store; May co. il Gas Age 120:20-1+ D 12 '57

Gas heat cools this plant; Rockwell mfg. co. il Steel 142:94 Mr 3 '58

Gas utilities going all-out promoting air conditioning and refrigerators; survey. Gas Age 122:14+ S 18 '58

Houston engineering society building joins all-gas clan. il Gas Age 122:30-1+ S 4 '58

Volume air conditioning drive begins. Am Gas Assn Mo 40:31-2 Ap '58

Why we bought the Servel air conditioning div. J. C. Hamilton. Gas Age 120:35-6+ O 31 '57; Same abr. Am Gas Assn Mo 39:17+ N '57

GAS industry

Aggressiveness, air conditioning sales potential boost gas industry. C. H. Zachry. Am Gas Assn Mo 40:47 O '58

Cooperation essential. J. J. Hedrick. Am Gas Assn Mo 39:16+ N '57

Future holds great potential for natural gas. C. C. Whittelsey. il Gas Age 122:65+ O 2 '58

Gas cutting steadily into oil market. Oil & Gas J 55:110-11 D 30 '57

Strength in unity. J. Klein. Am Gas Assn Mo 39:16+ N '57

Trends for '58. il Gas 34:43-63+ Ja '58

See also

American gas association
Columbia gas system, inc.
Gas, Natural
Gas companies
Gas research
Midwest gas association
New England gas association

Advertising

Deadline for decision: fate of gas industry ty sponsorship hangs in the balance. Am Gas Assn Mo 40:2-3 Ap '58

East Ohio gas co. welcomes Mrs America of 1959. il Gas Age 121:9 Je 12 '58

Gas industry public relations develops forward look. il Am Gas Assn Mo 39:24-5+ N '57

Gas stars in Hollywood. il Am Gas Assn Mo 40:6-8 Mr '58

Industry ambassadors is from Ohio; Mrs Helen Giesse, the new Mrs America. il Am Gas Assn Mo 40:2-8 Je '58

New Jersey utility introduces its newest employee, the Gas Genie; oldest stove contest. il Gas Age 120:24+ N 14 '57

Pipeline, utilities team up to promote use of gas. il Gas 34:131-3 Ap '58

Streamlined 1959 plan book ready. il Am Gas Assn Mo 40:2-4 O '58

This promotion was a beauty: North shore gas co. queen contest for local county fair. il Am Gas Assn Mo 40:17 Ja '58

Utility advertising faces a challenge. R. D. Furber. Gas Age 121:40-1 Ja 9 '58

Where does the private enterprise ad belong? A. L. Padruitt; C. J. Proud. il Gas Age 122: 13-17+ J 24 '58

Exhibitions

Gas exhibits again prove center of attraction at metal and hotel shows. il Gas Age 120: 30-1+ D 12 '57

Gas pavilion now on view at Brussels. il Am Gas Assn Mo 40:19 JI-Ag '58

Industry honors top builder and eleven New freedom gas kitchens and laundries; NAHB convention, Chicago, Jan. 19-24. Am Gas Assn Mo 40:2-5 F '58

Metal, hotel shows in spotlight. il Am Gas Assn Mo 39:29-31+ D '57

Parade of gas progress exhibit at American gas association 40th annual convention. il diags Gas 34:81-3+ O '58

Finance

Gas budgets top \$2 billion again; Gas' eleventh annual construction budget survey. il diags Gas 34:57-72 Ap '58

Gas industry construction booming. Pet Refiner 37:420+ S '58

Gas sound investment. J. F. Oates, jr. Am Gas Assn Mo 39:17+ N '57

Importance of staying healthy. J. J. Hedrick. Gas Age 120:22+ O 31 '57

1958 expansion costs may top record. Am Gas Assn Mo 40:5 S '58

1958 gas industry construction outlay to total \$1.87 billion, A.G.A. predicts. Gas Age 122: 24 Ag 21 '58

Relationship between rate of return, payout and ultimate return in oil and gas properties. C. E. Phillips. J Pet Tech 10:26-9 S '58

Role of Canadian banks in the oil and gas industry. A. D. Insley. Can Min & Met Bul 51:108-10 F '58

Trends for '58; investors will take hard look at gas industry this year. Gas 34:109-10 Ja '58

We must be partners in profit. C. H. Murphy, jr. Gas Age 120:28+ O 31 '57

History

Glance backward and a long look ahead. il Gas Age 122:46-70 O 2 '58

Merchandising

Action program mapped for air conditioning. Am Gas Assn Mo 40:9 Mr '58

Gas industry—Merchandising—Continued

- Air conditioning potential huge; Cincinnati gas & electric co. J. R. Delaney, *Il Am Gas Assn Mo* 40:25-7+ Ja '58
- Building profitable summer load with gas air conditioning, J. R. Shipman, *Gas Age* 121: 19-21 Mr 6 '58
- Eastern gas sales conference, New York, May 12-13, *Am Gas Assn Mo* 40:32-3 Je '58
- 57 companies represented at school, *Am Gas Assn Mo* 40:24-5 Je '58
- Forecast bright future for gas; A.G.A. Industrial and commercial gas section annual convention, *Am Gas Assn Mo* 39:33-4 N '57
- Keep your commercial customers, J. S. McElwain, *Am Gas Assn Mo* 40:29-30+ F '58
- Mid-West regional gas sales conference, Chicago, May 19-21, *Am Gas Assn Mo* 40:34-6 Je '58
- Sales may double in next decade, C. H. Zachry, *Am Gas Assn Mo* 39:13-14+ N '57
- Salesmen! use the Zinder report; energy comparisons are valid for ordinary residential use, I. E. Rowe, *Am Gas Assn Mo* 40:22-4 O '58
- Selling gas for Capehart housing; United gas corp., I. E. Rowe, *Am Gas Assn Mo* 40:9-10+ Ja '58
- Volume air conditioning drive begins, *Am Gas Assn Mo* 40:31-2 Ap '58
- See also
- Gas companies—Appliance selling
- Gas in air conditioning

Model home exhibits

- All-gas home is big hit in Greeley, Colo. *Il Gas* 34:113-14 Feb '58
- All-gas house saves owner \$9,960, *Il Am Gas Assn Mo* 40:31-2+ S '58
- Gas appliances in 160 parade homes, *Il Am Gas Assn Mo* 39:24-5 D '57
- Pittsburgh's roof-top house draws 200,000, *Il Am Gas Assn Mo* 30:4-6 D '57
- Spotlight on gas in home show; all-gas equipped home at Home builders association of New Hampshire, *Il Am Gas Assn Mo* 40:39 F '58
- Success of all-gas village prompts new promotion; Ohio fuel gas co., *Il Gas* 34:72-3 F '58
- Two all-gas homes give gas nation-wide boost, *Il Am Gas Assn Mo* 40:36-8 O '58

Research

See Gas research

Statistics

- Facts and figures. Published in American gas association monthly
- Final A.G.A. summary; 1957 industry sales revenues top \$4 billion mark, *Gas Age* 122:20 O 2 '58
- Industry building for future, R. W. Otto, *Am Gas Assn Mo* 40:3-5 Ja '58; Same, *Gas Age* 121:19-22 Ja 9 '58; Same, *Gas* 34:62-4 E '58
- Industry to spend \$36 billion by 1970 to meet needs of 45 per cent more customers, *Gas Age* 121:12-13 My 15 '58
- \$36 billion construction by 1970, *Am Gas Assn Mo* 40:22-3 My '58

Alberta

- Economic effects of gas export on Alberta, H. Harries, *Can Min & Met Bul* 51:427-30 Jl '58

Canada

- Expansion programs of four east Canada gas utilities outlined at CGA workshop, *Gas Age* 121:58 My 1 '58
- Year of accomplishment, H. C. Darroch, *Gas Age* 121:30-1+ Ja 9 '58

Great Britain

- Gas council's annual report, *Engineer* 204:532 O 11 '57
- Gas plant projects in Britain, *Engineer* 205: 359 Mr 7 '58

New England states

- Gas makes fine progress in New England, E. G. Rhodes, *Gas Age* 121:23-5 Ja 9 '58

Pacific coast

- Year of special significance, C. H. Guseffroy, *Gas Age* 121:28+ Ja 9 '58

Southern states

- See also
- Southern gas association

Wisconsin

- Record attendance marks annual meeting of Wisconsin utilities in Milwaukee, *Gas Age* 120:28 N 14 '57

GAS laboratories

- Gas council Midlands research station, bibliog *Il Chem & Ind* p854-7 Jl 5 '58

GAS leakage

- Construction of small fixed leaks of predictable throughput, S. A. Gordon, bibliog *Il diag R Sci Instr* 29:501-4 Je '58
- Herschler dome; storage despite leak, *Il diag Oil & Gas J* 56:114-16 Ag 18 '58
- Integration of leakage surveys and cathodic protection in gas distribution systems; abstract, J. R. Cowles, *Corrosion* 14:97 Je '58
- Pacific Gas & Electric designs unique pipeline-break control and alarm system, J. H. Starnard, Jr. and T. Morcott, *Il diag Gas* 34:94-8+ S '58

GAS lighting

- Gas found best for illumination of brick plant, *Il Am Gas Assn Mo* 40:21 F '58
- Gas lights welcomed by homeowners; Gaslite, trade name of manufacturer, Arkia air conditioning corp., *Il Gas Age* 121:21 My 15 '58
- Professional football players and coaches form hard-hitting gas light selling team, *Il Gas Age* 122:42-3 Ag 7 '58

GAS manufacture

- Britain's most modern carbonization plant, J. Grindrod, *Il Gas Age* 121:16-13 Je 26 '58
- Carbon-steam reaction kinetics from pilot plant data, W. G. May and others, bibliog *diags Ind & Eng Chem* 50:1289-96 S '58
- Fluid-bed pretreatment of bituminous coals and lignite; direct hydrogenation of chars to pipeline gas, K. C. Channabasappa and H. R. Linden, bibliog (29 titles) *diag Ind & Eng Chem* 50:637-44 Ap '58
- Hot coal breeds heating gas, radioactivity used to convert to synthetic natural gas, *Chem & Eng N* 36:51 Ja 6 '58
- Manufactured gas, F. Arne, bibliog flow sheets *diags Chem Eng* 65:121-32 Mr 24 '58 (reprints 50c)
- Method for converting oil shale into high quality fuel gas described, *Am Gas Assn Mo* 40:46 O '58
- New gas making process, *Ind Chem* 34:172 Ap '58
- New process for gas production; North western gas board, *diag Chem & Ind* p888-9 Mr 8 '58
- New type British gas plant designed for ultimate utilization of low-grade coal, *diag Gas Age* 121:20+ Ap 3 '58
- Refinery gases used in homes; Shellhaven supplies Romford, *Il map Engineering* 185: 222-3 F 14 '58
- Research in gasification processes, *Il Ind Chem* 34:238-40 My '58
- Shell gasification process, *diag Chem & Ind* p 183 F 15 '58
- Shellhaven-Romford gas pipeline, *Il Engineer* 205:216-17 F 7 '58

See also

- Gas companies
- Gas producers

By-products

See also

- Ammonia—Manufacture

Coal mine gasification

- British power industry eyes underground gasification of coal for fuel solution, *Gas Age* 120:45 N 28 '57
- Developments in underground gasification, C. A. Masterman, *diags Engineer* 204:633-5 N 1 '57
- Outlook for high btu gas from coal, M. A. Elliott, *Il map Coal Age* 63:120-4+ My '58
- Underground coal gasification, *diags Ind & Eng Chem* 50:sup23A-4A+ Mr '58
- Underground gasification at Newman Spinney, *Il Chem & Ind* p 1565-7 N 30 '57
- Underground gasification at Newman Spinney *Il plan Engineer* 204:826-7 D 6 '57
- Underground gasification; British program, *Il diags Coal Age* 63:132-3 Mr '58
- Underground gasification in Russia, *Il Chem & Ind* p86-7 Ja 11 '58
- Underground gasification of coal, *Eng J* 41: 79-80 F '58
- Underground gasification of coal, *Il plan diag Engineering* 184:761-3 D 13 '57
- Underground gasification of coal in U.S.S.R., *Engineer* 204:940 D 27 '57

GAS manufacture—Continued

Complete gasification processes

- Britain's first Lurgi gas plant will save coal, cut gas production costs, *il map diag Gas Age 122:20+ Ag 21 '58*
- Coal gas; Lurgi process, *diag Research 11: 157-8 Ap '58*
- First Lurgi gas plant for Britain, *diag Chem & Ind p325-6 Mr 15 '58*
- Lurgi gas-making plant in Scotland, *Engineering 185:401 Mr 28 '58*
- Trials of gas integrale process for the complete gasification of coal; abstract, A. F. Grant and C. H. Lewis, *Chem & Ind p 1568 N 30 '57*

GAS masks

- Gas-mask protection against diborane, pentaborane, and mixtures of boranes, J. E. Long and others, *bibliog diags A M A Archives Ind Health 16:393-402 N '57*
- Safety device or booby trap? gas mask with the hose cut off, *il Safety Maint 115:17 Ap '58*

GAS measurement

- Calculating measurement charts; El Paso natural gas co. applied punched-card accounting machines and methods, W. E. McDowell, *diags Am Gas Assn Mo 40:31-8 F '58*
- Metering gas with a heated thermopile, R. T. Doyle, *bibliog il diag Instruments & Automation 30:2276-8 D '57*
- Transco's Narrows meter and regulator station noise problem, *plan Pet Eng 30:D 12 Jl '58*

See also

Gas meters

GAS, Natural—Measurement

- New material for valves, regulators and meters? Rellianite, a ductile iron, *il Gas 34: 64-7 Je '58*
- Wire baskets speed meter handling for Southern counties gas co. *il Gas 34:68-9 O '58*

Maintenance and repair

- Application and maintenance of rotary meters; abstract, R. L. Jones, *Gas Age 121: 16-17 My 29 '58*
- Practical approach to testing and maintaining field type orifice meters, H. H. Holmes, *Gas Age 121:51+ My 1 '58*
- Testing and maintenance of large meters in the field, W. J. Gehr and A. G. Prasil, *Gas Age 120:15-17+ N 28 '57*
- 12 tips on gas meter repair, *Power Eng 62: 84+ My '58*

See also

- Gas companies—Meter shops

Standards

- Meter standardization aids costs, J. Webb, *Am Gas Assn Mo 40:33+ Ap '58*
- Purchase specs for small diaphragm meters provide standardization tool, J. Webb, *Gas Age 121:46+ My 1 '58*

Testing

- Air conditioning eliminates delay in meter proving, *il Gas Age 122:11-12 Ag 21 '58*
- Prover room operation; abstract, C. J. Sevey, *Gas Age 121:17-18 My 29 '58*
- Testing and maintenance of large meters in the field, W. J. Gehr and A. G. Prasil, *Gas Age 120:15-17+ N 28 '57*

GAS mixing

- Carnegie Natural builds a big one; six major steel plants in Pittsburgh area served by 13-mile, giant-diameter pipelines, W. W. Clark, *il map diags Gas 34:61-7 O '58*
- Conservation equations for multicomponent gas mixtures in arbitrary coordinate systems, F. A. Williams, *J Aeronautical Sci 25: 343-4 My '58*
- Laminar burning velocities of methane-oxygen-diluent gas mixtures, S. A. Weil and others, *bibliog Ind & Eng Chem 50:1101-4 Jl '58*

- Some comments on the analysis of gas mixtures, J. A. Barnard and H. W. D. Hughes, *bibliog diags Chem & Ind p 1109-10 Ag 23 '58*

GAS oil

- Better yields after nitrogen removal, C. K. Viland, *il Pet Refiner 37:197-200 Mr '58*
- Cat cracker sets challenges; Tidewater Oil's giant Orthoflow fluid catalytic cracking unit; process flowsheet, C. H. Chilton, *il Chem Eng 65:120-3 O 6 '58*

See also

- Petroleum refining

Analysis

- Aromatic types in heavily cracked gas oil fraction; combined use of ultraviolet and mass spectrometry, R. J. Gordon and others, *bibliog Anal Chem 30:1221-4 Jl '58*

GAS ovens

- Fannon Products develops new gas fired infrared heating process, *Am Gas Assn Mo 40:46 O '58*
- Large oven furnace is versatile, automatic, *J. N. Helfat, il diag Gas 34:106+ O '58*
- Modern kitchen isn't only place for eye-appealing built-ins; Polytechnic institute foundry-laboratory, W. H. Ruten, *il Gas 34:74 F '58*

GAS ovens, Baking

- What the serviceman should know about oven controls, P. Campbell, *il diags Gas 34:63-4 S '58*

GAS pigs

- Carnegie Natural builds a big one; six major steel plants in Pittsburgh area served by 13-mile, giant-diameter pipelines, W. W. Clark, *il map diags Gas 34:61-7 O '58*
- Compressible gas-flow in commercial pipes, E. Mills and B. N. Cole, *bibliog diags Inst Mech Eng Proc 171 no 19:617-32 '57*
- Development of tubing joints for high-pressure gas service; abstract, W. M. Frame and W. F. Franz, *diags Oil & Gas J 55:128 O 28 '57*
- Ductile iron as a valve material, F. C. Monkman, *il Gas Age 122:25-6+ Jl 24 '58*
- Experience with one-inch mains in high-pressure distribution, F. B. O'Rourke, *Gas Age 121:17+ Je 12 '58*
- Fusion welding in pipe fabrication, W. S. Schaefer, *il diag Welding Eng 43:34-6 F '58*
- Pipe, its control; symposium, *Gas Age 122: 22-4+ Jl 10 '58*

See also

- Gas, Natural—Pipe lines
- Gas distribution

Cathodic protection

- Anode beds for impressed current, M. E. Parker, *diag Gas 34:19 Ag '58*
- Cathodic protection of an old uncoated pipeline, D. P. Price and R. M. Wainwright, *map Gas 34:119-25 Mr '58*
- How Rio Grande Valley Gas gets cathodic protection the easy way, J. Emery, *diag Gas Age 121:15+ F 20 '58*
- Integration of leakage surveys and cathodic protection in gas distribution systems; abstract, J. R. Cowles, *Corrosion 14:97 Je '58*
- Invention quickly finds defective insulators; Northern Illinois gas co.'s cathodic protection program, T. Snedden, *il diags Am Gas Assn Mo 40:34-7 Ja '58*; Same, *map Gas Age 121:11-15+ Ja 23 '58*; Same, *Gas 34:77-81 Mr '58*
- Scrap steel ground beds still useful, M. E. Parker, *diag Gas 34:21+ S '58*
- Test leads for gas transmission lines, M. E. Parker, *Gas 34:15+ Jl '58*
- Use of magnesium anodes to protect steel mains, H. C. Boone, *il Corrosion 14:21 Jl '58*
- Weather versus cathodic protection of underground pipe lines; Manufacturers light and heat co. F. E. Costanzo, *il plans Corrosion 14:27-32 Ag '58*

Corrosion

- Corrosion prevention; distribution, transmission, M. E. Parker, ed, Published in monthly numbers of Gas
- Oklahoma Utility's engineer team makes 23-mile corrosion survey, T. E. Adams, *il Gas Age 122:28-9 S 4 '58*
- Weather versus cathodic protection of underground pipe lines; Manufacturers light and heat co. F. E. Costanzo, *il plans Corrosion 14:27-32 Ag '58*

See also

- Gas pipes—Protection

Failure

- Preventing damage of gas facilities by foreign sources, S. Sokolow, *il diags Gas 34:71-4 My '58*

Leakage

- See Gas leakage

Maintenance and repair

- Exploding fingerprints; critical conditions call for kid-gloved maintenance; Convaire Astronautics, *il Plant Eng 12:88-9 Je '58*
- Repair sealing bell and spigot joints with rubber base sealants, *il Gas 34:59-61 F '58*

GAS pipes—Maintenance and repair—*Continued*
Safe welding on gas filed pipelines; Southern California gas co. J. S. Powell and H. M. Curtis. *il* diags Gas 34:102-4 Je '58
Use of plastic tubing to replace services in low pressure system. H. R. Murphy and T. R. Bogumil. *il* Gas 34:59-63 Mr '58; Same cond. Corrosion 14:105-6 F '58

Protection

Corrosion prevention; distribution, transmission. M. E. Parker, ed. Published in monthly numbers of Gas
High density asphalt mastic coating; Southern natural gas co. N. L. Brown. Gas Age 120:37+ N 23 '57; Same. *il* Gas 34:132+ Mr '58
Plastic coated steel pipe developed. *il* Gas Age 120:36+ N 28 '57
Plastic pipe-corrosion prevention issue. *il* diags Gas 34:69-81, 119-27+ Mr '58
See also
Gas pipes—Cathodic protection

Testing

Atlantic Seaboard pressure tests old 20-in. pipeline. W. W. Clark. *il* Gas 34:114+ Je '58

GAS pipes, Plastic

Longest (6,200 ft.) plastic line operates at 75 psig on round-the-clock service. *il* Gas Age 121:20 F 20 '58
New uses for plastic pipe; Louisville Gas uses it to insulate services. R. H. Walton. diags Gas 34:67-8 Mr '58
1958; another good year for plastic pipe. D. Wright. *il* Gas 34:55-8 Mr '58
Tubing used for drip pipe in submerged river crossing. T. J. Lambeck. *il* diags Gas 34:64-6 Mr '58
Use of plastic tubing to replace services in low pressure system. H. R. Murphy and T. R. Bogumil. *il* Gas 34:59-63 Mr '58; Same cond. Corrosion 14:105-6 F '58

GAS poisoning. *See* Gases, Asphyxiating and poisonous

GAS producers

Azbe's unitized lime kiln. V. J. Azbe. diags Rock Prod 60:95+ S; 107+ N '57
Gas generator boom. *il* Iron Age 180:91 D 12 '57

GAS purification

Ceramic filters for high temperature gas filtration. M. W. First and J. B. Graham. *il* diag Ind & Eng Chem 50:sup63A-4A Je '58
Costs favor hot carbonate process for bulk removal of acid gases. A. G. Elckmeyer. diag Chem Eng 65:113-16 Ag 25 '58
Costs of scrubbing out SO₂ from flue gases. J. H. Field and others. bibliog diags Combustion 29:61-6 N '57
Doyle scrubber. H. Doyle and A. F. Brooks. *il* diag Ind & Eng Chem 49:sup 57A-8A+ D '57
Experiments on an industrial Venturi scrubber. J. A. Brink, jr. and C. E. Contant. bibliog diag Ind & Eng Chem 50:1157-60 Ag '58
Performance of equipment for control of fluoride emissions. K. E. Lunde. bibliog *il* Ind & Eng Chem 50:293-8 Mr '58
Which CO removal scheme is best? J. F. Mullooney. diags Pet Refiner 36:149-52 D '57
See also
Gas cleaning

Sulfur removal

Removal of sulphur from coke oven gas. Metallurgia 57:278 Je '58

GAS ranges. *See* Gas stoves

GAS rates

See also

Gas, Natural—Rates

GAS refrigerators. *See* Refrigerators, Gas

GAS research

Gas council Midlands research station. bibliog *il* Chem & Ind p854-7 JI 5 '58
Industry perspective from the research planning viewpoint. M. Golland. Am Gas Assn Mo 40:17-19+ F '58
Midlands gas research station. *il* diag Engineer 205:588-9 Ap 18 '58
New research projects revealed; annual Research and utilization conference, 13th. Cleveland, April 21-23. Am Gas Assn Mo 40:9-11+ Je '58
Only research can conquer the future. M. Golland. *il* diags Am Gas Assn Mo 40:8-10+ S '58
Research in gasification processes. *il* Ind Chem 34:238-40 My '58

Research in review. T. L. Robey. Am Gas Assn Mo 40:20-6 JI-Ag '58
Towards cheaper and better gas, diags Engineering 185:533-4 Ap 25 '58
West Coast domestic gas research and utilization conference, Los Angeles, June 4-5. Am Gas Assn Mo 40:10-12 JI-Ag '58

GAS sampling

Sampler for particles in wet gas streams. J. W. Thomas. diag Chem Eng 65:148 F 10 '58
Steam licks gas sampling problem; Dragon cement co. *il* diag Rock Prod 61:82+ Ag '58
Study of sampling of flame gases. C. Halpern and E. W. Ruegg. bibliog diags J Res Nat Bur Stand 60:29-37 Ja '58
See also

Flue gas—Sampling

GAS scrubbers. *See* Gas purification

GAS storage

Gas storage for peak demands. R. Kyle. flow diag *il* diags Iron & Steel Eng 35:109-16 Ag '58
Gaz de France goes to underground storage for better load balance. J. Grindrod. *il* diags Gas Age 121:13-12 Mr 20 '58
Remote gas storage promotes safety. E. W. Robinson. *il* Elec World 150:76 S 8 '58
Storage of gas in geological strata. L. T. Minchin. *il* diag Ind Chem 34:370-2 JI '58
See also

Coke oven gas—Storage

Gas, Natural—Storage

Liquefied petroleum gas—Storage

GAS stoves

Caloric built-in domestic ranges glamorize Brooklyn foundry. W. H. Ruten. *il* Am Gas Assn Mo 39:50-1 N '57
New Jersey utility introduces its newest employee, the Gas Genie; oldest stove contest. *il* Gas Age 120:24+ N 14 '57
Special gas range report. W. Nickel. Gas Age 122:51-3 S 13; 101-3 O 2 '58
Touch of tomorrow in today's gas range; Sunray stove co. *il* Gas 34:12 My '58
See also

Gas ovens, Baking

Control

What a serviceman should know about automatic range top temperature control. C. E. Smith. *il* Gas 34:82-3 Mr '58

Merchandising

Burner with a brain to get big sell in Ohio markets. *il* Gas Age 120:47 N 14 '57
Facial tissue scorch test wins Robertshaw-Fulton automatic range top contest. Gas Age 121:23 F 6 '58
Gas cooking wins in another test. W. Eggers. diags Gas Age 122:18-19+ Ag 21 '58
How Philadelphia Gas sells matchless range. J. F. Short. *il* Am Gas Assn Mo 40:10-12 Mr '58

GAS supply

Great Britain

New type British gas plant designed for ultimate utilization of low-grade coal. diags Gas Age 121:20+ Ap 3 '58

Illinois

Two Illinois companies break sales records in cold wave. Gas Age 121:22-3 Mr 20 '58

Long Island, New York

Use of instrumentation in gas distribution at Long Island Lighting co. E. S. Bance. *il* Gas Age 122:31-3+ S 18 '58

Paris

Gaz de France goes to underground storage for better load balance. J. Grindrod. *il* diags Gas Age 121:9-12 Mr 20 '58

GAS tanks

New pressure tank series features flued manways with welds X-rayed. R. Furrer. *il* Gas Age 121:19 Je 26 '58

Manufacture

Production revision slashes part cost; Manchester tank & equipment co. *il* diag Steel 143:86-7 S 29 '58

GAS turbine locomotives. *See* Locomotives, Gas turbine

GAS turbine plants. *See* Power plants—Gas turbine plants

GAS turbines

ASME gas turbine conference reviews problems, looks into future. Ind Lab 9:25 Je '58

GAS turbines—Continued

ASME Gas turbine power division conference, Washington. Power Eng 62:79-80 My '58
Equipment for the stationary gas turbine.
D. L. E. Jacobs and I. H. Landes. *Il plan*
diag Mech Eng 80:45-51 J '58

Gas turbine as a turbocharger. R. Birmann.
Pet Eng 30:446+ Ap '58
Gas turbine, the versatile power unit. G. B.
Warren. Am Soc Naval Eng J 70:490-6 Ag
'58

Gas turbines. *Il* Westinghouse Eng 13:19-20
Ja '58

Gas turbines; American power conference;
abstracts of papers. Combustion 29:61-2
My '58

Gas turbines come down to earth. *Il* Power
Ind 74:12-13 Mr '58

Gas turbines for blast furnace blowing. G.
H. Krapf and J. O. Stephens. *Il* flow diag *Il*
Bagger Iron & Steel Eng 35:142-9 S '58

Gas turbines for process applications. D. F.
Bruce. *Il* diag Mech Eng 80:75-8 Mr '58
Gas turbines in 1957. *Il* diag Engineer 205:
60-1 Ja 10 '58

Gas turbines in the Arabian desert; Trans-
Arabian pipe line co. V. E. Locher and
others. *Il* map plans Mech Eng 80:81-4 Ap
'58

Gas turbines; their design future. *Il* Product
Eng 29:22-4 My 5 '58

Gas turbines up process efficiency. J. E.
Parker. diag Chem Eng 65:123-4 J '58

High-temperature alloys. 1900-1958. F. S.
Badger. *J Metals* 10:512-16 Ag '58

Ideal performance of valved-combustors and
applicability to several engine types. A. W.
Goldstein and others. bibliog diag A S M E
Trans 80:1027-36 J '58

Industrial gas-turbine. *Il* Engineering 185:196
F 14 '58

Industrial gas turbo-alternator. *Il* Engineer
205:213 F 7 '58

Intermediate gas turbine pumping units of
Trans-Arabian pipe line co. P. P. Nibley
and A. Y. Hillman. *Il* map diag Elec
Eng 77:158-62 F '58

Investigation of the end-wall boundary layer
of a turbine-nozzle cascade. J. R. Turner.
Il diag A S M E Trans 79:1801-5; Discus-
sion. 1805-6 N '57

Jet age compressors; gas turbine powered
compressors at Texas eastern transmission
corp. flow chart *Il* Gas Age 122:38-8 S '58

Nuclear gas turbines. L. H. Roddis. *Jr. Mech*
Eng 80:60-1 J '58

Operator's evaluation of the versatile gas
turbine. G. H. Krapf and H. J. Gifford.
bibliog diag Iron & Steel Eng 35:98-103
Je '58

Small gas turbine. H. Ziebarth. *Il* diag
Product Eng 29:38-9 Ag 4 '58

Transient response of a two-fluid counter-
flow heat exchanger, the gas-turbine re-
generator. R. M. Cima and A. L. London.
bibliog flow diag *Il* diag A S M E Trans
80:1169-75; Discussion. 1175-7; Reply. 1177-9
J '58

Watch the air supply for that gas turbine
compressor! Power Eng 62:135 S '58

See also

American society of mechanical engineers—
Gas turbine power division

Electric plants (central stations)—Gas tur-
bine auxiliaries

Electric plants (central stations)—Gas tur-
bine stations

Blades

Bending of pre-twisted turbine blades; effect
of inclination of longitudinal fibres. W.
Carnegie. diag Engineering 185:605-6 My
9 '58

Refractory nozzle blades for high-tempera-
ture gas turbines. T. H. Blakeley and R. F.
Darling. Engineer 203:251-2 F 15 '57; Ab-
stracts. Engineering 183:234 F 22 '57;
Metal Prog 73:133+ Mr '58; Discussion.
Engineer 203:252 F 15 '57

Static bending of pre-twisted cantilever
blading. W. Carnegie. diag Inst Mech Eng
Proc 171 no 32:873-86, pl 1-2; Discussion.
887-90; Reply. 891-4 '57

Control

Electrical control of gas turbines in gas
transmission service. R. A. Yannone and
others. *Il* plans diag Applications & Ind
p6-12 Mr '58

Cooling

Influence of Coriolis forces on heat transfer
in the open thermosyphon. B. W. Martin
and D. J. Cresswell. bibliog *Il* diag Engi-
neer 204:926-30 D 27 '57

Design

General design considerations for smaller gas
turbines. W. T. Von Der Nuell. *Il* diag
A S M E Trans 80:941-57 bibliog(p956-7);
Discussion. 957-8 My '58

Free piston engines

Characteristics and advantages of free piston
engines. A. F. Underwood. diag Product
Eng 28:H4-7 Mid-O '57

Digital computer simulates free-piston en-
gine. D. R. Olson. diag A S E J 66:44-52
Ap '58

Free piston boosts air conditioning. *Il* Am
Gas Assn Mo 40:16 Je '58

Free-piston engine design moves ahead;
Baldwin-Lima-Hamilton's Hamilton div.
free-piston engine research. R. S. Ogg. *Il*
Diesel Power 35:28-31 D '57

Free-piston engine powerplant with a future.
C. E. Wise. *Il* diag Machine Design 30:
22-4 Ja 23 '58

Free-piston gas generator. B. G. Skrotzki.
Il diag Power 102:92-5 S '58

Free-piston gas generators. J. R. Singham.
diag Engineering 184:692-6 N 29 '57

French experience with free-piston engines.
M. E. Barthalon and H. Hergen. bibliog *Il*
map diag Mech Eng 79:428-31 My '57; Dis-
cussion. 80:113-14 F '58

German gas turbine vessel. *Il* Engineer 205:
410 Mr 14 '58

New two-stage free-piston engine. *Il* Power
Eng 61:77 D '57

Turbines for vehicles. F. J. Wallace and
B. C. Lovatt. Engineer 205:466-7 Mr 28 '58

Bibliography

Marine gas turbine, free piston gas turbine
bibliography. J. W. Sawyer. Am Soc Naval
Eng J 70:159-69 F '58

Fuel

Accelerated high temperature oxidation due
to vanadium pentoxide. K. Sachs. bibliog
Il diag Metallurgia 57:123-37, 167-73 Mr-Apr
'58

Brown coal burning gas turbines. J. C. Wis-
dom. *Il* diag Engineer 206:328-31 Ag 29 '58

Crude-burning turbines up Tapline through-
put. W. E. Locher and others. *Il* map diag
Pet Eng 30:D35-8 My '58

How about rocket fuels for gas turbines?
C. Miesse and E. Lieberman. diag
Power Eng 62:69 J '58

3-D photomicrographs; reports on gas turbine
fuel studies augmented. J. S. Pasman. *Il*
Ind Phot 7:22-3 Ja '58

Manufacture

Extrusion slashes wheel assembly costs. *Il*
Steel 142:88-9 My 5 '58

New method for producing turbine wheels.
Il Automotive Ind 118:51, 162 My 15 '58

Turbine wheels can be made for \$100. *Il* Am
Mach 102:100 My 5 '58

Performance

Gas-turbine regenerator performance. P.
Fortescue and D. V. Wordsworth. Engineer-
ing 185:284-6 F 28 '58

Starting

Packaged air starts turbines. *Il* diag Product
Eng 29:70 J '58

GAS turbines, Aircraft

Aerodynamic screen for jet engines. H. Klein.
bibliog *Il* diag Aeronautical Eng R 16:
48-53 N '57

Allison 501-D13 turboprops; abstract. F. H.
Steuber. diag S A E J 66:55 J '58

Analogue for high-intensity steady-flow com-
bustion phenomena. D. B. Spalding. bibliog
diag Inst Mech Eng Proc 171 no 10:383-96;
Discussion. *Il* 396-407; Reply. 408-11 '57

Big future seen for midjet jets. L. W. Davis.
Product Eng 28:19 D 16 '57

Cermets in jet engines. J. W. Graham and
W. F. Zimmerman. *Il* Metal Prog 73:108-11
Ap '58

Comparison of turbojets and ramjets for
high speed flight. M. Arens. Jet Propulsion
28:620-1 S '58

Detailed data disclosed on U.S.S.R.'s IL-18
turboprop transport. Aero/Space Eng 17:
27 My '58

Developing an aircraft gas turbine; Lycom-
bing's T-53. M. S. Saboe. *Il* Mech Eng 80:55-8
Ju '58

GAS turbines, Aircraft—Continued

- Direct cycle nuclear turbojet power plants. E. L. Semple and W. C. Cooley, diag Aero/Space Eng 17:30-5 Ag '58
- East German turbojet among displays at Leipzig fair. D. Scott, il diags Automotive Ind 118:62-4 My '58
- Gas turbines for helicopters. A. W. Morley, bibliog il diag Roy Aeronautical Soc J 62: 646-54 S '58
- Gas turbines in 1957, il diag Engineer 205:60-1 Ja '58
- Ideal performance of valved-combustors and applicability to several engine types. A. W. Goldstein and others, bibliog diags A S M E Trans 80:1027-36 JI '58
- Jet engine developments. H. F. Faught and R. A. Neal, il diags Westinghouse Eng 17: 169-72 N '57
- Limitations of plated nickel in jet engine design; abstract. R. W. Moeller and W. A. Snell, Metal Prog 73:182-4 Ja '58
- Mating the P&W J57 turbojet to the F-102. R. J. Chillo, il diags A S E J 65:33-6 D '57
- Missiles; just big chemical reactors. R. L. Noland, il diags Chem Eng 65:146-8 My 13 '58
- Napier small aircraft turbines. il Engineer 205:224 F 7 '58
- New Allison 260-hp turbine engine. diag Automotive Ind 119:63 Ag 15 '58
- Niobium, a prospect for aviation gas turbines; abstracts. W. S. Hazelton, il S A E J 66:67-9 My '58; Machine Design 30: 150-4 My 15 '58; Discussion. R. I. Jaffee, S A E J 66:69 My '58
- 1000 h.p. aircraft turbines, flow diag il Engineer 205:291-2 F 21 '58
- P-181 'copter turbine stresses adaptability. V. DeBlasi, il Aviation Age 29:66-71 Je '58
- Polar method improves dynamic balancing. A. B. Barnes, diags Am Mach 101:154-6 N 18 '57
- Powerplants for supersonic transports; abstract. G. C. Rapp, Automotive Ind 118:72 My 1 '58
- Prestock's contribution to propulsion. H. Constant, bibliog il diags Roy Aeronautical Soc J 62:257-67 Ap '58
- Recovery ratio, a measure of the loss recovery potential of compressor stages. L. H. Smith, jr, diags A S M E Trans 80:517-23; Discussion. G. C. Ashby, jr, 523-4 Ap '58
- Replacement of piston engines by gas turbines in air liners. H. Sammons, il diags Roy Aeronautical Soc J 62:94-104 F '58
- Rotating stall in axial flow compressors. J. Fabri and R. Siestrunk, bibliog diags J Aeronautical Sci 24:805-12+ N '57
- Simulation of aircraft gas turbines; symposium. Instruments & Automation 31:1065-7 Je '58
- Simulation of jet engines; Eastern simulation council meeting, Lynn, Mass, Oct. 14, 1957. Instruments & Automation 31:299-300 F '58
- Small gas turbines; Blackburn and general aircraft, ltd. il diag Engineer 205:434-5 Mr 21 '58
- Thermopropulsive characteristics of high-speed thrust generators. A. F. Charwat, diags Aero/Space Eng 17:49-55 Je '58
- TJ38 Zephyr commercial turbojet. L. Green and B. Gordon, diag S A E J 66:60-3 JI '58
- Why not turbine-powered missiles? R. E. Neitzel and M. A. Zipkin, diags S A E J 66:78-80 JI '58; Abstract. Aircraft Eng 30: 238 Ag '58

A. See also

Airplanes, Jet propelled

After burners

- Aerodynamic combustion ups afterburner performance. J. Bertin and B. Salmon, bibliog il diags Aviation Age 29:46-4 My '58
- Effects on turbojet combustors and afterburners of other engine components; abstract. J. H. Childs, Aircraft Eng 30:233 Ag '58
- Some observations of flame stabilization in sudden expansions. P. A. Ross, il diags Jet Propulsion 28:123-5 F '58

Air supply

- Controlling variable turbine inlets; abstract. R. E. Matzdorff and C. F. Newberry, S A E J 66:124+ F '58
- F-104 intake ducts save weight and complexity; Lockheed F-104 fighter. A. F. Watts, il diags Aviation Age 29:60-7 My '58
- Matching a supersonic intake to an aircraft gas turbine. J. M. Stephenson, Roy Aeronautical Soc J 62:219-20 Mr '58

Simplified universal rule for subcritical drag of a supersonic diffuser. C. L. Dailey, bibliog flow diag J Aero/Space Sci 25:470-1 JI '58

Blades

- Analysis of incompressible, nonviscous blade-to-blade flow in rotating blade rows. J. J. Kramer, bibliog diags A S M E Trans 80: 263-72; Discussion. 272-7 F '58
- Blade-vibration-damping device; its testing and a preliminary theory of its operation. R. A. Di Taranto, il diags J Ap Mech 25:21-7 Mr '58
- Combine brazing and hardening in one operation; General electric co. R. E. Wright, il Iron Age 182:80-1 JI 17 '58
- Eigenvector direction of turboblasting with lashing wire. M. M. Stanisic, diags J Aeronautical Sci 25:139-41 F '58
- Experimental investigation of the rotating stall in a single-stage axial compressor. J. Valensi, bibliog il diag J Aeronautical Sci 25:1-10+ Ja '58
- Extruded hub retains turbine blades. il Mach 64:163 JI '58
- Jet blades cut from solid. Steel 141:188 N 18 '57
- Liquid honing speeds precision finishing; titanium jet engine blades. T. M. Rohan, il Iron Age 181:108-9 F 6 '58
- Lowest natural frequency of an axial compressor blade. J. Dunham, diag Roy Aeronautical Soc J 62:67-81 S '58
- Milling jet-engine blades eighteen seconds per piece. C. O. Herb, il diags Mach 64: 121-5 Mr '58
- New machine whips contouring job; Lake shore industries, inc. il Steel 142:90-1 My 12 '58
- Pinch and roll cuts compressor blade cost. Product Eng 29:25 Je 2 '58
- Pinch and roll dies halve blade cost. A. Ashburn, il diags Am Mach 102:89-91 Je 2 '58
- Roll forming gets an assist; gas turbine blades. il diags Steel 142:70-1 Je 2 '58
- Shot peening improves jet blades. il Tool Eng 33:122 N '57
- Some investigations in the field of blade engineering. B. D. Blackwell, il diags Roy Aeronautical Soc J 62:633-46 S '58
- Some metallurgical aspects of the blade fatigue problem in aircraft gas turbines. K. B. Young, bibliog il diags Can Min & Met Bul 61:379-37 My '58
- Three-dimensional theory of axial compressor blade rows; application in subsonic and supersonic flows. J. E. McCune, bibliog diags J Aero/Space Sci 25:544-60 S '58
- Transonic flow field of an axial compressor blade row. J. E. McCune, bibliog diag J Aero/Space Sci 25:616-26 O '58

Control

- Pneumatic jet nozzle control. J. M. Stephenson, diags Aircraft Eng 30:44-5 F '58
- Selection of optimum modes of control for aircraft engines; abstracts. A. J. Sobey, Automotive Ind 118:72 My 1 '58; Aircraft Eng 30:241 Ag '58; S A E J 66:90-1 Ag '58
- Taming the supersonic turbojet. E. A. Simionis, diags Aviation Age 29:60-9 Ag '58

Design

- Computer used to survey surge line. D. W. Petersen, S A E J 66:33-5 Ja '58
- How do small gas turbines scale? D. P. Eakins, Aviation Age 30:38-9+ JI '58
- Performance and control of variable geometry aircraft inlets; abstract. J. H. Maravel and J. Lyttle, Aircraft Eng 30:238 Ag '58
- Turbojet-engine mechanical design for high Mach number flight. H. C. Schnitzer, diags Aero/Space Eng 17:35-9 S '58

Exhaust

- Approximation of the boundary of a supersonic axisymmetric jet exhausting into a supersonic stream. J. S. Love, J Aeronautical Sci 25:130-1 F '58
- Effects of jet blast and fuel spillage on bituminous pavements. W. J. Turnbull and C. R. Foster, il Am Soc C E Proc 83 [AT 2 no 1479]:1-13 D '57
- Exhaust nozzle contour for optimum thrust. G. V. R. Rao, bibliog diags Jet Propulsion 28:377-82 Je '58
- Exhaust nozzles for supersonic aircraft. H. Pearson, il diags Roy Aeronautical Soc J 62:658-62 S '58

GAS turbines, Aircraft—Exhaust—Continued

Pneumatic actuator best for 600 deg F; for jet engine exhaust nozzles and thrust reversers. R. C. Schimmel. *il diags Aviation Age* 30:112-16 S '58
 Review of the performance of exhaust systems for gas-turbine aero-engines. P. F. Ashwood. *bibliog il diags Inst Mech Eng Proc* 171 no 3:129-44; Discussion. 144-54; Reply. 155-8 '57

Fuel

Airlines hike jet-fuel demand. *Oil & Gas J* 56: 65 J1 '58
 Analysis of fuel-oxidant mixing in screaming combustors. W. R. Mickelsen. *bibliog diags Jet Propulsion* 28:172-7 Mr '58
 Effects of jet blast and fuel spillage on bituminous pavements. W. J. Turnbull and C. R. Foster. *il Am Soc C E Proc* 83 [AT 2 no 1479]:1-13 D '57
 Fire hazards of jet aircraft fuels. *Safety Maint* 115:35-6 My '58
 Influence of pressure on the combustion of liquid spheres. G. A. Agostoni and others. *bibliog il diags Jet Propulsion* 28:181-8 Mr '58
 Jet engines ask still more of fuels. E. A. Droegemuller and R. K. Nelson. *S A E J* 66:48-9 Je '58; Abstract. *Aircraft Eng* 30: 239 Ag '58
 Safe storage for liquid fuels. G. Michael. *il Power Ind* 74:16-17 Ag '58

Fuel feeding

Erosion in turbojet fuel nozzles; Battelle memorial institute, radiochemical techniques. H. R. Hazard and others. *il diags Mech Eng* 80:58-60 O '58
 Fuel systems for supersonic engines. E. A. Simonis. *diags Roy Aeronautical Soc J* 62: 654-8 S '58

Lubrication

Developments in aircraft turbine lubricants. K. L. Berkey. *diags S A E J* 66:60-3 Ap '58; Abstract. *Aircraft Eng* 30:239 Ag '58
 New lubes for the jet age. *il Chem & Eng N* 35:53 N 13 '57
 Synthetic lube market growing. *Chem & Eng N* 36:36 S 15 '58

Maintenance and repair

Capital's approach to the overhaul and maintenance of the Viscount-installed Rolls-Royce engine; abstract. J. B. Franklin. *il Mech Eng* 79:1125-6 D '57

Manufacture

Automatic welding of aircraft accessory turbine wheels. A. J. Rosenberg and E. W. Jamison. *il diags Welding J* 37:328-35 Ap '58
 Barrel finishing operation improves fatigue strength of jet engine parts. J. D. Marble and C. V. Ruehrwein. *il Tool Eng* 39:99-101 N '57
 Contour-grinding of compressor vanes for the Pratt & Whitney J-75 turbo-jet engines. C. H. Wick. *il diags Mach* 64:120-7 J1 '58
 Erector set method of fabricating master tubes. *il Mach* 64:140-1 F '58
 Fabricating titanium cases for jet engine compressors. *il Automotive Ind* 119:52-4 Ag '58
 Plasma welding of titanium in jet-engine applications. H. W. Hoefer. *il diags Welding J* 37:467-77 My '58
 Heating technique minimizes distortion; process for hardening large gas turbine parts of Chromalloy steel. R. E. Wright and C. Schulenberg. *il Steel* 142:102-3 My '58
 High-temperature vacuum brazing of jet-engine materials. E. G. Huschke, Jr. and G. S. Hoppin. *3d. il Welding J* 37:sup233-40 My '58
 Metallizing and its application in aircraft gas-turbine components. D. E. Hacker. *il diags Welding J* 37:231-6 Mr '58
 New extrusion; fabrication process reduces jet engine parts costs. N. J. Feola. *il diags S A E J* 66:32-6 F '58; Same. *Iron Age* 181: 96-8 Mr 27 '58; Same cond. *Tool Eng* 40: 203-5 Je '58
 Orenda engines ltd; Iroquois turbojets for supersonic era. *il Chem & Ind p* 1046-7 Ag 16 '58
 Revised welding practices pay off in the jet-engine industry. F. J. Bacon. *il Welding J* 37:124-6 F '58
 Shop shots at Lycoming; turbine case for jet engine; illustrations with text. *Am Mach* 102:154-6 Mr 10 '58

Tape guides jet engine boring; General Electric. *il Steel* 141:112 D 2 '57
 Three-dimensional contour miller chamfers jet-engine blade roots. *il diags Am Mach* 102:128 Ap '58
 Unusual air conditioning system meets exacting tolerances; General electric co. Aircraft gas turbine div. plant. C. F. Mowrey. *diags Heating-Piping* 30:130-1 My '58

Model testing

Flow visualisation techniques applied to combustion problems through transparent models, in which water takes the place of air. E. F. Winter. *il diags Roy Aeronautical Soc J* 62:268-76 Ap '58

Noise

Analysis of fuel-oxidant mixing in screaming combustors. W. R. Mickelsen. *bibliog diags Jet Propulsion* 28:172-7 Mr '58
 Jet engine noise reduction; abstract. N. D. Sanders and W. J. North. *Aircraft Eng* 30:234 Ag '58
 Some thoughts on noise suppression nozzle design; abstract. E. J. Richards. *Aircraft Eng* 30:234 Ag '58

Performance

Reynolds number effect on small-engine compressor performance. F. E. Lenherr. *bibliog J Aero/Space Sci* 25:597-8 S '58

Specifications

Aircraft gas turbines specifications, 1958; tables. *Automotive Ind* 118:254-7 Mr 15 '58

Starting

Gas-turbine starters and power units; Blackburn and general aircraft ltd. *il diags Engineering* 185:667-8 My 23 '58
 Starter for turbo-engines. *il Product Eng* 29:66 F 3 '58

Testing

Advanced test equipment in Continental's new laboratory. *il Automotive Ind* 118:54-6 Ap 1 '58
 Altitude test facility at Orenda engines, ltd. P. K. Peterson. *flow diags plans diags Eng J* 41:48-59+ Mr '58
 Erosion in turbojet fuel nozzles; Battelle memorial institute, radiochemical techniques. H. R. Hazard and others. *il diags Mech Eng* 80:58-60 O '58
 Experimental investigation of the rotating stall in a single-stage axial compressor. J. Valensi. *bibliog il diags J Aeronautical Sci* 25:1-10+ Ja '58
 Gyroscopic loading tests on a gas-turbine rotor. W. K. Wilson and W. J. Harris. *diags Inst Mech Eng Proc* 171 no 27:777-99, pl 1-14; Discussion. 791-3; Reply. 793-4 '57
 Laboratory methods of measuring thrust. P. N. Rowe. *bibliog diags Engineer* 205:964-7; 206:4-6 Je 27-J1 4 '58
 New explosive-mixture detector safeguards engine tests. R. E. Gorton and G. J. Lyons. *il S A E J* 6:31-5 Ag '58
 Recent advances in oscillographic measurement. R. H. Cerni. *il diags Instruments & Automation* 31:842-5 My '58
 Simple method of estimating the Reynolds number effects on aircraft gas-turbine engines operating at high altitudes. R. W. Finnes. *A S M E Trans* 80:1264-72 Ag '58
 Strain gages for jet engine research. R. H. Kemp. *il diags Electronic Ind* 17:52-7+ My '58
 Testing jet engine components; air supply aids research; Aircraft gas turbine div. of General electric co. R. W. Sapora. *il diags Comp Air Mag* 62:339-41 N '57
 Turbine engine in salt atmosphere operation. F. H. Sharp. *il Aeronautical Eng R* 17:47-9+ Ja '58

Thrust augmentation

Hydrogen peroxide injection boosts jet thrust 120 per cent. L. E. Varadi. *diags Aviation Age* 29:54-8 Je '58

Thrust reversers

Control systems for thrust reversal; abstracts. J. Burnett and D. Moses. *diags S A E J* 66:38-9 J1 '58; *Aircraft Eng* 30:239-40 Ag '58
 Pneumatic actuator best for 600 deg F; for jet engine exhaust nozzles and thrust reversers. R. C. Schimmel. *il diags Aviation Age* 30:112-16 S '58

GAS turbines, Aircraft—Continued**Vibration**

Blade-vibration-damping device; its testing and a preliminary theory of its operation. R. A. Di Taranto. *Il diags J Ap Mech* 25:21-7 Mr '58

GAS turbines, Automotive

Allis-Chalmers tests experimental gas turbine tractor. *Il Diesel Power* 36:89 J1 '58

Big step closer to auto gas turbine. *Il Product Eng* 29:24 My '58

Characteristics and advantages of free piston engines. A. F. Underwood. *diags Product Eng* 28:H4-7 Mid-O '57

Evaluation of the future of Diesels, free-piston engines, piston engines, gas turbines. C. G. A. Rosen. *S A E J* 66:38-40 Mr '58

Experimental tracer is turbine powered. *Il Eng N* 160:57 Je 12 '58

Free-piston engine powerplant with a future. C. E. Wise. *Il diags Machine Design* 30:22-4 Ja 23 '58

Gas turbine powers futuristic Firebird III. *Il Oil & Gas J* 56:117 S 15 '58

General design considerations for smaller gas turbines. W. T. Von Der Nuell. *Il diags A S M E Trans* 80:941-57 bibliog(p956-7); Discussion. 957-8 My '58

Turbine autos shift chemical needs. H. W. Zabel and R. Williams, jr. *Pet Refiner* 37:141-2 J1 '58

Turbine-powered car might win at Indianapolis. L. H. Williams. *Il diags S A E J* 66:41-4 Ja '58

Turbines for vehicles. F. J. Wallace and B. C. Lovatt. *Engineer* 205:466-7 Mr 28 '58

See also**Locomotives, Gas turbine****GAS turbines, Marine**

Free-piston engine powerplant with a future. C. E. Wise. *Il diags Machine Design* 30:22-4 Ja 23 '58

Gas-turbine engine for ships; abstract. F. H. Van Nest. *Franklin Inst J* 265:472 Je '58

Gas turbine ship John Sergeant. *flow diag Il Engineer* 204:542-5 O 11 '57

Lightweight marine gas turbines. A. W. Pope. *Il Engineer* 205:92-4 Ja 17 '58; Abstract. *diag Engineering* 185:93-4 Ja 17 '58

Marine propulsion research; Parsons and marine engineering turbine research and development association progress report for 1956. *Il Engineer* 204:844-5 N 1 '57

Navy gas-turbine, hydrofoil craft. *Il diag Marine Eng/Log* 63:85 Ap '58

Pametrada annual report. *Il Engineer* 206:141-2 J1 25 '58

Technical progress in marine engineering during 1957; gas turbines. *Am Soc Naval Eng J* 70:250-2 My '58

Turbines are tops for small boat power; abstract. J. S. Pasman. *S A E J* 66:124+ J1 '58

Bibliography

Marine gas turbine, free piston gas turbine bibliography. J. W. Sawyer. *Am Soc Naval Eng J* 70:159-69 F '58

Testing

Shipboard gas-turbine engine tests. P. W. Pichel and others. *Il diag Mech Eng* 79:1119-22 D '57

GAS receivers

Blowdown and charging processes in a single gas receiver with heat transfer. W. C. Reynolds and W. M. Kays. *Il diags A S M E Trans* 80:1160-8 J1 '58

GAS water heaters

How much gas to heat water? data sheet. M. Savage, jr. *Heating-Piping* 30:125 Ag '58

Modern appliances require new methods of determining home hot water needs. J. J. McKearin. *Il Gas Age* 120:22-3 N 14 '57

Southern concrete co. heats its water with LP-gas. *Il Concrete* 66:29 S '58

Renting

In Indianapolis, commercial gas water heater rental program is big business; Citizens gas and coke utility. *Il Gas Age* 120:17-18+ D 12 '57

Tampa Gas commercial water heater rental brings in five contracts in first week. J. W. Owen. *Il Gas Age* 120:28 D 12 '57

Testing

American-Standard water heater passes rigorous 30-minute test. *Il Gas Age* 121:22 F 6 '58

GAS well protection. See Coal mines and mining—Gas well protection

GAS works

South western gas board; Exeter works. *Il Chem & Ind* p197-8 Je 28 '58

Equipment

Shellhaven-Romford gas pipeline. *Il Engineer* 205:216-17 F 7 '58

Experimental plants

Midlands gas research station. *Il diag Engineer* 205:588-9 Ap 18 '58

Towards cheaper and better gas. *diags Engineering* 185:533-4 Ap 25 '58

Load

Meteorology as a factor in gas-load dispatching. J. R. Murray and D. W. Trettel. *Gas Age* 121:34-7 F 6 '58

Peak load

Computed flow telemetering; United gas improvement co. peak-shaving operations. *Il map Gas* 34:38 Ap '58

Socal's Ducommun Street station; new look in peak load compression. W. H. Krammes and H. C. Vander Heyden. *Il Gas Age* 122:36-40+ O 16 '58

See also

Gas, Natural—Peak load

GASEOUS ionization. See Ionization, Gaseous

GASES

Adsorption of activated gases by electron bombardment. D. G. Bills and N. P. Carleton. *bibliog J Ap Phys* 29:632+ Ap '58

Application of vacuum ultra-violet techniques to the continuous monitoring of trace concentrations of water in several gases. W. R. S. Garton and others. *bibliog Il diags J Sci Instr* 34:496-500 D '57

Applied hydrocarbon thermodynamics; isentropic exponents for gases. W. C. Edmister. *bibliog diag Pet Refiner* 37:153-62 J1 '58

Calculation of virial and Joule-Thomson coefficients at extremely high temperatures. E. A. Mason and J. T. Vanderslice. *bibliog Ind & Eng Chem* 50:1033-5 J1 '58

Commercial markets using radioactive gases; abstract. C. W. Wallhausen. *Metal Prog* 73:202+ Jw '58

Concentration of gases and vapors; nomograph; data sheet. M. H. Green. *Power* 102:109 Ag '58

Development of an occluded-gas ion source. K. W. Ehlers and others. *bibliog Il diags R Sci Instr* 29:614-19 J1 '58

Diffusion of gases in porous media. R. F. Dye and J. M. Dallavalle. *bibliog diags Ind & Eng Chem* 50:1195-200 Ag '58

Diffusive separation of gas mixtures in flow fields. V. C. Liu. *bibliog J Ap Phys* 29:1189-9 Ag '58

Drying of gases with activated alumina. A. W. Miller and C. W. Roberts. *bibliog diag Ind Chem* 34:141-5 Mr '58

Effect of adsorption in barrier separation. K. Kammermeyer and D. D. Wyrick. *bibliog Ind & Eng Chem* 50:1309-10 S '58

Effect of gas properties on the heat transfer in stagnation flows. I. E. Beckwith. *J Aero/Space Sci* 25:533-4 Ag '58

Effect of molecular vibration on recovery temperature in plane Couette flow. H. T. Yang. *J Aeronautical Sci* 24:911-12 D '57

Effects of high-conductivity gases on the thermal conductivity of insulating refractory concrete. J. F. Wygant and M. S. Crowley. *bibliog diags Am Cer Soc J* 41:183+ My '58

Electricity directly from gas? diags *Pet Eng* 30:D42+ Ap; C30 My '58

Emission of light from electric discharges of microsecond durations in gases at atmospheric pressure. D. P. C. Thackeray. *bibliog Il J Sci Instr* 35:26-103 Je '58

Estimate low-pressure gas viscosity. W. R. Gambill. *bibliog Chem Eng* 65:169-72 S 22 '58

Field method finds arc-formed gas in oil-filled transformers. D. Harrison. *Il diag Elec World* 150:94 Ag 4 '58

Formation of negative ions in gases by secondary collision processes. E. E. Muschitz, jr. *bibliog diag J Ap Phys* 28:1414-18 D '57

Fracture of glass under various liquids and gases. C. J. Culf. *Glass Ind* 39:103-4 F '58

Gas transfer to and from aqueous solutions. T. R. Camp. *bibliog Am Soc C E Proc* 84 [SA 4 no 1701:1-11 J1 '58]

Gases in marine sediments. K. O. Emery and D. Hoggan. *bibliog Il map diag Am Assn Pet Geologists Bul* 42:2174-88 S '58

GASES—Continued

- Gases lead expansion parade, *Chem & Eng N* 36:24-5 Ag '58
- Generalized equation of state for gases and liquids, J. O. Hirschfelder and others, *bibliog diags Ind & Eng Chem* 50:376-85 Mr '58
- Generalized thermodynamic excess functions for gases and liquids, J. O. Hirschfelder and others, *Ind & Eng Chem* 50:386-90 Mr '58
- Handling and dispensing materials; liquids are metered; cylinder banks feed gases, *il Plant Eng* 12:135-6 Mr '58
- Heat transfer to a gas-phase chemical reaction, W. Schotte, *bibliog diags Ind & Eng Chem* 50:633-90 Ap '58
- High dielectric gas in vapor cooled transformer, *flow diag Elec Manuf* 61:118 Ja '58
- Hot gas servos will meet future high performance needs, V. DeBiasi, *diags Space/Aeronautics* 30:75-80+ O '58
- How T and P change gas viscosity, W. R. Gambill, *bibliog Chem Eng* 65:157-62 O 20 '58
- Increase of surface tension of certain solutions when brought into contact with hot gases, N. Skogen, *il Am J Phys* 26:25-7 Ja '58
- Intrinsic bulk viscosity in monatomic and diatomic gases, R. E. Nettleton, *bibliog (34 ref) J Ap Phys* 29:204-12 F '58
- Ionizing shock waves in monatomic gases, W. J. Guman, *bibliog J Ap Phys* 29:109 Ja '58; Correction, 29:873-4 My '58
- Iterative method of determining equilibrium compositions of reacting gases, S. T. Chu, *Jet Propulsion* 28:252-4 Ap '58
- Landfill gas burned for odor control, W. L. Dunn, *il Civil Eng* 27:790-1 N '57
- Mass-transfer cooling of a laminar boundary layer by injection of a light-weight foreign gas, E. R. G. Eckert and others, *bibliog Jet Propulsion* 28:34-9 Ja '58
- Nuclear plate camera for angular distribution measurements with gaseous or solid targets over a wide range of angles, W. M. Jones and D. G. Waters, *diags J Sci Instr* 35:236-8 Ag '58
- Pvt behavior for similar gases, S. R. Darin and others, *bibliog Oil & Gas J* 56:105-6 Je 16 '58
- Problem concerning the Gibbs paradox, M. J. Klein, *Am J Phys* 26:30-1 F '58
- Rate of heat transfer in liquids with gas injection through the boundary layer, E. E. Gose and others, *J Ap Phys* 28:1509 D '57
- Recent advances in real gas effects in hypersonic flow, W. C. Griffith, *bibliog Jet Propulsion* 28:157-9 Mr '58
- Sentfleben method for the determination of the heat conductivity, the specific heat, and the viscosity of gases, S. Arajs and S. Legvold, *J Ap Phys* 29:1001 Je '58
- Solubility, entropy and partial molal volumes in solutions of gases in non-polar solvents, J. E. Jolley and J. H. Hildebrand, *bibliog Am Chem Soc J* 80:1050-4 Mr '58
- Solubility of solids in gases, G. W. Morey, *diags Econ Geol* 52:225-51 *bibliog (p249-51) My '57*; Discussion, F. G. Smith and R. E. Jones, 53:340-8; Reply, 348-9 My '58
- Stability studies with longitudinal magnetic field on a straight pinched discharge, L. C. Burkhardt and others, *bibliog il J Ap Phys* 29:964-7 Je '58
- Using contact resistance to measure adsorption of gases on metals, P. Kisliuk, *bibliog diags Bell System Tech J* 37:925-49 Jl '58
- Viscosities of gases at high pressures, J. F. Ross and G. M. Brown, *bibliog il diag Ind & Eng Chem* 49:2026-33 D '57
- Viscosity-reduced state correlation for diatomic gases, W. J. Brebach and G. Thodos, *bibliog Ind & Eng Chem* 50:1095-100 Jl '58

See also

Absorption
Adsorption
Aerodynamics
Air
Ammonia
Boyles law
Bubbles
Chlorine
Coke oven gas
Electric discharges
Equation of state
Fire damp
Flue gas
Furnaces, Carburizing—Atmosphere control
Gas analysis
Glass—Gas content
Helium

Hydrogen
Inflammable mixtures
Ionization, Gaseous
Joule-Thomson effect
Methane
Neon
Nitrogen
Oxygen
Van der Waals forces
Vapor pressure
Vaporization
Vapors

Apparatus

- Apparatus for precision flash radiography of shock and detonation waves in gases, H. T. Knight and D. Venable, *bibliog il diags R Sci Instr* 29:92-8 F '58
- Ballistic piston for investigating gas phase reactions, P. A. Longwell and others, *bibliog il diags Ind & Eng Chem* 50:603-10 Ap '58
- Constant pressure method for determining α - β relations of gases, L. Luft, *bibliog diags Ind & Eng Chem* 49:2035-9 D '57
- Cooling system for gas target entrance windows, M. J. Scott and R. Lindgren, *diag R Sci Instr* 28:1090-1 D '57
- Determination of gas space in pulverant solids, D. Scott and F. E. Hammer, *diag R Sci Instr* 28:492-3 S '58
- Gas analyzers aid process control, *Chem & Eng N* 36:72 S 15 '58
- Gas target and nuclear plate camera, D. L. Booth and others, *il diag J Sci Instr* 35:24-6 Ja '58
- High-current gas target, used with a large Van de Graaff accelerator, R. Nobles, *diags R Sci Instr* 28:962-3 N '57
- High temperature thermal conductivity cell, H. R. Felton and A. A. Buehler, *diags Anal Chem* 30:1163 Je '58
- Injecting trace impurities into a gas stream, Hersch and J. E. Whittle, *diags J Sci Instr* 35:32-3 Ja '58
- Measurement of dust concentration in gases, *il Engineer* 205:364 Je 6 '58
- Modified form of the constant volume gas analysis apparatus, W. J. Gooderham, *bibliog diags Chem & Ind p* 1505-7 N 16 '57
- Phase equilibria in natural gas systems; apparatus with windowed cell for 800 p.s.i.g. and temperatures to -320°F, L. W. Brandt and L. Stroud, *bibliog il diags Ind & Eng Chem* 50:849-52 My '58
- Process analysis by thermal conductivity, R. F. Wall, *diags Ind & Eng Chem* 50:sup69A-70A My '58
- Sonic gas analyzer for measurement of CO₂ in expired air, F. D. Stott, *diags R Sci Instr* 28:914-15 N '57
- Vacuum fusion apparatus for gas analysis, F. D. Blake, *bibliog diag Iron & Steel Inst J* 188:261-4 Mr '58

See also

Absorption apparatus
Gas compressors
Manometers
Scrubbers

Liquefaction

- Gas liquefaction; Norelco gas liquefier, *il Mech Eng* 80:91 F '58
- Reciprocating expansion engine can generate super cool temperatures, W. A. Moran, *il diags Plant* 17:37-9 Je '58; Same, with tables, *Iron & Steel Eng* 35:130+ Je '58

See also

Gas, Natural—Liquefaction

Moisture content

- Dew point gives moisture content of gases, W. H. Fischer, *Chem Eng* 65:178 My 19 '58

GASES, Asphyxiating and poisonous

- Alarms and analyzers for nerve gas vapors, R. H. Cherry and others, *bibliog il diags Anal Chem* 30:1239-47 Jl '58
- Safety's better than nerve in making nerve gas, B. M. Baird, *il Safety Maint* 114:23-4+ O '57

- Testing the underground air, A. F. Cascioli, *il Safety Maint* 114:44-7+ O '57

See also

Carbon monoxide
Hydrogen sulfide

GASES, Compressed

- Pressure packaging with compressed gas propellants, M. J. Root, *diag Soap & Chem Spec* 34:77+ Jl '58

- Principles of gas compression, J. M. Campbell, *diags Oil & Gas J* 56:122-3 Je 16 '58

GASES, Compressed—Continued

Thermal conductivity of nitrogen at high temperatures and pressures, P. Johannin and B. Vodar, *bibliog* *il diag Ind & Eng Chem* 49:2040-1 D '57

See also

Gas, Natural—Compression

GASES, Liquefied

Cryogenics; big new market for aluminum, D. Fabun, *il Mod Metals* 14:54-8+ Ag '58
New applications of cryogenics causes Linde to expand facilities, P. M. Riede, *il Ind Lab* 9:75 S '58

See also

Helium, Liquid
Liquefied petroleum gas
Nitrogen, Liquid

GASES, Rare

Glass circulating pump for obtaining noble gases of high purity, W. R. Bennett, jr., *diags R Sci Instr* 28:1092-3 D '57
Inert gas speeds polymerization; abstract, D. C. B. Jewell and others, *Chem & Eng N* 36:55 S 22 '58
Mechanism of cataphoretic segregation in inert gas glow discharges, L. B. Loeb, *bibliog J Ap Phys* 29:1369-71 S '58
Wavelength-shifter efficiencies for noble gas scintillators, J. A. Northrop, *bibliog diag R Sci Instr* 29:437-8 My '58

See also

Argon
Zenon

GASKETS

Behaviour of compressed asbestos-fibre gaskets in narrow-faced, bolted, flanged joints, M. B. Donald and J. M. Salomon, *bibliog diag Inst Mech Eng Proc* 171 no 31:829-33; Discussion, 859-69 '57
Closure for aircycle, internal window, W. Rose, *diags R Sci Instr* 29:797 S '58
Cork gaskets have good oil resistance, *il Materials in Design Eng* 48:138+ JI '58
Effects of medium on materials; tables, *Product Eng* 29:C8-9 Mid-S '58
How to design for tight sealing by specifying the correct flange pressures in gasketed joints, E. M. Smoley, *diags Machine Design* 30:133-7 Je 12 '58
New gasket material made; silicone rubber, *il Electronics* 31:21 JI 25 '58
New resistant gaskets end sealing problems, E. G. Staples, *il Chem Eng* 65:180+ O 20 '58
New tool for use in selecting the right gasket, E. M. Smoley, *diag S A E J* 66:76-8 My '58; Same cond. *Product Eng* 29:72-3 Mid-S '58
What a gasket is and how it works; types, materials, construction, etc. R. Cannon, *il diags Pet Processing* 12:96-110 Mr '57; Excerpt, *Product Eng* 28:F 10-13 Mid-O '57

GASOLINE

Combustion of liquid hydrocarbon fuels for oxygen cutting, D. K. Huu and others, *bibliog il diag Welding J* 37:sup 101-6 Mr '58
Esso perfects new gas designed to cut down engine deposits, *Oil & Gas J* 56:103 My 19 '58
Gasoline inexpensive on ton-mile basis, *il Pet Refiner* 37:255-6 JI '58
Hydrocracking an aromatic extract to naphthalene and 10-octane gasoline, A. K. Roebuck and B. L. Evering, *bibliog Ind & Eng Chem* 50:1135-8 Ag '58
Looking ahead in fuels for automotive transportation, J. M. Campbell, *S A E J* 65:41-52 D '57
Military expects to buy less fuel after 1959; abstract, O. P. Lattu, *Pet Refiner* 37:182 Mr '58
New gasoline rust inhibitor, R. M. Pines and J. D. Spivack, *bibliog il Pet Eng* 29:C 18-20 N '57
Phosphorous additive combats rumble, *Oil & Gas J* 56:50 JI 21 '58
Separation of 132° to 138°C. fraction of petroleum; bicyclopentadienes in gasoline fraction of petroleum, B. J. Mair and others, *bibliog diag Anal Chem* 30:393-400 Mr '58
Vapor pressure trending upward, T. W. Legatski and others, *Oil & Gas J* 56:93+ F 3 '58
See also
Airplane engines—Fuel
Automobile engines—Fuel
Motor boat engines, Outboard—Fuel
Petroleum refining

Analysis

Colorimetric determination of phosphorus in gasoline containing tritoly phosphate, F. K. Hoffman and others, *Anal Chem* 30:1334-6 Ag '58
Direct determination of isoparaffins and n-paraffins in olefin-free gasoline by mass spectrometer, W. C. Ferguson and H. E. Howard, *bibliog Anal Chem* 30:314-17 Mr '58
Gas chromatography of olefins; determination of pentenes and hexenes in gasoline, H. S. Knight, *bibliog Anal Chem* 30:9-15 Ja '58
Mass spectrometer-type analysis for olefins in gasoline, L. Mikkelsen and others, *bibliog Anal Chem* 30:317-21 Mr '58
Reactivity intercept-density chart for the determination of total naphthenes in gasoline, S. Groennings, *bibliog A S T M Bul* p64-7 Ja '58

Anti-knock and anti-knock mixtures

Annual octane rise of .4 seen, C. J. Wolf and A. Cole, *Oil & Gas J* 56:102 Ag 21 '58
Anti-knock action of lead tetraethyl; abstract, A. D. Walsh, *Chem & Ind* p 1531 N 23 '57
AK-33X, help for the motorist, *Ind & Eng Chem* 50:sup28A-30A Mr '58
Breather in octanes? *Oil & Gas J* 56:112-13 Ag 18 '58
Canada threatens U.S. octane lead, *Oil & Gas J* 56:54 JI 21 '58
Competition, Detroit pushing refiners, *Oil & Gas J* 56:76-7 Mr 3 '58
Detroit is talking of 17:1 ratios, *Oil & Gas J* 56:62-4 Je 16 '58
First birthday for Canadian-made TEL, *il diag Can Chem Process* 41:72-3+ D '57
Forecast; still higher octane, *Oil & Gas J* 56:172-3 Ja 27 '58
Fundamental research on the anti-knock properties of pure hydrocarbons and their blends, L. C. Beard, jr., *bibliog Oil & Gas J* 55:233-4+ N 18 '57
How do mixtures affect knock ratings? E. J. Y. Scott, *bibliog Pet Refiner* 37:191-200 My '58
How much TEL per gallon, W. L. Nelson, *Oil & Gas J* 56:127 F 17 '58
How octane numbers have been improved, W. L. Nelson, *Oil & Gas J* 55:194 N 11 '57
Manganese; gasoline antiknock, R. J. Riggs and others, *Oil & Gas J* 56:107-11 My 12 '58; Same cond. *Pet Refiner* 37:131-6 JI '58
New additive looks commercial, *Oil & Gas J* 56:96 Ap 21 '58
New organometallic antiknock discovered; methyl cyclopentadienyl manganese tricarbonyl, *Pet Refiner* 37:312-4 My '58
1959 cars; more power and gadgets, map *Oil & Gas J* 56:76-8 Ag 11 '58
Octane increased by fuel injection in tests, *Oil & Gas J* 56:30 Ja 20 '58
Octane numbers; laboratory and road rating methods and their practical significance, K. Arter, *il Automobile Eng* 48:338-40 S '58
Octane predictions of road numbers can be made from research and motor numbers, W. E. Morris, *S A E J* 66:34 Ap '58
Octanes pay off in miles, E. V. Murphree and others, *Oil & Gas J* 56:97-8 Ap 21 '58
Octanes up again in 1957, *Oil & Gas J* 56:80-1 Ja 6 '58
Octanes, ways to increase them; abstract, D. Read and others, *Oil & Gas J* 56:119-20 My 19 '58
Role of physical factors in knock; abstracts, E. B. Rifkin, *Pet Refiner* 37:200 My '58; *Pet Eng* 30:C9 Je '58
Smog chamber studies of unleaded vs. leaded fuels, F. V. Morris and others, *bibliog Ind & Eng Chem* 50:673-6 Ap '58
Using Cs aromatics to get octanes? D. V. Trew and J. W. Howells, *Pet Refiner* 37:137-9 JI '58

Anti-oxidants

Colour formation with para phenylene diamine inhibitors, G. E. Mapstone and A. Hay, *Inst Pet J* 44:257-8 Ag '58

Blending

Alkylate scarcity squeezes refiners, *Oil & Gas J* 56:49-50 Ag 4 '58
Behavior of blends of pure hydrocarbons in cool flame as related to their deviation from linear blending on the performance-number scale; abstract, C. E. Boord and others, *Pet Refiner* 37:200 My '58
Blending pattern evolves; abstract, L. C. Beard, jr., *Oil & Gas J* 55:144 N 18 '57

GASOLINE—Blending—Continued

- How do mixtures affect knock ratings? *E. J. Y. Scott*, bibliog *Pet Refiner* 37:191-200 My '58
- Manganese; gasoline antiknock. *R. J. Riggs* and others. *Oil & Gas J* 56:107-11 My '58
- Same cond. *Pet Refiner* 37:131-6 JI '58
- Optimum nonlinear gasoline blending on the IBM 650 computer. *F. R. Dornheim* and *B. T. Borgerson*, bibliog *diag Oil & Gas J* 56:91-7 My '58
- Sohio's new Toledo refinery; gasoline-blending facilities were especially tailored. *il diag Oil & Gas J* 56:102-3 Je '58
- They use automatic gasoline blending; Standard oil co. of Ohio. *H. D. Applequist* and *J. E. Krebs*, *il diags Pet Refiner* 37:347-50 S '58
- What is linear programming? *R. L. McIntire*. *Oil & Gas J* 55:121 N 25 '57

Evaporation losses

- Cone-roof tankage to store gasoline with negligible vapor losses. *E. W. Wilson*, *diag Oil & Gas J* 56:222+ Ag '58

Manufacture

- Airlift Thermoform catalytic cracking; Socony mobil oil co. *diag Pet Eng* 30:C61-2 F '58
- Airlift TCC; Thermoform catalytic cracking process; Socony mobil oil co. *flow diag Pet Refiner* 37:232-3 S '58
- Alkylation is swinging to motor fuel. *C. A. Umbach, jr.* *Pet Refiner* 37:233-4 Ja '58
- Alkylation; what you should know about this process. *R. E. Payne*, bibliog *flow diags Pet Refiner* 37:316-29 S '58
- Aluminum chloride alkylation; Phillips petroleum co. *flow diag Pet Refiner* 37:253 S '58
- Bulk acid polymerization; California research corp. *flow diag Pet Refiner* 37:267 S '58
- California polymerization; California research corp.; Hydrocarbon research, inc. *flow diag Pet Refiner* 37:268 S '58
- Cascade sulfuric acid alkylation; *M. W. Kellogg co.* *flow diag Pet Refiner* 37:254 S '58
- Cat cracker sets challenges; Tidewater Oil's giant Orthoflow fluid catalytic cracking unit; process flowsheet. *C. H. Chilton*, *il Chem Eng* 65:120-3 O 6 '58
- Catforming, *diag Pet Eng* 30:C47-8 Ja '58
- Catforming; Atlantic refining co. *Pet Refiner* 37:217 S '58
- Coker-cracker combo solves refining riddle; Pontiac eastern corp. *il diag Chem Eng* 65:64+ Ap 21 '58
- Cycloversion; Phillips petroleum co. *Pet Refiner* 37:218 S '58
- Effluent refrigeration alkylation; Stratford engineering corp. *flow diag Pet Refiner* 37:255 S '58
- Engineering aspects of a Houdriflow pilot plant; Sun oil co. *R. E. Ledley, jr.* and *W. B. Patterson, jr.* *il diags Chem Eng Prog* 54:71-3 S '58
- Figure cost of getting octanes. *W. J. Service* and others, bibliog *flow diag Pet Refiner* 37:181-8 Ap '58; Same *abr. Oil & Gas J* 56:90-8 Ap 14 '58
- Finishing process looks good; abstract. *B. S. Bailey* and *N. Albert*, *il Oil & Gas J* 56:115 S 15 '58
- Fluid catalytic cracking, Orthoflow; *M. W. Kellogg co.* *flow diag Pet Refiner* 37:238-9 S '58
- Fluid hydroforming; Esso research and engineering co. *flow diag Pet Refiner* 37:228-9 S '58
- Gasoline from a liquid poly catalyst. *E. D. Kane* and *G. E. Langlois*, *diag Pet Refiner* 37:173-6 My '58; Abstract. *Pet Eng* 30:C7 Je '58
- HF alkylation, Perco; Phillips petroleum co. *flow diag Pet Refiner* 37:257 S '58
- HF alkylation; Universal oil products co. *flow diag Pet Refiner* 37:256 S '58
- Houdriflow and Houdresid; Houdry process corp. *flow diag Pet Refiner* 37:242-3 S '58
- Houdriflowing; Houdry process corp. *Pet Refiner* 37:219 S '58
- Iso-Plus Houdriflowing; Houdry process corp. *flow diag Pet Refiner* 37:224-5 S '58
- Low-cost alky-system denoparizer. *W. O. Webber*, *flow diags il Oil & Gas J* 56:139+ F 24 '58
- Octafining, new process for isomers. *diag Pet Refiner* 37:208+ Ag '58
- Pentafining; Atlantic refining co. *flow diag Pet Refiner* 37:266 S '58
- Platforming; Universal oil products co. *Pet Refiner* 37:220 S '58
- Polyco catalytic polymerization; *M. W. Kellogg co.* *flow diag Pet Refiner* 37:269 S '58

- Powerforming; Esso research and engineering co. *Pet Refiner* 37:221 S '58
- Quality of reformat from typical crude oils; charts. *W. L. Nelson*. *Oil & Gas J* 56:113 F 3 '58
- Reforming. *flow diag Pet Refiner* 37:215-16 S '58
- Reforming studies with molybdena-alumina catalyst. *J. L. Wilson* and *M. J. Den Herder*, bibliog *Ind & Eng Chem* 50:305-8 Mr '58
- Rexforming; Universal oil products co. *flow diag Pet Refiner* 37:226-7 S '58
- SBK catalytic reforming; *M. W. Kellogg co.* *Pet Refiner* 37:222 S '58
- Solid phosphoric acid condensation; Universal oil products co. *flow diag Pet Refiner* 37:270 S '58
- Spend octane dollars on today's know-how. *C. J. Wolf* and *C. A. Cole*, *Chem Eng* 65:7+ O 20 '58
- Thermal reforming; Universal oil products co. *flow diag Pet Refiner* 37:230 S '58
- Trends in the production of high quality motor fuels; abstract. *D. Read* and others. *Pet Refiner* 37:176 My '58
- Trends in the production of high-quality motor fuels; abstract. *M. J. Sterba* and others. *Pet Eng* 30:C7-8 Je '58
- Ultraforming; Standard oil co. (Indiana). *diag Pet Refiner* 37:223 S '58
- Useful tips on refining problems; cat reforming and desulfurization; panel discussion. *diags Oil & Gas J* 56:115-22 My 5 '58
- Where gilsonts becomes a premium motor fuel. *D. H. Stormont*, *il diag Oil & Gas J* 55:98-100 N 25 '57

See also**Alkylation****Gasoline, Natural—Manufacture****Price cutting**

- Good-faith price cuts upheld by Supreme court in second ruling in Detroit case. *Oil & Gas J* 56:70 F 3 '58
- Good faith revived; Supreme court ready to hear new arguments on price-cutting issue. *Oil & Gas J* 55:79 N 4 '57
- Guaranteed margins get new scrutiny. *il Oil & Gas J* 56:112-13 JI 28 '58

Price fixing

- Dismissal asked of price-fixing indictment. *Oil & Gas J* 56:65 Ag 4 '58
- Indicted firms lose one round. *Oil & Gas J* 56:118 S 15 '58
- Price-fix case move sought. *Oil & Gas J* 56:81 JI 14 '58
- Price-fix case slow starting. *Oil & Gas J* 56:71 Je 16 '58
- Price-fix count means long legal war for oil firms. *Oil & Gas J* 56:68-9 Je 9 '58
- Tulsa move delays oil trial. *Oil & Gas J* 56:45 S 29 '58

Prices

- Gas, oil costing motorist less. *Oil & Gas J* 56:85 Mr 17 '58
- Need grows for throttled-down runs. *Oil & Gas J* 56:44-5 S 29 '58
- Quality gasoline to come plenty high. *Oil & Gas J* 56:64-5 Mr 31 '58

Rating

- Detroit is talking of 17:1 ratios. *Oil & Gas J* 56:62-4 Je 16 '58
- Effect of h-c type on fuel road ratings; abstract. *W. A. P. Meyer* and *R. G. Goldthwait*. *S A E J* 66:122+ Ap '58
- How do mixtures affect knock ratings? *E. J. Y. Scott*, bibliog *Pet Refiner* 37:191-200 My '58

- Lab method improved for antiknock rating; abstract. *I. A. Caputo* and others. *S A E J* 66:90 F '58

- Octane numbers; laboratory and road rating methods and their practical significance. *K. Arter*, *il Automobile Eng* 48:338-40 S '58
- 100+ knock rating is instrument problem; abstract. *A. W. Pope, jr.* *diag S A E J* 66:105 Ag '58

Sulfur content

- Doctor sweetening; Lummus co. *flow diag Pet Refiner* 37:296 S '58
- Dualayer gasoline process; Magnolia petroleum co. *flow diag Pet Refiner* 37:298 S '58
- Dualayer gasoline process to remove mercaptans. *B. F. Greek* and others, bibliog *flow sheet il diag Ind & Eng Chem* 49:1938-44 D '57

GASOLINE—Sulfur content—Continued

Mercaptol; Pure oil co. flow diag Pet Refiner 37:305 S '58
 Solutizer process; Shell development co. flow diag Pet Refiner 37:308 S '58
 Unisol mercaptan extraction; Universal oil products co. flow diag Pet Refiner 37:309 S '58

Taxation

Oil on notice to expect higher taxes. Oil & Gas J 56:51 S 22 '58

Testing

Vapor pressure relations of gasolines; Reid vapor pressure test. S A E J 65:39-40 D '57

GASOLINE, Natural

Construction boxscore; refineries, natural gasoline and petrochemical plants. Pet Refiner 37:234+ Ja; 232+ Ap; 205-6+ Jl '58
 Gas liquids looking for more outlets. S. W. Downer. Pet Eng 30:C 12 My '58

Manufacture

Atlantic puts automation to work; Atlantic's new Block 31 gas liquids recovery plant. B. L. Odom. flow diag. Il Pet Eng 30:C 13-16 My '58

Bank loans on gasoline plants. F. E. McGonagill, Jr. J Pet Tech 10:13-16 F '58
 Chromatograph has quick payout at Snyder plant. B. Denny. diag Oil & Gas J 56:117-18 Ap 21 '58; Same. Il Pet Eng 30:C 17-18 My '58

Complete automation of a process plant. I. C. Bechtold. bibliog diag Oil & Gas J 56:115+ Je 9 '58

Continental oil co.'s new Short Junction plant. J. C. Reidel. Il diag Oil & Gas J 55:113+ O 28 '57

Curves for rapid estimation of gasoline plant investment. B. T. Brady and R. L. Rorschach. Pet Eng 30:C7-8 Ap '58
 From natural to super-premium gasoline; combining alkylation with isomerization and reforming. R. E. Sutherland and D. H. Belden. flow diag Pet Refiner 37:119-23 Jl '58

Gas conservation plant operations in western Canada. G. M. McPherson. Il map diag Pet Eng 30:C31+ My '58

Handling sour gas and oil production. R. S. Birmingham. flow diag Oil & Gas J 55:132 O 28; 139 D 9 '57; 56:127 Ja 6; 113 Ja 23; 276 Ja 27 '58

How gasoline plants are using gas chromatography. A. J. Miller. Il diag Oil & Gas J 56:83-91 Mr 3 '58

Iso-Kel; M. W. Kellogg co. flow diag Pet Refiner 37:261 S '58

Isomate; Standard oil co. (Indiana). flow diag Pet Refiner 37:262 S '58

Isomerate; Pure oil co. flow diag Pet Refiner 37:263 S '58

Lacq a shot in arm to France. M. Moyal. Il diag Oil & Gas J 55:208-9+ D 30 '57

Modern gasoline plants. D. Vondy. flow plans Pet Eng 30:C7-11 My; C 16-19 Je; C27+ Jl; C26+ Ag; C26-7+ S; C19-20+ O '58 (to be cont)

Natural gasoline; special report. flow sheets Il Pet Refiner 37:135-52 Ap '58

On-the-job changes aid operations; Goliad's gasoline plant near Proident City, Tex. L. Resen. Il diag Oil & Gas J 56:112-13 My 26; 134-5 Je 25 '58

Pacific petroleum, Ltd.'s field-processing-plant complex. C. R. Hetherington. flow diag Il maps diag Oil & Gas J 56:93-109+ Jl 7 '58

Penex and platforming of natural gasoline. flow diag Pet Eng 30:C27-3 Ag '58

Penex; Universal oil products co. flow diag Pet Refiner 37:265 S '58

Plant thermal efficiency is important in any cost-cutting program. V. E. Middlebrook. Oil & Gas J 56:127-9 Ap 21 '58

Spivey gasoline plant. J. C. Reidel. Il diag Oil & Gas J 55:102-3+ N 25 '57

What's wrong with my plant? panel discussion. Oil & Gas J 56:101-3 My 5 '58

Safety measures

Natural gasoline plant safety, the Phillips way. Il Pet Refiner 37:149-52 Ap '58

Statistics

Gas-liquids output hits a new high. 1957; with charts and tables. Oil & Gas J 56:176-8 Ja 27 '58

U.S. natural-gasoline plants; where they are, what they produce, and how much; tables. Oil & Gas J 56:130+ Ap 21 '58

GASOLINE, Solid

Soviet methods with materials; crust of petrol. Il diag Engineering 184:616 N 15 '57

GASOLINE handling**See also**

Gasoline pumps

GASOLINE industry

Yield shift key to gasoline outlook. Oil & Gas J 56:103-4 Ag 18 '58

Statistics

1957 gasoline sales across the U.S. Oil & Gas J 56:74 Je 9 '58

Canada

Canada threatens U.S. octane lead. Oil & Gas J 56:54 Jl 21 '58

Southern states

Small refiners move into marketing. L. Resen. Il Oil & Gas J 55:46-7 D 23 '57

GASOLINE pumps

Coupling safely connects mobile gasoline pump to underground tank. Il Machine Design 30:130-1 Je 12 '58

Gasoline-submersible motor designed for compactness. E. C. Briggs. Il Elec Manuf 61: 156-7 Je '58

Lubrication

Enterprising designers turn leaking gas into lubricant; submersible pump. L. E. Staak and M. J. Carroccio. Il diag Gen Elec R 61: 14-17 My '58

GASOLINE research

Fundamental research on the anti-knock properties of pure hydrocarbons and their blends. L. C. Beard, Jr. bibliog Oil & Gas J 55:233-4+ N 18 '57

Radioisotopes aid Esso develop new gasoline. Chem Eng Prog 54:78 Je '58

Tracers, ultraviolet team up to find deposit formers in gasoline, lead Esso to new premium gasoline. Chem & Eng N 36:31-2 My 26 '58

GASOLINE service stations

Conoco uses beauty to halt turnpike drivers. Il Oil & Gas J 56:76 Ap 14 '58

Equipment**See also**

Gasoline pumps

GASOLINE storage

Distillate fuel storage stability (cont). F. G. Schwartz and C. C. Ward. Oil & Gas J 55: 116 D 2; 129 D 16 '57

See also

Gasoline tanks

GASOLINE tanks

Cone-roof tankage to store gasoline with negligible vapor losses. E. W. Wilson. diag Oil & Gas J 56:222+ Ag 18 '58

Coupling safely connects mobile gasoline pump to underground tank. Il Machine Design 30:130-1 Je 12 '58

Porus bronze tank vent is safer, costs less; award of merit in Materials in design engineering competition. Il diag Materials in Design Enk 47:137-8 Ap '58

GATES, Hydraulic

Anchorage for large Tainter gates. A. H. Kentsberg. Il diag Am Soc C E Proc 82 [WW 5 no 1119]:1-13 D '56; Discussion 83 [WW 3 no 1381]:3-4 S '57; Reply. 84 [WW 1 no 1523]:3-5 Ja '58

Automatic tidal gates create lake; Ridgefield Park, N.J. R. C. Ziegler. Il map Eng N 16:33+ Ap 24 '58

Corrosion protection of power plants by organic coatings. P. M. Hess. Corrosion 14: 111-12 My '58

Double-duty dozer handles dam gates. Il Eng N 159:96 D 12 '57

Fixed-wheel gates for penstock intakes. S. J. Skinner. bibliog diag Am Soc C E Proc 83 [PO 5 no 1420]:1-31 O '57; Discussion. J. R. Bowman. 84 [PO 2 no 1618]:9-11 Ap '58; Reply. 84 [PO 5 no 1830]:15-16 O '58

Submerged sluice control of stratified flow. D. R. F. Harleman and others. bibliog diag Am Soc C E Proc 84 [HY 2 no 1584]:1-15 Ap '58

See also

Locks (hydraulic engineering)

Valves, Hydraulic

GAUDI Y CORNET, Antonio

Range of Gaudi. H. R. Hitchcock. Il diag Arch Rec 123:183-8 Mr '58

GAUSSIAN noise. See Noise

GAUSSIAN quadratures

Additional abscissas and weights for Gaussian quadratures of high order; values for $n=64, 80$, and 96 . P. Davis and P. Rabinowitz. *J Res Nat Bur Stand* 60:613-14 Je '58

GEAR cutting

Careful machining produces planetary gears with standard tooling. R. T. Berg. *Il diags Am Mach* 102:108-10 F 24 '58

Gears hard-hobbed to bypass heat-treat distortion. M. E. Samuelson. *Il Am Mach* 102:142-4 Ap 21 '58

New broaching tool cuts helical gears in one pass. R. H. Eshelman. *Il diag Iron Age* 181:117-19 Je 5 '58

GEAR cutting machines

Faster gear finishing. *Il Automobile Eng* 48:148-9 Ap '58

Gear unit broaches sectors. *Il Iron Age* 182:78-9 Ag 7 '58

Integrated line shaves and inspects cluster gears. *Il diag Automation* 5:91 Ap '58

Machine uses throwaway abrasive tools to finish hardened gears. *Il Am Mach* 102:124 J1 14 '58

1958 production preview: gear cutting and finishing. *Il Am Mach* 102:130-2 Ja 27 '58

Red King equipment for broaching external helical gears. *Il Mach* 64:159-4 Ag '58

Soviet plant; grinding and gear-cutting machines. *Il Engineering* 184:522-3 O 25 '57

Special machines cut gear costs; Alling-Lander co. *Il Steel* 142:136-7 Ap 14 '58

Special tools machine and assemble gear components. H. Chase. *Il Iron Age* 181:126-8 Je 5 '58

Sykomatic gear generator. *Il Automobile Eng* 48:260-1 J1 '58

Time-lapse movie check on gear hobbing machine; Sperry Gyroscope. J. N. Bannister. *Il Ind Phot* 7:32-4 My '58

See also

Gear grinding machines

Control

Plug-ins provide versatile machine control. E. W. Smith. *Il diag Automation* 5:82-5 Mr '58

GEAR grinding machines

Form grinding internal helical gears. *Il Engineering* 185:710 Je 6 '58

Precision internal helical gear grinders; Gear grinding co. *Il diag Engineer* 205:806-7 My 30 '58

GEAR manufacturers association, American.
See American gear manufacturers association**GEAR motors.** See Gearmotors**GEAR testing machines**

Dynamic gear tester. J. Bieger. *Il Product Eng* 29:69 Je 20 '58

Parts automatically mounted for high-speed runout checking. *Il diag Machine Design* 30:156-7 J1 24 '58

Rolling tester for gears. *Il Mech Eng* 80:98 Je '58

Schoppe and Faeser large gear tester. *Il Engineer* 205:150 Ja 24 '58

GEARING

Geared speed reducer changeable under load. J. B. Popper. *diags Mach* 64:177-9 Ja '58

How to cut gear inspection costs. F. Bohle. *Il diags Am Mach* 101:124-9 D 16 '57

Industrial know-how handbook; gear drives. *Il Mill & Factory* 62:PT 17-18 Mr '58

Intermittent-motion gear drive. *diags Machine Design* 30:151 J1 24 '58

Klin rides easy on new gear-linked mount; Vulcan iron works. *diag Chem Eng* 64:186-4 D '57

Lessons learned in in-plant gear education. *Am Mach* 102:101 Je 16 '58

Load-torque factor in precision gear backlash. W. Aksamit. *Il diag Elec Manuf* 62:98-101 Ag '58

Maintenance of chain drives and gear drives. *Il diags Mill & Factory* 62:97-104 Mr '58 (reprints 25c)

Materials for gears. N. E. Wolman. *Il Materials in Design Eng* 46:149-64 N '57

Spring-loaded segment gear provides pause in gear train. R. T. Stewart. *diags Mach* 64:115 Ag '58

Springs cushion shock loads in gear drive. C. McLaughlin. *diag Mach* 64:157-8 F '58

Varying gear center distances for heavy-duty applications. *Il diags Machine Design* 30:116 Ja 23 '58

See also

American gear manufacturers association

Ball mills—Gearing

Chain gear

Couplings

Hydraulic transmission

Motor trucks—Gearing

Speed variation

Steam turbines. Marine—Gearing

Design

Design guide for stamped gears. F. Strasser. *Il diags Machine Design* 29:161-5 D 12 '57

Design of spiral bevel gears with cycloidal tooth length curves. A. K. Thomas. *diags Engineering* 186:416-19 S 26 '58

Don't design problems into your precision gear trains. J. J. Bieger. *diags Am Mach* 102:144-7 My 5 '58

Dynamic loads on gear teeth. E. Buckingham. *Mach* 65:117-21 O '58

Formulas for simplifying planet-pinion spacing in planetary and differential-gear systems; data sheet. F. A. Shen. *diags Machine Design* 30:147-50 Je 12 '58

Gear-train ratios; data sheet. A. Benson. *diags Machine Design* 30:167-72 S '58

Gear train with no backlash. *Il diags Engineering* 185:69-70 Ja 17 '58

High-speed computer determines beam stress of gear tooth. H. W. Van Gerpen. *diag S A E J* 65:66-7 N '57

Idler gears. T. Barish. *diags Machine Design* 29:121-5 N 28 '57

Mill gearing as viewed by a lubrication engineer. A. E. Cichelli. *bibliog Il Iron & Steel Eng* 35:91-102 S '58

Modular design of precision gear trains for low-cost, built-to-order assemblies. F. W. Wood, jr. *Il diags Machine Design* 30:156-8 F 20 '58

Numerical rules for designing planetary gears; data sheet. R. L. Benford. *diags Machine Design* 30:129-35 Ag 21 '58

Tables and equations for a simplified approach to spur-gear design; data sheet. D. J. Myatt. *diags Machine Design* 30:143-6 My 15 '58

Failure

What causes failure of today's gears? E. S. Reynolds and J. R. Hicks. *Il diag Power* 102:120-2 Ap; 106-8 My; 118-19 J1 '58

Lubrication

Design and testing consideration of lubricants for gear applications. E. E. Shipley. *bibliog diag Lub Eng* 14:148-52-4 Ar '58; Same cond. *Product Eng* 29:E 2-5 Mid-S '58

Lubrication and maintenance hints for helical gear speed reducers. W. L. Byler. *Il diag Plant Eng* 12:116-17 S '58

Mill gearing as viewed by a lubrication engineer. A. E. Cichelli. *bibliog Il Iron & Steel Eng* 35:91-102 S '58

New combination test developed for gear oils. *S A E J* 65:32 D '57

Today's gears need modern lubes for long life. E. S. Reynolds and J. R. Hicks. *Il diags Power* 102:116-19-4 F '58

Manufacture

Attachment produces scroll threads. P. C. Sun. *diags Am Mach* 102:138 My 5 '58

Auxiliary handling devices integrate standard machines; production of gears. F. Zawaski. *Il diag Automation* 5:59-62 Ja '58

Case history on induction hardening large drive gear. V. H. Parano and C. J. Kropf. *Il Metal Prog* 74:86-90 S '58

Casting a bull gear. C. W. Ammen. *diags Foundry* 85:214-4 D '57

Gear forging advances; Curtiss-Wright corp. *Il Steel* 143:100-1 S 8 '58

Gear production for the Flight Pitch Dynafow. C. H. Wick. *Il diags Mach* 64:166-73 D '57

GE reveals how it makes large gears. L. J. Collins. *Il diags Am Mach* 102:113-20, cover S 22 '58 (reprints 25c)

Heat-treat dominates gear-tire output. *Il Am Mach* 102:104, cover Je 2 '58

Heat treating timing gears at Detroit Diesel division of GM. D. R. Lackey and J. E. La Belle. *Il Automotive Ind* 118:66-7 Je 15 '58

Hot oil quenching, boon to gear makers; abstract. W. E. Frank. *S A E J* 66:84 F '58

GEARING—Manufacture—Continued

- New developments in gear and spline production. G. Kousek. S A E J 66:74-6 Ja '58
No gears in inventory; gear plant's stock consists of modern equipment; Cincinnati gear co. II Mach 65:160-2 S '58
Russia looks at induction hardening, forming. K. Z. Shepeyakovskii. diags Am Mach 102:118-21 F 10 '58
Special machines cut gear costs; Alling-Lander co. II Steel 142:136-7 Ap 14 '58
Three new forging and extrusion methods. J. F. Murphy. II diag S A E J 66:40-2 Je '58
225-ft palletized transfer unit machines 240 gear housings an hour; GM's Saginaw steering gear div. II diag Am Mach 102:160-1 Ja 13 '58

See also

Gear cutting machines

Measurement

- Air gage checks hub; Bullard co. II Steel 142:113 Je 9 '58
Over-pin measurements of worms; their practical limitations. L. D. Martin. II diags Tool Eng 41:50-4 Jl '58

Specifications

- Seven rules simplify instrument gear specifications. W. A. Wiegand. II Product Eng 28:80-1 N 25 '57

Tables, calculations, etc.

- Analysis of epicyclic gear systems. J. Halling and W. J. Sutcliffe. diags Engineer 204:903-4 D 20 '57
Gear calculations simplified by use of Williamson tables. C. A. Underwood. diag Mach 65:127-31 S '58
How to find exact values of backlash in spur gears for changes in tooth thickness or center distance; data sheet. R. L. Thoen. Machine Design 30:147-50 Ja 23 '58
How to predict efficiency of gear trains. E. E. Shipley. diags Product Eng 29:44-5 Ag 4 '58
New hope for angular accuracy in precision gear trains. F. Freudenstein. Product Eng 29:70-1 Je 9 '58

Testing

- Dynamic loads on gear teeth. E. Buckingham. Mach 65:117-21 O '58
Experimental determination of gear tooth stresses in large marine gears. H. W. Semar and R. E. McGinnis. II diags A S M E Trans 80:195-200; Discussion. 200-1 Ja '58
Gear testing. Engineering 185:197 F 14 '58
Gear train analyzer evaluates lost motion. II Am Mach 102:280 Ja 27 '58
Portable gear-testing instrument. II Mech Eng 30:138 F '58
See inside gear parts. II Electronics 30:43 D 10 '57
Simulated gear-tooth contacts; some experiments upon their lubrication and subsurface deformations. A. W. Crook. bibliog diags Inst Mech Eng Proc 171 no 5:187-96, pl 1-5; Discussion. 195-210; Reply. 210-14 '57
12 ways to load-test gears; instructions illustrated. G. Shipley. Product Eng 29:77-82 Ja 6 '58
Will gears operate at 600-F? E. E. Shipley. II Am Mach 102:101-3 F 10 '58

See also

Gear testing machines

GEARING, Differential

- Design details of a spring-loaded differential drive for automatic tensioning and take-up in reel mechanisms. G. R. Heldier. II diag Machine Design 30:140 Ap 3 '58
Formulas for simplifying planet-pinion spacing in planetary and differential-gear systems; data sheet. F. A. Shen. diags Machine Design 30:147-50 Je 12 '58

GEARING, Helical. See Gearing, Spiral**GEARING, Involute. See Gearing, Spur****GEARING, Planetary**

- Analysis of epicyclic gear systems. J. Halling and W. J. Sutcliffe. diags Engineer 204:903-4 D 20 '57
Careful machining produces planetary gears with standard tooling. R. T. Berg. II diags Am Mach 102:108-10 F 24 '58
Drive delivers constant horsepower; variable speed control for machine tools is based on use of planetary differentials and hydraulic clutches. II Steel 142:154-4 Ap 14 '58

- Floating-gear design of planetary train. II diag Machine Design 30:96 My 29 '58
Formula for epicyclic gear train of large reduction. M. F. Spotts. diags Product Eng 28:E 12 Mid-O '57
Formulas for simplifying planet-pinion spacing in planetary and differential-gear systems; data sheet. F. A. Shen. diags Machine Design 30:147-50 Je 12 '58
Gearing system for a continually-aligned two-crystal X-ray spectrometer. H. P. Hanson and R. Economy. diags R Sci Instr 29:420-2 My '58
Numerical rules for designing planetary gears; data sheet. R. L. Benford. diags Machine Design 30:129-35 Ar 21 '58

GEARING, Plastic

- Designing with nylon. W. C. Warriner and A. J. Cheney. Product Eng 28:C 11-15 Mid-O '57
Laminated plastic gears for silent operation, high horsepower. G. J. Muller. II Materials in Design Eng 48:106-8 S '58
Materials for gears. N. E. Woldman. Materials in Design Eng 46:161 N '67

GEARING, Spiral

- Design of spiral bevel gears with cycloidal tooth length curves. A. K. Thomas. diags Engineering 186:416-19 S 26 '58
Extended-center helical gears; reference book sheet. C. Tiplitz. Am Mach 102:109-4 Jl 14 '58
Figuring size of helical gear speed reducers. W. L. Byler. diags Automotive Ind 118:74-5 My 1 '58
Form grinding internal helical gears. II Engineering 185:710 Je 6 '58
Lubrication and maintenance hints for helical gear speed reducers. W. L. Byler. II diag Plant Eng 12:116-17 S '58
New broaching tool cuts helical gears in one pass. R. H. Tshelman. II diag Iron Age 181:117-13 Je '58
Precision internal helical gear grinders; Gear grinding co. II diag Engineer 205:806-7 My 30 '58

Manufacture

- Broaching internal helical gears. F. Kirsten. II Mach 64:134-3 Ja '58

GEARING, Spur

- Boosts gear life. II Steel 141:70 D 30 '57
Contact ratio for involute gears; reference book sheet. E. A. Niemann. Product Eng 29:81 Je 9 '58
Hard-surfaced spur gears last 35 times as long. II Welding J 36:1196 D '57
How to find exact values of backlash in spur gears for changes in tooth thickness or center distance; data sheet. R. L. Thoen. Machine Design 30:147-50 Ja 23 '58
Idle gears. T. Barish. diags Machine Design 29:121-5 N 28 '57
Line-of-action dantometer inspects spur gears to ± 1 sec of arc; Sperry gyroscope co. R. J. Ross and J. P. Wright. II diags Am Mach 102:113-17 Ja 13 '58
Tables and equations for a simplified approach to spur-gear design; data sheet. D. J. Myatt. diags Machine Design 30:143-6 My 15 '58

Testing

- Dynamic loads on the teeth of spur gears. S. L. Harris. bibliog diags Inst Mech Eng Proc 172 no 2:87-100, pl 1-2; Discussion. 101-3; Reply. 109-12 '53
Wear characteristics of fine-pitch gear materials. E. J. Benson. Machine Design 30:121-2 Je 26 '58

GEARING, Worm

- New seamless tube mill uses almost 600 double-enveloping gear reducers. II diag Iron & Steel Eng 34:186-4 N '57
Over-pin measurements of worms; their practical limitations. L. D. Martin. II diags Tool Eng 41:50-4 Jl '58
Rubber bumpers shock cushion indexing worm-drive pinion. II diags Machine Design 30:134-5 Mr 6 '58
Specifying worm gearing. J. E. Gutzwiller. II diags Machine Design 30:129-32 Ja 9 '58
Worm-efficiency charts; reference book sheet. O. Saarl. Am Mach 100:163, 165 N 19 '56; Same. Product Eng 28:E 16-17 Mid-O '57
Worm-gear arrangement rotates radius cutter. F. C. Ashton. diags Am Mach 102:122 Ap 7 '58

Manufacture

- Grinder finishes big worm gear. II Iron Age 180:160 N 7 '57

GEARMOTORS

- Actuator adjusts cooling system. *il Product Eng* 29:112 Mr 31 '58
 Electric motor selector. *Machine Design* 30: 141-50 J1 24 '58
 Gearmotors designed for ease of maintenance. *il Tool Eng* 39:90 D '57
 Gear motors drive earth auger. J. A. Swanson and others. *il diag Ap Hydraulics* 11: 106+ Mr '58
 Hollow-shaft and vertical type gearmotors. *il Mach* 64:176-7 Mr '58

GEDDES, William F.

- W. F. Geddes, Appert award winner. *por Chem & Eng N* 36:84 Je 23 '58

GEIGER-MÜLLER counters

- Determining arrival time of radioactive fallout; Geiger-counter detection circuit causes clock-to stop. R. W. Farmer and O. Reiner, jr. *il diag Electronics* 31:69-71 Ag 1 '58
 Gamma-ray detector aids oil field surveys. F. E. Armstrong. *il diag Electronics* 31: 61-3 My 23 '58
 Geiger counter. *il Engineer* 205:823 My 30 '58
 Improved quenching circuit for Geiger counters. A. D. Crowell and P. R. Low. *bibliog diag R Sci Instr* 29:245-6 Mr '58
 Iodine-vapor-filled ultraviolet photon counter. R. T. Brackmann and others. *bibliog diag R Sci Instr* 29:125-3 F '58
 Nature of the photosensitivity of Geiger counters. H. O. Albrecht and C. E. Mandeville. *bibliog diag Franklin Inst J* 265:473-81 Je '58
 Portable apparatus for recording the rate of clearance of radioactive sodium from human calf muscle. L. Molyneux and others. *diag J Sci Instr* 35:259-61 J1 '58
 Preparation of samples for the Geiger counter-diffractionmeter. L. E. Copeland and R. H. Bragg. *bibliog il A S T M Bul* p56-60 F '58

- Preparation of samples for the Geiger counter-diffractionmeter. L. E. Copeland and R. H. Bragg. *bibliog il A S T M Bul* p56-60 F '58

GEIGY chemical corporation

- Corporate profile. *J Agri & Food Chem* 6:704+ S '58

GEISSOSPERMUM

- Alkaloids of *geissospermum vellosii*. H. Rapoport and others. *Am Chem Soc J* 80:1601-4 Ap 5 '58
 Flavopereirine, an alkaloid from *geissospermum vellosii*. N. A. Hughes and H. Rapoport. *Am Chem Soc J* 80:1604-9 Ap 5 '58

GELATIN

- Phase transitions in collagen and gelatin systems. P. J. Flory and R. R. Garrett. *bibliog diag Am Chem Soc J* 80:4836-43 S 20 '58
 Treatment of glue and gelatine with formaldehyde. A. M. Kragh. *Manuf Chem* 29: 103-4 Mr '58

Manufacture

- Three-phase drying improves gelatin; American agricultural chemical co. *il Food Eng* 30:91 Mr '58

GELATIN capsules. See Capsules. Gelatin**GELATION**

- Behavior of distilled monoglycerides in the presence of water. G. Y. Brokaw and W. C. Lyman. *il Am Oil Chem Soc J* 35:49-52 Ja '58; Excerpts. *Drug & Cosmetic Ind* 82: 372 Mr '58
 Gelation of bile salt solutions. H. Sobotka and N. Czeczowiczka. *J Colloid Sci* 13:188-91 Ap '58

GELS. See Colloids**GEMMER, E. Phil**

- 1958 NSGA president. *por Rock Prod* 61:48 Ap '58

GEMS**See also**

- Diamonds
 General aniline and film corporation
 Career opportunities. *il Chem & Eng N* 36: 36-7 pt 2 Ja 27 '58
 GAF revamps marketing setup. *Chem & Eng N* 36:36-7 S 1 '58
 General instrument corporation
 Planning boosts profits. *il Electronics* 31:50 F 7 '58
 General motors corporation
 Heavy weight over Wall Street; Du Pont proposes to keep General Motors stock, transfer voting rights to its stockholders. *Chem & Eng N* 36:25-6 My 26 '58
 Here is GM photographic. *il Ind Phot* 7:20-7+ Jm '58
 Electro-Motive division
 Sperry award for 1957 goes to General Motors group. *Mech Eng* 79:1186 D '57

GENERAL services administration. See United States—General services administration**GENERATORS, Electric. See Electric generators****GENERATORS, Radio. See Radio generators****GENES**

- Genetic secrets yield further. *Chem & Eng N* 36:46-7 F 10 '58
 How do genes act? V. M. Ingram. *il diag Sci Am* 198:68-72+ Ja '58

GENETICS

- Transduction in bacteria. N. D. Zinder. *il diag Sci Am* 199:33-43 N '58

See also

- Chromosomes
 Genes
 Sex

GENETICS (botany)

- Chemical characterization of wood samples for the forest geneticist. B. L. Browning. *Tappi* 41:156-8 Ap '58
 Variation in the specific gravity of slash pine-wood and its genetic and silvicultural implications. T. O. Perry and W. C. Wu. *bibliog Tappi* 41:178-80 Ap '58

GENEVA stop

- These diagrams and formulas will help in Geneva seal design; reference book sheet. D. C. Greenwood. *Product Eng* 29:83+ My 26 '58

GENITO-URINARY organs**Injuries**

- Surgery of urological injuries. G. Carroll. *Ind Med* 27:169-71 Ap '58

GENTIOBIOSE

- Structures of isomaltose and gentiobiose. M. L. Wolfrom and others. *bibliog Am Chem Soc J* 80:2015-18 Ap 20 '58

GEOCHEMISTRY

- Bituminous and other organic substances in Pre-Cambrian of Minnesota. M. Swaidan and others. *bibliog map diag Am Assn Pet Geologists Bul* 42:173-89 Ja '58
 Design of simple punched card systems with reference to geochemical problems. I. A. Breger. *diag Econ Geol* 53:325-38 My '58
 Environmental studies of carboniferous sediments; application of geochemical criteria. E. T. Degens and others. *bibliog map diag Am Assn Pet Geologists Bul* 42:981-97 My '58
 Environmental studies of carboniferous sediments; geochemical criteria for differentiating marine from fresh-water shales. E. T. Degens and others. *bibliog flow diag Am Assn Pet Geologists Bul* 41:2427-55 N '57
 Fundamentals of geochemistry. B. Nagy. *bibliog diag Oil & Gas J* 56:126-8 Je 30: 155-6+ J1 14: 265-6+ J1 28: 146-8+ Ag 11: 132-3+ Ag 25 '58
 Geochemistry, crystal structure and mineralogy of the sulfides; discussion. A. J. Fehul Jr. V. Ross. *bibliog Econ Geol* 53:759-64 S '58
 Heavy metal concentration in streams in North Angola. D. J. Atkinson. *bibliog maps Econ Geol* 52:652-67 S '57
 How geochemical analysis helps the geologist find oil. L. Horvitz. *bibliog maps Oil & Gas J* 55:234+ N 11 '57
 Porphyrin research and origin of petroleum. H. N. Dunning and J. W. Moore. *bibliog Am Assn Pet Geologists Bul* 41:2403-12 N '57
 Relationship between O^{18}/O^{16} ratios in co-existing quartz, carbonate, and iron oxides from various geological deposits. R. R. Clayton and S. Epstein. *bibliog diag J Geol* 66:352-73 J1 '58
 Significance of geochemical distribution trends in soil. D. H. Yardley. *bibliog maps diag Min Eng* 10:Trans 781-6 J1 '58
 Solubility of quartz in supercritical water as a function of pressure. G. J. Wasserburg. *bibliog J Geol* 66:559-78 S '58
 Solution kinetics of calcite. P. K. Weyl. *bibliog diag J Geol* 66:163-76 Mr '58
 Thermodynamic behavior of quartz and other forms of silica in pure water at elevated temperatures and pressures with conclusion on their mechanism of solution; discussion. K. Jasmund. *bibliog J Geol* 66:595-6 S '58
 Use of leachable uranium in geochemical prospecting on the Colorado plateau. H. D. Holland and others. *bibliog maps diag Econ Geol* 52:546-69; 53:190-209 Ag '57, Mr '58

GEOCHEMISTRY—Continued

Vanadium, nickel, and porphyrins in thermal geochemistry of petroleum. G. W. Hodgson and B. L. Baker, biblog *Am Assn Pet Geologists* Bul 41:2413-26 N '57

See also

Mineralogy
Ore deposits
Rocks
Weathering (rocks)

GEODESIC dome. *See* Domes

GEODESY

Geodetic control for tropospheric scatter antennas; link between United States and Cuba. M. O. Laird and A. Aguilar, *il map diags Am Soc C E Proc* 84 [SU 1 no 1594]: 1-19 Ap '58

International geophysical year; latitudes and longitudes. D. C. Rose, *Eng J* 41:55 Ag '58

Sputnik as a tool for securing geodetic information. L. Gold, *Franklin Inst* J 266:103-7 Ag '58

GEODIMETER. *See* Surveying instruments

GEOGRAPHY

See also

Paleogeography

GEOLOGICAL age. *See* Geological time

GEOLOGICAL apparatus and instruments

Jacob staff; refined. J. R. Bergstrom, *diags Am Assn Pet Geologists* Bul 42:2261-4 S '58

GEOLOGICAL chemistry. *See* Geochemistry

GEOLOGICAL maps

Chief tool of the petroleum exploration geologist; the subsurface structural map. L. Sebring, Jr, biblog *maps diags Am Assn Pet Geologists* Bul 42:561-87 Mr '58; Same cond. *Oil & Gas J* 56:138+ J1 7; 130-3 J1 21 '58

Depositional topography; examples and theory; electric well-log cross sections and isopach maps in the late Pennsylvanian and early Permian of western Texas. D. C. Van Siclen, biblog *maps diags Am Assn Pet Geologists* Bul 42:1897-913 Ag '58

Photogeologic fracture-trace mapping in Appalachian plateau. L. H. Latman and R. P. Nickelsen, biblog *il map diags Am Assn Pet Geologists* Bul 42:2238-45 S '58

Structural sections and the third dimension. R. M. Knutson, biblog *diags Econ Geol* 53: 270-86 My '58

GEOLOGICAL models

Compressibility of sandstones at low to moderate pressures. I. Fatt, biblog *diag Am Assn Pet Geologists* Bul 42:1924-7 Ag '58

Pore structure in sandstones by compressible sphere-pack models. I. Fatt, biblog *Am Assn Pet Geologists* Bul 42:1914-23 Ag '58

GEOLOGICAL research

See also

Geophysical research

GEOLOGICAL societies

See also

American association of petroleum geologists

GEOLOGICAL society of America

Abstracts of papers submitted for meetings, 1957. *Geol Soc Bul* 68:1693-910 pt 2 D '57

Annual meeting, 70th, Atlantic City, Nov. 4-6. *Eng N* 159:27 N 14 '57

GEOLOGICAL surveys

Commonwealth uranium search. *Metallurgia* 58:108 S '58

Search for uranium. *Engineer* 206:105-6 J1 18 '58

See also

United States—Geological survey

GEOLOGICAL time

Age-dating rocks from wildcat wells. W. J. Yost, *Oil & Gas J* 56:212-16 N 18 '57

Beginning of the Nipissing phase of Lake Huron. A. Dreimanis, biblog *maps J Geol* 66:591-4 S '58

Citronelle age problem. J. A. Doering, biblog *maps diags Am Assn Pet Geologists* Bul 42:764-86 Ap '58

Sketch of geologic time. *Comp Air Mag* 63: 24-5 Mr '58

Some biostratigraphical concepts. C. Teichert, *Geol Soc Bul* 68:99-119 biblog(p 117-19) Ja '58

Time stratigraphy. H. E. Wheeler, biblog *diags Am Assn Pet Geologists* Bul 42:1047-63 My '58

Whence earth? chemical assays of meteorites give clues to earth's age. *Ind & Eng Chem* 50:sup26A+ Je '58

See also

Rocks—Age

GEOLOGISTS

Professional ethics of geologists. E. Y. Dougherty, *Econ Geol* 53:496-9 Je '58

See also

Cortes, Henry Cornelius
DeWolf, Frank Walbridge
Espach, Ralph Homeward
Folger, James Anthony
Getzender, Frank Marshall
Hennen, Ray Vernon
Herold, Stanley Carrollton
Johnson, Joseph Wright
Lind, Charles McClelland
Morris, Albert Ferd
Olcott, David Perry
Patterson, Leroy Thompson
Schwarz, Melbert Edgar
Toomey, Charles Calvin

GEOLOGISTS, Petroleum

Are geologists earning their pay? G. N. Shirley, *Oil & Gas J* 56:163-4+ Je 16 '58

Firms see higher fees as solution. *Oil & Gas J* 56:72-3 J1 14 '58

Geologist's day in court. D. S. Turner, *Oil & Gas J* 56:200+ Je 2 '58

Oil finder looks at his profession and scales it down to size. O. C. Clifford, Jr, *diags Oil & Gas J* 56:166-60 My 26 '58

What is oil-finding talent? M. R. Mott, *il Oil & Gas J* 56:194-5+ F 17 '58

See also

American association of petroleum geologists

Directories

American association of petroleum geologists membership directory. *Am Assn Pet Geologist* Bul 42:1-212 pt 2 Mr '58

GEOLOGY

Abstracts of papers submitted for meetings, 1957. *Geol Soc Bul* 68:1693-910 pt 2 D '57

Geological factors in tunnel construction; symposium, biblog *Am Soc C E Proc* 84 [SM 2 nos 1648-50] My '58; Discussion. A. A. Eremin, 84 [SM 5 no 1881]:9-12 D '58

See also

Caves
Coal—Geology
Conglomerate
Continental shelf
Coral reefs and islands
Dikes (geology)
Dip and strike, Determination of
Drift
Earth temperature
Earthquakes
Engineering geology
Erosion
Faults (geology)
Folds (geology)
Gas, Natural—Geology
Geochemistry
Geological time
Geophysics
Glacial geology
Hot springs
Marine geology
Metamorphism
Mineralogy
Mining geology
Ocean
Ore deposits
Orientation (geology)
Paleoclimatology
Paleogeography
Peat
Pebbles
Petroleum—Geology
Pipes (geology)
Rocks
Rocks, Igneous
Sand
Sedimentation and deposition
Shale
Shore lines
Stratification
Terraces (geology)
Water, Underground
Weathering (rocks)

Bibliography

Reviews. Published in bi-monthly numbers of *Journal of geology*

Reviews. Published in semi-quarterly numbers of *Economic geology*

Reviews and new publications. Published in monthly numbers of the *Bulletin of the American association of petroleum geologists*

Special publications and guidebooks published in 1957 by societies affiliated or cooperating with American association of petroleum geologists. W. N. Gilliland, *Am Assn Pet Geologists* Bul 42:1727-30 J1 '58

GEOLOGY—Continued

Statistical methods

Modifications of the Rayleigh test for uniformity in analysis of two-dimensional orientation data. D. Durand and J. A. Greenwood. bibliog diag J Geol 66:229-38 My '58
Tests of significance of preferred orientation in three-dimensional fabric diagrams. D. Flinn. bibliog diag J Geol 66:526-39 S '58

Terminology

When rock is stone, and stone is rock. N. C. Rockwood. Rock Prod 60:25-+ N '57

Afghanistan

Geological study of Shamshir Ghar cave, southern Afghanistan, and report of terraces along Panjshir valley near Kabul. J. M. Zeigler. bibliog pl maps plan diags J Geol 66:16-27 Ja '58

Alabama

Gorceixite from Dale county, Alabama. C. Milton and others. il Am Mineralogist 43: 688-94 Jl '58

Alaska

Complex origin of silts in the vicinity of Fairbanks, Alaska. S. Taber. map Geol Soc Bul 63:131-6 Ja '58

Geological and geophysical synthesis of the tectonics of portions of British Columbia, the Yukon Territory, and Alaska. P. St Amand. maps Geol Soc Bul 68:1343-70, pl 1 bibliog(p 1369-70) O '57

Geomorphology of continental shelves off Norway, Labrador, and southeast Alaska. H. Holteidahl. bibliog maps diags J Geol 66: 461-71 Jl '58

Halogen-acid alteration of ash at Fumarole no. 1, Valley of ten thousand smokes, Alaska. T. S. Lovering. bibliog map Geol Soc Bul 68:1585-603 D '57

Alberta

Cooking Lake and Duvernay (late Devonian) sedimentation in Edmonton area of central Alberta, Canada. J. M. Andrichuk. maps diags Am Assn Pet Geologists Bul 42:2189-222 S '58

Distribution and lithology of organic carbonate unit of upper Devonian Fairholme group, Alberta. H. R. Belyea. bibliog maps diags Can Min & Met Bul 61:64-72 F '58

Savanna Creek gas field, Alberta. J. C. Scott and others. il maps diag Can Min & Met Bul 61:270-8 My '58

Stratigraphy and facies analysis of upper Devonian reefs in Leduc, Stettler and Redwater areas, Alberta. J. M. Andrichuk il maps diags Am Assn Pet Geologists Bul 42:1-93 bibliog(53 titles, p90-3) Ja '58

Arizona

Evaluation of uranium ore guides, Monument valley, Arizona and Utah. C. G. Evensen and I. B. Gray. bibliog maps diags Econ Geol 53:639-62 S '58

Geology of the Cochise Head and western part of the Vanar Quadrangles, Ariz. F. F. Sabins, jr. bibliog maps diag Geol Soc Bul 68:1315-41, pl 1-3 O '57

Arkansas

Occurrence of gorceixite in Arkansas. E. J. Young. il Am Mineralogist 43:762-6 Jl '58

Australia

Geology and metamorphism of the Nairne pyritic formation, a sedimentary sulfide deposit in South Australia. B. J. Skinner. bibliog il maps diag Econ Geol 53:546-62 Ag '58

Brazil

Uranium-bearing auriferous reefs at Jacobina, Brazil. J. D. Bateman. bibliog maps diag Econ Geol 53:417-25 Je '58

British Columbia

Geological and geophysical synthesis of the tectonics of portions of British Columbia, the Yukon Territory, and Alaska. P. St Amand. maps Geol Soc Bul 68:1343-70, pl 1 bibliog(p 1369-70) O '57

Geology of the Mount Garibaldi map-area, southwestern British Columbia, Canada. W. H. Mathews. bibliog fold map maps diags Geol Soc Bul 69:161-98, pl 1-6 F '58

California

Cerite from Mountain Pass, San Bernardino county, Calif. J. J. Glass and others. bibliog il diag Am Mineralogist 43:460-75 My '58

Contribution on the Hector, California bentonite deposit. L. L. Ames, jr. and others. bibliog il maps diag Econ Geol 53:22-37 Ja '58

Danian stage of paleocene in California. A. R. Looslich, jr. Am Assn Pet Geologists Bul 42:2260-1 S '58

Geology of northern Soledad basin, Los Angeles county, Calif. W. R. Muehlberger. bibliog il maps diags Am Assn Pet Geologists Bul 42:1812-44 Ag '58

Paleontology and stratigraphy of some marine Pleistocene deposits in northwest Los Angeles basin, California. P. U. Rodda. bibliog il maps diag Am Assn Pet Geologists Bul 41:2475-92 N '57

Petrology and origin of the Poway conglomerate, San Diego county. G. J. Bellemine and R. Merriam. bibliog maps Geol Soc Bul 69:199-220 F '58

Shallow submerged marine terraces of southern California. K. O. Emery. maps Geol Soc Bul 69:39-59, pl 1 bibliog(p57-9) Ja '58

Significance of amphibole paragenesis in the Bidwell Bar region, Calif. R. R. Compton. bibliog Am Mineralogist 43:890-907 S '58

Tertiary stratigraphic units of western Mojave desert, Calif. T. W. Dibble, jr. bibliog map diag Am Assn Pet Geologists Bul 42:135-44 Ja '58

Canada

Origin of the corundum deposits of Renfrew county, Ontario, Can. H. D. Carlson. bibliog diags Geol Soc Bul 68:1605-36 D '57

Colombia

Colombia's geological features. W. C. Hatfield. il map Pet Eng 30:1321-5+ F '58

Colorado

Contact of Burro Canyon formation with Dakota sandstone, Slick Rock district, Colorado, and correlation of Burro Canyon formation. G. C. Simmons. bibliog maps diag Am Assn Pet Geologists Bul 41:2519-29 N '57

Ignacio quartzite of southwestern Colorado. F. H. T. Rhodes and J. H. Fisher. bibliog il map Am Assn Pet Geologists Bul 41:2508-18 N '57

Jurassic stratigraphy in Elk mountains, west-central Colorado. R. L. Langenheim, jr. bibliog map diag Am Assn Pet Geologists Bul 41:2576-81 N '57

Molas and associated formations in San Juan basin-Needle mountains area, southwestern Colorado. W. M. Merrill and R. M. Winar. bibliog il map diags Am Assn Pet Geologists Bul 42:2107-32 S '58

Tectonics of eastern flank and foothills of Front Range, Colorado. C. M. Boos and M. F. Boos. maps diags Am Assn Pet Geologists Bul 41:2603-76 bibliog(80 titles, p2674-6) D '57

Variations in isotopic composition of oxygen and carbon in Leadville limestone (Mississippian, Colorado) and in its hydrothermal and metamorphic phases. A. E. J. Engel and others. bibliog map diags J Geol 66: 374-93, pl 1 Jl '58

Egypt

Miocene foraminifera of Gulf of Suez region, Egypt. R. Said and M. A. Basiouni. bibliog il maps diags Am Assn Pet Geologists Bul 42:1958-77 Ag '58

England

Industrial geology of the south west of England: abstract. A. Stuart. Chem & Ind p779-80 Je 28 '58

Georgia

Polymorphism of micas in the Mineral Bluff and Epworth quadrangles, Georgia. V. J. Hurst. bibliog maps Geol Soc Bul 68:1581-3 N '57

Welded tuff from deep-well cores from Clinch county, Ga. C. S. Ross. il Am Mineralogist 43:537-45 My '58

Germany

Leucite nepheline dolerite of Melches. Voegelsberg. Hessen. C. E. Tilley. bibliog diag Am Mineralogist 43:758-61 Jl '58

GEOLOGY—Continued

Greenland

Sulphides in the Skaergaard intrusion, east Greenland. L. R. Wager and others. *il* diags *Econ Geol* 52:855-95 bibliog(37 titles, p893-5) D '57

Gulf Coast region

Gulf Coast tectonics. M. Bornhauser. bibliog maps diags *Am Assn Pet Geologists Bul* 42:339-70 F '58

Illinois

Breccia and small-scale lower Pennsylvanian overthrusting in southern Illinois. P. E. Potter. bibliog *il* maps diags *Am Assn Pet Geologists Bul* 41:2695-709 D '57; Discussion. J. C. Fern. 42:1988-9 Ag '58

Chester cross-bedding and sandstone trends in Illinois basin. P. E. Potter and others. maps diags *Am Assn Pet Geologists Bul* 42:1013-46 bibliog(p 1045-6) My '58

Cyclothems and larger sedimentary cycles of the Pennsylvanian. J. M. Weller. bibliog diags *J Geol* 66:195-207 Mr '58

Factors controlling the localization of ore deposits in the Shullsburg area, Wisconsin-Illinois zinc-lead district. R. R. Reynolds. bibliog maps diags *Econ Geol* 53:141-63 Mr '58

India

Coronites from India and their bearing on the origin of coronas. M. V. N. Murthy. *il* *Geol Soc Bul* 69:23-37 bibliog(p36-7) Ja '58

Indiana

Chester cross-bedding and sandstone trends in Illinois basin. P. E. Potter and others. maps diags *Am Assn Pet Geologists Bul* 42:1013-46 bibliog(p 1045-6) My '58

Early pleistocene sediments in Indiana. W. J. Wayne. bibliog map *J Geol* 66:8-15, pl 1 Ja '58

Kansas

Cyclothems and larger sedimentary cycles of the Pennsylvanian. J. M. Weller. bibliog diags *J Geol* 66:195-207 Mr '58

Kentucky

Chester cross-bedding and sandstone trends in Illinois basin. P. E. Potter and others. maps diags *Am Assn Pet Geologists Bul* 42:1013-46 bibliog(p 1045-6) My '58

Labrador

Geomorphology of continental shelves off Norway, Labrador, and southeast Alaska. H. Holteidahl. bibliog maps diags *J Geol* 66:461-71 Jl '58

Maryland

Upland gravels of southern Maryland. J. Schlee. maps diags *Geol Soc Bul* 68:1371-409 bibliog(p 1399-401) O '57

Mediterranean region

Regional geology of circum-Mediterranean region. H. D. Klemme. maps diags *Am Assn Pet Geologists Bul* 42:477-512 bibliog(74 titles, p510-12) Mr '58

Mexico

Metamorphic rocks in Sierra del Carmen, Coahuila, Mexico. P. T. Flawn and R. A. Maxwell. *il* map. *Am Assn Pet Geologists Bul* 42:2245-9 S '58

Origin of the Manto copper deposits in lower California, Mexico. H. Nishihara. bibliog *Econ Geol* 52:944-51 D '57

Supposed Permian tillites in northern Mexico are submarine slide deposits. N. D. Newell. bibliog *Geol Soc Bul* 68:1569-75, pl 1-2 N '57

Michigan

Reflection of possible deep structures by traverse group facies changes in western Michigan. R. L. Jodry. bibliog maps diags *Am Assn Pet Geologists Bul* 41:2677-94 D '57

Stratigraphic analysis of Silurian rocks in Michigan basin. W. N. Melhorn. bibliog maps *Am Assn Pet Geologists Bul* 42:816-38 Ad '58

Middle western states

Upper Ordovician stratigraphy in eastern interior region. A. M. Gutstadt. maps diags *Am Assn Pet Geologists Bul* 42:513-47 bibliog(72 titles, p544-7) Mr '58

Minnesota

Bituminous and other organic substances in Pre-Cambrian of Minnesota. F. M. Swain and others. bibliog map diags *Am Assn Pet Geologists Bul* 42:173-89 Ja '58

Titaniferous sedimentary rocks in the Cuyuna district, central Minnesota. R. G. Schmidt. bibliog *il* maps *Econ Geol* 53:708-21 S '58

Montana

Deuteric alteration of some apelite-pegmatites of the Boulder batholith, Montana, and its possible significance to ore deposition. G. J. Neunerburg. bibliog *Econ Geol* 53:287-99 My '58

Geologic evolution of the Beartooth mountains, Montana and Wyoming. F. D. Eckelmann and A. Foldervart. maps diags *Geol Soc Bul* 68:1225-61, pl 1-5 bibliog(p 1259-61) O '57

Scaphites depressus zone (cretaceous) in northwestern Montana. W. A. Cobban and others. bibliog *Am Assn Pet Geologists Bul* 42:656-60 Mr '58

Uranium deposits in western North Dakota and eastern Montana. D. Towse. bibliog maps diags *Econ Geol* 52:904-13 D '57

Nevada

Structural geology of the southern Snake range, Nev. H. Drewes. bibliog maps diags *Geol Soc Bul* 69:221-39, pl 1-2 F '58

New Brunswick

Geology of the Bathurst-Newcastle mineral district, New Brunswick. C. H. Smith and R. Skinner. bibliog *il* maps *Can Min & Met Bul* 51:150-5 Mr '58

Geology of the Brunswick Mining and Smelting orebodies, Gloucester county, N.B. E. R. Lea and C. Rancourt. bibliog *il* maps plans diags *Can Min & Met Bul* 51:167-77 Mr '58

New Jersey

Geology and soils of the Newark (N.J.) metropolitan area. A. R. Jumikis. bibliog *il* maps diags *Am Soc C E Proc* 84 (SM 2 no 1646):1-41 My '58

New Mexico

Alkali feldspars in a tertiary porphyry near Hillsboro, N.Mex. F. J. Kuellner. bibliog maps diags *J Geol* 66:151-62 Mr '58

Alluvial chronology of the Tesuque valley, N.Mex. J. P. Miller and F. Wendorf. bibliog maps diags *J Geol* 66:177-94, pl 1 Mr '58

Delaware basin; what traps its oil? C. F. Dodge. map diags *Pet Eng* 30:B48+ My '58

Zircon from the Animas stock and associated rocks, New Mexico. A. M. Alper and A. Foldervart. bibliog maps diags *Econ Geol* 53:952-71 D '57

New York (state)

Genesis of titaniferous magnetites and associated rocks of the Lake Sanford district, N.Y. J. L. Gillson. bibliog *il* *Min Eng* 8: Trans 296-301 Mr '58; Discussion. A. Hubaux. 10:Trans 379-80 Mr '58

Lower quartzite problem. M. F. Norton and R. F. Giese, Jr. map *Geol Soc Bul* 68: 1577-80, pl 1 N '57

New Zealand

Method of graben and horst formation. G. J. Lensen. maps diags *J Geol* 66:579-86 S '58

North America

Correlation of the triassic formations of North America exclusive of Canada. fold pls maps *Geol Soc Bul* 68:1451-513 (bibliog 380 titles, p 1503-13) N '57

North Dakota

Petrology of Beaver Lodge Madison limestone reservoir, North Dakota. D. Towse. bibliog *il* maps diags *Am Assn Pet Geologists Bul* 41:2493-507 N '57

Uranium deposits in western North Dakota and eastern Montana. D. Towse. bibliog maps diags *Econ Geol* 52:904-13 D '57

Northern Ireland

Granophyre and hybrid pipes in a dolerite layer of Slieve Gullion. R. W. D. Ellwell. bibliog map diags *J Geol* 66:57-71, pl 1-3 Ja '58

Norway

Geomorphology of continental shelves off Norway, Labrador, and southeast Alaska. H. Holteidahl. bibliog maps diags *J Geol* 66:461-71 Jl '58

GEOLOGY—Continued

Nova Scotia

Mississippian stratigraphy and petroleum possibilities of central Cape Breton island, Nova Scotia, D. G. Kelley, bibliog il maps diag Can Min & Met Bul 51:341-51 Je '58

Oklahoma

Mississippian bioherms in northeast Oklahoma, J. W. Harbaugh, il map diags Am Assn Pet Geologists Bul 41:2530-44 N '57

Ontario

Structure and petrology of the Caribou Lake intrusive body, Ontario, Canada, G. M. Friedman, maps diags Geol Soc Bul 68: 1531-64, pl 1-4 bibliog(p 1563-4) N '57

Oregon

Is there oil in Oregon? F. D. Hansen, bibliog map diags Oil & Gas J 56:183-4 My 12 '58

Pennsylvania

Alteration of clay minerals in Illinoian till by weathering, J. B. Droste and J. C. Lochman, diag Geol Soc Bul 69:127-8 Ja '58
Lower Ordovician (Beekmantown) succession in Berks county, Pennsylvania, J. F. Hobson, Jr, bibliog maps Am Assn Pet Geologists Bul 41:2710-22 D '57
Photogeologic fracture-trace mapping in Appalachian plateau, L. H. Lattman and R. P. Nickelsen, bibliog il map diags Am Assn Pet Geologists Bul 42:2238-45 '58

Peru

Geological features of Peru, J. E. Rassmuss, il map Pet Eng 30:B26-31 Ap '58
Geology of Toquepala, Peru, K. Richard and J. H. Courtright, bibliog map diags Min Eng 10:Trans 262-6 F '58; Discussion, 10: Trans 699-700 Je '58
Lead isotope composition of Peruvian galenas, J. L. Kulp and others, bibliog map Econ Geol 52:914-22 D '57
Structural control of contact metasomatic deposits in the Peruvian cordillera, A. J. Terrones L, bibliog il maps diags Min Eng 10:Trans 365-72 Mr '58

Quebec (province)

Porphyritization in Destor and Duparquet townships, Atibi West county, Quebec, Canada, R. B. Graham, bibliog il map Econ Geol 53:737-53 S '58

Saskatchewan

Lineaments in Avonlea area, Saskatchewan, W. O. Kupsch and J. Wild, bibliog il maps Am Assn Pet Geologists Bul 42:127-34 Ja '58
Mississippian sedimentation and oil fields in southeastern Saskatchewan, R. W. Edie, bibliog(26 ref) il maps diags Am Assn Pet Geologists Bul 42:94-126 Ja '58

South Dakota

Morinite from the Black Hills, D. J. Fisher, and J. J. Runner, bibliog il Am Mineralogist 43:585-94 My '58
See also
Black Hills

Tasmania

Geology of the Mt Lyell mines, Tasmania, M. L. Wade and M. Solomon, bibliog maps diags Econ Geol 53:367-416 Je '58

Texas

Basal Claiborne of Texas, record of Appalachian tectonism during eocene, T. W. Todd and R. L. Folk, bibliog flow sheet il maps Am Assn Pet Geologists Bul 41:2645-66 N '57
Comanchean stratigraphy of Kent quadrangle, Trans-Pecos Texas, J. P. Brand and R. K. Deford, bibliog(33 ref) map diag Am Assn Pet Geologists Bul 42:371-86 F '58
Delaware basin: what traps its oil? C. F. Dodge, map diag Pet Eng 30:B48+ My '58
Depositional topography; examples and theory; electric well-log cross sections and isopach maps in the late Pennsylvanian and early Permian of western Texas, D. C. Van Sicken, bibliog maps diags Am Assn Pet Geologists Bul 42:1897-913 Ag '58
Genesis of Haymond boulder beds, Marathon basin, west Texas, W. E. Hall, bibliog map diags Am Assn Pet Geologists Bul 41: 1633-7 Jl '57; Discussion 42:1731-5 Jl '58
Paleozoic rock exposures, Persimmon Gap, Canyon areas, Brewster county, Tex., R. T. Hazzard and others, Am Assn Pet Geologists Bul 42:887 Ap '58

Pennsylvanian outcrops of significance, Mills county, Tex., R. Pavlovic, bibliog il map Am Assn Pet Geologists Bul 42:888-92 Ap '58

Pennsylvanian subsurface geology of Sutton and Schleicher counties, Tex., R. W. Rall and E. P. Rall, bibliog maps diags Am Assn Pet Geologists Bul 42:889-70 Ap '58
Revision of Caballos novaculite in Marathon region, Texas, W. B. N. Berry and H. M. Nielsen, bibliog map Am Assn Pet Geologists Bul 42:2254-9 S '58

Trinidad

Herrera subsurface structure of Penal field, Trinidad, B.W.I., P. Bitterli, bibliog maps diag Am Assn Pet Geologists Bul 42:145-58 Ja '58
Los Bajos fault and its relation to Trinidad's oilfield structures, C. C. Wilson, bibliog map diags Inst Pet J 44:124-36 My '58

Utah

Cenozoic geology of the Colorado plateau with respect to Uinta basin, Utah, M. D. Picard, Am Assn Pet Geologists Bul 42: 1989-92 Ar '58
Evaluation of uranium ore guides, Monument valley, Arizona and Utah, C. G. Evensen and I. B. Gray, bibliog maps diags Econ Geol 53:639-62 S '58
Paleozoic stratigraphy and oil possibilities of Kaiparowits region, Utah, E. B. Heylman, bibliog maps diag Am Assn Pet Geologists Bul 42:1781-811 Ag '58

Venezuela

Origin and classification of cretaceous, paleocene, and eocene sandstones of western Venezuela, T. H. Van Andel, bibliog maps diags Am Assn Pet Geologists Bul 42:734-63 Ap '58
Two theories of deposition of Oficina formation, eastern Venezuela, R. Passessa and others, bibliog Am Assn Pet Geologists Bul 42:881-7 Ap '58

Vermont

Lower Cambrian section of Vermont, C. Lochman, diag Geol Soc Bul 69:127-8 Ja '58
Revision of the lower paleozoic stratigraphy in eastern Vermont, V. R. Murthy, bibliog maps J Geol 66:276-87 My '58; Correction, 66:596 S '58

Western states

Geologic characteristics of fluorspar deposits in the western United States, W. C. Peters, il maps diags Econ Geol 53:663-88, bibliog(p687-8) S '58
Pennsylvanian system of Four Corners region, S. A. Wengerd and M. L. Matheny, maps diags Am Assn Pet Geologists Bul 42:2048-106 bibliog(p2102-6) S '58

Wisconsin

Factors controlling the localization of ore deposits in the Shullsburg area, Wisconsin-Illinois zinc-lead district, R. R. Reynolds, bibliog maps diags Econ Geol 53:141-63 Mr '58
Pebble and sand lithology of the major Wisconsin glacial lobes of the central lowlands, R. C. Anderson, bibliog map diags Geol Soc Bul 68:1415-49 N '57

Wyoming

Dahlite pseudomorphs after pyrite concretions from Big Horn basin, Wyo., R. S. Mitchell and W. C. Sherwood, il Am Mineralogist 43:600-3 My '58
Geologic evolution of the Beartooth mountains, Montana and Wyoming, F. D. Eckelmann and A. Poldervaart, maps diags Geol Soc Bul 68:1225-61, pl 1-5 bibliog(p 1259-61) O '57

See also

Black Hills

Yukon

Geological and geophysical synthesis of the tectonics of portions of British Columbia, the Yukon Territory, and Alaska, P. St Amand, maps Geol Soc Bul 68:1343-70, pl 1 bibliog(p 1369-70) O '57

GEOLOGY, Engineering. See Engineering geology

GEOLOGY, Military

Use of geology in planning the Normandy invasion, C. T. Snyder, Geol Soc Bul 68: 1565 N '57

GEOLOGY, Mining. See Mining geology

GEOLOGY, Stratigraphic

- Base-level control patterns in cyclothem sedimentation. H. E. Wheeler and H. H. Murray. bibliog map diags Am Assn Pet Geologists Bul 41:1985-2011 S '57; Discussion. 42:442-7 F '58
- Geology of the Bathurst-Newcastle mineral district, New Brunswick. C. H. Smith and R. Skinner. bibliog il maps Can Min & Met Bul 51:150-5 Mr '53
- Geology of the 41-2108-13 S '57. Head and western part of the Vanar Quadrangles. Ariz. F. F. Sabins, jr. bibliog maps diag Geol Soc Bul 68:1315-41, pl 1-3 O '57
- Geology of the Mt Lyell mines, Tasmania. M. L. Wade and M. Solomon. bibliog maps diags Econ Geol 53:387-416 Je '58
- Glaucanite pellets; their mineral nature and applications to stratigraphic interpretations. J. F. Burst. il map diag Am Assn Pet Geologists Bul 42:310-27 bibliog (65 titles, p325-7) F '58
- Large-scale polygonal jointing. W. E. Pratt. il Am Assn Pet Geologists Bul 42:2249-51 S '58
- Molas and associated formations in San Juan basin-Needle mountains area, southwestern Colorado. W. M. Merrill and R. M. Winar. bibliog il map diags Am Assn Pet Geologists Bul 42:2107-32 S '58
- Nature, usage, and definition of marker-defined vertically segregated rock units. J. M. Forgothson, jr. diags Am Assn Pet Geologists Bul 41:2108-13 S '57; Discussion. P. F. Moore. bibliog 42:447-50 F '58
- Petroleum geology of eastern Peru today. W. Ruegg. bibliog maps diags Pet Eng 30: B32-6+ Ap '58
- Photometer method for studying quartz grain orientation. J. D. Martinez. bibliog il map diags Am Assn Pet Geologists Bul 42:588-608 Mr '58
- Primary factors in biostratigraphy. H. E. Wheeler. bibliog diags Am Assn Pet Geologists Bul 42:640-53 Mr '58
- Savanna Creek gas field, Alberta. J. C. Scott and others. il maps diag Can Min & Met Bul 51:270-8 My '58
- Sketch of geologic time. Comp Air Mag 63:24-6 Mr '58
- Some biostratigraphical concepts. C. Teichert. Geol Soc Bul 69:99-119 bibliog(p 117-19) Ja '58
- Time stratigraphy. H. E. Wheeler. bibliog diags Am Assn Pet Geologists Bul 42:1047-63 My '58

Nomenclature

- Nature, usage, and nomenclature of rock-stratigraphic units. Am Assn Pet Geologists Bul 40:2003-14 Ag '56; Discussion. P. E. Kottlowski. 42:893-4 Ap '58
- Preparation of new stratigraphic code by American commission on stratigraphic nomenclature. bibliog Am Assn Pet Geologists Bul 42:1984-6 Ag '58
- Problems in applying standard stratigraphic practice in nonmarine quaternary deposits. J. C. Frye and G. M. Richmond. Am Assn Pet Geologists Bul 42:1979-83 Ag '58
- Status of soils in stratigraphic nomenclature. G. M. Richmond and J. C. Frye. Am Assn Pet Geologists Bul 41:758-63 bibliog(p761-3) Ap '57; Discussion. 42:1978-9, 1987-8 Ag '58
- Stratigraphic facies differentiation and nomenclature. J. M. Weller. Am Assn Pet Geologists Bul 42:609-39 bibliog(46 titles, p638-9) Mr '58

Terminology

- Definition of term formation in stratigraphic sense. H. H. Frye. Am Assn Pet Geologists Bul 42:451-2 F '58
- Stratigraphic classification and terminology. H. D. Hedberg. diag Am Assn Pet Geologists Bul 42:1881-96 Ag '58

Cambrian

- Lower Cambrian section of Vermont. C. Lochman. diag Geol Soc Bul 69:127-8 Ja '58

Cenozoic

- Cenozoic geology of the Colorado plateau with respect to Uinta basin, Utah. M. D. Picard. Am Assn Pet Geologists Bul 42: 1989-92 Ar '58

Cretaceous

- Comanchean stratigraphy of Kent quadrangle, Trans-Pecos Texas. J. P. Brand and R. K. Deford. bibliog(33 ref) map diag Am Assn Pet Geologists Bul 42:371-86 F '58
- Cretaceous possibilities good for northwest Kansas. D. F. Merriam. bibliog map Oil & Gas J 56:138-9+ Mr 31 '58

- Origin and classification of cretaceous, paleocene, and eocene sandstones of western Venezuela. T. H. Van Andel. bibliog maps diags Am Assn Pet Geologists Bul 42:734-63 Ap '58
- Scaphites depressus zone (cretaceous) in northwestern Montana. W. A. Cobban and others. bibliog Am Assn Pet Geologists Bul 42:666-60 Mr '58
- Stratigraphy of some lower cretaceous rocks of Black Hills area. H. Skolnick. bibliog il map Am Assn Pet Geologists Bul 42:787-815 Ap '58

Devonian

- Cooking Lake and Duvernay (late Devonian) sedimentation in Edmonton area of Central Alberta, Canada. J. M. Andrichuk. maps diags Am Assn Pet Geologists Bul 42:2189-222 S '58
- Distribution and lithology of organic carbonate unit of upper Devonian Fairholme group, Alberta. H. R. Belyea. bibliog maps diags Can Min & Met Bul 51:64-72 F '58
- Reflection of possible deep structures by traverse group facies changes in western Michigan. R. L. Jodry. bibliog maps diags Am Assn Pet Geologists Bul 41:2677-94 D '57
- Stratigraphy and facies analysis of upper Devonian reefs in Ledus, Stettler and Redwater areas, Alberta. J. M. Andrichuk. il maps diags Am Assn Pet Geologists Bul 42: 1-93 bibliog(58 titles, p90-3) Ja '58

Eocene

- Basal Claiborne of Texas, record of Appalachian tectonism during eocene. T. W. Todd and R. L. Folk. bibliog flow sheet il maps Am Assn Pet Geologists Bul 41:2545-66 N '57
- Geococite from Dale county, Alabama. C. Milton and others. il Am Mineralogist 43: 688-94 Jl '58
- Origin and classification of cretaceous, paleocene, and eocene sandstones of western Venezuela. T. H. Van Andel. bibliog maps diags Am Assn Pet Geologists Bul 42:734-63 Ap '58
- Petrology and origin of the Poway conglomerate, San Diego county, Calif. G. J. Bellemin and R. Merriam. bibliog maps Geol Soc Bul 69:199-220 F '58

Jurassic

- Jurassic stratigraphy in Elk mountains, west-central Colorado. R. L. Langenheim, jr. bibliog map diag Am Assn Pet Geologists Bul 41:2576-81 N '57

Miocene

- Miocene foraminifera of Gulf of Suez region, Egypt. R. Said and M. A. Basiouni. bibliog il maps diags Am Assn Pet Geologists Bul 42:1958-77 Ag '58
- Review of the production performance of three deep miocene oil pools in the Los Angeles basin. C. L. Doyle. maps J Pet Tech 10:23-9 Mr '58

Mississippian

- Geologic interpretation of argillaceous sediments; clay petrology of upper Mississippian-lower Pennsylvanian sediments of central United States. C. E. Weaver. bibliog maps diags Am Assn Pet Geologists Bul 42:272-309 F '58
- Mississippian bioherms in northeast Oklahoma. J. W. Harbaugh. il map diags Am Assn Pet Geologists Bul 41:2530-44 N '57
- Mississippian sedimentation and oil fields in southeastern Saskatchewan. R. W. Edie. bibliog(26 ref) il maps diags Am Assn Pet Geologists Bul 42:94-126 Ja '58
- Mississippian stratigraphy and petroleum possibilities of central Cape Breton island, Nova Scotia. D. G. Kelley. bibliog il maps diag Can Min & Met Bul 51:341-51 Je '58
- Variations in isotopic composition of oxygen and carbon in Leadville limestone (Mississippian, Colorado) and in its hydrothermal and metamorphic phases. A. E. J. Engel and others. bibliog map diags J Geol 66: 374-93, pl 1 Jl '58

Oligocene

- Two theories of deposition of Oficina formation, eastern Venezuela. R. Passega and others. bibliog Am Assn Pet Geologists Bul 42:881-7 Ap '58

Ordovician

- Lower Ordovician (Beekmantown) succession in Berks county, Pennsylvania. J. P. Hobson, jr. bibliog maps Am Assn Pet Geologists Bul 41:2710-22 D '57

GEOLOGY, Stratigraphic—Ordovician—Cont.

Upper Ordovician stratigraphy in eastern interior region. A. M. Gutstadt. maps diag. Am Assn Pet Geologists Bul 42:513-47 biblog (72 titles, p544-7) Mr '58

Paleocene

Danian stage of paleocene in California. A. R. Loeblich, Jr. Am Assn Pet Geologists Bul 42:2260-1 S '58

Origin and classification of cretaceous, paleocene, and eocene sandstones of western Venezuela. T. H. Van Andel. biblog maps diag. Am Assn Pet Geologists Bul 42:734-63 Ap '58

Paleozoic

Oil and gas possibilities of Ouachita structural belt in Texas and Oklahoma. A. Goldstein, Jr. and P. T. Flawn. Am Assn Pet Geologists Bul 42:876-81 Ap '58

Paleozoic rock exposures, Fortson gap-Dog Canyon areas, Brewster county, Tex. R. T. Hazzard and others. Am Assn Pet Geologists Bul 42:887 Ap '58

Paleozoic stratigraphy and oil possibilities of Kaiparowits region, Utah. E. B. Heylman. biblog maps diag. Am Assn Pet Geologists Bul 42:1781-811 Ag '58

Revision of the lower paleozoic stratigraphy in eastern Vermont. V. R. Murthy. biblog maps J Geol 66:276-87 My '58; Correction. 66:596 S '58

Pennsylvanian

Breccia and small-scale lower Pennsylvanian overthrusting in southern Illinois. F. E. Potter. biblog il maps diag. Am Assn Pet Geologists Bul 41:2695-709 D '57; Discussion. J. C. Fern. 42:1988-9 Ag '58

Cyclothems and larger sedimentary cycles of the Pennsylvanian. J. M. Weller. biblog diag. J Geol 66:195-207 Mr '58

Depositional topography; examples and theory; electric well-log cross sections and isopach maps in the late Pennsylvanian and early Permian of western Texas. D. C. Van Sicken. biblog maps diag. Am Assn Pet Geologists Bul 42:1387-913 Ag '58

Geologic interpretation of argillaceous sediments; clay petrology of upper Mississippian-lower Pennsylvanian sediments of central United States. C. E. Weaver. biblog maps diag. Am Assn Pet Geologists Bul 42:272-309 F '58

Pennsylvanian outcrops of significance, Mills county, Tex. R. Pavlovic. biblog il map. Am Assn Pet Geologists Bul 42:888-92 Ap '58

Pennsylvanian subsurface geology of Sutton and Schleicher counties, Tex. R. W. Hall and E. P. Rall. biblog maps diag. Am Assn Pet Geologists Bul 42:839-70 Ap '58

Pennsylvanian system of Four Corners region. S. A. Wenger and M. L. Matheny. maps diag. Am Assn Pet Geologists Bul 42:2048-106 biblog(p2102-6) S '58

Permian

Depositional topography; examples and theory; electric well-log cross sections and isopach maps in the late Pennsylvanian and early Permian of western Texas. D. C. Van Sicken. biblog maps diag. Am Assn Pet Geologists Bul 42:1897-913 Ag '58

Permian Basin correlator; chart. Oil & Gas J 56:235 Ap 7 '58

Pleistocene

Alteration of clay minerals in Illinoian till by weathering. J. B. Droste and J. C. Tharin. biblog Geol Soc Bul 69:61-7 Ja '58

Citronelle age problem. J. A. Doering. biblog maps diag. Am Assn Pet Geologists Bul 42:764-86 Ap '58

Early pleistocene sediments in Indiana. W. J. Wayne. biblog map J Geol 66:3-15, pl 1 Ja '58

Important elements in the classification of the Wisconsin glacial stage. M. M. Leighton. maps diag J Geol 66:288-309 biblog (p307-9) My '58

Paleontology and stratigraphy of some marine pleistocene deposits in northwest Los Angeles basin, California. P. U. Rodda. biblog il maps diag. Am Assn Pet Geologists Bul 41:2475-92 N '57

Paleotemperature analysis of core 280 and pleistocene correlations. C. Emiliani. biblog pl J Geol 66:264-75 My '58

Shallow submerged marine terraces of southern California. K. O. Emery. maps Geol Soc Bul 69:39-59, pl 1 biblog(p57-9) Ja '58

Pliocene

Citronelle age problem. J. A. Doering. biblog maps diag. Am Assn Pet Geologists Bul 42:764-86 Ap '58

Pre-Cambrian

Anthracitic coal from Precambrian upper Huronian black shale of the Iron River district, northern Michigan. S. A. Tyler and others. biblog maps Geol Soc Bul 68:1293-304, pl 1-4 O '57

Bluminous and other organic substances in Pre-Cambrian of Minnesota. F. M. Swain and others. biblog map diag. Am Assn Pet Geologists Bul 42:173-89 Ja '58

Tectonics of eastern flank and foothills of Front Range, Colorado. C. M. Boos and M. T. Boos. maps diag. Am Assn Pet Geologists Bul 41:2603-76 biblog(80 titles, p2674-6) D '57

Quaternary

Geology of the Mount Garibaldi map-area, southwestern British Columbia, Canada; geomorphology and quaternary volcanic rocks. W. H. Mathews. biblog maps diag. Geol Soc Bul 69:179-98, pl 1-6 F '58

Problems in applying standard stratigraphic practice in nonmarine quaternary deposits. J. C. Frye and G. M. Richmond. Am Assn Pet Geologists Bul 42:1979-83 Ag '58

Silurian

Stratigraphic analysis of Silurian rocks in Michigan basin. W. N. Melhorn. biblog maps Am Assn Pet Geologists Bul 42:816-38 Ap '58

Tertiary

Alkal feldspars in a tertiary porphyry near Hillsboro, N.Mex. F. J. Kuellmer. biblog maps diag J Geol 66:151-62 Mr '58

Tertiary stratigraphic units of western Mojave desert, Calif. T. W. Dibble, Jr. biblog map diag. Am Assn Pet Geologists Bul 42:135-44 Ja '58

Triassic

Correlation of the triassic formations of North America exclusive of Canada. fold pls maps Geol Soc Bul 68:1461-513 biblog (330 titles, p 1503-13) N '57

GEOLOGY, Structural

Geology of the Mount Garibaldi map-area, southwestern British Columbia, Canada. W. H. Mathews. biblog fold map maps diag. Geol Soc Bul 69:161-98, pl 1-6 F '58

Gulf Coast tectonics. M. Bornhauser. biblog maps diag. Am Assn Pet Geologists Bul 42:339-70 F '58

Regional geology of circum-Mediterranean region. H. D. Klemme. maps diag. Am Assn Pet Geologists Bul 42:477-512 biblog(74 titles, p510-12) Mr '58

Structural control of contact metasomatic deposits in the Peruvian cordillera. A. J. Terrones L. biblog il maps diag. Min Eng 10:Trans 365-72 Mr '58

Structural geology of the southern Snake range. Nev. H. Drewes. biblog maps diag. Geol Soc Bul 69:221-39, pl 1-2 F '58

See also

Faults (geology)

GEOLOGY, Submarine. See Submarine geology

GEOMAGNETISM. See Magnetism, Terrestrial

GEOMETRICAL drawing

See also

Circles

Projection, Axonometric

GEOMETRY

Earth geometry; a theorem. K. Toman. diag. Inst. Radio Eng Proc 46:495 F '58

Survey of the use of non-Euclidean geometry in electrical engineering. E. F. Bolinder. diag. Franklin Inst J 265:169-86 biblog(59 titles, p 184-6) Mr '58

See also

Topology

GEOMORPHOLOGY. See Geology, Structural; Physical geography

GEOPHONE

Transient behavior of patterns. J. E. White. diag. Geophysics 23:26-43 Ja '58; Discussion. C. H. Savit. 23:360-2 Ap '58

GEOPHYSICAL instruments

See also

Sismographs

GEOPHYSICAL research

Research and progress in exploration. H. F. Dunlap and C. H. Johnson. il map diag. Geophysics 23:267-84 Ap '58

See also

International geophysical year

GEOPHYSICS

Geological and geophysical synthesis of the tectonics of portions of British Columbia, the Yukon Territory, and Alaska. P. St. Amand. maps Geol Soc Bul 68:1343-70, pl 1 biblog(1369-70) O '57

GEOPHYSICS—Continued

Geological factors in tunnel construction; geophysical investigations for the Lehigh tunnel, H. L. Scharon and A. B. Cleaves, plan diags *Am Soc C E Proc* 84 (ISM 2 no 1650) 1:1-11 My '58
 Measuring earth conductivity; an experimental comparison of radio and electrode methods, M. Strohfeldt, *Electronic & Radio Eng* 34:425-7 N '57

See also

Earth movements
 Earth temperature
 Earthquakes
 Gravity
 Magnetism, Terrestrial
 Meteorology
 Petroleum—Prospecting—Geophysical methods
 Prospecting—Geophysical methods
 Sedimentation and deposition
 Seismometry
 Water, Underground
 Weathering (rocks)

Bibliography

Reviews. Published in quarterly numbers of *Geophysics*

Patents

Patents. O. F. Ritzmann. Published in quarterly numbers of *Geophysics*

Tables, calculations, etc.

Frequency analysis for gravity and magnetic interpretation, W. C. Dean, bibliog diags *Geophysics* 23:97-127 Ja '58
 Numerical computation of Cagniard's integrals, C. H. Dix, bibliog diags *Geophysics* 23:198-222 Ap '58
 Slide rule for near-surface refraction problems, W. A. Knox, diags *Geophysics* 23:154-63 Ja '58

GEORGE Washington bridge. See Hudson River bridges

GEORGIA

See also

Architecture, Domestic—Georgia
 Geology—Georgia
 Petroleum—Georgia

GEORGIA university

School for growups; conference center, il plan *Arch Forum* 108:100-5 Ja '58

GEOTHERMAL steam. See Steam, Natural**GERANIUM oil**

Geranium African, S. Arctander, il *Drug & Cosmetic Ind* 82:448-9-4 Ap '58
 Geranium bourbon, S. Arctander, il *Drug & Cosmetic Ind* 82:310-11-4 Mr '58

GERMAN rubber society

Meeting, 5th postwar, Cologne, May 7-10; abstracts of papers, *Rubber Age* 83:1016-17 S '58; *Rubber World* 139:87-8 O '58

GERMANATES

Magnetic germanates isostructural with garnet, A. Tauber and others, bibliog *J Ap Phys* 29:385-7 Mr '58

GERMANIA. See Germanium oxides**GERMANITE**

Paragenetic relationships of germanite and renierite from Tsumeb, South West Africa, C. B. Selar and B. H. Geier, bibliog *il Econ Geol* 52:612-31 S '57

GERMANIUM

Application of silicon and germanium power rectifiers in the steel industry, R. J. Moran, il diags *Iron & Steel Eng* 35:117-22 Ag '58
 Characteristics of junctions in germanium, N. J. Harrick, bibliog diags *J Ap Phys* 29:764-70 My '58

Dislocation arrays in germanium, W. W. Tyler and W. C. Dash, bibliog *il J Ap Phys* 28:1221-4 N '57

Effect of crystal growth variables on electrical and structural properties of germanium, R. D. Rost, bibliog *il diags RCA R* 19:349-87 S '58

Effects of neutron irradiation on germanium and silicon, G. C. Messenger and J. P. Spratt, bibliog diags *Inst Radio Eng Proc* 46:1033-44 Je '58

Electrode potential of germanium in aqueous solutions and the effect of illumination, W. W. Harvey and H. C. Gatos, *J Ap Phys* 29:1267-8 Ag '58

Emissivity at 0.65 micron of silicon and germanium at high temperatures, F. G. Allen, *J Ap Phys* 28:1510-11 D '57

Etching of germanium crystals by ion bombardment, G. K. Wehner, bibliog *il J Ap Phys* 29:217-21 F '58

Experiment showing the influence of surfaces on 1/f noise in germanium, J. J. Brophy, diags *J Ap Phys* 29:1377-8 S '58

Field modulation of liquid induced excess surface currents on germanium *p-n* junctions, W. T. Erikson, diags *J Ap Phys* 29:730-3 Ap '58

Generation recombination noise in intrinsic and near-intrinsic germanium crystals, J. E. Hill and K. M. van Vliet, bibliog *J Ap Phys* 29:177-82 F '58

Germanium and silicon take the lead among semiconductor rectifiers, R. A. York, *Product Eng* 29:89-91 My 12 '58

Germanium *n-p-i-n* junction transistor triodes, D. M. Unger and A. Avakian, *Inst Radio Eng Proc* 46:783-4 Ap '58

Germanium photo-tetrode, F. A. Stahl and G. Dermit, diags *Electronic Ind* 17:64-6 JI '58

Germanium resistance thermometer, il *Bell Lab Rec* 36:261 JI '58

Germanium resistance thermometer, il *diags Elec Eng* 77:660 JI '58

Germanium resistance thermometer, *diags Mech Eng* 80:92 Je '58

Grinding hemispheres of germanium and silicon, D. B. Gasson, *J Sci Instr* 35:33 Ja '58

Hall effect and its application to power measurement at 10Gc/s, H. E. M. Barlow and S. Kataoka, bibliog diags *Inst E E Proc* 105 pt B:53-60 Ja '58

Harmonic generator by use of the nonlinear capacitance of germanium diode, S. Kita, *diags Inst Radio Eng Proc* 46:1307 Je '58

Hillocks, pits, and etch rate in germanium crystals, E. W. Batterman, bibliog *il diags J Ap Phys* 28:1236-41 N '57

Hot probe measures germanium diffusion depth, M. Bellevue, il diags *Electronics* 31:106-4 S 26 '58

How to use the germanium rectifier, A. L. DiVenuti, Jr, il diags *Power Eng* 62:78-80 Ja '58

Low-temperature irradiation of *n*-type germanium, J. W. Cleland and J. H. Crawford, Jr, bibliog *J Ap Phys* 29:149-51 F '58

Measurement of the Hall mobility in *p*-type germanium at 9121 mc/cycles, Y. Nishina and W. J. Spry, bibliog *diags J Ap Phys* 29:280-1 F '58

Melted layer crystal growth and its application to germanium, F. H. Horn, il *diags Electrochem Soc J* 105:393-5 JI '58

Narrow base germanium photodiodes, D. E. Sawyer and R. H. Radiker, bibliog diags *Inst Radio Eng Proc* 46:1122-30 Je '58

Optical measurement of film growth on silicon and germanium surfaces in room air, R. J. Archer, bibliog *Electrochem Soc J* 104:619-22 O '57; Discussion, 105:365-6 Je '58

Paragenetic relationships of germanite and renierite from Tsumeb, South West Africa, C. B. Selar and B. H. Geier, bibliog *il Econ Geol* 52:612-31 S '57

Preparation and regeneration of clean germanium surfaces, S. P. Wolsky, bibliog *J Ap Phys* 29:1132-3 JI '58

Properties of silicon and germanium, E. M. Conwell, diags *Inst Radio Eng Proc* 46:1281-300 bibliog (p 1298-300) Je '58

Reaction of germanium with nitric acid solutions, M. C. Cretella and H. C. Gatos, bibliog *diags Electrochem Soc J* 105:487-96 S '58

Selective electrolytic etching of germanium and silicon junction transistor structures, I. A. Lesk and R. E. Gonzalez, bibliog *il diags Electrochem Soc J* 105:469-72 Ag '58

Semi-conductor diode specifications; 1958-59 international listings for germanium and silicon types; including type number, manufacturer, forward and inverse currents and voltages, operating temperature, diags *Electronic Ind* 17:71-4 Je '58

Slicing and dicing crystals of silicon and germanium, il *Mach* 65:128-30 O '58

Solid-state dissolution of germanium by indium in semiconductor devices, J. Roschen and C. G. Thornton, il *J Ap Phys* 29:923-8 Je '58

Some effects of environment on fracture stress of germanium, P. Breidt, Jr, and others, *J Ap Phys* 29:226 F '58

Surface studies on single-crystal germanium, S. G. Ellis, bibliog *il diags J Ap Phys* 28:1262-9 N '57

Temperature measurements at absolute zero; germanium resistance thermometer, il *diags Electronics* 31:84 Ap 25 '58

Thermal restoration of oxygenated germanium surfaces, A. J. Rosenberg and others, bibliog diags *J Ap Phys* 29:71-5 My '58

Thermal turnover in germanium *p-n* junctions, A. W. Matz, bibliog (27 titles) *Inst E E Proc* 104 pt B:555-64 N '57

GERMANIUM—Continued

Tiny resistance thermometer made of germanium crystal, diag Machine Design 30:14-15 My 1 '58

See also
Transistors

Analysis

Determination of germanium by the heteropoly blue method, E. R. Shaw and J. F. Corwin, bibliog Anal Chem 30:1314-16 Ag '58

Cleaning

Application of the ion bombardment cleaning method to titanium, germanium, silicon, and nickel as determined by low-energy electron diffraction, H. E. Farnsworth and others, bibliog diags J Ap Phys 29:1150-61 Ag '58

Metallography

Floating crucible technique for growing uniformly doped crystals, W. F. Leverton, diag J Ap Phys 29:1241-4 Ag '58

Growth of silicon and germanium disks, J. R. O'Connor and W. A. McLaughlin, il diag J Ap Phys 29:222 F '58

Metallographic aspects of alloy junctions, A. S. Rose, il diags RCA R 19:423-32 S '58

GERMANIUM alloys

Construction and electrical properties of a germanium alloy-diffused transistor, P. J. W. Jochems and others, diags Inst Radio Eng Proc 46:1161-5 Je '58

Electron mobility in the germanium-silicon alloys, B. Goldstein, bibliog diags RCA R 13:458-65 D '57

Some properties of gallium arsenide-germanium mixtures, D. A. Jenny and R. Braunstein, il J Ap Phys 29:596-7 Mr '58

Analysis

Spectrographic analysis of silicon-germanium alloys, M. C. Gardels and H. H. Whitaker, bibliog Anal Chem 30:1496-8 S '58

GERMANIUM arsenide

Germanium arsenide as diffusion surface compound, W. Waring and others, J Ap Phys 29:1002-3 Je '58

GERMANIUM bismuthate

Germanium bismuthate, $\text{Ge}_2\text{Bi}_2\text{O}_7$; crystallographic data, A. Durif, Anal Chem 30:1161 Je '58

GERMANIUM chlorides

Reactions of germanium tetrachloride with lithium aluminohydrides: lithium tri-*t*-butoxyaluminohydride as an efficient reagent for the preparation of germane, S. Suiishi and J. N. Keith, bibliog Am Chem Soc J 80:4138-40 Ag 20 '58

GERMANIUM compounds

See also

Germanium bismuthate

GERMANIUM oxides

Chalcedony-like variety of germania, J. F. White and others, bibliog Il Am Mineralogist 43:330-4 My '58

Hydrothermal reactions in the $\text{Na}_2\text{O}-\text{GeO}_2$ system, E. R. Shaw and others, bibliog Am Chem Soc J 80:1536-9 Ap 5 '58

Influence of hydration-dehydration of the germanium oxide layer on the characteristics of p-n-p transistors, J. T. Wallmark and R. K. Johnson, bibliog RCA R 18:512-24 D '57

Low temperature heat capacities and entropies at 298.15° K. of some oxides of gallium, germanium, molybdenum and niobium, E. G. King, bibliog Am Chem Soc J 80:1799-800 Ap 20 '58

GERMANIUM rectifier. See Electric rectifiers

GERMANY

See also subdivision Germany under special subjects, e.g.

Airplanes, Military
Atomic power plants
Automobile industry and trade
Bridges
Chemical engineering
Chemical industries
Coal mines and mining
Education
Electricity supply
Engineers
Hydroelectric plants
Moving picture industry
Petroleum industry and trade
Petroleum pipe lines
Railroads
Rubber industry and trade
Steel industry and trade
Steel works
Television broadcasting
Textile industry
Water supply
Waterways

Industries and resources

See also

Ruhr valley—Industries and resources

GERMICIDAL soap. See Soap, Antiseptic

GERMINATION

Changes in the composition of soybeans on sprouting, J. L. McKinney and others, bibliog Am Oil Chem Soc J 35:364-8 J1 '58

Effect of gibberellic acid upon the germination of barley, E. O. Morris, Chem & Ind p97 Ja 25 '58

Germination and growth of cress, N. Leys, Research 11:43-4 Ja '58

Maturation and germination of peas: symbolism, Chem & Ind p436-8 Ap 26 '58

GETZENDANER, Frank Marshall

Memorial, E. D. Pressler, por Am Assn Pet Geologists Bul 42:911-14 Ap '58

GIBB, Sir Alexander

Appreciation, G. Maunsell, Engineer 205:209 F 7 '58

Obituary, por Engineer 205:178-9 Ja 31 '58; Engineering 185:132 Ja 31 '58

GIBBERELIC acid

Effect of gibberellic acid upon the germination of barley, E. O. Morris, Chem & Ind p97 Ja 25 '58

Fluorometric determination of gibberellic and gibberellic acids in fermentation products, commercial formulations, and purified materials, F. Kavanagh and N. R. Kuzel, bibliog J Agri & Food Chem 6:459-63 Je '58

Mass isotope dilution assay for gibberellic acid, B. H. Arison and others, bibliog Anal Chem 30:1083-5 Je '58

Analysis

Fluorometric determination of gibberellic and gibberellic acids in fermentation products, commercial formulations, and purified materials, F. Kavanagh and N. R. Kuzel, bibliog J Agri & Food Chem 6:459-63 Je '58

GIBBERELLIN

Gibberellins; commercial success or failure? il Can Chem Process 42:88-90+ F '58

Gibberellins for agriculture, J. M. Merritt, il J Agri & Food Chem 6:184-7 Mr '58

GIBBS, Willard, medal

Gibs award honors atomic pioneer, Willard F. Libby, Chem & Eng N 36:110 Je 9 '58

GIBBS paradox. See Entropy

GIFTS

See also

Christmas gifts

GILLESPIE

Structure of leached gillespite, a sheet silicate, A. Pabst, bibliog il diags Am Mineralogist 43:940-80 S '58

GILSONITE

Controlled atmosphere calcining makes gilsonite coke, G. M. Fekula and C. H. Case, flow diag il Pet Eng 30:C20+ Je '58

Gilsonite road mix, Oil & Gas J 55:70 J 2 '57

New way to move solids; American gilsonite co., J. H. Henderson, jr, Oil & Gas J 56:127+ Je 16 '58

Pipeline leaks rock haulage problem; American gilsonite co. W. B. Lenhart, il map Rock Prod 61:106-9 Mr '58

Vertical-seam mining by jet cutting, fluming and pumping; Bonanza mine of the American gilsonite co. il map diag Coal Age 62:80-3 N '57

Where gilsonite becomes a premium motor fuel, D. H. Stormont, il diag Oil & Gas J 55:93-100 N 25 '57

GIRBOTOL process

See Gas, Natural—Sulphur content; Petroleum refining—Sulphur removal

GLACIAL epoch

See also

Geology, Stratigraphic—Pleistocene

GLACIAL geology

Crevasse detector blazes glacial trails, H. P. Van Eckhardt, il diags Electronics 31:63-5, cover Ja 17 '58; Excerpt, Eng J 41:88 My '58

Design of crevasse detector for polar exploration, J. C. Cook, bibliog il diags Franklin Inst J 264:361-77 N '57

International geophysical year; glaciology, D. C. Rose, il Eng J 41:55-6 Ag '58

Marginal zones of vanished glaciers reconstructed from the preconsolidation-pressure values of overridden silts, W. Harrison, pl maps diags J Geol 66:72-95 bibliog(55 titles, p89-90) Ja '58

Pebble and sand lithology of the major Wisconsin glacial lobes of the central lowland, R. C. Anderson, bibliog map diags Geol Soc Bul 68:1415-49 N '57

See also

Drift

Geology, Stratigraphic—Pleistocene

GLACIAL lakes

Geotechnical properties of glacial lake clays. T. H. Wu. bibliog il map diags Am Soc C E Proc 84 ISM 3 no 17321:1-34 Ag '58

GLACIERS

Glaciers and climate, nature's heat and mass transfer problem. P. A. Schoeck. Heating-Piping 30:185-6 My '58

Glaciers and vegetation in southeastern Alaska. D. B. Lawrence. il maps diags Am Scientist 46:83-122 bibliog(p 120-2) Je '58

Sierra Nevada glacier. nature's heat and mass transfer problem. P. A. Schoeck. Heating-Piping 30:185-6 My '58

GLANDS, Ductless

See also

Parathyroid glands

Thymus gland

Thyroid gland

GLARE

Discomfort glare at low adaptation levels; multiple sources. R. C. Putnam and K. D. Bower. il diags Illum Eng 53:174-80; Discussion. 180-4 Ap '58

Discomfort glare evaluator; abstract. S. K. Guth and J. F. McNeils. il Illum Eng 53: 462-3 S '58

Study of glare from very large sources; abstract. R. G. Hopkinson and R. C. Bradley. Illum Eng 53:465-6 S '58

GLASS

Adhesion of polyester resin to treated glass surfaces. N. M. Trivisonno and others. bibliog il diag Ind & Eng Chem 50:912-17 Je '58

American ceramic society Glass division fall meeting, Bedford Springs, Pa. Oct. 15-17; with program and abstracts of papers. Glass Ind 39:533-4 O '58

Density studies on the function of rare-earth ions in glass matrices. R. C. Vickery and R. Sedlacek. bibliog Am Cer Soc J 41:422-6 O 1 '58

Glass effect in distillate fuel stability. J. G. Christian and others. Ind & Eng Chem 50: 1153-6 Ag '58

Glass formation and properties of glasses in the system $\text{NaO}-\text{B}_2\text{O}_3-\text{SiO}_2-\text{TiO}_2$. J. H. Strimple and E. A. Giess. diag Am Cer Soc J 41:231-7 J 1 '58

Glass ranks as true engineering material; abstract. W. W. Shaver. S A E J 66:115 Ap '58

Glass scratch effect. J. Bourdillon. bibliog il J Colloid Sci 13:407-9 Ag '58

Glasses containing oxides of rare earth metals; patent. Glass Ind 39:434 Ag '58

How to beat instrument blindness; reflections from glass of instrument covers. G. A. LeHew and J. R. Andres. il diags Space/Aeronautics 30:64-9 O '58

Properties of materials; glass (industrial). Materials in Design Eng 48:234-5 Mid-O '58

Recent translations of Russian papers of interest to the glass industry (cont). diags Glass Ind 39:275-8+, 385-6, 539+ My, J, O '58

Sealing a calcium fluoride window to glass. M. H. Greenblatt. diag R Sci Instr 29:738 Ag '58

Sealing glass to sapphire. L. S. Nelson and G. P. Spindler. diags R Sci Instr 29:324-6 Ap '58

Shape of the liquidus surface as a criterion of stable glass formation. E. H. Hamilton and G. W. Cleek. bibliog J Res Nat Bur Stand 60:533-6 Je '58

Small glass drop forming device. H. P. Beerman. il diag Am Cer Soc Bul 37:272-3 Je 15 '58

Some properties of glasses in the system barium oxide-boric oxide-silica. E. H. Hamilton and others. bibliog Am Cer Soc J 41:209-15 Je 1 '58

Structural interpretation of immiscibility in oxide systems. E. M. Levin and S. Block. bibliog diags Am Cer Soc J 40:95-106, 113-18; 41:49-54 Mr 1-Ap 1 '57, F 1 '58; Abstract. Glass Ind 39:155-6 Mr '58

Tempered glass shaft supports wafer switches; award of merit in Materials in design engineering competition. diags Materials in Design Eng 47:141 Ap '58

See also

American ceramic society—Glass division

Enamel and enameling

Glass manufacture

Glassware

Glassware, Laboratory

Glassy state

Glazes

Stained glass

Windows

Analysis

Determination of several valences of iron, arsenic, antimony and selenium in glass; abstract. P. Close and others. Glass Ind 38:687-8 D '57

Fluoride analysis of glasses and silicate materials by pyrohydrolysis separation. P. B. Adams and J. P. Williams. bibliog il diag Am Cer Soc J 41:377-80 S 1 '58

Chemistry

Inhibition of alkaline attack on soda-lime glass. G. A. Hudson and E. R. Bacon. bibliog Am Cer Soc Bul 37:185-8 Ap 15 '58; Excerpts. Glass Ind 39:389-90 J 1 '58

Role of vitrons in alkali silicate binary glasses. L. W. Tilton. bibliog il diags J Res Nat Bur Stand 60:351-64 Ap '58

Coating

Glass composition and metal coated glass fiber; patent. Glass Ind 38:692-3 D '57

Sensitizing, super-sensitizing and irridizing compounds. S. Wein. Glass Ind 38:625-8+, 679-84+ N-D '57

Color

Chemicals used in the manufacture of ceramic colors. P. Henry. Am Cer Soc Bul 36:431-2 N 15 '57

Color and light scattering of platinum in some lead glasses. R. J. Ryder and G. E. Rindone. bibliog il Am Cer Soc J 41:415-22 O 1 '58

Selenium utilization in soda-lime-silica glass manufacture. D. K. Hill. Glass Ind 39:487-8 S '58

Decoration

Acid staining glassware; patent. diag Glass Ind 39:101-2 F '58

Decorating machine; patent. Glass Ind 39:42 Ja '58

Make stained glass in two-step process; painting-lamination operation. il Cer Ind 71: 78-9 Ag '58

Defects

Any flaws in glass? try the breath test. il Cer Ind 69:77 N '57

Effect of origin flow characteristics on glass strength. W. C. Levensgood. bibliog il J Ap Phys 29:820-6 C '58

Glass; a new listing of production defects, causes and cures. diags Cer Ind 70:68-70 F; 74-5 Mr; 132-5 Ap '58

Durability

Study of surface structure of glass as related to its durability. H. E. Simpson. bibliog il Am Cer Soc J 41:43-9 F 1 '58; Abstract. Glass Ind 38:686 D '57

Electric properties

Dielectric losses of some simple ternary silicate glasses; abstract. D. W. Rinehart. Cer Ind 69:37 D '57

Viscosity, density, and electrical resistivity of molten alkaline-earth borate glasses with three mole per cent of potassium oxide. L. W. Coughanour and others. bibliog Am Cer Soc J 41:324-9 Ag 1 '58

Expansion and contraction

Effect of thermal history on glass expansion characteristics. H. E. Hazy and H. N. Ritland. bibliog Am Cer Soc J 40:436-42 D 1 '57

Low expansion solder glasses in the system $\text{ZnO}-\text{B}_2\text{O}_3-\text{V}_2\text{O}_5$. Glass Ind 38:571-2 O '57

Fracture

Fracture in glass and the interpretation of fracture markings; abstract. S. Bateson. Glass Ind 39:322-5 Je '58

Fracture of glass under various liquids and gases. C. J. Culf. Glass Ind 39:103-4 F '58

Modern concepts of fracture and flow; equilibrium in particulate bodies. E. F. Poncelet. bibliog il diag Glass Ind 38:551-3, 617-23 O-N '57; Correction. 38:710 D '57

Gas content

Apparatus for measuring the rate of absorption of a bubble in glass; abstracts. C. H. Greene. Cer Ind 69:88 D '57; Glass Ind 38: 676 D '57

Diffusion of argon in a potassium-lime-silica glass. M. B. Reynolds. bibliog diag Am Cer Soc J 40:395-8 N 1 '57

GLASS—Continued

Heat transmission

Calculation of temperature distribution in glass plates undergoing heat treatment; abstract. R. Gordon. *Cer Ind* 69:87-8 D '57

Heat gain through windows shaded by metal awnings. N. Ozisik and L. F. Schutrum. *II diag*s Heating-Piping 30:121-5 J1 '58

History

Drawn sheet glass process of 1871; tr. by S. R. Scholer. E. Borel. *diag*s Glass Ind 39: 482-3+ S '58

Infrared rays transmission

Infrared-transmitting glasses in the system $K_2O-Sb_2O_3-Sb_2S_3$. B. W. King and G. D. Kelly. *II diag*s Am Cer Soc J 41:367-71 S 1 '58; Abstract. *Cer Ind* 69:88+ D '57

Optical and physical properties of some calcium aluminates glasses. H. C. Hafner and others. *bibliog* Am Cer Soc J 41:315-23 A 1 '58

Joining

Pore closure for double glazed unit; patent. *diag*s Glass Ind 38:631-2 N '57

Sealing the window and cone of television tubes. A. H. Edens. *II diag*s Glass Ind 39: 634-8+ O '58

Spectrophotometric quality control of welding glass density. R. H. Peckham. *diag* Am Cer Soc Bul 36:460-3 D 15 '57

Joining to metal

Cathode ray tube envelope; patent. *Glass Ind* 39:223 A 5 '58

Glass to metal seal for high-frequency electronic tubes; patent. *Glass Ind* 39:387 J1 '58

Glass-to-metal seals. J. Comer. *II diag*s Elec Manuf 61:110-14+ Mr; 62:102-7 Ag '58

Hydrogen treating process for steel; method of improving glass-coating properties of steel. J. H. Heaf and J. D. Sullivan. *bibliog* *II Am Cer Soc J* 41:141-5 Ap 1 '58

Metal through glass seal. E. J. Davis. *diag* J Sci Instr 35:308 Ag '58

Method of making glass-to-metal seals; use of SO₂; patent. *Glass Ind* 39:159-60 Mr '58

Observations on the physical appearance of chemically attacked glassed steel surfaces. D. K. Priest. *bibliog* *II diag* Am Cer Soc Bul 36:416-18 N 15 '57

Quartz-to-metal seal; patent. *diag* *Glass Ind* 38:704 D '57

Simple refractory-metal and glass-metal seals. W. D. Jamieson. *J Sci Instr* 35:73 F '58

Tension stresses in glass coatings and in glass-metal seals in the annealing range. J. C. Turnbull. *II diag* Am Cer Soc J 41: 372-6 S 1 '58

Lead content

Spectra of simple glasses in the infrared range and their relations to the structure of glass; lead glasses; tr. by W. Eitel. V. A. Florinskaya and R. S. Pechenkina. *Glass Ind* 39:93-6 F '58

Light transmission

Color and light scattering of platinum in some lead glasses. R. J. Ryder and G. E. Rindone. *bibliog* *II Am Cer Soc J* 41:415-22 O 1 '58

Glass; its transparency and structure. H. H. Holscher. *bibliog* *II diag*s *Glass Ind* 39:81-9+, 143-50, 212-20+ F-Ap '58

Opacity

How enamels, glasses and glazes are opacified. W. W. Coffeen. *bibliog* *diag* *Cer Ind* 70:120-2+ Ap; 76-7+ My '58

Polishing

Acid polishing of glass; abstract. M. M. Skorniyakov. *Glass Ind* 39:560 O '58

Supersonic boring and grinding; abstracts of two papers. L. B. Pirozhnikov and others. *diag* *Glass Ind* 39:278 My '58

Spectra

Spectra of simple glasses in the infrared range and their relations to the structure of glass; tr. by W. Eitel. V. A. Florinskaya and R. S. Pechenkina. *bibliog* *Glass Ind* 39:27-31, 93-6, 151-4+ Ja-Mr '58

Strains and stresses

Measurement of stress-optical coefficient and rate of stress release in commercial soda-lime glasses. A. F. Van Zee and H. M. Noritake. *bibliog* *diag*s Am Cer Soc J 41: 164-76 My 1 '58

Relations between rate of stress release and viscosity in soda-lime, potash-barium and borosilicate glasses; abstract. D. A. McGraw and C. L. Babcock. *Glass Ind* 39:324 Je '58

Stress rupture in glass. H. A. Elliott. *bibliog* *J Ap Phys* 29:224-5 F '58

Tension stresses in glass coatings and in glass-metal seals in the annealing range. J. C. Turnbull. *II diag* Am Cer Soc J 41: 372-6 S 1 '58

Strength

Bursting strength of glass discs. P. L. Thorpe and D. Dawson. *II diag*s *Engineering* 184: 591-3 N 8 '57

Crossbending tests of glass fibers and the limiting strength of glass; R. E. Mould. *J Ap Phys* 29:1263-4 Ag '58

Effect of origin flaw characteristics on glass strength. W. C. Levensgood. *bibliog* *II J Ap Phys* 29:820-6 My '58

Effect of treatment on the strength of glass; abstract. G. M. Bartenev and A. I. Ivanova. *Glass Ind* 39:386 J1 '58

Making a glass article of high mechanical strength; patent. *Glass Ind* 39:300+ My '58

Strength and fatigue of abraded glass under controlled ambient conditions; abstract. R. E. Mould. *Cer Ind* 69:86-7 D '57

Testing glass for strength. G. M. Bartenev and A. I. Ivanova. *Glass Ind* 39:423-5+ Ag '58

See also

Glass—Fracture

Surface

Effect of atmosphere on surface tension of glass. N. M. Parikh. *bibliog* *diag*s Am Cer Soc J 41:18-22 Ja 1 '58

Process for surfacing glass; patent. *diag* *Glass Ind* 39:337-8 Je '58

Study of surface structure of glass as related to its durability. H. E. Simpson. *bibliog* *II Am Cer Soc J* 41:43-9 F 1 '58; Abstract. *Glass Ind* 38:686 D '57

Temperature effect

Determination and use of the sag point as a reference point in the heating of glasses. S. Spinner and others. *bibliog* *II diag* J Res Nat Bur Stand 59:227-31 S '57; same cond. *Glass Ind* 39:283-4 My '58

Tension stresses in glass coatings and in glass-metal seals in the annealing range. J. C. Turnbull. *II diag* Am Cer Soc J 41: 372-6 S 1 '58

Use sag point as glass thermal check. *II Cer Ind* 71:76-7 Ag '58

Testing

Measurement of stress-optical coefficient and rate of stress release in commercial soda-lime glasses. A. F. Van Zee and H. M. Noritake. *bibliog* *diag*s Am Cer Soc J 41:164-75 My 1 '58

New apparatus for studying static and dynamic glass-to-glass friction; abstract. R. D. Southwick. *Cer Ind* 69:86 D '57

Stress measurement in circular cylinders. P. M. Sutton. *bibliog* *diag* Am Cer Soc J 41: 103-9 Mr 1 '58

Testing glass for strength. G. M. Bartenev and A. I. Ivanova. *Glass Ind* 39:423-5+ Ag '58

See also

Glass—Fracture

GLASS, Cellular

Formation of porous glass; abstract. D. P. Dobychin and N. N. Kiseleva. *Glass Ind* 39:385 J1 '58

Thermal insulation materials; cellular glass. R. J. Fabian. *Materials in Design Engr* 47: 137 Mr '58

GLASS, Colored

Beneficiation of amber glass sands. H. F. Utley. *II Pit & Quarry* 60:150-1 Ja '58

Gray glass. C. C. Persun. *II Prog Arch* 39: 156-8 Ap '58

Method of glass coloration and article produced thereby; patent. *Glass Ind* 38:566 O '57

Standards

Standardization of Lovibond glasses; statement from the color committee. Am Oil Chem Soc J 35:134-5 Mr '58

GLASS, Effect of radiation on
Birefringence in neutron-irradiated boron glass. C. Mylonas and others. *II J Ap Phys* 29:864-5 My '58

GLASS, Effect of radiation on—Continued

Neutron irradiation effects in borosilicate glass and their detection by ultrasonic attenuation and velocity measurements. R. Truett and others. *J Ap Phys* 29:225-6 F '58

Nucleation and growth in a photosensitive glass. R. D. Maurer. *bibliog* il (cover) *J Ap Phys* 29:1-8 Ja '58

Organic-glass scintillators. J. W. Downs and F. L. Smith. *Nucleonics* 16:94-6 Mr '58

Radiation effects from (v,α) reactions in boron glass and energy of the reacting neutrons. C. Mylonas and R. Truett. *il diags J Ap Phys* 29:1252-60 Ag '58

GLASS, Effect of temperature on. See Glass—Temperature effect

GLASS, Laminated

Fabrication in glass; Triplex safety glass co. *il diag Engineer* 205:939-40 Je 20 '58

Glass laminate, article and method; patent. *Glass Ind* 39:298+ My '58

Make stained glass in two-step process; painting-lamination operation. *il Cer Ind* 71:78-9 Ag '58

See also

Glass, Safety

GLASS, Molten

Glass bath heats forging billets. A. di Giulio. *il Steel* 143:74 Ag 1 '58

Heat billets with molten glass. *il Iron Age* 182:87 Ag 14 '58

Reduction effects in molten glass. J. E. Pena. *Glass Ind* 39:339-40 Je '58

Viscosity, density, and electrical resistivity of molten alkali-earth borate glasses with three mole per cent of potassium oxide. L. W. Coughanour and others. *bibliog Am Cer Soc J* 41:324-9 Ag 1 '58

GLASS, Optical

Role of vitrons in alkali silicate binary glasses. L. W. Tilton. *bibliog il diags J Res Nat Bur Stand* 60:351-64 Ap '58

GLASS, Porous. See Glass, Cellular

GLASS, Safety

Curved safety glass. *il Engineering* 186:58-9 Jl 11 '58

See also

Glass, Laminated

GLASS, Stained. See Stained glass

GLASS, Volcanic. See Perlite

GLASS bending

Glass bending apparatus; patent. *diag Glass Ind* 39:42 Ja '58

Radiant gas heat in glass bending operations. H. A. McMaster. *il diag Glass Ind* 39:426-7+ Ag '58

GLASS blocks

Fast, low-cost erection of freezer room by employing cellular glass insulating blocks. *il Plant* 17:31 My '58

Glass blocks enclose seven-story school; School of printing, New York city. *il diag Eng N* 160:23-9 F 6 '58

Unusual insulation technique puts plant in service fast; F&M Schaefer brewing co. *il Power Ind* 74:28 Ap '58

GLASS blowing and working

Teen age glass blowers in business. H. H. Slawson. *Glass Ind* 39:484+ S '58

GLASS coating

Glass-protected steel. *Product Eng* 29:C 10 Mid-S '58

Glassed coatings rain shock resistance. *il Product Eng* 29:14 S 8 '58

Tension stresses in glass coatings and in glass-metal seals in the annealing range. J. C. Turnbull. *il diag Am Cer Soc J* 41:372-6 S 1 '58

Titanium gets glass coat. *il diag Am Mach* 102:88 Ag 25 '58

Water glass solves heat treat problem; Boeing airplane co. *il Steel* 142:100+ Je 23 '58

GLASS construction

See also

Glass blocks

Walls, Glass

GLASS container industry

Billion dollar glass container business. R. L. Cheney. *il Drug & Cosmetic Ind* 83:309+ S '58

See also

Glass container manufacturers institute

GLASS container manufacturers institute

How GCMi packaging lab aids industry. *il Cer Ind* 69:82-5 D '57

Meeting, White Sulphur Springs, May 21-23. *Glass Ind* 39:378-9 J '58

Semi-annual meeting, Virginia Beach, Sept. 30-Oct. 3. *Cer Ind* 69:78-9 N '57; *Glass Ind* 38:615-16 N '57

Semi-annual meeting, White Sulphur Springs, May 20-23; abstracts of papers. *Cer Ind* 71:64-5+ J '58

GLASS containers

Apparatus for measuring wall thicknesses of hollow glass vessels. V. Bird. *il diag Glass Ind* 39:430 Ag '58

Glass envelope for transistors. *il Electronics* 31:114 Ap 11; 24 Ap 18 '58

See also

Bottles

Manufacture

Application of some basic statistics to a few of the problems of the glass container industry. H. D. Culley and J. P. Poole. *Glass Ind* 38:609-14+ N '57

Glass container plant features control over all production variables. *il Cer Ind* 69:72-5 N '57

Owens-Illinois Atlanta plant modern throughout. *il Cer Ind* 70:72-3 My '58

GLASS cutting

Automatic glass cutting machine; patent. *Glass Ind* 39:40 Ja '58

Timer controls for automatic glass cutting machine; patent. *Glass Ind* 39:100 F '58

GLASS electrodes. See Electrodes, Glass

GLASS fabrics

Filtering through fibreglass. *il Engineering* 185:255 F 21 '58

Man in the glass fiber suit. *il Safety Maint* 115:27 F '58

Tilghman's filters for carbon black production plant. *il Engineer* 205:145 Ja 24 '58

GLASS factories

Corning new apparatus plant at Big Flats. *il Glass Ind* 39:478-9+ S '58

Owens-Illinois warehouse assures product protection. *il Glass Ind* 39:540+ O '58

Pittsburgh Plate's new plant highly mechanized. *il Am Cer Soc Bul* 37:383 Ag 15 '58

Run-down factory gets new shell without slowing output; Owens-Corning fiberglass corp. plant in Newark, Ohio. *il Eng N* 160:38-9, cover Je 26 '58

See also

Glass manufacture

Costs

Does electric glass melting cost more? *Cer Ind* 71:80-1 Ag '58

Equipment

Glass container plant features control over all production variables. *il Cer Ind* 69:72-5 N '57

Glass Goliath; Ford's Nashville glass plant. J. C. Keebler. *il Automation* 5:25-6 Ag '58

New equipment and supplies. Published in monthly numbers of *Glass Industry*

Owens-Illinois Atlantic plant modern throughout. *il Cer Ind* 70:72-3 My '58

Trends in glass plant instrumentation; abstract. J. R. Green. *Glass Ind* 39:37-8+ Ja '58

See also

Glass tanks

Management

How Owens-Illinois uses two-way radio reporting for inventory control. J. Walsh and A. M. Hilliard. *il Glass Ind* 38:559-60 O '57

Quality control

Application of some basic statistics to a few of the problems of the glass container industry. H. D. Culley and J. P. Poole. *Glass Ind* 38:609-14+ N '57

Spectrophotometric quality control of welding glass density. R. H. Peckham. *diag Am Cer Soc Bul* 36:460-3 D 15 '57

Safety measures

Glass furnace repairs. C. Ballinger. *Glass Ind* 38:691 D '57

GLASS fibers

Consumable glass fiber ingot mold liner; patent. *Glass Ind* 38:693 D '57

Cooling time of tropic glass fibers. O. L. Anderson. *bibliog diag J Ap Phys* 29:9-12 Ja '58

Critical study of the optical and mechanical properties of glass fibers. S. Bateson. *bibliog J Ap Phys* 29:13-21 Ja '58

Fiberglass laminate solves missile control problem. *il Am Mach* 101:162 D 16 '57

Food waste liquefier uses sound-damping fiber-glass. *il Elec Manuf* 61:124+ Ja '58

Glass and ceramic fibers, they beat the heat. T. D. Callinan. *Product Eng* 29:70-2 J '58

Glass-and-Teflon surface combines high load-bearing properties. *il diag Machine Design* 30:102 Ja 9 '58

GLASS fibers—Continued

Glass composition and metal coated glass fiber; patent. Glass Ind 38:692-3 D '57

Glass fiber bearings; patent. diag Glass Ind 38:567-8 O '57

Glass fiber carbonizing tank; Hayward-Schuster woolen mills. il diag Textile Ind 122:127+ My '58

Glass wool and fiber; patents. diag Glass Ind 38:630-1 N '57

Man-made fibers; a review of synthetic textile fibers now produced in the United States. il Plastics World 16:17-18 Mr '58

Modified urethane foams. Rubber World 138:417 Je '58

New method for determination of suspended solids. I. Nussbaum. Sewage & Ind Wastes 30:1066-9 Ag '58

Siliconed glass fibers are extending the range and practicability of bag-filtering of dusts and fumes. il Ind & Eng Chem 50:sup28A-Jl '58

Surfacings for glass fiber and foam thermal insulation. W. P. Ellis. il Heating-Piping 30:136-9 Jl '58

Theory of aerosol filtration. S. K. Friedlander. bibliog Ind & Eng Chem 50:1161-4 Ag '58

Thermal insulation materials; fibrous glass. R. J. Fabian. il Materials in Design Eng 47:128-30 Mr '58

Use of glass fiber filter medium in the suspended solids determination. G. Chanin and others. Sewage & Ind Wastes 30:1062-6 Ag '58

See also

Dyes and dyeing—Glass fibers

Paper, Glass

Plastics—Glass reinforcement

Plastics, Laminated—Glass reinforcement

History

Spun glass; its genesis and development. A. C. Revi. il Glass Ind 39:325-7, cover Je '58

Manufacture

Methods for treating glass fibers; patent. diag Glass Ind 39:238+ Ap '58

Physiological effect

Cutaneous reaction to fibreglass. E. B. Heisel and J. H. Mitchell. Ind Med 26:547-50 D '57

Testing

Crossbending tests of glass fibers and the limiting strength of glass. R. E. Mould. J Ap Phys 29:1263-4 Ag '58

GLASS furnaces

Belgium builds largest glass furnace. il Glass Ind 39:37-8 F '58

Cooling wind control for glass forehearth. P. M. Spatz and R. Post. il diags Glass Ind 39:265-8 My '58

Direct-fired continuous glass-melting furnaces. A. K. Lyle. Glass Ind 39:541+ O '58

Five years, 18 days continuous; is this a record for a glass furnace campaign? Cer Ind 71:35 O '58

Ford's new Nashville glass furnaces. K. C. Carnes. il Glass Ind 39:270-4 My '58

Forehearth structure; patent. diag Glass Ind 38:566-7 O '57

Glass level measurement in furnaces. E. W. Jones. Glass Ind 39:546-7 O '58

Performance data on end port regenerator furnaces. H. Moore. diags Glass Ind 39:531-2+ O '58

Practical application of flue gas analysis to glass melting furnaces. P. M. Spatz. Glass Ind 39:332-3 Je '58

Side port furnaces. F. M. Merritt. Glass Ind 39:375-7+ Jl '58

Unit melters bring economy to small glass furnaces. A. K. Lyle. il Cer Ind 70:96-8 Je '58

See also

Glass tanks

Electric heating

Does electric glass melting cost more? Cer Ind 71:80-1 Ag '58

Gas-booster electric furnaces. A. J. Erickson. diags Am Cer Soc Bul 37:177-8 Ap 15 '58; Abstract. Glass Ind 38:688 D '57

How's and why's of all-electric glass melting; furnace construction, operation, economics. A. J. Erickson. diags Cer Ind 71:116-17+ S '58; Same cond. Glass Ind 39:556+ O '58

Major, minor, and micro inhomogeneity in glass; abstract. L. Penberthy. Glass Ind 38:686-7 D '57

Firing

Gas-booster electric furnaces. A. J. Erickson. diags Am Cer Soc Bul 37:177-8 Ap 15 '58

How to record and control furnace flue gases automatically. R. K. Gunsaulus. diags Cer Ind 70:70-3+ Mr '58; Excerpts. Glass Ind 39:331-2 Je '58

Lining

Bonded mullite and zircon refractories for the glass industry. R. W. Knauff and others. il Am Cer Soc Bul 36:412-15 N 15 '57; Same cond. Glass Ind 39:161-2 Mr '58

Correlating glass furnace operation and basic refractories. J. J. Webber. il Am Cer Soc Bul 36:243-6 Jl 15 '57; Excerpts. Glass Ind 38:695-6 D '57

Corrosion of superstructure refractories by batch materials. T. S. Busby. Glass Ind 38:633-4 N '57

How refractories have met the furnace problems of the glass industry; abstract. H. W. Bague. Glass Ind 38:639 D '57

Some trends in refractories for glass furnaces; abstract. G. B. Massengale and C. F. Wenrich. Glass Ind 38:688 D '57

Zircon refractories for the glass industry; abstract. E. A. Thomas. Glass Ind 38:690 D '57

Maintenance and repair

Glass furnace repairs. C. Ballinger. Glass Ind 38:691 D '57

GLASS Jalousies. See Blinds, Glass

GLASS Joints. See Joints, Glass

GLASS lining

Better shock-resistant glass; new glassed steel. Chem Eng 65:144 Jl 28 '58

Glass coatings; a good way to protect metals. C. E. Bullock and F. Nelson. il Materials in Design Eng 47:106-9 Mr '58

Glassed steel for the chemical industry. D. K. Priest. il Ind & Eng Chem 50:sup75A-6A My '58

GLASS machinery**Patents**

Inventions and Inventors. Published in monthly numbers of Glass industry

GLASS making materials

Fluorspar for the glass industry. R. C. Keaney. Glass Ind 39:541+ O '58

How they make glass on the West coast; raw material differences; based on papers by W. A. Seitz and V. C. Swicker. il Cer Ind 71:78-80+ O '58

Soda ash; how to handle it and store it. il Cer Ind 71:66-7 Jl '58

Testing

Problems in sampling and screen testing raw materials; abstract. P. Close. Glass Ind 39:33 Ja '58

GLASS manufacture

Annual conference on glass problems, 18th, Urbana, Ill., Dec. 5-6; with abstracts of papers. Glass Ind 39:32-8+ 331-3, 541+ Ja, Je, O '58; Cer Ind 70:72-4 F '58

Calculation of temperature distributions in glass plates undergoing heat-treatment. R. Gardon. bibliog diag Am Cer Soc J 41:200-9 Je 1 '58

Effect of sand grain size on the refining of a pure soda-lime-silica glass. Glass Ind 39:435-6 Ag '58

Flining; report of the German society of glass technology; tr. by G. E. Rindone. bibliog Glass Ind 38:489-93+, 561-5+ S-O '57

He who wants good glass will mix well. Cer Ind 70:71 My '58

How they make glass on the West coast; raw material differences; based on papers by W. A. Seitz and V. C. Swicker. il Cer Ind 71:78-80+ O '58

Low expansion solder glasses in the system ZnO-B₂O₃-V₂O₅. Glass Ind 38:571-2 O '57

Major, minor, and micro inhomogeneity in glass; abstract. L. Penberthy. Glass Ind 38:686-7 D '57

Use of sulfates in glass. W. H. Manning and R. W. Hopkins. Glass Ind 39:139-42+ Mr '58

See also

Glass furnaces

Glassware—Manufacture

Molds (for glass)

Patents

Drawn sheet glass process of 1871; tr. by S. R. Scholes, E. Borel. diags Glass Ind 39:432-3+ S '58

Inventions and inventors. Published in monthly numbers of Glass industry

GLASS melting

- Apparatus for melting glass; patent. Glass Ind 39:157-3 Mr '58
 Effect of the fineness of batch on the rate of melting; abstract. I. D. Tykachinski and M. B. Romanovskii. Glass Ind 39:562-3 O '58
 Glass melting; symposium. Glass Ind 39:91-2 F '58
 How to calculate fusion points of glass compositions. W. R. Beck. bibliog II Cer Ind 71:118-21 S; 82-4 O '58
 How's and why's of all-electric glass melting; furnace construction, operation, economics. A. J. Erickson. diags Cer Ind 71:116-17+ S '58
 Unit melters bring economy to small glass furnaces. A. K. Lytle. II Cer Ind 70:96-8 Je '58

See also
 Glass, Molten
 Glass tanks

GLASS paper. See Paper, Glass**GLASS reinforcement of plastics.** See Plastics—Glass reinforcement; Plastics, Laminated—Glass reinforcement**GLASS research**

- Compartments, departments and systems; abstract. G. Slayter. Glass Ind 38:676-7 D '57
 Exploration of lithia glass forming systems; $\text{Li}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$ with 0 to 30.0 per cent CaO additions; abstract. H. W. Rauch and others. Glass Ind 39:324-4+ Je '58
 Glass formation and properties of glasses in the system $\text{Na}_2\text{O}-\text{B}_2\text{O}_3-\text{SiO}_2-\text{TiO}_2$. J. H. Strimple and E. A. Gless. diags Am Cer Soc J 41:231-7 JI 1 '58
 Glass; its transparency and structure. H. H. Holscher. bibliog II diags Glass Ind 39:81-9-4, 143-50, 212-20+ F-Ap '58
 How to calculate fusion points of glass compositions. W. R. Beck. bibliog II Cer Ind 71:118-21 S; 82-4 O '58
 Internal structure of borosilicate glass by electron microscopy; abstract. M. Watanabe and H. Noake. Glass Ind 39:321-2 Je '58
 Interpretation of glass stability. II Glass Ind 39:431+ Ag '58
 Low expansion solder glasses in the system $\text{ZnO}-\text{B}_2\text{O}_3-\text{V}_2\text{O}_5$. Glass Ind 38:571-2 O '57
 Modern concepts of fracture and flow; equilibrium in particulate bodies. E. F. Poncelet. bibliog II diags Glass Ind 39:551-8, 617-23 O-N '57; Correction. 38:710 D '57
 Optical and physical properties of some calcium aluminate glasses. H. C. Hafner and others. bibliog Am Cer Soc J 41:315-23 Ag 1 '58
 Reduction effects in molten glass. J. E. Pena. Glass Ind 39:339-40 Je '58
 Research digest. Published in monthly numbers of Glass Industry
 Studies in lithium oxide systems. B. S. R. Sastry and others. bibliog II diags Am Cer Soc J 41:7-17, 88-92 Ja 1. Mr 1 '58
 Use of X-ray methods for investigations of glass structures. K. Griethelm. bibliog diags Glass Ind 39:201-9 Ap '58
 Viscosity, density, and electrical resistivity of molten alkaline-earth borate glasses with three mole per cent of potassium oxide. L. W. Coughanour and others. bibliog Am Cer Soc J 41:324-9 Ag 1 '58

GLASS sand. See Sand**GLASS tanks**

- Flame studies; methods and results; tr. by T. H. Elmer. R. Gunther. bibliog II diags Glass Ind 39:473-7+ S '58
 Get better throat performance. E. E. Humphrey. diags Cer Ind 70:99 Je '58
 How to improve glass tank efficiency with oxygen analysis. J. P. Puckett. II diags Cer Ind 70:136-7 Ap '58
 Mixing and flow in tank furnaces. Glass Ind 39:45 Ja '58
 Unit melter-advantages and applications; abstract. A. K. Lytle. Glass Ind 39:34 Ja '58

See also
 Glass melting

Models

- Study on models of the effects of operation and design on the glass flow in tank furnaces. Glass Ind 39:224+ Ap '58

GLASS trade

- Glass, ceramics, and refractories: 50th anniversary feature. E. C. Sullivan and R. G. Gullan. II Ind & Eng Chem 50:sup48A-51A Ap '58
 Glass industry. 1957. H. E. Simpson. Glass Ind 39:17-26+ Ja '58

California

- How they make glass on the West coast; raw material differences; based on papers by W. A. Seitz and V. C. Swicker. II Cer Ind 71:78-80+ O '58

GLASS tubing

- Demountable vacuum seal for attaching an end-plate to a glass tube. H. R. Moore. diags R Sci Instr 29:737-8 Ag '58

Manufacture

- Heat resistant tubing of alkali-free glass; abstract. V. F. Rudakov and A. F. Kuts. Glass Ind 39:385-6 JI '58
 Manufacture of glass tubing without a debiteuse. I. E. Shapiro and others. diags Glass Ind 39:539+ O '58

GLASS walls. See Walls, Glass**GLASSWARE**

- Evaluation of the luminous-transmittance requirements for railroad-signal glassware in terms of standard source A of the International commission on illumination. F. C. Breckenridge. J Res Nat Bur Stand 60:317-20 Ap '58
 Value of design in glassware. K. Lane. Am Cer Soc Bul 37:227 My 15 '58

See also

Bottles**Glass tubing****Manufacture**

- Ancient and modern diatreta. A. C. Revi. II diags Glass Ind 39:428-9+ Ag '58

See also

Molds (for glass)**Testing**

- Light catches glassware defects. II diags Product Eng 29:43 S 1 '58

GLASSWARE, Laboratory

- Comparison of some laboratory glasses; abstract. S. K. Dubrovo and others. Glass Ind 39:386 JI '58
 Developments at scientific glassware factory; Quickfit and quartz, ltd. II Engineer 205:536 Ap 11 '58
 Electric surface heating of glass plant. J. Carmichael. II diags Ind Chem 34:230-7 My '58
 Glass gets twist at new Corning plant. II Chem & Eng N 36:28 Je 23 '58
 Industrial glassware production; Quickfit & quartz, ltd. II Ind Chem 34:202 Ap '58
 Making scientific glassware; Quickfit and quartz, limited. II Engineering 185:381 Mr 21 '58
 Simple method of keeping bell jars clean. P. C. Nelson, Jr. and J. E. Slawek, Jr. R Sci Instr 29:253 Mr '58

See also

Pipets**Manufacture**

- Corning's new apparatus plant at Big Flats. II Glass Ind 39:478-9+ S '58

Plastics embedment

- Protection of glass apparatus by embedding in transparent resin. F. Jones. diags J Sci Instr 35:71-2 F '58

Standards

- Calibration of volumetric glassware and analytical weights; tentatively revised standard T 608 m. diags Tappi 41:sup 177A-9A Je '58

GLASSWARE, Roman

- Ancient and modern diatreta. A. C. Revi. II diags Glass Ind 39:428-9+ Ag '58

GLASSY state

- Glass transition temperatures of copolymers. I. A. Wood. bibliog Rubber Chem & Tech 31:459-62 JI '58
 Melting and glass transitions in polyisobutylene. R. M. Kell and others. bibliog Rubber Chem & Tech 31:499-504 JI '58
 Pentagonal ring theory of structure of silicate glasses; abstract. L. W. Tilton. Glass Ind 39:321 Je '58

GLAUCONITE

- Glaucouite pellets; their mineral nature and applications to stratigraphic interpretations. J. F. Burst. II map diags Am Assn Pet Geologists Bul 42:310-27 bibliog (65 titles, p325-7) F '58

- Mineral heterogeneity in glauconite pellets. J. F. Burst. bibliog II Am Mineralogist 43:481-97 My '58

- Sediment age determination by Rb/Sr analysis of glauconite. L. F. Herzog and others. bibliog Am Assn Pet Geologists Bul 42:717-33 Ap '58

GLAZES

- Candy & co.; oxides produce coloured glazes. *Il Chem & Ind* p794-5 Je 28 '58
- Control of the properties of glazes by the aid of eutectics. A. S. Watts. *diags Am Cer Soc J* 41:249-53 J1 1 '58
- Do's and don'ts with colored glazes. *Il Cer Ind* 70:102-3 Je '58
- High-temperature glazing of alumina bodies. E. Fisher and R. Twells. *bibliog Am Cer Soc J* 40:385-8 N 1 '57
- How Case produces 104 different glazes; sanitaryware colors. *Il Cer Ind* 69:94-5 D '57
- How to control glaze processing. J. H. Drechsler. *Il Cer Ind* 70:76-9 F '58
- Save time in figuring glazes; glaze computer made from index cards. D. Journeaux. *Il Cer Ind* 71:84-6 Ag '58
- 30 second ideas for the art potter; correcting glaze defects. H. Bollman. *Cer Ind* 70:80 Mr '58
- 30 second ideas for the art potter; decoration and underglaze. H. Bollman. *Cer Ind* 70:80 F '58
- 30 second ideas for the art potter; tips on overglaze decoration. H. Bollman. *Cer Ind* 70:80-1 My '58
- Tips on glazes. H. Bollman. *Cer Ind* 69:112 N; 96 D '57
- Volatility studies of lead silicate melts. R. L. Halse and R. L. Cook. *bibliog diag Am Cer Soc J* 41:331-6 S 1 '58
- Want something new in glazes? try these raw glaze compositions. *Cer Ind* 70:81 F '58
- See also
- Enamel and enameling

Defects

- Elimination of dipping in certain colored glazes. K. C. McCart and A. L. Johnson. *bibliog Il Am Cer Soc Bul* 37:207-9 My 15 '58

Opacity

- How enamels, glasses and glazes are opacified. W. W. Coffeen. *bibliog diag Cer Ind* 70:120-3+ Ap; 76-7+ My '58

GLEIM, Ernest J.

- Coal men win Department of interior awards. *por Coal Age* 63:32 Mr '58

GLENDORA, California

- Curb, gutter and sidewalk repair program. D. Atkinson. *Il Pub Works* 89:106-7 S '58

GLOTOXIN

- Biosynthesis of glotoxin; incorporation of phenylalanine-1- and -2-C¹⁴. R. J. Suhadolnik and R. G. Chenoweth. *bibliog Am Chem Soc J* 80:4391-2 Ag 20 '58
- Structure of glotoxin. M. R. Bell and others. *bibliog Am Chem Soc J* 80:1001 F 20 '58

GLOBES

- Earth-sky globe. *Il Mod Plastics* 35:204 F '58

GLOBINS

See also

Myoglobin

GLOBULINS

- Association behavior of β -lactoglobulins A and B. S. N. Timasheff and R. Townend. *bibliog Am Chem Soc J* 80:4433-4 Ag 20 '58
- Electrophoresis and ultracentrifuge studies of milk proteins; β_1 - and β_2 -lactoglobulin. H. Klostergaard and R. A. Pasternak. *bibliog diag Am Chem Soc J* 79:5671-4 N 5 '57
- Structure of glycopeptides from a human γ -globulin. J. W. Rosevear and E. L. Smith. *bibliog Am Chem Soc J* 80:250-1 Ja 5 '58

GLOSS

See also

Paper-Gloss measurement

GLOVER, Roy H.

- Obituary. *por Min Cong J* 44:67 My '58
- Obituary. C. E. Weed. *J Metals* 10:432-3 Je '58

GLOVES, Safety

- Longer life for work shoes and gloves processed with Du Pont Quilon chrome complex. *Il Safety Maint* 114:19 O '57
- Safe hand in safety glove. *Il Safety Maint* 115:20-2 Je '58
- Safety gloves eliminate waste motion. *Il Safety Maint* 115:25 Ap '58
- Two layer rubber gloves promote safety. A. R. Jones. *Il Elec World* 150:98 Ag 4 '58

Testing

- Linenmen's gloves undergo shocking tests. *Il Safety Maint* 116:17+ J1 '58

GLOW discharges. See Electric discharges

GLUCAGON

- Selective cleavage of peptide bonds; the tryptophyl peptide bond and the cleavage of glucagon. A. Patchornik and others. *bibliog Am Chem Soc J* 80:4747-8 S 5 '58

GLUCAN

- Cross reactions of polyglucoses in antipneumococcal sera; precipitation of type VIII and type III antisera by β -glucans. M. Heidelberger and P. A. Rebers. *bibliog Am Chem Soc J* 80:116-18 Ja 5 '58

GLUCOLYSIS

- Inhibition and stimulation of anaerobic glycolysis of ascites tumor cells; seminar. *bibliog diag Franklin Inst J* 264:509-16 D '57

GLUCOMANNAN

- Chemical studies on a glucomannan isolated from unbleached Mitscherlich pulp. E. Merler and L. E. Wise. *bibliog (27 ref) diags Tappi* 41:80-6 F '58
- Constitution of a glucomannan associated with wood cellulose from western hemlock. J. K. Hamilton and H. W. Kircher. *bibliog Am Chem Soc J* 80:4708-9 S 5 '58
- Hemicelluloses of western red cedar; the constitution of a glucomannan. J. K. Hamilton and E. V. Partlow. *bibliog Am Chem Soc J* 80:4880-5 S 20 '58

GLUCONIC acid

- Solvent solutions of metallic soaps; gluconic acid as viscosity reducing agent; patent. *Am Dyestuff Rep* 47:60 Ja 27 '58

GLUCOSE

- Action of diazomethane on the pentaacetates of *aldehyde*-D-glucose and *aldehyde*-D-galactose. M. L. Wolfrom and others. *bibliog Am Chem Soc J* 79:6454-7 D 20 '57
- Comparison of temperature responses to intravenous infusions of dextrose and fat emulsions. H. L. Upjohn and S. M. Levenston. *Am J Clinical Nutrition* 6:8-11 Ja '58
- Comparison of the rate of mutarotation and O₂ exchange of glucose. D. Rittenberg and C. Graff. *diags Am Chem Soc J* 80:3370-2 J1 5 '58

- Cross reactions of polyglucoses in antipneumococcal sera; precipitation of type VIII and type III antisera by β -glucans. M. Heidelberger and P. A. Rebers. *bibliog Am Chem Soc J* 80:116-18 Ja 5 '58

- Diffusion in sugar solutions; the Onsager diffusion coefficients for glucose diffusing in sucrose solutions. F. E. Weir and M. Dole. *bibliog Am Chem Soc J* 80:302-6 Ja 20 '58

- Investigations on lignins and lignification; the biosynthesis of methyl *p*-methoxymannate from specifically labeled D-glucose by *lentis lepidus*. H. Shimazono and others. *bibliog Am Chem Soc J* 80:1992-4 Ap 20 '58

- Isomerization of D-glucose-1-C¹⁴ to D and L-sorbose-C¹⁴ by a strong base resin. J. C. Sowden and R. R. Thompson. *bibliog Am Chem Soc J* 80:1435-7 Mr 20 '58

- Mechanism of the periodate oxidation of D-glucose. F. S. H. Head. *Chem & Ind* p360-1 Mr 22 '58

- Methods for depleting glucose from egg albumen before drying. J. C. Ayres. *bibliog Food Tech* 12:186-9 Ap '58

- Oxidation of radioactive glucose by aerated sludge. N. Forges and others. *bibliog Sewage & Ind Wastes* 30:776-82 Je '58

- Polymerization of α -D-glucose in the solid state, in the presence of metaphoric acid. H. W. Durand and others. *bibliog Am Chem Soc J* 80:3691-7 J1 20 '58

- Reversible transgalactosylation. J. H. Pazur and others. *bibliog Am Chem Soc J* 80:1433-5 Mr 20 '58

- Structure of 1,2,3,6-tetra-O-acetyl- β -D-glucose. W. A. Bonner. *bibliog Am Chem Soc J* 80:3697-700 J1 20 '58

- Studies of the metabolizable and productive energy of glucose for the growing chick. D. L. Anderson and others. *J Nutrition* 65:561-74 Ag '58

- Synthetic polysaccharides; fractionation of polyglucose. P. T. Mora and others. *bibliog Am Chem Soc J* 80:693-9 F 5 '58

- Synthetic polysaccharides; polycondensation of glucose. P. T. Mora and J. W. Wood. *diags Am Chem Soc J* 80:685-92 F 5 '58

- Two new glucose monoacetates, apparently 6-O-acetyl- α - and β -D-glucose, and a comparison of the metabolism of glucose, acetylglucose and 6-O-methylglucose. R. E. Reeves and others. *bibliog Am Chem Soc J* 79:6041-3 N 20 '57

Analysis

- Colorimetric estimation of D-glucose and 2-deoxy-D-glucose with glucose oxidase. R. B. McComb and W. D. Yushok. *bibliog Franklin Inst J* 265:417-22 My '58

GLUCOSE oxidase

Colorimetric estimation of D-glucose and 2-deoxy-D-glucose with glucose oxidase. R. B. McCormick and W. D. Yushok. *bibliog* Frankl. Inst J 265:417-22 My '58

GLUCOSIDASES

Kinetics of β -glucosidase on the basis of intermediate enzyme-glucoside formation. B. H. J. Hofstee. *bibliog* Am Chem Soc J 80:3966-9 Ag 5 '58

GLUE

Bostitch Equalok gluer and operating experience with several units. R. H. Bowers. *Tappi* 41:sup 153A-61A Ja '58
Three types of S&S automatic folder gluers and their operating characteristics. A. F. Shields. *Tappi* 41:sup 164A-6A Ja '58
Treatment of glue and gelatine with formaldehyde. A. M. Kragh. *Manuf Chem* 29:103-4 Mr '58
Ultrasonic resonance testing of glued metal joints. J. Schijve. *bibliog* *diag* Aircraft Eng 30:269-71 S '58
Universal glue lap machine and my operating experience in developing this machine. A. Richardson. *Tappi* 41:sup 161A-4A Ja '58

See also

Adhesives**GLUTAMATES**

Enzymatic conversion of D-allohydroxyproline to L-glutamate. E. Adams. *bibliog* Am Chem Soc J 79:6338-9 D 5 '57

GLUTAMIC acid

Compositional effects on the configuration of water-soluble polypeptide copolymers of L-glutamic acid and L-lysine. E. R. Blout and M. Idelson. *bibliog* Am Chem Soc J 80:4909-13 S 20 '58
High molecular weight poly- α -L-glutamic acid; preparation and optical rotation changes. M. Idelson and E. R. Blout. *bibliog* Am Chem Soc J 80:4631-4 S 5 '58
Thermal condensation of glutamic acid and glycine to linear peptides. K. Harada and S. W. Fox. *bibliog* Am Chem Soc J 80:2694-7 Je 5 '58

See also

Hydroxyglutamic acid**GLUTAMINE**

O-carbazyl-DL-serine, an inhibitory analog of glutamine. T. J. McCord and others. *bibliog* Am Chem Soc J 80:3762-4 JI 20 '58

GLUTARIMIDE

Absolute configuration of the antibiotic actidione. E. J. Eisenbraun and others. *bibliog* Am Chem Soc J 80:1261-2 Mr 5 '58

GLUTATHIONE**Spectra**

Raman spectra and ultraviolet absorption of glutathione and possible thiazoline derivatives formed from it. D. Garfunkel. *bibliog* Am Chem Soc J 80:4833-5 S 20 '58

GLUTEN

Presence in wheat gluten of a substance resembling thiamine (vitamin B₁). H. N. Ridyard. *bibliog* *il* Chem & Ind p 1197-8 S 13 '58

GLYCERIC acid

Studies of the phosphoglyceric acid mutase reaction with radioactive substrates. L. I. Pizer. *Am Chem Soc J* 80:4431-2 Ag 20 '58

GLYCERIDES

Behavior of distilled monoglycerides in the presence of water. G. Y. Brokaw and W. C. Lyman. *il* Am Oil Chem Soc J 35:49-52 Ja '58; *Excerpts. Drug & Cosmetic Ind* 82:372 Mr '58

Differential thermal analysis of fats: melting behavior of some pure glycerides. H. Lavery. *bibliog* Am Oil Chem Soc J 35:418-22 Ag '58

Fractionation and glyceride composition of fats. C. G. Youngs and H. R. Sallans. *bibliog* Am Oil Chem Soc J 35:388-93 Ag '58

Glyceride structure of vegetable oils by counter-current distribution. C. R. Schofield and H. J. Dutton. *Am Oil Chem Soc J* 35:493-6 O '58

Glyceride structure: specific, random, and restricted random distribution. E. J. Vander Wal. *bibliog* Am Oil Chem Soc J 35:483 S '58

Metabolism of triglycerides containing *cis* and *trans* octadecenoic fatty acids. R. R. Allen and others. *bibliog* Am Oil Chem Soc J 35:203-5 My '58

Micellar dispersion of α -monoglycerides in benzene and chlorobenzene. P. Debye and W. Frins. *bibliog* J Colloid Sci 13:86-98 F '58

Molecular structure in surface films of saturated monoglycerides on water as related to three-dimensional states. D. R. Merker and E. F. Daubert. *bibliog* Am Chem Soc J 80:516-19 F 5 '58

Nutritional properties of the triglycerides of saturated fatty acids of medium chain-length. H. Kaunitz and others. *bibliog* Am Oil Chem Soc J 35:10-13 Ja '58

Present status of acetylgllycerides. R. B. Alfin-Slater and others. *bibliog* *il* Am Oil Chem Soc J 35:122-7 Mr '58

Relation of saturated, medium- and long-chain triglycerides to growth, appetite, thirst and weight maintenance requirements. H. Kaunitz and others. *bibliog* J Nutrition 64:513-24 Ap '58

Studies on glyceryl esters; the formation of urea inclusion compounds with 1-monoglycerides. F. Aylward and P. D. S. Wood. *bibliog* *il* J Ap Chem 7:583-9 N '57

Studies on glyceryl esters; the use of urea inclusion compounds for the fractionation of technical monoglycerides. F. Aylward and P. D. S. Wood. *bibliog* J Ap Chem 8:561-5 S '58

Urea complexes of technical monoglycerides. P. N. Mehta and S. N. Shah. *bibliog* Am Oil Chem Soc J 35:482-3 S '58

Vapor pressure equilibrium of stearic acid in triglyceride and in high paraffin solutions. D. S. Sarkadi. *bibliog* Am Oil Chem Soc J 35:479-81 S '58

Analysis

Separation and determination of mono-, di-, and triglycerides in monoglyceride concentrates. P. Quinlin and H. J. Weiser, Jr. *bibliog* *diag* Am Oil Chem Soc J 35:325-7 JI '58

GLYCERIN

Glycerine outlook. E. S. Pattison. *Soap & Chem Spec* 34:47-50+ Mr '58

Glycerol figures look better. *Chem & Eng N* 36:30-1 Ag 18 '58

Glycerol use hits top in '57. *Chem & Eng N* 36:26 F 3 '58

Hydrogenolysis of sorbitol; glycerol can be obtained in 40 per cent yield from sorbitol. I. T. Clark. *Ind & Eng Chem* 50:1125-6 Ag '58

Role of glycerine in aerosols. S. Frussin and H. R. Shepherd. *il* Soap & Chem Spec 34:87+ O '58

Simplified method of preparing solutions of glycerol and water for humidity control. J. V. Braun and J. D. Braun. *Corrosion* 14:17-18 Mr '58

Analysis

Determination of glycerine in polyol mixtures by paper chromatography. C. F. Smullin and others. *bibliog* *il* Am Oil Chem Soc J 35:179-82 Ap '58

Manufacture

Efficient washing methods can increase salt glycerine recovery. E. T. Webb. *Soap & Chem Spec* 34:54-6+ Je; 127+ JI; 147-8 Ag '58

Glycerol (acrolein and hydrogen peroxide). *flow diag* *Pet Refiner* 36:250 N '57

Glycerol (epichlorohydrin). *flow diag* (p252) *Pet Refiner* 36:253 N '57

Glycerol (formic acid). *flow diag* *Pet Refiner* 36:251 N '57

Glycerol via fermentation; Prairie regional laboratory of the National research council (in Saskatoon). *il* Can Chem Process 41:113-14+ N '57

Synthetic glycerol. E. J. Mackay. *il* Ind Chem 34:431-2 Ag '58

Transportation

Nickel-lined barge moves glycerine by water. *il* Oil & Gas J 55:71 N 25 '57

GLYCEROL. See Glycerin**GLYCEROPHOSPHATES**

Compounds related to α -glycerophosphoric acid, phosphorylcholine and phosphoryl-ethanolamine. A. F. Rosenthal and R. P. Geyer. *bibliog* Am Chem Soc J 80:5240-1 O 5 '58

Polyglycerophosphate. A. M. Michelson. *bibliog* Chem & Ind p 1147 Ag 30 '58

GLYCIDOL

Preparation and properties of some vinyl and glycidyl fluoroethers. M. L. Brey and P. Tarrant. *bibliog* Am Chem Soc J 79:6533-6 D 20 '57

GLYCINE

Chelating tendencies of N,N'-ethylenebis-(2-(α -hydroxyphenyl)-L-glycine. A. E. Frost and others. *Am Chem Soc J* 80:530-6 F 5 '58

GLYCINE—Continued

- 3-Cyclohexene-1-glycine, an isoleucine antagonist. J. Edelson and others. *Am Chem Soc J* 80:2698-700 Je 5 '58
- Infrared absorption spectra of inorganic coordination complexes; infrared studies of glycino-metal complexes. A. J. Saraceno and others. *bibliog Am Chem Soc J* 80:5018-21 O 5 '58
- Interaction of low-energy electrons with ferroelectric materials. R. C. Miller and R. D. Heidenreich. *bibliog il diags J Ap Phys* 29:957-63 Je '58
- Ion fractionation by permselective membranes; factors affecting relative transfer of glycine and chloride ions. A. T. DiBenedetto and E. N. Lightfoot. *bibliog diags Ind & Eng Chem* 50:691-6 Ap '58
- Mechanism of browning of ascorbic acid-citric acid-glycine systems. T. Lalkainen and others. *bibliog diag J Agri & Food Chem* 6:135-9 F '58
- Nutritional studies with glycine, aminoethanol and related compounds in the chick. R. L. Wixom and others. *J Nutrition* 64:13-31. *bibliog* (63 titles, p28-31) Ja '58
- Products of low-iron fermentation with *Bacillus subtilis*; isolation, characterization and synthesis of 2,3-dihydroxybenzoylglycine. T. Ito and J. B. Neillands. *bibliog Am Chem Soc J* 80:4645-7 S 5 '58
- Raman spectra of amino acids and related compounds; ionization and deuterium substitution in glycine, alanine and β -alanine. M. Takeda and others. *bibliog Am Chem Soc J* 80:3813-18 Ag 5 '58
- Some metal complexes of glycine peptides, histidine and related substances. N. C. Li and others. *bibliog Am Chem Soc J* 79:5859-63 N 20 '57
- Thermal condensation of glutamic acid and glycine to linear peptides. K. Harada and S. W. Fox. *bibliog Am Chem Soc J* 80:2694-7 Je 5 '58

GLYCOCYAMINE

- Some effects of DL-methionine and glycocyamine on growth and nitrogen retention in rats. H. Baron. *J Nutrition* 64:229-39 *bibliog* (28 titles, p237-9) F '58

GLYCOGEN

- Biosynthesis of glycogen from uridine diphosphate glucose. L. F. Leloir and C. E. Cardini. *Am Chem Soc J* 79:6340-1 D 5 '57
- Sedimentation characteristics of glycogen. S. A. Orrell, Jr. and E. Bueding. *bibliog Am Chem Soc J* 80:3800 Ji 20 '58

GLYCOL

- Corrosion of metals in ethylene glycol solutions. R. J. Agnew and others. *bibliog diag Ind & Eng Chem* 50:649-56 Ap '58
- Glycol-amine gas treating. flow sheet. *Pet Eng* 30:C40a-40b Je '58
- Kinetics of ethylene glycol nitration. J. Roth and others. *bibliog Ind & Eng Chem* 50:1283-8 S '58
- Kinetics of the decomposition of sodium *p*-toluenesulfonylacetate in water-ethylene glycol and water-dioxane mixtures. D. J. O'Connor and F. H. Verhoek. *bibliog Am Chem Soc J* 80:288-90 Ja 20 '58

Analysis

- Determination of alpha-glycol content of epoxy resins. G. A. Stenmark. *Anal Chem* 30:381-3 Mr '58
- Determination of oxalkylene groups; in glycols and glycol and polyglycol ethers and esters. S. Siggia and others. *Anal Chem* 30:115-16 Ja '58

Manufacture

- Ethylene oxide and ethylene glycol; Stone & Webster engineering corp. flow diag. *Pet Refiner* 36:242 N '57
- Glycol production, hydration of ethylene oxide. D. F. Othmer and M. S. Thakar. *bibliog Ind & Eng Chem* 50:1235-44 S '58

GLYCOLS

- Acid-catalyzed dehydration of 2,2,4-trimethyl-1,3-pentanediol. M. A. Perry and others. *Am Chem Soc J* 80:618-20 Ji 20 '58
- Acid-catalyzed rearrangement of *exo-cis*-norbornene glycol. J. G. Traynham. *Chem & Ind p* 1142 Ag 30 '58
- Dielectric relaxation of polyoxyethylene glycol (POEG) in toluene. A. B. Ruigrok and J. J. Hermans. *bibliog diags J Colloid Sci* 13:488-99 O '58
- Epoxidized esters of glycols and pentaerythritol; application as plasticizers for poly(vinyl chloride). E. J. Hensch and A. G. Wilbur. *Ind & Eng Chem* 50:871-2 Je '58

- Factors involved in the stereochemistry of diol complexes. H. Kwart and G. C. Gatos. *bibliog Am Chem Soc J* 80:381-3 F 20 '58
- Lead tetraacetate oxidation of *cis*- and *trans*-9,10-diaryl-9,10-dihydro-9,10-phenanthrenediols: a kinetic study. E. J. Moriconi and others. *bibliog diags Am Chem Soc J* 80:556-61 F 5 '58
- New polyglycol group: trihydroxy polypropylene glycols. *Chem & Eng N* 35:66 D 9 '57
- Polyethylene glycols data. *Soap & Chem Spec* 34:165+ F '58
- Polyethylene oxide gums in toilet goods. L. Osipow and L. D. Berger, Jr. *il Drug & Cosmetic Ind* 82:166-74 F '58
- Reduced crude oil-dipropylene glycol; liquid-liquid extraction system. F. F. Papa-Blanco and M. Van Winkle. *bibliog Ind & Eng Chem* 50:703-6 Ap '58

Analysis

- Determination of oxalkylene groups; in glycols and glycol and polyglycol ethers and esters. S. Siggia and others. *Anal Chem* 30:115-16 Ja '58

GLYCOLYSIS. See Glucolysis**GLYCOSIDES**

- Alcohol-binding capacity and mutarotation of the so-called dialdehydes obtained by periodate oxidation of sugar glycosides. I. J. Goldstein and others. *bibliog Chem & Ind* p595-6 My 17 '58
- Oxygen glycosides from the Hilbert-Johnson pyrimidine nucleoside synthesis. P. Newmark and I. Goodman. *bibliog Am Chem Soc J* 79:6446-50 D 20 '57
- Steric inhibition of periodate oxidation of glycosides. E. F. Garner and others. *bibliog Am Chem Soc J* 80:1206-8 Mr 5 '58

See also

- Narinkin
Rhodexin
Strophanthidin

GLYCOSYL nitrates

- Reaction of sodium borohydride with glycosyl nitrates as compared to its reaction with the nitrate esters of the primary and secondary alcohol groups of sugars. F. A. H. Rie and M. Inatome. *bibliog Am Chem Soc J* 80:4709-11 S 5 '58

GLYXYLATES

- Synthesis and complete resolution of 2-hydroxy-1,1'-binaphthyl and the reaction of its phenylglyoxylate with methyalmagnesium iodide. J. A. Berson and M. A. Greenbaum. *bibliog Am Chem Soc J* 80:653-6 F 5 '58

GOGGLES

- How to protect eyes. *il Safety Maint* 115:26+ Ap '58
- Make employees wear those safety glasses. G. J. Ruoff. *il Elec World* 149:58 My 12 '58
- Make eye protection part of the job. C. F. Burris. *il Safety Maint* 115:14-17 F '58

GOLD

- Changes in thermoelectric power of silver and gold with cold work at liquid nitrogen temperature. E. W. Kammer. *J Ap Phys* 29:1122 Ji '58
- Density and resistivity changes in Au-Cd upon quenching. W. J. Sturm and M. S. Wechsler. *J Ap Phys* 28:1509-10 D '57
- Gold in silicon. G. Bemski and J. D. Struthers. *bibliog il Electrochem Soc J* 105:588-91 O '58
- Gold. 1957. M. A. Kriz. *Eng & Min J* 159:127-30+ F '58
- Gold on silicon surfaces. R. O. Carlson. *J Ap Phys* 29:1001-2 Je '58
- Gold production in 1957 is highest in history. F. Pick. *Eng & Min J* 159:136+ Ag '58
- Modern alchemy; mercury from gold. *Ind & Eng Chem* 49:sup28A+ N '57
- Nucleation and growth in a photosensitive glass. R. D. Maurer. *bibliog J Ap Phys* 29:1-8 Ja '58
- Preparation of colloidal gold. E. C. Stathis and A. Fabrikanos. *Chem & Ind* p860-1 Ji 5 '58
- Recovery of gold, silver and nickel from alkaline cyanide solutions by means of weak-base ion-exchange resins. J. Aveston and others. *J Ap Chem* 8:77-86 F '58
- Supercooling of gold as affected by some catalysts. F. J. Bradshaw and others. *bibliog Inst Metals J* 87:15-18 '58-59

Isotopes

- Gold measures river flow. *il Electronics* 31:112+ Ja 17 '58
- Radioactive gold to seek silting patterns in San Francisco bay. *Eng N* 161:73 Ag 21 '58

GOLD alloys

Electroplating 22 karat gold-silver alloy. R. E. Harr and A. G. Cafferty. *Metal Finishing* 56:55-7 Ja '58

GOLD as money

Debasement of gold by U.S. monetary policy. F. Pick. *Il Min Cong J* 43:46-9 N '57

Gold in 1957. D. H. McLaughlin. *Il Min Cong J* 44:115-17 F '58

Gold, 1957. M. A. Kriz, Eng & Min J 59:127-30+ F '58

GOLD coating

Gold coatings, paints protect steel, ceramics. *Materials in Design Eng* 47:150+ Je '58

GOLD leaf

Gold leaf trouble; greenish tarnished appearance. *Ind Finishing* 34:87 My '58

GOLD mines and mining

Gold in 1957. D. H. McLaughlin. *Il Min Cong J* 44:115-17 F '58

California

These jigs pay their own way; Yuba consolidated gold fields. *Il Rock Prod* 61:114+ Mr '58

GOLD ores

Albite porphyries as a guide to gold ore. H. J. Ward. *bibliog Econ Geol* 53:754-6 S '58

Nickel-gold ore of the Mackinaw mine, Snohomish county, Wash. C. Milton and D. J. Milton. *bibliog Il diag Econ Geol* 53:426-47 Je '58

Uranium-bearing auriferous reefs at Jacobina, Brazil. J. D. Bateman. *bibliog maps diag Econ Geol* 53:417-25 Je '58

GOLD plating

Improved baths solve lifting of plated circuit foils. El. C. Rinker and F. W. Jahns, Jr. *Il Iron Age* 181:118-20 Je 19 '58

Junction delineation in silicon by gold chemiplating. S. J. Silverman and D. R. Benn. *bibliog diag Electrochem Soc J* 105:170-2 Mr '58

Recent developments in gold alloy plating. E. A. Parker. *Plating* 45:631-5 Je '58

GOLF, Photography of. See Photography of sports

GOLF balls**Manufacture**

How a golf ball is made. S. J. Szulik. *Il Rubber Age* 83:100-3 S '58; *Abstract. Rubber World* 137:420 D '57

GNONIOMETERS

Double arc goniometer head for crystal orientation, sawing and grinding. A. A. Giardin. *Il Am Mineralogist* 43:370-5 Mr '58

Low-temperature attachment for a single-crystal equi-inclination Weissenberg goniometer. J. Friedrichs and A. M. Mathieson. *bibliog Il R Sci Instr* 29:784-5 S '58

Single crystal goniometer for X-ray and neutron diffraction. G. El. B. Barstad and A. F. Andersen. *Il diag R Sci Instr* 28:916-18 N '57

X-ray collimator for single-crystal goniometers. E. N. Maslen. *Il diag J Sci Instr* 35:110-11 Mr '58

GOODRICH, B. F., company

Justice department consent decree ends Goodrich-Dayton sponge pact. *Rubber World* 138:285 My '58

GOODYEAR medal

Dr Patrick to receive medal. *Rubber Age* 83:508 Je '58

Goodyear medal awarded to Joseph C. Patrick. *Chem & Eng N* 36:116 S 22 '58

GORCEIXITE

Gorceixite from Dale county, Alabama. C. Milton and others. *Il Am Mineralogist* 43:688-94 JI '58

Occurrence of gorceixite in Arkansas. E. J. Young. *Il Am Mineralogist* 43:762-5 JI '58

GORDON, J. Roy

John F. Thompson and J. R. Gordon awarded A.I.M.E. medals. *por Can Min & Met Bul* 51:18 Ja '58

GORDON, William G.

W. G. Gordon received Borden award in the chemistry of milk. *por Chem & Eng N* 36:82 Ap 28 '58

GOSSYPOL

Binding of gossypol under conditions of complete rupture of the pigment glands. W. H. King and others. *Am Oil Chem Soc J* 35:358-60 JI '58

Effect of long-term storage on acute oral toxicity and gossypol content of cottonseed pigment glands. E. Bagie and D. L. Davies. *Am Oil Chem Soc J* 35:366-7 Ja '58

Total synthesis of gossypol. J. D. Edwards, Jr. *bibliog Am Chem Soc J* 80:3798-9 JI 20 '58

Analysis

3-Amino-1-propanol as a complexing agent in the determination of total gossypol. W. A. Pons, Jr. and others. *bibliog Am Oil Chem Soc J* 35:93-7 F '58

Quantitative determination of traces of free gossypol in fats, oils, and fatty acids by paper chromatography. G. Schramm and J. H. Benedict. *bibliog Am Oil Chem Soc J* 35:371-3 JI '58

Spectrophotometric determination of total gossypol in cottonseed meal and cottonseed meats. F. H. Smith. *bibliog Am Oil Chem Soc J* 35:261-5 Je '58

GOUT

Gout and metabolism. D. Stetten, Jr. *Il Sci Am* 198:73-4+ Je '58

GOVERNMENT, Reports to. See Business—Reports to government**GOVERNMENT buildings**

See also Public buildings

GOVERNMENT contracts. See Contracts, Government

GOVERNMENT employees

All-out drive for government scientists. *Product Eng* 29:24 Ja 13 '58

Career opportunities in the government. W. R. Brode and G. E. Hilbert. *Il Chem & Eng N* 36:70-3 pt 2 Ja 27 '58

How chemical engineers serve Uncle Sam. E. R. Freeman. *Chem Eng* 65:161-2+ My 5 '58

Pay, advancement poor, government engineers complain. *Machine Design* 29:28+ N 28 '57

Should congressional committees hire staff engineers to assist in research and development evaluation? points of view. *Product Eng* 29:32-3 My 19 '58

See also Civil service

Municipal employees

Public officials

Salaries

NSPE has heavy eye for pay proposal. *Product Eng* 29:28 F 24 '58

Pay raise shortchanges scientists. *Chem & Eng N* 36:38-9 F 10 '58

Will Congress boost engineers' pay? *Eng N* 160:21-2 Ja 9 '58

GOVERNMENT expenditures

See also Airports—Federal aid

Budget—United States

Public works—Federal aid

United States—Appropriations and expenditures

GOVERNMENT housing. See Housing projects, Government

GOVERNMENT investigations

Competition in education. Yates congressional committee hearings. *Mod Metals* 14:60+ My; 62-4+ Je; 31-2+ JI '58

Congress goes to graduate school; top researchers brief committee members on latest basic research in nuclear chemistry and physics. *Il Chem & Eng N* 36:42 F 17 '58

Universal Oil Products hearing reconvenes; revised petition of Guaranty trust co. *Chem & Eng N* 35:28-9 N 11 '57

GOVERNMENT laboratories Keeping federal labs staffed. *Chem & Eng N* 35:42+ N 11 '57

GOVERNMENT loans and grants

See also Rural electrification administration

GOVERNMENT ownership

Rule US-owned plants taxable. *Am Mach* 102:102 Mr 24 '58

See also Atomic power plants—Government ownership

Electric utilities—Government ownership

Hydroelectric plants—Government ownership

GOVERNMENT purchasing. See Purchasing, Government

GOVERNMENT regulation of industry

See also Federal trade commission

Food laws and regulations

Guaranty trust company

Trusts, Industrial—Law

GOVERNMENT research

Foreign countries move slowly toward more research and development spending. *Product Eng* 29:19-20 Ag 18 '58

Government research and development raked. *Chem & Eng N* 36:29-30 S 22 '58

See also Brookhaven national laboratory

Scientific research—Federal aid

GOVERNMENT standards. See Standards, Government

GOVERNORS (machinery)

- All-electric governor gives fast, accurate response. *II* *Diesel Power* 36:35-6 *JI* '58
 Better governor valve for small steam turbines. C. MacDonald. *diags Power* 102:140 *Mr* '58
 Case of the PM governors. *II* *Diesel Power* 36:34-6 *Mr* '58
 Details of the Holley road speed governor. *II* *diags Automotive Ind* 117:57+ O 15 '57
 Governors regulate turbine and engine speed and load. A. W. Carey, Jr. and D. G. Mark. *diags Power Eng* 62:50-3 *My* '58
 How mechanical drive governors work. R. J. Hall. *II* *diags Power* 102:116-19+ *Ja* '58
 Turbine governors for paper mill power plants simplify control of mill power and heat balance. W. B. Wilson and G. H. Gibb. *II* *diags Taapri* 40:385-94 *N* '57; Excerpts. *Power Eng* 62:75-7 *S* '58

GRACE, Eugene G.

Bethlehem's Grace retires. *por Steel* 141:65 *N* 11 '57

GRACE, W. R., and company

Career opportunities. *II* *Chem & Eng N* 36: 38-9 pt 2 *Ja* 27 '58

GRADE crossing elimination

Tunnel grief; two years in the making, a year to go; Salem, Mass. to eliminate two railroad grade crossings. *II* *plan Eng N* 160:38-40+ *F* 20 '58

Costs

Railroad underpass bid in Louisville; unit prices. *Eng N* 160:71 *My* 29 '58

GRADE crossings

Level crossings in Great Britain; their history, the law to-day and future practice. *II* *Engineering* 185:811-13 *Je* 27 '58

Lighting

Railroad Rx; better lighting—safer crossing. *II* *Elec World* 149:100 *Mr* 24 '58

GRADING (earthwork)

See also
 Roads—Grading

GRAF, Alois W.

Obituary. *por Inst Radio Eng Proc* 45:1558 *N* '57

GRAFTING (surgery)

See also
 Skin grafting

GRAIN

See also
 Sorghum

Diseases and pests

Aerial war against cereal crop disease. R. M. Austin. *II* *Ind Phot* 7:38-40 *Ag* '58

GRAIN elevators

Grain belt in the grain belt. *II* *Mill & Factory* 62:148 *Mr* '58

GRAIN elevators, Concrete

Precast concrete elevator. *II* *Concrete* 66:32-3 *Mr* '58

GRAIN handling

Automation key to brewery grain handling; Latrobe brewing co. E. H. Pechan. *II* *Elec World* 148:104 *N* 18 '57

See also
 Grain elevators

GRAIN mills. See Flour mills

GRAIN storage

Take 60 tons of steel, add 25 lb of air; result, two acres of grain-storage space. *II* *Eng N* 161:25 *JI* 10 '58

GRAININESS (photography)

Etching studies on photographic grains. J. F. Hamilton and others. *bibliog II J Ap Phys* 29:800-3 *My* '58

GRAMICIDIN

Synthesis of peptides related to gramicidin S; the decapeptide containing D-tyrosine residues in place of D-phenylalanine. B. F. Erlanger and others. *bibliog Am Chem Soc J* 80:1128-31 *Mr* 5 '58

GRAND canyon of the Colorado river

Prehistoric man in the Grand canyon; Haysupai Indians. D. W. Schwartz. *II* *diags Sci Am* 198:97-100+ *F* '58

GRAND Central terminal. See New York (city)—Railroads

GRAND RAPIDS, Michigan

Water supply

Grand Rapids modernizes water treatment, pumping and distribution. E. A. Schewe. *II* *Pub Works* 89:120-4 *My* '58

GRANDSTANDS

Cable-hung roof goes to the races; grandstand portion of clubhouse at Yonkers raceway. *II* *Eng N* 161:33-4+ *S* 4 '58
 Roofs are top attractions at new race track in Caracas. T. Y. Lin. *II* *Eng N* 160:66+ *Ap* 24 '58

Three-inch shell cantilevers ninety feet; grandstands at Venezuela's new racetrack project. *II* *diag Arch Rec* 123:252 *My* '58

GRANITE

Weathering of granite and associated erosional features in Hong Kong. B. P. Ruxton and L. Berry. *bibliog maps diags Geol Soc Bul* 68:1263-91, pl 1 O '57

See also
 Granodiorite

GRANODIORITE

Scheelite in feldspathized granodiorite at the Victory mine, Gabbs, Nev. F. L. Humphrey and M. Wyatt. *II* *maps diags Econ Geol* 53:38-64 *Ja* '58

GRANOPHYRE

Granophyre and hybrid pipes in a dolerite layer of Slave Gullion. R. W. D. Elwell. *bibliog map diags J Geol* 66:57-71, pl 1-3 *Ja* '58

GRANT, Leroy Fraser

Sketch. *por Eng J* 41:93 *F* '58

GRANULAR materials

Effect of particle size of raw materials on granulation of fertilizers. A. B. Phillips and others. *bibliog II J Agri & Food Chem* 6:449-53 *Je* '68

Granular processes; adsorption. L. Lapidus. *II* *diags Chem Eng Prog* 53:517-19 *N* '57

Granular processes; ion exchange. W. A. Seale. *diags Chem Eng Prog* 53:501-5 *D* '57

Microscopic study of the mechanism of caking and its prevention in some granular fertilizers. J. Silverberg and others. *bibliog II diags J Agri & Food Chem* 6:442-8 *Je* '58

Pulsating panels keep your bulk materials moving. *II* *diag Power* 102:156 *Ja* '58

Squeeze play. Aliss-Chalmers' mechanical compacting. *II* *Chem & Eng N* 35:52+ *N* 4 '57

Stress-strain relations for a simple model of a granular medium. H. Deresiewicz. *bibliog diag J Ap Mech* 25:402-6 *S* '58

GRAPEFRUIT

Enzymic hydrolysis of naringin in grapefruit. S. W. Ting. *bibliog J Agri & Food Chem* 6:546-9 *JI* '58

GRAPES

Chlorogenic acid isomers in black Alicante grapes. C. Weurman and C. de Rooij. *bibliog Chem & Ind* p72 *Ja* 18 '58

Inhibition of pectinolytic and cellulolytic enzymes in cucumber fermentations by scuppernon grape leaves. J. L. Ritchells and others. *bibliog Food Tech* 12:204-8 *My* '58

New lug cuts shipping cost. *II* *Food Eng* 30: 73 *Ja* '58

GRAPHIC arts trade association executives

Annual meeting, 34th, Chicago, Oct. 11-12. *Inland Ptr* 140:100 *N* '57

GRAPHIC methods

Applications of flow graphs to analog computer programming; abstract. J. L. Hammond. *Instruments & Automation* 31:1063-4 *Je* '58

Approximate relations between transient and frequency response. H. H. Rosenbrock. *bibliog Brit Inst Radio Eng J* 18:57-64 *Ja* '58

Automatic line plotters are unveiled. *II* *Eng N* 159:69 *N* 21 '57

Board automatically plots business trends. *II* *Electronics* 30:16+ *D* 1 '57

Combined closed- and open-loop presentation. E. G. Trunk. *Control Eng* 5:92 *F* '58

Curves find bending and torsion strength of thin-walled cylinders; reference book sheet. J. Kusmiss. *diags Product Eng* 29: 35+ *JI* 21 '58

Curves find compression strength of thin-walled cylinders; reference book sheet. J. Kusmiss. *diag Product Eng* 29:77+ *JI* 7 '58

Design and operation of continuous thickeners. N. J. Hassett. *bibliog diags Ind Chem* 34:116-20 *Mr* '58

Design packed columns graphically. J. J. Czernmann and others. *bibliog diags Pet Refiner* 37:165-72 *Ap* '58

Direct solution for apron elevation. E. A. Elevatorski. *diag Civil Eng* 28:596-7 *Ag* '58

Distribution of leakage flux around a twofocusing magnet: a graphic analysis. M. S. Glass. *diags Inst Radio Eng Proc* 46: 1751-6 O '58

Feedback theory; further properties of signal flow graphs. S. J. Mason. *diags Inst Radio Eng Proc* 44:920-6 *JI* '58; Discussion. W. W. Hopp. 46:1293 *S* '57

GRAPHIC methods—Continued

- Figure your power lines quickly and accurately with Lucas graphs. R. S. Horn. Power Eng 62:64-6 S '58
- Find distillation stages graphically. P. J. Horvath and R. F. Schubert. *bibliog* Chem Eng 65:129-32 F '58
- Finding deflections of arched cantilever beams with graphical aids; data sheet. A. Blake. Machine Design 30:127-30 Je 26 '58
- Flame stabilization in the boundary layer of heated plates. R. W. Ziemer and A. E. Cambel. *bibliog* Jt diags Jet Propulsion 28:592-9 S '58
- For thick wall vessels reduce thickness by overstrain? S. M. Jorgensen. *bibliog* Jt Pet Refiner 37:163-9 F '58
- Graph for Van Laar constants. B. C. Y. Lu and B. A. Laverne. Chem Eng 65:132 Apr 25 '58
- Graphic aids for teaching Coriolis force. M. J. Walker. diags Am J Phys 26:392-5 S '58
- Graphic construction finds clear 1-f. W. V. Hargreaves, jr. Electronics 30:170-2 D 1 '57
- Graphic recording via magnetic tape. R. W. Pyburn. *il* Instruments & Automation 31:853 My '58
- Graphical analysis of hydraulic servos; data file. F. J. Huddleston. *diag* Control Eng 5:89-91 Apr '58
- Graphical method for estimation of contrast in electron microscopy. P. Sadhukhan. *bibliog* Jt Ap Phys 29:1235-7 Ag '58
- Graphical method for oblique bending. T. F. W. Smith. diags Engineer 206:129-30 J 25 '58
- Graphical representation of theoretical soluble losses by CCD (countercurrent decantation). R. J. Woody. diags Min Eng 10:Trans 786-8 J '58
- Graphical solution for flow in earth channels with trapezoidal cross-sections. I. D. Carino. *diags* Am Soc C E Proc 83 IIR 2 no 1360:1-9 S '57; Discussion. 84 IIR 2 no 1615:13-22 Apr '58; Reply. 84 IIR 3 no 1784:5 S '58
- Heat capacity ratios; five hydrocarbons. J. Joffe and E. G. Delaney. *bibliog* Chem Eng 65:138-41 Mr 24 '58
- How to make and use more effective graphs. G. A. Lessells. *bibliog* Chem Eng 65:109-13 J 28 '58
- How to simplify tests for primary creep data. B. E. Muvidl and C. J. Glemza. S A E J 66:46-8 Ar '58
- How to start and stop your turbines with the aid of bar-graphs. R. H. Newton. Power Eng 62:89-91 Je '58
- Hydraulic pump data. D. B. Nickerson. S A E J 66:82-4 Ja '58
- Identification of mixtures of waters from chemical water analyses. J. C. McKinnell. *bibliog* diags J Pet Tech 10:79-82 S '58
- Mechanical analogs aid graphical flood routing. M. A. Kohler. *bibliog* *il* diags Am Soc C E Proc 84 [HY 2 no 1585]:1-14 Apr '58
- Minimum-drag cone frustum at hypersonic speeds. R. W. Truitt. *diag* J Aero/Space Sci 25:529-30 Ag '58
- New graphical method speeds design of multi-component distillation towers. R. J. Hengstbeck. *bibliog* diags Pet Eng 29:C6-12 N '57
- Numerical-graphical method for synthesizing switching circuits. A. H. Scheinman. diags Com & Electronics p687-9 Ja '58
- Obtaining the frequency response characteristics of a nonlinear servomechanism from an amplitude- and frequency-sensitive describing function. W. A. Stein and G. J. Thaler. *bibliog* *diag* Applications & Ind p91-5 My '58; Abstract. Elec Eng 77:689 Ag '58; Discussion. Applications & Ind p96 My '58
- Phase-plane graphics, a new approach to teaching dynamics. L. S. Packer and N. S. Eliss. diags Am J Phys 26:91-103 F '58
- Practical mathematical approach to grain design. M. W. Stone. diags Jet Propulsion 28:236-44 Apr '58
- Predicting reservoir performance from core analysis. B. A. Elmdahl. *bibliog* *il* diags Pet Eng 30:B95-4 Mr '58
- Rapid graphical computation of small color differences. F. R. Simon and W. J. Goodwin. *bibliog* diags Am Dyestuff Rep 47:105-12 F 24 '58
- Regenerator heat-balance calculation; fluid-unit operating conditions. O. A. Wunderlich and F. E. Ivey, jr. *diag* Oil & Gas J 56:121-8 Ja '58

- Response of a capacitance-resistance divider to the step-function, exponential-function and ramp-function. S. Turk. diags Electronic Eng 30:608-11 O '58
- Short-cut method for calculating design of bolted flange connections. *diag* Ind & Eng Chem 50:sup5A-60A Apr '58
- Shortest connection networks and some generalizations. R. C. Prim. map diags Bell System Tech J 36:1389-401 N '57
- Simple graphical method for constructing two-dimensional supersonic flows by means of a drafting machine. F. E. Ehlers. *diag* J Aeronautical Sci 25:69-70 Ja '58
- Simplified aircraft electrical diagrams. H. L. Yarbrough. diags Elec Manuf 62:95-9+ S '58
- Simplified graphical integration for solution of beam problems. W. L. Vaughan. diags Product Eng 28:F26-7 Mid-O '57
- Simplifying phase equalizer design. W. J. Judge. diags Electronic Ind 17:76-7 Apr '58
- Some graphical approaches to coding problems. J. Dutka. diags RCA R 18:466-74 D '57
- Statistical-graphical survey of series of linear and cyclic dimethylsiloxanes. H. I. Waterman and others. *bibliog* J Ap Chem 8:626-31 Q '58
- Tricon, an electric-diagram interlock system for railroad switching. W. Schmitz. *il* diags Elec Com 35 no 1:47-56 '58
- Use graph to design for optimum economic extraction. R. S. Olson. *bibliog* Chem Eng 65:142-5 O '58
- Use graphs to simplify footing design. J. B. Grant and R. J. Smith. diags Pet Refiner 36:130-2 D '57
- See also*
- Charts (calculating)
- Control boards
- Control charts
- Curve fitting
- Curve plotting
- Flow sheets
- Least squares
- Nomographs

GRAPHIC panels

- Automation in a carpet mill. L. Walter. *il* Textile Ind 122:93-5 Je '58
- Compact pushbutton panel controls railroad traffic. *il* Automation 5:9-10 Je '58
- Control panel design and human engineering. *il* diags Elec Manuf 62:110-18 S '58
- Control panels point the way to trouble; Timken Roller Bearing. *il* Mill & Factory 63:96 S '58
- Novel information display system for control panels. *il* diags Elec Manuf 61:114-15 Ja '58
- Panel design by pin up. A. J. Waldron. *il* S A J 5:48-51 F '58
- Present status of the graphic panel. R. Wall. *il* Ind & Eng Chem 49:sup65A-6A D '57
- Static-control panel regulates machine functions; Buhr machine tool co. *il* Tool Eng 41:114 S '58

Standards

- Control panel layout to JIC standards. F. R. Carlson. *il* *diag* Elec Manuf 61:125-8 My '58

GRAPHIC statics

- See also*
- Mohr circle diagram

GRAPHITE

- Adsorption at inorganic surfaces; the mechanism of adsorption of organic solutes, including dyes, by graphite. J. W. Galbraith and others. *bibliog* J Ap Chem 8:416-24 J '58
- Analysis of manganese dioxide with special reference to electrodeposited oxide on graphite. A. Kozawa and W. C. Vosburgh. *bibliog* Electrochem Soc J 105:235-7 Apr '58
- Carbide-coated graphite. Mech Eng 79:1155 D '58
- Clean-machined graphite for Chalk River. E. J. Kleber. *il* *diag* Am Mach 102:100-1 Je 2 '58
- Colloidal graphite lubricant aids extrusion. *il* Light Metal Age 15:34 O '57
- Conditions for stability of graphite, iron, and its oxides and carbides. D. I. Cameron. Iron & Steel Inst J 189:251-5 J '58
- Contact potential measurements on graphite. A. B. Fowler. J Ad Phys 29:1132 J '58
- Design of graphite moderators. diags Engineering 184:636-8 N 15 '57
- Effect of carbon dioxide concentration on gasification of artificial graphite. P. V. N. Ramachandra Rao and E. E. Petersen. *bibliog* *diag* Ind & Eng Chem 50:331-6 Mr '58
- Electrochemical deterioration of graphite and high-silicon iron anodes in sodium chloride electrolytes. S. Tudor and others. *bibliog* *il* Corrosion 14:53-9 F '58

GRAPHITE—Continued

- Estimate cost of graphite equipment. J. Reys. Chem Eng 65:137-42 F 24 '58
- Factors influencing wear and friction of solid film lubricants. R. E. Crump. Product Eng 28:C24-7 Mid-O '57
- Fast neutron attenuation in graphite. V. P. Duxgall and S. M. Puri. biblog J Ap Phys 29:675-9 Ap '58
- Friction coefficients of graphite over the temperature interval 25°C to 2450°C. A. R. Driesner and P. Wagner. biblog diag J Ap Phys 29:901-3 Je '58
- Graphite blocks aid honeycomb brazing. Il Iron Age 181:130 Ap 17 '58
- Graphite crucibles give pure potassium chloride; abstract. A. B. Scott and W. J. Fredericks. Chem & Eng N 36:57 Ap 28 '58
- Graphite; nuclear annealing. Nucleonics 16:115-164 S '58
- Graphite resistance furnace for physicochemical studies up to 2200°C. J. D. Mackenzie and J. O. Bockris. diags J Sci Instr 35:109-10 Mr '58
- How much life in graphite heat exchangers? C. P. Dillon. Il Chem Eng 65:184+ S 22 '58
- Low-ash graphite prepared from anthracite. M. G. Boobar and others. biblog Ind & Eng Chem 50:27-32 Ja '58
- New graphite backing rings hold a solution. H. C. Phelps. Il Welding Eng 43:108 Ap '58
- New graphites beat missile hot spots. I. Stambler. Il Aviation Age 29:86-8+ Ap '58
- Production of graphite single crystals by the thermal decomposition of aluminum carbide. L. M. Foster and others. biblog Il Am Mineralogist 43:285-96 Mr '58
- Properties of materials: carbon and graphite. Materials in Design Eng 48:236 Mid-O '58
- Rare earth graphite intercalates. R. C. Vickery and N. L. Campbell. biblog Am Chem Soc J 79:5897-9 N 20 '57
- S.C.I. conference on industrial carbon and graphite, London, Sept. 24-26; with abstracts of papers. Chem & Ind p 1442-7 N 2 '57
- Tracers trade tinfoil for graphite; Mealey contour following signal device. Il Am Mach 102:112 F 24 '58
- Wigner effect; factors in the design of graphite moderators for nuclear reactors. P. J. Grant. Engineering 185:120-1 Ja 24 '58
- See also*
Cast iron—Graphitization
Molds (for castings)—Graphite molds
- Protection**
New coatings boost graphite applications. Il Chem Eng 65:188 S 22 '58
Protective coatings for graphite. Mach 64:139 F '58
- GRAPHITIC oxide**
Preparation of graphitic oxide. W. S. Hummers, Jr. and R. E. Offeman. biblog Am Chem Soc J 80:1339 Mr 20 '58
- GRAPHITIZATION of iron.** *See* Cast iron—Graphitization
- GRASSES**
Isolation and analysis of hemicelluloses of bromo grass. D. G. Routley and J. T. Sullivan. biblog Il J Agri & Food Chem 6:687-92 S '58
- See also*
Bermuda grass
- GRASSHOPPERS**
Hopper fight by insecticides. Il J Agri & Food Chem 6:571-2 Ag '58
Leap of the grasshopper. G. Hoyle. Il diags Sci Am 198:30-5 Ja '58; Discussion. T. E. Sterne. 198:8+; Reply. 10 Mr '58
- GRATES**
Horizontal grate cools efficiently. Iron Age 180:183-4 N 14 '57
- GRATINGS**
See also
Diffraction gratings
- GRATINGS, Diffraction.** *See* Diffraction gratings
- GRAVEL**
A.I.M.E. annual meeting, New York, Feb. 16-20; with abstracts of papers on cement, lightweight aggregates, gravel. Pit & Quarry 50:130-2+ Ap '58
Current developments in gravel beneficiation. W. L. Price. Il diags Min Cong J 43:68-73 N '57
Gravel stabilization with tar. I. R. Geer. Pub Works 89:174-6 My '58
Heavy media processing of gravels in New Brunswick. I. D. MacKenzie. Il Am Concrete Inst J 30:133-8 J1 '58

- Heavy media separation boosts gravel value. I. S. Thyle and C. E. Golson. diags Rock Prod 61:126+ My '58
- Minnesota bituminous practice: utilizing pit gravel in highway design and construction. H. K. Glidden. Il Roads & Sts 101:169-70+ Mr '58
- Upland gravels of southern Maryland. J. Schlee. maps diags Geol Soc Bul 68:1371-409 biblog(p 1399-401) O '57
- See also*
Aggregates
Concrete—Aggregate
- GRAVEL handling**
Castas dam gives this classifying system a workout; classifying gravel. W. B. Lenhart. Il Rock Prod 61:128-30+ Mr '58
- See also*
Sand and gravel plants
- GRAVEL industry.** *See* Sand and gravel industry
- GRAVEL plants.** *See* Sand and gravel plants
- GRAVEL roads.** *See* Roads, Gravel
- GRAVIMETERS**
New controller recorder gravitometer makes possible blending crudes automatically. H. A. Brainerd and J. J. Piros. Il diag Oil & Gas J 55:78-81 D 2 '57
- GRAVIMETRIC analysis**
Analysis of polyhydric phenol mixtures. W. Beckering and W. W. Fowkes. biblog Anal Chem 30:1336-8 Ag '58
Determination of carbon in titanium, zirconium and their alloys by gravimetric and conductimetric methods. D. F. Wood and M. Williams. biblog diags Metallurgia 58:47-62 J1 '58
Determination of tungsten in steel not containing niobium and tantalum. Iron & Steel Inst J 190:51-5 S '58
Gravimetric determination of bismuth using hypophosphorous acid. D. R. Bomberger. Anal Chem 30:1321-2 Ag '58
High-temperature measurements at the National bureau of standards; measuring, generating high temperatures and determining high temperature properties of materials. Glass Ind 39:506 S '58
Review of fundamental developments in analysis: inorganic gravimetric and volumetric analysis. F. E. Beamish and A. D. Westland. Anal Chem 30:805-22 biblog(p820-2) pt 2 Ap '58
Review of fundamental developments in analysis: volumetric and gravimetric analytical methods for organic compounds. W. T. Smith, Jr. and others. Anal Chem 30:822-9 biblog(p827-9) pt 2 Ap '58
- GRAVING docks.** *See* Dry docks
- GRAVITATION**
Apparent weightlessness calls for new design approaches. J. Makowski. diags Aviation Age 30:196-200+ S '58
Engineer, the physicist, and gravitation. L. Witten. Aero/Space Eng 17:45-8 Je '58
Gravitational torque on a satellite vehicle. R. E. Roberson. diags Franklin Inst J 265:13-22 Ja '58
- See also*
Relativity (physics)
- GRAVITOMETERS.** *See* Gravimeters
- GRAVITY**
Determination of g by a bouncing ball. J. G. Dodd. Am J Phys 26:268 Ap '58
Electrogravitics: science or daydream? science of controlling gravity. Product Eng 28:12 D 30 '57
Electromagnetic analogs for the gravitational fields in the vicinity of a satellite. W. D. White. diags Inst Radio Eng Proc 46:920-2 My '58
Gravity measurements in the open sea. Franklin Inst J 265:166 F '58
International geophysical year; seismology and gravity. D. C. Rose. Il(p58) Eng J 41:53 Ag '58
Observation of the vertical gradient of gravity in the field. S. Thyssen-Bornemisza. Geophysics 23:359-60 Ap '58
- GRAVITY, Specific.** *See* Specific gravity
- GRAVITY meters.** *See* Gravimeters
- GRAY, Francis William**
Obituary. por Can Min & Met Bul 51:439-40 J1 '58
- GRAY**
Observer differences in color-mixture functions studied by means of a pair of metameric grays. K. L. Kelly. biblog J Res Nat Bur Stand 60:97-103 F '58
- GRAY iron founders society**
Annual meeting, 29th. Chicago, Oct. 9-11; with abstracts of papers. Foundry 85:120+ D '57

GRAYWACKE

Sole markings of graded graywacke beds: discussion, J. C. Crowell, *bibliog* J Geol 66: 333-5; Reply, F. H. Kuenen and E. ten Haaf, 335-7 My '58

GREASE

Grease from edible oils, flow diag 11 Engineering 186:133 Ag 1 '58

Tallow and grease world survey, C. V. Danielson, 11 Soap & Chem Spec 34:43-64 Ap '58

Transformation of some lipids in anaerobic sludge digestion, H. Heukelekian and P. Mueller, *bibliog* Sewage & Ind Wastes 30: 1103-20 S '58

See also

Lubricating greases

GREASE TRAPS

Grease interceptors, diag Air Cond Heat & Ven 55:32-4 J1; 92-5 Ag '58

GREAT BRITAIN

See also

Gas, Natural—Great Britain, Supply to also subdivision Great Britain under special subjects, e.g.

Aeronautics, Military

Airplane industry and trade

Airplanes, Military

Airports

Atomic power plants

Atomic research

Canals

Chemical engineering

Coal mines and mining

Colleges and universities

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Electric plants (central stations)

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Electricity supply

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Machinery industry

Moving picture industry

Plastics industries

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Railroads—Electrification

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Steel industry and trade

Steel works

Sugar industry and trade

Technical education

Telephone

Television broadcasting

Textile machinery industry

Vocational education

Warships

Atomic energy authority

Health and safety in atomic establishments, Chem & Ind p66-7 Ja 13 '58

Impact of nuclear energy upon industry, E. Plowden, Engineer 205:618-19 Ap 25 '58

U.K. atomic energy authority's 4th annual report, Engineer 206:185 Ag 1 '58

Commerce**Middle East**

Advice on Middle East trade, Engineering 185:273 F 28 '58

Defenses

Pentaxon to copy British system of weapons development, but British hope we won't do it, Product Eng 29:19-20 Ja 20 '58

History

Norman castles, B. Hope-Taylor, 11 diags Sci Am 198:42-8 Mr '58

Industries and resources

Companies in the commonwealth, Engineering 186:209-10 Ag 15 '58

See also

Chemical industries—Great Britain

National physical laboratory, Teddington

Annual open days, 11 Research 11:241-2 Je '58

N.P.L. report for 1957, Chem & Ind p820 Je 28 '58

National physical laboratory research, 11 Engineering 185:697-8 My 30 '58

Open days, 11 Engineer 205:766-7 My 23 '58

Navy

Naval electrical branch, Engineer 206:495 S 26 '58

Royal navy, 1957, 11 Engineer 205:12-16, 47-50 Ja 3-10 '58

Officers

Training of engineer officers and naval constructors in the Royal navy, I. G. Aylen; S. J. Palmer, *bibliog* diags Am Soc Naval Eng J 70:61-76 F '58

Post office

Improving telephone communications; Post Office research, 11 Engineering 184:497 O 13 '57

Scientific and industrial research, Department of

Changes at Teddington, B. K. Blount, Chem & Ind p832-3 Ag 2 '58

D.S.I.R. annual report for 1956-57, Chem & Ind p572-3 My 17 '58

Select committee's investigation of D.S.I.R. Chem & Ind p 1196 S 13 '58

Work of the Department of scientific and industrial research; abstract, H. Melville, Chem & Ind p779 Je 28 '58

GREAT LAKES

Development of harbours, H. A. Young, 11 maps Eng J 41:97-101 S '58

See also

Shipbuilding—Great Lakes

Shipping—Great Lakes

GREAT SALT LAKE

\$12 million plan eyed; road and dike program, map Eng N 161:22 S 18 '58

GREECE

See also

Irrigation—Greece

Petroleum industry and trade—Greece

Antiquities

King Nestor's palace, C. W. Blegen, 11 plan Sci Am 198:110-16+ My '58

GREEN, ARDA A.

A. R. Green received Garvan medal, Chem & Eng N 36:123 Ap 28 '58

GREEN

Science for the coatings technologist; green pigments, E. S. Beck, 11 Metal Finishing 55:50-5 N '57

See also

Blindschedlers green

GREENHOUSES**Air conditioning**

Greenhouse climate control, R. S. Ash, *bibliog* 11 plan diags Refrig Eng 66:41-6 F '58

GREENLAND

See also

Geology—Greenland

Mines and mineral resources—Greenland

GREENSBORO, North Carolina

Can a city stay out of the parking lot business? G. B. Arthur, 11 map Pub Works 89:104-6 F '58

Water supply

Pre-planning and fast action win water for annexed areas, T. Z. Osborne, 11 map Water Works Eng 111:656-7 J1 '58

GREENSTEIN, Jesse P.

1957 Hulsebrand award, por Chem & Eng N 36:70 Mr 24 '58

GREENVILLE, South Carolina**Water supply**

New reservoir will yield 41 mgd, 11 map Pub Works 89:95-6 My '58

GREENWALD, Herbert S.

City builder Greenwald, D. Carlson, pors Arch Forum 108:118-19+ My '58

GRIER, Francis Ebenezer

Fortunate stewardship of F. E. Grier; Abney and Erwin mills, por Mod Textiles Mag 39:33-4+ S '58

GRIESS, Johann Peter

Discoverer of diazo compounds; biographical sketch. W. H. Cliffe. bibliog por Chem & Ind p616-21 My 24 '58

GRIGNARD reagents

Chemistry of borazene; the reaction of B-trichloro-N-trimethylborazene with Grignard reagents. G. Ryschkevitch and others. bibliog Am Chem Soc J 80:4515-17 S 5 '58

Decaborane Grignard reagents. B. Siegel and others. Am Chem Soc J 80:4523-6 S 5 '58
Determination of silanol with Grignard reagent. S. O. Guenther. bibliog diag Anal Chem 30:1118-20 Je '58

Grignard reagents and unsaturated ethers; the cleavage of diallyl ethers by aliphatic and aromatic Grignard reagents. C. M. Hill and others. Am Chem Soc J 80:3623-5 JI 20 '58

Grignard reagents and unsaturated ethers; the synthesis, properties and reaction of β -substituted vinyl ethers with aliphatic and aromatic Grignard reagents. C. M. Hill and others. Am Chem Soc J 80:4602-4 S 5 '58

Interaction of certain Grignard reagents with nitriles containing an α -morpholinyl substituent. H. R. Henze and others. bibliog Am Chem Soc J 79:6230-3 D 5 '57

Peroxides boost Grignards; new path to alcohols, phenols, and ethers. Chem & Eng N 36:50 S 22 '58

Stereochemistry of the conversion of organic chlorides to acids by carbonylation of the Grignard reagents. H. L. Goering and F. H. McCarron. bibliog Am Chem Soc J 80:2287-91 My 5 '58

GRINDING

Analysis of residual stress in ground surfaces of high-temperature alloys. R. D. Halverstadt. bibliog diags A S M E Trans 80:929-39; Discussion. 939-40 My '58

Automatic grinding; with coated abrasives finds widespread use for roughing, finishing, and polishing. J. K. McLaughlin. II diags Mach 121:36 Ag '58

Basic mechanics of the grinding process. W. R. Backer and M. E. Merchant. bibliog diags A S M E Trans 80:141-6; Discussion. 146-7; Reply. 147-8 Ja '58

Belt slab grinding provides weight control; abstract. D. E. Woolman. S A E J 66:133 F '58

Coated abrasives grind all types of castings. G. G. Willson. II diags Foundry 85:196-200 D '57

Contour-grinding of compressor vanes for the Pratt & Whitney J-75 turbo-jet engines. C. H. Wick. II diags Mach 64:120-7 JI '58

Cup-shaped parts loaded onto magnetic posts for surface grinding. E. Le Grand. II diags Am Mach 102:151 Ap '58

Curvature produced by grinding or milling using a tilted spindle. M. Barash. diags Mach 65:173-4 S '58

Cut costs with hob ground end mills. H. L. Lewis. II Mill & Factory 63:101 Ag '58

Distorted layers in silicon produced by grinding and polishing. W. C. Dash. diags J Ap Phys 29:228-9 F '58

Grinding cams on a lathe. C. McLaughlin. diags Tool Eng 40:83 Ap '58

Grinding ceramics by dual method is faster. R. B. McPherson. II Electronics 31:112 Je 6 '58

Grinding hemispheres of germanium and silicon. D. B. Gasson. J Sci Instr 35:33 Ja '58

Grinding magnetic taconite in rod mills; Reserve mining co.'s Babbitt plant. E. M. Furness and A. S. Henderson. Min Eng 9:Trans 1359-60 D '57

Grinding slugs disposed of in one-way burlap bags. S. Murzyn. diags Am Mach 102:124 Ap 7 '58

Grinding wedge-shaped holes. II Tool Eng 40:92 Je '58

How grinding affects fatigue strength of steel. L. P. Tarasov. bibliog diag Am Mach 101:72-6 D 30 '57

How to improve your cylindrical grinding. J. A. Mueller. II Mach 64:129-33 Ja '58

Influence of various grinding conditions upon residual stresses in titanium. P. A. Clorite and E. C. Reed. bibliog A S M E Trans 80:297-301 F '58

Metalworking, 1962. W. G. Johnson. diags Am Mach 101:131-2 N 18 '57

New manufacturing techniques for hydraulic servo valves. E. M. Hakanson. II diags Tool Eng 40:95-6 Je '58

Plunge grinding succeeds on tricky work. II Tool Eng 40:88 My '58

Radioactive-tracer technique for studying grinding ball wear. M. Pobereskin and others. bibliog Min Eng 9:Trans 1356-8 D '57

Residual grinding stresses can be minimized. M. W. Gormly. II Tool Eng 41:51-4 Ag '58

Simple meter control speeds ball grinding. Iron Age 180:191-2 N 14 '57

Slender shafts hardened and ground without distortion. II diags Am Mach 102:142-3 My 19 '58

Specifying undercuts and reliefs; reference sheet. F. Zaggar. diags Tool Eng 41:89-90 Ag '58

Standard units grind special drill point. II Iron Age 181:135-6 Je 19 '58

Surface grinding aluminum products. J. E. Hyler. diags Light Metal Age 15:38 O '57

360-cycle portable tools; why they make sense for heavy-duty grinding. M. A. Horlak. II diags Am Mach 101:116-20 D 16 '57

See also

Abrasive belts

Abrasive wheels

Gear grinding machines

Grinding machines

Honing

Machine shop practice

Thread grinding

GRINDING, Electrolytic

Electrolytic machining handles tough alloys.

Steel 141:196+ D 9 '57

Electrolytics machines cemented carbides.

Product Eng 29:22-3 Je 16 '58

Fine grind cuts tool costs; Anocut electrolytic grinding system; Ryan aeronautical co. II Steel 142:72 Je 2 '58

Grinding of drill bits to be mostly electrolytic.

Product Eng 29:18 Je 2 '58

How to machine difficult workpieces; Anocut engineering co. C. R. Stroup. II diags Am Mach 102:106-9 Ja 13 '58

Process grinds and mills electrolytically; abstract. L. A. Williams. S A E J 66:123-4 F '58

Slice and electrogrind honeycomb for B-52 panels. W. G. Koehler. II diags Am Mach 102:93-5 Je 16 '58

Test results make a troubleshooter's list; Pitman-Dunn laboratories, Frankford arsenal. F. Pearlstein. Am Mach 102:110-12 Ja 13 '58

GRINDING machines

Adams copy grinding with abrasive belts. II Engineer 206:301-2 Ag 22 '58

Anybody can grind to millionths; recently introduced Brown & Sharpe plain grinder. II Mill & Factory 62:84 Je '58

Baker-Pera tool radius and cutting edge grinding attachment. II Automobile Eng 48:135 Ap '58

Bullard designs for flexibility in turning and grinding. II Am Mach 102:129 Ap 7 '58

Centerless grinders offer reduced setup time, wider work range. II Am Mach 102:119 Je 2 '58

Centerless grinding machine grinds parts up to 1 1/2 in. in diameter. II Am Mach 102:143 Mr 24 '58

Cincinnati Filmatic centerless grinding machines. II Mach 64:173 JI '58

Compensated pump reduces heat in a surface grinder. F. Krafft. II diags Ap Hydraulics 11:95-6+ My '58

Crankshaft grinding machines. II Engineer 204:647 N 1 '57

Crankshaft grinding; Newall machines and techniques. II Automobile Eng 47:442-3 N '57

Dual-spindle surface grinder cuts machining time. II Mach 64:122-3 Ja '58

Fluid motor converts a grinder. II Ap Hydraulics 11:82-3 F '58

Grinder cycles automatically; illustrations with text. Product Eng 29:67 Ja 20 '58

Grinder supports reduce vibration. II diags Product Eng 29:35 Mr 17 '58

Grinding block simplifies punch and cutter production. H. Levy. diags Am Mach 102:126 F 10 '58

Grinding crankshafts and crankpins; Newall machine. II Engineering 184:742 D 13 '57

Grinding to millionths; Brown & Sharpe no. five plain grinding machines equipped with special carbide-tipped centers and an Electrical Instrument. II Mach 64:196-7 My '58

Grinds complex form in aluminum pistons. II Iron Age 180:156 D 5 '57

Harbors surface grinding machine. II Engineer 204:908 D 20 '57

GRINDING machines—Continued

- Head automated, rotary surface-grinding machine, *il* *diags* Mach 64:146 Ag '58
- Head rotary surface grinder handles workpieces up to six in. OD, *il* Am Mach 102:151 F 24 '58
- Helix grinding; machine for cutting up to 35 flutes, *Engineer* 184:897 D 27 '57
- Instrumentation on a plain grinder matches parts to ± 20 millionths, *il* *diag* Am Mach 102:126-7 Ap 7 '58
- Jones and Shipman spline grinding machine, *il* *Engineer* 204:341 D 27 '57
- Keighley grinding machines, *il* *Engineer* 206:147 J1 25 '58
- Machine doubles up on grinding; Dana corp., *il* *Steel* 142:80-1 Je 30 '58
- Machine generates spiral points on drills, *il* *diag* Tool Eng 40:94 Ja '58
- Mattison air-station grinding machine, *il* Mach 65:190-1 S '58
- Mengle rotary table surface grinder, *il* *Engineer* 205:73 Ja 10 '58
- 1958 production preview; grinding, honing, lapping, *il* *diag* Am Mach 102:133-41 Ja 27 '58
- Norton hydraulic surface grinder, *il* Mach 65:132 O '58
- Optical dividing head controls grinding operation to 0.0001 inch, E. C. Varnum, *il* Mach 65:140 S '58
- Oscillating-head tool grinder, *il* *Automobile Eng* 48:205 My '58
- Precision machines slice and dice transistor elements; Bell telephone laboratories, C. Emerson, *il* Am Mach 102:85-7, cover S 8 '58
- Projector adapted to grinder solves form-tool problems; illustrations and drawings with text, J. R. Sloan, Am Mach 101:114-15 D 16 '57
- Robinson and son roll grinding and fluting machine, *il* *Engineer* 206:229 Ag 8 '58
- Rotary surface grinding goes automatic; Head machine co., C. G. Menard, *il* *diags* *Steel* 142:84 Je 30 '58
- Rowland and co. surface grinders, *il* *Automobile Eng* 48:96-7 Mr '58
- Soviet plant; grinding and gear-cutting machines, *il* *Engineering* 184:522-3 O 25 '57
- Special tailstock expands capacity and usefulness of cylindrical grinder, J. C. Patel, *diags* Am Mach 101:165 N 18 '57
- Surface grinder designed for precision, *il* *Tool Eng* 39:31 N '57
- Thompson Hydrall surface grinder, *il* Mach 64:176+ Ag '58
- To generate perforating punches, company uses a versatile attachment with many advantages, *il* *Mill & Factory* 61:138 D '57
- Tool and cutter grinder sharpens heavy milling cutter assemblies, *il* Am Mach 102:149 My 5 '58
- Traveling wheelhead roll grinders, *il* Am Mach 102:120 Ag 11 '58
- Two-head belt grinder speeds deflashing, *il* Mach 64:132-3 F '58
- Weldments make low-cost, rigid frame; vertical grinders made by Springfield machine tool co.; illustrations with text, *Product Eng* 29:76 Ja 6 '58
- See also*
- Abrasive belts
- Gear grinding machines
- Grinding wheels

Control

- Arter grinding machine co.; point-to-point positioning system, J. D. Cooney and B. K. Ledgerwood, *il* *diags* *Control Eng* 5:80-3 Ja '58
- Control to 50 millionths; centerless grinders, *il* *Steel* 142:110 Mr 24 '58
- Electronic device permits precise bearing control; Airborne instruments laboratory, inc, *diag* Ind Lab 9:19 Je '58
- Electronics control grinder within millionths, *il* *diag* Tool Eng 40:110 Ap '58
- IBM-Fosdick machine tool co.; numerical control system for the jig borers and grinders, J. D. Cooney and B. K. Ledgerwood, *il* *diags* *Control Eng* 5:72-4 Ja '58
- Millionths made easy; Brown & Sharpe mfg. co., *il* *Steel* 142:148+ My 19 '58
- Now, tool control to five millionths; micro-inch dimensional control of centerless grinders, *il* *diags* Am Mach 102:120-1 Mr 24 '58
- Pratt & Whitney co. numerical control system for jig borers, precision hole grinders and rotary tables, J. D. Cooney and B. K. Ledgerwood, *il* *diags* *Control Eng* 5:75-7 Ja '58

Size control replaces timer, *il* *Automation* 5:92 Ap '58

Standards

Aid to purchasing of abrasive tools, F. A. Upper, *il* *Mag of Stand* 29:4-5 Ja '58

GRINDING wheels

- Conversion table; wheel speeds revolutions per minute for various diameters of grinding wheels to give peripheral speed in feet per minute as indicated; tabulation; data sheet, Mach 64:190 Ag '58
- Grinding wheels for aluminum, A. T. Dalton, *il* *Welding Eng* 43:44 F '58
- Mountings for abrasive disks; reference book sheet, *diags* Am Mach 102:139+ Ja 13 '58
- Oscillating wheel improves grinder output, *il* *diag* Tool Eng 40:107 Ap '58
- Requirements of a precision grinding wheel power package; abstract, W. E. Happel, *Tool Eng* 41:159 J1 '58
- Select grinding wheels to produce minimum stress, J. A. Mueller, Am Mach 102:93-5 S 22 '58
- Tests show superiority of man-made industrial diamonds for grinding wheels, N. A. Matthews and N. Leventhal, *il* *diag* Mach 64:122-7 Ap '58

*See also***Grinding machines****Manufacture**

Technical aspects of vitrified grinding wheel manufacture, M. W. Gormly, *il* *diags* Am Cer Soc Bul 37:77-80, 144-7, 189-92, 210-12, 283-6 F 15-Je 15 '58

Standards

Aid to purchasing of abrasive tools, F. A. Upper, *il* *Mag of Stand* 29:4-5 Ja '58

Truing

How to reduce diamond wear, L. H. Cook, *diags* *Tool Eng* 39:103 D '57

Vibration

Experimental study on chatter vibrations in grinding operations, S. Dol, *diags* A S M E Trans 80:133-40 Ja '58

GRIT blasting

How grit blasting improves phosphate coatings, J. Knanishu, *il* *Metal Finishing* 56:57-62 Mr '58

GRIT chambers. *See* Sewage disposal plants—Grit chambers

GROCCERY stores*See also***Kroger company****GROCCERY trade**

Private labels climb into key marketing positions; Topco associates, inc, J. V. Ziemba, *Food Eng* 30:52-4 J1 '58

*See also***Chain stores****GROINS**

Feeder beaches and groins restore Presque Isle peninsula, L. W. Olmstead and G. A. Lynde, *il* *maps* *Civil Eng* 28:172-5 Mr '58

GROOVING

Adjustable grooving tool, R. Nelson, *diags* *Tool Eng* 39:80 N '57

Ramsey circular retainers, *il* *Engineer* 205:653 My 2 '58

Tangent-ring oil grooves, *il* *diags* *Machine Design* 30:104 F 6 '58

GROSSE POINTE WOODS, Michigan**Lighting**

New method for financing ornamental street lighting, W. W. Coburn, *il* *Pub Works* 89:95-100 Mr '58

GROUND water. *See* Water, Underground

GROUNDNUTS. *See* Peanuts

GROUNDNS and faults. *See* Electric distribution—Grounds and faults

GROUTING

Cement and clay grouting of foundations; symposium, bibliog *il* *diags* Am Soc C E Proc 84 [SM 1 nos 1544-1552] F '58; Discussion, 84 [SM 2 no 1657]:47-51 My; [SM 4 no 1828]:23-38 O '58

Concrete structure repair using non-shrinking grout with pre-placed aggregate; West Penn power co., J. C. King and J. Hofer, *il* *Plant Eng* 12:116-18 O '58

Concreting with colloidal grout, *il* *Engineer* 205:552-3 Ap 11 '58

Fluid grout for water control, W. Hower and others, *il* *diag* *Pet Eng* 30:B26-9 Je '58

Leaks in reservoir located by dye and stopped by pressure grouting, H. Burgess, plan *diag* *Water Works Eng* 111:132-3+ F '58

GROUTING—Continued

- Manufactured sands successfully used in grouts. J. M. Polatty. *Min Eng* 10:352-3 Mr '58
- Pressure grouting fine fissures. T. B. Kennedy. *il diag Am Soc C E Proc* 84 [SM 3 no 1731]:1-36 Ag '58
- River gravel solidified for British tunnel; Dartford tunnel under the Thames river. *il map diags Eng N* 159:58-60 N 14 '57

Specifications

- Cement and clay grouting of foundations; suggested specifications for pressure grouting. J. P. Elston. *Am Soc C E Proc* 84 [SM 1 no 1548]:1-30 F '58

GROWTH

- Application of the protein depletion-repletion technique in baby pig feeding experiments; comparison of the depletion-repletion technique with conventional growth feeding trials. V. W. Hays and others. *bibliog J Nutrition* 65:63-75 My '58
- Effect of dietary energy concentration and age on the lysine requirement of growing chicks. H. G. Schwartz and others. *bibliog J Nutrition* 65:25-37 My '58
- Effect of mono- and di- fatty acid esters on the growth and fecal lipides of rats. T. K. Murray and others. *bibliog Am Oil Chem Soc J* 35:156-8 Ap '58
- Effect of vitamin B₁₂ on growth-retarded children; a review. E. E. Howe. *bibliog* (37 titles) *Am J Clinical Nutrition* 6:18-25 Ja '58
- Growth and development of Central American children. M. A. Guzman and others. *bibliog Am J Clinical Nutrition* 6:430-8 Jl '58
- Influence of high-fat diets on growth and development of obesity in the albino rat. J. J. Harbort and others. *bibliog J Nutrition* 64:241-9 F '58
- Interactions of B vitamins on growth of rats. E. M. Scott and I. V. Griffith. *bibliog J Nutrition* 65:419-28 Jl '58
- Relation of saturated, medium- and long-chain triglycerides to growth, appetite, thirst and weight maintenance requirements. H. Kunitz and others. *bibliog J Nutrition* 64:513-24 Ap '58
- Some effects of DL-methionine and glycocyamine on growth and nitrogen retention in rats. H. Baron. *J Nutrition* 64:229-39 *bibliog* (28 titles, p237-9) F '58

*See also***Regeneration (biology)****GROWTH inhibiting substances**

- Response of rats to diets high in methionine and related compounds. H. P. Cohen and others. *J Nutrition* 64:555-69 *bibliog* (p567-9) Ap '58

GROWTH promoting substances

- Crystalline human growth hormone. U. J. Lewis and N. G. Brink. *bibliog Am Chem Soc J* 80:4429-30 Ag 20 '58
- Growth substances in relation to dormancy in barley. J. R. A. Pollock. *bibliog Chem & Ind* p387-8 Mr 29 '58
- Metabolic fate of carbon-14-labeled trimethylalkyl ammonium stearate. M. S. Mamesh and others. *J Agri & Food Chem* 6:619-20 Ag '58

See also

- Auxins
Plant growth

GUAM

- Architects stymied in fight to obtain fees; island cannot be sued. *Arch Forum* 108:11+ My '58

GUANAZOLE

- Some guanazole derivatives. E. A. Steck and others. *bibliog Am Chem Soc J* 80:3329-31 Ag 5 '58

GUANIDINE

- Ion exchange studies of transguanylation reactions; rearrangement of S,2-aminoethylisothiourea to 2-mercaptoethylguanidine and 2-aminothiazoline. J. X. Khym and others. *bibliog Am Chem Soc J* 79:5663-6 N 5 '57
- Ion exchange studies of transguanylation reactions; rearrangement of 3-aminopropylisothiourea and N-substituted aminoethyl- and aminopropylisothiourea to mercaptoalkylguanidines and 2-aminothiazolines or pen-thiazolines. J. X. Khym and others. *bibliog Am Chem Soc J* 80:3342-9 Jl '58
- Synthesis of aminoalkylisothurionium salts and their conversion to mercaptoalkylguanidines and thiazolines. D. G. Doherty and others. *bibliog Am Chem Soc J* 79:5667-71 N 5 '57

See also

- Phenyguanidine

GUANOSINE phosphates

- Formation of guanosine diphosphate fucose from guanosine diphosphate mannose. V. Ginsburg. *bibliog Am Chem Soc J* 80:4426 Ag 20 '58
- Isolation of guanosine diphosphate fucose from aerobic aerobes. V. Ginsburg and H. N. Kirkman. *bibliog Am Chem Soc J* 80:3481 Jl 5 '58

GUAR

- Flocculation of slimes by guar. L. E. Peterson and J. W. Odle. *bibliog il diags Ind & Eng Chem* 50:1013-16 Jl '58
- Guar gum picks up speed. *il Chem & Eng N* 36:34-6 F 24 '58

GUARANTY trust company

- Universal Oil Products hearing reconvenes; revised petition of Guaranty trust co. *Chem & Eng N* 35:28-9 N 11 '57
- Universal Oil Products sale ordered. *Chem & Eng N* 36:92-4+ Je 9 '58

GUARD rails. See Roads—Safety guards**GUARDS (machinery). See Machinery—Safety devices****GUATEMALA***See also*

- Petroleum industry and trade—Guatemala

GUIDED missile bases

- Air force expansion will be a big market. *il map Eng N* 159:21-2 D 19 '57
- AF missile test center. Cape Canaveral, Fla. *il Electronic Ind* 17:92+ My '58
- Bomarc. \$170 million construction job. *il Eng N* 161:24 Jl 3 '58
- Cape Canaveral test center; transmission equipment for submarine cable. F. T. Haury. *il diag Bell Lab Rec* 36:344-5 S '58
- Change at Cape Canaveral; Air force missile test center. L. H. Young. *il map diag Control Eng* 5:79-85 Je '58
- Concrete dome protects missile men. M. J. Kudroff. *il Eng N* 160:41-2+ My 1 '58
- Cooler air force base; missile construction hums. *il Eng N* 160:30-2+ F 27 '58
- Missile base job; Francis Warren air force base, Cheyenne. *Eng N* 160:28 Je 19 '58
- Missile bases top 1959 military building list. *Arch Forum* 109:13 Ag '58
- Now millions for missile bases; interview with W. E. Leonard. *il Eng N* 160:21-3 F 27 '58
- SAC builds gunsight; semibasement structure to house missile equipment. *Eng N* 160:22 Ap 3 '58

Costs

- Missile bases for St Louis defense area; unit prices. *Eng N* 161:85+ S 18 '58

GUIDED missile factories

- Forty-million-dollar guided missile plant; Convair-astronautics plant. *il Arch Forum* 109:9 S '58

Costs

- Cost reduction in missile manufacture; abstract. C. D. Bliss. *Aircraft Eng* 30:236 Ag '58

Quality control

- Reliability and the quality control engineer; Bendix products div. missiles. Bendix aviation corp. R. G. Fitzgibbons. *il diag Ind Quality Control* 14:13-18 My '58

GUIDED missile handling

- Ground support equipment: five rules for designing missile handling equipment. M. Mastracci. *il diags Aviation Age* 30:44-50 S '58
- How ground support equipment stacks up in the field. R. M. Loebelson. *il Aviation Age* 30:28-31 S '58
- Thor points the way; ground support equipment for the big birds. I. Stambler. *il diag Aviation Age* 30:52-4+ S '58

GUIDED missiles

- Air force missiles. *il Engineer* 205:631 Ap 25 '58
- Air-air Firestreak is designed for simple aerodynamic control. I. Stambler. *il plans Aviation Age* 28:95-103 Ja '58
- Airframe managements face shrinking markets and tough competition. E. L. Stone. *S A E J* 66:86-8 My '58
- Army relies on past experience for rapid missile progress; abstract. J. P. Daley. *Mach Progress* 30:14-15 Ap 17 '58
- Army shows missile trends. *Electronics* 31:26 Jl 25 '58
- Atlas has two boosters and sustainer; illustrations and drawings with text. I. Stambler. *Aviation Age* 30:86-7 S '58
- Atlas propulsion system. *il Engineering* 186:295 S 5 '58
- A-powered, winged missile top deterrent? W. F. Ballhaus. *Product Eng* 29:29 Ap 21 '58

GUIDED missiles—Continued

- Bomarc uses magnesium-thorium alloys. *diag* Steel 142:148 F 17 '58
- British urge brain pool. *Electronics Bsns* ed 30:50 N 10 '57
- Cast stainless valve body replaces weldment in missile. *il Foundry* 86:128+ F '58
- Ceramic industry sees Thor-Vanguard missile blast off. G. L. Vincent. *il Cer Ind* 70:104-5, cover Je '58
- Chemical engineers and missiles. *il Chem Eng Prog* 54:133-5 F '58
- Design factors in selecting lightweight electric generators. C. H. Grace and J. N. Hibbard. *il diags Machine Design* 30:117-24 My 29 '58
- Design for man or robot? *il Product Eng* 28: 85, 88 O 28 '57
- Design of magnetic circuits for miniature relays. W. J. Richert. *diags Electronic Ind & Tele-Tech* 16:56-7+ O '57
- Developments in missiles. *il Elec Eng* 77:771-2 Ag '58
- Evaluation of Russia's missile program. R. E. Stockwell. *Automotive Ind* 113:103-4 Ja 1 '58
- General procurement information on guided missile programs; directory of military agencies. *Automotive Ind* 113:130-4 Ja 1 '58; Same abr. *Electronic Ind* 17:127 Ja '58
- Guided missiles. M. R. Briggs and others. *il diags Westinghouse Eng* 17:185-8 N '57
- Guided weapons and aerodynamics. R. Cockburn. *Roy Aeronautical Soc J* 62:562-7 Ag '58; Excerpt. *Engineering* 185:567 My 2 '58; Discussion. *Roy Aeronautical Soc J* 62:567-70 Ag '58
- Heat limits hypersonic flight; abstract. W. F. Radcliffe. *S A E J* 66:36-7 F 1 '58
- High-thermal test unit keyed to missile re-entry. *il Product Eng* 28:27 D 2 '57
- Industry borrows Polaris planning. *Product Eng* 29:17-18 Je 16 '58
- Industry missile and space age conference. Detroit, June, 30-July 1. *Automotive Ind* 119:51+ Ag 1 '58
- IRBM; new role, new dollars. *Electronics* 30: 32 D 10 '57
- Managing defensework for profit; special report. *Steel* 142:125-32 Ap 14 '58
- Military defense topics highlight Texas aircraft production meeting. *S A E J* 66:92-3 Je '58
- Military; the chill is off. *Electronics* 30:17-18 D 10 '57
- Missile acceleration recorder. *il diags Machine Design* 30:123 Ja 9 '58
- Missile-age cruiser is best antiaircraft arsenal anywhere. *il Elec Eng* 77:763-4 Ag '58
- Missile arsenal builds up. *il Steel* 142:61 Ap 7 '58
- Missile development in a hurry; navy's Polaris IRBM. V. DeBiasi. *il diags Aviation Age* 29: 20-1, 78+ cover Je '58
- Missile muster. *Machine Design* 30:36+ Ja 9 '58
- Missile output plans firm up. *Am Mach* 101: 112 D 30 '57
- Missile progress good; air force missile program. *Electronics* 30:29 D 10 '57
- Missiles general equates leadtime to leadership. B. A. Schriever. *diags Machine Design* 30:40-1+ F 20 '58
- Missiles, large and small; illustrations with text. *Engineer* 205:236 F 21 '58
- Missile's metallurgical miseries. *il Product Eng* 28:108-9 N 25 '57
- Missiles pace defense sales. *Electronics* 31:19 Ja 10 '58
- Missiles program on A-bomb pattern? L. R. Groves. *Eng N* 159:25 D 5 '57
- Missiles; they make other weapons obsolete. *il Steel* 143:66-7 JI 14 '58
- Navy shifts to missiles. *Electronics Bsns* ed 30:38 N 10 '57
- Navy Talos missile makes public bow for army. *il Elec Eng* 77:192-3 F '58
- Navy's Polaris IRBM makes missile headlines. *Product Eng* 29:24 F 10 '58
- New method for computing drag coefficients from ballistic range data. A. Seiff. *J Aeronautical Sci* 25:133-4 F '58
- Nike Hercules in production. *il Bell Lab Rec* 36:346-7, cover S '58
- 1958 guided missile directory; electronic firms and military agencies. *il Electronic Ind* 17: 153-4+ Je '58
- NATO sparks production. *Electronics* 31:34 Ja 10 '58
- Our missile role grows. M. Schilling. *Electronics* 30:41 D 10 '57
- Plato creates new market. *Electronics* 31:49 F 21 '58
- Polaris development described by navy. *Machine Design* 30:42-3 Mr 20 '58
- Polaris missile subs achieve pinpoint navigation. *Elec Eng* 77:468-9 My '58
- Printed circuits for guided missiles at Convair's Pomona (Cal) Missile div. E. D. Heller. *il diags Am Mach* 101:113-15 N 4 '57
- Production and sales; missile systems sales climb. *Electronics* 31:18 Ag 22 '58
- Progress in British missiles. *Electronics* 31: 34 My 2 '58
- Propellant explosives classification and the effect on field handling of missiles. W. F. Haite. *diag Jet Propulsion* 28:489-91 JI '58
- Red missile arsenal packs long range punch. *il diags Aviation Age* 29:20-1+, cover Ap '58
- Research and engineering progress. 1957; aeronautics and missiles. *il Gen Elec R* 61: 46-51 Ja '58
- Reveals missile money facts. *Electronics* 31:20 My 30 '58
- Review and preview; missiles business rockets ahead. *il Chem & Eng N* 36:78-81 Ja 6 '58
- Rockets and missiles; special report. R. L. Noland. *il diags Chem Eng* 65:145-60 My 19 '58 (reprints 75c)
- Russians ahead in missile metallurgy? Interview with D. Von Ludwig. *Product Eng* 28:115 N 11 '57
- Scientific management of ballistic missile systems. I. Stambler. *il Aviation Age* 29:18-19+ Ap; 18-19+, cover My; 18-19+ Je '58
- Shares and prices; missile prime contractors. *Electronics* 31:5 Ap 18 '58
- Short range guided missile. *il Engineering* 136:270 Ag 29 '58
- Small engines key to ICBM accuracy. I. Stambler. *il diags Space/Aeronautics* 30:30-1 O '58
- S.B.A.C. display and exhibition, Farnborough. *il Engineer* 206:401-3 S 12 '58
- Sparrow I epoch in missilery. W. T. White and B. H. Mandell. *il Am Soc Naval Eng J* 70:52-60 F '58
- Stainless protects Atlas. *il Steel* 142:51 My 12 '58
- Talos defense unit, an advanced surface-to-air guided missile system. H. W. Phillips. *il Am Soc Naval Eng J* 70:133-6 F '58; *S A E J* 5:36-9 F '58
- Thor gets moon task in months. B. A. Schriever. *Electronics* 31:12+ Je 6 '58
- Transition to missiles seen to be a gradual one; abstract. H. G. Stever. *S A E J* 66: 90-1 F '58
- USAF buys more missiles. *Electronics Bsns* ed 30:25 N 20 '57
- US seeks standard missile ground-support equipment. *Product Eng* 29:21-2 Je 9 '58
- Vertical ballistic trajectories over an oblate earth. R. E. Roberson. *Jet Propulsion* 28:333 My '58
- Vibration isolators for missiles and aircraft. S. Rubin. *diag S A E J* 66:67-8 F '58
- We're not new in missile business; abstract. J. T. Hayward. *S A E J* 66:133 Ap '58
- What's ahead in missile output? *il Am Mach* 102:33-4 Ap 7 '58
- Why not turbine-powered missiles? R. E. Neitzel and M. A. Zipkin. *diags S A E J* 66: 78-80 JI '58; Abstract. *Aircraft Eng* 30:238 A '58

Auxiliary power

Factors affecting selection of missile auxiliary power. P. C. Ricks. *S A E J* 66:38-40 Ja '58

Optimization study; missile auxiliary power systems; abstracts. E. I. Brown and R. W. McJones. *S A E J* 66:82-3 JI '58; *Aircraft Eng* 30:236-7 Ag '58

Requirements for missile accessory power units. R. D. Boyne. *S A E J* 65:64-5 N '57

Control

Automatic control of ground instrumentation during the launching and flight of experimental guided missiles. R. J. Garvey. *il diags Electronic Eng* 30:54-60 F '58

Automatic control of missiles; NACA report; abstract. *Control Eng* 5:180-2 My '58

Does radio control red ICBM? *Electronics* 31:28 Mr 21 '58

Guidance and control. L. H. Bedford. *il diags Roy Aeronautical Soc J* 62:348-54 My '58

Guidance and control of long range vehicles; abstract. G. A. Whitfield. *Engineering* 185: 331 Mr 14 '58

Guidance and control problems in the air force ballistic missile program. J. C. Fletcher. *diags Aero/Space Eng* 17:50-4 My; 65-8+ Je '58

GUIDED missiles—Control—Continued

- Guided weapon techniques; a review of possible systems of guidance. P. Cave. diags Wireless World 64:354-9 Ag '58
- Inertial guidance for rocket-propelled missiles. W. T. Russell. bibliog diags Jet Propulsion 28:17-24 Ja '58
- Inertial guidance in Titan exceeds hopes; abstract. B. A. Schriever. Electronics 31:12+ Mr 28 '58
- Inertial guidance skills lag. *il* Electronics Bsns ed 30:13-14, cover N 20 '57
- Intelligence sources for guidance. A. S. Locke. diag Aeronautics Eng R 17:45-9 Mr '58
- Intercept dynamics; key to missile guidance. J. W. Follin, jr. diag Aviation Age 30:172-9 S '58
- Long-range rockets and satellites; their performance, guidance and control. E. C. Cornford. *il* diag Engineering 186:282-7 Ag 29 '58
- Making a missile brain. *il* Electronics 31:26-7, cover F 21 '58
- Microwave interferometer for missile guidance scans electronically. A. Levine and W. Waer. *il* diags Aviation Age 28:44-9 Ja '58
- Missile control demands stabilization and guidance. G. Reehl. *il* diags Electronic Ind & Tele-Tech 16:54-7+ S; 62-5+ O '57
- Missile guidance requires machining to millionths; gyroscopes in inertial-guidance systems. F. A. Cuthbertson. *il* diag Mach 64:123-35 Jl '58
- Missile master directs Nikes. Machine Design 30:45 Ja 23 '58
- New system guides missiles. Electronics 31:21 Je 27 '58
- Some effects of wind and temperature gradients on the design of missile flight control systems. M. W. Lifson. Aero/Space Eng 17:49-52 S '58
- Testing inertial-guidance computers. C. P. Pinnick. *il* diag Control Eng 5:182 S '58
- Time-varying analysis of a guidance system. B. Friedland. diags Applications & Ind p75-81 My '58
- Wrap off Thor's guidance. Electronics 31:16 Ja 31 '58

Defenses

- Going up, new line to aid DEW line; ballistic missile early warning system bases. *il* Eng N 161:23-4 Jl 17 '58

Design

- Angle of attack convergence of a spinning missile descending through the atmosphere. H. I. Leon. diag J Aero/Space Sci 25:480-4 Ag '58
- Bending stability of thin-walled unstiffened circular cylinders including the effects of internal pressure. H. S. Suer and others. bibliog *il* diag J Aeronautical Sci 25:281-7 My '58
- General formulation of powered flight trajectory optimization problems. B. D. Fried. bibliog J Ap Phys 29:1203-9 Ag '58
- Guided weapon and aircraft; some differences in design and development. J. E. Serby. *il* diags Roy Aeronautical Soc J 62:187-200 Mr '58; Abstract, Engineering 184:822 D 27 '57; Discussion. Roy Aeronautical Soc J 62:200-2 Mr '58
- Human factors in missile design. Elec Manuf 62:10-11 S '58
- Limit design for economical missile structures. L. A. Richter. diags Space/Aeronautics 30:32-9 O '58
- Problems in the development of a guided weapon. J. Clemow. diags Roy Aeronautical Soc J 62:663-73 S '58

Electric equipment

- Ac generators for missiles and APUs. P. W. Franklin. diags Aviation Age 28:64-9 F '58
- Closely controlled alternating current supplies. *il* diag Engineering 185:727-9 Je 6 '58
- 400-cycle inverter is transient-proof. G. M. Ford. diags Aviation Age 29:150-2 My '58
- Missile battery performance; nomographs for silver-cadmium and silver-zinc batteries. F. J. Moretti. Aviation Age 30:62 S '58
- Missile instrumentation. R. H. Miller. diags Anal Chem 30:sup64A Ad '58
- New batteries for the space age. D. Linden and A. F. Daniel. *il* Electronics 31:59-65 Jl 18 '58

Electronic equipment

- Electron tube evaluation for guided missile applications. H. G. Chandler. *il* Elec Eng 77:690-2 Ag '58

- Electron tube works after explosion. V. E. Learned. *il* Elec Eng 77:369 Ap '58
- Electronic circuit packaging for missile applications. S. G. Bassler. bibliog *il* diags Elec Manuf 61:123-9 Mr '58
- Ferrite radiators shrink missile antenna systems. H. C. Hanks, jr. *il* Electronics 31:49-51 Ap 25 '58
- Fixture design makes wire assembly easier. *il* Electronics 31:64-6 Ag 29 '58
- Guidance and control problems in the air force ballistic missile program. J. C. Fletcher. diags Aero/Space Eng 17:50-4 My; 65-8+ Je '58
- Inertial guidance for rocket-propelled missiles. W. T. Russell. bibliog diags Jet Propulsion 28:17-24 Ja '58
- Interceptor missile pile grows. *il* Electronics 31:15-16 S 19 '58
- Polaris' fire control. Control Eng 5:23 Je '58
- Problems of missiles; reducing spurious radiation. A. L. Albin and C. B. Pearlston, jr. diag Electronic Ind 17:59-63 S '58
- Random vibration testing for evaluation of electronic components for aircraft and missile environments. J. C. Monroe. *il* diags Aero/Space Eng 17:78-80 My '58
- Reliability handbook for design engineers. F. E. Dreite. diags Elec Eng 77:508-12 Je '58
- Shares and prices; typical missile guidance system manufacturers. Electronics 31:5 Ag 8 '58
- Soldering in the space age. A. B. Kaufman. bibliog Instruments & Automation 31:1202-3 Jl '58

Failure

- Missile noise as a factor in reliability. P. S. Veneklasen. *il* Aero/Space Eng 17:44-8 S '58
- Reliability and the quality control engineer; Bendix products div. missiles. Bendix Aviation corp. R. G. Fitzgibbons. Ind Quality Control 14:13-18 My '58

Fuel tanks

- Missile tankage is major structural element. K. R. Stehling. diags Aviation Age 30:94-100 S '58

Hydraulic equipment

- Missile hydraulic systems requirements as viewed by the missile manufacturer; abstracts. H. J. Ide. S A E J 66:73 Jl '58; Aircraft Eng 30:236 Ag '58

Landing

- Automatic landing system successfully lands Navaho X-10. *il* Elec Eng 77:115 Ja '58

Launching

- Automatic control of ground instrumentation during the launching and flight of experimental guided missiles. R. J. Garvey. *il* diags Electronic Eng 30:54-60 F '58
- From the ground up; launching the Atlas intercontinental ballistic missile. *il* Engineering 185:298-9 Mr 7 '58
- Getting missiles off the ground; special mobile vehicles that carry, service, fuel, erect and launch the missile. D. T. Slegley. *il* S A E J 66:59 Mr '58
- Giant Polaris launcher simulates the sea. diags Control Eng 5:26-8 S '58
- Ground support equipment profile: Bomarc; illustrations with text. E. Kirchner. Aviation Age 30:60-1 S '58
- New reaction vessel? hypervelocity missile launcher. B. M. Shepard. *il* diags Ind & Eng Chem 49:1967-8 D '57
- Product planning with Polaris. *il* diags Product Eng 29:44-6 Mr 10 '58
- Response of missile erector towers to sudden stops or impact loads. H. L. Cox. diags Roy Aeronautical Soc J 61:694-6 O '57
- Static firings viewed from blockhouses; illustrations with text. Elec Eng 77:469 My '58

Manufacture

- Aircraft and missile castings; Pacific alloy engineering corp. W. G. Gude. *il* Foundry 85:102-5 N '57
- Aircraft and missile production number, 18th. *il* diags Mach 64:101-63 Jl '58
- Aluminum missile castings require strict production control. R. H. Herrmann. *il* Foundry 86:104-5+ Je '58
- Application of a flexible production system to the quantity manufacture of guided missiles and rockets; abstract. J. P. Rogan. Aircraft Eng 30:236 Ag '58

GUIDED missiles—Manufacture—Continued

Automatic balance checking speeds missile production; Falcon missiles. *II* *diag* Automation 5:62-3 Ag '58

Automation will place U.S. ahead in missile race. *II* *diag* Mech Eng 80:128-9 My '58

Automatic skills whip missile hardware job. R. H. Eshelman. *II* *Iron Age* 181:88-90 F 20 '58

Before the count-down starts: Redstone missile production problems. *II* *Mill & Factory* 62:92-3 Je '58

Brazing alloys for guided missiles. A. T. Cape. *II* *Metal Prog* 74:99-104 S '58

Building the first mass-production missile; Nike-Ajax. A. Ashburn and G. H. De Groat. *II* *Am Mach* 101:105-3 D 16 '57

Can you machine missile hardware? E. J. Egan, jr. *II* *Iron Age* 180:121-4, cover N 7 '57

Consumable inserts used in welding missile air tank. *II* *Welding J* 37:239 Mr '58

Contour-finishing missile noses to two micro-inches. R. Le Grand. *II* *diags Am Mach* 102:101-3 My 5 '58

Cracking associated with porosity in titanium welds over 0.125 in. thick. R. P. Olsen and J. Gates. *II* *Welding J* 37:478-83 My '58

Erector set tooling for lower missile costs. T. F. Vajda. *II* *Tool Eng* 41:86-9 S '58

Fabricating the Redstone ballistic missile. M. C. Duke. *II* *Mod Metals* 14:72-4, Ap '58

Fabricating the Redstone missile. *II* *Steel* 142:66-71 Ja 20 '58

Fiberglass laminate solves missile control problem. *II* *Am Mach* 101:162 D 16 '57

Gaging is basic missile problem. E. J. Egan, jr. *II* *Iron Age* 182:71 S 26 '58

Heat treating rocket cases. *II* *Metal Prog* 74:65-6 S '58

High-speed drilling of a missile fin. *II* *Mach* 65:164 O '58

High temperature brazing looks good for missile parts. J. V. Long and G. D. Cremer. *II* *Aviation Age* 29:30-1, My '58

How to make missile parts: AC spark plug div. *II* *Steel* 141:64-5 N 25 '57

Missile parts machined in jeweler's lathes. *II* *Mach* 64:154 Ja '58

Nest for the big bird. Atlas ICBM. *II* *Plant Eng* 12:134-6 My '58

Planned missile productivity; abstract. W. Prince. *Aircraft Eng* 30:236 Ag '58

Problems peculiar to missile manufacture; abstract. R. E. Sonnekson. *Aircraft Eng* 30:237 Ag '58

Production engineer looks at missile design. F. R. Swaney. *II* *Tool Eng* 40:81-4 My '58

Quality welds join Titan engine frames. G. H. De Groat. *II* *Am Mach* 102:87-9, cover Ag 11 '58

Redstone ballistic missile under construction at Chrysler. *II* *Automotive Ind* 117:66-7 D 15 '57

Redstone missile sets new production patterns. G. H. De Groat. *II* *Am Mach* 102:125-8 Ap 21 '58

Soldering process needs upgrading for missile work. C. O. Stump. *S A E J* 66:72 F '58

Survey hot-work tool steels for aircraft and missiles. R. J. Nekervis and others. *Iron Age* 181:99-102 F 27; 120-1 Mr 6 '58

Ten ways to cut missile production costs; abstract. C. D. Bliss. *S A E J* 66:33 Ag '58

Tough alloys call for tougher machining. J. H. Kauffman and E. F. Allred. *II* *Am Mach* 102:132-6 Ap 21 '58

Yield-tension control improves draw forming. R. Humiston. *II* *diag Control Eng* 5:129 F '58

Yield-tension monitor. S. Cummings. *II* *Automotive Ind* 117:112+ N 1 '57

Materials

Air force pushes beryllium studies. J. G. Conner. *Aviation Age* 30:102-6+ S '58

Aluminum in rockets and missiles. D. Fabun. *II* *map diags Mod Metals* 14:30-2+ Ap '58

Aluminum's role in Nation's missiles program. *Automotive Ind* 118:38-9 Je 1 '58

Applications for ceramic materials and processes in present and future aircraft. W. M. Sterry. *Cer Ind* 70:155-8 Ap '58

Chemical milling broadens magnesium-thorium alloy use in missiles. *II* *Mod Metals* 14:62+ Ag '58

Discarded welder controls creep test heating. L. W. McMahon. *II* *diag Control Eng* 5:105+ Ag '58

Evaluation of structural sheet materials in missile applications. G. Gerard. *bibliog diag Jet Propulsion* 28:511-20 Ag '58

Found, a low-alloy steel for missiles. W. M. Stocker, jr. *II* *Am Mach* 102:72-3 Ag 25 '58

High speeds need new alloys. *Iron Age* 181:80-1 F 13 '58

High temperatures spur use of nickel-base alloys. T. E. Kihlgren. *Aviation Age* 28:30-5 F; 130-4+ Mr '58

How can we hurdle the materials roadblock? L. Stambler. *II* *Aviation Age* 30:18-19+ Ag '58

How to simplify tests for primary creep data. B. B. Muvdi and C. J. Glemza. *S A E J* 66:46-8 Ag '58

Large scale use of titanium in Atlas missile. L. W. Stanley. *II* *Light Metal Age* 16:16 Ap '58

Magnesium-thorium alloys lighten Bomarc missile. *diags Mod Metals* 14:84 F '58

Materials progress; metals. L. Stambler. *Aviation Age* 30:54-61 Ag '58

Materials progress; non-metals. L. Stambler. *diags Aviation Age* 30:62-4+ Ag '58

Materials progress; reference tables. *Aviation Age* 30:90-2 Ag '58

Missile insulating material for 1300 deg F and higher. *II* *Aviation Age* 29:85 My '58

Missile metal; aluminum gaining in this field. *Steel* 142:51 My 12 '58

Missile reliability: a challenge to materials engineers. W. M. Holaday. *A S T M Bul* p50-2 Ap '58

Missiles use titanium. *II* *Steel* 142:48 Mr 17 '58

Needed: facts on space age metals; symposium. *Steel* 142:102-4 Je 16 '58

New graphites beat missile hot spots. I. Stambler. *II* *Aviation Age* 29:86-8+ Ap '58

New insulation helps missile builders; Min-K. Machine Design 30:41-2 Mr 20 '58

New thorium alloys assure a big role for magnesium in missiles. *II* *diags Mod Metals* 14:44+ Ap '58

Nonferrous role in "birds". *II* *Steel* 142:96-7 Ap 14 '58

Outlook for titanium in missiles. R. C. Durstein. *II* *Mod Metals* 14:64-5 Ap '58

Preview of space age metals. *II* *Steel* 142:86-7 My 5 '58

Radiation-tolerant electronic materials. V. DeBiasi. *Aviation Age* 30:72-4+ Ag '58

Rockets and missiles: new materials contain high temperatures. R. L. Noland. *II* *diag Chem Eng* 65:148-52 My 19 '58

Sheet steels for high-speed aircraft and missiles. A. L. Feild and M. E. Carruthers. *II* *Aero/Space Eng* 17:41-4 Je '58

Space age test program; Martin co. *II* *Steel* 143:134-6 Ji 14 '58

Thermal shock resistant nickel plating on copper. L. Missel. *II* *Metal Finishing* 56:49-51 S '58

301 stainless modified for 800 deg F and up; MicroMach. D. B. Roach and others. *II* *Space/Aeronautics* 30:58-63 O '58

Titanium alloys developed for aircraft-missile applications. *Automotive Ind* 119:65 Ag 15 '58

Titanium in rockets and missiles. S. Abkowitz. *II* *Light Metal Age* 16:15 Ap '58

Uses of magnesium in future aircraft and missile structures. J. H. Rizley and R. E. Mihalco. *II* *Light Metal Age* 15:24-7 D '57; *Mod Metals* 14:32-4 F '58

What can ceramics do in missiles? J. Castel-franco. *II* *diags Cer Ind* 70:84-9 My '58

What we need in high temperature materials. A. J. Carah. *II* *Iron Age* 181:75-7 Ja 23; 102-4 Ja 30 '58

Plastics

Asbestos-phenolics aid rocket and missile flight. D. V. Rosato. *II* *Plastics World* 16:4-6 Ap '58

High-heat resistant laminates for missiles. *Electronics* 31:95-6 F 28 '58

Molded reinforced plastic solves design problem for the Regulus II guided missile. *II* *Materials in Design Eng* 47:10 My '58

Now into the space age! temperatures up to 30,000°F. are endured by new combinations of materials. *II* *diag Mod Plastics* 35:105-10+ Je '58

Plastics adapt to missile age. K. W. Bennett. *II* *Iron Age* 181:85 F 13 '58

Plastics sheet used in rockets, missiles. *II* *Materials in Design Eng* 47:165-6 Mr '58

Model testing

Air-to-surface missile in model form. *II* *Engineer* 206:438 S 19 '58

Hypersonic gas gun tests two ways. *diags Product Eng* 29:14 Ag 25 '58

GUIDED missiles—Continued

Noise

Missile noise as a factor in reliability. P. S. Veneklasen. *Il Aero/Space Eng* 17:44-8 S '58

Nose cones

Effects of afterbody length and Mach number on the normal force and center of pressure of conical and ogival nose bodies. W. E. Buford. *Il diags J Aeronautical Sci* 25:103-8 F '58

Elaborate tests preceded ICBM nose cone development. *Machine Design* 30:6 My 29 '58

Inviscid hypersonic flow near the stagnation point of oblate ellipsoidal noses. M. Vinokur. *J Aero/Space Sci* 25:469-70 JI '58

Nylon, asbestos team up; composite laminate promises high thermal resistance for missile nose cones. *Chem & Eng N* 36:62+ S '58

Optimum nose shapes for missiles in the superearodynamic region. W. J. Carter. *diags J Aeronautical Sci* 24:527-32 JI '57; Discussion. 25:56-8, 216, 263-4 Ja. Mr-Ap '58

Solving reentry problems. *Il Electronics* 31:13-14 S '58

Radomes

Drilling technique saves time and money on Bomarc radome. D. L. Head. *Il Aviation Age* 30:38-41 Ag '58

How Gladding develops processes to meet needs of production; new techniques put ceramics in new fields. *Il Cer Ind* 71:100-1 O '58

How to design radome structures for high speed aircraft and missiles. R. M. Kubow and N. J. Linardos. *diags Aviation Age* 28:74-9 F '58

Some missile design requirements for ceramic radomes. G. D. Robertson. *bibliog diag Am Cer Soc Bul* 37:1-3 Ja 15 '58

Recovery

Angle of attack convergence of a spinning missile descending through the atmosphere. H. I. Leon. *diag J Aero/Space Sci* 25:480-4 Ag '58

Exit and re-entry problems. G. V. Bull and others. *bibliog il diags Aero/Space Eng* 17:56-62 Je '58

Hydrodynamic effects on stagnation-point heat transfer. J. L. Neuringer and W. McIlroy. *J Aeronautical Sci* 25:332-4 My '58

Hypersonic flight and the re-entry problem. H. J. Allen. *bibliog J Aeronautical Sci* 25:217-27; Discussion. 228-9+ Ap '58

Incompressible two-dimensional stagnation-point flow of an electrically conducting viscous fluid in the presence of a magnetic field. J. L. Neuringer and W. McIlroy. *diag J Aeronautical Sci* 25:194-8 Mr '58

Infrared scans reentry. *Il Electronics* 31:8 Ag '58

Solving reentry problems; missile nose cone. *Il Electronics* 31:13-14 S '58

Space technology spurs new development philosophies; interview with G. F. Metcalf. *Il Gen Elec R* 61:9-14 S '58

Sublimation may lick re-entry problem. K. R. Stehling. *diag Aviation Age* 28:27-9 F '58

Temperature history in a thick skin subjected to laminar heating during entry into the atmosphere. G. W. Sutton. *bibliog Jet Propulsion* 28:40-5 Ja '58

Vertical re-entry into the earth's atmosphere for both light and heavy bodies. E. D. Linnell. *diag Propulsion* 28:329-30 My '58

Re-entry

See Guided missiles—Recovery

Safety measures

Infrared analyzer for missile safety. *Electronics* 31:94 Je 6 '58

Stresses

Some effects of curvature on frames. R. W. Westrup and P. Silver. *diags J Aero/Space Sci* 25:567-72 S '58

Terminology

Glossary of guided missile terms. *Il Electronic Ind* 17:160-3+ Je '58

Testing

Army testing Talos. *Il Electronics* 31:8 JI 4 '58

Automatic equipment tests guided missiles; Aircraft missile weight and balancing system. *Il Automotive Ind* 118:66-7 My 1 '58

Avco noise-maker will assist in missile-rocket tests. *Il Product Eng* 29:17 Je 38 '58

Bomarc data dubbing technique is precise, simple. H. M. Krieger. *diag Control Eng* 5:107 Ag '58

Change at Cape Canaveral; Air force missile test center. L. H. Young. *il map diag Control Eng* 5:79-85 Je '58

Cine-theodolite control system used on guided missile ranges. R. J. Garvey. *il diags Electronic Eng* 30:123-34 Mr '58

Convair's Atlas demonstrates tests for space-age components. R. S. Campbell. *il Am Mach* 102:94-5, cover JI 14 '58

Curve follows program heat runs; simulate the heating conditions encountered by missile during re-entry into earth's atmosphere. J. W. Powell. *il diag Control Eng* 5:169 S '58

Design testability into weapon systems! J. M. Pomykala. S. A. E. J. 66:48-50 Mr '58

Device measures missile misses. *Electronic Ind* 17:5 Mr '58

Direct digital read-out of missile roll from film records. O. J. W. Christ and B. B. Small. *il Jet Propulsion* 28:406-9 Je '58

Environment-functional tests; key to system reliability. C. Clemmshaw. *il Ind Lab* 9:34-5 Ag '58

Functions of guided missile checkout systems. J. Tampico and A. E. Resnik. *il diags Control Eng* 5:98-102 Ap '58

GE system speeds missile data processing. *Il Instruments & Automation* 31:378 Mr '58

Giant Polaris launcher simulates the sea. *diags Control Eng* 5:26-8 S '58

Go, no-go gage checks out Bomarc automatically. G. A. Harter and F. A. Buuck. *il diags Electronics* 31:43-5 JI 4 '58

Guided flight trials. R. W. M. Boswell. *il map diags Roy Aeronautical Soc J* 62:408-22 Je '58

Lockheed switches to pam-fm. W. J. Cox. *diag Aviation Age* 30:138-42 Ag '58

Missile flight tests; abstract. D. N. Yates. *Il S. A. E. J.* 66:34-5 My '58

Missile telemetry mates pdm-fm with fm-pm; illustration with text. B. Kovit. *Aviation Age* 30:126-7 Ag '58

Missile tests and records set. *Il Elec Eng* 76:1113-14 D '57

New missiles and spacecraft challenge telemetry technology. J. Holahan. *diags Aviation Age* 30:128-36 Ag '58

Optical instrumentation for missile testing; symposium. *Il diags SMPTE J* 67:226-55 Ap '58

Polaris prototype tested by hurling huge dummy. W. F. Raborn. *Il Elec Eng* 77:653-4 JI '58

Preflight calibration makes cards for data reduction. W. Usim. *diag Control Eng* 5:135 My '58

Problems relating to systems checkout and final acceptance of production missiles; abstracts. M. A. Stephens. *Aircraft Eng* 30:236 Ag '58; S. A. E. J. 66:80-1 Ag '58

Project AMMO. A. F. Murray. *Electronic Ind* 17:1+ Ag '58

Recording oscillographs in aircraft and missile testing. W. F. Johnson. *Il Instruments & Automation* 31:846-7 My '58

Shipboard missile checkout set. M. R. Beck and D. M. Barger. *il diag Aviation Age* 28:114-19 Ja '58

Shock test machine for missile components. Franklin Inst. J. 265:526 Je '58

Simulation of free flight structural characteristics by captive missile; computer analysis. P. Lieberman. *diags Jet Propulsion* 28:622-4 S '58

Special heat-stress rigs test full-size missile parts; quartz infrared lamps. *il diag Iron Age* 182:54-5 JI 31 '58

Special timing techniques employed on guided missile ranges using a crystal oscillator and frequency dividers. R. J. Garvey. *il diags Electronic Eng* 30:2-9 Ja '58

Target simulator tests beam-rider missiles. G. E. Hendrix. *il diags Electronics* 31:32-5 Ja 31 '58

Telemetry looks into the future. C. H. Smith and A. S. Westneat. *Aviation Age* 30:20-1+ Ag '58

Telemetry, orphan of the space age. L. W. Gardenhire. *Aviation Age* 30:188-9 Ag '58

Testing the Titan, the missile; illustrations with text. Steel 142:66-7 Ap 28 '58

Testing tomorrow's aircraft. R. K. Collins and W. J. Walker. *il diags Westinghouse Eng* 17:189-93 N '57

Transducer monitor stretches telemetry accuracy. J. M. Rau. *il diag Aviation Age* 28:106-10 F '58

GUIDED missiles—Testing—Continued

X-7 tests speeded Bomarc ramjet development. I. Stambler. *il Aviation Age* 30:88-9+ S '58

Tracking

Angle-measuring equipment-distance-measuring equipment systems close missile tracking net. B. Kovit. *diags Aviation Age* 29:116-17 My '58

Atmospheric limitations on missile photography. S. Q. Duntley. *SMPTE J* 67:231-3 Ap '58

Design and operational philosophy for an ultra-precision tracking mount system for a missile test range. J. A. Clemente. *diag SMPTE J* 67:242-5 Ap '58

Directory of ultra-long lenses for missile or Sputnik tracking. *Ind Phot* 7:64-5, 80 F '58

Guided flight trials. R. W. M. Boswell. *il maps diags Roy Aeronautical Soc J* 62:408-22 Je '58

Keeping track of our missiles. *il Product Eng* 28:19-20 N 4 '57

Loaded-lens antenna tracks missiles. L. S. Miller. *il diags Electronics* 31:44-6 Mr 28 '58

Long-range ballistic missiles photographed by new optical system; ROTI (recording optical tracking instrument). R. M. Scott. *il Elec Eng* 77:109-10 Ja '58

Missile antenna design. H. Estep. *diags Electronics* 31:131-2 F 14 '58

Missiles challenge telemetry. *il diags Electronics* 31:13-14 Je 27 '58

New field for photo firm; Bell & Howell's missile scoring pod. *il Steel* 141:31 D 30 '57

Optical tracking instrumentation. A. H. Schendel. *il diags SMPTE J* 67:237-41 Ap '58

Photographic instrumentation at the Air proving ground center. H. C. Schepler. *il SMPTE J* 67:246-8 Ap '58

Principles and applications of phase-lock detection in phase-coherent systems. C. L. Nielsen. *bibliog diags Jet Propulsion* 28:541-7 Ag '58

Radar boresight camera system at U.S. naval ordnance test station. F. H. Haymaker and J. H. Pennington. *il Ind Phot* 7:28-9+ My '58

Radar meets space challenge. *il Electronics* 31:15-17, cover Ap 4 '58

Radiometric measurements of Jupiter IRBM made by tracking. *il diags Elec Eng* 77:852-4 S '58

Research tool for ballistic missile problems. *il Elec Eng* 77:370-1 Ap '58

Some aspects of the application of television to the tracking of guided missiles. E. L. Roberts. *bibliog SMPTE J* 67:475-6; Discussion. 477 J1 '58

Timing and recording system for missiles. *Franklin Inst J* 265:360 Ap '58

Visibility: detection and recording of objects against a sky background. E. P. Martz, Jr. *diags SMPTE J* 67:228-31 Ap '58

Whip antennas track missiles. *Electronics* 31:90 My 23 '58

Vibration

Matric formulation of linearly coupled vibration problems. H. L. Cox. *diags Aircraft Eng* 30:202-9 J1 '58

GUINEA pigs
Ascorbic acid requirement of the guinea pig using growth and tissue ascorbic acid concentrations as criteria. M. Collins and C. A. Elvehjem. *bibliog J Nutrition* 64:503-11 Ap '58

Dietary mineral interrelations as a cause of soft tissue calcification in guinea pigs. L. A. Maynard and others. *bibliog il J Nutrition* 64:85-97 Ja '58

GULF Coast region
See also subdivision Gulf Coast region under special subjects, e.g.

Chemical industries
Gas, Natural
Geology

Petroleum
Petroleum laws and regulations

GULF of Paria. *See* Paria. Gulf of

GULF printing company
\$1 million investment in the future; Gulf publishing and Gulf printing companies move into larger quarters. *il Pet Refiner* 37:256-8 Ap '58

GULF publishing company
\$1 million investment in the future; Gulf publishing and Gulf printing companies move into larger quarters. *il Pet Refiner* 37:256-8 Ap '58

GULURONIC acid
Presence of L-guluronic acid residues in alginate acid. D. W. Drummond and others. *Chem & Ind p* 1088-9 Ag 16 '58

GUMS and resins

Evaluation of combinations of starches and natural gums as papermaking aids. M. L. Cushing. *bibliog diags Tappi* 41:sup 155A-8A J1 '58

Hydrophile-lipophile balance of gums. A. H. C. Chun and others. *bibliog flow diag il Drug & Cosmetic Ind* 82:164-5+, 312-13+ R-Mr '58

Natural gums. M. Cook and H. Peterson. *Drug & Cosmetic Ind* 82:446-7+ Ap '58

New gum from Denmark; Furcellaran; abstract. R. E. Schachat and M. Glucksman. *Chem & Eng N* 36:32+ S 22 '58

New gum from yeast; abstract. A. Jeanes. *il Chem & Eng N* 36:71 S 22 '58

Structure of acacia sundra gum; nature of the sugars present and structure of the aldobiouronic acid. S. Mukherjee and A. N. Shrivastava. *bibliog Am Chem Soc J* 80:2536-8 My 20 '58

See also

Guar
Naval stores
Oil fuel—Gum formation
Resinous products
Rosin
Turpentine

GUN metal**Analysis**

Analysis control of tin bronze and gun metals; ethylenediaminetetraacetate (EDTA) titration method. J. Kinnunen and B. Wennerstrand. *bibliog Foundry* 86:97 J1 '58

GUN turrets

Plastic bearings for armored-vehicle turrets. *il Machine Design* 30:98-9 Ag 7 '58

GUNITE

Air placed concrete trims curb repair costs. M. E. Rader. *il Pub Works* 89:136-7 My '58

Use of gunite in reservoir construction. R. C. Kennmrr. *il Am Water Works Assn J* 60:392-8 Mr '58

GUNNERY

Target assignment problem. A. S. Manne. *Op Res* 6:346-51 My '58

See also

Ballistics

GUNNERY, Aerial

See also

Fire control (aerial gunnery)

GUNS

See also

Rifles

Manufacture

Gun drilling; feeds, speeds and coolants; reference sheet. *Tool Eng* 41:123-4 S '58

Tip on gun drilling. *il Steel* 142:116 Ap 7 '58

GUNS (ordnance)

End face temperature variation during rapid firing of a 40-mm gun. W. H. Giedt and D. L. Rail. *diag Jet Propulsion* 28:116-19 F '58

See also

Breechlocks
Guns, Aircraft

Manufacture

Carbide wafer inserts reduce reamer cost. P. Casey. *il diags Am Mach* 102:104 Je 30 '58

Cored 90-mm gun tubes extruded in five minutes. H. J. Decelle and others. *il diags Am Mach* 101:158-61 N 18 '57

Gear train with no backlash. *il diags Engineering* 185:69-70 Ja 17 '58

Threading gun tubes three times faster than former method; illustrations with text. F. J. Clas and A. Chismark. *Am Mach* 102:106-7 F 10 '58

Turret tooling speeds broaching. *il diag Mach* 64:142-3 F '58

GUNS, Aircraft

Gun gas purging in combat aircraft: how much is enough? J. S. Mount and E. R. Geib. *diag Aero/Space Eng* 17:26-9 J1 '58

Rational determination of loads and exit velocities of cartridge ejected stores. H. Wolf and S. Pines. *diag J Aero/Space Sci* 25:425-8 J1 '58

GUNS, Spraying. *See* Spraying apparatus

GUST loads. *See* Airplanes—Load

GUTTERS

200,000 foot curb and gutter job. *il Roads & Sts* 100:69 N '57

GUY, William George

1958 distinguished service award of the ACS Virginia section. *por Chem & Eng N* 36:102 J1 7 '58

GUY anchors. *See* Anchors, Guy

GUYS

Design of multi-level guyed towers: structural analysis. E. Cohen and H. Perrin, bibliog diags Am Soc C E Proc 83 [ST 5 no 1356]:1-23 S '57; Discussion, 84 [ST 2 no 1576]:33-7 Mr; [ST 3 no 1656]:33-8 My '58; Reply, 84 [ST 7 no 1857]:21-4 N '58
Design of multi-level guyed towers: wind loading. E. Cohen and H. Perrin, bibliog diags Am Soc C E Proc 83 [ST 5 no 1355]:1-23 S '57; Discussion, H. S. Saffir, 84 [ST 2 no 1576]:31-2 Mr '58; Reply, 84 [ST 7 no 1857]:13-19 N '58

GYMNASIUMS

Field house for many uses built at low cost; Academy of the new church in Bryn Athyn, Pa. il Arch Rec 123:373 My '58
High-school gymnasium; Davenport, Wash. il plan Prog Arch 39:34-5 JI '58
Precast arches for gym span 132 feet; Laura Lamar joint junior-senior high school, Homer City, Pa. il Eng N 161:26-7, cover S 18 '58
Precast sections make a corrugated barrel roof; gymnasium for Holy Trinity high school, Trinidad, Colo. il diag Eng N 160:40-1 F '58

Lighting

Basketball courts, il Illum Eng 53:221-3 My '58

GYPSUM

Automatic control in board-lath plant, use latest techniques; gypsum products plant of Fibreboard paper products corp. il Pit & Quarry 50:34-6+ My '58
Flintlock builds modern plant in fight for piece of gypsum market. E. Meschter, il Rock Prod 61:66-71+ Ap '58
Gypsum, 1957. L. F. Larson. Eng & Min J 159:150 F '58

GYPSUM products

Testing

How they test gypsum cements and plasters for the ceramic industry. R. Hamilton, il Cer Ind 71:63-71+ JI '58

GYPSY moths

Gypsy moth case; court refuses to enjoin mass spraying of DDT, calls spraying a proper use of police power. J Agri & Food Chem 6:496-8 JI '58

GYROSCOPE

Advance in gyroscope accuracy. il Elec Eng 77:471-2 My '58
Calculate gyroscope precession torques. A. E. Maine, Product Eng 29:H3 Mid-S '58
Effect of finite rotations on gyroscopic sensing devices. L. E. Goodman and A. R. Robinson, bibliog diag J Ap Mech 25:210-13 Je '58
Fikhter-sized stable platform is Schuler-tuned. E. Kovit, il diags Space/Aeronautics 30:134-5 O '58
Gyro test table stops earth in inertial space. il Product Eng 29:64 Ja 20 '58
Gyros for inertial navigation. il Engineering 185:691 My 30 '58
Gyroscopes for inertial navigators. J. M. Slater, diags Mech Eng 79:832-5+ S '57; Discussion, 80:115-16 Je '58
Instructional gyroscope. il Engineering 185:132 Ja 31 '58
Magnetic amplifier drives gyro indicator. C. C. Voice, il diags Electronics 31:114-17 F 14 '58
New stable platform for today's aircraft today. J. P. Schoepel, il diags Aeronautical Eng R 17:50-6 Ja '58
Rotorace improves gyroscope accuracy. Ind Lab 9:39 My '58
Stable platforms for high-performance aircraft. R. H. Cannon and D. P. Chandler, diags Aeronautical Eng R 16:42-7 D '57
Which rate gyro to use. H. Stern, diags Control Eng 5:79-81 F '58

Manufacture

Metalworking's brain surgeons operate to 0.00010 inch; Reeves instrument co. miniature gyro; illustrations with text. N. R. Blumenstock, Am Mach 101:120-1 N 4 '57
Missile guidance requires machining to millionths; gyroscopes in inertial-guidance systems. F. A. Cuthbertson, il diag Mach 64:128-35 JI '58

Mounting

Improved ball bearings will meet tomorrow's needs of gyro spin-axis support. C. S. Draper, il Aviation Age 30:82-4+ JI '58
Kinematic drift of single-axis gyroscopes. R. H. Cannon, jr. diags J Ap Mech 25:357-60 S '58
Non-floated table bears inertial accuracy; illustration and drawings with text. B. Kovit, Aviation Age 29:128-9 Je '58

H

HAE finish. See Ceramic coating

HIDAN. See Radar aids to aviation

HACKER, Gerte

We're in love with G. Hacker, por Cer Ind 69:74-5 D '57

HAEMANTHAMINE. See Alkaloids

HAFIUM

Ag-In-Cd could replace Hf for pressurized water reactor rods. I. Cohen and others, bibliog il Nuclonics 16:122-7 Ag '58
Lesson in fabricating nuclear parts, il diag Metal Prog 74:68-74 Ag '58
New engineering metals. J. P. Denny and L. F. Kendall, jr. Mech Eng 80:67-71 Ag '58
Properties of materials; hafnium, thorium, uranium, vanadium and zirconium, Materials in Design Eng 48:103 Mid-O '58
Surface tension of titanium, zirconium, and hafnium. A. W. Peterson and others, bibliog diag J Ap Phys 29:213-16 F '58
Theoretical surface tension of Ti, Zr and Hf. D. McLachlan, jr. J Ap Phys 29:1134 JI '58

Analysis

Determination of low concentrations of hafnium in reactor-grade zirconium metal and zirconium alloys by neutron activation analysis. W. D. Mackintosh and R. E. Jervis, bibliog Anal Chem 30:1180-2 JI '58
Differential spectrophotometric determination of zirconium in presence of hafnium. H. Freund and W. F. Holbrook, Anal Chem 30:462-5 Ap '58

HAFIUM alloys

Thorium-zirconium and thorium-hafnium alloy systems; abstract. E. D. Gibson and others, Metal Prog 73:142+ Ja '58

HAFIUM fluorides

Preparation of zirconium and hafnium metals by bomb reduction of their fluorides. O. N. Carlson and others, bibliog il diags Electrochem Soc J 104:51-6 Ja '57; Abstract, Metal Prog 74:194+ S '58

HAFIUM metallurgy

Separating hafnium from zirconium: solvent extraction with tributyl phosphate. R. P. Cox and others, bibliog flow sheet diags Ind & Eng Chem 50:141-3 F '58

HAIR

Biology of hair growth; London symposium abstracts. Am Perfumer & Aromatics 71:54b-54d Ja '58

Hair follicle cholinesterases; abstract. W. Montagna and R. A. Ellis, Drug & Cosmetic Ind 82:232 F '58

Loss of calcium, phosphorus, iron, and nitrogen in hair from the scalp of women. F. A. Johnston and others, bibliog Am J Clinical Nutrition 6:136-41 Mr '58

See also

Baldness

Dyeing and bleaching

Temporary hair coloring. M. H. Daniels, il Drug & Cosmetic Ind 82:158-9+ F '58

HAIR (animal)

Bleaching

See Bleaching—Hair (animal)

HAIR preparations

Amine-thioglycolate-ammonia system for cold permanent waving. R. Heilengotter and R. Komarony, bibliog Am Perfumer & Aromatics 71:31-2 My '58
Chlorothene in hair sprays. A. E. Schober, il Soap & Chem Spec 34:65-6+ Ag '58
Perfume in hair waving preparations. E. Sarasin and M. Balsam, Am Perfumer & Aromatics 72:43-4+ Ag '58

See also

Shampoos

Physiological effect

Doctors warn on aerosol hair sprays: polyvinylpyrrolidone (PVP) and other high polymers present in aerosol hair sprays may not be altogether harmless. Soap & Chem Spec 34:183-4 Ap '58; Reply, W. E. Graham, 34:173-4 My '58

Is PVP in hair sprays a potential hazard? M. V. Shlanski, il Soap & Chem Spec 34:64-6+ JI '58

HAIR waving preparations. See Hair preparations

HALBACH, Ernest Kay

Old order passeth; a profile of E. K. Halbach. W. Haynes, por Am Dyestuff Rep 47:135-6 F 24 '58

HALIDES

- Addition compounds of metal halides with POXs compounds. J. C. Sheldon and S. Y. Tyree. bibliog Am Chem Soc J 80:4775-8 S 20 '58
- Electroluminescence of zinc sulfoselenide phosphors with copper activator and halide coactivators. I. J. Hegyi and others. bibliog Electrochem Soc J 104:717-21 D '57
- Factors controlling position of alkylation of alkali metal salts of phenols, benzyl and allyl halides. D. Y. Curtin and others. bibliog Am Chem Soc J 80:1391-7 Mr 20 '58
- Formation of linear polymers from diene monomers by a cyclic polymerization mechanism; the structure of poly-(diallylammonium halides). G. B. Butler and others. Am Chem Soc J 80:3615-18 JI 20 '58
- Halides as bridging groups for electron transfer in the systems $\text{Cr}^{++}(\text{NH}_3)_6\text{Cr}^{++}$. A. E. Ogard and H. Taube. bibliog diag Am Chem Soc J 80:1084-9 Mr 5 '58
- Infrared absorption by the C-N bond in addition compounds of nitriles with some inorganic halides. H. J. Coerver and C. Curran. bibliog Am Chem Soc J 80:3522-3 JI 20 '58
- Mechanism of halide reductions with lithium aluminum hydride; reduction of certain bromohydrins and epoxides. E. L. Eliel and D. W. Delmonte. bibliog Am Chem Soc J 80:1744-52 Ap 5 '58
- Mechanism of substitution of some triarylgemyl halides. O. H. Johnson and E. A. Schmall. bibliog Am Chem Soc J 80:2931-4 Je 20 '58
- Reaction of alkaline hydrogen peroxide with certain acid halides and anhydrides in the presence of benzidine-type bases. D. J. Marsh and E. Neale. bibliog J Ap Chem 8: 394-400 Je '58
- Reactions of triethylsilane and diethylsilane with inorganic halides and acids. H. H. Anderson. bibliog Am Chem Soc J 80:5083-5 O 5 '58
- Studies on the chemistry of halogens and of polyhalides; iodine halide complexes with acetonitrile. A. I. Popov and W. A. Deskin. bibliog Am Chem Soc J 80:2976-9 Je 20 '58
- Synthesis and applications of acyl halides. G. Machell. bibliog flow sheet Manuf Chem 29:428-30+, 473-5 O-N '58
- See also*
Alkali metal halides
Chlorides
Hydrobromic acid
Indium halides
- Analysis**
- Chemical identification of halide and sulfate in submicron particles. B. J. Tufts and J. P. Lodge, Jr. bibliog II Anal Chem 30:300-3 F '58
- Determination of equivalent weight of esters and halides with cation exchange resins. W. H. Baldwin and C. E. Higgins. bibliog Anal Chem 30:446-7 Mr '58
- Potentiometric titration of halide mixtures. A. J. Martin. bibliog Anal Chem 30:233-7 F '58
- HALITE.** See Salt
- HALL, Sir Arnold**
President of Royal aeronautical society. 1958-9. por Roy Aeronautical Soc J 62:sup 18-19 My '58
- HALL effect**
Analog multiplier based on the Hall effect. L. Löfgren. bibliog II diags J Ap Phys 29: 158-66 F '58
- Applying the Hall effect to practical magnet testing. G. R. Hennig. bibliog II diags Elec Manuf 61:132-6+ Ap '58
- Digital recording system for measuring the electrical properties of semi-conductors. R. H. A. Carter and others. diag J Sci Instr 35:115-16 Mr '58
- Galvanomagnetic coefficients for arbitrary geometry; analog technique for Hall coefficient and magnetoresistance. R. M. Broudy. II diags J Ap Phys 29:853-5 My '58
- Hall effect and its application to microwave power measurement. H. M. Barlow. diags Inst Radio Eng Proc 46:1411-13 JI '58
- Hall effect and its application to power measurement at 10G/s. H. E. M. Barlow and S. Kataoka. bibliog diags Inst E E Proc 105 pt B:53-60 Ja '58
- Hall-effect compass. I. M. Ross and others. II diags J Sci Instr 34:479-84 D '57
- Measurement of the Hall mobility in n-type germanium at 9121 megacycles. Y. Nishina and W. J. Spry. bibliog diag J Ap Phys 29:230-1 F '58
- Pot-core construction for a Hall multiplier. D. J. Lloyd. II diag J Sci Instr 35:225-6 Je '58
- Reduction of misalignment voltage in Hall measurements. L. W. Davies. diag J Sci Instr 35:111 Mr '58
- Scientists build Hall effect generator using semiconductors; Westinghouse electric corp. diag Ind Lab 9:20 JI '58
- Simple specimen holder and apparatus for measurement of conductivity and Hall voltage over a temperature range. A. A. Brooker and others. diags J Sci Instr 34: 512-13 D '57
- Simple transistor amplifier for energizing a Hall multiplier. D. J. Lloyd. diag Electronic Eng 30:560-1 S '58
- Units and dimensions for the Hall coefficient. W. J. Deshotel. bibliog Am J Phys 26:401 S '58
- HALL of fame for great Americans**
Wright brothers accomplishments to be commemorated in New York university Hall of fame. Mech Eng 80:124 Ag '58
- HALO acids.** See Hydrogen halides
- HALOGEN compounds**
Aliphatic halogen compounds; conversion of carbonyl halides into tetrahalomethanes. R. N. Hazeldine and E. Iseron. bibliog Am Chem Soc J 79:5801-4 N 5 '57
- Displacement reaction of haloalkenes with iodide ion; a survey of reactivity and mechanism. S. I. Miller and P. K. Yonan. bibliog Am Chem Soc J 79:5931-7 N 20 '57
- Polarographic reduction of organic halogen compounds; steric hindrance and the polarographic reduction potential. F. L. Lambert and K. Kobayashi. bibliog Chem & Ind p49-50 JI 26 '58
- Proton magnetic shieldings in the haloalkanes. A. A. Bothner-By and C. Naar-Colin. bibliog Am Chem Soc J 80:1728-33 Ap 5 '58
- See also*
Chlorides
Halides
Trichloroethylene
- HALOGENATION**
Chemical engineering unit processes. L. R. Belohlav and E. T. McBee. Ind & Eng Chem 50:1355-64 bibliog (p 1363-4) pt 2 S '58
- Deuterium isotope effect in the side chain halogenation of toluene. K. B. Wiberg and H. Slaughter. bibliog Am Chem Soc J 80: 3033-9 Je 20 '58
- Halogenation of butyl rubber with iodine monochloride and iodine monobromide. R. T. Morrissey. bibliog Rubber World 138: 726-32 Ak '58
- See also*
Bromination
Chlorination
- HALOGENS**
Benzyl tosylates; halogen substituent effects. F. T. Fang and others. bibliog Am Chem Soc J 80:563-8 F 5 '58
- Halogen-activated solid electrolyte cell. J. L. Weininger. bibliog diags Electrochem Soc J 105:439-41 Ag '58
- Interpretation of halogen atom recombination rates. D. L. Bunker and N. Davidson. bibliog Am Chem Soc J 80:5090-6 O 5 '58
- Metal-halogen interchange reactions with sodium-n-amy. A. G. Lidstone and I. A. Morris. bibliog Chem & Ind p560-1 My 10 '58
- Polarography at very negative potentials; improvement of polarograms by use of N,N-dimethylformamide and tetrabutylammonium iodide. F. L. Lambert. bibliog Anal Chem 30:1018 Mr '58
- Reactions of thiono-esters of phosphorus with halogens and sulphuryl chloride. J. Michalski and A. Skowronska. Chem & Ind p 1199-200 S 13 '58
- Reduction of coliform bacteria in sewage sludge by halogens. C. H. Connell and others. bibliog Sewage & Ind Wastes 30:634-45 My '58
- Structures of halogen substituted boranes. R. Schaeffer and others. bibliog Am Chem Soc J 80:2670-3 Je 5 '58
- Studies on the chemistry of halogens and of polyhalides; iodine halide complexes with acetonitrile. A. I. Popov and W. A. Deskin. bibliog Am Chem Soc J 80:2976-9 Je 20 '58
- See also*
Chlorine
Iodine
- Analysis**
Combustion-ampereometric titration of traces of halogen in petroleum products. L. J. Cali and others. bibliog diags Anal Chem 30:74-7 Ja '58

HALOGENS—Analysis—Continued

Microdetermination of sulfur and halogens by rapid automatic combustion. E. J. Arazzi and others. *il diags Anal Chem* 30:1566-8 S '58
 Pyridine-alkali reactions in the analysis of pesticides containing active halogen atoms. H. P. Burchfield and P. H. Schuldt. *bibliog* (40 ref) *J Agri & Food Chem* 6:106-11 F '58

HALOHYDRINS

Stereochemistry of elimination reactions involving halohydrin derivatives and metals. H. O. House and R. S. Ro. *bibliog Am Chem Soc J* 80:182-7 Ja 5 '58

HALOMETHANES

Aliphatic halogen compounds; conversion of carbonyl halides into tetrahalomethanes. R. N. Haszeldine and H. Iserson. *bibliog Am Chem Soc J* 79:5801-4 N 5 '57
 Effect of structure on the relative stability of dihalomethylenes. J. Hine and S. J. Ehrenson. *bibliog Am Chem Soc J* 80:824-30 F 20 '58
 Reaction of trivalent organophosphorus compounds with polyhalomethanes. F. Ramirez and N. McKelvie. *Am Chem Soc J* 79:5829-30 N 5 '57

HALOPHENOLS. See Phenols**HALVORSON, C. A. B.**

C. A. B. Halvorson awarded I.E.S. gold medal. *por Illum Eng* 53:sup7A-8A Ag '58

HAM

Effect of various additives on the stability of cured hams. A. M. Mullins and others. *bibliog Food Tech* 12:227-30 My '58
 New sweetener for cured meats; cyclamate sucaryl. K. M. Beck and others. *il Food Eng* 30:114 My '58

HAMILTONIAN function. See Equation of motion**HAMMERS**

Drive rod made of springs shock-cushions power hammer; drawings with text. *Machine Design* 30:112-13 F 6 '58

HAMMERS, Drop

Large drop hammer makes better parts. G. H. De Groat. *il Am Mach* 102:98-9 Je 2 '58

HAMMOND, Indiana**Water supply**

City of Hammond, in step with waterworks progress and prepared for the future. D. L. Gallagher. *il diag Pub Works* 39:33-5 Jl '58

HAMPTON, Mark

Work of M. Hampton. G. A. Sanderson. *por Prog Arch* 39:101-16 Je '58

HAND

Artificial muscle for paralyzed hands developed. *Elec Eng* 77:475 My '58
 Designer's sketchbook for hand-control design. D. R. Witt. *il diags Machine Design* 29:78-80 D 26 '57

Protection

Poultry plant dermatitis. *Safety Maint* 116:31 Ag '58

See also

Gloves, Safety

Surgery

Crushed hand. M. L. Mason. *Ind Med* 27:239-40 My '58

Regional block anesthesia for surgery of the fingers and thumb. P. J. Burnham. *il diags Ind Med* 27:67-9 F '58

HAND cleaners

Cleaning hands in works and office; Kero-cleanse. *Engineering* 184:602 N 8 '57

HANDICAPPED

Administrative phases of a child amputee program. C. Dean. *Am J Pub Health* 48:750-3 Je '58

Care of children with nephrosis and cystic fibrosis of the pancreas in a crippled children program. S. G. Dodd and V. Shannon. *bibliog Am J Pub Health* 48:15-21 Ja '58

Christmas story; Federation of the handicapped electronics division shop. *il Electronics* 30:35 D 20 '57

Handling equipment helps the handicapped; Abilities, Inc. *il Mod Materials Handling* 13:131 Mr '58

Harper Mk. VI invalid's car. *il diags Automobile Eng* 47:456-60 N 57

Legal aspects of employment of impaired workers. W. J. Lawrence. *bibliog* (28 ref) *Ind Med* 26:511-15 N '57

Voice key for the handicapped. J. Watt. *il diags Q S T* 42:36-7+ O '58

See also

Rehabilitation centers

HANDLING, Mechanical. See Mechanical handling

HANDLING of material. See Material handling

HANGARS

Concrete hangars spread folded slab wings. *il diags Eng N* 160:46-51 F 20 '58

Folded plates roof new hangars. *il diags Arch Rec* 123:223-7 Mr '58

Giant jet hangar. *il Arch Forum* 108:138 Ap '58

Hangar to get hung steel roof; New York International airport's 14th hangar. *diag Eng N* 160:26 My 22 '58

Segmental construction for an aircraft hangar; Gatwick airport. *il diags Engineer* 205:973-5 Je 27 '58

Steel trusses cantilever 150 ft over hangar for biggest planes; Metropolitan Oakland International airport. *il Eng N* 161:53 Ag 7 '58

Doors

Unusual doors for BOAC maintenance hangar; London airport. *il Engineering* 185:665 My 23 '58

Fires and fire protection

Airline taps city water supply for jet hanger fire service. *il Water Works Eng* 111:136+ F '58

HANGERS, Coat, dress, etc.

Forming and painting wire garment hangers. C. R. Brown. *il Ind Finishing* 34:40-2+ Jl '58

HAPLOPHYTINE

Insecticidal principles of haplophyton cimicidum; the nature of the acidic function of haplophytine. H. R. Snyder and others. *bibliog Am Chem Soc J* 80:3708-10 Jl 20 '58

HAPTENS

Physical-chemical studies of soluble antigen-antibody complexes; the influence of pH on the association of a divalent hapten and antibody. S. I. Epstein and S. J. Singer. *bibliog diags Am Chem Soc J* 80:1274-83 Mr 20 '58

HARBORS

Development of Great Lakes harbours. H. A. Young. *il maps Eng J* 41:97-101 S '58

Docks and harbours; illustrations with text. *Engineer* 205:pl 8 Ja 10 '58

Harbor facilities without a harbor. J. D. Lewin. *il Civil Eng* 28:101-3, cover F '58

Littoral drift problem at shoreline harbors. J. W. Johnson. *maps diags Am Soc C E Proc* 83 [WW 1 no 1211]:1-37 *bibliog* (p34-7) Ap '57; Discussion. R. Silvester. 84 [WW 1 no 1523]:13-18 Ja '58; Reply. 84 [WW 3 no 1653]:3-9 *bibliog* (p6-7) My '58

New Zealanders dredge up an island to create new ship-berth area. *il Eng N* 160:125-6 Mr 20 '58

Optimistic outlook by U.S. ports spurs record expansion programs. *il Marine Eng/Log* (Yearbook no) 63:79-80+ My 31 '58

See also

Docks

Ports

Terminals

also subdivision Harbor under names of

cities, e.g.

Baton Rouge, Louisiana

East London, South Africa

New York (city)

Newark, New Jersey

HARD facing

Boosts gear life. *il Steel* 141:70 D 30 '57

Flexible carbide resists wear. *il Materials in Design Eng* 47:196+ F '58

Hard face rollers for low-cost service. *il Iron Age* 181:114-15 Ap 17 '58

Hardfaced buckets star in underwater mine. *il Welding Eng* 43:68-9 My '58

Hard facing adds to guide life. *il diag Steel* 142:96 Je 23 '58

Hardfacing field-guide for beginners. D. B. Rankin. *il Welding Eng* 43:54+ My '58

Hard facings cut maintenance costs. F. Robin. *il Pet Refiner* 36:332+ N '57

Hard surface cuts downtime. *il Steel* 142:103 Ap 28 '58

Hard-surfaced spur gears last 35 times as long. *il Welding J* 36:1196 D '57

Hard surfacing eliminates unnecessary replacement costs. *il Welding J* 37:362 Ap '58

Here's how, whenever blowshops must be hardfaced. *il Welding Eng* 43:33-9 My '58

Hexagonal plates of tungsten carbide for hard-facing. *il Mach* 64:144 Mr '58

Homemade tools save time and money. S. J. Meno. *il diags Tool Eng* 39:109-10 D '57

Improved method for hard surfacing of aluminum. J. Starr. *il Light Metal Age* 16:35-6 F '58

HARD facing—Continued

- Is automatic hardfacing for you? S. Payne. *Il Welding Eng* 43:32-3 My '58
 Mechanized surfacing with alloy materials. R. S. Zuchowski and J. H. Neely. *Il diag Welding J* 37:22-9 Ja '58
 New parts from old with hardsurfacing. *Il Mill & Factory* 63:106 Ag '58
 Saving the unsavable: Speedway machine & tool co. *Il Welding Eng* 43:67 My '58
 Spray and fuse, a popular hardfacing method. H. S. Gonsler. *Il Welding Eng* 43:34-6 My '58

See also

- Alloys, Hard facing
 Tungsten carbide coating

HARD rubber. See Ebonite**HARD woods**

- Alkaline hydrolysis of representative hardwoods. I. A. Pearl and others. *Tappi* 41:256-6 My '58
 Chemi-mechanical (Bauerite) pulping process. L. Bauer. *diags Paper Ind* 40:94-6 + My '58
 Hardwood kraft saturating papers for phenolic laminate core stock. W. L. Hearn and H. K. Titus. *Il Tappi* 41:sup204A-5A Je '58
 Hardwood utilization by the chemigroundwood process: Great northern paper co. C. H. Reed. *Paper Ind* 40:168 + Je '58
 High-temperature semichemical pulping of mixed species; abstract. W. Riese. *Paper Ind* 39:802-3 D '57
 Integrated hardwood logging. C. E. Hein. *Paper Ind* 40:294 + Ag '58
 Mechanical pulp from hardwood chips for use in book papers. K. L. Snyder and R. A. Premo. *flow diag Il Tappi* 40:901-4 N '57
 Neutral sulphite semichemical studies; fibration of pulps. W. J. Nolan. *Tappi* 41:41-8 Ja '58
 Progress report on neutral sulphite semichemical pulping of hardwood at Longview fibre co. G. L. Hollimon. *Tappi* 40:sup200A-1A D '57
 Study of tropical woods. K. Lauer. *Tappi* 41:334-44 JI '58
 Utilization of hardwood logging residue. L. W. Hooker. *Paper Ind* 39:589 + N '57
 What woods make good pier fenders? P. W. Roberts. *Il Eng N* 160:40-1 Je 26 '58

HARDBOARD. See Fiber board**HARDENING**

- Influence of strain hardening on the dilation of cylinders under internal pressure. E. Voce. *Engineering* 185:756-9 Je 13 '58
 New hardenable titanium. R. W. Carson. *Product Eng* 29:68-9 JI 21 '58
 Orthogonal cutting of a work-hardening material; theoretical and experimental investigation. D. G. Christopherson and others. *Il diags Engineering* 186:113-15 JI 25 '58
 Shock absorber shafts hardened in automatic equipment. *Il Automotive Ind* 118:53 F 1 '58
 Strain hardening behaviour of high purity copper; an appraisal of tests by Carreker and Hibbard. E. Voce. *Metallurgia* 57:111-16 Mr '58

See also

- Case hardening
 Hardness
 Metals—Aging
 Steel, Hardening of

HARDNESS

- Comparisons of materials; hardness of metals and ceramics. *Materials in Design Eng* 48:18-19 Mid-O '58
 Comparisons of materials; hardness of plastics and rubber. *Materials in Design Eng* 48:19 Mid-O '58
 Hardness and other physical properties of metals in relation to temperature. E. R. Petty. *bibliog Metallurgia* 56:231-6 N '57
 Relative hardness of metals; reference book sheet. H. L. Campbell. *Am Mach* 101:131 D 2 '57

See also

- Steel, Hardening of

Testing

- Consistent results in hardness testing. R. S. Marriner and F. C. P. Mason. *Il diag Engineering* 185:339-40 Mr 14 '58
 Controlling carburized case depth by a superficial Rockwell hardness test. R. L. Suffredini. *Materials in Design Eng* 47:118-19 Ja '58
 Determination of hardness of vulcanized natural and synthetic rubbers. *Rubber Chem & Tech* 31:sup25-9 Ja '58
 Hardness of single ice crystals. T. R. Butkovich. *Il Am Mineralogist* 43:48-57 Ja '58

Hardness testing; abstracts of papers. Tool

- Eng* 41:149 Ag '58
 Instrument for measuring the hardness of fats and waxes. N. V. Lovgren, and others. *diags Am Oil Chem Soc J* 35:327-31 JI '58
 Internal testing for microhardness solves a tough inspection problem. *Il Mill & Factory* 61:137 N '57
 Mallock cone hardness test and its relation to indentation methods. G. H. H. Williams and H. O'Neill. *bibliog diags Iron & Steel Inst J* 189:29-37 My '58
 Microhardness of aluminum boride monocrystals. F. G. Cotter. *Il Am Mineralogist* 43:781-4 JI '58
 Micro-hardness testing. *Metallurgia* 56:259-60 N '57
 New standard hardness testing machine. R. S. Marriner and F. C. P. Mason. *Il diag Metallurgia* 57:47-51 Ja '58
 Relationship between Scleroscope, Rockwell, and Brinell hardness readings. N. R. Arant and J. J. Marsalka. *Iron & Steel Eng* 35:160-1 R '58
 Stresses alter hardness. S. K. Setty and others. *bibliog Il diag Mech Eng* 79:1127-9 D '57; Abstracts. *Machine Design* 30:138-9 Ja 9 '58; *Product Eng* 28:105 D 9 '57; *Eng J* 41:80-1 F '58
 Study of the directional hardness in silicon. A. A. Giardini. *bibliog Il diag Am Mineralogist* 43:957-69 S '58
 Vickers-Knoop hardness conversion; with data sheet. L. Emond. *Il Metal Prog* 74:96B, 97 S '58

See also

- Brinell hardness test
 Scleroscope

HARDWARE*See also*

- Bolts and nuts
 Casters
 Hinges
 Screwdrivers
 Screws

HARDWOOD. See Hard woods**HARE, Robert**

- Sketch. E. S. Barr. *por Am J Phys* 26:106-7 F '58

HARMONIC analysis

- Displacement discontinuity on the interface of two joined dissimilar semi-infinite elastic solids. J. T. Frasier. *J Ap Mech* 25:292-3 Je '58
 Journal bearing performance for combinations of steady, fundamental and harmonic components of load. G. S. A. Shawki. *bibliog Inst Mech Eng Proc* 171 no 28:795-803, pl 1-8; Discussion. 803-4 '57
 Unbalanced inertia forces in slider-crank mechanisms of large eccentricity. E. Mewes. *diags J Ap Mech* 25:225-32 Je '58

See also

- Bessel functions

HARMONICS (electric waves)

- Harmonic drive principle demonstrated. *Elec Eng* 77:200 F '58
 Harmonic generation at microwave frequencies using field-emission cathodes. J. R. Fontana and H. J. Shaw. *bibliog Inst Radio Eng Proc* 46:1424-5 JI '58
 Harmonic generation with ideal rectifiers. C. H. Page. *diags Inst Radio Eng Proc* 46:1738-40 O '58
 Harmonic generation with nonlinear reactances. K. K. N. Chang. *bibliog Il diags RCA R* 19:456-64 S '58
 Harmonics of the salient-pole synchronous machine and their effects. M. M. Liwitschitz-Garik. *bibliog diags Power Apparatus & Systems* p462-9; Discussion. 469-70 AR '58
 Harmonics work for you in new convergence circuit. R. G. Middleton. *Il diags Radio-Electronics* 29:91 + O '58
 Higher harmonic rotor control. P. R. Payne. *Aircraft Eng* 30:222-6 Ag '58

HARRINGTON, James E.

- Eddison award to K5EBT. *Q S T* 42:57-8 Ap '58

HARRIS-O'HARA bill. See Gas, Natural—Laws and regulations**HARROWS****Manufacture**

- Mechanized autstempering of steel harrow disks; International harvester co. of Canada. *Il diag Metal Prog* 74:78-80 S '58

HARTER, Isaac

- Resolution of appreciation. *Welding J* 37:153 F '58

HARVESTING machinery

Automatic hydraulic leveling system permits machine operation on slopes. *Il Machine Design* 30:124 My 15 '58
 Forage harvesting improved; Lundell forage harvester. *Il Engineering* 185:513 Ap 25 '58
 Forage harvesting machine. *Il Engineer* 205:552 Ap 11 '58

HASLER, Maurice F.

Hasler, Lingane receive Beckman, Fisher awards, *por Anal Chem* 30:sup25A My '58
 M. F. Hasler received Beckman award in chemical instrumentation, *por Chem & Eng N* 36:84 Ap 28 '58

HASSELBLAD, See Cameras**HASTELLOY, See Nickel alloys****HATCH covers, Aluminum**

Aluminum hatch covers. *Il Engineer* 206:307 Ag 22 '58

HATCHERIES, Poultry. See Poultry hatcheries**HATS**

Felting investigations; potential substitutes for rabbit fur in hat felts. R. D. B. Fraser and T. A. Pressley. *Il diag Textile Res J* 28:478-85 Je '58

HATS, Safety

Safety helmet saves man. *Il Elec Constr & Maint* 57:138-9 O '58

HAULAGE

See also
 Locomotives, Industrial
 Mine haulage
 Motor trucks
 Motor trucks in construction work
 Petroleum—Transportation

HAVANA**Architecture**

Presidential palace of Cuba. *Il Arch Rec* 123:134-7 Ja '58

HAVASUPAI Indians

Prehistoric man in the Grand canyon. D. W. Schwartz. *Il diags Sci Am* 198:97-100+ F '58

HAWAIIAN ISLANDS

See also
 Air conditioning industries—Hawaiian Islands
 Building—Hawaiian Islands

HAZELET, Craig P.

Old methods too slow for him. *por Eng N* 160:76+4 Ja 16 '58

HAZELTON, Lloyd C.

Obituary. *por Can Min & Met Bul* 51:419 J1 '58

HEAD

See also

Protection

Keeping up with eye and face protection. *Il Safety Maint* 115:60-6 Ap '58

HEADFRAMES

Reinforced concrete headgears in South Africa. *Il Engineer* 204:723-4 N 15 '57

HEADLIGHTS, Automobile. See Automobiles—Lighting**HEALTH**

Foods and health are close to your heart. C. G. King. *A M A Archives Ind Health* 17:357-61 My '58

Shift work and health. E. Thils-Evensen. *Ind Med* 27:493-7 O '58

See also

Executives—Health and hygiene

HEALTH education

Future of health education in the light of the concept of the interdependence of nations. T. H. Butterworth. *Am J Pub Health* 48:1031-6 Ag '58

Health education in senior citizens' programs. B. Kutner. *Am J Pub Health* 48:622-6 My '58

Health education in transition. M. Derryberry. *bibliog Am J Pub Health* 47:1357-66 N '57

Public health in foreign periodicals. G. Rosen. *Am J Pub Health* 48:373-6 Mr '58

Why a health education program? H. W. Ellerson, Jr. *Il Safety Maint* 115:34-6+ Je '58

See also

Public health—Study and teaching

HEALTH insurance. See Insurance, Health**HEARING**

Economic aspects of the noise problem. G. Winbzigler. *Noise Control* 4:34-6+ J1 '58

Hearing conservation in industry. F. W. Braun. *diags Noise Control* 4:37-9 J1 '58

Hearing, the determining factor for high-fidelity transmission. H. Fletcher. *bibliog Audio* 42:24+ J1; 45-6+ Ag; 34+ S '58

Human-factors engineering; design for hearing. J. D. Vandenberg and C. T. Goldsmith. *bibliog diag Machine Design* 30:114-18 My 15 '58

Insurance and noise. J. F. Morrison. *Noise Control* 4:31-3+ J1 '58

Methods for conservation of hearing. H. P. House. *Il A M A Archives Ind Health* 16:445-8 D '57

Occupational hearing loss. M. S. Fox. *Ind Med* 27:21-4 Ja '58

Practical aspects of a hearing conservation program. L. B. Shone. *bibliog A M A Archives Ind Health* 17:610-13 Je '58

Ready for stereo? D. C. Hoefler. *diags Radio-Electronics* 29:36-7 O; 92+ '58

Yard noise; scientific exhibits. A. Glorig and others. *A M A Archives Ind Health* 17:81-5 Ja '58

See also

Deafness

Ear—Protection

Hearing aids, Mechanical

Noise

Testing

Is there a suitable industrial test of susceptibility to noise-induced hearing loss? A. Summerfield and others. *bibliog Noise Control* 4:40-6+ Ja '58

Medical principles of monitoring audiometry. H. Davis and others. *bibliog A M A Archives Ind Health* 17:1-20 Ja '58

Single frequency screening technique, a test of its validity. R. A. Merklein and M. S. Fox. *bibliog Ind Med* 26:497-8 N '57

What constitutes disability and how it is measured. H. Davis. *A M A Archives Ind Health* 16:454-8 D '57

HEARING aids, Mechanical

Group hearing-aid for schools. *Il Engineer* 206:384 S 5 '58

Hear by sunlight. *Il Product Eng* 29:5 Je 2 '58

Production and sales; binaurals boost hearing-aid sales. *Electronics* 31:16 My 2 '58

HEART

Determination of the heart rate during work. C. Zenz and F. Mounts. *Il diags A M A Archives Ind Health* 17:280-6 Ap '58

Device for measuring isotonic or isometric contractions of heart muscle. W. J. Whalen and O. Weddle. *diags R Sci Instr* 29:144-5 F '58

Electronics gives beat; heart block corrected. *Il Electronics* 31:24 Mr 7 '58

Electronics probes human heart; abstract. A. Warnick. *Franklin Inst J* 265:432 Je '58

Heart sound pickup detects inaudible murmur. *Elec Eng* 77:372 Ap '58

Internal defibrillator with current measuring facilities. B. J. Perry and R. E. Trotman. *Il diags Electronic Eng* 30:24-5 Ja '58

Discussion. 30:458-9 J1 '58

Intracardiac microphone. W. Welkowitz and M. Traite. *diag R Sci Instr* 29:238-40 Mr '58

Method of continuous measurement of heart diameter utilizing sonic energy. L. S. Higgins and others. *diag R Sci Instr* 29:71-2 Ja '58

Pickup aids heart study. *Electronics* 31:30-1 Ja 24 '58

Servo circuit controls artificial heart. R. Schild and N. Wesson. *Il diags Electronics* 31:73-5 Ap 11 '58

Transistor unit detects foetal heart sounds; Foetoscope. T. I. Humphreys. *Il diags Electronics* 31:52-3 Ap 25 '58

See also

Ballistocardiograph

Electrocardiograph

Diseases

Barriers to employment of a cardiac. J. H. Thompson. *Ind Med* 27:404-5 Ag '58

Cardiac emergencies. S. E. Chapin. *Ind Med* 27:278-80 Je '58

Cardiac in New York city's transit system. J. L. Oberman and others. *bibliog Ind Med* 26:499-505 N '57

Comparison of coronary artery disease (arteriosclerotic heart disease) deaths in health areas of Manhattan. New York city. A. P. Kent and others. *Am J Pub Health* 48:200-7 F '58

Effective return to work of the cardiac employee. J. J. Thorpe and N. K. Weaver. *A M A Archives Ind Health* 18:168-77 Ag '58

Heart disease and workmen's compensation. S. S. Pinto; J. D. Edwards. *bibliog A M A Archives Ind Health* 17:437-45 My '58

Hiring limitations on cardiacs in Chicago area firms. W. Polner. *Ind Med* 27:316-20 J1 '58

Iproniazid for angina; abstract. T. Cesarman. *Drug & Cosmetic Ind* 82:517+ Ap '58

HEART—Diseases—Continued

- Mycardial infarction in industrial workers. M. F. Bruton and M. W. Jocz. *bibliog Ind Med* 26:551-5 D '57
- Pre-employment cardiac examination. A. C. Kerkhof. *Ind Med* 27:241-3 My '58
- Prevalence of heart disease in relation to some population characteristics of Colorado school children. H. J. Dodge and others. *Am J Pub Health* 48:62-70 Ja '58
- Role of dietary fat in human nutrition; diet and the epidemiology of coronary heart disease. A. Keys and F. Grande. *bibliog Am J Pub Health* 47:1520-30 D '57
- Sampling and screening problems in a rheumatic heart disease case-finding study. E. A. Gehan. *Am J Pub Health* 48:1335-41 O '58

See also

Electrocardiograph**HEAT**

- Cobalt metal as a low-temperature heat reservoir. C. V. Heer and R. A. Erickson. *bibliog R Sci Instr* 29:440 My '58
- Heat and ultraviolet aging of poly(vinyl chloride). C. F. Bersier and others. *bibliog J Res Nat Bur Stand* 60:481-8 My '58
- High temperature heat contents of cryolite, anhydrous aluminum fluoride and sodium fluoride. C. J. O'Brien and K. K. Kelley. *Am Chem Soc J* 79:5616-18 N '57
- Influence of heat on oxidative stability and on effectiveness of metal-inactivating agents in vegetable oils. F. M. Cooney and others. *bibliog Am Oil Chem Soc J* 35:152-6 Ap '58
- Limit of superheat. H. Wakeshima and K. Takada. *J Ap Phys* 29:1126-7 JI '58
- Six ways to pour on the heat. *Product Eng* 29:14 Mr 10 '58

See also

- Aerodynamics, Supersonic—Heating effect
- Calorimeters and calorimetry
- Combustion
- Evaporation
- Expansion (heat)
- Insulation (heat)
- Temperature
- Thermochemistry
- Thermodynamics
- Thermoelectricity

Physiological effect

See Temperature—Physiological effect

HEAT, Specific. See Specific heat

HEAT capacity. See Specific heat

HEAT conduction

- Cooling time of strong glass fibers. O. L. Anderson. *bibliog diag J Ap Phys* 29:9-12 Ja '58
- Effect of heat conductance on slider-bearing characteristics. W. H. Guillinger and E. A. Saibel. *bibliog diag A S M E Trans* 80:800-4; Discussion 804-6 My '58
- Heat-balance integral and its application to problems involving a change of phase. T. R. Goodman. *bibliog A S M E Trans* 80:335-42 F '58
- Heat transfer and conduction. J. F. Lee. *diags Power Ind* 74:92-4 Ap '58
- Hydrodynamics and heat conduction of a melting surface. G. W. Sutton. *bibliog diag J Aeronautical Sci* 25:29-32+ Ja '58
- Numerical method of solving a heat flow problem with moving boundary. L. W. Ehrlich. *bibliog diags Assn for Computing Mach J* 5:161-76 Ap '58
- One-dimensional heat conduction with an arbitrary heating rate. G. W. Sutton. *diag J Aeronautical Sci* 24:854-5 N '57
- One-dimensional transient heat conduction into a double-layer slab subjected to a linear heat input for small time interval. B. Wasserman. *diags J Aeronautical Sci* 24:924-5 D '57; Discussion. W. F. Campbell. 25:340-1 My '58

See also

Prandtl number**HEAT conductivity**

- Apparatus for measurement of thermal conductivity of solids at low temperatures. R. L. Powell and others. *bibliog il diags J Res Nat Bur Stand* 59:349-55 N '57
- Comparisons of materials; thermal conductivity. Materials in Design *Eng* 48:9 Mid-O '58
- Determination of water vapor in nitrogen; thermal conductivity measurement of hydrogen liberated from calcium hydride. H. W. Linde and L. B. Rogers. *bibliog Anal Chem* 30:1250-2 JI '58

- Development of ceramic insulating materials for high-temperature use. W. D. Kinsley and others. *bibliog diag A S M E Trans* 80:705-10 Ap '58
- Deviations from one-dimensional heat flow in guarded hot-plate measurements; testing building and insulating materials. W. Woodside. *diags R Sci Instr* 28:1033-7 D '57
- Effects of high-conductivity gases on the thermal conductivity of insulating refractory concrete. J. F. Wygant and M. C. Crowley. *bibliog diags Am Cer Soc J* 41:183-8 My 1 '58
- Experiments using a simple thermal comparator for measurement of thermal conductivity, surface roughness and thickness of foils or of surface deposits. R. W. Powell. *bibliog diags J Sci Instr* 34:485-92 D '57; Abstract. *Anal Chem* 30:sup63A-4A Mr '58
- High-temperature heat conductivity of some metal oxides. J. C. Jamieson and A. W. Lawson. *bibliog J Ap Phys* 29:1313-14 S '58
- High-temperature thermal conductivity cell. H. R. Felton and A. A. Buehler. *diags Anal Chem* 30:1163 Je '58
- Low-temperature thermal conductivity in neutron irradiated vitreous silica. A. F. Cohen. *bibliog J Ap Phys* 29:591-3 Mr '58
- Low-temperature thermal conductivity of some commercial coppers. R. L. Powell and others. *bibliog diag J Ap Phys* 28:1282-8 N '57
- Method for determining thermal conductivity at high temperatures. C. L. Longmire. *diag R Sci Instr* 28:904-6 N '57
- Molecular transport properties of fluids; annual review. E. F. Johnson. *bibliog (73 ref) Ind & Eng Chem* 50:483-91 Pt 2 Mr '58
- Process analysis by thermal conductivity. R. F. Wall. *diags Ind & Eng Chem* 50:sup 69A-70A My '58
- Senffleben method for the determination of the heat conductivity, the specific heat, and the viscosity of gases. S. Araya and S. Legvold. *J Ap Phys* 29:1001 Je '58
- Simple He II heat switch. W. E. Keller and others. *bibliog diag R Sci Instr* 29:530 Je '58
- Some thermal characteristics of porous rocks. W. H. Somerton. *bibliog J Pet Tech* 10:61-4 My '58
- Spherical apparatus for measuring the thermal conductivity of liquids. V. E. Schrock and E. S. Starkman. *bibliog il diags R Sci Instr* 29:625-9 JI '58
- Thermal conductivity and dielectric strength of periclase insulation. J. M. Karpinski and others. *bibliog diags Am Cer Soc Bul* 37:329-33 JI 15 '58
- Thermal conductivity apparatus for operation near room temperature. J. G. Gier and others. *diags Refrig Eng* 56:39-42 Mr '58
- Thermal conductivity leak detector. C. C. Minter. *diags R Sci Instr* 29:793-4 S '58
- Thermal conductivity of nitrogen at high temperatures and pressures. P. Johannin and B. Vodar. *bibliog il diag Ind & Eng Chem* 49:2040-1 D '57
- Thermal conductivity of propane. D. E. Leng and E. W. Comings. *bibliog diag Ind & Eng Chem* 49:2042-5 D '57
- Thermal conductivity of refractory insulating concrete. W. C. Hansen and A. F. Livovich. *Am Cer Soc Bul* 37:322-3 JI 15 '58
- Thermal conductivity of sodium fluoride crystal at low temperatures. A. F. Cohen. *bibliog J Ap Phys* 29:870 My '58
- Thermal diffusion in liquids; measurements and a molecular model. S. Whitaker and R. L. Pigford. *bibliog diags Ind & Eng Chem* 50:1026-32 JI '58
- Thermal diffusivity of butyl rubber and its compounds. D. R. MacRae and R. L. Zapp. *bibliog Rubber Age* 82:831-7, 1024-9 F-Mr '58
- Thermal resistance of the water droplet on the metallic surface. S. Matsunaga. *diags Jet Propulsion* 23:126-7 F '58
- Transient conduction in a semi-infinite solid with variable thermal conductivity. K. T. Yang. *J Ap Mech* 25:146-7 Mr '58

See also

Heat transmission**Tables, calculations, etc.**

- Simplified equations for transient heat-conduction to insulated metal slab. J. H. Wiegand. *bibliog Jet Propulsion* 25:486-7 JI '58

HEAT content. See Thermodynamics

HEAT convection

- Calculation of local heat-transfer coefficients on slender surfaces of revolution by the Mangler transformation. S. Y. Ko. *J Aeronautical Sci* 25:62-3 Ja '58

HEAT convection—Continued

- Combined free and forced convection in a constant-temperature vertical tube. T. W. Jackson and others. *bibliog diags A S M E Trans* 80:739-45 Ap '58
- Convection heat transfer and pressure drop of air flowing across in-line tube banks. C. E. Jones and others. *bibliog diags A S M E Trans* 80:18-34; Discussion, 34-5 Ja '58
- Determination of free convection heat transfer properties of fluids. J. E. Boberg and P. S. Starrett. *bibliog diags Ind & Eng Chem* 50:807-10 My '58
- Effect of magnetic field on forced convection heat transfer in a parallel plate channel. R. Siegel. *diags J Ap Mech* 25:415-16 S '58
- Effects of lateral boundaries on natural convection. R. K. Soberman. *il J Ap Phys* 29:872-3 My '58
- Effects of ultrasonics on heat transfer by convection. G. C. Robinson and others. *bibliog diags Am Cer Soc Bul* 37:399-404 S 15 '58
- Experimental approach to the cooling of transformer coils by natural convection. E. D. Taylor and others. *bibliog diags Inst E E Proc pt A* 141:52 Ap '58
- New approach to the measurement of convective heat and mass transfer. R. A. Granville and A. Sikkala. *Research* 11:326-8 Ag '58
- Recent advances in convective heat transfer with dissociation and atom recombination. D. E. Rosner. *bibliog Jet Propulsion* 28:445-51 Jl '58
- Similar solutions for free convection from a nonisothermal vertical plate. E. M. Sparrow and J. L. Gregg. *bibliog diags A S M E Trans* 80:379-86 F '58; Discussion, M. Tribus. *80:130-1 Jl '58*
- Stagnation of natural-convection flows in closed-end tubes. S. Ostrach and P. R. Thornton. *bibliog diag A S M E Trans* 80:363-6 F '58
- Transient free convection from a vertical flat plate. R. Siegel. *bibliog A S M E Trans* 80:347-57; Discussion, 358-9 F '58
- Variable fluid-property problem in free convection. E. M. Sparrow and J. L. Gregg. *bibliog diags A S M E Trans* 80:379-86 My '58
- Wall temperature instability for convective heating with surface radical recombination. D. E. Rosner. *bibliog diags Jet Propulsion* 28:402-3 Je '58
- Wide-range thermal convection manometer. J. A. McMillan and T. Buch. *diag R Sci Instr* 28:881-2 N '57
- HEAT engines**
Choose your own heat engine. B. G. A. Skrotzki. *il diags Power* 101:90-3+ N '57
- See also*
Gas turbines
Steam turbines
- HEAT exchangers**
Biotechnical problem of the human body as a heat exchanger. L. P. Herrington. *A S M E Trans* 80:343-6 F '58
- Combating ice formations at dockside. Combustion 30:39 Ag '58
- Contra-flow gas-to-gas heat exchanger. J. S. Turton. *diag Aircraft Eng* 30:135-41 My '58
- Convection heat transfer and pressure drop of air flowing across in-line tube banks. C. E. Jones and others. *bibliog diags A S M E Trans* 80:18-34; Discussion, 34-5 Ja '58
- Cost indexes of heat exchangers. W. L. Nelson. *Oil & Gas J* 55:133 O 28 '57
- Cost of U-tube heat exchangers. H. J. De Lamater. *Chem Eng* 65:141 O 6 '58
- Dynamic response of heat exchangers having internal heat sources. J. A. Clark and others. *bibliog diags A S M E Trans* 80:612-22, 625-33; Discussion, 622-4, 633-4 Ap '58
- Faster corrosion test cuts designing cost of heat exchangers. *Product Eng* 29:26 Je 23 '58
- First heat exchanger for Bradwell; illustrations with text. *Engineer* 205:772-3 My 23 '58
- Gas-friction, heat transfer charts for ducted flows. S. V. Manson. *A S M E Trans* 80:735-5; Discussion, F. Landis. 735; Reply, 735-8 Ap '58
- Glass heat exchangers give fast writeoff; American thread co. *il Plant Eng* 12:124-5 S '58
- Good tube maintenance tools cut costs. A. John. *il Pet Refiner* 36:317-20 N '57
- Heat exchange equipment in the modern paper mill. W. Pittam. *Tappi* 41:sup 190A-1A Ag '58
- Heat exchanger at Berkeley. *il Engineer* 305:780 My 23 '58
- Heat exchanger prevents ice damage to piers. *Air Cond Heat & Ven* 55:98 My '58
- Heat transfer and fluid friction during flow across banks of tubes; the effect of internal leakages within segmentally baffled exchangers. O. P. Bergelin and others. *bibliog diags A S M E Trans* 80:52-60 J '58
- Heat transfer through coated metal surfaces. R. P. Lee. *diags Corrosion* 14:41-2 Ap '58
- Hollow plate speeds heat exchange; channeled Hortonclad. *il Steel* 142:107 Ap 7 '58
- Hot oil heater aids process, saves company \$20,000 annually. Asphalt-coated piers. Baldwin-Hill co. D. Merrill. *il Plant Eng* 12:121-2 O '58
- How much life in graphite heat exchangers? C. P. Dillon. *il Chem Eng* 65:184+ S 22 '58
- How to save money on exchangers; special report on costs. D. O. Kern and R. E. Seaton. *il diags Pet Refiner* 37:135-41 Je '58
- Ice-damage preventer; heat exchanger to eliminate winter ice around piers. *Eng N* 160:118 Je 19 '58
- New clue to corrosion; Carpenter Steel claims new way to predict corrosion rates; reveals method to predict lac opening. *il Chem & Eng N* 36:48 Je 16 '58
- Nuclear power plant training simulator for use at Calder Hall. I. Wilson and L. A. J. Lawrence. *il diags Brit Inst Radio Eng J* 18:55-93 F '58
- Pressure drop for parallel flow through rod bundles. B. W. Le Tourneau and others. *bibliog il A S M E Trans* 79:1751-6; Discussion, diags 1756-7; Reply, 1757-8 N '57
- So you've decided to install air-cooled heat exchangers? E. M. Cook and P. S. Otten. *il diags Oil & Gas J* 56:106-8+ Je 2 '58
- Speed pressure drop calculations. N. H. Chen. *bibliog Chem Eng* 65:10-2 S 22 '58
- Study of heat transfer and pressure drop under conditions of laminar flow in the shell side of cross-baffled heat exchangers. F. L. Test. *diags A S M E Trans* 80:593-9; Discussion, B. E. Short. 599-600 Ap '58
- Transient response of a two-fluid counterflow heat exchanger, the gas turbine regenerator. R. M. Cima and A. L. London. *bibliog flow diag A S M E Trans* 80:1169-75; Discussion, 1175-7; Reply, 1177-9 Jl '58
- See also*
Condensers (steam)
Cleaning
Hydraulic jet cleans topping unit condensers. *diags Pet Eng* 29:C60 N '57
- Tool gets exchanger bundles cleaner. *il Pet Refiner* 37:486 S '58
- Corrosion**
Cathodic protection may boost corrosion! could be harmful to exchange tubes. C. Breckon. *il Pet Refiner* 37:189-90 Mr '58
- Design**
Easy way to optimum exchangers. J. Happel. *bibliog diags Chem Eng* 65:135-7 S 8 '58
- Factors governing the selection and design of tubular heat exchangers. E. A. D. Saunders. *diags Ind Chem* 34:275-81 Je '58
- Heat exchanger design for heavy water reactor service. A. D. Duff, Jr. and E. E. Wilson. *il diags Can J Chem Eng* 36:203-6 O '58
- How to design finned tube shell and tube heat exchangers. E. H. Young and D. J. Ward. *bibliog il Pet Eng* 65:C131-2 S 22 '58; C132-4 N '57; 30:C37-8 F '58
- Let computers pick your exchangers. R. E. Githens, Jr. *Chem Eng* 65:143-6 Mr 10 '58
- New, fast, accurate method to find tubeside heat transfer coefficient. N. H. Chen. *bibliog Chem Eng* 65:110-12 Je 30 '58
- New method of heat-exchanger design with specified inlet and outlet conditions. R. S. Fairall. *bibliog diags A S M E Trans* 80:601-11 Ap '58
- Performance factors of a periodic-flow heat exchanger. T. J. Lamberton. *bibliog diags A S M E Trans* 80:586-92 Ap '58
- Save time in heat exchanger design. N. H. Chen. *bibliog Chem Eng* 65:153-6 O 20 '58
- Speed heat exchanger computations. N. H. Chen. *bibliog Chem Eng* 65:149-52 O 6 '58
- Maintenance and repair**
Aluminum tubes, sheets cut cost by one-third. T. E. Beyerley. *Elec World* 149:65 Ja 6 '58
- Manufacture**
Brazing makes strong assemblies out of paper-thin parts. A. Gelb and G. E. Korb. *il Am Mach* 102:105 Je 16 '58

HEAT exchangers—Manufacture—Continued

Common job cost this firm too many dollars; fabrication of two fully-jacketed reactor vessels and two-tube-type heat exchangers. R. H. Hoefler. *Welding Eng* 43:52-3 AP '58

Device welds tube to sheet; portable, automatic welder. *Steel* 142:78 F 10 '58

Experimental welding with the cone arc. R. E. Monroe and D. Martin. *Welding J* 38:sup518-20 D '57

Heat-exchanger fabrication. P. Patriarca and others. *Welding J* 36:1172-8 D '57

Upstairs with inert-gas metal-arc welding. *Welding J* 36:1197-8 D '57

Rating

Shell-side characteristics of shell-and-tube heat exchangers; a simplified rating system. T. Tinker. *Trans A S M E* 80: 36-49; Discussion. 49-52 Ja '58

HEAT insulation. See *Insulation (heat)*

HEAT measurement. See *Pyrometers and pyrometry; Thermometers and thermometry*

HEAT of combustion. See *Combustion, Heat of*

HEAT of formation. See *Thermochemistry*

HEAT of fusion. See *Fusion, Heat of*

HEAT of hydrogenation. See *Hydrogenation, Heat of*

HEAT of mixing. See *Mixing, Heat of*

HEAT of solution. See *Solution, Heat of*

HEAT of sublimation. See *Sublimation, Heat of*

HEAT of vaporization. See *Vaporization, Heat of*

HEAT pump

Air-cycle heat pump. K. H. Hunt. *Eng Engineering* 184:818 D '57

Air source heat pump provides heating and cooling for new Amherst engineering laboratory of Sylvania electric products co. *Plant* 18:30-1 JI '58

Air-source heat pumps prove practical and economical. J. R. Harnish and R. C. Niess. *bibliog* *diags Power Eng* 62:72-4 Je; 58-60 JI '58

All-electric housing project; Strategic Air command base near Little Rock. *diags Eng N* 180:25 AP 3 '58

Cautions SEB utilities to get rolling with heat pumps now. H. M. Brundage. *Elec World* 143:34 N 11 '57

Dynamic heat storage system; using the latent heat of fusion of disodium phosphate dodecahydrate. T. L. Etherington. *bibliog diags Heating-Piping* 29:147-51 D '57

Electric heating and heat pumps; progress report. *Elec World* 149:41-44-4 Je 30 '58

Five heat pumps get six stars; heating and cooling a Maryland drive-in movie snack bar. A. C. Crawford. *Elec World* 149:36 F 3 '58

\$540,000 heat pump for Flick-Reedy. *Refrig Eng* 65:71 N 15 '57

For booming residential air-conditioning and heat-pump loads; single phase service costs less. E. B. McBurney. *diag Elec World* 148: 54-7 O 28 '57

Freezing air heats northern lab; air source heat pump installation for Sylvania electronic systems. J. R. Campbell and S. A. Yondt. *diags Heating-Piping* 30:89-91 Ag '58

Heat pump and heating cables installed in the same residence; first year of comparative operation. C. W. Jones and E. E. Linden. *diags Applications & Ind* p43-8 Mr '58

Heat pump growth in line with predictions. South is still ahead. *Elec World* 148:98-103 D 16 '57

Heat pump licks Buffalo winters in the Amherst engineering laboratories of Sylvania electronic co. *diags Elec World* 150:69 S 1 '58

Heat pump will serve four-building group of power company in Spokane. *Air Cond Heat & Ven* 55:128 My '58

Heat pumps assure plastic product quality; Campro co. *diags Elec World* 149:96 AP 14 '58

Heat pumps give Virginia school low cost heating, bonus air cooling. *plan diag Arch Rec* 124:200 JI '58

Improving economic status of the heat pump. W. J. McGuinness. *diags Prog Arch* 39:9 Je '58

Know thy enemies, a factual study of the electric heat pump. W. W. Clark. *Gas* 34: 57-62 S '58

Load and economic aspects of the residential heat pump on electric utility systems; abstract. C. W. Barry. *Elec Eng* 77:57 Ja '58

Low temperature evaporation plus energy economy. J. A. Cross. *diags Chem Eng Prog* 54:132-4 Ap '58

Maintenance, first cost analyses favor heat pump installation. J. M. Kearney and H. Peters. *diags Heating-Piping* 30:122-4 Mr '58

New bottom-hole heat pump melts oil block. *Oil & Gas J* 56:61 S 22 '58

Packaged heat pumps eliminate metal marling headache; Emmert manufacturing co. Waynesboro, Pa. E. R. Bachtell, Jr. *diags Elec World* 149:106 My 12 '58

Solar house uses heat pumps for summer cooling; auxiliary heating. *plan diags Arch Rec* 123:222-4 Je '58

Sun energy assistance for air-type heat pumps. C. P. Davis, Jr. and R. I. Lipper. *diag Heating-Piping* 29:123-8 D '57

Thermoelectric heat pumping. N. E. Lindblad. *diags Elec Eng* 77:802-6 S '58

HEAT radiation

Continuous recording of radiation using the Moll thermopile. F. A. Burden and A. Hoffman. *diags J Sci Instr* 34:461-2 N '57

Control direct radiation for comfort. W. G. Young. *diags Air Cond Heat & Ven* 55:69-62 Ag '58

Emissivities of metallic surfaces at 7° K. M. M. Fulk and M. M. Reynolds. *bibliog diags J Ap Phys* 28:1464-7 D '57

Emissivity at 0.65 micron of silicon and germanium at high temperatures. F. G. Allen. *J. Ap Phys* 28:1510-11 D '57

Heat cataracts. *Ind Med* 26:524 N '57

Heat transfer by radiation from flames; a summary of the work of the International flame research foundation. R. A. Sherman. *bibliog* *diags plans diags A S M E Trans* 79: 1727-38; Discussion. 1738-41 N '57

How to calculate thermal radiation from hot surfaces. G. V. Thompson. *Product Eng* 29: 116-17 Mr 31 '58

How to find airframe material emissivity. G. V. Thompson. *diags Aviation Age* 29:68-71 My '58

Lunar thermal radiation at 35 kmc. J. E. Gibson. *bibliog* *diags Inst Radio Eng Proc* 46:280-8 Ja '58

Model method for determining geometric factors in solid-to-solid radiation heat transfer. P. L. Tea, Jr. and H. D. Baker. *diags A S M E Trans* 80:367-72 F '58

Recognition and control of radiant heat. G. C. Stoecker. *diags Ind Med* 27:396-401 Ag '58

See also

Black body

Bolometers

Electric lamps, Fluorescent—Heat radiation

Radiators

HEAT resisting alloys. See *Alloys, Heat resisting*

HEAT resisting materials

Adhesives for high-temperature applications. W. Bandaruk. *Product Eng* 28:G25-7 Mid-O '57

Answers found to 1000F wear and galling problems; abstract. C. H. Cannon. *S A E J* 66:36 Ag '58

At 3000 F, CRS + chrome-case outlasts stainless steel five to one; Arma searchlight. W. M. Stocker, Jr. *diags Am Mach* 101:162-3 N 18 '57

Better ways to fabricate high-temperature materials; Metallurgical society national meeting; abstracting symposium papers. *diags Metal Prog* 73:97-101 My '58

Ceramic filters for high temperature gas filtration. M. W. First and J. B. Graham. *diags Ind & Eng Chem* 50:sup63A-4A Je '58

Characteristics of new 600°F epoxy compounds. H. Lee. *diags Plastics World* 16:4-6 Mr '58

Chromizing makes molybdenum usable above 2000 F. *diags Materials in Design Eng* 47:157 F '58

Columbium primer. C. T. Sims. *bibliog* *J Metals* 10:340-5 My '58

Columbium studied for hot applications. *Materials in Design Eng* 47:164-4 Ja '58

Designing and testing for high-temperature hydraulics. F. L. May and L. D. Taylor. *Machine Design* 30:147-50 My 15 '58

Dielectric material is stable at 1500 F; Eccospheres. *diags Materials in Design Eng* 48:144-4 JI '58

Ductile ceramics, a high temperature possibility. E. R. Parker and others. *bibliog* *J Metals* 10:351-3 My '58

Ductile platinum electroplates withstand 2000 F indefinitely. *diags Materials in Design Eng* 48:126 JI '58

HEAT resisting materials—Continued

- Evaluation of the thermal insulative characteristics of ceramic coatings. W. J. Plankenhorn, bibliog il diag Am Cer Soc Bul 37:366-9 Ag '58
- Experimental study of magnetic materials for use in ultrahigh-temperature electronic transformers. H. B. Harms, il diags Com & Electronics p 181-4 My '58; Same, Elec Eng 77:408-12 My '58
- For moderate temperatures and severe conditions, use nonmetallic inorganics. M. D. Robbins, il diags Chem Eng 66:123-34 S 8 '58
- Friction coefficients of graphite over the temperature interval 25°C to 2450°C. A. R. Driesner and P. Wagner, bibliog diag J Ap Phys 29:901-3 Je '58
- Fundamentals of brazing for elevated-temperature service. E. D. Bellware, il Welding J 37:683-91 Ji '58
- Glass and ceramic fibers, they beat the heat. T. D. Callinan, Product Eng 29:70-2 Ji 7 '58
- High-temperature nonmetallics. R. W. Brown, bibliog il diags Chem Eng 65:13-50 Ap 21 '58
- High-temperature research at the National Bureau of standards, il diag Engineer 206:390-3, 429-31, 467-9 S 5-19 '58
- Hot solenoid. O. K. Smith, il Product Eng 29:61 Ja 6 '58
- How can we hurdle the materials roadblock? I. Stambler, il Aviation Age 30:18-19+ Ag '58
- How to walk into 1400 F; aluminum-coated, glass-fiber-insulated suits, il Power 102:142 F '58
- Iridium electroplate withstands 2400 F. Materials in Design Eng 47:208 Ap '58
- Lithium type ceramic coatings resist prolonged heat at 1350 F. il Materials in Design Eng 46:161-2 D '57
- Materials for rocket engines. R. C. Kopituk, il diags Metal Prog 73:79-84 Je '58
- Materials progress; non-metals. I. Stambler, diags Aviation Age 30:62-4 Ag '58
- Min-K, a new level in insulation developed by Johns-Manville, il Iron Age 181:65 Mr 13 '58
- Missiles may wear nylons, il Chem & Eng N 36:56 F 24 '58
- New developments in ceramics; high-temperature use. J. H. Koenig, il Materials in Design Eng 47:131-5 My '58
- New graphites beat missile hot spots. I. Stambler, il Aviation Age 29:86-8+ Ap '58
- New high-strength molding material; abstract. S. G. Salzinger and H. M. Toellner, Machine Design 30:140 My 1 '58
- New high-temperature material; asbestos-phenolic laminates, Chem & Eng N 36:58 F 3 '58
- New insulation helps missile builders; Min-K, Machine Design 30:41-2 Mr 20 '58
- New lubricants, hydraulic fluids for high temperatures; three new silicone fluids. E. D. Brown, Jr, Materials in Design Eng 47:124-6 Ap '58
- New metals face the future. C. M. Brown and R. W. Fountain, J Metals 10:330-4 My '58
- New plastic stays strong at high temperature, il Iron Age 181:112 Mr 20 '58
- New rubber beats heat; high-temperature butyl. G. S. Buettner and C. R. McGill, il Product Eng 28:90-1 N 11 '57
- Now into the space age! temperatures up to 30,000° F. are endured by new combinations of materials, il diag Mod Plastics 35:105-10+ Je '58
- Optimizing the hydraulic system through high temperature compatibility; abstract. G. R. Keller, Machine Design 30:183-4 Mr 20 '58
- Processing high-temperature alloys; slip casting. L. M. Schifferli, Jr, diags J Metals 10:517-21 Ag '58
- Protecting metals at high temperatures. A. F. Hofstatter, il Materials in Design Eng 47:115-19 Ap '58
- Protecting molybdenum at high temperatures. J. J. Harwood, bibliog il Materials & Methods 44:84-9 D '56; Abstract, Metal Prog 73:194 Mr '58
- Refractory metals; tungsten, tantalum, columbium, and rhenium. J. W. Pugh, bibliog J Metals 10:335-9 My '58
- Reinforced plastics at 3,000 to 25,000 F. M. W. Riley, il Materials in Design Eng 47:100-4 Je '58
- Reinforced plastics solve heat-strength problems. J. D. Flynt, il Iron Age 181:94-7 Ap 3 '58
- Resin-silica vs. missile-made heat; Astrolite, il Chem Eng 65:74+ Ja 27 '58
- Rockets and missiles; new materials contain high temperatures. R. L. Noland, il diag Chem Eng 65:148-52 My 19 '58
- Space age materials. E. C. Bishop, il diags Tool Eng 41:151-4 Ag '58
- Study of corrosion resistant materials suitable for high temperature service in recovery units. F. E. Hutton, Tappi 41:sup 130A-1A My '58
- Surface protection treatments for special metals to prevent high temperature oxidation; abstract. H. B. Sueckle, Metal Finishing 56:77 F '58
- Temperatures get hotter; high temperature polymers and fluids. Chem & Eng N 36:49 N 18 '57
- Titanium carbide. J. C. Redmond, il Product Eng 28:84-6 N 11 '57
- Use of materials at temperatures up to 2,000 degrees F. abstract. E. A. Pearl, Aircraft Eng 30:238 Ag '58; S A E J 66:70-1 Ag '58
- What can ceramics do in missiles? J. Castellfranco, il diags Cer Ind 70:84-9 My '58
- Which coating at high temperature? G. D. Orr, Jr, il Product Eng 29:61-3 Ja 20 '58
- Zirconia and alumina coatings give short-time 3000 F steel protection; abstract. J. V. Long, il S A E J 66:74-5 Ag '58

See also

Cermets
Molybdenum
Pyroceram
Refractory materials
Steel, Heat resisting
Teflon
Wollastonite

Testing

Deviations from one-dimensional heat flow in guarded hot-plate measurements; testing building and insulating materials. W. Woodside, diags R Sci Instr 28:1033-7 D '57

HEAT resisting paint. See Paint, Heat resisting

HEAT resisting steel. See Steel, Heat resisting

HEAT storage

Development of transportable thermal-storage space heaters. E. Bates, il diags Inst E E Proc 104 pt A:415-23; Discussion. 437-46; Reply. 446-7 O '57

Dynamic heat storage system; using the latent heat of fusion of disodium phosphate dodecahydrate. T. L. Etherington, bibliog diags Heating-Piping 29:147-51 D '57

Important applications of heat storage in industry. W. Goldstern, il diags Eng J 41:79-85 Mr '58

Storage of energy. R. G. Voysey, Engineering 186:380-2 S 19 '58

HEAT transmission

Approximate solution of the laminar heat transfer along a heated flat plate with an arbitrary distribution of surface temperature. G. Lowe, J Aeronautical Sci 24:920-1 D '57

Bearing heat and dissipation charts. H. W. Hann, Product Eng 29:57-10-11 Mid-'58

Blowdown and charging processes in a single gas receiver with heat transfer. W. C. Reynolds and W. M. Kays, il diags A S M E Trans 80:1160-8 Ji '58

Calculation of temperature distributions in glass plates undergoing heat-treatment. R. Gardon, bibliog diag Am Cer Soc J 41:200-9 Je 1 '58

Chart visualizes heat transfer relations. E. J. Gibbons, Chem Eng 65:129-30 Je '58

Classical heat flow problems applied to induction billet heating. R. M. Baker, bibliog diags Applications & Ind p 106-12 My '58

Combined effects of unsteady flight velocity and surface temperature on heat transfer. E. M. Sparrow, diag Jet Propulsion 28:403-5 Je '58

Cooling rates and peak temperatures in fusion welding. C. M. Adams, Jr, bibliog il Welding J 37:sup210-15 My '58

Development of the calorimeter heat transfer gauge for use in shock tubes. P. H. Rose, bibliog il diags R Sci Instr 29:557-64 Ji '58

Effect of externally generated vorticity on laminar heat transfer. R. M. Mark, J Aeronautical Sci 24:923-4 D '57

Effect of heat transfer on flow field at low Reynolds numbers in vertical tubes. T. J. Hanratty and others, bibliog il diag Ind & Eng Chem 50:815-20 My '58

Effect of moisture on heat transmission through building materials; abstract. J. S. Cammerer, Air Cond Heat & Ven 55:88 Mr '58

HEAT transmission—Continued

- End effect corrections in heat and mass transfer studies. A. I. Johnson and others. *bibliog* diags *Can J Chem Eng* 36:221-7 O '58
- Energy transfer in the earth's mantle. A. W. Lawson and J. C. Jamieson. *bibliog* J Geol 66:540-51 S '58
- Expand lab to broaden scope of heat transfer research; Tranter manufacturing, inc. *il Ind Lab* 9:63 Je '58
- Experimental measurement of metal-cutting temperature distributions. G. S. Reichenbach. *bibliog* *il diags* A S M E Trans 80:525-36; Discussion. 536-40 Ap '58
- Experimental velocity and temperature profiles for air in turbulent pipe flow. C. A. Seicher, jr. *bibliog*(52 titles) *flow diag* *il diags* A S M E Trans 80:693-702; Discussion. 702-4 Ap '58
- Expressions for the local heat-transfer coefficient. R. R. Gold. *J Aeronautical Sci* 25:208-9 Mr '58
- Friction and heat transfer in a rough tube at varying Prandtl numbers. R. C. Hastrup and others. *diag* *Jet Propulsion* 28:259-63 Ap '58
- Gas flow and heat transfer in conductor-cooled machines. L. T. Rosenberg. *bibliog* *il diags* *Power Apparatus Systems* p 1267-71 F '58; Abstract. *Elec Eng* 77:133 F '58
- Heat and the engineer. O. A. Saunders. *Engineering* 186:383-4, 419-20 S 19-26 '58; Same *abr. Engineer* 206:418-20 S 12 '58
- Heat flow in ingot hot-tops. G. Fenton. *il diags* *Iron & Steel Inst J* 183:396-405 Ag '57; Discussion. 189:263-8 J1 '58
- Heat gain through windows shaded by canvas awnings. N. Ozisik and L. F. Schutrum. *il diags* *Heating-Piping* 30:159-66 My '58
- Heat loss through wood windows; data sheet. *Air Cond Heat & Ven* 55:81-2 My; 71-2 Je '58
- Heat transfer. J. F. Lee. *diags* *Power Ind* 74:22-4 Ap '58
- Heat transfer and fluid friction during flow across banks of tubes; the effect of internal leakages within segmentally baffled exchangers. O. P. Bergelin and others. *bibliog* *il diag* A S M E Trans 80:53-60 Ja '58
- Heat transfer; annual review. E. R. G. Eckert and others. *il Ind & Eng Chem* 50:543-54 *bibliog*(p552-4) 2 Mr '58
- Heat-transfer characteristics of the rotational and axial flow between concentric cylinders. O. Gazley, jr. *bibliog* *diags* A S M E Trans 80:79-90 Ja '58
- Heat transfer from a rotating cylinder with and without crossflow. W. M. Kays and I. S. Bjorklund. *bibliog* *il diags* A S M E Trans 80:70-7; Discussion. A. Carmi. 77-8 Ja '58
- Heat transfer from rotating discs. Z. Rotem. *bibliog* *Roy Aeronautical Soc J* 62:303 Ap '58
- Heat transfer in a high pressure reactor. L. N. Vernon and C. M. Sliepcevich. *bibliog* *diags* *Ind & Eng Chem* 49:1445-8 D '57
- Heat transfer in a laminar boundary layer from a surface having a temperature distribution. B. N. Pridmore Brown. *diag* *J Aeronautical Sci* 24:912-13 D '57
- Heat transfer in bubble-columns; abstract. H. Kölbl and others. *Ind Chem* 34:616 S '58
- Heat transfer in hot-surface drying of paper. S. T. Han and T. Ullmanen. *Tappi* 41:185-9 Ap '58
- Heat transfer in laminar boundary-layer flows of liquids having a very small Prandtl number. G. W. Moore and others. *J Aeronautical Sci* 25:173-80 Mr '58
- Heat transfer in laminar pipe flow with uniform coolant injection. S. W. Yuan and A. B. Finkelstein. *bibliog* *diag* *Jet Propulsion* 28:178-81 Mr '58
- Heat transfer in liquid metals. P. S. Lykoudis and Y. S. Touloukian. *bibliog*(28 titles) *diag* A S M E Trans 80:653-63; Discussion. 663-6 Ap '58
- Heat transfer in power transistors. I. G. Maloff. *diags* *Electronic Ind* 16:54-5+ D '57
- Heat transfer in swirling laminar pipe flow. R. Siegel and M. Perlmutter. *diag* *J Ap Mech* 25:295-7 Je '58
- Heat transfer in turbulent pipe flow. R. R. Hunziker. *bibliog*(41 ref) *Franklin Inst J* 265:205-25 Mr '58
- Heat transfer in underground chambers. *il Air Cond Heat & Ven* 55:75 Ja '58
- Heat-transfer rates to cross-flowing mercury in a staggered tube bank. C. L. Rickard and others. *bibliog* *diags* A S M E Trans 80:646-52 Ap '58
- Heat transfer studies lead to light electric motors. E. Ward. *il diags* *Aviation Age* 30:70-4 J1 '58
- Heat-transfer studies of naval boilers. L. Cohen and W. A. Fritz. *jr. diags* A S M E Trans 80:583-90; Discussion. 690-2 Ap '58
- Heat transfer studies on a forced convection loop with biphenyl and biphenyl polymers. J. P. Stone and others. *bibliog* *diags* *Ind & Eng Chem* 50:896-902 Je '58
- Heat transfer through coated metal surfaces. R. P. Lee. *diags* *Corrosion* 14:41-2 Ap '58
- Heat transfer to a gas-phase chemical reaction. W. Schotte. *bibliog* *diags* *Ind & Eng Chem* 50:683-90 Ap '58
- Heat transfer to a general three-dimensional stagnation point. E. Reshotko. *bibliog* *diag* *Jet Propulsion* 28:58-60 Ja '58
- Heat transfer to fluids with low Prandtl numbers for flow across plates and cylinders of various cross section. R. J. Grosh and R. D. Cess. *bibliog* *diags* A S M E Trans 80:667-76 Ap '58
- Heat transfer to supercritical water. N. L. Dickinson and C. F. Welch. *bibliog* *il diags* A S M E Trans 80:746-52 Ap '58
- Heat transmission to fluids with low Prandtl numbers for flow through tube banks. R. D. Cess and R. J. Grosh. *bibliog* *diags* A S M E Trans 80:677-82 Ap '58
- Heating at high speed. N. H. Davies and R. J. Reed. *il Metal Prog* 73:79-84 F '58
- How to design for radiant heating. L. M. Polentz. *diags* *Chem Eng* 65:137-40 Ap 7; 151-4 Ap 21 '58
- How to make rough estimates of building heat losses; data sheet. M. F. Muzzillo and J. Candela. *Heating-Piping* 30:155-6 My '58
- How to read heat transfer in Russian. F. F. Buckland. *Mech Eng* 80:60-3 S '58
- Influence of Coriolis forces on heat transfer in the open thermosyphon. E. W. Martin and D. J. Cresswell. *bibliog* *il diags* *Engineer* 204:926-30 D 27 '57
- Interferometer used to study transient heating of water. E. A. McLean and others. *bibliog* *il diag* *R Sci Instr* 29:225-8 Mr '58
- Laminar free-convective heat transfer from the outer surface of a vertical circular cylinder. K. Millsaps and K. Ehlhausen. *diag* *J Aeronautical Sci* 25:357-60 Je '58
- Measurement of turbulent heat transfer rates on the aft portion and blunt base of a hemisphere cylinder in the shock tube. J. Rabinowicz. *bibliog* *il diags* *Jet Propulsion* 28:615-20 S '58
- Model method for determining geometric factors in solid-to-solid radiation heat transfer. P. L. Tsa and H. D. Baker. *il diags* A S M E Trans 80:367-72 F '58
- Modes of adiabatic and diabatic fluid flow in an annulus with an inner rotating cylinder. J. Kaye and E. C. Elgar. *bibliog* *il diags* A S M E Trans 80:753-63; Discussion. R. C. Dean, jr. 763-5 Ap '58
- New method for calculating radiant exchanges. B. Gebhart. *bibliog* *diag* *Heating-Piping* 30:131-5 J1 '58
- Raising heat transfer in seawater evaporators. *Engineering* 185:253 F 21 '58
- Rate of heat transfer in liquids with gas injection through boundary layer. E. B. Gose and others. *J Ap Phys* 28:1509 D '57
- Review of heat transfer literature, 1957. E. R. G. Eckert and others. *il Mech Eng* 80:64-75 *bibliog*(p73-5) Je '58
- Sensible vs latent heat removal in radiant cooling. C. A. Mills. *diags* *Refriger Eng* 66:43-6+ Mr '58
- Stability of boiling heat transfer. N. Zuber. *bibliog* A S M E Trans 80:711-14; Discussion. *diag* 714-18; Reply. 718-20 Ap '58
- Sublimation from disks to air streams flowing normal to their surfaces. H. H. Sogin. *bibliog* *diags* A S M E Trans 80:61-7; Discussion. 68-9 Ja '58
- Summary of low-Prandtl-number heat-transfer results for forced convection on a flat plate. E. M. Sparrow and J. L. Gregg. *J Aeronautical Sci* 24:852-3 N '57
- Tube-in-strip heat-transfer material. *il Engineering* 184:551 N 1 '57
- Turbulent heat transfer through a highly cooled partially dissociated boundary layer. R. F. Probst and others. *Jet Propulsion* 28:56-8 Ja '58
- Underground test chamber provides heat transfer data. *il diag* *Heating-Piping* 30:121 Mr '58

HEAT transmission—Continued

What's in symposium series volume 53; abstracts. *Chem Eng Prog* 53:458, 558, 612 S, N-D '57

See also

Blast furnace stoves
Glass—Heat transmission
Heat conduction
Heat conductivity
Heat convection
Heat exchangers
Heat radiation
Insulation (heat)

Electric analogies

Analog points to optimum design. *II* *Diags Product Eng* 28:38 D 9 '57

Electrical analogy for transient axisymmetrical heat flow. J. S. Grzymieniecki. *J Aeronautical Sci* 24:922 D '57

Influence of insulation on moisture-condensation aspects of a steel-framed cold-storage warehouse structure. C. F. Kavan and R. G. Gates. *Diags Refrig Eng* 66:39-44 Ja '58

Transient response of a two-fluid counter-flow heat exchanger, the gas-turbine regenerator. R. M. Cima and A. L. London. *Bibliog flow diag II* *diag A S M E Trans* 80:1169-75; Discussion. 1175-7; Reply. 1177-9 JI '58

Tables, calculations, etc.

Computer calculates heat rates to set economic turbine overhauls. C. F. Whitner and W. M. Stephens. *Diags Elec World* 149:44-6 Ja 6 '58

Determination of free convection heat transfer properties of fluids. J. E. Boberg and P. S. Starrett. *Bibliog diags Ind & Eng Chem* 50:807-10 My '58

Estimation of temperature patterns in multiply-shielded systems. J. G. Bartas and E. Mayer. *Diags A S M E Trans* 79:1722-6 N '57

Estimation of turbulent heat transfer at the sonic point of a blunt-nosed body. M. Sibulkin. *Bibliog diag Jet Propulsion* 28:548-54 Ag '58

Formulation and solution of equations describing non-steady processes. W. Smith. *diag Ind Chem* 34:121-5 Mr '58

Gas-friction; heat transfer charts for ducted flows. S. V. Manson. *A S M E Trans* 80:733-5; Discussion. F. Landis. 735; Reply. 735-8 Ap '58

Head-flow characteristics of axial flow helical inducers. D. A. Rains. *Jet Propulsion* 28:557-8 Ag '58

Heat-balance integral and its application to problems involving a change of phase. T. R. Goodman. *Bibliog A S M E Trans* 80:335-42 F '58

Heat transfer between a flat plate and a fluid containing heat sources. J. R. Whiteman. *A S M E Trans* 80:360-2 F '58

Heat transfer from column wall to bed in spouted, fluidized and packed systems. J. Klassen and F. E. Gishler. *Bibliog diag Can J Chem Eng* 36:12-18 F '58

Heat transfer in a laminar boundary layer with constant fluid properties and constant wall temperature. A. G. Smith and D. B. Spalding. *Bibliog diags Roy Aeronautical Soc J* 62:60-4 Ja '58

Heat transfer to flow in a round tube with arbitrary velocity distribution. L. R. Whiteman and W. B. Drake. *A S M E Trans* 80:728-32 Ap '58

Investigation of burnout heat flux in rectangular channels at 2000 atm. H. S. Jackett and others. *II* *diag A S M E Trans* 80:391-400; Discussion. 400-1 F '58

Laminar mass and heat transfer from ellipsoidal surfaces of fineness ratio 4 in axisymmetrical flow. S. Y. Ko and H. H. Sogin. *Bibliog diag A S M E Trans* 80:387-90 F '58

Logarithmic mean temperature difference; data sheet. *Air Cond Heat & Ven* 55:83-4 F; 65-6 Mr '58

New approach to the measurement of convective heat and mass transfer. R. A. Granville and A. Sigalla. *Research* 11:326-8 Ag '58

New fast, accurate method to find tubeside heat transfer coefficient. N. H. Chen. *Bibliog Chem Eng* 65:110-12 Je 30 '58

New methods in heat flow analysis with application to flight structures. M. A. Biot. *Bibliog diags J Aeronautical Sci* 24:857-73 D '57

Performance factors of a periodic-flow heat exchanger. T. J. Lambertson. *Bibliog diags A S M E Trans* 80:586-92 Ap '58

Quasilinear heat flow. N. E. Friedmann. *Bibliog* (36 titles) *A S M E Trans* 80:635-44; Discussion. 645 Ap '58

Rate of temperature change of simple shapes. V. Paschakis and J. W. Hlilka. *Bibliog A S M E Trans* 79:1742-3; Discussion. 1748-50 N '57

Similar solutions for free convection from a nonisothermal vertical plate. E. M. Sparrow and J. L. Gregg. *Bibliog diags A S M E Trans* 80:379-86 F '58; Discussion. M. Tribus. 80:1180-1 JI '58

Stagnation of natural-convection flows in closed-end tubes. S. Ostrach and P. R. Thornton. *Bibliog diag A S M E Trans* 80:363-6 F '58

Steady-state longitudinal and radial temperature distributions in internally heated finite wires. G. W. Preckshot and J. W. Gorman. *Bibliog diags Ind & Eng Chem* 50:837-43 My '58

Study of heat transfer and pressure drop under conditions of laminar flow in the shell side of cross-baffled heat exchangers. F. L. Test. *Diags A S M E Trans* 80:593-9; Discussion. B. E. Short. 599-600 Ap '58

Thermal diffusivity of butyl rubber and its compounds; diffusivity coefficients. D. E. MacRae and R. L. Zapp. *Bibliog Rubber Age* 82:831-7, 1024-9 F-Mr '58

Transient free convection from a vertical flat plate. R. Siegel. *Bibliog A S M E Trans* 80:347-57; Discussion. 358-9 F '58

Unsteady-state heat transfer to and from gases in laminar flow. T. D. Patten. *Bibliog II* *diags Inst Mech Eng Proc* 171 no 29:805-19; Discussion. 820-1; Reply. 822 '57

HEAT treatment

Cemented carbide is heat treatable. *Materials in Design Eng* 47:176-4 Ap '58

Centralized controls aid heat treating. *II* *Iron Age* 131:466-7 F 13 '58

Crucible Steel introduces three new heat-treatable titanium alloys. *Ind Lab* 9:30-1 Ag '58

Dow heat treats giant extrusions. *II* *Steel* 143:104-5 S 29 '58

Effect of heat-treatment on properties of enamel-steel composites. J. H. Healy and L. K. Breeze. *Bibliog II* *diags Am Cer Soc J* 41:381-6; Discussion. 386-9 O 1 '58

Effect of heat treatment upon the electrical properties of silicon crystals. C. S. Fuller and R. A. Logan. *Bibliog J Ap Phys* 28:1427-36 D '57

Effects of heat treatment of thin ferromagnetic films at intermediate temperatures. E. N. Mitchell. *J Ap Phys* 29:286-7 Mr '58

Gold in silicon. G. Bernski and J. D. Struthers. *Bibliog II* *Electrochem Soc J* 106:588-91 O '58

Heat treating; forum on technical progress. *Steel* 142:288-90+ Ja 6 '58

Heat treating steering gear parts; Ross gear and tool co. *II* *Automotive Ind* 119:51+ S 15 '58

Heat treating timing gears at Detroit Diesel division of GM. D. R. Lackey and J. E. La Belle. *II* *Automotive Ind* 118:66-7 Je 15 '58

How to make invar stay put. W. S. Eberly. *Product Eng* 28:80-1 D 9 '57

Industrial know-how handbook; heat treating. *II* *Mill & Factory* 62:42 My '58

Metalworking, 1962. H. B. Osborn, Jr. and others. *Am Mach* 101:146-8 N 18 '57

Production nuggets; information from American machinist and other publications; developments to watch; assembly, heat treating, finishing. *II* *Am Mach* 102:F 1-9 Mid-S '58

Solution heat treatment of magnesium forgings. *II* *Materials in Design Eng* 47:147+ Mr '58

See also

Aluminum alloys, Heat treatment of
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Electric furnaces, Heat treating
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Tempering

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HEAT treatment of wood. See Wood, Heat treatment of

HEAT treatment shops

Heat-treating 900 million parts; National cash register co. *II* *Mech Eng* 80:89 Ap '58

Modern heat treatment facilities; Holo-Krome screw corp. D. A. Tullock, Jr. *II* *Metal Prog* 72:75-8 N '57

Organized centralization speeds heat-treat jobs. *Tool Eng* 40:121 Ap '58

HEAT treatment shops—Continued

Control equipment

900 million parts per year heat treated by centralized control; National Cash Register, Dayton. *II* I S A J 5:20 Ap '58

Equipment

Automated lines for heat treating bearings. J. Squire. *II* diags Automotive Ind 117:48-52 D 15 '57

Heat treatment of stampings; Fifth-Derihon stampings Darley Dale works. *II* Metallurgia 58:141-2 S '58

Heat-treatment plant; Fifth-Derihon stampings, Ltd. *II* Engineer 206:344-5 Ag 29 '58

Mechanized heat treatment; Fifth-Derihon stampings Ltd. *II* Automobile Eng 48:362-3 S '58

HEATERS

Finishing Chrysler Airtemp cooling and heating units. F. C. Bardin. *II* Ind Finishing 34:20-2+ Ja '58

Magnesium makes ground heater portable. *II* Mod Metals 14:42-3 My '58

Steam pressure important in using unit heaters. J. D. Constance. *diag* Power Eng 62: 96+ S '58

See also

Electric heaters
Feed water heaters
Gas heaters
Oil heaters
Water heaters

HEATERS, Pebble. See Pebble heaters

HEATING

Cut heating costs 68 ways; checklist shows how. W. Hammer. *Heating-Piping* 30:189-90 Ja '58

See also

American society of heating and air conditioning engineers

Boilers. Heating
Building—Heating aspects
Chimneys

Electric heaters
Electric heating

Fuel

Gas heaters

Gas heating

Heat pump

Heating. Warm air

Heating from central stations

Hot water heating

Insulation (heat)

Oil heaters

Refractory materials

Solar heating

Steam heating

Ventilation

also subdivision Heating and ventilation under special subjects, e.g.

Airplane factories

Airplanes

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School buildings

Ships

Baseboard heating

Commercial and industrial finned-tube radiation. *II* diags Air Cond Heat & Ven 54:71-82 D '57

Residential baseboard radiation. *II* plans diag Air Cond Heat & Ven 54:82-91 N '57

Bibliography

Book reviews. Published in monthly numbers of Air conditioning, heating and ventilating

New books and reports. Published in monthly numbers of Heating, piping, and air conditioning

Recent trade literature. Published in monthly numbers of Heating, piping, and air conditioning

Control

Control direct radiation for comfort. W. G. Young. *diags* Air Cond Heat & Ven 55:59-62 Ag '58

See also

Thermostats

History

Heating by hypocaust; Forum baths at Ostia. E. D. Thatcher. *plans diags* Heating-Piping 30:153-60 Je '58

Radiant heating

Cathodic protection of radiant heating pipes. L. G. Wasson. *II* plan diags Corrosion 14: 47-50 JI '58

Radiant ceiling/automatic anthracite heat. A. J. Stickney. *II* diag Prog Arch 39:144-5 Ag '58

See also

Electric heating—Radiant heating

Tables, calculations, etc.

Degree days, a utility problem; equalization reserve might serve to offset impact of weather on earnings. H. M. Henry. *Am Gas Assn Mo* 40:18-22+ S '58

Degree-days; figures for various cities in the United States. Published in monthly numbers of Air conditioning, heating and ventilating

HPAC data file; reprints of tables, charts and graphs. *Heating-Piping* 30:179-88 Ja '58

Need for degree-day forecasting for the petroleum industry. W. J. Sweeney. *Gas Age* 121: 37-40 F '58

Using climatic odds to estimate fuel requirements; use-per-degree-day factor. L. W. Crow. *Gas Age* 121:40-1+ F '58

See also

Heat radiation

Heat transmission

HEATING, Electric. See Electric heating

HEATING, Industrial

AEC's industrial-heat program. J. F. Kaufmann and D. H. Stewart, Jr. *Nucleonics* 16: 65 F '58

Basis for the design and retirement of petroleum heater tubes. J. J. Heller. *bibliog diags* A S M E Trans 80:511-16 Ap '58

Cincinnati. Flamatic heating machine. *II* Mach 64:213 D '57

Flame heating machine houses integral, large-volume quench tank. *II* Am Mach 101: 188 N 18 '57

Heat from nuclear fission. K. S. Sutherland and C. M. Nicholls. *bibliog* Ind Chem 34: 59-65 F '58

Heat reactor prospects abroad. R. Liljeblad. *II* diag *Nucleonics* 16:70-1 F '58

Here are latest machines for updating your plant; heat application. *Food Eng* 30:71-2 '58

High temperature heating; Dowtherm as heating medium. *Ind Chem* 34:15 Ja '58

Hot sizing, hottest way yet to precision-form titanium? G. H. De Groat. *II* Am Mach 102: 88-8 Je 2 '58

How to design for radiant heating. L. M. Polentz. *diags* Chem Eng 66:137-40 Ap 7; 151-4 Ap 21 '58

Infrared solves wrinkle pattern problem; Cross-Strong enameling co. *II* Ind Finishing 34:60+ My '58

Intergranular comminution by heating. J. H. Brown and others. *bibliog* Min Eng 10:Trans 490-6 Ap '58

Inventory of new equipment and accessories; heaters and coolers. *II* Chem Eng 64:273-4 Mid-N '57

Low-cost heat reactor. E. L. Heller and D. O. Hubbard. *II* *Nucleonics* 16:69 F '58

Market for heat reactors. K. M. Mayer. *Nucleonics* 16:66-7 F '58

New high temperature industrial heaters. *II* Metallurgia 57:305-6 Je '58

Outlook for industrial heat reactors. E. L. Heller and others. *II* *Nucleonics* 16:62-4 F '58

Process heating in the chemical and allied industries. F. Barrett. *II* diags *Ind Chem* 34:321-4 Je '58

Stress relieving of stainless steels and the associated metallurgy. R. A. Huseby. *bibliog* *II* *Welding J* 37:sup304-15 JI '58

See also

Drying apparatus

Electric heating, Industrial

Furnaces. Heating

Furnaces. Recuperative and regenerative

Gas heating, Industrial

Heat treatment

Industrial heating equipment association

Infrared rays—Industrial heating

Oil heating

Ovens

Paint—Drying

Pebble heaters

Steam heating, Industrial

Steel. Heat treatment of

Welding

HEATING, Warm air

Army tries with nature to heat Arctic air base, N. E. Pearsall and W. O. McClune. *il* diags Heating-Piping 29:77-81, cover D '57

Compare two school heating systems. E. M. Johnson. *il* Heating-Piping 29:117-19 N '57
Construction teamwork provides for many types of heating; world assembly center for Moral re-armament. *il* Heating-Piping 29:88-91 D '57

Forced warm air reheat system designed for student service building; Michigan state university. *il* plan diag Air Cond Heat & Ven 55:83-4 My '58

Hot air for houses. *il* Engineering 184:493 O 18 '57

Infrared system efficient in heating high-bay buildings. C. H. Foulds. *il* diags Foundry 86:217-18+ Ja '58

Supply outlet locations for basement heating. J. R. Wright and D. R. Bahnfleth. bibliog diags Heating-Piping 30:137-44 Ag '58

See also
Furnaces, Warm air

Tables, calculations, etc.

Nomograph gives steam condensed by air. Y. P. Varshni. Chem Eng 65:130 Je 2 '58

HEATING and air conditioning engineers, American society of. See American society of heating and air conditioning engineers

HEATING boilers. See Boilers, Heating

HEATING contracts

Do you know enough about contracts? E. W. Mounce and R. D. Stevens. Heating-Piping 30:170-1 Ja '58

Law and your profits (cont). W. H. Hillier. Heating-Piping 29:145 N; 96 D '57; 30:104 F; 142 Mr; 130 Ap; 154 My; 109+ Je; 105 JI; 126 Ag; 149-50 S; 100 O; 129 N '58

HEATING effect in aerodynamics. See Aerodynamics, Supersonic—Heating effect

HEATING equipment

Cut heating costs 68 ways; checklist shows how. W. Hammer. Heating-Piping 30:189-90 Ja '58

Equipment developments. Published in monthly numbers of Heating, piping, and air conditioning

News of equipment and materials. Published in monthly numbers of Air conditioning, heating and ventilating

Product application; new, unusual, or ingenious uses of equipment and materials. Published in monthly numbers of Air conditioning, heating and ventilating

See also
Heat pump

Control

Control conference held by the committee on research of the American society of heating and air-conditioning engineers. Cleveland, May 14. Air Cond Heat & Ven 55:95 Je '58

HEATING equipment association, Industrial. See Industrial heating equipment association

HEATING from central stations

Atomic recovery for space-heating at Hanford. S. L. Nelson. *il* diag Heating-Piping 30:161-3 Je '58

Central heating-cooling system saves costs for group of nine buildings; Civic center buildings in Los Angeles. J. Joseph. *il* diags Power Eng 61:67-9 N '57

Central heating in the USSR. I. F. Livtchak. diags Air Cond Heat & Ven 55:66-70 Je; 86-91 Ag '58

Nuclear district heating. diag Mech Eng 79:1054 N '57

Radiant heating for 1900 homes from this central plant; Frances Cabrini homes project. A. G. Ratkus. *il* diags Power Eng 62:56-8 Mr '58

Revise steam lines, improve metering to keep abreast of heating needs; Harvard university. C. M. Holden and N. Goodwin, Jr. *il* plan Heating-Piping 30:119-21 My '58
Sweden to use nuclear power for district heating; abstract. J. Grindrod. Eng J 41:85-6 My '58

See also
Electric plants (central stations)—Steam distribution

National district heating association

HEATING furnaces. See Furnaces, Heating

HEATING industry

Large building equipment sales potentials favorable for 1958. P. E. B. Andrews. Air Cond Heat & Ven 55:41-4 Ja '58

1958, will it be a good year? Heating-Piping 30:156-9+ Ja '58

See also
Heating contracts

Directories

1958 directory: heating, piping, and air conditioning equipment for industrial, commercial, institutional and public buildings; classified by products, trade names, manufacturers' addresses. Heating-Piping 30:sup 1d-159d Ja '58

Statistics

1957 unit heater sales up over 1956. Air Cond Heat & Ven 55:65 Je '58

Russia

Central heating in the USSR. I. F. Livtchak. *il* diags Air Cond Heat & Ven 55:66-70 Je; 59-62 JI; 86-91 Ag '58

HEATING pipes

See also

Heating, Warm air

Hot water heating

HEATING research

Englishmen and Europeans cooperate on heating and ventilation research; Informal study group on heating and ventilation. Air Cond Heat & Ven 55:93 Ap '58

Heat gain through windows shaded by canvas awnings. N. Ozisik and L. F. Schurum. *il* diags Heating-Piping 30:159-66 My '58

1957 annual report of committee on research. Heating-Piping 30:215-22 Ja '58

Research house to test heating-cooling systems for split levels. plans Arch Rec 124:213 Ag '58

Winter infiltration through swinging-door entrances in multi-story buildings. T. C. Min. bibliog *il* diags Heating-Piping 30:121-8 F '58

HEAVY media separation. See Sink and float process

HEAVY water. See Water—Heavy water

HECOGENIN

Hecogenin from agave sisalana by microbiological hydrolysis. C. H. Hassall and B. S. W. Smith. bibliog Chem & Ind p 1670 N 30 '57

HEDGES

Crash-barrier tests on multiflora rose hedges. R. R. Skelton. *il* plan Pub Roads 29:245-52+ D '57

HEELS, Rubber

Manufacture

Super-quality top lift compounds. R. F. Wolf. Rubber World 137:860-5 Mr '58

HEIGHT gage. See Gages

HELENALIN

Constituents of helenium species; correlation of helenalin and alloisotenulin. W. Herz and R. B. Mitra. bibliog Am Chem Soc J 80:4876-9 S 20 '58

HELENIUM

Constituents of helenium species; correlation of helenalin and alloisotenulin. W. Herz and R. B. Mitra. bibliog Am Chem Soc J 80:4876-9 S 20 '58

HELICAL gearing. See Gearing, Spiral

HELICOPTERS

Compressed air turns copter rotor. *il* Product Eng 23:33 Ja 6 '58

Controls fly trainer, almost; the simulated helicopter. *il* diags Product Eng 29:71 JI 21 '58

Flying platform shows steady advance; abstract. J. B. Nichols. *il* S A E J 66:105 Je '58

Helicopter and calculators help manage these six companies. *il* Roads & Sts 100:99-100+ D '57

Helicopter developments. *il* Elec Eng 77:772 Ag '58

Helicopter service costs tumbling. T. R. Pierpoint and R. S. Leslie. S A E J 66:58-60 Je '58

Helicopters in London. *il* Engineer 205:782 My 23 '58

New helicopter flight simulator. *il* Aircraft Eng 30:19 Ja '58

1958 helicopters. *il* Engineering 186:268 Ag 29 '58

P-181 copter turbine stresses adaptability. V. DeBiasi. *il* Aviation Age 29:66-71 Je '58

Possible flight paths for helicopters. P. F. Sutherby. Roy Aeronautical Soc J 61:81-14 D '57

Projector simulates helicopter flight. *il* diags Product Eng 25:92-3 N 11 '57

Rotorcraft; illustrations with text. Engineer 205:pl 11 Ja 10 '58

HELICOPTERS—Continued

- Rotorcycle over London; one-man folding helicopter. *Il Engineering* 185:645 My 23 '58
- Shaft-turbine helicopters. *Il Engineer* 206:187 Ag 1 '58
- Simulating helicopter flight. *Il Engineering* 184:500-1 O 18 '57
- 63-model copters may carry 100 tons. *Product Eng* 29:19 J 21 '58
- S.B.A.C. display and exhibition. Farnborough. *Il Engineer* 206:363-6 S 8 '58
- 20-passenger helicopter by 1960. G. B. Eastburn. *S A E J* 66:36 F '58
- 26,464-lb. payload lifted to 7,980 ft. by U.S.S.R. copter. M. L. Mil. *Aeronautical Eng R* 17:21 Ap '58

See also
American helicopter society
Heliports

Agricultural use

- Helicopter as an agricultural tool. E. C. S. Little. *Il Roy Aeronautical Soc J* 62:437-45 Je '58

Blades

- Higher harmonic rotor control. P. R. Payne. *Aircraft Eng* 30:222-6 Ag '58
- Performance evaluation of a shrouded rotor in flow normal to its axis; abstract. R. S. Ross and R. S. Johnson. *Aircraft Eng* 30:240 Ag '58
- Subsonic compressibility correction for propellers and rotors. S. Pivko. *J Aeronautical Sci* 25:395-7 Je '58
- Testing helicopter rotors. *Il Engineering* 186:217 Ag 15 '58

Cargo hooks

- Optional actuation methods; four-way releasing mechanism; cargo hook for helicopter service. *Il diags Machine Design* 29:101 N 28 '57

Control

- Copters get new electronic aid. *Il Electronics* 31:12+ Ag 1 '58
- Higher harmonic rotor control. P. R. Payne. *Aircraft Eng* 30:222-6 Ag '58

Design

- Pressure jet helicopter. A. Stepan. *bibliog diags Roy Aeronautical Soc J* 62:123-31 F '58

Electronic equipment

- Helicopters build new market. *Il Electronics* 31:13-14, cover Ag 8 '58

Engineering use

- Commercial copters carry two-ton loads. *Il Elec World* 150:70-1 Ag 18 '58
- Copter speeds distribution lines. M. A. Kirsch and others. *Elec World* 150:69 Ag 18 '58
- Helicopter dispenses with roads in transmission line building. O. N. Kulberg and others. *Il Elec World* 150:66-8+ Ag 18 '58
- Helicopter erects power line transmission tower. *Il Elec Eng* 77:468 My '58
- Helicopter joins erection crew. N. O. Saulter. *Il Civil Eng* 27:876 D '57
- Helicopter speeds mammoth lifting job. *Il Civil Eng* 28:461 Je '58
- Microwave station that came by airlift. *Il diag Pet Eng* 30:D34-5 Je '58
- Surveyors speed job with helicopter to move men and equipment. *Il Eng N* 160:66 Je 12 '58

Fire department use

- Airborne fire engine near completion. *Safety Maint* 115:58 Ap '58

Floats

- Emergency gear floats whirlybird. *Il Product Eng* 29:22 Mr 17 '58

Instrument boards

- Attitude display for helicopter. *Il Electronics* 31:14 Ag 29 '58

Jet propulsion

- Gas turbines for helicopters. A. W. Morley. *bibliog il diag Roy Aeronautical Soc J* 62:646-54 S '58
- Pressure jet helicopter. A. Stepan. *bibliog diags Roy Aeronautical Soc J* 62:123-31 F '58
- Pressure jet rotor craft; illustrations with text. *Engineer* 204:708 N 15 '57
- Turbine-powered copter keeps constant speed; Alouette II. I. Stambler. *Il diag Aviation Age* 30:30-1 J 1 '58

Maintenance and repair

- Progress report on helicopter maintenance and serviceability; abstract. T. R. Pierpoint and R. S. Leslie. *Aircraft Eng* 30:240 Ag '58

Military use

- Army helicopter sets three world records. *Machine Design* 30:36 F 6 '58
- Helicopters build new market. *Il Electronics* 31:13-14, cover Ag 8 '58

Painting and finishing

- Bell Helicopter's finish; something very special. F. Howard. *Il Ind Finishing* 34:38-40+ Je '58

Power

- Boost-systems for helicopter gas turbines. A. W. Morley. *Engineering* 185:159 Ja 31 '58
- Gas-turbine starters and power units; Blackburn and general aircraft limited. *Il diags Engineering* 185:167-8 My 23 '58

Rotors

See Helicopters—Blades

Specifications

- 1958 U.S. rotary wing aircraft specifications; tables. *Automotive Ind* 118:261 Mr 15 '58

Testing

- Turbine-powered helicopter rig at Bristol aircraft limited's helicopter centre. *Il Engineering* 185:61 Ja 10 '58

HELIOTROPIN. See Pipelerson**HELIPORTS**

- Fire safety for roof heliports. *Safety Maint* 114:69 O '57
- Heliport for London's south bank. *Il Engineering* 186:63 J 11 '58
- London helicopter station. *Engineer* 206:28 J 4 '58

HELITRON. See Vacuum tubes**HELIUM**

- Excess helium and argon in beryl and other minerals. P. E. Damon and J. L. Kulp. *diags Am Mineralogist* 43:433-59 bibliog (p457-9) My '58
- Fast annealing of sheet-strip coils with helium injection. J. D. Keller. *diags Iron & Steel Eng* 35:109-13; Discussion. 113-15 Ap '58
- Helium demand up 600 per cent in ten years; new process may be key to supply. *Il Chem Eng Prog* 54:106+ Je '58
- Helium draws interest; helium diffusion through glass membranes. *Chem & Eng N* 36:64-5 J 21 '58
- Helium in wind tunnel. *Aviation Age* 29:71 Je '58
- Helium policy charted; helium will be extracted from helium containing natural gas. *Chem & Eng N* 36:19 My 19 '58
- Helium separation and purification. *Franklin Inst J* 266:80-1 J 1 '58
- Helium separation and purification by diffusion. *Il Bell Lab Rec* 36:262-3 J 1 '58
- Helium separation and purification; new diffusion technique. *Il Chem & Ind* p733 Je 21 '58
- Helium tunnel tests high-speed models. flow chart *Il Gen Elec R* 61:16-17 J 1 '58
- Helium wind tunnel. G. Suits and R. H. Johnson. *Franklin Inst J* 266:78-9 J 1 '58
- Interior department proposes to increase helium supply, encourage private capital. *Gas Age* 122:34-5 O 16 '58
- Liberation of electrons by fast neutral helium atoms from a tungsten target. H. W. Berry. *bibliog J Ap Phys* 29:1213-25 Ag '58
- Mines bureau 1957 research featured by increased attention to helium supply. *Gas Age* 121:38 F 20 '58
- New diffusion technique opens way for large scale helium extraction from gas. *Il Gas Age* 121:28 Je 26 '58
- Process could hit helium jackpot; Bell labs finds helium separates from natural gas by diffusing through walls of glass tubing. *Il Chem & Eng N* 36:42 My 12 '58
- Silica strains helium from natural gas. *diag Electronics* 31:20-1 J 1 '58
- Viscosity of five gases; a re-evaluation. J. Kestin and H. E. Wang. *bibliog A S M E Trans* 80:11-17 Ja '58
- See also
Gas, Natural—Helium content

Analysis

- Leak testing of vacuum plant by helium analysis. E. Glueckauf and G. P. Kitt. *diags J Sci Instr* 35:220-3 Je '58

HELIUM—Continued**Isotopes**

Absolute assay and study of short-lived radio-nuclides by a recoil technique. F. S. Rowland and R. L. Wolfgang. *biolog ii diag R Sci Instr* 29:210-14 Mr '58

HELIUM, Liquid

Combined liquid nitrogen cryostat, furnace and liquid helium bath. M. J. Stubbs and M. W. Thompson. *diag J Sci Instr* 35:68-9 F '58

He³ cryostat for measuring specific heat. G. Seidel and P. H. Keesom. *biolog diags R Sci Instr* 29:606-11 J '58

Helium vapor-pressure scale of temperatures. F. G. Brickwedde. *biolog Phys Today* 11: 23-5 Ap '58

Joule-Thomson process in the liquefaction of helium. E. H. Brown and J. W. Dean. *biolog J Res Nat Bur Stand* 60:161-8 Mr '58

Liquefaction may help helium. *Chem & Eng N* 38:30 Mr 24 '58

Simple He II heat switch. W. E. Keller and others. *biolog diag R Sci Instr* 29:530 Je '58

Superfluidity. E. M. Lifshitz. *ii diags Sci Am* 198:30-5 Je '58

Temperature control for helium II. H. Forst and J. K. Novak. *diag R Sci Instr* 29:733-4 Ag '58

Storage

Method for prevention of plugged nitrogen vents on liquid-helium storage vessels. C. R. Smallman. *ii R Sci Instr* 28:962 N '57

HELMETS, Air pilots

Two-camera helmet. M. M. Badier. *ii Ind Phot* 7:27 Ap '58

HELMETS, Safety.

See Hats, Safety

HELMETS, Welders

Glass-polyester welding helmet is easier to make, easier to wear; receives citation in Materials in design engineering competition. *ii Materials in Design Eng* 47:156-7 Ap '58

HELMHOLTZ, Hermann Ludwig Ferdinand von

Helmholtz, A. C. Crombie. *pors Sci Am* 198: 94-6+ Mr '58

HEMANTHIDINE

Oxohaemanthidine; a bicyclic lactam possessing a bridgehead nitrogen. S. Uyee and others. *biolog Am Chem Soc J* 80:2590-1 My 20 '58

HEMATINS**Analysis**

Factors affecting the quality of prepackaged meat; determining the proportions of heme derivatives in fresh meat. H. Broumand and others. *biolog Food Tech* 12:65-77 F '58

HEMATITE

Initial sintering of alumina and hematite. R. L. Coble. *biolog ii diags Am Cer Soc J* 41:55-62 F 1 '58

Some observations on rock magnetism. L. G. Howell and others. *biolog diags Geophysics* 23:235-38 Ap '58

Updraft pelletizing of specular-hematite concentrates. D. C. Violette. *ii diag J Metals* 10:118-21 F '58; *Excerpts. Min Eng* 10:354-6 Mr '58

HEMATOPOIESIS.

See Blood

HEMICELLULOSE

Constitution of the hemicelluloses of sitka spruce (*Picea sitchensis*); composition of the hemicellulose and identification of 2-O-(4-O-methyl-D-glucopyranosiduronic acid)-D-xylose. G. G. S. Dutton and K. Hunt. *biolog Am Chem Soc J* 80:4420-2 Ag 20 '58

Direct estimation of xylose in hemicelluloses. E. Bennett. *biolog J Agri & Food Chem* 6: 618-19 Ag '58

Hemicelluloses of western red cedar; the constitution of a glucomannan. J. K. Hamilton and E. V. Partlow. *biolog Am Chem Soc J* 80:4880-5 S 20 '58

Isolation and analysis of hemicelluloses of brome grass. D. G. Routley and J. T. Sullivan. *biolog ii J Agri & Food Chem* 6:687-92 S '58

Polysaccharides of white birch (*Betula papyrifera*); the constitution of the hemicellulose. C. P. J. Glaudemans and T. E. Timell. *biolog Am Chem Soc J* 80:1209-13 Mr 5 '58

See also

Araban**HEMLOCK**

Constitution of a glucomannan associated with wood cellulose from western hemlock. J. K. Hamilton and H. W. Kirchner. *biolog Am Chem Soc J* 80:4703-9 S 5 '58

Graded acid hydrolysis studies of a xylan polyuronide associated with wood cellulose from western hemlock. J. K. Hamilton and N. S. Thompson. *biolog diags Chem Soc J* 79:6464-9 D 20 '57

HEMLOCK (herb).

See *Conium maculatum*

HEMOGLOBIN

Dielectric properties of hemoglobin. S. Takashima and R. Lumry. *biolog Am Chem Soc J* 80:4238-48 Ag 20 '58

Dielectric properties of hemoglobin; measurements with solid materials. S. Takashima. *biolog Am Chem Soc J* 80:4474-8 S 5 '58

Hemoglobin studies; a synthetic material with hemoglobin-like property. J. H. Wang. *Am Chem Soc J* 80:3168-9 Je 20 '58

Hemoglobin studies; the combination of carbon monoxide with hemoglobin and related model compounds. J. H. Wang and others. *biolog Am Chem Soc J* 80:1109-13 Mr 5 '58

How do genes act? V. M. Ingram. *ii diags Sci Am* 198:68-72+ J '58

Model solves hemoglobin riddle; abstract. J. H. Wang. *diag Chem & Eng N* 36:51 S 15 '58

N-terminal residues of human fetal hemoglobin. W. A. Schroeder and G. Matsuda. *Am Chem Soc J* 80:1521 Mr 20 '58

N-terminal sequence of the β chains of normal adult human hemoglobin. H. S. Rhine-smith and others. *biolog Am Chem Soc J* 80:3358-61 J 15 '58

Observations on the chromatographic heterogeneity of normal adult and fetal human hemoglobin; a study of the effects of crystallization and chromatography on the heterogeneity and isoleucine content. D. W. Allen and others. *biolog Am Chem Soc J* 80:1628-34 Ap 5 '58

HEMOLYSIS

Bioassay of vitamin E by the dialuric acid hemolysis method. L. Friedman and others. *biolog J Nutrition* 65:143-60 My '58

Effect of certain necrosis-preventing factors on hemolysis in vitamin E-deficient rats and chicks. C. Gitler and others. *biolog J Nutrition* 65:397-407 J 1 '58

HEMP

Some properties of native hemp, jute, and kapok celluloses. T. E. Timell. *biolog(27 ref) Textile Res J* 27:854-9 N '57

HENNEN, Ray Vernon

Memorial. D. B. Reger. *biolog por Am Assn Pet Geologists Bul* 42:2016-19 Ag '58

HEPARIN

Synthesis of heparin in mouse mast cell tumor slices. E. D. Korn. *biolog Am Chem Soc J* 80:1520-1 Mr 20 '58

HEPTANAL.

See Heptyl aldehyde

HEPTANE

Distribution of fatty acids between *n*-heptane and aqueous phosphate buffer. D. S. Goodman. *biolog Am Chem Soc J* 80:3887-92 Ag 5 '58

Separation of benzene and *n*-heptane in continuous thermal diffusion columns. T. S. Heines and others. *biolog flow diag ii diag Ind & Eng Chem* 49:191-20 N '57

Spectrometric investigations of *n*-heptane pre-flame reactions in a motored engine. K. J. Pipenberg and A. J. Pahnke. *biolog diag Ind & Eng Chem* 49:2067-72 D '57

HEPTOSES

Condensation of nitromethane with D-erythrose, D-arabinose, D-mannose and D-glycero-D-gala-heptose in aqueous alkali. J. C. Sowden and R. E. Thompson. *Am Chem Soc J* 80:2236-7 My 5 '58

Analysis

Urea phosphate reagent as a specific test for heptoses on paper chromatograms. F. L. Greene. *Anal Chem* 30:1164 Je '58

HEPTYL aldehyde

Synthesis of 2-heptenal. S. B. Radlove. *biolog Am Oil Chem Soc J* 35:236-7 My '58

HERBICIDES**Analysis**

Herbicides. W. I. Stephen. *Manuf Chem* 29: 161 Ap '58

HERCULES powder company

Corporate profile; agricultural chemistry market, a sales boon. *J Agri & Food Chem* 6:402-3 My '58

HEREDITY

See also

Genes**Genetics****HERNIA**

Lung hernia. E. Shocket and T. R. Hudson. *biolog ii Ind Med* 26:558-8 D '57

- HEROLD, Stanley** Carrollton Memorial. J. S. Hook. por Am Assn Pet Geologists. Bul 42:2019-21 Ap '58
- HERSTEIN, Karl M.** Herstein given New York AIC honor award. por Chem & Eng N 36:82 Je 23 '58
- HERTY medal**
Lucius A. Bigelow, Herty medalist. Chem & Eng N 36:90 Je 2 '58
- HERTZ, Heinrich**
H. Hertz, P. Morrison and E. Morrison. por Sci Am 197:98-100+ D '57
- HERTEROCYCLIC compounds**
Cyanocarbon chemistry; heterocyclic compounds from dicyanoketene acetals. W. J. Middleton and V. A. Engelhardt. Am Chem Soc J 80:2829-32 Je 5 '58
Cyanocarbon chemistry; heterocyclic compounds from tetracyanoethylene. W. J. Middleton and others. bibliog Am Chem Soc J 80:2822-9 Je 5 '58
General principle for the synthesis of heterocyclic and homocyclic compounds. B. F. Hrutford and J. F. Bunnett. bibliog Am Chem Soc J 80:2921-2 Ap 20 '58
Heterocycles of bivalent and quadrivalent tin. H. G. Kuivila and O. F. Beumel, jr. bibliog Am Chem Soc J 80:3250-3 Jl 5 '58
Heterocyclic compounds; reduction of 3-(3,4-methylenedioxyphenyl)-4-nitro-1-phenyl-1-butanone. M. C. Klotzel and J. L. Pinkus. bibliog Am Chem Soc J 80:2332-4 My 5 '58
Interaction of metal ions with heterocyclic amines; silver(I) complexes. W. J. Peard and R. T. Pflaum. bibliog Am Chem Soc J 80:1593-6 Ap 5 '58
Investigations in heterocycles. G. deStevens and others. bibliog Am Chem Soc J 80:5196-200 O 5 '58
Investigations in heterocycles; imidazo and imidazolino[2,1-b]thiazolin-6-ones. G. deStevens and A. Halamandaris. bibliog Am Chem Soc J 79:5710-11 N 5 '57
Investigations in heterocycles; substituted cycloalkeno(d)thiazolin-2-ones. G. deStevens and others. bibliog Am Chem Soc J 80:2201-4 My 5 '58
Lithium cleavages of some heterocycles in tetrahydrofuran. H. Gilman and J. J. Dietrich. bibliog Am Chem Soc J 80:380-3 Ja 20 '58
Naturally occurring oxygen heterocyclic; characterization of an insecticidal principle from *mamea americana* L. C. Dierassi and others. bibliog Am Chem Soc J 80:3686-91 Jl 20 '58
New synthesis for heterocycles. Chem & Eng N 36:44 Je 23 '58
Pyrolysis of aromatics and related heterocycles. J. J. Madison and R. M. Roberts. bibliog diags Ind & Eng Chem 50:237-50 F '58
Replacement of sulfur in some heterocycles by the diphenylsilylene group. H. Gilman and D. Wittenberg. Am Chem Soc J 79:6339-40 D 5 '57
Seven-membered heterocyclic systems; the synthesis of 2,3,6,7-tetrahydrooxepine. J. Meinwald and H. Nozaki. bibliog Am Chem Soc J 80:3132-5 Je 20 '58
Synthesis of perfluoro-(2,4-dimethyl-2,4-di-n-butyl-1,3-dithiaclobutane), "a fluoro-carbon-C-S-C-S heterocycle, and related reactions. M. Hauptschein and M. Braid. Am Chem Soc J 80:353-5 F 20 '58
Theoretical study of nitrogen heterocycles; molecular diagrams and carcinogenic activities of some mono- and dibenzocarbazoles. J. I. Fernández-Alonso and others. bibliog Am Chem Soc J 79:5839-44 N 20 '57
Ultrasonic cleavage of some aromatic and heterocyclic rings. D. L. Currell and L. Zechmeister. bibliog Am Chem Soc J 80:205-8 Ja 5 '58
- Spectra**
Abnormal ultraviolet absorption in some heterocyclic systems. V. Georgian. bibliog Chem & Ind p 1480-1 N 9 '57
- HEXACHLOROCYCLOHEXANE**
Gamma isomer
See Lindane
- HEXACHLOROCYCLOPENTADIENE**
Chemistry of hexachlorocyclopentadiene. C. W. Roberts. bibliog (94 ref) Chem & Ind p 110-15 F 1 '58
- HEXACHLORO- μ -trichloroditungstate(III) ion.**
See Tungsten chlorides
- HEXADECANOL**
Cetyl alcohol for evaporation control. W. A. Heath. il Water & Sewage Works 105:361-2 S '58
Chemical coating to halt evaporation. V. K. La Mer. Elec Eng 77:772-3 Ag '58
Use of hexadecanol in reservoir evaporation reduction. B. E. Berger. bibliog Am Water Works Assn J 50:855-8 Jl '58
- HEXAFLUOROBENZENE**
Hexafluorobenzene from the pyrolysis of trifluoromethane. M. Hellmann and others. bibliog Am Chem Soc J 79:5654-6 N 5 '57
- HEXAFLUOROPENTANEDIOL**
Ester-ethers derived from 2,2,3,3,4,4-hexafluoropentanediol. E. T. McBee and others. bibliog Am Chem Soc J 80:1721-3 Ap 5 '58
- HEXAMETHYLENE tetramine**
Manufacture
Take a look at hexamethylene tetramine. P. W. Sherwood. diag Pet Refiner 37:351-3 S '58
- HEXANE**
Chromatography of a mixture of hexane, chloroform, and benzene on silica gel. J. W. Blair and E. S. Amis. Anal Chem 30:329-32 Mr '58
Resolution of isomeric hexanes by gas-liquid chromatography. A. Zlatkis. Anal Chem 30:332-3 Mr '58
Solubilities and volume changes attending mixing for the system; perfluoro-*n*-hexane-*n*-hexane. R. G. Bedford and R. D. Dunlap. bibliog Am Chem Soc J 80:282-5 Ja 20 '58
- HEXATRIENE**
Vibrational spectra and geometrical configuration of 1,3,5-hexatriene. E. R. Lippincott and others. bibliog Am Chem Soc J 80:2926-30 Je 20 '58
- HEXENE**
Analysis
Gas chromatography of olefins; determination of pentenes and hexenes in gasoline. H. S. Knight. bibliog Anal Chem 30:9-15 Ja '58
- HEXOSAMINES**
Hexosamine moiety of N-acetylneuraminic acid (sialic acid). S. Roseman and D. G. Comb. Am Chem Soc J 80:3166-7 Je 20 '58
Kanamycin; the hexosamine units. M. J. Cron and others. Am Chem Soc J 80:2342 My 5 '58
- HEXOXES**
Amino-hexose-reductones as antioxidants. C. D. Evans and others. bibliog Am Oil Chem Soc J 35:84-8 F '58
Development of color in fats stabilized with amino-hexose-reductones. P. M. Gooney and others. bibliog diags Am Oil Chem Soc J 35:167-71 Ap '58
Hexose transport in ascites tumor cells. M. W. Nirenberg and J. F. Hogg. bibliog Am Chem Soc J 80:4407-12 Ag 20 '58
- HEXULOSE**
Crystalline 4-O-benzoyl-1,2,5,6-di-O-isopropylidene-D-arabo-3-hexulose; a new route to talitol derivatives. J. M. Sugihara and G. U. Yuen. bibliog Am Chem Soc J 79:5780-2 N 5 '57
- HIBBARD, Walter R. Jr**
President Metallurgical society of AIME. por J Metals 10:296 Ap '58
- HIDES and skins**
Protein by-products of the meat packing industry. H. E. Robinson and others. il Ind & Eng Chem 50:sup42A-4A Ap '58
See also
Tanning
- HI-FI systems.** See High fidelity sound systems
- HIGH buildings**
Air leakage due to stack effect in multi-story buildings. G. L. Smith. diags Air Cond Heat & Ven 55:73-5 Jl '58
Aluminum curtain-wall clothes Manhattan building. il Welding Eng 43:52-3 Je '58
Chicago skyline rises on rebar. il Iron Age 182:25 Jl 17 '58
Earthquake-proof Mexico City skyscraper honored. il Civil Eng 28:460 Je '58
Earthquake resistant construction in Mexico city. J. H. Thornley and P. Albin, jr. il diags Civil Eng 27:801-5 N '57
Folded-plate skyscraper 90 stories high. il diags Eng N 160:50 Je 5 '58
Foundation design and methods cut sky-scraper cost. R. C. Johnston and N. W. Kozlakin. il Eng N 161:34-6+ Jl 24 '58
Grand Central site for largest office building. il Arch Forum 108:13 Je '58

HIGH buildings—Continued

- Habana Hilton, *il plans diag Arch Rec* 124: 161-4 Ag '58
- Helical design offers expansible apartments. *il Eng N* 160:51 Je 5 '58
- Inland Steel building, Chicago, Ill. *il plans diag Arch Rec* 123:169-78 Ap '58
- Model helps on a tough foundation job; Crown-Zellerbach building in San Francisco. *il Eng N* 160:55-6+ Mr 13 '58
- Modern tower in old Milan. G. M. Kallman. *il plans diag Arch Forum* 108:108-11 F '58
- Office towers around the Nation; illustrations with text. *Arch Rec* 123:12 Je '58
- Prestressed beams make skyscraper debut; Norton building in Seattle. *il Eng N* 160:25 Ap 17 '58
- Reinforced concrete core main structural element in 22-story office tower. O. Sait. *il plans diag Am Concrete Inst J* 30:461-8 O '58
- Scaleless big buildings; abstract. H. Churchill. *Arch Forum* 109:144 J1 '58
- Seagram building. A. Drexler. *il plans diag Arch Rec* 124:139-47 J1 '58
- Seagram's bet on elegance. *plan Arch Forum* 109:76-7 J1 '58
- Seagram's bronze tower. *il plan Arch Forum* 109:66-71 J1 '58
- Seagram's custom look; 13 new ideas for better skyscraper design. *il diag Arch Forum* 109:72-5 J1 '58
- Shock-absorbing bus-duct system provides power-distribution framework for earthquake-resistant skyscraper in San Francisco. A. Lera. *il plans diag Elec Constr & Maint* 57:54-9 Ag '58
- Skyscraper plans; Time-Life building. *il Eng N* 159:26 N 23 '57
- Skyscraper sprouts through railroad terminal tracks; Union Carbide's 60 story headquarters. D. Byrne. *il diag Eng N* 161: 34-6 J1 10 '58
- Space frames carry the floors of a 616 ft tower. *il Eng N* 160:50-1 Je 5 '58
- Two new office buildings; a tall tower for Time, Inc. *il plans diag Arch Forum* 108: 94-9 Ja '58
- Welded trusses to support newest New York city skyscraper; new Time & Life building. F. T. Tancula. *il diag Welding Eng* 43:34-6 Je '58

HIGH fidelity sound systems

- Audio filter has variable bandpass. C. F. Rothe. *il diag Radio-Electronics* 29:48-9 My '58
- Audioclinic? J. Giovannelli. Published in monthly numbers of Audio
- Custom preamp for your hi-fi system. E. J. Porto. *il diag Radio-Electronics* 29:32-4 J1 '58
- Designing a low-distortion 12-watt amplifier. R. M. Voss. *il diag Radio-Electronics* 29: 33-4 Ag '58
- 88-50, a low-distortion 50-watt amplifier. W. I. Heath and G. R. Woodville. *il diag Audio* 42:19-4 Ja '58
- Equipment review. Published in monthly numbers of Audio
- Final touchup for your amplifier. H. Reed. *diag Radio-Electronics* 29:54-6 My '58
- Five new audio circuits. R. F. Scott. *il diag Radio-Electronics* 29:32-6 Ap '58
- 400 loudspeakers. H. Gernsback. *il Radio-Electronics* 29:46-7 O '58
- H.H. Scott model 135 Stereo-Daptor. *il Audio* 42:39-40 My '58
- Hearing, the determining factor for high-fidelity transmission. H. Fletcher. *bibliog Audio* 42:24+ J1; 45-6+ Ag; 34+ S '58
- Hi-fi amplifier abroad. A. V. J. Martin. *il diag Radio-Electronics* 29:32-6 S '58
- High-fidelity amplifier design and performance. M. Horowitz. *il diag Radio-Electronics* 29:40-2 Ap '58
- Hi-fi console sale rise. *Electronics* 31:27 Ja 10 '58
- Hi-fi in the home. *il Audio* 42:24-7, cover Mr '58
- Hi-fi to pass \$250 million. *il Electronics Bsns* ed 30:53 N 10 '57
- High-power audio amplifiers. M. Horowitz. *diag Audio* 42:34+ Mr '58
- High-power performance with a low-power amplifier. C. Baldwin. *il diag Radio-Electronics* 29:43-6 F '58
- Is tape the ideal medium for audio? R. H. Snyder. *bibliog Audio Eng Soc J* 6:99-101 Ap '58
- Know your levels. N. H. Crowhurst. *diag Radio-Electronics* 29:39-42 Je '58
- New developments in audio. H. Burstein. *il diag Radio-Electronics* 29:36-8 Mr '58
- New products. Published in monthly numbers of Audio

- Preamp matches input impedance. *diag Electronics* 31:81 Mr 28 '58
- Printed-circuit switches simplify kit construction; hi-fi preamplifier-amplifier. *il diag Radio-Electronics* 29:53-6, cover F '58
- Production and sales; hi-fi retail sales head to a billion dollar level. *Electronics* 31:16 Je 27 '58
- Ready for stereo? D. C. Hoefer. *diag Radio-Electronics* 29:36-7 O; 32+ N; 50-1 D '58
- Shares and prices; hi-fi phono and equipment manufacturers. *Electronics* 31:5 Je 27 '58
- Speaker system for the stereo age. A. S. Hegeman and N. Eisenberg. *il diag Radio-Electronics* 29:42-4, cover S '58
- Special amplifier circuits. H. Ravenswood. *diag Radio-Electronics* 29:40-2 Ag '58
- Stereo boosts hi-fi market. *Electronics* 31:17 Je 27 '58
- Transistor fifth. I. Queen. *il diag Radio-Electronics* 29:45-6 My '58
- Trends in audio. H. Burstein. *Audio* 42:28+ Ap '58

See also

- Phonograph—High fidelity systems
Radio receiving apparatus—High fidelity systems

Control

- Expand-to-stereo unit. *il diag Radio-Electronics* 29:36 J1 '58

Tuning

- Complete tone compensator. R. M. Voss. *diag Audio* 42:18-19-4 Je '58

- HIGH frequency heating. See Electric heating, Industrial—High frequency heating

- HIGH pressure. See Pressure

- HIGH pressure plants. See Steam plants—High pressure

HIGH school students

- Are you sure you can go to college? *Gen Elec* R 61:42-3 Mr '58
- High school physics enrollments in the Chesapeake area. B. B. Watson. *Am J Phys* 26: 327-9 My '58
- Only one of eight university candidates has four years of math. *Product Eng* 29:39 Ap 28 '58
- Science takes no vacation; New England spawns host of summer precollege science programs. *il Chem & Eng N* 36:88+, cover Ag 11 '58
- This is you! findings of the Purdue opinion panel show that teenagers see scientists in this light. *Power Ind* 74:11+ Ap '58
- What about the age of space and me? *Gen Elec* R 61:41-2 S '58

HIGH schools

- Better not at all, than poorly; high school science courses leave something to be desired. *Chem & Eng N* 36:97 J1 21 '58
- Improving secondary-school teaching in science and mathematics. D. B. Anderson. *Civil Eng* 28:254-5 Ap '58
- Physics for secondary schools. H. P. Knauss. *bibliog Am J Phys* 26:378-80 S '58
- Significant science for secondary schools; editorial. M. M. Kiley. *Instruments & Automation* 31:1031 Je '58
- Upgrading high school science. *il Chem & Eng N* 36:74+ Ap 14 '58

Shop courses

- Instrument engineers of tomorrow train in Pittsburgh high school. *il I S A J* 5:56-7 Ap '58

HIGH voltages

- Analytical studies on lightning phenomena involving towers, insulator strings, and transmission lines. L. B. Johnson and A. J. Schultz. *bibliog il diag Power Apparatus & Systems* p 1310-14 F '58
- CIGRE reports European power systems will be expanded at 380 kv. C. R. Earle. *il maps diag Power Eng* 62:sur 1-12 Ag '58
- Construction techniques modernized for ehv. *il Elec World* 150:70-2 Ag 18 '58
- Corona-level scanning of high-voltage power cables; abstract. F. H. Gooding and H. B. Slade. *Elec Eng* 77:236 Mr '58
- Determination of optimum transmission voltage. R. D. Camburn and R. L. Stafford. *diag Elec Eng* 77:700-8 Ag '58
- Develops test for hot sticks for ehv work. D. C. Hubbard. *il Elec World* 148:105+ N 25 '57
- Distribution; is higher voltage safe? R. H. Kaufman and others. *il diag Elec World* 149:71-4 Mr 3 '58
- Efforts for ehv breakthrough pick up momentum. *Elec World* 150:42 S 15 '58

HIGH VOLTAGES—Continued

- Electron multiplication processes in high-voltage electrical discharge in vacuum. A. I. Bennett, *diag J Ap Phys* 28:1251-3 N '57
- Expandable rectifier for high voltage, *il Electronics* 31:188-J Mr 14 '58
- Experience with breaker restriking and arrester destruction on the Pennsylvania power & light co. 220-kv system. M. C. Galiyano and others, *il diags Elec Eng* 77:308-11 Ap '58; Same, *Power Apparatus & Systems* p224-7; Discussion, 227-8 Je '58
- Extra high voltage transmission on three continents; special report, *il maps diags Elec World* 149:55-70 My 26 '58
- \$5 million ehv research project charted, *il Elec World* 149:54-5 Je 9 '58
- 400 kv transmission systems in the Soviet Union. S. S. Rokotyan and B. P. Lebedev, *il map plan diags Inst E E Proc* 104 pt A:471-34 D '57
- High-altitude ehv tests begin at Leadville, Colo. L. M. Robertson, *il diag Elec World* 149:51-5 Ja 20 '58
- High voltage in a shopping center; Garden State plaza, Paramus, N.J. B. F. Thomas, jr, *il plans diags Elec Constr & Maint* 57:80-6 S '58
- High-voltage laboratory for cable testing; Enfield cables, ltd. *il Engineer* 206:99-100 Ji 18 '58
- High-voltage rheostat for electrostatic accelerator focusing. B. D. Kern and others, *il diag R Sci Instr* 28:969 N '57
- High voltages for cable research, *il Engineering* 186:348-9 S 12 '58
- Measurement of high voltages with indicating or recording instruments. G. W. Bowlder, *bibliog diags Inst E E Proc* 105 pt A:176-84 Ap '58
- Modern high-voltage distribution; Automatic electric co. J. H. McVey and E. G. Ross, *il diags Elec Constr & Maint* 57:90-3 Ji '58
- Multiple beam oscilloscope for the study of high voltage transient discharges. K. G. Beauchamp, *il diags Electronic Eng* 30:358-65 Je '58
- Project ehv. P. A. Abetti, *il Elec Eng* 77:669-74 Ar '58
- Radio interference from high-voltage transmission lines as influenced by the line design. G. E. Adams, *Power Apparatus & Systems* p 54-62; Discussion, 62-3 Ap '58
- Reactions of the high voltage discharge products of water vapor. P. J. Friel and K. A. Krieger, *bibliog diags Am Chem Soc J* 80:4210-15 Ar 30 '58
- Remote stations can be economically operated. H. C. Simmons, jr, and R. D. Dartnall, *Elec World* 149:52-4 Je 16 '58
- Silicon good for high-voltage rectifiers. R. E. Willison, *il Elec World* 148:78 N 4 '57
- Suspension insulator flashover under high impulse voltages. B. E. Kingsbury, *bibliog diags Power Apparatus & Systems* p 1429-33 F '58
- Vacuum interrupter switches score in high-voltage power applications. H. H. Schwager, *il Power Eng* 62:59-60 My '58

HIGHER education. See Education, Higher

HIGHLAND PARK, Michigan

Water supply

Michigan's largest high-rate water treatment plant. V. L. Hinebrook and J. L. Scheid, *flow diag il Pub Works* 89:128-30 O '58

HIGHWAY accidents. See Automobile accidents; Road accidents

HIGHWAY accounting

Centralized machine accounting furnishes important operating controls; Virginia department of highways. R. E. Price, *il Pub Works* 89:132-3 S '58

Highway equipment cost accounting can be easy. C. Henderson, *il Pub Works* 89:121 O '58

HIGHWAY administration

Administrative role of the federal government in the interstate system. F. C. Turner, *Am Soc C E Proc* 84 [HW 1 no 1527]:1-6 Ja '58

How road-users appraise roads. M. C. Sielski, *Traffic Q* 12:102-12 Ja '58

Planning our urban expressways. E. Maier, *pl plans Traffic Q* 12:132-47 Ja '58

Role of the state in the highway program. R. M. Whitton, *Am Soc C E Proc* 84 [HW 2 no 1622]:1-5 My '58

State estimates ok'd for interstate. *Eng N* 161:24-5 Ar 21 '58

Transportation an essential part of any comprehensive planning. R. B. Greeley, *Traffic Q* 12:5-16 Ja '58

See also

American association of state highway officials

Roads—Finance

Roads—Maintenance and repair

Roads, County

Western association of state highway officials

HIGHWAY contractors. See Road contractors

HIGHWAY departments

Control books help the boss keep tab, *il Roads & Sts* 101:70-1 Ap '58

How to run a highway department. *Eng N* 161:27 S 4 '58

Operating a county highway department. W. G. Harrington, *il Pub Works* 88:97-9 D '57

See also

Radio telephone—Highway department use

Accounting

See Highway accounting

Equipment

Big savings; mechanizing paperwork; xerographic photocopying; New York state Department of public works, *il Eng N* 161:99-100 S 11 '58

Most useful equipment for county highway departments, *il Pub Works* 89:125-6+ My '58

Rubber-tired ripper slices macadam like butter, *il Roads & Sts* 100:94 N '57

See also

Street cleaning apparatus

Reports

Your highways in Wisconsin; example of how a highway department's annual report ought to look, *il Roads & Sts* 101:105 Ap '58

HIGHWAY engineering

Application of interstate highway design standards. J. C. Young, *Am Soc C E Proc* 84 [HW 2 no 1624]:1-7 My '58

Civil engineers put electrons to work; conference on increasing highway engineering productivity, 4th, Boston, Sept. 17-19. *Civil Eng* 27:829-30 N '57

Contractor and traffic took turns on freeway job in the High Sierras, *il diag Roads & Sts* 101:47-52 My '58

Correlation of geometric design and directional signing. G. M. Webb, *bibliog il plans diags Am Soc C E Proc* 84 [HW 2 no 1627]:1-31 My '58; Discussion, S. G. Petersen, 31 [HW 3 no 1323]:9 O '58

Engineering variety in Baltimore tunnel approach. W. F. Neale and W. F. Halstead, *il plans Civil Eng* 27:777-80 N '57

Highway consultants; their work load is growing, *Roads & Sts* 101:164-5+ Ap '58

Integrated planning of highways and city streets. G. Kelcey and G. Leland, *il maps plans Am Soc C E Proc* 84 [HW 2 no 1628]:1-31 My '58

Interstate projects, *il diag Roads & Sts* 100:56-61 N '57

Michigan state highway department saves time and money by getting the most out of photogrammetry. C. A. Weber and J. E. Meyer, *il Civil Eng* 28:104-7 F '58

"Oscar" can cut road costs by millions; AUSCOR (automatic scanning correlator), *il Eng N* 160:23-4 Je 19 '58

Photogrammetric developments for highway engineering. R. H. Shels, *Am Soc C E Proc* 84 [SU 2 no 17001]:1-4 Ji '58

Quality control for large highway projects. E. A. Abdun-Nur, *Am Soc C E Proc* 84 [HW 2 no 1626]:1-10 My '58; Discussion, 84 [HW 3 no 1829]:7-8 O '58

Soil tests and highway location design and construction. T. D. Lewis, *il Pub Works* 89:115-16 My '58

See also

Bridges

Calculating machines—Highway engineering

Expressways

Roads

Roads—Curves

Roads—Location

Roads—Surveying

Traffic engineering

Bibliography

Highway and airport digest. F. Force, Published in monthly numbers of Public works

Safety measures

Flagging practice on California scraper job. L. A. Weymouth, *il (cover) Roads & Sts* 101:49-50 Je '58

HIGHWAY engineering—Continued

Tables, calculations, etc.

Automatic line plotters are unveiled. *Il Eng N* 159:69 N 21 '57

Chart gives lengths of sight over highway crests. *H. H. Corson, Civil Eng* 28:351 *My* '58

Direct solution for triple spiraled compound curve. *A. C. Scheer, diags Am Soc C E* Proc 83 [HW 4 no 1372]:1-6 S '57; Discussion. *T. F. Hickerson, HW* [HW 1 no 1526]:7-8 Ja '58; Reply. *HW* [3 no 1829] O '58

HIGHWAY engineers

Cooperation among engineers builds New York thruway. *C. H. Lang, Civil Eng* 27:854-5 D '57

HIGHWAY law

Responsibility for utility relocation during improvements and expansions of highway systems. *R. P. Heywood, Water & Sewage Works* 105:371-3 S '58

HIGHWAY lighting. See Roads—Lighting**HIGHWAY officials, American association of state. See American association of state highway officials****HIGHWAY officials, Western association of state. See Western association of state highway officials****HIGHWAY research**

Performance of dowelled joints under repetitive loading. *L. W. Teller and H. D. Cashell, bibliog Il diags Pub Roads* 30:1-24, cover Ap '58

Road research, 1957: Road research board and Director of road research reports. *Engineer* 206:186 *Aug* 1 '58

See also

Roads, Experimental

HIGHWAY research board

Annual meeting, 47th, Washington. *Eng N* 160:27 *Ja* 16 '58

HIGHWAY transportation

Transportation an essential part of any comprehensive planning. *R. E. Greeley, Traffic Q* 12:5-16 *Ja* '58

See also

Motor trucks in freight service
Road traffic
Trailers

HILLSIDE architecture

Compact delight. *Il plans diags Arch Rec* 123:140-5 *Mid-May* '58

Easygoing school in Texas. *Il plan Arch Forum* 108:92-3 *F* '58

Eight rooms with a view: home of Daniel Schwartzman. *Il plans Arch Rec* 123:170-2 *F* '58

Three-part structure for a hillside house. *Il plans Arch Rec* 124:205-8 *S* '58

HILSCH tube. See Vortex tube**HIMES, Glenn R.**

Himes wins Rubber Age award. *por Rubber Age* 83:855 *Aug* '58

HINGES

Hinges for plastic containers; drawings with text. *W. B. Brown, Product Eng* 28:G 12-13 *Mid-O* '57

Moving hinge pivot for power-operated door or panel members. *diags Machine Design* 30:112 *My* 15 '58

Manufacture

Jointed parts are diecast. *Il Steel* 143:99 *Aug* 18 '58

HIPPURIC acid

α -Chymotrypsin-catalyzed hydrolysis of methyl hippurate in aqueous solutions at 25° and pH 7.9. Its inhibition by indole and its dependence upon added non-aqueous solvents. *T. H. Applewhite and others, bibliog Am Chem Soc J* 80:1457-64 *Mr* 20 '58

Precise potentiometric method for measuring reaction rates; application to the γ -chymotrypsin-catalyzed hydrolysis of methyl hippurate. *J. H. Lang and others, bibliog Am Chem Soc J* 80:4923-8 *S* 20 '58

HIRING. See Employment systems**HISTIDINE**

Carbenozoxo derivatives of histidine, imidazole and benzimidazole. *A. Patchornik and others, bibliog Am Chem Soc J* 79:6416-20 D 20 '57

Polarography of histidine complexes of cobalt(II) and cobalt(III). *B. Jaselskis, bibliog Am Chem Soc J* 80:1283-5 *Mr* 20 '58

Some metal complexes of glycine peptides, histidine and related substances. *N. C. Li and others, bibliog Am Chem Soc J* 79:5859-63 *N* 20 '57

Synthesis of DL-2-mercaptoprohistidine- α -C¹⁴ and DL-ergothioneine- α -C¹⁴. *D. E. Sunko and G. Wolf, bibliog Am Chem Soc J* 80:4405-6 *Aug* 20 '58

Analysis

Ion exchange paper in rapid separation and identification of basic amino acids: arginine, histidine, and lysine from casein hydrolyzates. *M. M. Tuckerman, bibliog Anal Chem* 30:231-3 *F* '58

Spectra

Raman spectra of amino acids and related compounds; Raman and infrared spectra of imidazole, 4-methylimidazole and lysine. *D. Garfinkel and J. T. Eidsall, bibliog Am Chem Soc J* 80:3807-12 *Aug* 5 '58

HISTORIC houses

A.I.A. and preservation. *Arch Rec* 122:16 D '57

See also

National trust for historic preservation

HISTORY

See also subdivision History under special

subjects, e.g.
Engineering
Radio engineering
Standards
Steam engines
Television

HOBBING

Gears hard-hobbed to bypass heat-treat distortion. *M. E. Samuelson, Il Am Mach* 102:142-4 *Ap* 21 '58

HOBBING machines

Churchill hobbing machine. *Il Engineer* 23:372 D 3 '57

Hobbing bigger gears faster; Churchill gear machines, ltd. *Il Engineering* 185:5 *Ja* 3 '58

Hobbing machine factory; Gear machines, ltd. *Il Mech Eng* 80:74-5 *Ja* '58

Hobbing turbine pinions. *Il Engineering* 186:333 *S* 12 '58

See also

Gear cutting machines

HOBS

Cut costs with hob ground end mills. *H. L. Lewis, Il Mill & Factory* 63:101 *Aug* '58

How cold hobbing shapes intricate parts; Raytheon mfg. co. *A. Phillips, Il Iron Age* 181:91-3 *Ap* 3 '58

HOCKEY rinks. See Skating rinks**HODNETTE, John K.**

J. K. Hodnette 1957 Edison medalist; presentation by E. B. Robertson and W. H. Sammis; response by J. K. Hodnette. *Elec Eng* 77:214-17 *Mr* '58

J. K. Hodnette to receive the Edison medal for 1957. *por Elec Eng* 77:86 *Ja* '58

HOFFMANN, Henry

Food and drug officials award. *por Chem & Eng N* 36:108 O 27 '58

HOFFMANN, Jean

Professor J. Hoffmann builds and rebuilds. *por Control Eng* 5:21 *My* '58

HOFFNER rayon company

Family business in textiles. *J. Campbell, Mod Textiles Mag* 38:33-4+ *N* '57

HOFFMANN reaction

Mechanism of the Hofmann elimination reaction; deuterium exchange and isotope rate effects. *V. J. Shiner, Jr. and M. L. Smith, bibliog Am Chem Soc J* 80:4095-8 *Aug* 5 '58

HOGENSON, William A.

P.E.I. founders honored at 26th annual meeting. *Am Cer Soc Bul* 37:106 *F* 15 '58

HOISTING

Boats handle easily with all-welded lift. *Il Welding Eng* 43:56 *Aug* '58

Nylon hands help nurses to lift. *Franklin Inst* J 266:108 *Aug* '58

Turn that runner this way; photographic sequence illustrates method of slinging. *L. McWilliams, Power Eng* 62:79 *Aug* '58

See also

Lifting magnets
Slings and hitches

Safety measures

Nine steps to chain-block safety. *diags Power* 102:115 *My* '58

HOISTING machinery

Air hoists permit precision control; General steel castings corp. *Il Comp Air Mag* 62:342-3 *N* '57

Bow-legged beast moves huge pipe; United concrete pipe corp. *Il Concrete* 66:35 *S* '58

Cutting foundry costs with air tools and hoists. *A. C. Ringer, Il Foundry* 86:317-18+ *My* '58

HOISTING machinery—Continued

Industrial know-how handbook; portable lifts. *il* diag Mill & Factory 62:MH 18 My '58
 Industrial know-how handbook; power hoists. *il* Mill & Factory 62:MH 11 My '58
 1958 equipment buyer's guide; hoists and overhead equipment. *il* Mod Materials Handling 13:243-72 My '58
 Powdered metals improve hoists. *il* Steel 143: 88-9 S 29 '58
 Spooling methods. *il* diags Oil & Gas J 56: 155 Mr 3; 139 Mr 17; 173 Ap 7; 117 Ap 28; 130 My 3; 138 Mr 19; 135 Je 2; 133 Ji 28; 103 Ag 4; 107 Ag 25 '58
 Transfer of materials between material-handling systems; vertical transfer. A. T. Gaudreau. *il* Plant 17:45-6 My '58
See also

Conveying machinery
 Cranes, derricks, etc.

Maintenance and repair

Maintenance of hoists; hand, air, electric. E. J. Clement. *il* diag Mill & Factory 61:91-8 N '57

HOISTING machinery, Electric

Automatic charging control for no. three Fairless blast furnace. S. P. Curtis and others. *il* plan and diag Iron & Steel Eng 35: 73-84; Discussion. 84 Ji '58
 Great Orme railway; illustrations with text. Engineer 206:220 Ag 8 '58
 Works like an elephant; off-the-road fork lift truck designed by R. G. Le Tourneau, Inc. for handling redwood logs at a California sawmill. *il* diag Product Eng 29:65 Mr 3 '58
See also

Mine hoisting, Electric

HOLDING devices

Cast alloy fixture has long life in thermal shock service. E. A. Schoefer. *il* Metal Prog 73:106-7 J '58
 Electrode cutter and modified arc stand for spectrochemical analysis. J. McAndrew. *il* J Sci Instr 35:183-4 My '58
 Electrode holder for the porous cup technique of spectrographic analysis. G. W. J. Kingsbury and A. Pursey. diags J Sci Instr 35:350-1 S '58
 Fixture design solves heat treat problem. Tool Eng 40:102 Je '58
 Fixture resists high heat without warping. *il* Iron Age 181:109 Mr 13 '58
 Inserts up die holder life, eliminate thread failures. *il* Steel 141:116 D 2 '57
 Liquid-target holder for use with separated isotopes. B. G. Goldring and R. P. Scharenberg. diags R Sci Instr 29:532 Je '58
 Magnetic welding fixture. J. E. Martyak. diags Tool Eng 41:47 Ji '58
 Motorized setup simplifies fluxing of flanged parts. *il* Welding J 37:309 Ag '58
 Multiple sample holder for electron irradiation. A. MacLachlan. *il* diag R Sci Instr 29:790-1 S '58
 Sample holder for thin-sheet-insulation dielectric measurements up to 600 C. M. C. Halleck. bibliog *il* diags Power Apparatus & Systems 3:43-8 Je '58
 Self-aligning block holds compound-angle parts. S. S. Milardo. diags Am Mach 101:158 N 4 '57
 Simple specimen holder and apparatus for measurement of conductivity and Hall voltage over a temperature range. A. A. Brooker and others. diags J Sci Instr 34:512-13 D '57
 12 ways to retain electron tubes. F. W. Wood. *il* diags Product Eng 29:32-3 Ap 14 '58
See also
 Collets
 Vises

HOLDING devices (machine work)

Balanced shaving toolholder. A. M. Johnson. diags Tool Eng 40:80 My '58
 Key to disposable cutters; how holders should be designed. H. York. diag Steel 142:136-4 F 17 '58
 Light production turning with multiple toolholder. N. Fried. diags Am Mach 102:126 F 10 '58
 1958 production preview; tools and accessories. *il* diag Am Mach 102:153-9 Ja 27 '58
See also
 Arbors and mandrels
 Chucks
 Clamps
 Machine tools—Fixtures

HOLLAND, Michigan**Water supply**

Replacing dwindling well supply with water from Lake Michigan. R. A. Taylor. *il* plan Water Works Eng 111:218-19+ Mr '58

HOLLYWOOD, Florida**Sanitary affairs**

New incinerator designed to reduce fly ash emission. J. W. Watson. *il* plan Pub Works 89:97-8 Ap '58

Water supply

Hollywood automates its water softening system; use of sea-water intrusion wells for regeneration of zeolite filters. W. W. Gillespie and A. J. Birchall. diags Water Works Eng 111:566-8, cover Je '58

HOLMQUISTITE

Holmquistite as a rhombic amphibole. T. Vogt and others. bibliog Am Mineralogist 43:381-2 S '58

HOLOCELLULOSE

Action of acid chlorite on certain nonwoody tissues. E. Bennett. Tappl 40:384-5 D '57

HOME builders, National association of. See

National association of home builders

HOME furnishing. *See* Household products industries

HOMES, Institutional

See also

Childrens homes

Nursing homes

HOMES, Old age. *See* Old age homes

HOMES for the aged. *See* Old age homes

HOMOGENIZATION

Major, minor and micro inhomogeneity in glass; abstract. L. Penberthy. Glass Ind 38: 686-7 D '57

HOMOGENIZERS

Mechanical treatment of emulsified products. G. Kempson-Jones. *il* Am Perfumer & Aromatics 71:88-92 Je '58

Ultrasonic agitator whips it up. diag Chem Eng 65:34+ Mr 10 '58

HOMOPOLAR generators. *See* Electric generators, Direct current

HOMOSERINE. *See* Aminohydroxybutyric acid

HOMOSTEROIDS

D-homo rearrangement of cortical steroids; interrelationship of D-homo derivatives in the 11-oxygenated pregnane series. N. L. Wender and D. Taub. Am Chem Soc J 80:3402-5 Ji 5 '58

D-homosteroids. R. O. Clinton and others. bibliog Am Chem Soc J 80:3389-402 Ji 5 '58

D-homosteroids; derivatives of D-homomethylcholan-3 α -ol-11,17 α -dione. R. O. Clinton and others. bibliog Am Chem Soc J 79:6475-80 D '57

HOMOVITEXIN

Nature of homovitexin. W. B. Whalley. bibliog Chem & Ind p361-2 Mr 22 '58

HONEY

Pasteurizes honey continuously. G. F. Townsend. *il* Foods Eng 30:97 Ja '58

HONEYCOMB construction. *See* Laminated construction

HONG KONG

See also

Airports—Hong Kong

Physical geography—Hong Kong

HONING

Honed bore size controlled by liquid pressure. *il* diag Tool Eng 39:94 N '57

Honing 10,000 sq. in. to 32 mu-in.; McKiernan-Terry corp. W. M. Stocker, jr. *il* Am Mach 102:102-3 Ja 13 '58

Let's look at honing, your latest maintenance tool. S. Elonka. diags Power 102: 13-19 Ag '58

Liquid honing speeds precision finishing; titanium jet engine blades. T. M. Rohan. *il* Iron Age 181:108-9 F 6 '58

HONING machines

Honing machine displays versatility. *il* Mach 64:144-5 F '58

1958 production preview; grinding, honing, lapping. *il* diag Am Mach 102:133-41 Ja 27 '58

Pump meters small flow on a honing machine; Barnes drill co. Ft. Reynolds, Jr. *il* diags Ap Hydraulics 11:68-9 Ji '58

Tail hone prepares liner surfaces for quick break-in. *il* Diesel Power 35:47 D '57

Vertical honing; Delapena honing machine. *il* Engineering 185:36 Ja 10 '58

Work tilts against tool. *il* Product Eng 29:65 Ap 14 '58

HONNELL, P. M.

AIEE-IRE branch honors Dr Honnell. *por* Elec Eng 77:435 My '58

HONOLULU

See also

Water, Underground—Honolulu

HONOLULU—Continued**Water supply**

Honolulu water supply. E. J. Morgan. *Il map diags Am Water Works Assn J* 49:1403-13 N '57

HOODS, Automobile. See Automobiles—Hoods

HOOKEAN solid. See Adhesives

HOOKE electrochemical company
Corporate profile; recent mergers broaden agricultural interests. *J Agri & Food Chem* 6:630-1 Ag '58

HOOKES coupling. See Joints, Universal

HOOKS, Crane. See Crane hooks

HOOVER, George W.

Sketch. *por Control Eng* 5:17+ Ap '58

HOOVER commission. See United States—Executive departments

HOPPER, T. H.

Louisiana AIC scroll to T. H. Hopper. *por Chem & Eng N* 36:106 JI 7 '58

HOPPERS

Hoppers and trucks provide efficient material handling; Auto specialties mfg. co. *Il Foundry* 86:119-20+ O '58

Hoppers replace oil drums for scrap collecting, oil reclamation jumps 60 per cent; American rivet co. *Il Plant* 17:30 Mr '58

Plug unplugs flow from bins; new hopper for bins. *diags Chem Eng* 65:78+ Ap 7 '58

Revised hopper doors cut labor. O. F. Green. *diag Elec World* 148:87 D 9 '57

Sealed units aid processing of powdered products. *Il Iron Age* 132:88-9 Ag 14 '58

Self-dumping hoppers enable fast scrap handling. *Il Mach* 64:94 Ag '58

Self-dumping hoppers speed scrap handling; Athenia steel co. *Il Iron Age* 180:148 D 19 '57

Sizing hoppers; nomograph. R. W. Ruppert. *diag Power Ind* 74:41 Ja '58

Speeds high-bin unloading; pneumatic-probe system. *diags Food Eng* 30:95 S '58

HOPS

Flavonoid compounds of hops and of malt concerned in the formation of beer hazes. G. Harris and R. W. Ricketts. *bibliog diags Chem & Ind* p636-7 Je 7 '58

HORMONES

By design, not accident; new aldosterone synthesis. *Chem & Eng N* 36:43 Je 23 '58

Concerning the mechanism of action of parathyroid hormone I ion-gradients. H. Firschein and others. *bibliog Am Chem Soc J* 80:1619-23 Ap 5 '58

Evidence for the occurrence of a metabolite of aldosterone in urine. S. Ulick and S. Lieberman. *bibliog Am Chem Soc J* 79: 6567-8 D 20 '57

Hormones. C. A. Finch. *bibliog (29 ref) Manuf Chem* 29:113-15 Mr '58

Juvenile hormone. *Drug & Cosmetic Ind* 83:98 JI '58

Juvenile hormone; larva of an insect makes a hormone which keeps it from changing into a pupa until it has reached its full growth. C. M. Williams. *Il diags Sci Am* 198:67-70+ F '58

Micromethod of electroanalysis and its application to thyrotropic hormone. J. G. Pierce and M. E. Carsten. *Am Chem Soc J* 80: 3482-3 JI 5 '58

Pregnancy hormone. *Drug & Cosmetic Ind* 82: 377 Mr '58

Total synthesis of aldosterone. W. S. Johnson and others. *Am Chem Soc J* 80:2585-6 My 20 '58

See also

Hydroxycorticosterone

Intermedin

Progesterone

HORNE, Albert Nolan

Sketch. *Mech Eng* 80:146 Je '58

HORNS, Automobile. See Automobile horns

HORSEPOWER

Elements of field processing; calculation of compressor horsepower. J. M. Campbell. *Oil & Gas J* 56:94-5 Je 30 '58

How much horsepower to pipe liquids? charts; reference book sheet. *Product Eng* 29:89+ Ja 6 '58

Indicating horse-power continuously; generator gives product of two variables. J. Thilalamuthu. *Il diags Engineering* 184:528-9 O 25 '57

HOSE

Metal hose. W. T. Bahr. *Il diags Product Eng* 28:87-9 N 11 '57

New hose process; Goodyear tire & rubber co.'s Acala process. *Rubber World* 138:129 Au '58

Safety code for the maintenance of stand-pipe and hose systems. *Il Safety Maint* 115:55-7 Ja '58

See also

Fire hose

Testing

Report on laboratory investigation to develop improved lightweight refueling hose. S. A. Eller and others. *Il Rubber Age* 82:849-55 F '58

HOSE couplings

Coupling safely connects mobile gasoline pump to underground tank. *Il Machine Design* 30:130-1 Je 12 '58

Which hose fittings? J. Taborek. *Il (cover) diags Ap Hydraulics* 11:68-71 Je '58

HOSIERY

Manufacture

Boards now inspect socks at Athens hosiery mills. *Il Textile World* 108:126 Ag '58

Here's that loopless toe. *Il diags Textile Ind* 122:122-3+ JI '58

How Adams-Millis corp. knits loopless-toe hosiery. *Il Textile World* 108:51 S '58

Knit stretch yarns loosely. K. O. Metz. *diags Textile Ind* 122:179+ Je '58

Men prefer a non-binding top. W. Shewmake. *Il Textile Ind* 122:145+ S '58

New techniques to solve hosiery-length problems. J. H. Blore. *Il Textile World* 108:82-9 Ja '58

Pointers for twin-thread full-fashioned knitting. W. B. Snow. *Il diag Textile Ind* 122: 155+ Ag '58

Sock size and wrap yarns; Chipman-Lacrosse hosiery mills. *Il Textile Ind* 122:134-6 Ja '58

Tips for knitting multiple-thread f-f hose. *Il Textile Ind* 122:166-7 Ap '58

Weekly schedules speed sock production; Marvon hosiery mill. *Il Textile World* 108: 136-7+ Mr '58

See also

Hosiery machines

HOSIERY dyeing. See Dyes and dyeing—Hosiery

HOSIERY machines

Better, faster hosiery finishing; Turbo-Brewin machine. *Il Mod Textiles Mag* 39:63-4 Je '58

Does three operations in one; hosiery boarding and form-inserting apparatus at Mauney hosiery mills. *Il Textile Ind* 122: 199-200 O '58

Faster, bigger full-fashioned hosiery knitter. *Il Mod Textiles Mag* 39:51+ Ag '58

How hosiery mills with Banner SCOP machines can save money, reduce seconds. W. Shewmake. *diags Textile Ind* 122:156 F '58

How one machinery maker built a new market; Scott & Williams. *Il Mod Textiles Mag* 38:34-5+ D '57

How to select full-fashioned knitting solutions. J. C. Baumgardner. *Textile World* 107:133 D '57

Knitters are solving technical problems; hosiery, underwear and outerwear. *Il Textile World* 108:97-9 F '58

Modernization in knitting mills means more production per manhour. *Il Textile World* 108:71-5 O '58

38-section full-fashioned machine designed for two for one operation; Textile machine works. *Il Textile Ind* 122:151-3 Ag '58

Using stretch yarns on Komets? K. O. Metz. *diags Textile Ind* 122:140 Ja '58

Maintenance and repair

Tips on welt turners. W. D. Frye. *Il Textile Ind* 122:184-5+ Je '58

HOSIERY manufacturers. National association of. See National association of hosiery manufacturers

HOSIERY mills

This full-fashioned knitting mill is versatile; Belding-Corticelli, ltd. *Il Textile Ind* 122: 132-3+ Ja '58

Variety is the spice of success; Gants of Glen Raven mills. J. Campbell. *Il Mod Textiles Mag* 39:29-30+ Ja '58

Employees

Full-fashioned knitters; do you have multiple assignments? W. B. Snow. *Il Textile Ind* 122:175+ Ap '58

Equipment

Alba's new seamless-hosiery addition has modern handling methods. *Il Textile World* 108:56-7+ JI '58

Package increases hosiery sales; Chester H. Roth co. overwrapping packaging machinery. *Il Textile Ind* 122:121+ JI '58

HOSIERY mills—Equipment—Continued

Plastic trays solve hosiery boarding problem.
H. J. Hall. *il Textile World* 108:58 My '58
See also
Hosiery machines

Management

How Shannon met four management goals.
il Textile Ind 122:171+ Ap '58
Weekly schedules speed sock production;
Mayron hosiery mill. *il Textile World* 108:
136-7+ Mr '58

Quality control

How control charts helped knitting operations;
abstract. H. F. Littleton. *Textile World* 108:51+ Ap '58

HOSIERY trade

Balance of f-f hose output and demand seen
near. *Textile Ind* 122:187 Je '58
Full-fashioned mills need new ideas. W. D.
Frye. *il Textile Ind* 122:163+ F '58

HOSPITALS

Future role of hospitals in medical care.
A. W. Snoke. *Am J Pub Health* 48:468-72
Ap '58
High activity in prospect for schools, colleges,
hospitals. R. M. Cunningham, jr. *Arch Rec*
122:167-70 D '57
Hospital growth and changes. A. B. Mills.
Am J Pub Health 48:986-90 Ag '58
Interior design data: hospital areas. L.
Sloane. *il Prog Arch* 39:172-7 Ad '58
Novel shapes prescribed for hospital: Alle-
gheny county hospital in Scott township.
Pa. *il Eng N* 160:43 F 13 '58
Physicians' private offices at hospitals. C. R.
Korem. *Am J Pub Health* 48:974-9 Jl '58
Yale's hospital-design fellowship. *il plans*
Prog Arch 39:115-17 Ad '58

See also

Clinics
Philadelphia—Hospitals
Pittsburgh—Hospitals
Water supply for hospitals

Air conditioning

Air conditioning; hospitals. *il plan diag Prog*
Arch 39:138-41 Mr '58
Design new hospital heating, air conditioning
for expansion; Asbury Methodist hospital,
St Louis Park, Minn. W. Sturm. *il Heating-
Piping* 30:115-18 Je '58
Hospital completely air conditioned with low-
pressure turbine units; Latter Day Saints
hospital in Salt Lake City. E. J. Watts.
il Power Eng 62:72-3 F '58
Individual zone control panels serve new
34 million hospital. J. M. Paquet. *il Heating-
Piping* 29:128-31 N; 112-13 D '57

Cleanliness

National conference to combat hospital ac-
quired staphylococcal disease, Atlanta, Ga.
Sept. 15-17. *Soap & Chem Spec* 34:99+
O '58
Prevention and control of staphylococcus in-
fections in hospitals. E. L. Crosby. *Ind Med*
27:393-5 Ag '58
Staphylococcal infections in the hospital and
community; symposium. bibliog *il Am J*
Pub Health 48:277-318 Mr '58

Costs

Cost study of four types of hospital floor
framing. G. S. Feldman. *plan Eng N* 160:
106-8 Mr '58
Patient treatment units, Kansas hospital;
unit prices. *Eng N* 160:74 Ap 10 '58

Designs and plans

General hospital. Brooklyn. New York. *il*
plans Prog Arch 39:118-27+ Ap '58
Hospital in the round; Valley Presbyterian
hospital. *il plans Arch Forum* 109:116-17
S '58

Hospital, nursing school, convent; Blackwell
general hospital. School of practical nursing,
and convent. *il plans Prog Arch* 39:
128-31 Ap '58

Hospitals; building types study. *il plans diags*
Arch Rec 122:189-220 N '57

Hospitals; building types study. *il plans Arch*
Rec 124:209-36 S '58

Rehabilitation hospital-school for children;
Mississippi hospital school for cerebral
palsy, Jackson. *il plans Arch Rec* 123:204-9
Mr '58

Tripartite hospital for chronics; John J. Kane
hospital, Pittsburgh. *il plans Arch Rec* 123:
199-206 My '58

Electric equipment

Remodeling underground distribution system
for a state hospital. C. W. Baer. *il plans*
diags Elec Constr & Maint 57:80-3 F '58

Employees

Guiding principles for an occupational health
program in a hospital employee group;
editorial. *Ind Med* 27:219-20 Ap '58

Equipment

Cleaner than clean; automatic, ultrasonic
washing machine for cleaning surgical in-
struments. *il Mill & Factory* 63:140+ Jl '58
Design of teletherapy units; radiation and
architectural considerations for cobalt
60 units; with glossary of teletherapy
terms. W. R. Taylor and others. *Arch Rec*
122:216-20 N '57

Hospital steam is big business. J. T. Farris.
il Power Eng 62:81 Je '58

Nylon hands help nurses to lift. Franklin
Inst J 266:108 Ag '58

Room for cobalt 60 facilities; time-saver
standards. *plans diags Arch Rec* 122:227+
N '57

See also

Oxygen apparatus

Heating and ventilation

Heating and ventilating system design for
hospitals. J. E. York. *plan diags Air Cond*
Heat & Ven 55:59-63 Ap; 101-4 My '58; Dis-
cussion. L. Smith. 56:124+; Reply. 128+
Jl '58

Operating room temperature control and
death to bacteria; Hospital-Master and
Sterilamp. *Elec Eng* 76:1122-3 D '57

Proper hospital ventilation will save many
lives; abstract. R. T. Ravenholt and O. H.
Ravenholt. *Air Cond Heat & Ven* 55:77 F
'58

Two-zone steam and hot water systems heat
225-bed hospital; St Charles hospital, To-
ledo. E. J. Flahie. *il Heating-Piping* 30:
136-8 Mr '58

Nurses homes**See Nurses homes****Operating rooms**

Electrical safety in hospital operating rooms.
N. L. Griffin. bibliog *Power Apparatus &
Systems* p698-702 O '58
Planning the surgical suite. A. N. Kiff and
M. Worthen. *plans Arch Rec* 124:21-28 S
'58

Temperature in operating room remotely reg-
ulated by surgeon. *il Refrig Eng* 65:64 N '57

Power

How we planned the power facilities of
UCLA medical center. K. M. Brady. *il*
Power Eng 62:88-90 Ap '58

Safety measures

Conductive flooring for hospitals. *il Safety*
Maint 115:37-8 Je '58
Electrical safety in hospital operating rooms.
N. L. Griffin. bibliog *Power Apparatus &
Systems* p698-702 O '58

HOSPITALS, Psychiatric**Statistics**

Problems in the interpretation of trends in
the population movement of the public men-
tal hospitals. M. Kramer and E. S. Pol-
jack. *Am J Pub Health* 48:1003-19 Ag
'58

HOT air heating. See Heating, Warm air

HOT boxes. See Cars—Bearings

HOT plates, Electric

Hot plate. *il Engineering* 186:32 Jl 4 '58

HOT springs

Thermal waters of volcanic origin. D. E.
White. *diags Geol Soc Bul* 68:1637-57 bib-
liog(60 titles, p 1656-7) D '57

HOT water heating

Atomic recovery for space-heating at Han-
ford. S. L. Nelson. *il diag Heating-Piping*
30:161-3 Je '58

British and European design and construc-
tion methods. G. Applegate. Jr. bibliog *diags*
Heating-Piping 30:169-72 Mr '58

Central heating in the USSR. I. F. Livtchak.
il diags Air Cond Heat & Ven 55:66-70 Je;
58-62 Jl; 86-91 Ag '58

Chilled and hot water system for commer-
cial and industrial buildings; detail sketch.
diag Air Cond Heat & Ven 55:100 My '58

HOT water heating—Continued

- Consider altitude factor in designing hot water heating. J. J. Blank. *diag Heating-Piping* 30:114-15 Mr '58
- Controlled circulation boilers for high temperature water heating. S. F. Mumford. *il diags Combustion* 29:34-9 Ag '57
- Design for flexibility to serve plant's heating, cooling needs; warehouse and office of the Dana corp. E. H. Roper. *il Heating-Piping* 30:83-4 Jl '58
- Design of high-temperature water systems for military installations. C. A. Carter and B. L. Sturdevant. *diags Heating-Piping* 30:109-14 F '58
- Economic evaluation of high-temperature water. E. M. Thompson. *Heating-Piping* 30:140-1 Ap '58
- Heating and air conditioning a civilian airport. C. Broder. *plans diags Heating-Piping* 30:147-51 Mr '58
- Heating and ventilating a mechanized foundry. *il Metallurgia* 56:294-5 D '57
- High temperature-high pressure hot water heating must be understood. H. A. Lockhart. *Heating-Piping* 30:95-7 Ag '58
- High temperature hot water cuts big-plant heating costs; Douglas aircraft co. *il diag Plant Eng* 12:114-16 Ap '58
- High temperature hot water heating system. W. T. O'Reilly and J. D. Crell. *flow diag il Plant* 13:30-3 S '58
- Hot water heater piping with condensate cooler; detail sheet. *diags Air Cond Heat & Ven* 54:75 N '57
- How to prevent unbalance in hot water heating. T. R. Stevens. *diags Heating-Piping* 30:112-14 Ap; 138-41 Mr; 119-21 Je '58
- Huge hthw system supplies unique heating-cooling operation at New York international airport. W. T. O'Reilly. *il plan(cover) Heating-Piping* 30:75-8 F; 132-3 Mr '58
- Marine application of high-temperature water. S. W. Brown. *diags Heating-Piping* 30:161-6 Mr '58
- Mixings of hot and cold water; data sheet. *Air Cond Heat & Ven* 55:65-6 Ag '58
- Piping for condensate coolers; detail sheet. *diags Air Cond Heat & Ven* 55:80 Ag '58
- Piping for water storage heaters; detail sheet. *diags Air Cond Heat & Ven* 55:79 Ag '58
- Point-of-use hot water system; Sela corporation of America. *il Plant Eng* 12:118 Ap '58
- Portable instruments outmode trial and error balancing of central hot water heating systems. J. P. Duffy and W. J. Bailey. *il plan diag Heating-Piping* 29:142-5 N '57
- Six keys to good flow control in hot-water coils for air conditioning. W. G. Young. *diags Air Cond Heat & Ven* 55:78-82 F '58
- Skirting heating. *il Engineering* 185:480 Ap 11 '58
- Two-zone steam and hot water systems heat 225-bed hospital; St. Charles hospital, Toledo. E. J. Flahie. *il Heating-Piping* 30:136-8 Mr '58
- Year-round air conditioning achieved with hthw; New York international airport (Idlewild). *Air Cond Heat & Ven* 55:76 Je '58
- See also*
- Radiators**
- Steam heating—Conversion to hot water heating
- Radiant heating**
- Panel heating, cooling system simulates variety of load conditions; laboratory of Barber-Colman co. W. G. Young. *il diag Heating-Piping* 30:115-16 Ag '58
- Radiant heat for Denver plant; Karen corp. *il Plant* 13:29 Jl '58
- Radiant heating for 1900 homes from this central plant; Frances Cabrini homes project. A. G. Ratkus. *il diags Power Eng* 62:56-8 Mr '58
- HOT water supply**
- Dual temperature service hot water; detail sheet. *diag Air Cond Heat & Ven* 55:99 F '58
- How American & Efird licks processing-water problems. *il Textile World* 108:108-9+ Ja '58
- Marine application of high-temperature water. S. W. Brown. *diags Heating-Piping* 30:161-6 Mr '58
- Modern appliances require new methods of determining home hot water needs. J. J. McKearin. *il Gas Age* 120:22-3 N 14 '57
- See also*
- Electric water heaters**
- Water heaters**

HOTELS

- British Commonwealth's largest hotel opens in Montreal; Queen Elizabeth hotel. J. C. Smith. *il Arch Rec* 123:44 Je '58
- Flat-plate floors gain time and space; Miami Beach's new 670 room Carillon hotel. J. Feld. *il Eng N* 160:51-2 Ap 24 '58
- Habana Hilton. *il plans diag Arch Rec* 124:161-4 Ag '58
- Motor hotel. *il plan Arch Rec* 123:174-5 My '58
- Prestressed bars wind-brace new hotel; Queen Elizabeth hotel in Montreal. *il diags Eng N* 159:33-4+ N 14 '57
- Air conditioning**
- Air conditioning; residential. *il plans Prog Arch* 39:142-53 Mr '58
- High velocity system solves hotel's modernization puzzle. T. Gressett. *il Heating-Piping* 30:95-8 Ap '58
- Modernization is answer to hotel's heating, cooling problems; Waldorf-Astoria hotel. L. Smith. *il Heating-Piping* 30:94-6 F '58
- Unobtrusive hotel air conditioning leaves colonial decor intact. *il Air Cond Heat & Ven* 54:126 N '57
- Designs and plans**
- Award citations; Warm Mineral Springs Inn; Rickey's multistory garden hotel. *il plan diag Prog Arch* 39:86-7 Ja '58
- Employees**
- Electrocardiographic survey of hotel employees in New York city. O. La Rotonda and F. P. Guidotti. *bibliog Ind Med* 27:18-20 Ju '58
- Periodic health examinations in the hotel industry. F. P. Guidotti. *bibliog Ind Med* 26:506-10 N '57
- Equipment**
- Plumbing systems for hotels. L. Blendermann. *plan diags Air Cond Heat & Ven* 54:90-3 D '57; 55:77-80 Ja '58
- Lighting**
- Lighting a hotel front office; data sheet. L. S. Sternberg and N. Falk. *il Illum Eng* 53:511-12 S '58
- Lighting for hotels. *il diags Illum Eng* 53:359-99 Jl '58
- Reservation systems**
- Reservations made in seconds; Sheraton hotels. E. Henderson. *Elec Eng* 77:199-200 F '58
- HOUDRESID**. See Gasoline—Manufacture
- HOUDRIFLOW** process. See Gasoline—Manufacture
- HOUDRIFORMING** process. See Gasoline—Manufacture
- HOURS of labor**
- Round the clock or weekends off? J. B. Weaver and F. S. Lyndall. *bibliog Ind & Eng Chem* 50:sup61A-3A My '58
- See also*
- Lunch period**
- Overtime**
- Shift schedules**
- Another plan for swing-shift scheduling. *Plant* 18:61 Ag '58
- Shift work and health. E. This-Evensen. *Ind Med* 27:493-7 O '58
- HOUSE drainage**. See Drainage, House
- HOUSE lighting**
- Case for rehabilitation. *il Illum Eng* 52:561-3 N '57
- Control; the key to modern residence lighting. E. Schnoll. *il Illum Eng* 52:613-14 D '57
- Fluorescents and incandescents provide flexible lighting for comfortable living; five-star Electric-living home, Greensboro, N.C. *plan diags Elec Constr & Maint* 57:96 Ja '58
- House of the future, and how it is lighted. J. Reynolds. *il Illum Eng* 53:405-9 Jl '58
- How to light your family room more effectively. C. J. Allen. *il diags Gen Elec R* 61:39-41 Mr '58
- Lighting wooden shelves; lighting data sheet. C. N. Laupp. *il diags Illum Eng* 52:647-8 D '57
- Living and lighting adapted to the Pacific Northwest. *il Illum Eng* 52:564-6 N '57
- Luminous ceilings with incandescent lamps. D. E. Spencer. *il diags Illum Eng* 53:300-6 Je '58
- Modern residential lighting design. *il plans diags Elec Constr & Maint* 57:73-9 Mr '58

HOUSE lighting—Continued

New design approaches to residential lighting. E. W. Commery. *Il plans diag Illum Eng* 53:291-9 *Je* '58
Penthouse in the clouds. *Il Illum Eng* 52:556-8 *N* '57

Present and future home lighting. *Elec Eng* 76:1124 *D* '57

Stair lighting for safety, utility, appearance. J. H. Murrah. *Il diag Illum Eng* 52:619-20 *D* '57

Trends in lighting equipment design; residential lighting. B. C. Cooper. *Il Elec Constr & Maint* 57:88 *O* '58

Wall lighting for hallways; lighting data sheet. R. Patterson. *Il diag Illum Eng* 53:241-2 *My* '58

See also

Apartment—Lighting

HOUSEHOLD products

Housewares. *Il Mod Plastics* 35:75-9+ *Jl* '58
What's in store; plastics products for the kitchen. C. Craig. *Il Brit Plastics* 31:88-96 *Mr* '58

HOUSEHOLD products industries

High hopes for home improvement products in '58; Home improvement products (HIP) show. Chicago. *Mod Metals* 14:74-6 *Mr* '58
Man-made fibers in home furnishings. J. Campbell. *Il Mod Textiles Mag* 39:61-5 *S* '58

Quality control and the consumer. *Ind Quality Control* 14:28-30 *Ap* '58

See also

Furniture industry and trade

HOUSES

Bigger and better homes for less money; John F. Long. Phoenix, homebuilder. *Il plan Eng N* 160:52-3+ *Ja* 16 '58

Comfort and amenities; furnishings and decoration. T. H. Robsjohn-Gibbings. *Arch Rec* 122:179-82 *N* '57

House anchorages; time-saver standards. A. G. H. Dietz. *map diag Arch Rec* 122:224+ *Jl* 201+ *D* '57

Ladies, quiz 'em; McCall's first annual Congress on better living. *Arch Rec* 122:24+ *N* '57

New-home area tops old in FHA's latest report. E. Mickel. *Arch Rec* 122:48+ *N* '57

Noise in the modern home. E. E. Mikeska. *Noise Control* 4:38-41+ *My* '58

Old streetcars never die; discarded streetcar torn apart to make sides of living room and sun porch. C. Holbrook. *Il Comp Air Mag* 62:346 *N* '57

See also

Apartment houses

Architecture, Domestic

Beach houses

Country houses

Historic houses

Houses, Prefabricated

National association of home builders

Stone houses

Mechanical equipment

Architect's education in mechanical and electrical services of buildings. L. Axelbank. *Prog Arch* 39:11+ *My* '58

Products for the house. *Il Arch Rec* 123:74+ *Mid-My* '58

HOUSES, Aluminum. *See* Aluminum, Structural

HOUSES, Brick. *See* Brick houses

HOUSES, Model

All-gas home modeled after Japanese design. *Il Am Gas Assn Mo* 40:42-3 *Jl-Ag* '58

Experimental house by Nelson and Chadwick. *Il plans diag Arch Rec* 122:136-42 *D* '57

Hardboard house going up; NAHB plans new test homes. *Eng N* 161:26 *Ag* 7 '58

HOUSES, Plastic

Fabricating the structural components of the all-plastic House of the future. C. G. Cullen. *Il Plastics Tech* 4:921-7 *O* '58

HOUSES, Prefabricated

Homebuilder fabricates houses in shop. *Il Eng N* 160:23 *F* 20 '58

Timber, fibre, and foil; timber frame bungalow. *plan diag Engineering* 185:416 *Mr* 28 '58

HOUSES, Row

Quadrangle house scheme offers privacy in row housing. *Il plan Arch Rec* 123:358 *My* '58

Row house vernacular and high style monument; travel notes from a sabbatical tour around the world. W. W. Wurster. *Il Arch Rec* 124:141-50 *Ag* '58

HOUSING

Dwelling house; an emerging technology; symposium. *Arch Rec* 124:28+ *S* '58

High cost of renting. S. G. Thompson. *Arch Forum* 108:101-3+ *Jc* '58

Housing inventory shows increase below new construction total. *Arch Rec* 123:274 *Ja* '58

Mobilehomes; low cost family shelter. R. J. Stinson. *Il Eng N* 160:40+ *Ja* 16 '58

See also

Apartment houses

Company towns

Housing projects

Old age—Housing

Slums

Costs

Public housing unit prices, 1957-58; tables. *Eng N* 160:91 *Mr* 20 '58

Finance

See Housing finance

Negroes

See Negroes—Housing

New York (city)

New York; a showcase of city housing problems. *Arch Forum* 109:9+ *S* '58

New York (state)

New York maps anti-slum strategy. *Eng N* 161:25 *Ag* 7 '58

Philadelphia

Philadelphia housing. *plans Prog Arch* 39:150-1 *My* '58

United States

Family housing standards revised by Budget bureau. *Arch Rec* 122:314+ *D* '57

Housing construction reported down in 1957. *Civil Eng* 28:230 *Mr* '58

Industry advice sought and used in FHA standards revision. E. Mickel. *Arch Rec* 122:32 *D* '57

Low-cost housing leads the way. *Eng N* 161:25 *Jl* 24 '58

NAHB restates housing outlook. C. F. Haring, Jr. *Am Gas Assn Mo* 40:34-5 *My* '58

HOUSING and home finance agency

Eight projects completed, 18 underway in Demonstration grant program. *Arch Rec* 124:40+ *Ag* '58

HOUSING and redevelopment officials, National association of. *See* National association of housing and redevelopment officials

HOUSING finance

FHA authorizes research for projected homes survey. *Arch Rec* 124:298+ *Jl* '58

\$500 billion of housing; abstract. J. H. Scheuer. *Arch Forum* 108:147-8 *F* '58

Sound housing policy now. *Arch Forum* 108:105-7+ *Mr* '58

See also

Building—Finance

HOUSING laws

New ruling on discrimination cover FHA and VA housing. *Arch Rec* 124:326+ *Ag* '58

See also

Building laws and regulations

City planning—Zoning system

New York (city)

New York city council passes anti-bias housing bill. *Arch Forum* 108:8-9 *Ja* '58

HOUSING projects

Architects and speculative housing; can a marriage be arranged? panel discussion. *Arch Rec* 123:18+ *F* '58

Distressed rental projects cost FHA \$34 million. *Arch Forum* 109:7+ *S* '58

For the Jersey meadows, a serpentine band of housing. *Il diag Arch Forum* 108:13 *Ap* '58

Handling the problems of subdivision homes. V. W. Sauer. *Il Pub Works* 88:85-9+ *N* '57

Remedy for rental housing; change in the tax laws. M. Colean. *Arch Forum* 107:112-13 *D* '57

Sixty-six families prove economy of gas service; Greenray project. Sidney. N.Y. C. C. Turner. *Gas Age* 121:16-20 *Ja* 23 '58

HOUSING projects—Continued

Three designs leading to a final solution: a neighborhood housing project, Mehring-platz, Berlin. *Il plan Arch Rec* 124:180-1 J1 '58

Variety and open space for New York; Klips Bay Park apartments. *Il plan Arch Rec* 124:175 J1 '58

See also

Sewage disposal plants—Housing project plants

HOUSING projects, College

College faculty housing in a wooded setting; Dartmouth faculty apartments, Hanover, N.H. *Il plans Arch Rec* 124:176-7 J1 '58

Housing by Brewer; Institute for advanced study, Princeton, N.J. *Il plans diags Arch Rec* 123:157-64 Mr '58

HOUSING projects, Company**See also**

Company towns

Mining towns

HOUSING projects, Government

Architect and his community; Architects associated; middle-income housing. *Il plans Prog Arch* 39:106-7 F '58

First design award; Public housing project, Chester, Pa. *Il plans diag Prog Arch* 39:82-5 Ja '58

Progressive architecture design awards seminar; public housing project. *Il Prog Arch* 39:85-8 Ag '58

Who'll serve servicemen's houses? *Elec World* 148:79 N 25 '57

HOUSING projects, Military

All-electric housing project; Strategic air command base near Little Rock. *Il diags Eng N* 160:25 Ap 3 '58

Selling gas for Capehart housing; United gas corp. I. E. Rowe. *Am Gas Assn Mo* 40:9-10+ Ja '58

HOUSING projects, Municipal

Neighborhood public housing units in Rio de Janeiro. *Il plans diags Arch Rec* 124:166-70 J1 '58

New face for a large area in downtown St Louis; St Louis Plaza project for the Urban redevelopment corp. *Il diags Arch Rec* 124:188-9 J1 '58

Philadelphia housing. *plans Prog Arch* 39:140-1 My '58

Public housing woes continue to pile up. *Arch Forum* 108:9+ My '58

Radiant heating for 1900 homes from this central plant; Frances Cabrini homes projects. A. G. Ratkus. *Il diags Power Eng* 62:58-8 Mr '58

Skip-floor access saves cubage; Borgia Butler houses, Bronx, N.Y. *Il plans Arch Rec* 124:187 J1 '58

What's wrong with public housing? *Il Arch Rec* 124:182-6 J1 '58

HOUSING research**See also**

Building research

HOUSING surveys

PHA plans major survey on performance of housing. E. Mickel. *Arch Rec* 123:56 Je '58

HOUSTON university**Cullen college of engineering**

Engineering departments accredited by ECFE. A. D. Bruce. *Pet Eng* 30:B84 Ja '58

HOWE, Clarence Decatur

Messel medal to C. D. Howe. *por Chem & Eng N* 36:154 O 6 '58

1958 Messel medalist. *por Chem & Ind p* 1024 Ag 16 '58

Rt. Hon. C. D. Howe. 1958 Messel medalist. *por Chem & Ind p* 350-1 Mr 22 '58

HUBS

Hub riveting tools simplify operations. F. H. Tyler. *Il diags Tool Eng* 40:99-103 Mr '58

HUDSON River bridges

Design features of lower deck of George Washington bridge. I. P. Gould. *Il plans diags Am Soc C E Proc* 84 [ST 3 no 1632]:1-22 My '58

HULL, Albert W.

Winner of the 1958 medal of honor. *por Inst Radio Eng Proc* 46:533 Mr '58

HUMAN engineering

Can we man our machines better? MIT aims to find out. *Product Eng* 29:23-4 Je 2 '58

Control in man-machine systems. G. W. Hoover. *Il diags Control Eng* 5:81-4 Mr '58

Control panel design and human engineering. *Il diags Elec Manuf* 62:110-18 S '58

Designers sketchbook for hand-control design. D. R. Witt. *Il diags Machine Design* 29:78-80 D 26 '57

Don't forget men when designing equipment; abstract. H. J. Bond. *diags S A E J* 65:38-9 D '57

Engineer comes into his own: when the engineer designs for man. M. Rappaport. *Il Product Eng* 29:97-9 Mr 31 '58

Ergonomics and industry. W. F. Floyd. *bibliog Inst Mech Eng Proc* 172 no 1:75-8; Discussion. 79-85; Reply. 85-6 '58

Human-factors engineering. J. D. Vandenberg and C. T. Goldsmith. *bibliog Il diags Machine Design* 30:108-13 Ap 17; 104-9 My 1; 114-18 My 15; 123-6 Je 12; 123-6 Je 26; 109-13 J1 10 '58

Human-factors engineering; a working program! A. H. Schroeder. *Mech Eng* 80:52-3 Ap '58

Human factors in electronic system design. M. A. Pape. *diags Electronic Ind* 17:134+ J1 '58

Human factors in missile design. *Elec Manuf* 62:110-11 S '58

Human factors in space flight. E. B. Konecni. *bibliog Il diag Aero/Space Eng* 17:34-40+ Je '58

Man is a machine component. D. N. Chorofas. *diag Product Eng* 28:34-5 D 30 '57

Man-machine systems call for displaying integrated instrumentation. D. G. Ald and C. Susskind. *Il diags Electronic Ind* 17:68-71 J1 '58

Naturalness and selectivity are keys to better cockpit display. L. J. Fokel. *Il diags Aviation Age* 30:32-7 J1 '58

Reliability evaluation of the human component in man-machine systems. H. L. Williams. *bibliog Elec Manuf* 61:78-82 Ap '58

Remote handling of radiation sources; engineering problems discussed with human engineering demands. J. W. Wissel and J. C. Lee. *Elec Eng* 76:1071-4 D '57

Research in human engineering aids design. J. L. Seminara and G. A. Peters. *bibliog Ind Lab* 9:20-1 My '58

Simulation in engineering. R. R. Riesz and H. D. Irvin. *Il diag Bell Lab Rec* 36:238-41 J1 '58; Abstract. *Machine Design* 30:6+ J1 24 '58

HUMAN relations

Human factors in engineering. L. A. Kilgore and V. P. Baker. *Elec Eng* 77:586-8 J1 '58

Study of self-disclosure. S. M. Jourard. *Sci Am* 198:77-82 My '58

See also

Industrial relations

HUMANITIES

Humanism in a scientific age. T. N. Whitehead. *bibliog Am Scientist* 46:309-22 S '58

Humanities bounce back; role of science and the humanities. *Product Eng* 29:73+ Mr 31 '58

HUMIC acids

Humic acid investigations. R. I. Davies and others. *bibliog Chem & Ind p* 1544-5 N 23 '57

Occurrence of humic acid in leaves. H. Raudnitz. *Chem & Ind p* 1650-1 D 21 '57

HUMIDIFICATION

Unit operations in chemical engineering: absorption and humidification. M. Levy and C. Y. Wen. *bibliog* (53 ref) *Ind & Eng Chem* 50:421-3 pt 2 Mr '58

HUMIDITY

Aerosol size and relative humidity. C. Orr, Jr. and others. *bibliog J Colloid Sci* 13:472-82 O '58

Applications of humidity control. *Il Instruments & Automation* 31:1208-9 J1 '58

Corrosion of steel in moist air. J. T. Crennell. *Il J Ed Chem* 8:270-2 Ap '58; Discussion. W. H. J. Vernon. 8:469-71 Ag '58

How to make the most effective use of psychrometric charts. M. A. Ramsey. *diags Refrig Eng* 66:31-44 Ap '58

Simplified method of preparing solutions of glycerol and water for humidity control. J. V. Braun and J. D. Braun. *Corrosion* 14:17-18 Mr '58

Today, you must control relative humidity. S. Elonka. *Il diags Power* 102:110-11 S '58

Wet-thermistor relative-humidity meter. J. A. McRoberts. *Il diag Radio-Electronics* 29:26-7 Ag '58

See also

Dampness in buildings

Dehumidifiers

Hygrometers

Moisture

HUNGARY**See also**

Petroleum industry and trade—Hungary

HUNT, Walter Frederick

Presentation of the Roebling medal to W. F. Hunt and acceptance. L. S. Ramsdell. *por Am Mineralogist* 43:334-43 Mr '58

HUNTITE

Huntite from Tea Tree gully, South Australia. B. J. Skinner. *Am Mineralogist* 43:159-62 Ja '58

HURON, Lake

Beginning of the Nipissing phase of Lake Huron. A. Dreimanis. *bibliog maps J Geol* 65:591-4 S '58

HURRICANES

Hurricane protection planning in New England. J. B. McAleer and G. E. Townsend. *bibliog 11 maps plans diag. Am Soc C E* Proc 84 [HY 4 no 1726] 1-36 Ag '58

Selection of design wave for offshore structures. C. L. Bretschneider. *Am Soc C E* Proc 84 [WW 2 no 1568] 1-37 bibliog [27 ref. p 14-16] Mr '58; Correction, 84 [WW 5 no 1584] 5-6; Discussion, 6-8 D '58

HUSSEY, John B.

J. Hussey, new voice on the FPC. *por Oil & Gas J* 56:54-5 Je 30 '58

HYACINTH

Hyacinth. C. Farmiloe. *Drug & Cosmetic Ind* 83:355 S '58

HYDANTOINS

See also
Thiohydantoins

HYDRA (zoology)

Indestructible hydra. N. J. Berrill. *Il Sci Am* 197:118-20+ D '57

HYDRANTS

Control of water use through fire hydrants. J. L. McBride. *Am Water Works Assn J* 50:707-8 May '58

Simple hydrant flow tests. *Water Works Enk* 111:230 Mr '58

Painting

Painting fire hydrants. *Water Works Eng* 111:555 Je '58

Standards

American water works association tentative AWWA standard for wet-barrel fire hydrants for ordinary water works service. *Am Water Works Assn J* 50:111-20 Ag '58
Fire hydrant efficiency and standards. G. A. Wyss and W. J. Burns. *Il diags Am Water Works Assn J* 50:951-64 Jl '58

HYDRATES

Optical study of the hydrates of molecular oxygen in water. L. J. Heidt and A. M. Johnson. *bibliog diag Am Chem Soc J* 79: 5587-93 N 5 '57

See also

Carbohydrates
Gas, Natural—Hydrates

HYDRATION

Basicity constants and rates of hydration of some imines. G. J. Buist and H. J. Lucas. *bibliog Am Chem Soc J* 79:6157-60 D 5 '57
Chemical engineering unit processes; hydration and hydrolysis. W. F. Hamner and D. W. McDonald. *Il Ind & Engr Chem* 50: 1365-9 *bibliog (p 1368-9) pt 2 S '58*

Drainage properties of wood fibers: determination and influence of hydration upon drainage. J. E. Aver. *bibliog Tappi* 41: 237-40 My '58

Effect of freezing on the hydration characteristics of rice. A. S. Roseman. *bibliog Il Food Tech* 12:464-8 S '58

Glycol production, hydration of ethylene oxide. D. F. Othmer and M. S. Thakar. *bibliog Ind & Engr Chem* 50:1235-44 S '58

Hydration of basic refractories. G. R. Eusner and J. E. Bachman. *bibliog Il Am Cer Soc Bul* 37:213-19 My 15 '58

Hydration of *exo-cis*-3,6-endomethylene- Δ^4 -tetrahydrophthalic anhydride. J. A. Berson and S. Suzuki. *bibliog Am Chem Soc J* 80: 4341-5 Ag 20 '58

Influence of hydration-dehydration of the germanium oxide layer on the characteristics of p-n-p transistors. J. T. Wallmark and R. R. Johnson. *bibliog RCA R* 18:512-24 D '57

Stoichiometry of the hydration of β -calcium silicate and tricalcium silicate at room temperature. S. Brunauer and others. *bibliog Am Chem Soc J* 80:761-7 F 20 '58

See also

Cement—Hydration

HYDRATION, Heat of

Heat of hydration of sodium sulfate: low temperature heat capacity and entropy of sodium sulfate decahydrate. G. Brodale and W. F. Glaueque. *bibliog Am Chem Soc J* 80:2042-4 My 5 '58

HYDRAULIC accumulators

Accumulator gives fast response and low power. L. Myers and D. Thomas. *Il diags Ap Hydraulics* 11:118+ Ap '58

Components for water hydraulics. A. E. Morris. *diags Ap Hydraulics* 11:69-72 F '58

Designing with gas-oil accumulators. *Il Ap Hydraulics* 11:89-90 Ap '58

HYDRAULIC analogies. See Aerodynamics—Hydraulic analogies

HYDRAULIC brakes. See Brakes, Hydraulic

HYDRAULIC control

Achieving fine tolerances in tracer-controlled contour machining. J. M. Case. *Il Tool Eng* 40:201-4 Mr '58

Control of back-pressure turbines. *diag Engineering* 185:606-7 My 9 '58

Controlled turning puts screen on tv. E. K. Kaucher. *Il diag Ap Hydraulics* 11:67 Je '58

Dense for hydraulic controls. R. Erskine. *Automation* 5:113-15 Jl '58

Design digest issue; hydraulic and pneumatic equipment. *Il diags Product Eng* 28:J 1-29 Mid-O '57

Efficient meter-in-system for a molding press. D. Arnold. *Il diags Ap Hydraulics* 11:72-3 My '58

Fine positioning with modified valves. H. Isaacs. *Il Ap Hydraulics* 11:92-3 Je '58

Graphical analysis of hydraulic servos; data file. F. J. Huddleston. *diag Control Eng* 5:83-91 Ap '58

Hv fluid power compares with other machine-tool controls. F. D. Yeaple, Jr. *diags Product Eng* 29:70-1 Ag 18 '58

Hydraulic control of activated sludge growth rate. M. T. Garrett, Jr. *bibliog flow sheet Il Sewage & Ind Wastes* 30:253-61 Mr '58

Hydraulic control of automatic machinery; synthesis of systems. R. Hadekel. *diags Automation* 5:63-8 F; 82-90 Ap; 69-76 Je; 71-6 Ag '58

Hydraulically positioned cutting wheel controlled in three directions of travel. *Il Machine Design* 30:120 Jl 10 '58

Lockheed hydraulic control gear. *Il diag Engineering* 204:720 N 15 '57

Mechanical force adjusts or reverses hydraulic motor. *Il diag Product Eng* 29:89 Mr 3 '58

Mechanically actuated servo valve gives controlled acceleration. H. H. Hansen. *Il diags Ap Hydraulics* 11:90+ My '58

Motorized relief valve for remote control. Z. Frederick and J. Hulman. *Il diags Ap Hydraulics* 11:79-80+ Je '58

Piloted relief valves keep power requirements low; loading system for mine cars. W. R. Stamler. *Il diags Ap Hydraulics* 11:77-9 Mr '58

Servo control for a large optical tracker; ROTI Mark II. M. E. Mehr. *Il diags Control Eng* 5:123 Je '58

Static controls automate molding. *Il diag Automation* 5:75-7 Mr '58

Use a full hydraulic servo for edge control. *diag Ap Hydraulics* 11:76 Je '58

See also

Electrohydraulic control
Hydropneumatic control

HYDRAULIC conveying

Hydraulic materials transporting equipment; Hyjector ejector pump for pumping a mixture of solids and water through a pipeline. *Il diag Engineer* 206:224 Ag 8 '58

New way to move solids; American gilsonite co. J. H. Henderson, Jr. *Oil & Gas J* 56: 127+ Je 16 '58

Pipeline licks rock haulage problem; American gilsonite co. W. B. Lenhart. *Il map Rock Prod* 61:106-9 Mr '58

Pumping coal and refuse. P. Levin. *Il Min Cong J* 44:38-41 Jl '58

HYDRAULIC engineering

Did ancient water engineers know best? H. Shuval. *Il diag Eng N* 160:57-8+ Ap 17 '58

St Lawrence seaway; planning and constructing the Lachine section. L. H. Burpee. *Il maps diags Eng J* 41:55-68 S '58

See also

Aqueducts
Breakwaters
Bridges—Foundations and piers
Caissons
Cofferdams
County engineering
Dams
Dikes (engineering)
Docks
Drainage
Dredging
Flood control
Hydraulic jump
Hydraulic laboratories
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HYDRAULIC engineering—See also—*Continued*

- Hydraulic transmission
 Hydraulics—Tables, calculations, etc.
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 Piers
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 Pumps
 Ranney water collectors
 Reservoirs
 Rivers—Regulation
 Roads—Drainage
 St Lawrence waterway and power project
 Siphons
 Spillways
 Stream flow
 Stream measurement
 Surge tanks
 Tunnels and tunneling, Subaqueous
 Turbines
 Water
 Water flow
 Water supply engineering
 Water wheels
 Waterworks
 Welland ship canal
 Wells
 Tables, calculations, etc.
 Columbia Basin streamflow routing by computer. D. M. Rockwood. *diag Civil Eng* 28:348-51 My '58
 Computation of sequent depth in hydraulic jump simplified. T. Sarpkaya. *diag Civil Eng* 28:524 JI '58; Discussion. H. A. Babcock. 28:672 S '58
See also
 Floods—Forecasting
HYDRAULIC filling
 Hydraulic backfilling. R. M. Stewart. *diag Min Eng* 10:476-80 Ap '58
 Rubber-tired dozer cuts hydraulic filling cost. *il Roads & Sts* 101:127 Ag '58
HYDRAULIC fluids. See Hydraulic transmission
HYDRAULIC fracturing. See Petroleum—Production methods
HYDRAULIC gates. See Gates, Hydraulic
HYDRAULIC jacks
 Hydraulic jack straightens leaning poles. A. Smith. *il Elec World* 150:84 Jg '58
 Jacks erect steel surge tower. *il Eng N* 161: 35 JI 3 '58
 Lift-slab scheme raises generator 40 ft in 20 hours. E. R. Peterson. *il Power* 102: 88-9 Ja '58
 New way to raise the roof: Air force academy's cadet dining hall. *il diag Arch Forum* 108:126-8 Mr '58
HYDRAULIC jump
 Computation of sequent depth in hydraulic jump simplified. T. Sarpkaya. *diag Civil Eng* 28:524 JI '58; Discussion. H. A. Babcock. 28:672 S '58
 Efficacy of floor slabs under drowned hydraulic jumps. A. Shukry. *bibliog il diags Am Soc C E Proc* 83 [HY 3 no 1260]:1-18 Je '57; Discussion. 83 [HY 5 no 1417]:31 O [HY 6 no 1456]:15-24 D '57; 84 [HY 1 no 1558]:33-7 F '58; Reply. 84 [HY 5 no 1832]:35-8 O '58
 Hydraulic design of stilling basins; hydraulic jumps on a horizontal apron (basin I). J. N. Bradley and A. J. Peterka. *il diags Am Soc C E Proc* 83 [HY 5 no 1401]:1-24 O '57; Discussion. 84 [HY 2 no 1616]:25-30, 59-75 Ap '58; Reply. 84 [HY 5 no 1832]:61-3 O '58
 Hydraulic jump at an abrupt drop. W. L. Moore and C. W. Morgan. *il diags Am Soc C E Proc* 83 [HY 6 no 1491]:1-21 D '57; Discussion. 84 [HY 3 no 1690]:3-9 Je '58
 Turbulence characteristics of the hydraulic jump using an air-flow model. H. Rouse and others. *bibliog il diags Am Soc C E Proc* 84 [HY 1 no 1528]:1-30 F '58; Discussion. 84 [HY 3 no 1690]:55-6 Je; [HY 6 no 1856]:45-58 N '58
HYDRAULIC laboratories
 Pulsometer water purification plant at the Admiralty's research laboratories, Teddington. *Research* 11:280-1 JI '58
HYDRAULIC machinery
 Accurate hydraulic positioning system uses air-actuated transducers for sensing. *il diags Machine Design* 29:88-90 D 26 '57
 Compensated pump reduces heat in a surface grinder. P. Kraft. *il diags Ap Hydraulics* 11:95-6+ My '58

- Cylinders load press rolls for high speed perforating. R. Rosencranz. *il diags Ap Hydraulics* 11:78-80 My '58
 Design digest issue; hydraulic and pneumatic equipment. *diags Product Eng* 29:J 1-54 Mid-S '58
 Fixed piston and moving cylinder in a hydraulic servo-system. *il diag Machine Design* 30:114 Ja 23 '58
 Fluid motor converts a grinder. *il Ap Hydraulics* 11:82-3 F '58
 Fluid power products review. *il Ap Hydraulics* 11:183-6+ Ja '58
 Four 70-gpm variable pumps power piercing tools. *il diags Ap Hydraulics* 11:74-5 My '58
 How an oil-hydraulic welder was changed to use water. H. H. Hansen. *il diags Ap Hydraulics* 11:76-3 F '58
 Hydraulic forum stresses system control. *Am Mach* 102:92 Je 16 '58
 Hydraulic machine is designed to shear scrap, cut costs. *il Steel* 141:70 N 4 '57
 Hydraulic unit tests drilling methods. J. M. Camp. *il Pet Eng* 30:B 114+ JI 15 '58
 Hydraulic vibrators, where brute-force shake testing is needed. J. A. Dickie. *il diags Product Eng* 28:94-8 D 9 '57
 Ideas for machine tools. *il diags Ap Hydraulics* 11:63-70+ JI '58
 Manufacturers' index. *Ap Hydraulics* 11:160-4 Ja '58
 Norton hydraulic surface grinder. *il Mach* 65:182 O '58
 Packaged hydraulic units simplify maintenance. *il Tool Eng* 41:60 Ag '58
 Quick guide to product selection; specification charts. *Ap Hydraulics* 11:61-158 Ja '58
 Spotlight hydraulics at machine tool forum. *Product Eng* 29:24 Je 23 '58
 Use of hydraulic fracturing equipment for formation sand control. H. E. Rawlings, Jr. *bibliog diags J Pet Techn* 10:29-32 My '58
 Using this equipment, Hydro's two-man crew operates hydraulic rig. E. McGhee. *il diags Oil & Gas J* 56:92+ S 22 '58
 Vickers, inc. machine tool forum. *Ap Hydraulics* 11:61-2+ JI '58
 Vickers 3d production machine tool forum. *Automotive Ind* 119:65+ JI 1 '58
 Vickers 3d production machine tool hydraulic forum. *Automation* 5:25-6 JI '58
 Will internal pressure stiffen hydraulic plungers? *diags Ap Hydraulics* 11:76 My '58
See also
 Airplanes—Hydraulic equipment
 Airplanes, Military—Hydraulic equipment
 Archimedeian screw
 Hydraulic presses
 Ships—Hydraulic equipment
 Turbines
 Valves, Hydraulic
Cavitation
 Accelerated field tests of cavitation intensity. R. T. Knapp. *il A S M E Trans* 80:91-6; Discussion. 97-100; Reply. 100-2 Ja '58
 Cavitation and nuclei. R. T. Knapp. *bibliog il A S M E Trans* 80:1315-24 Ag '58
 Cobalt alloys best for hydraulic equipment. *Materials in Design Eng* 47:160+ Je '58
 Index of cavitation erosion by means of radioisotopes. S. L. Kerr and K. Rosenberg. *bibliog il diag A S M E Trans* 80:1308-11; Discussion. 1312-14 Ag '58
 Progress report on standardization of the vibratory-cavitation test. L. E. Robinson and others. *diags A S M E Trans* 80:103-7 Ja '58
 Selecting materials to avoid cavitation damage. W. J. Rheingans. *il diag Materials in Design Eng* 48:102-6 S '58
 Study of corrosion and cavitation-erosion damage. J. Z. Lichtman and others. *il diags A S M E Trans* 80:1325-39; Discussion. 1339-41 Ag '58
Cleaning
 Design your reservoir to trap dirt. *diags Ap Hydraulics* 11:78-9 Ag '58
Maintenance and repair
 Designing fluid circuits? throw in this maintenance advice. J. Pippenger and R. M. Koff. *Product Eng* 29:71-2 Mr 17 '58
 Designing for fluid maintenance; special report. *il diags Ap Hydraulics* 11:61-72+ Ag '58
 Trouble shooting fluid circuits. *Product Eng* 29:J 15-17 Mid-S '58

- HYDRAULIC mining**
 Eye to the future with hydraulic mining. Eng N 181:73 Ag 21 '58
 New Zealander looks at hydraulic mining coal in the USSR. W. B. Watson, bibliog il diags Min Eng 10:463-5 Ap '58
 Vertical-seam mining by jet cutting, fluming and pumping; Bonanza mine of the American gilsonite co. il map diag Coal Age 62: 80-3 N '57
- HYDRAULIC models**
 Breaking wave force prediction using a model beach. R. L. Wiegand and R. E. Skjel, diags Am Soc C E Proc 84 [WW 2 no 1573]:1-14 Mr '58
 Crystal ball photography; model of Canada's Fraser river. J. Hughes, il Ind Phot 7:32-4 J1 '58
 Designing and building the model. H. J. Sara, il diag Engineering 185:199-201 F 14 '58
 Efficacy of floor sills under drowned hydraulic jumps. A. Shukry, bibliog il diags Am Soc C E Proc 83 [HY 3 no 1260]:1-18 Je '57; Discussion, 83 [HY 5 no 1417]:31 O; [HY 6 no 1456]:15-24 D '57; 84 [HY 1 no 1558]:33-7 F '58; Reply, 84 [HY 5 no 1832]:35-8 O '58
 Fluid mechanics; parameters and modeling. J. M. Robertson, Power Ind 74:24-5 Mr '58
 Hydraulic problems solved by giant working model; San Francisco bay; abstract. Eng J 41:86 J1 '58
 Hydraulic scale models. J. Allen, il Research 11:67-75 F '58
 Model studies of sector gate type locks. F. R. Brown, il Am Soc C E Proc 84 [WW 4 no 1767]:1-16 S '58
 River model aids siltation study. il Eng N 161:113 S 1 '58
 Rotating-beam channel and 30-inch water tunnel at Admiralty research laboratory. E. H. Lever and others, flow diag, il diags Inst Mech Eng Proc 171 no 4:159-73, pl 1-4; Discussion, 174:82; Reply, 182-5 '57
 Shipboard hydraulic breaker. A. M. Dilley, bibliog diags Am Soc C E Proc 84 [WW 2 no 1569]:1-21 Mr '58; Discussion, J. B. Herbach, 84 [WW 4 no 1785]:7-9 S '58
 Tidal model for Southampton water, il map Engineering 185:198-201 F 14 '58
 Tidal model of the port of Southampton. Engineer 205:293 F 21 '58
 Time exposures record water current movements; Waterways experiment station hydraulic models. F. B. Gauthier, il Ind Phot 7:20-1 Mr '58
 Trajectory bucket-type energy dissipators. E. A. Elevatorski, bibliog il diags Am Soc C E Proc 84 [PO 1 no 1553]:1-17 F '58
- See also
 Locks (hydraulic engineering)—Models
- HYDRAULIC motors**
 Fluid motor converts a grinder. il Ap Hydraulics 11:82-3 F '58
 Selecting a drive for low speed agitators; fluid motor. W. Spencer, il diag Ap Hydraulics 11:85-6 Je '58
 Underwater fluid motor powers dredge cutter. J. H. Milne and A. A. Miller il diag Ap Hydraulics 11:86-4 Je '58
- Starting
 Starter for turbo-engines. il Product Eng 29:66 F 3 '58
- HYDRAULIC presses**
 Air circuit controls water-operated press. R. Guggenheim, il diags Ap Hydraulics 11: 84-6 Mr '58
 Clearing hydraulic press for bonding aircraft structures. il Mach 64:174 J1 '58
 Compacts have even density; metal powder part by proportional pressing. il Steel 141: 116-4 D 16 '57
 Efficient meter-in-system for a molding press. D. Arnold, il diags Ap Hydraulics 11:72-3 My '58
 Equalizer circuit levels a 675-sq. ft. platen. N. K. Willis and J. Williams, jr, il diag Ap Hydraulics 11:69-71+ Mr '58
 High speed coining; magnesium buttons. R. M. Johnson and J. Mourinik, il diags Am Mach 102:118-19 Mr 24 '58
 H-P-M fast-acting hydraulic C-frame presses. il Mach 65:179-80 S '58
 Modern forging press and its control. O. Hoffmann and A. Krynytzky, il diags Iron & Steel Eng 35:81-93 Je '58
 Plant-made tensile tester checks wire rope sockets and other plant equipment; hydraulic press. McWilliams, il diags Plant Eng 12:113-14 J1 '58
 Press flexibility boosts output; Automatic electric (Canada) Ltd. il Steel 142:128 Mr 10 '58

- HYDRAULIC rams**
 Compact heavy-duty pneumatic/hydraulic ram, diag Engineering 186:37 J1 11 '58
- HYDRAULIC research**
 Cavitation and nuclei. R. T. Knapp, bibliog il A S M E Trans 80:1315-24 Ag '58
- HYDRAULIC transmission**
 Acrylic rubber best for hot hydraulic fluids. Materials in Design Eng 48:136-4 Ag '58
 American Bosch Hydrotor, il Diesel Power 35: 51 N '57
 Application of the analog computer to product dynamic performance in typical hydraulic circuits. G. Reethof, bibliog diags A S M E Trans 80:1299-306; Discussion, 1306-7 Ag '58
 At least an adjustable-speed drive gives any range at constant hp.; Bullard Co. W. M. Stocker, jr, il Am Mach 102:109-1 Mr 24 '58
 Bigger piping and valves for faster press speeds. R. S. Paulson and C. C. Verio, il Ap Hydraulics 11:68-9 My '58
 Boosters; what are they? what can they do? il diags Ap Hydraulics 11:90-3 Ap '58
 Clyde Diesel locomotive crane with hydraulic transmission, il diag Engineer 205:440-1 Mr 21 '58
 Components for water hydraulics. A. E. Morris, il Ap Hydraulics 11:63-75 F '58
 Composite symbols for fluid power, diags Product Eng 28:16 Mid-O '57
 Co-ordinated hydraulic drives power laminating machine, diag Automation 5:52 J1 '58
 Cost keeps fire-resistant fluids out of mines. S. P. Fack, Ap Hydraulics 11:86-4 F '58
 Cylinder-operated metering valve controls acceleration of heavy load. L. B. Lloyd, diags Ap Hydraulics 11:102-3 My '58
 Designing and testing for high-temperature hydraulics. F. L. Moncher and L. D. Taylor, Machine Design 30:147-50 My 15 '58
 Development of a safety type hydraulic fluid for naval shipboard use. V. L. Bigsby, Am Soc Naval Eng J 70:527-9 Ag '58
 Diesel-hydraulic locomotive of 2,000 h.p. il Engineering 185:316 Mr 7 '58
 Diesel-hydraulic locomotive of 2,200 h.p. il Engineering 186:123 J1 25 '58
 Diesel-hydraulic traction, il Engineer 206:105 J1 18 '58
 Dual speed hydraulic cylinder reduces cycle time, diags Tool Eng 40:103 Ap '58
 Dynamic hot cell; fuels, lubricants, and hydraulic fluids tested for radiation damage; Inland testing laboratories, il Chem & Eng N 35:48 N 4 '57
 Dynamic-versus-static fuel-control testing, a controversy at Vickers hydraulics symposium, Mech Eng 79:1199 D '57
 Estimations of resonant frequency of hydraulic actuators. E. C. Moore, Product Eng 29:75 Mid-S '58
 Filtering hydraulic circuits. J. J. Taborek, diag Machine Design 30:138-43 S 18; 128-34 O 2; 133-7 O 16 '58
 Fire-resistant fluid gives a cleaner system. S. Haas, il Ap Hydraulics 11:82 Ag '58
 Fire-resistant fluids for hydraulic systems. Engineering 186:149 Ja 31 '58
 Fire resistant hydraulic fluids. H. R. Iker, Iron & Steel Eng 34:145-7 N '57
 Five hydraulic circuits for three-job machine, il diags Product Eng 29:76 Je 23 '58
 Four pump circuit converts a mechanical planer. J. K. Tufts and J. C. Carpenter, il diag Ap Hydraulics 11:74-6 Mr '58
 Four ways to synchronize motions. E. Gattwood, diags Ap Hydraulics 11:70-1 My '58
 Functional fluids. R. I. Sturton, Pet Refiner 36:198-9 N '57
 Handle oil with care. Ap Hydraulics 11:106 Ag '58
 High efficiency hydraulic transmission, diags Engineering 185:379 Mr 21 '58
 How hydraulics fit into your ship. R. B. Galloway, il diags Marine Eng/Low 63:65-9+ Am '58
 How to find leaks in a central hydraulic system, il diag Ap Hydraulics 11:84-5 F '58
 How to make hydraulic tubing last longer. C. S. Yan and J. E. Walsman, il diags Metal Prog 74:88-92 J1 '58
 Hydraulic actuation simplified. W. C. Weber, diags Automation 5:86-8 Mr '58
 Hydraulic cells weigh ore; scale car for steel mill, il diag Product Eng 29:110 Mr 31 '58
 Hydraulic cylinders simulate air loading of KC-135, il diags Ap Hydraulics 11:112-13 My '58
 Hydraulic drive automates Gisholt hand-operated turret lathes, il Am Mach 102: 149 F 24 '58

HYDRAULIC transmission—Continued

- Hydraulic fluids in arresting gear for carriers. Engineer 205:322-3 My '58
- Hydraulic pump data. D. B. Nickerson. S A E J 66:82-4 Ja '58
- Hydraulic sequencing gives fast action. J. R. Fawcett. diags Ap Hydraulics 11:104+ Mr '58
- Hydraulic system simplifies crane control; Clyde crane and Booth limited. II diags Engineering 185:504-5 Ap 18 '58
- Hydraulic tracers convert planers into contour mills. W. N. Engel. II Am Mach 102:122-3 S 8 '58
- Hydraulically driven bending rolls. II Engineer 206:345 Ag 29 '58
- Hydraulically driven pumps. D. H. Newhall. bibliog II diags Ind & Eng Chem 49:1949-54 D '57; Correction. 50:1074 J '58
- Hydraulically operated loading shovel; J. C. Bamford (excavators), ltd. II Engineer 205:902 Je 13 '58
- Hydraulics for the tool engineer. H. L. Stewart and J. M. Moritz. II diags Tool Eng 39:81-5 D '57; 40:87-92 Ja '58
- Industrial know-how handbook; pumps and hydraulic systems. II Mill & Factory 62:B 16-17 My '58
- Metallurgical factors in the design of hydraulic equipment for elevated temperature application. A. Mars and N. M. Lazar. Machine Design 30:136-8+ My 1 '58
- Metalworking, 1962; hydraulics and pneumatics. J. J. Pippenger. diag Am Mach 101:139-40 N 18 '57
- Mill uses fireproof hydraulic fluid; Alan Wood steel co. II Steel 142:117-+ F 3 '58
- New lubricants, hydraulic fluids for high temperatures; three new silicone fluids. E. D. Brown, jr. Materials in Design Eng 47:124-6 Ap '58
- New silicone fluids developed. Automotive Ind 117:96 D 1 '57
- 1958 production preview; parts and materials. II diag Am Mach 102:256-8 Ja 27 '58
- Now, chances of a fire are reduced; switch in hydraulic medium; melting furnaces. II Plant Eng 12:108-9 J '58
- Oil additives keep systems clean. Ap Hydraulics 11:84+ Ag '58
- Optimization through integration of subsystems; abstract. E. J. Brown and S. L. Sandeman. diags Machine Design 30:189-90 Ap 3 '58
- Physical research applied to machine design; high-pressure fluid transmissions. H. Thoma. II Engineering 184:779-81 D 20 '57
- Picking right fluid saves in long run. II Iron Age 182:106+ Ag 21 '58
- Pressure cycling circuits. J. R. Fawcett. diags Ap Hydraulics 11:82+ Je '58
- Production machine tool hydraulic forum, 3d, Detroit. Mach 64:169 J '58
- Progress in developing fire-resistant hydraulic fluids. S. P. Polack. Iron & Steel Eng 35:87-92 Ag '58
- Recent applications of hydraulics to steel mill drives. C. R. Taylor. II diags Iron & Steel Eng 34:100-7; Discussion. 107-9 O '57
- Sandwich manifolding. A. A. Dicke. II Product Eng 29:88-9 F 17 '58
- Selecting and maintaining hydraulic fluids. C. R. Schmitt. II diag Tool Eng 41:47-50 Ag '58
- 700 F hydraulic fluid, but no seals, bearings. Product Eng 28:118 N 11 '57
- Seven ways to unload a pump. A. T. Smith. diags Ap Hydraulics 11:82-3 My '58
- Take the easy step to 2000-psi hydraulics; get greater lifting speeds on lift trucks. II Ap Hydraulics 11:104 Ap '58
- Tatham hydraulic power transmission equipment. diag Engineer 204:720 N 15 '57
- Tube selection. Product Eng 28:J27-9 Mid-O '57
- Two-pressure boosters give fast pressure cycling. R. C. Burnham and W. F. Dickinson. II diag Ap Hydraulics 11:110+ Ap '58
- Unevenly overlapped four-way servo valves. T. Y. Feng. diags Product Eng 28:J7-9 Mid-O '57
- Water replaces hydraulic fluid. II Plant 18:50 J '58

Western Gear shows off new hydraulic winch. II Marine Eng/Lor 63:121 Ap '58

See also

Airplanes—Hydraulic equipment
Airplanes, Military—Hydraulic equipment
Automobiles—Transmission
Hydraulic motors
Motor trucks—Transmission
Motor trucks, Industrial—Transmission
Motor vehicles—Transmission
Torque converters
Tractors—Hydraulic equipment

Electric analogies

Dynamic representation of a hydraulic constant-speed drive for air-borne electric systems. P. E. Smith, jr. diags Applications & Ind p28-34 Mr '58

HYDRAULIC valves. See Valves, Hydraulic

HYDRAULICS

- Effects of mechanics of flow on corrosion. A. J. Romeo and others. flow diag II diags Am Soc C E Proc 84 [SA 4 no 1702]:1-30 bibliog(p21-3) J '58
- Flow through circular weirs. J. C. Stevens. bibliog diag Am Soc C E Proc 83 [HY 6 no 1455]:1-24 D '57; Discussion. 84 [HY 3 no 1690]:33-53 Je '58
- Hydraulic barking; International paper co. J. Hannigan. Tappi 40:sup 186A-7A D '57
- Hydraulic design of stilling basins. J. N. Bradley and A. J. Peterka. bibliog II diags Am Soc C E Proc 83 [HY 5 nos 1401-1408] O '57; Discussion. 84 [HY 2 no 1616]:25-91 Ap '58; Reply. 84 [HY 5 no 1832]:61-84 O '58
- Hydraulic properties of perforated well casings. Y. Vaadia and V. H. Scott. bibliog II diags Am Soc C E Proc 84 [IR 1 no 1505]:1-26 Ja '58
- Importance of hydraulics of surface irrigation. V. E. Hansen. bibliog diag Am Soc C E Proc 84 [IR 3 no 1788]:1-8 S '58
- Manning formula. R. W. Powell. Civil Eng 28:441 Je '58; Discussion. 28:766-7 O '58
- National conference on industrial hydraulics, 13th, Chicago; abstracts of papers on automotive hydraulic equipment. Automotive Ind 117:180+ N 15 '57
- Optimizing the hydraulic system through high temperature compatibility; abstract. G. R. Keller. Machine Design 30:183-4 Mr 20 '58
- Rivers under influence of terrestrial rotation. O. W. Kabelac. bibliog II maps diags Am Soc C E Proc 83 [VWW 1 no 1208]:1-16 Ap '57; Discussion. G. Tison, jr. 83 [VWW 3 no 1381]:7-11 S '57; Reply. 84 [VWW 1 no 1523]:7-11 Ja '58
- Solving a hydraulics problem; when pistons need brakes. L. Dodge. diags Product Eng 29:56-60 F 3 '58
- Stock slurry hydraulics. V. P. Head and R. E. Durst. II Tappi 40:931-6 D '57
- What hydraulics can do. F. L. Moncher. II diags Machine Design 30:181-3 Mr 20 '58

See also

Floods
Fluids
Hydraulic engineering
Hydrostatics
Intakes
Jets
Liquids
Nozzles
Oil flow
Run-off
Settling tanks
Siphons
Stream measurement
Water
Waves
Wells

Electric analogies

Analysis of a process-fluid-flow network by electrical analogy. C. F. Kavan and J. A. Balmford. diags A S M E Trans 79:1957-62 N '57

Mechanical analogies

Mechanical analogs aid graphical flood routing. M. A. Kohler. bibliog II diags Am Soc C E Proc 84 [HY 2 no 1585]:1-14 Ap '58

Tables, calculations, etc.

Chart for finding kinematic viscosity and Reynolds number; data sheet. K. A. Merz. diags Machine Design 29:173-4 D 12 '57

Computer representations of engineering systems involving fluid transients. F. D. Ezekiel and H. M. Paynter. diags A S M E Trans 79:1840-9; Discussion. S. L. Kerr. 1849-50 N '57

HYDRAULICS—Tables, calculations, etc.—*Cont.*

- Direct solution for apron elevation. E. A. Elevatorski. *diag Civil Eng* 28:596-7 Ag '58
- Hydraulic problem solution on electronic computers. E. A. Lawler and F. V. Druml. *diags Am Soc C E Proc* 84 IWW 1 no 15151: 1-38 Ja '58
- Hydraulic slide-rule for sanitary engineers. J. Tarrant. *diags Water & Sewage Works* 105:206 My '58
- Losses in pipe and fittings. R. J. S. Pigott. *bibliog A S M E Trans* 79:1767-81; Discussion, 1781-3 N '57
- Prediction of flashing water flow through line annular clearances. A. Agostinelli and V. Salemann. *bibliog diags A S M E Trans* 80:1138-42 J1 '58
- Resistance coefficients for laminar and turbulent flow through one-half-inch valves and fittings. C. P. Kittredge and D. S. Kowley. *bibliog plan diags A S M E Trans* 79:1759-64; Discussion, 1764-6 N '57

HYDRAZIDES

- α -Chymotrypsin-catalyzed hydrolysis of a series of hydrazides; evaluation of the kinetic constants for aqueous systems at 25° and at the optimum pH for each specific substrate. R. Lutwack and others. *bibliog Am Chem Soc J* 79:5690-3 N 5 '57
- Dependence of the α -chymotrypsin-catalyzed hydrolysis of α -N-nicotinyl-L-tyrosinhydrazide upon the concentration of the buffer. R. J. Kerr and C. Niemann. *bibliog Am Chem Soc J* 80:1469-73 Mr 20 '58
- Effect of isonicotinic acid hydrazide and vitamin B₆ on glutamic-oxalacetic transaminase levels in whole blood. M. Sasse and G. T. Murphy. *bibliog Am J Clinical Nutrition* 8:424-9 J1 '58
- Triphosphonitrilic hexahydrazide. R. J. A. Otto and L. F. Audrieth. *Am Chem Soc J* 80:3575 J1 20 '58

HYDRAZINE

- Alkali metal; induced free radical formation of tetra-substituted hydrazines. E. Lieber and S. Somasekhars. *Chem & Ind* p 1262-3 S 27 '58
- Azo compounds; oxidation of 1,1-disubstituted hydrazines; the synthesis and oxidation of *cis*- and *trans*-1-amino-2,6-diphenylpiperidine; a new stereospecific ring closure. C. G. Overberger and others. *bibliog Am Chem Soc J* 79:6430-5 D 20 '57
- Effect of 1-phenyl-2-hydrazinopropane, a potent monoamine oxidase (MAO) inhibitor, on brain levels of norepinephrine and serotonin. J. H. Biel and others. *bibliog Am Chem Soc J* 80:1519 Mr 20 '58
- Hydrazine nitrate(I); crystallographic data. R. J. Robinson and W. C. McCrone. *il diags Anal Chem* 30:1014-15 My '58
- Identification of *o*-cyanophenylhydrazine as 3-amino-indazole. M. A. Aron and J. A. Elvidge. *Chem & Ind* p 1234-5 S 20 '58
- Iodides of hydrazine. E. C. Gilbert and J. C. Declus. *bibliog Am Chem Soc J* 80: 3871-2 Ag 5 '58
- New inorganic chemicals; hydrazine derivatives. T. H. Dexter and others. *Ind & Eng Chem* 49:sup54A N '57
- Novel organic reactions of the intermediate from the two-electron oxidation of 1,1-dialkylhydrazines in acid. W. H. Urry and others. *Am Chem Soc J* 79:6568-9 D 20 '57
- Nucleophilic reactivity of aniline, hydrazine and phenoxide ion toward 2,4-dinitrochlorobenzene. J. F. Bunnett and G. T. Davis. *bibliog Am Chem Soc J* 80:4337-9 Ag 20 '58
- Organic sulfides and polysulfides; reactions with hydrazine, ethylenediamine and ammonia. Y. Minoura. *bibliog Rubber Chem & Tech* 31:612-14 J1 '58
- Polymeric derivatives of hydrazine. R. F. Evans and J. I. Jones. *bibliog Chem & Ind* p915 J1 19 '58
- Reaction of hydrazine with ethylene dichloride. R. F. Evans. *Chem & Ind* p915-16 J1 19 '58
- Reactions of maleic anhydride with hydrazine hydrate. H. Feuer and others. *bibliog Am Chem Soc J* 80:3790-2 J1 20 '58
- Synthesis of amino sugars by reduction of hydrazine derivatives. M. L. Wolfson and others. *bibliog Am Chem Soc J* 80:4885-8 S 20 '58
- Synthesis of selenides and tellurides; the reduction of selenites by hydrazine. V. C. Benzing and others. *Am Chem Soc J* 80: 2657-9 Je 5 '58

Analysis

- Gasometric determination of hydrazine and derivatives. H. McKennis, Jr. and others. *bibliog Anal Chem* 30:499-502 Ap '58

Manufacture

- Hydrazine. flow diag Pet Refiner 36:264 N '57
- HYDRAZINOCARBONIC acid**
- Polynitrogen systems from the hydrazinocarbonic acids; aminolytic reactions of N,N-diphenylcarbamyl azide. F. L. Scott and M. T. Scott. *bibliog Am Chem Soc J* 79:6077-82 N 20 '57

HYDRAZO compounds

- Nature of Bindschelder's green; preparation for analysis of hydrazo compounds. H. J. Shine and others. *bibliog Anal Chem* 30: 383-4 Mr '58

HYDRAZOIC acid

- Ionization and dissociation of hydrazoic acid and methyl azide by electron impact. J. L. Franklin and others. *bibliog Am Chem Soc J* 80:298-302 Ja 20 '58
- Reaction of hydrazoic acid with pinonic acid and homoterpenyl methyl ketone. B. A. Parkin and G. W. Hedrick. *bibliog Am Chem Soc J* 80:2899-902 Je 5 '58
- Reaction of organic isothiocyanates with hydrazoic acid and azide ion. E. Lieber and J. Ramachandran. *bibliog Chem & Ind* p461-2 Ap 19 '58

HYDRAZONES

- 2-Diphenylacetyl-1,3-indandione 1-hydrazone, a new reagent for carbonyl compounds. R. A. Braun and W. A. Mosher. *Am Chem Soc J* 80:3048-50 Je 20 '58
- Monohydrazones of 3-acetyl-1,3-indandiones. R. A. Braun and W. A. Mosher. *bibliog Am Chem Soc J* 80:2749-51 Je 5 '58
- Pyrolysis of pyruvic acid hydrazones. J. H. Boyer and L. R. Morgan, Jr. *bibliog Am Chem Soc J* 80:3012-15 Je 20 '58

*See also***Phenylhydrazones****HYDRAZOTOLUENE**

- Kinetics of the *o*-semidine rearrangement of *p*-hydrazotoluene and of the accompanying disproportionation and reduction reactions. R. B. Carlin and G. S. Wich. *bibliog Am Chem Soc J* 80:4023-33 Ag 5 '58

HYDRIDES

- Amine boranes; hydrolysis of pyridine diphenylborane and the mechanism of hydride transfer reactions. M. F. Hawthorne and E. S. Lewis. *bibliog Am Chem Soc J* 80: 4296-9 Ag 20 '58
- Heats of formation at 25° of the crystalline hydrides and deuterides and aqueous hydroxides of lithium, sodium and potassium. S. R. Gunn and L. G. Green. *bibliog Am Chem Soc J* 80:4782-6 S 20 '58
- Hydrides look to new markets. *Chem & Eng N* 36:24-5 Ag 18 '58
- Mode of hydride precipitation in alpha titanium and alpha titanium alloys; abstract. T. S. Liu and M. A. Steinberg. *Metal Prog* 72:152-4 N '57
- New inorganic chemicals; metal hydrides. M. D. Banus and R. W. Bradon. *Ind & Eng Chem* 49:sup49A-51A N '57
- Reduction of organic compounds by mixed hydrides; hydrogenolysis of ketones and alcohols. R. F. Nystrom and C. R. A. Berger. *Am Chem Soc J* 80:2896-8 Je 5 '58

See also

- Boron hydrides
Palladium hydride
Platinum hydride
Silicon hydrides
Uranium hydride

HYDRIODIC acid

- Role of hydrogen iodide in the photoisomerization of *n*-propyl iodide. C. E. McCauley and G. J. Hilsdorf. *bibliog Am Chem Soc J* 80:5101-4 O 5 '58

HYDROBENZONIN

- Organic phosphates; hydrobenzoin cyclic phosphate, a new phosphorylation reagent. T. Ukita and others. *bibliog Am Chem Soc J* 80:1373-6 Mr 20 '58

HYDROBROMIC acid

- Addition of hydrogen bromide to 1-halocyclohexene and the rearrangement of dihalocyclohexanes in the presence of ferric chloride. H. L. Goering and L. L. Sims. *bibliog Am Chem Soc J* 79:6270-4 D 5 '57
- Hydrogen bromide cleavage of hindered 2-methoxyacetophenones. W. J. Horton and J. T. Spence. *bibliog Am Chem Soc J* 80: 2453-6 My 20 '58

HYDROBROMIC acid—Continued

- Reactions of hydrogen bromide with oleic acid and its esters; free radical addition. E. Jungermann and P. E. Spoerri, bibliog. *Am Oil Chem Soc J* 35:393-6 Ag '58

HYDROCARBONS

- Applied hydrocarbon thermodynamics. W. C. Edmister, bibliog diags *Pet Refiner* 37:173-8 Ja; 123-30 F; 183-8 Mr; 173-9 Ap; 227-33 My, 195-208 Je; 153-62 Ji; 18-22 Ag '58
- Base-catalyzed hydrocarbon cleavage reactions; a novel Wurtz-type reaction. H. Pines and L. Schaap, bibliog *Am Chem Soc J* 80:4378-81 Ag '58
- Batch hydrogenolysis reactions of pure compounds related to petroleum oils. E. B. Shultz, Jr. and H. R. Linden, bibliog *Ind & Eng Chem* 49:2011-16 D '57
- Boundary lubricity of non-polar hydrocarbon oils and their mixtures. Y. Tamai, bibliog diags *Inst Pet J* 44:207-11 Ji '58
- Chemical engineering unit processes; decomposition of hydrocarbons, pyrolytic and catalytic. H. R. Appell and C. V. Berger, bibliog *Ind & Eng Chem* 50:1330-4 pt 2 S '58
- Determination of atomic polarizations and dipole moments for slightly polar liquid hydrocarbons. A. J. Petro and C. P. Smyth, bibliog *Am Chem Soc J* 80:73-6 Ja '58
- Determining viscosity of liquefied gaseous hydrocarbons at low temperatures and high pressures. G. W. Swift and others, diags *Chem Eng Prog* 54:47-50 Je '58
- Electrical conductivity of chlorinated hydrocarbons. J. Hart and A. G. Mungall, bibliog diags *Power Apparatus & Systems* p 1295-301 F '58
- Fundamental research on the anti-knock properties of pure hydrocarbons and their blends. L. C. Beard, jr. bibliog *Oil & Gas J* 55:233-4 N '57
- Generalized Z chart for low pressures. H. W. Pfennig and J. J. McKetta, *Pet Refiner* 36:153-4 D '57
- Heat capacity ratios; five hydrocarbons. J. Joffe and E. G. Delaney, bibliog *Chem Eng* 65:138-41 Mr '58
- High energy hydrocarbon fuels. J. Happel and C. J. Marsel, bibliog diags *Chem Eng Prog* 54:60-4 Je '58
- High temperature radiation chemistry of hydrocarbons. P. J. Lucchesi and others, bibliog diags *Ind & Eng Chem* 50:879-84 Je '58
- How a petrochemical plant developed improved mechanical seals for nonlubricating hydrocarbons. A. L. Decker, diags *Oil & Gas J* 56:93-6 Ja '58
- Hydrocarbon synthesis in combustion. B. D. Tebbens and others, bibliog diags *A M A Archives Ind Health* 13:567-73; 17:152-60 Je '56, F '58
- Hydrocarbons from petroleum. F. D. Rossini, diags *Inst Pet J* 44:97-107 Ap '58; Discussion, 44:253-4 Ag '58
- Kinetics of low temperature metal-catalyzed hydrocarbon oxidation. C. E. H. Bawn and D. P. Moran, bibliog *Inst Pet J* 44:290-5 S '58
- Light hydrocarbon recovery processes, flow diags *Pet Refiner* 37:314-15 S '58
- Low temperature liquid phase oxidation of hydrocarbons; a literature survey. F. Morton and R. T. Bell, bibliog diags *Inst Pet J* 44:260-72 S '58
- Macro rings; an extreme example of steric inhibition of resonance in a classically-conjugated hydrocarbon. K. C. Dewhirst and D. J. Cram, bibliog *Am Chem Soc J* 80:3115-25 Je '58
- Nature of Lagidze's hydrocarbons. J. E. H. Hancock and others, bibliog *Chem & Ind* p437 Ap '58
- Oxidation by hydrocarbons; the oxidation of cyclohexene in acetic and propionic anhydride solutions. H. J. Shine and R. H. Snyder, *Am Chem Soc J* 80:3064-6 Je '58
- Oxidation catalysts reduce hydrocarbons in automobile exhaust gas. E. F. Hill and others, *S A E J* 66:36-7 Ja '58
- Polycycloparaffin hydrocarbons in petroleum. E. J. Mair and others, bibliog *Ind & Eng Chem* 50:115-16 Ja '58
- Polynuclear hydrocarbon derivatives; some derivatives of 4,5-dihydroacephenanthrylene. R. C. Peterson and M. C. Kloetzel, bibliog *Am Chem Soc J* 80:1416-21 Mr '58
- Raining solids chemical reactor oxidizes hydrocarbons in vapor phase without using any catalyst, diags *Ind & Eng Chem* 50:sup 32A Je '58
- Reaction of certain chlorinated hydrocarbons with aluminum. A. C. Hamstead and others, *Corrosion* 14:43-4 Ap '58
- Science for electroplaters; organic chemistry. L. Serota, diags *Metal Finishing* 56:93-6 My '58
- Separation of sulfur compounds from mineral oil fractions. J. L. Jexl and A. P. Stuart, *Ind & Eng Chem* 50:943-6 Je '58
- Solid petroleum hydrocarbons and their effect on wax properties. R. T. Edwards, bibliog diags *Tappi* 41:267-74 Je '58
- Solvent effects in the reactions of free radicals and atoms; effects of solvents in the competitive photochlorination of hydrocarbons and their derivatives. G. A. Russell, bibliog *Am Chem Soc J* 80:4997-5001 S '58
- State of dispersion of detergent additives in lubricating oil and other hydrocarbons. J. B. Perl, bibliog diags *Am Oil Chem Soc J* 35:110-17 Mr '58
- Structure of Lagidze's cyclobutadiene derivatives; the hydrocarbon produced in the reaction of 2,5-diacetoxy-2,5-dimethyl-3-hexyne with benzene in the presence of aluminum chloride. J. E. H. Hancock and D. R. Scheuchempflug, *Am Chem Soc J* 80:3621-3 Ji '58
- Survey of the radiation stability of hydrocarbon fuels. J. G. Carroll and others, bibliog diags *Aeronautical Eng R* 17:61-5; Discussion, 65; Reply, 65-6 Mr '58
- Syndets in hydrocarbons. *Soap & Chem Spec* 34:197 My '58
- Thermodynamic properties of pure and mixed hydrocarbons. M. Hobson and J. H. Weber, bibliog *Pet Processing* 12:43-7 Ag; 153-7 S '57; [cont in] *Chem Eng* 64:245-50 N; 272-4 D '57
- Waters of the earth provide clues to geological processes in the formation of hydrocarbons. B. Nagy, *Oil & Gas J* 56:265-6+ Ji '58

See also

Azulene
Butane
Coal tar products
Cyclopropane
Decalin
Ethane
Fischer-Tropsch process
Heptane
Isobutane
Olefins
Paraffins
Propane
Propylene
Terpenes

Analysis

- Chromatographic analyzer for determining trace hydrocarbons in air separation plants. C. A. Gaulin and others, bibliog flow diags diags *Chem Eng Prog* 54:49-53 S '58
- Determination of five to seven-carbon saturates by gas chromatography. F. T. Eggertsen and S. Groennings, bibliog *Anal Chem* 30:20-5 Ja '58
- Determination of saturate impurities in aromatics. J. C. S. Wood and others, bibliog *Anal Chem* 30:1530-4 S '58
- Determination of traces of water in hydrocarbons in gasoline boiling range; sample handling and interferences. J. W. Loveland and others, bibliog diags *Anal Chem* 30:1316-21 Ag '58
- Determination of trace quantities of hydrocarbons in the atmosphere. E. R. Quilram and W. F. Biller, diags *Anal Chem* 30:1166-71 Ji '58
- Distribution of *n*-paraffins and separation of saturated hydrocarbons from recent marine sediments. E. D. Evans and others, *Anal Chem* 29:1858-61 D '57
- Gas chromatographic analysis of engine exhaust and atmosphere; determination of C₂ to C₈ hydrocarbons. F. T. Eggertsen and F. M. Nelsen, diags *Anal Chem* 30:1040-3 Je '58
- Gas chromatography, effect of type and amount of solvent on analysis of saturated hydrocarbons. F. T. Eggertsen and H. S. Knight, bibliog *Anal Chem* 30:15-20 Ja '58
- Instruments measure unburned hydrocarbons in auto exhaust. J. C. Neerman and G. H. Millar, diags *S A E J* 65:58-60 N '57
- Integrator determines total emission of automotive exhaust gas components. R. T. VanDerveer and others, *S A E J* 65:61-2 N '57

HYDROCARBONS—Continued

Electric properties

Static electricity in petroleum products. D. T. Rogers and others. *biblog* *diags* Oil & Gas J 55:166+ N 18 '57

Physiological effect

Neurotoxicity of some selected hydrocarbons. D. W. Furnas and C. H. Hine. *biblog* A M A Archives Ind Health 18:9-15 J1 '58

Separation processes

Arosorb; Sun oil co. flow diag Pet Refiner 36:292 N '57

Extractive distillation (acetone/trile); Shell development co. flow diag Pet Refiner 36:297 N '57

Extractive distillation (aromatics recovery); Shell development co. flow diag Pet Refiner 36:299 N '57

Hypersorption; Union oil co. flow diag Pet Refiner 36:301 N '57

Machine solution of a boundary value problem for a continuous arosorb process. A. W. Pollock and others. *biblog* *diags* Ind & Eng Chem 50:725-9 My '58

McMahon plant complex; absorption and distillation. C. R. Hetherington. II diag Oil & Gas J 56:102-3 J1 7 '58

Relative volatility and enthalpy data for the systems C₄ hydrocarbons-acetone-water developed from vapor-liquid equilibria. J. E. Ewanchyna and C. Ambridge. *biblog* *diags* Can J Chem Eng 36:19-26 F '58

Separation of mixtures of biphenyl, cyclohexylbenzene, and bicyclohexyl by vapour-phase chromatography. W. J. Hendriks and others. *Inst Pet J* 43:288-91 O '57

Udex extraction; Universal oil products co. flow diag Pet Refiner 36:304 N '57

Udex process; Universal oil products co. H. W. Grote. flow diag II *diags* Chem Eng Prog 54:43-8 Ag '58

Spectra

Far ultraviolet light absorption by saturated hydrocarbons. D. W. Turner. *Chem & Ind* p626-7 My 24 '58

HYDROCARBONS, Aromatic

Dealkylation of alkyl aromatic hydrocarbons. W. D. Betts and F. Popper. *J Ap Chem* 8:509-18 Ag '58

Friedel-Crafts condensation of *trans*-2-hydroxycyclohexanecarboxylic acid lactone with aromatic hydrocarbons. D. D. Phillips and D. N. Chatterjee. *biblog* Am Chem Soc J 80:1360-6, 1911-15 Mr 20, Ag 20 '58

Hydrocracking an aromatic extract to naphthalene and 100-octane gasoline. A. K. Roebuck and B. L. Evering. *biblog* Ind & Eng Chem 50:1135-8 Ag '58

Mass spectra of aromatic hydrocarbons filtered from smoky air. F. L. Mohler and others. *biblog* J Res Nat Bur Stand 60:615-18 Je '58

More aromatics from petroleum. J. W. Bradley and others. *Chem Engr* 65:78+ My 5 '58

Ocatfining, new process for isomers. *diag* Pet Refiner 37:208+ Ag '58

Polynuclear aromatic hydrocarbons. D. D. Phillips and D. N. Chatterjee. *biblog* Am Chem Soc J 80:3663-7, 4360-8 J1 20, Ag 20 '58

Production of aromatics by hydrodealkylation. S. R. Betha and others. *biblog* flow diag Ind & Eng Chem 50:1245-52 S '58

Reaction of free radicals with non-benzoid aromatic hydrocarbons; 6-phenylfulvenes and benzofulvenes. J. L. Kice and F. M. Parham. *biblog* Am Chem Soc J 80:3792-7 J1 20 '58

Refiners moving in on aromatics. Oil & Gas J 56:44-6 Ag 25 '58

Relative rates of side-chain ethylation of aromatic hydrocarbons. H. Pines and L. Schaad. *biblog* Am Chem Soc J 80:3076-9 Je 20 '58

SO₂ extraction; Stone & Webster engineering corp. flow diag Pet Refiner 37:278 S '58

Using C₈ aromatics to get octanes? D. V. Trew and J. W. Howells. *Pet Refiner* 37:137-9 J1 '58

See also

Benzene
Toluene
Xylene

Analysis

Conversion of refractive dispersions. H. M. Eby and R. A. Klett. *Anal Chem* 80:100-3 Ju '58

Detection of polynuclear hydrocarbons and phenols with benzal and piperonal chlorides. E. Sawicki and others. *biblog* *Anal Chem* 30:1130-3 Je '58

Determination of aromatic hydrocarbons in polluted air. J. F. Thomas and others. *biblog* II *diags* Anal Chem 29:1335-40 D '57

Determination of saturate impurities in aromatics. J. C. S. Wood and others. *biblog* Anal Chem 30:1630-4 S '58

Rapid method for the determination of the aromatic contents of petroleum fractions boiling above the kerosene range. B. M. Brook and B. T. Whitham. *diag* *Inst Pet* 44:212-15 J1 '58

Separation processes

Fractionation of certain aromatic hydrocarbons with molecular sieve adsorbents. B. J. Mair and M. Shamsingar. *biblog* *diags* Anal Chem 30:276 F '58

How the Udex unit gives high-purity aromatics. II *diag* Can Chem Process 42:68-70+ My '58

HYDROCHLORIC acid

Convection and film instability; copper anodes in hydrochloric acid. R. S. Cooper and J. H. Bartlett. *biblog* Electrochem Soc J 105:109-16 Mr '58

Effect of solvent change on the standard chemical potential of electrolytes; comparison of vapor pressure and e.m.f. data for HCl, NaOH and K₂ in the system dioxane-water. G. Baughman and E. Grunwald. *biblog* Am Chem Soc J 80:344-6 Ag 5 '58

Kinetic study of acid corrosion of cadmium. H. Weaver, Jr. and C. C. Lynch. *biblog* *diag* Corrosion 14:31-2 Ja '58

Kinetics of the exchange of chlorine between hydrogen chloride and acetyl chloride in the vapor phase. W. J. Neill and M. Kahn. *biblog* Am Chem Soc J 80:2111-12 My 5 '58

Liquid-liquid extraction of uranium and plutonium from hydrochloric acid solution with tri(iso-octyl)amine; separation from thorium and fission products. F. L. Moore. *biblog* Anal Chem 30:908-11 My '58

Reaction of periodate-oxidized polysaccharides with alcoholic hydrogen chloride. I. J. Goldstein and F. Smith. *Chem & Ind* p40-2 Ja 11 '58

Schlieren studies on concentration gradients at a Cu/HCl anode. R. S. Cooper. *biblog* *diag* Electrochem Soc J 105:506-12 S '58

Solubility of cottonseed proteins in hydrochloric acid. G. E. Mann and others. *Am Oil Chem Soc J* 35:244-6 My '58

Solubility of hydrogen chloride in organic compounds. W. Gerrard and others. *Chem & Ind* p894 J1 12 '58

Spectrophotometric study of the stability of lead(IV) in hydrochloric acid solutions. H. C. Heal and J. May. *Am Chem Soc J* 80:2374-7 My 20 '58

Thermal data for chlorine and HCl. C. J. Dobratz. *biblog* Chem Eng 65:144-6 F 10 '58

Manufacture

HCl process pulls a switch; continuous two-stage solvent extraction purification process. II *Chem & Eng* N 36:66-7 S 15 '58

New scheme cuts HCl purifying; Hooker chemical corp. II *Chem Eng* 65:60 O 6 '58

HYDROCHRYSENE

Synthesis of hydrochrysenes; 1-methoxy-10-keto-3,4,6,7,8,10,11,12,12a-decahydrochrysenes from 1,7-dimethoxynaphthalene. R. A. Barnes and W. M. Bush. *biblog* Am Chem Soc J 80:4714-17 S 5 '58

HYDROCONIC hull. See Naval architecture

HYDROCORTISONE. See Hydroxycorticosterone

HYDROCYANIC acid

Behavior of kojic acid toward acrylonitrile, halo acids and hydrogen cyanide. C. D. Hurd and S. Troimenko. *Am Chem Soc J* 80:2526-7 My 20 '58

Derivatives of the hydrogen cyanide tetramer; structure and chemistry. P. S. Robertson and J. Vaughan. *biblog* Am Chem Soc J 80:2691-3 Je 5 '58

Analysis

Potentiometric recorder for hydrogen sulfide and hydrogen cyanide. J. F. Strange. II *diag* Anal Chem 29:1878-81 D '57

Manufacture

Hydrogen cyanide; Girdler co. flow diag Pet Refiner 36:255 N '57

HYDRODYNAMICS

American physical society Division of fluid dynamics 10th meeting, Bethlehem, Pa., Nov. 25-27. *Phys Today* 11:22-4 Je '58

HYDRODYNAMICS—Continued

Boundary layer along annular walls in a swirling flow. H. Yeh. *bibliog* diags A S M E Trans 80:767-74; Discussion. 774-6 My '58
Discharge characteristics of rectangular thin-plate weirs. C. E. Kindsvater and R. W. Carter. *diags* Am Soc C E Proc 83 [HY 6 no 1453] 1-36; *bibliog* (p34-6) D '57; Discussion. 84 [HY 2 no 1261] 33-100 Ap; [HY 3 no 1690] 21-30 Je; [HY 6 no 1856] 39-41 N '58

Effect of conduit dynamics on control-valve stability. F. D. Ezekiel. *bibliog* diags A S M E Trans 80:904-8; Discussion. 908 My '58

Flow characteristics on the ogee spillway. R. B. Jansen. *diag* Am Soc C E Proc 83 [HY 6 no 1452] 1-11 D '57; Discussion. D. P. Thayer. 84 [HY 6 no 1856] 25-32; Reply. 32-7 N '58

Fluid dynamics; annual review. A. K. Oppenheim and others. *J Ind & Eng Chem* 50: 525-42; *bibliog* (p539-42) pt 2 Mr '58

Graphical solution for flow in earth channels with trapezoidal cross-sections. I. D. Carriño. *diags* Am Soc C E Proc 83 [IR 2 no 1260] 1-9 S '57; Discussion. 84 [IR 2 no 1615] 12-22 Ap; '58; Reply. 84 [IR 3 no 1784] 5 S '58

How to design hydrodynamic gas bearings. J. S. Ausman and M. Wildmann. *il diag* Product Eng 28:103-6 N 25 '57

Hydrodynamical investigation on the submerged hydrofoil. T. Nishiyama. *bibliog* *diag* Am Soc Naval Eng J 70:559-67; Discussion. E. Silverstein. 567-7 Ag '58

Hydrodynamics and heat conduction of a melting surface. G. W. Sutton. *bibliog* *diag* J Aeronautical Sci 25:29-32+ Ja '58
Hydrodynamics of a reacting and relaxing fluid. W. W. Wood and J. G. Kirkwood. *bibliog* J Ap Phys 28:395-8 Ap '57; Discussion. E. M. Mazo and J. E. Mayer. 29: 735-6 Ap '58

Hydrodynamics of countercurrent flow in wetted-wall columns. W. J. Thomas and S. Portalski. *bibliog* *diags* Ind & Eng Chem 50:1081-8 Jl '58; Correction. 50:1266 S '58

Lubrication of plain bearings; an examination of Reynold's hydrodynamic theory; abstract. J. H. Halton. *Engineering* 186: 59-60 Jl 11 '58

Motion of a yacht through air and water. W. A. Crago. *il diags* *Engineering* 185:6-9 Ja '58

Principles and applications of hydrodynamic-type gas bearings. G. W. K. Ford and others. *bibliog* *il diags* Inst Mech Eng Proc 171 no 2:93-113. pl 1-4; Discussion. 113-22; Reply. 123-8 '57

Recent developments in fluid flow. R. C. Binder. *bibliog* *Pet Refiner* 36:125-9 D '57

Ring damping of free surface oscillations in a circular tank. J. W. Miles. *diag* J Ap Mech 25:274-6 Je '58

Rotating-beam channel and 30-inch water tunnel at Admiralty research laboratory. E. H. Lever and others. *flow diag* *il diags* Inst Mech Eng Proc 171 no 4:159-73. pl 1-4; Discussion. 174-82; Reply. 182-5 '57

Sea bottom pressure fields produced by yawed vessels. P. M. Fitzpatrick. *diag* Am Soc C E Proc 84 [EM 1 no 1496] 1-12 Ja '58

Shear rate dependence of the viscosity and elastic compliance of polymer melts; correspondence with a hydrodynamic theory of viscoelastic flow. R. H. Boyd. *diag* J Ap Phys 29:953-6 Je '58

Simulated gear-tooth contacts; some experiments upon their lubrication and subsurface deformations. A. W. Crook. *bibliog* *diags* Inst Mech Eng Proc 171 no 5:187-96. pl 1-5; Discussion. 196-210; Reply. 210-14 '57

Sloshing of liquid in a flexible tank. J. W. Miles. *bibliog* *diags* J Ap Mech 25:277-83 Ju '58

Stream functions in nonsteady three-dimensional flow. M. Z. v. Krzywicki. *il diag* J Aeronautical Sci 25:67 Ja '58

Studies of natural convection at vertical electrodes. N. Jbi and E. H. Müller. *bibliog* *il diags* Electrochem Soc J 105:346-53 Je '58

Theoretical and experimental analysis of hydrodynamic gas-lubricated journal bearings. B. Sternlicht and R. C. Elwell. *bibliog* *il diags* A S M E Trans 80:365-75; Discussion. 875-8 My '58

See also

Boundary layer
Bubbles
Cavitation
Compressibility
Couette flow
Drops

Floating bodies
Fluidization
Gas flow
Heat convection
Hydraulic machinery—Cavitation
Hydrofoils
Hydrostatics
Jets
Ship resistance
Steam
Turbulence
Viscosity
Vortex motion
Waves

HYDROELECTRIC plants

FPC stepping up downstream benefit study.

Elec World 150:55 Ag 4 '58

Major river use and control projects. *il map*

Eng N 160:217-18+ F 13 '58

Treatment of hydro capability duration curves in probability calculations. K. L. Hicks.

Power Apparatus & Systems p577-80 Ag '58

See also

St Lawrence waterway and power project

Bibliography

Bibliography; underground hydroelectric power plants. J. B. Cooke and A. G. Strassburger. *Am Soc C E Proc* 83 [PO 4 no 1536] 1-32 Ag '57; Discussion. *diag* 84 [PO 1 no 1538] 9-18 F '58; Reply. 84 [PO 5 no 1830] 13-7 O '58

Combination with steam plants

Coal-fired plants for Ontario hydro. *Mech*

Eng 79:1051-2 N '57

Saskatchewan River generating station of Saskatchewan power corp. R. R. Keith.

il map plans diags Eng J 41:65-73 My '58

Combined government and utility ownership

Progress, partnership, and politics today in the Pacific Northwest. *il map* Elec World 149:66-8 Ap 7 '58

Construction

Construction of hydro-electric power stations. *il Engineering* 185:49 Ja 10 '58

Haas hydroelectric power project. J. B. Cooke. *bibliog* *il map plans diags* Am Soc C E Proc 84 [PO 1 no 1529] 1-40 F '58;

Discussion. F. L. Lawton. 84 [PO 3 no 1689] 11-12 Je '58

Harnessing the Zambezi; new hydro power plant to add copper production. R. W. Sapora. *il maps diags* Comp Air Mag 62: 38-71 D '57

Japanese boost industries with hydro works on the Kurobe. D. C. Garfield. *il Comp*

Air Mag 63:19-21 Ja '58

Mobile units, first on the job; power project at Chute des Passes, Que. *il Diesel Power* 36:66 Ap '58

North of Scotland hydro-electric schemes; Enderbarr scheme. *il diags* *Engineering* 206: 84-9, 124-6, 164-5 Jl 18-Ag 1 '58

Rock bolting speeds Snowy Mountains project. T. A. Lang. *il diag* Civil Eng 28:90-2 F '58

Stornorriffrs; milestone in rock excavation history. T. Goransson. *il map diags* Eng N 160:38-40+, cover Ja 30 '58

Sudagui underground power plant, Japan. T. Mizukoshi. *il maps diags* Am Soc C E Proc 84 [PO 1 no 1555] 1-17 F '58

Tight specs at Oahe; powerhouse substructure. Eng N 160:30 Ap 17 '58

Costs

Flaming Gorge dam and power plant, Utah; unit prices. Eng N 161:56-7 Jl 31 '58

Prices seewas in close Niagara bidding; unit prices. Eng N 160:248+ F 13 '58

\$30 million Niagara power contract; unit prices. Eng N 161:82 S 25 '58

Design

Computer studies of penstock and governor systems. F. C. Koenig and H. A. Knudson. *bibliog* *diags* Am Soc C E Proc 83 [PO 6 no 1489] 1-18 D '57

Economics of pumped storage. C. Jaeger. *bibliog* *il maps diags* Eng J 41:67-74 Je '58;

Discussion. 41:84-5; Reply. 85-6 Ag '58

Future U.S. hydro development concentrates in West Coast area; 1957 design survey; typical hydroelectric plants in the United States and Canada; with tables. Power

101:96-101 D '57

HYDROELECTRIC plants—Design—Continued

Haas hydroelectric power project. J. B. Cooke, bibliog. *il map plans diags Am Soc C E Proc 84 [PO 1 no 1629]:1-40 F '58; Discussion, F. L. Lawton, 84 [PO 3 no 1689]:11-12 Je '58*

Underground power houses in Italy and other countries. C. Marcello, *il plans diags Am Soc C E Proc 84 [PO 1 no 1554]:1-43 F '58*

Equipment

Ambuklao underground power station. A. Eberhard, *il map plans diags Am Soc C E Proc 84 [PO 2 no 1598]:1-30 Ap '58; Discussion, 84 [PO 5 no 1830]:19-25 O '58*

Härnsele power station, Sweden. F. Høilnagen and D. Noren, *il diags Engineer 206:270-3 Ag 15 '58*

St Lawrence power project; electrical features of the Robert H. Saunders-St Lawrence generating station. R. M. Fullerton, *il diags Eng J 41:85-90 S '58*

See also

Penstocks
Surge tanks
Turbines

Government ownership

Federal power monopoly concept blasted; abstract. P. Aandahl, *Elec World 150:50 S 23 '58*

Federal power takes new tack, *Elec World 148:88 D 16 '57*

U.S. government hydro power plants; tables. Power 101:102 D '57

See also

Tennessee Valley authority

Location

Secluded Skaguay, C. Holbrook, *il Comp Air Mag 63:20-3 F '58*

Maintenance and repair

Easy way to replace wicket-gate shear pin. diags *Elec World 149:51-2 My 26 '58*

Protection

Nylon keeps winter out at The Dalles dam. *il Elec World 149:74-5 Mr 17 '58*

Pumped storage

See Hydroelectric plants—Storage type

Storage type

Appalachian's Smith Mountain plan finds pumped storage to up kw output. diags *Elec World 149:54 Ap 21 '58*

Economics of pumped storage. C. Jaeger, bibliog. *il maps diags Eng J 41:87-74 Je '58; Discussion, 41:84-5; Reply, 85-8 Ag '58*

For pump storage projects, unit must fit system conditions. H. H. Roth, diags *Elec World 149:72-4 My 12 '58*

Pumped storage, answer to increasing power demands. *Eng N 160:26 Ap 8 '58*

Pumped storage hydroelectric units applied under low and high heads, diags *Power 101:117 D '57*

Three pump-turbines in operation at Niagara; Sir Adam Beck pumping-generating station. O. Holden, *il diags Elec World 149:56-9 Ja 20 '58*

Waste

Dams affect water properties; reduced oxygen concentration in turbine discharge. D. W. Pritchard, *Elec World 160:49-4 Ag 11 '58*

Alabama

Coosa highlights hydro happenings; Alabama power co. *Elec World 149:52-3 My 12 '58*

Alaska

Big plans for 49th state. map *Elec World 150:49-50 Ji 23 '58*

Argentina

Argentina plans for hydro power. map *Eng N 161:53 Ag 14 '58*

Australia

Rock bolting speeds Snowy Mountains project. T. A. Lang, *il diags Civil Eng 28:90-2 F '58*

Austria

Continental water power; illustrations with text. *Engineer 206:74 Ja 10 '58*
Power dams on the gentle Danube, *il map Eng N 160:73-4 Mr 6 '58*

British Columbia

British Columbia area promises 3,000 mw. map *Elec World 150:116-17 Ag 18 '58*

Installation and operating experiences with Kemano 2500 foot head impulse turbines. J. T. Madill and F. P. Gordon, *il Eng J 41:50-6 F '58*
Water power proposal in the Canadian North West. W. A. C. Bennett, *Engineer 204:569 O 18 '57*

California

Dam in the Sierra for Southern California Edison. *Civil Eng 27:826 N '57*

Haas hydroelectric power project. J. B. Cooke, bibliog. *il map plans diags Am Soc C E Proc 84 [PO 1 no 1629]:1-40 F '58; Discussion, F. L. Lawton, 84 [PO 3 no 1689]:11-12 Je '58*

Rockfill dams; Wishon and Courtright concrete face dams. J. B. Cooke, bibliog. *il plans diags Am Soc C E Proc 84 [PO 4 no 1746]:1-83 Ag '58*

Canada

Evolution of the modern waterwheel generation in Canada. G. D. Floyd and H. R. Sills, bibliog. *il diags Power Apparatus & Systems p6-18 Ap '58; Discussion, p395 O '58*

Future U.S. hydro development concentrates in West Coast area; 1957 design survey; typical hydroelectric plants in the United States and Canada; with tables. *Power 101:96-101 D '57*

Power production and distribution. *il Eng J 41:65-74 Ap '58*

Underground power plants in Canada. A. W. F. McQueen and others bibliog. *il plans diags Am Soc C E Proc 84 [PO 3 no 1670]:1-22 Je '58*

Colorado

Secluded Skaguay, C. Holbrook, *il Comp Air Mag 63:20-3 F '58*

Czechoslovakia

Water power on the Vltava river. J. Martinec, *il Engineer 206:350 Ag 29 '58*

Federation of Rhodesia and Nyasaland

Harnessing the Zambezi; new hydro power plant to aid copper production. R. W. Saporu, *il maps diags Comp Air Mag 62:368-71 D '57*

Germany

Continental water power; illustrations with text. *Engineer 205:74 Ja 10 '58*

Idaho

Dam licenses rejected on Snake river. map *Eng N 160:24-5 Ja 30 '58*

First power flows from Idaho Power's Brownlee dam. *il Elec World 150:43 S 1 '58*

Fish fights plague Idaho Power. *Eng N 161:28 S 25 '58*

Fish trap repair embroils Idaho Power. *il Elec World 150:47-8 S 29 '58*

\$5 million gamble to build a better fish trap; Brownlee dam. *il diags Eng N 161:46-8 Ag 14 '58*

Rockfill dams; Brownlee sloping core dam. T. Mundal, *il maps plan diags Am Soc C E Proc 84 [PO 4 no 1734]:1-26 Ag '58*

India

Longest dam in the world; Hirakud project in Orissa state. *il diags Engineering 185:413-14 Mr 28 '58*

Italy

Better, bigger dams; Italian contribution. C. Semenza, *il map diags Eng N 161:46-50+ S 11 '58*

Underground power houses in Italy and other countries. C. Marcello, *il plans diags Am Soc C E Proc 84 [PO 1 no 1554]:1-43 F '58*

Japan

Japanese boost industries with hydro works on the Kurobe. D. C. Garfield, *il Comp Air Mag 63:19-21 Ja '58*

Sudagai underground power plant. Japan. T. Mizukoshi, *il maps diags Am Soc C E Proc 84 [PO 1 no 1555]:1-17 F '58*

Maine

See also
Passamaquoddy tidal power project

Nebraska

Nebraska clips a bomb fuse; Nebraska public power system. *Elec World 149:71 F 24 '58*

New Brunswick

Power in New Brunswick. *il Eng J 41:84 Je '58*

HYDROELECTRIC plants—Continued

New York (state)

Changes proposed for Niagara. map Eng N 160:23 Ja 9 '58
 Niagara; more compromise, costs and delay? Elec World 149:49 Ja 13 '58

North Carolina

Rockfill dams; Nantahala sloping core dam. J. P. Growdon. II plans diags Am Soc C E Proc 84 [PO 4 no 1742]:1-21 Ag '58

Northwestern states

Progress, partnership, and politics today in the Pacific Northwest. II map Elec World 149:66-8 Ap 7 '58

Ontario

Niagara Falls power. Eng J 41:99 Mr '58
 St Lawrence power project; electrical features of the Robert H. Saunders-St Lawrence generating station. R. M. Fullerton. II diags Eng J 41:85-90 S '58
 Three pump-turbines in operation at Niagara; Sir Adam Beck pumping-generating station. O. Holden. II diag Elec World 149:56-9 Ja 20 '58
 Transient recovery voltages on power systems; analysis and tests of the Ontario hydro system. P. L. Dandeno and others. biblog plan diags p681-90; Discussion. 590-2 Ag '58

Pakistan

Pakistan starts huge earth dam. II Eng N 161:55 Ji 24 '58

Peru

Hydro power is tunneled through Peru's peaks. II maps Elec World 149:40-1 Ja 6 '58

Philippine Islands

Ambuklao underground power station. A. Eberhardt. II map plans diags Am Soc C E Proc 84 [PO 2 no 1598]:1-30 Ap '58; Discussion. 84 [PO 5 no 1830]:19-25 O '58

Portugal

Rockfill dams; the Paradela concrete face dam. L. H. G. Fernandes and others. II maps plans diags Am Soc C E Proc 84 [PO 4 no 1747]:1-28 Ag '58

Quebec (province)

Aluminium builds power backlog. F. J. Starin. II Iron Age 182:50-1 S 25 '58
 Aluminium powers up; underground power-plant. II Steel 143:5 S 29 '58
 Bersimis-Lac Cassa development; abstract. H. F. Abbott. Elec Eng 76:1045 D '57
 Chute-des-Passes; construction drama; putting hydro-power underground. A. J. Fox, Jr. II maps Eng N 159:52-5 N 14 '57
 Design of large pressure conduits in rock. F. W. Patterson and others. II map plans diags Am Soc C E Proc 83 [PO 6 no 1457]:1-30 D '57; Discussion. 84 [PO 3 no 1689]:3-7 Je '58
 Hydro-Quebec finishes first and pushes second Bersimis River job. II maps Eng N 159:28-30+ D 19 '57
 Manicouagan power development. J. M. Higgins and C. Miller. II plan maps Eng J 41:60-9; Discussion. 84 Ji '58
 New power; what's happening in Quebec province. E. T. Nesbitt. Power Eng 62:76 My '58
 Quebec-hydro goes underground. II Elec World 149:73-5 My '58
 Rockfill dams; the Bersimis sloping core dams. F. W. Patterson and D. H. MacDonald. biblog II maps diags Am Soc C E Proc 84 [PO 4 no 1740]:1-31 Ag '58

Russia

Hydro-power construction in the U.S.S.R. F. Loginov. Eng J 41:87-8 Ji '58
 Soviet hydro spurs U.S. big dam works money push. II map Eng N 159:26-7 D 12 '57
 Vast Soviet water effort evaluated. H. C. Itschner. Eng N 160:24 F 27 '58

Saskatchewan

Saskatchewan River generating station of Saskatchewan power corp. R. R. Keith. II map plans diags Eng J 41:65-73 My '58

Scotland

North of Scotland hydro-electric schemes; Breadalban scheme. II map diags Enginer 206:44-6, 84-9, 124-6, 164-5 Ji 11-Ag 1 '58
 Underground power plants in Scotland. C. M. Roberts. II plans diags Am Soc C E Proc 84 [PO 3 no 1675]:1-29 Je '58

Underground powerhouse in poor rock; Glenmoriston power station, Scotland. map diags Eng N 160:63-4+ F 6 '58

Surinam

Brokopondo development. Light Metal Age 16:26 J' '58

Sweden

Better, bigger dams; Swedish contribution. T. Nilsson. II map diags Eng N 161:60-4+ S 11 '58
 Harselle power station. F. Hallhagen and D. Noren. II diags Engineer 205:270-3 Ag 15 '58
 Stornorrforrs; milestone in rock excavation history. T. Goransson. II map diags Eng N 160:38-40+, cover Ja 30 '58
 Sweden excavates 2,100,000 cu yd for tailrace tunnel of underground power plant. T. Nilsson. II diag Civil Eng 28:19-21 Ja '58

Switzerland

Annual report on Swiss water power. Engineer 205:226 F 7 '58
 Better, bigger dams; Swiss contribution. H. Gieot. II map diags Eng N 161:70-2+ S 11 '58

Taiwan

Lung Chien penstock finished. A. E. Niederhoff. II Eng N 161:111-12 S 18 '58

United States

Future U.S. hydro development concentrates in West Coast area; 1957 design survey; typical hydroelectric plants in the United States and Canada; with tables. Power 101:96-101 D '57
 U.S. hydro tempo takes an upturn. II Elec World 148:53 D 30 '57
 U.S. water power; illustrations with text. Engineering 205:pl 16 Ja 10 '58

Venezuela

Lost uninhabited world soon to have steel mill, power dam, and 100,000 people. II Elec Eng 77:764-5 Ag '58
 Venezuela harnesses river to power new steel plant. II Iron & Steel Eng 34:174+ D '57

Washington (state)

Box canyon hydroelectric project; main spillway dam. A. P. Geuss. II map plan diags Am Soc C E Proc 84 [PO 3 no 1672]:1-24 Je '58

HYDROELECTRIC power

Power policy. W. F. Knowland. II Power Ind 74:14-16+ Ji '58
 U.S. power pace maintains lead over Russia. Elec World 149:41 Je 2 '58

See also

Columbia river—Power utilization
 Nile river—Power utilization
 St Lawrence waterway and power project
 Tidal power

HYDROFINING process. See Petroleum refining—Sulfur removal

HYDROFLUORIC acid

Anion exchange of titanium(IV) in hydrofluoric acid. P. H. Woods and L. D. Cockrell. biblog Am Chem Soc J 80:1534-6 Ap 5 '58

Configuration interaction in the hydrogen fluoride molecule. A. M. Karo and L. C. Allen. biblog Am Chem Soc J 80:4496-9 S 5 '58

Electropolishing silicon in hydrofluoric acid solutions. D. R. Turner. biblog diag Electrochem Soc J 105:402-3 Ji '58

Fluorination of Di/T with hydrogen fluoride and mercuric oxide. S. Cohen and others. biblog Am Chem Soc J 79:5979-81 N 20 '57

Future for hydrofluoric. Chem & Eng N 36:32 S 22 '58

HF alkylation. Perco; Phillips petroleum co. flow diag Pet Refiner 37:267 S '58

HF alkylation; Universal oil products co. flow diag Pet Refiner 37:256 S '58

Mechanism of inhibiting effect of hydrofluoric acid in fuming nitric acid on liquid-phase corrosion of aluminum and steel alloys. D. M. Mason and J. B. Rittenhouse. Corrosion 14:59-61 Ji '58

Nitric-hydrofluoric acid evaluation test for type 316 stainless steel. D. Warren. biblog II diag A S T M Bul p45-56 My '58

Reaction rate study of the corrosion of low-hafnium zirconium in aqueous hydrofluoric acid solutions. T. Smith and G. R. Hill. biblog diag Electrochem Soc J 105:117-21 Mr '58

HYDROFLUORIC acid—Continued

Reactions of hydrogen fluoride with some boron-oxygen compounds. E. L. Muettterties. *bibliog Am Chem Soc J* 80:4526-8 S 5 '58

Analysis

Rapid estimation of hydrofluoric acid in red fuming nitric acid. B. B. Baker. *Anal Chem* 30:1085-6 Je '58

Physiological effect

Acute toxicity of red fuming nitric acid-hydrofluoric acid vapor mixture. E. A. Pfitzer and others. *bibliog A M A Archives Ind Health* 18:218-21 S '58

HYDROFOILS

Hydrodynamical investigation on the submerged hydrofoil. T. Nishiyama. *bibliog diag Am Soc Naval Eng J* 70:559-67; Discussion. B. Silverstein. 567-9 Ag '58

Hydrofoil boat; its history and future prospects; abstract. P. R. Crewe. *Engineer* 205:573; Discussion. 573-4 Ap 18 '58

Hydrofoil research projects as a new ocean travel concept. *Machine Design* 30:40-1 JI 10 '58

Navy gas-turbine hydrofoil craft. *il diag Marine Eng/Loc* 63:85 Ap '58

HYDROFORMING process. See Gasoline—Manufacture**HYDROGEN**

Alkoxides of silicon containing silicon-hydrogen bonds. W. S. Miller and others. *bibliog Am Chem Soc J* 79:5604-6 N 5 '57

Anodic corrosion and hydrogen and oxygen overvoltage on lead and lead antimony alloys. P. Ruetschi and B. D. Cahan. *bibliog diag Electrochem Soc J* 104:406-13 JI '57; Discussion. 105:360-1; Reply. 361-3 Je '58

Carbon-hydrogen ratio of distillate fuels. W. L. Nelson. *Oil & Gas J* 56:103 Ag 25 '58

Catalysis of the H₂-D₂O exchange by aqueous buffer solutions. S. L. Miller and D. Rittenberg. *Am Chem Soc J* 80:54-5 Ja 5 '58

Dinickel phosphide as a heterogeneous catalyst for the vapor phase reduction of nitrobenzene with hydrogen to aniline and water. N. P. Sweeny and others. *bibliog Am Chem Soc J* 80:799-800 F 20 '58

Effect of the interaction of tantalum with oxygen, nitrogen, and hydrogen. R. Bakish. *bibliog il Electrochem Soc J* 105:574-7 O '58

Equilibria in the niobium-hydrogen system. W. M. Albrecht and others. *bibliog il diag Electrochem Soc J* 105:219-23 Ap '58

Equilibrium reduction of tungsten dioxide by hydrogen. R. G. Griffiths. *bibliog diag Electrochem Soc J* 105:398-402 JI '58

Exchange reactions between hydrogen gas and hydroxyl groups; a convenient preparation of tritium-labeled water. C. G. Swain and A. J. Kresge. *bibliog diag Am Chem Soc J* 80:5281-3 O 5 '58

Hydrogen as a real-gas driver for shock tubes. P. W. Huber. *bibliog J Aeronautical Sci* 25:269 Ap '58

Hydrogen evolution from duralumin exposed to acid salt solution. T. Marshall and G. J. Schafer. *bibliog diag J Ap Chem* 8:303-10 My '58

Hydrogen in steelmaking slags. J. H. Walsh and others. *bibliog diag J Metals* 8:Trans 1568-76 N '58; Abstract. *Metal Prog* 73:174-1 Mr '58; Discussion. P. Herasymenko. *J Metals* 9:Trans 1288-90; Reply. 1290-1 sec 2 O '57

Hydrogen isomers split. *Chem & Eng N* 36:53-4 JI 7 '58

Hydrogen overpotential on electrodeposited Ni in NaOH solutions. I. A. Ammar and S. A. Awad. *bibliog Electrochem Soc J* 104:686-90 N '57

Hydrogen-sensitive McLeod gauge. C. N. Cochran. *diags R Sci Instr* 29:69-70 Ja '58

Hydrogen transfer: reaction of 1,3-dimethyl-4-ethylbenzene and ethylmethylene with methylcyclohexene; transalkylation reaction of diarylethanes. H. Pines and J. T. Arrigo. *bibliog Am Chem Soc J* 80:4369-78 Ag 20 '58

Interpretation of the beating process of paper based on the hydrogen-bond theory of the mechanical properties of cellulose sheets. A. H. Nilsen. *Tappi* 41:131-4 Mr '58

Intramolecular aromatic ring-hydrogen bonding. D. S. Trifan and others. *bibliog diags Am Chem Soc J* 79:5666-7 D 20 '57

Intramolecular hydrogen bonding in o-nitroaniline. L. K. Dvally and others. *Chem & Ind* p262-3, 1206 Mr 1, S 13 '58

Kinetics of hydrogen exchange between hydrogen peroxide and water studied by proton magnetic resonance. M. Anbar and others. *bibliog Am Chem Soc J* 80:2630-4 Je 9 '58

Kinetics of reaction of steel with hydrogen sulfide-hydrogen mixtures. A. Dravnieks and C. H. Samans. *bibliog (29 ref) il diags Electrochem Soc J* 105:183-91 Ap '58

Mechanism of chemisorption; hydrogen on nickel at elevated pressures. L. Vaska and P. W. Selwood. *diags Am Chem Soc J* 80:1331-5 Mr 20 '58

Production of beams of polarized protons by the acceleration of protons derived from polarized hydrogen molecules. R. L. Garwin. *diag R Sci Instr* 29:374-6 My '58

Reaction of nitric oxide with activated carbon and hydrogen. G. Bedjai and others. *bibliog Ind & Eng Chem* 50:1165-8 Ag '58

Reactions of free radicals with aromatics; involvement of ring hydrogens in the reaction of methyl radicals with alkylbenzenes. S. H. Wilen and E. L. Eljel. *bibliog Am Chem Soc J* 80:3309-14 JI 5 '58

Reduction of water to hydrogen by a complex cyanide of cobalt. N. K. King and M. E. Winfield. *bibliog Am Chem Soc J* 80:2060-5 My 5 '58

Report on pilot plant synthesis of liquid fuels. C. T. Yu and others. *bibliog flow diag il Chem Eng Prog* 54:55-8 Mr '58

Role of ions in the radiation induced exchange of hydrogen and deuterium. S. O. Thompson and O. A. Schaeffer. *bibliog diag Am Chem Soc J* 80:553-8 F 5 '58

Separation of orthohydrogen and parahydrogen. W. R. Moore and H. R. Ward. *Am Chem Soc J* 80:2909-10 Je 5 '58

Separation of orthohydrogen from parahydrogen and of para-deuterium from ortho-deuterium by preferential adsorption. C. M. Cunningham and others. *bibliog diag Am Chem Soc J* 80:2382-4 My 20 '58

Simple metal orbital treatment of the binding of the hydrogen atom in cobalt carbonyl hydride. F. A. Cotton. *bibliog Am Chem Soc J* 80:4425-6 Ag 20 '58

Stoichiometric numbers and hydrogen overpotential. A. C. Makrides. *bibliog Electrochem Soc J* 104:677-81 N '57; Discussion. 105:365-7 Je '58

Studies in hydrogen-bond formation; the rôle of hydrogen bonds in dyeing processes. D. S. E. Campbell and others. *bibliog (36 ref) Soc Dyers & Col J* 73:546-53 D '57

Vinylidene cyanide: reaction of polyvinylidene cyanide with active hydrogen compounds of the type XCH₂Y. J. C. Westfahl. *bibliog Am Chem Soc J* 80:374-7 F 20 '58

Viscosity of five gases; a re-evaluation. J. Kestin and H. E. Wang. *bibliog A S M E Trans* 80:11-17 Ja '58

See also

Aluminum—Hydrogen content
Hydrogenation
Iron—Hydrogen content
Metals—Hydrogen effect
Steel—Hydrogen effect

Analysis

Analysis for industry; microdetermination of carbon and hydrogen. J. Körbl. *bibliog Ind Chem* 34:507-10 S '58

Carbon-hydrogen analysis of coke on catalysts. S. G. Hindin and others. *diag Anal Chem* 29:1850-2 D '57

Determination of carbon, hydrogen, and nitrogen in organoboron compounds. P. Arthur and others. *bibliog diags Anal Chem* 29:1852-4 D '57

Microdetermination of carbon and hydrogen by a rapid combustion procedure. G. I. Robertson and others. *bibliog il diag Anal Chem* 30:132-5 Ja '58

Microdetermination of carbon and hydrogen in pyrophoric and hygroscopic organic compounds. W. P. Pickhardt and others. *bibliog il diag Anal Chem* 30:1298-301 JI '58

Rapid and precise carbon-hydrogen determination; automatic macrocombustion apparatus. T. T. White and others. *bibliog il diags Anal Chem* 30:409-14 Mr '58

Atomic hydrogen

Addition of hydrogen atoms to solid olefins at -195°. R. Klein and M. D. Scheer. *bibliog Am Chem Soc J* 80:1007 F 20 '58

Chemical effects of atomic hydrogen in aqueous solutions. T. W. Davis and others. *bibliog diags Am Chem Soc J* 80:4487-91 S 5 '58

HYDROGEN—Atomic hydrogen—*Continued*

Relative activation energies of removal of primary, secondary and tertiary hydrogen atoms by methyl radicals. F. O. Rice and T. A. Vanderslice. *bibliog* Am Chem Soc J 80:291-3 Ja 20 '58

Vinylidene cyanide; reaction of polyvinylidene cyanide with compounds containing a single active hydrogen atom. J. C. Westfahl. *bibliog* Am Chem Soc J 80:871-4 F 20 '58

Industrial applications

Direct-gas-cooled alternators. *il* plan diags Engineer 204:710-13 N 15 '57

Getting more out of alternators: rotor and stator direct cooled with hydrogen. *il* diags Engineering 184:690-2 N 29 '57

Operation of hydrogen-cooled turbine generators. R. A. Towne. *il* diags Westinghouse Eng 18:123-5 JI '58

Isotopes

Causes of secondary hydrogen isotope effects. E. Spinner. *bibliog* Chem & Ind p827 Je 28 '58

Low temperature distillation of hydrogen isotopes. K. D. Timmerhaus and others. *bibliog* flow diags *il* diags Chem Eng Prog 54: 35-46 Je '58

See also

Deuterium

Tritium

Manufacture

Soviets to wind up their industry. *Product* Eng 29:24 Je 16 '58

Nuclear reactions

Cold fusion of hydrogen nuclei. K. Strauch and others. *Franklin Inst* J 265:276-7 Mr '58

Spectra

Absorption techniques as a tool for 21-cm research. A. E. Lilley and E. F. McClain. *bibliog* (26 ref) diags *Inst Radio Eng Proc* 46: 221-9 Ja '58

Excitation of the hydrogen 21-cm line. G. B. Field. *bibliog* (26 ref) *diag* *Inst Radio Eng Proc* 46:240-50 Ja '58

Extragalactic 21-cm line studies. D. S. Heeschen and N. H. Dieter. *bibliog* *Inst Radio Eng Proc* 46:234-9 Ja '58

Hydrogen line study of stellar associations and clusters. T. K. Menon. *bibliog* *diag* *Inst Radio Eng Proc* 46:230-4 Ja '58

21-centimetre line. *Electronic & Radio Eng* 35:133-4 Ap '58

HYDROGEN, Liquid

Hydrogen as a light fuel: abstract. H. Harvey. *il* S A E J 6:68:88 JI '58

Liquid hydrogen bubble chamber expanded by a piston in the liquid. E. M. Bolge and others. *bibliog* *il* diags R Sci Instr 29:297-9 Ap '58

More hydrogen, less space. *Chem & Eng N* 35:48 N 18 '57

Ortho-para catalysis in liquid-hydrogen production. D. H. Weitzel and others. *bibliog* flow sheet diags J Res Nat Bur Stand 60:221-7 Mr '58

Pressure-fed liquid hydrogen target; Dewar. R. Littauer. diags R Sci Instr 29:178-9 F '58

Refluxing liquid hydrogen target. R. R. Wilson. *diag* R Sci Instr 29:732 Ag '58

Surface catalysis of the ortho- to para-conversion in liquid hydrogen by paramagnetic oxides on alumina. C. M. Cunningham and H. L. Johnston. *bibliog* Am Chem Soc J 80:2377-82 My 20 '58

HYDROGEN bromide. See Hydrobromic acid

HYDROGEN chloride. See Hydrochloric acid

HYDROGEN cyanide. See Hydrocyanic acid

HYDROGEN disulfide. See Hydrogen sulfides

HYDROGEN flash tubes. See Vacuum tubes

HYDROGEN halides

Behavior of kojic acid toward acrylonitrile, halo acids and hydrogen cyanide. C. D. Hurd and S. Trofimenko. *Am Chem Soc J* 80:2526-7 My 20 '58

See also

Hydrobromic acid

HYDROGEN iodides. See Hydriodic acid

HYDROGEN ion concentration

Acid mantle of the skin surface. H. Goodman. *bibliog* *Ind Med* 27:105-8 F '58

Close pH control aces uranium bottleneck. *il* Chem Eng 64:150+ D '57

Controlled pH halts fouling, corrosion. B. Pader and E. S. Kennedy. *il* *diag* *Power* Ind 74:11+ Ag '58

Deadly mix; major fish kill hints that salt water pollutants have synergistic or additive effects at low pH; abstract. G. Chanin and R. P. Dempster. *il* *Chem & Eng N* 36:70 Ap 21 '58

Further studies of the isomerization of bovine plasma albumin; the effect of detergent ions at low pH and preliminary observations at high pH. J. F. Foster and K. Aoki. *bibliog* diags *Am Chem Soc J* 80:5215-19 O 5 '58

How to use a portable pH meter. *il* *Power* 102:136 My '58

pH control in fermentation processes; symposium. *il* diags *Ind & Eng Chem* 50:1259-66 S '58

pH controls up output and lower cost in nitrate processing. C. G. Campbell and others. diags I S A J 5:52-5 JI '58

Importance of pH value in meat microbiology; abstract. M. Ingram. *Chem & Ind* p88 Ja 25 '58

Improvements in measuring pH in sulphite pulping. K. A. E. Blackmore and A. E. Markham. diags *Tappi* 41:sup 138A-40A JI '58

Industrial-type flow cell for monitoring pH. K. J. Hahn and K. Koyama. diags *Ind & Eng Chem* 49:sup 63A-4A N '57

Investigation of chemical variables affecting the corrosion of copper. W. D. Robertson and others. *bibliog* *diag* *Electrochem Soc J* 105:569-73 O '58

Oxidation of amvlopectin with hypochlorite at different hydrogen ion concentrations. R. L. Whistler and R. Schweiger. *bibliog* *Am Chem Soc J* 79:6460-4 D 20 '57

Physical-chemical studies of soluble antigen-antibody complexes; the influence of pH on the association of a divalent hapten and antibody. S. I. Epstein and S. J. Singer. *bibliog* diags *Am Chem Soc J* 80:1274-83 Mr 20 '58

Size and shape of bovine serum albumin as a function of pH, determined by small-angle scattering of X-rays. M. Champagne and others. *Am Chem Soc J* 80:1002-3 F 20 '58

Studies on the enzyme dextranucrase; the effect of pH on enzyme activity. W. B. Neely. *bibliog* *Am Chem Soc J* 80:2010-13 Ap 20 '58

Sugar pH and strength changes in cotton during storage. D. Nickerson and J. J. Tomaszewski. *Textile Res J* 28:528-9 Je '56

Temperature range of pH scale extended. *Glass Ind* 39:209 Ap '58

HYDROGEN peroxide

Anhydrous hydrogen peroxide as a propellant. R. Bloom, Jr. and N. J. Brunsvid. *bibliog* *il* diags *Chem Eng Prog* 53:541-7 N '57

Bleaching of groundwood pulp with combinations of peroxide and hydrosulphite. R. W. Barton. *flow* *diag* *Tappi* 41:sup 161A-5A Mr '58

Chemistry of esters of leuco vat dyes; the oxidation of the mono- and di-sulphuric esters of quinol (hydroquinone) and of 1:4 naphthaquinol with acidic hydrogen peroxide. A. Johnson and M. L. Rahman. *bibliog* *Soc Dyers & Col J* 74:291-6 Ap '58

Determination of simple aliphatic nitriles by reaction with alkaline hydrogen peroxide. D. H. Whitehurst and J. B. Johnson. *Anal Chem* 30:1332-3 Ag '58

Electrophilic displacement reactions; effects of substituents on rates of reactions between hydrogen peroxide and benzenesulphonic acid. H. G. Kuivila and A. G. Armour. *Am Chem Soc J* 79:5669-82 N 5 '57

Hazards in the handling of hydrogen peroxide. *Air Cond Heat & Ven* 54:71 N '57

Heat content and vapor pressure of H₂O₂. D. J. Simkin and C. O. Hurd. *Chem Eng* 65:155-6 Ja 13 '58

Hydrogen peroxide; abstract. W. F. K. Wynne-Jones. *Chem & Ind* p 1532-3 N 23 '57

Hydrogen peroxide-induced Ce(III)-Ce(IV) exchange system. P. B. Sigler and B. J. Masters. *bibliog* *Am Chem Soc J* 79:6353-7 D 20 '57

Hydrogen peroxide-induced oxidation of ascorbic acid in passion fruit juice. E. Ross and A. T. Chang. *bibliog* J Agri & Food Chem 6:610-15 Ag '58

Hydrogen peroxide injection boosts jet thrust 120 per cent. L. E. Varadi. *diag* *Aviation Age* 29:54-8 Je '58

Imperfection dependence of the catalytic decomposition of H₂O₂ on Al₂O₃. R. N. Tucker and P. Gibbs. diags J Ap Phys 29: 1374-5 S '58

HYDROGEN peroxide—Continued

Investigation of the catalytic mechanism of catalase and other ferric compounds with doubly O¹⁸-labeled hydrogen peroxide. R. C. Jannaglin and J. H. Wang. *Am Chem Soc J* 80:786-7 F 20 '58

Kinetics of hydrogen exchange between hydrogen peroxide and water studied by proton magnetic resonance. M. Anbur and others. *Biblog Am Chem Soc J* 80:2630-4 Jc 5 '58

Kinetics of the hydrogen peroxide-sulfite reaction in alkaline solution. P. M. Mader. *Biblog Am Chem Soc J* 80:2634-9 Jc 5 '58

Kinetics of the oxidation of a mercaptan to the corresponding disulfide by aqueous hydrogen peroxide. L. Pascual and D. S. Tarr. *Biblog Am Chem Soc J* 79:6016-20 N 20 '57

Nonadicate stabilization of hydrogen peroxide bleach solutions. D. M. Cates and W. H. Cranor. *Textile Res J* 28:708-13 Ag '58

Peroxodicobalt(III) complexes, intermediates in the catalytic decomposition of hydrogen peroxide. R. G. Valman and M. B. Wurga. *Biblog Am Chem Soc J* 80:1011 F 20 '58

Prediction of the explosive behavior of mixtures containing hydrogen peroxide. E. S. Shanley and J. R. Perrin. *diag Jet Propulsion* 28:382-5 Jc '58

Reaction of alkaline hydrogen peroxide with certain acid halides and anhydrides in the presence of benzidine-type bases. D. J. Marsh and E. Neale. *Biblog J Ap Chem* 8:394-40 Jc '58

Solubility relationships in hydrogen peroxide solutions containing pyrophenolate and stannate inhibitors. G. C. Hood and others. *Ind & Eng Chem* 50:1211-12 Ag '58

Solvay activated hydrogen peroxide bleaching process. W. R. Steele and S. M. Rogers. *Am Dyestuff Rep* 48:965-7 D 16 '57; *Excerpta, Textile Ind* 192:105-6 Ja '58; *Abstract, Textile World* 108:139 F '58

Some aspects of bleaching with hydrogen peroxide and with peracetic acid. L. Chesner and G. C. Woodford. *Biblog Soc Dyers & Col J* 74:531-41 J1 '58; *Discussion*, 74:541-2, 560 J1, D '58

Analysis

Polarographic determination of hydrogen peroxide, formaldehyde, and acetaldehyde in mixtures. S. Sandler and Y. H. Chung. *Biblog Anal Chem* 30:1252-5 J1 '58

Manufacture

H₂O₂ struggle looms: Canadian Industries, Ltd. *Il Chem & Eng N* 36:924-5 My 26 '58

Hydrogen peroxide: Becco chemical division of Food machinery & chemical corp. flow diag *Pet Refiner* 30:256 N '57

New peroxide unit for Canadian Industries Ltd. *Il Can Chem Process* 42:64-5 F '58

HYDROGEN selenide

Second ionization constant of hydrogen selenide. R. H. Wood. *Biblog Am Chem Soc J* 80:1559-62 Ap 5 '58

HYDROGEN sulfide

Behavior of steels in hydrogen sulfide environments. L. W. Vollmer. *Biblog Il Corrosion* 14:38-42 J1 '58

Corrosion products of mild steel in hydrogen sulfide environments. F. H. Meyer and others. *Biblog(52 ref) Il diag Corrosion* 14:69-75 F '58

Development of the Lacq natural gas field. M. Moyal. flow sheet *Il diag Ind Chem* 34:27-32 Ja '58

High-temperature hydrogen sulfide corrosion of stainless steels. E. B. Backensto and others. *Biblog Il Corrosion* 14:45-9 Ja '58

Kinetics of reaction of steel with hydrogen sulfide-hydrogen mixtures. A. Dravnieks and C. H. Samans. *Biblog(29 ref) Il diag Electrochem Soc J* 105:182-91 Ap '58

Mechanism of the iron-hydrogen sulfide reaction at elevated temperature. abstract. F. Huggil and others. *Pet Refiner* 37:182 My '58

Selective absorption of hydrogen sulphide in carbonate solutions. F. H. Garner and others. *Biblog diag J Ap Chem* 8:325-36 My '58

Sulfur from H₂S. flow diag *Pet Eng* 30:C40a-40b Jc '58

See also

Water purification—Hydrogen sulfide removal

Analysis

Potentiometric recorder for hydrogen sulfide and hydrogen cyanide. J. P. Strange. *Il diag Anal Chem* 29:1878-81 D '57

HYDROGEN sulfides

Role of hydrogen disulfide in vulcanization. E. I. Tin'yakova and others. *Biblog Rubber Chem & Tech* 31:353-5 Ap '58

HYDROGENATION

Benzene purity by hydrogenation. *Il Can Chem Process* 42:69 Mr '58

Catalytic hydrogenation of 3-phenyl-1-butene-2-C¹⁴. W. A. Bonner and others. *Biblog Am Chem Soc J* 80:4732-6 S 5 '58

Catalytic perhydrogenation of rosin. J. B. Montgomery and others. *Biblog Ind & Eng Chem* 50:313-16 Mr '58

Chemical engineering unit processes: hydrogenation and hydrogenolysis. M. R. Arnold and others. *Ind & Eng Chem* 50:1370-9 *Biblog(p* 1376-9) pt 2 S '58

Effect of amines on the catalytic hydrogenation of chlorobenzene. E. R. A. Peeling and D. K. Shipley. *Chem & Ind* p362-3 Mr 22 '58

Effect of gamma radiation on the hydrogenation of cottonseed oil. L. F. Albright and others. *Biblog diag Am Oil Chem Soc J* 35:246-4 My '58

Grease from cable oils. flow diag *Il Engineering* 186:133 Ag 1 '58

Gulf HDS: Gulf research and development co. flow diag *Pet Refiner* 37:284 S '58

Hydrogen improves cat cracker feed. M. D. Abbott and others. *Biblog Pet Refiner* 37:161-6 My '58; *Same abr. Oil & Gas J* 55:144-7+ My 19 '58; *Abstract, Pet Eng* 30:C8 Jc '58

Hydrogenation of butadiene rubber. A. I. Yakubchik and G. N. Gromova. *Biblog Rubber Chem & Tech* 31:156-65 Ja '58

Hydrogenation of butadiene rubber solutions: influence of the solvent with palladium-on-calcium carbonate catalyst. A. I. Yakubchik and G. N. Gromova. *Biblog Rubber Chem & Tech* 31:588-91 J1 '58

Hydrogenation of fatty oils with palladium catalyst. M. Zajew. *Biblog Am Oil Chem Soc J* 35:475-7 S '58

Hydrogenation of furans; abstract. R. Ercoli and R. E. Rafael. *Ind Chem* 34:570-1 O '58

Hydrocrater converts heavy oil to fuel gas. *diag Chem Eng* 33:81 Ag 26 '58

Nickel, copper and some of their alloys as catalysts for the hydrogenation of carbon dioxide. L. E. Cratty, Jr. and W. W. Russell. *Biblog Am Chem Soc J* 80:767-73 F 20 '58

Oil hardening plant at Purfleet. flow diag *Engineer* 206:304 Ag 22 '58

Organoaluminum halides as hydrogenation catalysts. J. A. Ridgway, Jr. *Biblog Ind & Eng Chem* 50:1139-42 Ag '58

Positional isomers formed during the hydrogenation of cottonseed oil. M. H. Chahine and others. *Biblog Am Oil Chem Soc J* 35:396-401 Ag '58

Raney cobalt hydrogenation catalysts: applications and promoter effects. B. V. Aller. *Biblog J Ap Chem* 8:492-5 Ag '58

Raney cobalt hydrogenation catalysts: the physical and chemical properties of the catalyst. B. V. Aller. *Biblog J Ap Chem* 8:183-7 Mr '58

Reactions of conjugated fatty acids: dibasic acids by hydrogenation and oxidative cleavage. C. R. Schofield and others. *Biblog Am Oil Chem Soc J* 35:405-9 Ag '58

Semimicro hydrogenation with electrically generated hydrogen. J. W. Miller and D. D. DeFord. *Biblog diag Anal Chem* 30:295-8 F '58

Sodium out, hydrogen in: Procter & Gamble changes over to catalytic hydrogenation to get fatty alcohols. *Il diag Chem & Eng N* 36:44-7 Ja 27 '58

Study of the lignin fraction obtained from the alkaline hydrogenation of maplewood. H. G. Arlt, Jr. and others. *Biblog Tappi* 41:764-70 F '58

Thermal hydrogenation: transfer of hydrogen from tetralin to cracked residua. C. S. Carlson and others. *Biblog Ind & Eng Chem* 50:1067-70 J1 '58

See also

Coal liquefaction

Dehydrogenation

Fischer-Tropsch process

Hydrogenolysis

HYDROGENATION, Heat of

Heats of hydrogenation. R. B. Turner and others. *Biblog Am Chem Soc J* 80:1424-33 Mr 20 '58

HYDROGENATION of coal. See Coal liquefaction**HYDROGENOLYSIS**

Batch hydrogenolysis reactions of pure compounds related to petroleum oils. E. B. Shultz, Jr. and H. E. Linden. *Biblog Ind & Eng Chem* 49:2011-16 D '57

HYDROGENOLYSIS—Continued

- Chemical engineering unit processes: hydrogenation and hydrogenolysis. M. R. Arnold and others. *Ind & Eng Chem* 50: 1370-9 bibliog(p 1376-9) pt 2 S '58
- Hydrogenolysis of sorbitol; glycerol can be obtained in 40 per cent yield from sorbitol. I. T. Clark. *Ind & Eng Chem* 50:1125-6 Ag '58
- Hydrogenolysis studies in the tetracycline series; 6-deoxytetracyclines. C. R. Stephens and others. *biblog Am Chem Soc J* 80: 5324-5 O 5 '58
- Observation of rearrangement during hydrogenolysis; a new method of preparing bridgehead carboxylic acids. H. Kwart and G. Nul. *biblog Am Chem Soc J* 80:248-9 Ja 5 '58

HYDROGRAPHIC surveying

- Recent underwater surveys using low-frequency sound to locate shallow bedrock. W. O. Smith. *biblog il maps diags Geol Soc Bul* 69:69-97, pl 1-9 Ja '58

See also

Sounding

HYDROL. See Molasses

HYDROLOGY

- Northeastern floods of 1955; flood control hydrology. E. F. Childs. *map Am Soc C E Proc* 84 [HY 3 no 1663]:1-24 Je '58

HYDROLYSIS

- Abnormal hydrolysis of γ -nitro- γ -disubstituted butyric acid derivatives. C. Westfahl. *biblog Am Chem Soc J* 80:3423-30 J 5 '58
- Acid hydrolysis (aqueous) of the trichloroammineplatinate(II) ion. T. S. Elleman and others. *Am Chem Soc J* 80:537-41 E 5 '58
- Activation energies of the hydrolysis of esters and amides involving carbonyl oxygen exchange. M. L. Bender and others. *biblog Am Chem Soc J* 80:1044-8 Mr 5 '58
- Alkaline hydrolysis of polyacrylates. W. Cooper. *Chem & Ind* p263-4 E 5 '58
- Alkaline hydrolysis of representative hardwoods. A. Pearl and others. *Tappi* 41: 255-6 My '58
- Amine boranes; hydrolysis of pyridine diphenylborane and the mechanism of hydride transfer reactions. M. F. Hawthorne and E. S. Lewis. *biblog Am Chem Soc J* 80:4256-9 Ag 20 '58
- Anomalous hydrolysis of some derivatives of 2-aminoethyl diphenyl phosphate. G. J. Durant and others. *Chem & Ind* p 157-8 F 8 '58
- Argillation and direct bauxitization in terms of concentrations of hydrogen and metal cations at surface of hydrolyzing aluminum silicates. W. D. Keller. *biblog(26 titles) il Am Assn Pet Geologists Bul* 42:233-45 F '58; Discussion. C. P. Gravenor and G. J. Govett. 42:2523-5; Reply. 2525-6 O '58
- Calcium chloride and hydroxyl ion catalyzed hydrolysis of several acylated α -amino acid esters. R. B. Martin and C. Niemann. *Am Chem Soc J* 79:5823 N 5 '57
- Carbon-14 kinetic isotope effects; the hydrolysis of 2-chloro-2-methylpropane-2-¹⁴C. M. L. Bender and G. J. Buist. *biblog Am Chem Soc J* 80:4304-11 Ag 20 '58
- Chemical engineering unit processes: hydration and hydrolysis. W. P. Hamner and D. W. McDonald. *il Ind & Eng Chem* 50: 1365-9 bibliog(p 1368-9) pt 2 S '58
- α -Chymotrypsin-catalyzed hydrolysis of a series of hydrazides; evaluation of the kinetic constants for aqueous systems at 25° and at the optimum pH for each specific substrate. R. Lutwack and others. *biblog Am Chem Soc J* 79:5590-3 N 5 '57
- α -Chymotrypsin-catalyzed hydrolysis of acetyl-, chloroacetyl- and benzoyl-L- valine methyl ester. T. H. Applewhite and others. *biblog Am Chem Soc J* 80:1465-9 Mr 20 '58
- α -Chymotrypsin-catalyzed hydrolysis of α -N-benzoyl- β -(4-pyridyl-1-oxide)-L-alanine methyl ester and of α -N-(nicotinyl-1-oxide)-L-phenylalanine methyl ester. R. L. Bixler and C. Niemann. *biblog Am Chem Soc J* 80:2716-19 Je 5 '58
- α -Chymotrypsin-catalyzed hydrolysis of methyl hippurate in aqueous solutions at 25° and pH 7.9, its inhibition by indole and its dependence upon added non-aqueous solvents. T. H. Applewhite and others. *biblog Am Chem Soc J* 80:1457-64 Mr 20 '58
- Dependence of the α -chymotrypsin-catalyzed hydrolysis of α -N-nicotinyl-L-tyrosinhydrazide upon the concentration of the buffer. R. J. Kerr and C. Niemann. *biblog Am Chem Soc J* 80:1469-73 Mr 20 '58

- Effect of various salts on the α -chymotrypsin-catalyzed hydrolysis of two acylated α -amino acid esters. R. B. Martin and C. Niemann. *biblog Am Chem Soc J* 80:1481-6 Mr 20 '58
- Enzymic hydrolysis of naringin in grapefruit. S. V. Ting. *biblog J Agri & Food Chem* 6:546-9 J 1 '58
- Evidence for an intermediate in the hydrolysis of ATP by muscle proteins. H. M. Levy and D. E. Koshland, Jr. *biblog Am Chem Soc J* 80:3164-5 Je 20 '58
- Evidence for general base catalysis in an ester hydrolysis: hydrolysis of an amino-alkyl acetylsalicylate. E. R. Garrett. *Am Chem Soc J* 80:4049-56 Ag 5 '58
- Fluoride analysis of glasses and silicate materials by pyrohydrolysis separation. P. B. Adams and J. P. Williams. *biblog il diag Am Cer Soc J* 41:377-80 S 1 '58
- Graded acid hydrolysis studies of a xylan polyuronide associated with wood cellulose from western hemlock. J. K. Hamilton and N. S. Thompson. *biblog diags Am Chem Soc J* 79:6464-9 D 20 '57
- Hecogenin from agaric salsana by microbially hydrolysis. C. H. Hassall and R. S. W. Smith. *biblog Chem & Ind* p 1570 N 30 '57
- Hydrolysis and deuterium exchange of dibromofluoromethane and fluorodiodomethane. J. Hine and others. *biblog Am Chem Soc J* 80:319-24 F 20 '58
- Hydrolysis and olation of Th(IV) chelates of polyanion carboxylic acids. R. F. Bogucki and A. E. Martell. *biblog diags Am Chem Soc J* 80:4170-4 Ag 20 '58
- Hydrolysis of diethyl methoxypthalates. C. A. Burkhard and R. E. Burnett. *biblog Am Chem Soc J* 80:341-3 Ja 20 '58
- Hydrolysis of β -alkyl trifluoroacetates. A. Moffat and H. Hunt. *biblog Am Chem Soc J* 80:2985-6 Je 20 '58
- Hydrolysis products from methylated arabinosyloglycan and arabinogalacto-mono-O-methylglucuronosyloglycan of corn cobs. A. L. Whistler and G. E. Lauterbach. *biblog Am Chem Soc J* 80:1987-90 Ap 20 '58
- Hydrolysis reactions of thiocetamide in aqueous solutions. E. A. Butler and others. *biblog diags Anal Chem* 30:1379-83 Ag '58
- Intramolecular substitution reactions: the hydrolysis of *trans*-4-chlorocyclohexanol. H. W. Heine. *biblog Am Chem Soc J* 79:6268-70 D 5 '57
- Kinetics of ester hydrolysis by horse liver esterase. N. C. Craig and G. B. Kistiakowsky. *biblog Am Chem Soc J* 80:1574-9 Ap 5 '58
- Kinetics of some metal ion-catalyzed hydrolyses of isopropyl methylphosphonofluoride (GB) at 25°. J. Epstein and D. H. Rosenblatt. *biblog Am Chem Soc J* 80:3596-8 J 20 '58
- Kinetics of the α -chymotrypsin-catalyzed hydrolysis of α -N-carboxy-L-tyrosinamide and its inhibition by α -N-carboxy-L-tyrosinamide. D. T. Manning and C. Niemann. *biblog Am Chem Soc J* 80:1478-81 Mr 20 '58
- Kinetics of the hydrolysis of trimethylene oxide in water, deuterium oxide and 40 per cent aqueous dioxane. J. G. Pritchard and E. A. Long. *biblog Am Chem Soc J* 80:4162-5 Ag 20 '58
- Methylene derivatives as intermediates in polar reactions: the basic hydrolysis of bromochlorodiodomethane. J. Hine and F. P. Prosser. *biblog Am Chem Soc J* 80: 4282-5 Ag 20 '58
- Partial degradation and reconstitution of podocarpic acid: a novel method of hydrolysis of highly sterically hindered esters. E. Wenkert and B. G. Jackson. *biblog Am Chem Soc J* 80:217-19 Ja 5 '58
- Polymerization of anions; the hydrolysis of sodium tungstate and of sodium chromate. M. L. Freedman. *biblog il Am Chem Soc J* 80:2072-7 My 5 '58
- Precise potentiometric method for measuring reaction rates; application to the α -chymotrypsin-catalyzed hydrolysis of methyl hippurate. J. H. Lang and others. *biblog Am Chem Soc J* 80:4923-8 S 20 '58
- Precision of the pyrohydrolytic determination of fluoride and uranium in uranyl fluoride and uranium tetrafluoride. J. O. Hibbits. *Anal Chem* 29:1760-2 D 5 '57
- Preparation of some fluoroalkylmethylidichlorosilanes and their hydrolysis products. P. Tarrant and others. *biblog Am Chem Soc J* 79:6536-40 D 20 '57
- Probable absence in cotton of bonds hydrolyzed with particular ease. N. Sanyer and C. B. Purves. *biblog Tappi* 41:119-23 Mr '58

HYDROLYSIS—Continued

- Rate studies on complex reaction systems in a stirred flow reactor; the alkaline hydrolysis of diethyl succinate. R. L. Burnett and L. P. Hammett, *bibliog diag Am Chem Soc J* 80:2415-20 My 20 '58
- Separation of uranium from other metals in sulphate solution by fractional hydrolysis. T. V. Arden and others, *bibliog J Ap Chem* 8:141-59 Mr '58
- Study of the hydrolysis of phosphonamides; aromatic phosphonamides. J. D. Chanley and E. Feagenson, *bibliog Am Chem Soc J* 80:2686-91 Je 5 '58
- Temperature dependence of the carbon isotope effect in the acid hydrolysis of urea. P. E. Yankwich and A. E. Veazie, *bibliog Am Chem Soc J* 80:1835-8 Ap 20 '58
- Thermodynamic properties of neodymium hydroxide $\text{Nd}(\text{OH})_3$ in acid, neutral and alkaline solutions at 25°; the hydrolysis of the neodymium and praseodymium ions, Nd^{3+} , Pr^{3+} , R. S. Tobias and A. B. Garrett, *bibliog Am Chem Soc J* 80:3532-7 J1 20 '58

HYDROMECHANICAL devices

- Hydro-mechanical drive developed. *Tool Eng* 41:114 J1 '58

HYDROMECHANICS

See also

Hydrostatics**HYDROMETALLURGY**

- Atomic-age metal extraction. L. W. Coffey, *bibliog (34 titles) flow sheets diag Chem Eng* 65:109-17 Ja 27 '58 (reprints 50c)
- Hydro-metallurgy; its scope and limitations. F. A. Forward, *bibliog Chem Eng Prog* 54:41-6 Ap '58
- Hydrometallurgy of refractory Canadian uranium and columbium minerals. A. D. Pittuck and others, *bibliog flow sheets Can Min & Met Bul* 51:228-33 Ap '58
- Hydrometallurgy, on the road up. K. W. Bennett, *Iron Age* 181:27 Ja 9 '58
- Leach leeches arsenic bugaboo in metal ore; Sill process of recovering cobalt. *il diag Chem Eng* 65:80-2 Ja 13 '58

HYDROMETERS

- Submerged cantilever densimeter for fibers. H. de Vries and H. G. Weijland, *il Textile Res J* 28:183-4 F '58

HYDROPEROXIDES

- Detection and measurement of hydroperoxides by near infrared spectrophotometry. R. T. Holman and others, *bibliog Am Oil Chem Soc J* 35:422-5 Ag '58
- Electric moments of organic peroxides; di-alkyl peroxides, alkyl hydroperoxides and diacyl peroxides. W. Lobenez and others, *bibliog Am Chem Soc J* 80:3505-9 J1 20 '58
- Nitrogen analogs of ketenes; formation of hydroperoxides and vinylamines by reaction with lithium aluminum hydride and organometallic reagents. C. L. Stevens and J. Gasser, *bibliog Am Chem Soc J* 79:6057-62 N 20 '57
- Peroxides; the mechanism for the thermal decomposition of *n*-butyl hydroperoxide and *n*-butyl 1-hydroxybutyl peroxide. L. J. Durham and others, *bibliog Am Chem Soc J* 80:332-7 Ja 20 '58
- Peroxides; the thermal decomposition of primary hydroperoxides. C. F. Wurster, Jr. and others, *bibliog Am Chem Soc J* 80:327-31 Ja 20 '58
- Phenol and acetone via cumene hydroperoxide. P. W. Sherwood, *bibliog Pet Eng* 30: C32+ J '58 (to be cont)
- Syntheses by free-radical reactions; unsaturated long-chain diketones from cyclic α -hydroperoxides and 1,3-dienes by additive dimerization. D. D. Coffman and H. N. Cripps, *bibliog Am Chem Soc J* 80:2877-9 Je 5 '58
- HYDROPHONE**
- Transistor preamp has very low noise. R. N. Foss, *diag Electronics* 31:92+ J1 18 '58
- HYDROPLANES**
- See also
- Seaplanes
- HYDRO-PNEUMATIC brakes.** See Brakes, Hydro-pneumatic
- HYDRO-PNEUMATIC control**
- Air cuts costs on tool feed circuits. R. S. Brosius, *il diag Ap Hydraulics* 11:98-9 Je '58
- Air-oil clamps won't let inchworm squirm: Airborne instruments lab. E. Silver, *diags Ap Hydraulics* 11:70 J1 '58
- Pneumatics + hydraulics; here's how to combine the virtues of both in two-fluid systems. H. L. Stewart and J. M. Moritz, *diags Machine Design* 30:114-17 J1 10 '58

HYDROPONICS. See Plants—Soilless culture**HYDROQUINONE**

- Diastereomeric tetrahydropyranyl ethers of hydroquinone. R. Stern and others, *bibliog Am Chem Soc J* 79:5797-800 N 5 '57

HYDROSTATICS

- Effect of hydrostatic pressure on the permissibility of barium titanate ceramics. G. W. Marks and L. A. Monson, *bibliog il diag Power Apparatus & Systems* p 64-9 Ap '58
- General instability of ring-stiffened cylindrical shells subject to external hydrostatic pressure; a comparison of theory and experiment. G. D. Gallely and others, *bibliog il diag J Ap Mech* 25:259-66 Je '58
- Hydrostatic pressure testing tubular goods in the field. C. Bendiks, *il Pet Eng* 29:B33-6 N '57
- Hydrostatic testing of line through fringe area of city. K. Bentz, *il diag Gas* 34:150+ O '58
- Hydrostatic testing of pipe lines. L. E. Brooks, *Am Soc C E Proc* 83 [PL 3 no 1375]:1-10 S '57; Discussion, 84 [PL 2 no 1891]:3-4 Je '58
- Surface tension correction for hydrostatic weighing. W. Primak, *R Sci Instr* 29:177-8 F '58

Electric analogies

- Determination of optimum proportions for hydrostatic bearings through the use of the electric analog field plotter. A. M. Loeb and H. C. Rippel, *il Franklin Inst J* 265: 342-4 Ap '58

HYDROSULFITES. See Dithionites**HYDROSULFURIZATION process.** See Petroleum refining—Sulfur removal**HYDROXAMIC acids**

- Colorimetric determination of carboxylic acid derivatives as hydroxamic acids. V. Gold-enberg and P. E. Spoerri, *bibliog Anal Chem* 30:1327-30 Ag '58
- Quantitative determination of reducing sugars and a sugar acid by hydroxamic acid formation. R. Hilf and F. F. Castano, *il diag Anal Chem* 30:1538-40 S '58

HYDROXIDES

- Heats of formation at 25° of the crystalline hydrides and deuterides and aqueous hydroxides of lithium, sodium and potassium. S. R. Gunn and L. G. Green, *bibliog Am Chem Soc J* 80:4782-6 S 20 '58
- Inorganic complex compounds containing polydentate groups; reaction of complexes of cobalt(III) and quadridentate amines with hydroxide ions. H. B. Jonassen and G. T. Strickland, *bibliog Am Chem Soc J* 80:312-15 Ja 20 '58
- Precipitation of sulphite spent liquors by means of metal hydroxides; theory and practice. R. Borisek and V. Stanfk, *bibliog diags Tappi* 41:sup 188A-94A My '58

HYDROXY acids

- CB-Cy cleavage of a γ -hydroxy acid by electrolytic oxidation. E. J. Corey and others, *Am Chem Soc J* 79:5826-7 N 5 '57
- Studies on diastereomeric α -amino acids and corresponding α -hydroxy acids; configuration of the isomeric γ -hydroxyglutamic acids. L. Benoit and others, *bibliog Am Chem Soc J* 79:6192-8 D 5 '57

HYDROXYBENZOIC acids**Analysis**

- Fluorometric determination of *o*- and *m*-hydroxybenzoic acids in mixtures. G. A. Thommes and E. Leininger, *Anal Chem* 30: 1361-3 Ag '58

HYDROXY compounds

- Complex formation between molybdc acid and silicic acid in the presence of polyhydroxy compounds. E. Richardson, *bibliog Research* 11:163-4 Ap '58
- Relative rates of bromination of some hydroxy, methoxy and methylthio-substituted polymethylbenzenes; partial inhibition of resonance effects. G. Illuminati, *bibliog Am Chem Soc J* 80:4945-8 S 20 '58
- Synthesis of the mono- and dihydroxy derivatives of 1,2,6-dibenzanthracene created by the rabbit and of other hydroxylated dibenzanthracene derivatives. J. A. LaBudde and C. Heidelberger, *bibliog Am Chem Soc J* 80:1225-36 Mr 5 '58
- HYDROXYCORTICOSTERONE**
- Cyclic 16 α , 17 α -ketals and acetals of 9 α fluoro-16 α -hydroxy-cortisol and -prednisolone. J. Fried and others, *Am Chem Soc J* 80:2338-9 My 5 '58

HYDROXYCORTICOSTERONE—Continued

Hydrocortisone ionization; a study to determine the effects of a new method of utilizing hydrocortisone in the treatment of rheumatoid and osteoarthritis. C. G. Paski and others. *bibliog Ind Med* 27:233-8 My '58

Partial synthesis of 4-methylhydrocortisone acetate; a suggested route to hydrocortisone-4¹⁴C and related compounds. N. G. Steinberg and others. *bibliog Chem & Ind* p975-6 Ag '58

Vioform-hydrocortisone cream in selected dermatoses with emphasis on industrial cases. B. M. James and J. A. Hunt. *bibliog Ind Med* 27:199-201 Ap '58

Analysis

Determination of corticosterone and 17-hydroxycorticosterone in human plasma. J. McLaughlin, Jr. and others. *bibliog Anal Chem* 30:1517-8 S '58

HYDROXYGLUTAMIC acid

Studies on diastereomeric α -amino acids and corresponding α -hydroxy acids; configuration of the isomeric γ -hydroxyglutamic acids. L. Benoiton and others. *bibliog Am Chem Soc J* 79:6192-8 D '57

HYDROXYMALONATE

Estimation of tartronate in tissues. L. G. Wesson. *bibliog Anal Chem* 30:1080-3 Je '58

HYDROXYMETHYL compounds

Enzymatic synthesis of hydroxymethyltetrahydrofolic acid (active hydroxymethyl). M. J. Osborn and others. *bibliog Am Chem Soc J* 79:6565-6 D '57

HYDROXYMETHYL glutaraldehydic acid

Mevalonic acid in the biosynthesis of mevalonic acid. L. D. Wright and others. *Am Chem Soc J* 79:6572 D '57

HYDROXYMETHYL isomorphinan

Synthesis and resolution of 3-hydroxy-N-methylisomorphinan. M. Gates and W. G. Webb. *bibliog Am Chem Soc J* 80:1186-94 Mr '58

HYDROXYPHENYLGLYOXILIC acid

Polyhydroxyphenylglyoxylic acids. K. R. Hargreaves and others. *bibliog J Ap Chem* 8:273-85 My '58

HYDROXYPROGESTERONE

6 α -methyl-17 α -hydroxyprogesterone 17-acylates; a new class of potent progestins. J. C. Babcock and others. *bibliog Am Chem Soc J* 80:2904-5 Je '58

HYDROXYPROLINE

Crystal structure of tosyl-L-prolyl-L-hydroxyproline monohydrate. A. F. Beecham and others. *diag Am Chem Soc J* 80:4739-40 S '58

Poly-hydroxy-L-proline. J. Kurtz and others. *bibliog Am Chem Soc J* 80:393-7 Ja '58

HYDROXYLAMINE

New method for the high-temperature dyeing of acrylic fibres. A. Machoyan and J. P. Niederhauser. *bibliog Soc Dyers & Col J* 74:133-8; Discussion. 138-9 Mr '58

Reaction of hydroxylamine and its N-methyl derivatives with diborane. D. H. Campbell and others. *Am Chem Soc J* 80:1549-52 Ap '58

Reaction of hydroxylamine with activated acyl groups. W. P. Jencks. *bibliog Am Chem Soc J* 80:4581-8 S '58

Reaction of O-methylhydroxylamine and its N-methyl derivatives with diborane. T. C. Bisot and others. *bibliog Am Chem Soc J* 80:1863-74 Ap '58

HYDROXYL group

Exchange reactions between hydrogen gas and hydroxyl groups; a convenient preparation of tritium-labeled water. C. G. Swain and A. J. Kresge. *bibliog diag Am Chem Soc J* 80:5281-3 O '58

Ouabagenin; assignment of the sixth hydroxyl group and a structural correlation with strophanthidin. R. B. Turner and J. A. Meschino. *bibliog Am Chem Soc J* 80:4862-5 S '58

Reactivities of lower aliphatic anhydrides toward hydroxyl groups of cellulose. C. J. Malm and others. *bibliog Ind & Eng Chem* 50:1061-6 J '58

Replacing hydroxyl groups in cotton cellulose. E. Klein and J. E. Snowden. *bibliog Ind & Eng Chem* 50:80-2 Ja '58

Syntheses by free-radical reactions; additive dimerizations effected by hydroxyl radicals. D. D. Coffman and E. L. Jenner. *Am Chem Soc J* 80:2872-7 J '58

Syntheses by free-radical reactions; oxidative coupling effected by hydroxyl radicals. D. D. Coffman and others. *bibliog Am Chem Soc J* 80:2864-72 Je '58

HYDROXYLATION

cis-hydroxylation of a synthetic steroid intermediate with iodine, silver acetate and wet acetic acid. R. B. Woodward and F. V. Brucher, Jr. *bibliog Am Chem Soc J* 80:209-11 Ja '58

Hydroxylation of methyl oleate; a new, direct method. J. G. Wallace and others. *bibliog Am Oli Chem Soc J* 35:205-7 My '58

In vivo hydroxylation of 1-ethynylcyclohexyl carbamate. R. E. McMahon. *bibliog Am Chem Soc J* 80:411-14 Ja '58

Microbiological transformations of steroids; tertiary hydroxylation of steroids by fungi of the order mucorales. S. H. Eppstein and others. *bibliog Am Chem Soc J* 80:3382-9 J '58

Stereochemistry of 7 α -hydroxylation in the biosynthesis of cholic acid from cholesterol. S. Bergstrom and others. *bibliog Am Chem Soc J* 80:2337-8 My '58

Stereochemistry of 11 α -hydroxylation of steroids. E. J. Corey and others. *bibliog Am Chem Soc J* 80:2338 My '58

Steric considerations in the enzymatic course of the hydroxylation of steroids. M. Hayashi and others. *bibliog Am Chem Soc J* 80:2336-7 My '58

HYGIENE

See also

Air pollution

Executives—Health and hygiene

Sanitation

Temperature—Physiological effect

Water pollution

Water purification

Study and teaching

Building status and public support for health teaching in schools. B. R. Moss. *Am J Pub Health* 48:1037-40 Ag '58

HYGIENE, industrial

Beryllium in industry; some medical implications. E. E. Lieber. *bibliog Chem & Ind* p508-9 My '58

California resolves jurisdictional problems in occupational health. A. C. Blackman and H. R. James. *Am A Archives Ind Health* 17:188-91 Mr '58

Hazards in the handling of hydrogen peroxide. *Air Cond Heat & Ven* 54:71 N '57

Health hazards of beryllium can be controlled. *II Safety Maint* 116:32-6 J '58

Industrial health in the atomic energy industry. J. H. Sterner. *bibliog A M A Archives Ind Health* 17:659-64 Je '58

Industrial hygiene. Published in monthly numbers of Safety maintenance

Industrial hygiene program instituted in Weirton in 1953. *Air Cond Heat & Ven* 55:123 Mr '58

Industrial hygiene show-how; group of physician and engineer students visit Bridgeville. Pa. chemical plant of American cyanamid co. *II Safety Maint* 114:39 O '57

Industrial hygienist's part in the solution of the industrial noise problem. W. F. Scholtz. *A M A Archives Ind Health* 16:469-74 D '57

Instruments for use in occupational hygiene; British occupational hygiene society conference, London, April 16-17; abstracts of papers. *bibliog (29ref) J Sci Instr* 34:425-35 N '57

Knowledge required by the specialist in occupational health; editorial. *Ind Med* 27:57-8 My '58

National industrial health conference, Atlantic City, April 19-26; with list of exhibitors and floor plan. *Ind Med* 27:214-16 Ap '58

New era in industrial health. A. Fletcher. *A M A Archives Ind Health* 17:349-50 My '58

New York's experience in administering code on radiation protection. M. Kleinfeld. *A M A Archives Ind Health* 17:87-95 F '58

Occupational health introspection and propection. *Ind Med* 27:60-1 Ja '58

Occupational health, our mutual problem. W. H. Burhop. *bibliog A M A Archives Ind Health* 17:351-6 My '58

Organic mercury; environmental exposure, excretion, and prevention of intoxication in its manufacture. B. D. Dinman and others. *bibliog A M A Archives Ind Health* 18:248-60 S '58

Portable radon detector for continuous air monitoring. W. B. Harris and others. *bibliog II diag A M A Archives Ind Health* 16:493-8 D '57

HYGIENE, Industrial—Continued

Practical aspects of a hearing conservation program. L. B. Shone. bibliog A M A Archives Ind Health 17:610-13 Je '58

Problems resulting from the use of habituating drugs in industry. bibliog Am J Pub Health 48:561-89 My '58

Recognition and control of radiant heat. G. C. Stoecker. II Ind Med 27:396-401 Ag '58

Services available; Institute of Industrial health of the University of Michigan. S. E. Miller. Ind Med 27:164-5 Mr '58

Some factors to be considered in a protection program for use of radiation sources. H. W. Speicher. A M A Archives Ind Health 17:546-55 My '58

Stress factors in industry. D. C. Lipman. Ind Med 27:295-7 Je '58

Toxic properties of some timber woods. C. P. McCord. bibliog Ind Med 27:202-4 Ap '58

Trouble-shooting industrial hygiene survey. M. Kleinfeld and others. A M A Archives Ind Health 18:120-5 Ag '58

See also

Air conditioning—Hygienic aspects

Coal miners—Diseases and hygiene

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Miners—Diseases and hygiene

Noise

Physical examinations

Poisons, Industrial

Safety devices and measures

Skin—Diseases

Temperature—Physiological effect

Water supply for factories

Bibliography

Abstracts from current literature. A M A Archives Ind Health 17:307-36; 18:58-85 Ap, Jl '58

Standards

Threshold and toxic limits of some amino and nitro compounds. I. Passeri and others. bibliog A M A Archives Ind Health 18:1-8 Jl '58

Threshold limit values for 1958. A M A Archives Ind Health 18:178-82 Ag '58

Study and teaching

Classification system for lantern slides and other visual aids in occupational health. C. P. McCord and W. A. Cook. Ind Med 27:46-9 Jm '58

Training in occupational health at the University of Pittsburgh. II Ind Med 27:253-4 My '58

Puerto Rico

Industrial hygiene and occupational diseases in Puerto Rico. L. E. Ramos-Yordan. map Ind Med 27:80-2 F '58

HYGROMETER

Electric hygrometer. W. H. Melklejohn. II diags Com & Electronics p302-5 Jl '58

Improved infrared absorption spectra hygrometer. R. C. Wood. diags R Sci Instr 29:36-42 Ja '58

Recording microwave hygrometer. J. B. Magee and C. M. Crain. II diag R Sci Instr 29:51-4 Ja '58

HYPERONS

High-intensity pulsed magnet for hyperon detection. R. C. Schluter. diags R Sci Instr 29:434-5 My '58

HYPERSONIC gas gun. See Aerodynamics, Supersonic

HYPERSORPTION process. See Hydrocarbons—Separation processes

HYPERTHYROIDISM. See Thyroid gland

HYPNOTICS**See also**

Barbiturates

HYPOBROMITES

Exchange of hypochlorite and of hypobromite ions with water. M. Anbar and H. Taube. bibliog Am Chem Soc J 80:1073-7 Mr 5 '58

HYPOCAUST. See Heating—History

HYPOCHLORITES

Carbonyl groups in cellulose and color reversion; hypochlorite bleaching and color reversion. W. H. Rapson and others. Tappi 41:442-7 Ag '58

Chlorination with hypochlorites. V. W. Langworthy. II Water & Sewage Works 105: R211-S 15 '58

Exchange of hypochlorite and of hypobromite ions with water. M. Anbar and H. Taube. bibliog Am Chem Soc J 80:1073-7 Mr 5 '58

Hypochlorite as the third stage in bleaching aspen neutral sulphite semichemical pulp. N. A. Jappe. bibliog II Tappi 41:224-31 My '58

Oxidation of amylopectin with hypochlorite at different hydrogen ion concentrations. R. L. Whistler and R. Schweiger. bibliog Am Chem Soc J 79:6460-4 D 20 '57

Science for electrolaters; cyanide waste treatment. L. Scrota. Metal Finishing 58: 61-44- Ja '58

Viscosity behavior; periodate, and hypochlorite-oxidized starches. R. L. Mellies and others. bibliog Ind & Eng Chem 50: 1311-14 S '58

Sodium hypochlorite

HYPOGLYCIN

Constitution of hypoglycin A. E. V. Ellington and others. bibliog Chem & Ind p329-30 Mr 15 '58

Hypoglycin A. H. V. Anderson and others. bibliog Chem & Ind p330-1 Mr 15 '58

Structure and biological activities of hypoglycin. R. S. de Ropp and others. Am Chem Soc J 80:1004-5 F 20 '58

Structure of hypoglycin A. S. Wilkinson. bibliog Chem & Ind p 17-18 Ja 4 '58

Synthesis of α -amino-methylene-cyclopropane-propionic acid (hypoglycin A). J. A. Carbon and others. Am Chem Soc J 80:1002 F 20 '58

HYPOPHOSPHOROUS acid

Gravimetric determination of bismuth using hypophosphorous acid. D. R. Bomberger. Anal Chem 30:1321-2 Ar '58

HYPOTENSIVE agents. See Blood pressure

HYSTERESIS

Analogy between directional ordering and the magnetic diffusion aftereffect. P. Brissonneau. bibliog diags J Ap Phys 29:249-51 Mr '58

Application of square hysteresis loop materials in digital computer circuits. A. D. Holt. bibliog diags Electronic Eng 30:196-9 Ap '58

Hysteresis effect in cadmium selenide and its use in a solid-state image storage device. P. H. Nicoll. II diags RCA R 19:77-85 Mr '58

Hysteresis heating of microwave ferrites. W. N. Honeyman and R. S. Cole. Inst Radio Eng Proc 45:1285-6 S '57

Low-frequency rotational hysteresis losses in ferrites. H. Seiwatz. J Ap Phys 29:994-5 Je '58

New technique for measuring rotational hysteresis in ferromagnetic materials. J. M. Kelly, Jr. bibliog diags R Sci Instr 28: 1038-40 D '57

I

IABSE. See International association for bridge and structural engineering

IAPI. See Institute of American poultry industries

ICA. See International cooperation administration

IRAC. See United States—Interdepartment radio advisory committee

IRBM (intermediate range ballistic missile). See Guided missiles

ISA Journal (periodical)

Care and feeding of a technical story. G. A. Hall, Jr. I S A J 5:74 F '58

ISA journal production. R. R. Scott. I S A J 5:75 F '58

Managing the ISA journal. C. W. Covey. I S A J 5:75 Ja '58

ITTE. See California university—Institute of transportation and traffic engineering

IBOGA. See Tabernanthe iboga

ICE

Beam-scanned rotating heavy-ice target for high loads. J. H. Spaa. bibliog diag J Sci Instr 35:175-8 My '58

Hardness of single ice crystals. T. R. Butkovich. II Am Mineralogist 43:48-57 Ja '58

See also

Airplanes—Ice protection

Electric lines—Ice problem

Glaciers

Roads—Ice control

Streets—Ice control

ICE—Continued

Testing

- Strength characteristics of ice in contact with various kinds of surfaces. S. G. Eskin and others. *bibliog diags Refrig Eng* 65: 33-84-D '57

ICE cream factories

- Scale of operations, an empirical study. E. H. Bowman. *Op Res* 6:320-8 My '58

Equipment

- Food process operations demand maze of piping. R. M. Lazar. *II Heating-Piping* 30: 105-9, cover Mr '58

Management

- Broad-front engineering really makes plant click; Good humor corp. *II Food Eng* 29: 110-11 N '57

ICE machines

- Giant snowflakes for Brussels world's fair. *Elec Eng* 77:376 Ap '58
Icebox used in metallurgical studies. Franklin Inst J 265:360-1 Ap '58

ICE on rivers, lakes, etc.

- Aeration permits water work at -30 F. *II Eng N* 160:52 Ap '58
Blended well-river waters end ice problem in plant. M. E. Rew. *II diag Water Works Eng* 111:934-6 O '58

- Combating ice formations at dockside. *Combustion* 30:39 Ag '58

- Ice-damage preventer; heat exchanger to eliminate winter ice around piers. *Eng N* 160:118 Je 19 '58

- Measuring streamflow under ice conditions. A. M. Moore. *II Am Soc C E Proc* 83 [HY 1 no 1162]:1-12 F '57; Discussion. 83 [HY 4 no 1348]:9-14 *bibliog* (32 titles, p 11-13) Ag '57; Reply. 84 [HY 1 no 1558]:5-6 F '58

- Novel anti-icing scheme kept bridge job going; aeration pipe prevents ice from forming. *II Roads & Sts* 101:106 Ap '58

ICE plants

- Explosion in ice plant and what it showed. C. T. Baker. *Power Eng* 62:72 Mr '58

Equipment

- Case of the freezing cooler and ammonia in the brine. C. T. Baker. *Power Eng* 62:82 Jl '58

- Ice factory at Hamburg. *II Engineer* 205:299 F 21 '58

ICE rinks. See Skating rinks

ICELAND

See also

IDAHO Chemical engineering—Iceland

IDAHO

See also

- Electric lines—Idaho
Hydroelectric plants—Idaho
Mines and mineral resources—Idaho
Petroleum industry and trade—Idaho
Public health—Idaho

IDEAS in business

- Brainstorming criticized. *Chem & Eng N* 36:36 F 10 '58

- Brainstorms help prepare for snowstorms; Utah power & light co. *II Elec World* 148: 78 N 18 '57

- Creative thinking; abstract. R. G. Seymour. *Water & Sewage Works* 105:244 Je '58

- Ipana Plus brainstorm. M. L. Rittenhouse. *II Drug & Cosmetic Ind* 82:173-F '58

- 10-M. potent way to boost profits; ideas of Pillsbury decision makers. J. V. Ziemba. *Food Eng* 30:41-2 My '58

See also

Suggestion systems

IDENTIFICATION

- New method of identifying disaster victims; electronic computer handling of skull measurements. V. Sassouni. *Franklin Inst J* 266:147-8 Ag '58

IDIOCY

See also

Mongolism

IDLENESS, Industrial

- Meter your profits; meters measure downtime and machine productivity. N.Y. wire cloth co. *II Mill & Factory* 61:140-D '57

IGNEOUS rocks. See Rocks, Igneous

IGNITION

- Effects of additives on ignition delay of the system, white fuming nitric acid-turpentine. A. Makovsky and A. Salmon. *bibliog diag J Ap Chem* 8:670-2 O '58

- Ignition of firetrap by stationary metal particles and frictional sparks. F. P. Bowden and R. D. Lewis. *bibliog II Engineering* 186: 241-3 Ag 22 '58

- Ignition of Kel-F and Teflon. L. Greenspan. *R Sci Instr* 29:172-3 F '58

- Shock tube as a tool for solid propellant ignition research. M. Summerfield and R. F. McAlevy. 3d. *bibliog II diags Jet Propulsion* 28:478-81 Jl '58

- Shock tube technique for study of autoignition of liquid fuel sprays. G. J. Mullaney. *bibliog II diags Ind & Eng Chem* 60:53-8 Ja '58

- Sinter-bed ignition. H. Bates. *Iron & Steel Inst J* 187:310-14 D '57

- Spectrometric investigations of *n*-heptane pre-flame reactions in a motored engine. K. J. Pipenberg and A. J. Pahnke. *bibliog diag Ind & Eng Chem* 49:2067-72 D '57

- Stanford research institute studies ignition with arc-image furnace. *II Ind Lab* 9:19 My '58

- Titanium does a fast burn. *II Chem & Eng N* 36:36-7 Ag 4 '58

See also

- Automobile engines—Ignition
Gas burners—Ignition devices
Inflammable mixtures
Rocket engines—Ignition

IGNITRON

- Analysis of ignitron rectifiers for reversing-mill drives. C. G. Hagensick and E. J. Cham. *bibliog diags Applications & Ind* 62:69-68; Discussion. 268-70; Reply. 270 S '58

- Electronic control times high-speed welding cycle. S. C. Rockafellow. *II diags Electronics* 31:70-2 Ag 15 '58

- New look in ignitron rectifiers. C. S. Hague and G. M. Zins. *II Mill & Factory* 62:85-8 Ap '58

- New test facility simulates flight through the thermal barrier. *Automotive Ind* 117: 148+ O 15 '57

ILLINOIS

See also subdivision Illinois under special

- subjects, e.g.
Architecture, Domestic
Bridges
Coal mines and mining
Gas, Natural
Gas supply
Geology
Mines and mineral resources
Petroleum
Petroleum industry and trade
Roads
Water supply

ILLIUM. See Nickel alloys

ILLUMINATING engineering society

- Annual technical conference, Toronto, Aug.

- 17-21. *Elec Constr & Maint* 57:203-4+ O '58

- C. A. B. Halvorson awarded gold medal.

- Illum Eng* 53:sup7A-8A Ag '58

- Constitution. *Illum Eng* 53:411-14 Jl '58

- General secretary reports. R. G. Slauer. *Illum Eng* 52:649-64 D '57

- National and local officers, 1957-1958. *Illum Eng* 53:sup42A+ Ap '58

- National technical conference, Atlanta, Sept.

- 9-13. *Illum Eng* 52:sup7A-10A+ N '57

- New members. *Illum Eng* 53:sup22A+ My '58

- President's report. K. M. Reid. *Illum Eng* 53:451-7 S '58

- Sustaining members. *Illum Eng* 53:sup21A+ Ja '58

- Vice-president's report. G. J. Taylor. *Illum Eng* 53:458-61 S '58

ILMENITE

- Structure and ferrimagnetism of the ilmenite compound FeTiO_3 . E. F. Bertaut and P. Forrat. *bibliog diag J Ap Phys* 29:247-8 Mr '58

IMAGE orthicon. See Television cameras

IMAGINATION

- Physiology of imagination. J. C. Eccles. *II diags Sci Am* 199:135-42+ S '58

- Psychology of imagination. F. Barron. *II diags Sci Am* 199:150-6+ S '58

IMIDAZOLE

- Carbonyloxy derivatives of histidine, imidazole and benzimidazole. A. Patchornik and others. *bibliog Am Chem Soc J* 79: 6416-20 D 20 '57

- Combination of manganous and cobaltous ions with imidazole. R. B. Martin and J. T. Edsall. *bibliog Am Chem Soc J* 80:5033-5 O 5 '58

- Coordination complexes and catalytic properties of proteins and related substances; effect of cupric and zinc ions on the hydrolysis of *p*-nitrophenyl acetate by imidazole. W. L. Koltun and others. *bibliog Am Chem Soc J* 80:4188-94 Ag 20 '58

- Imidazole catalysis; the reaction of general bases with *p*-nitrophenyl acetate in aqueous solution. T. C. Eruice and R. Lapinski. *bibliog Am Chem Soc J* 80:2265-7 My 6 '58

IMIDAZOLE—Continued

- Imidazole catalysis; the reaction of substituted imidazoles with phenyl acetates in aqueous solution. T. C. Bruce and G. L. Schmir. *bibliog Am Chem Soc J* 80:148-56 Ja 5 '58
- Imidazole catalysis; the solvolysis of 4-(2'-acetoxypheyl)-imidazole. G. L. Schmir and T. C. Bruce. *bibliog Am Chem Soc J* 80:1173-7 Mr 5 '58
- Metabolite analogs; syntheses of some imidazopyridines and pyridotriazoles. H. Graboys and A. R. Day. *bibliog Am Chem Soc J* 79:6421-6 D 20 '57
- N,N'-carbonyldiimidazole, a new reagent for peptide synthesis. G. W. Anderson and R. Paul. *bibliog Am Chem Soc J* 80:4423 Ag 20 '58
- Properties of proto- and mesocheme imidazole complexes. A. H. Corwin and S. D. Bruck. *bibliog Am Chem Soc J* 80:4736-9 S 5 '58

Spectra

- Raman spectra of amino acids and related compounds; Raman and infrared spectra of imidazole, 4-methylimidazole and histidine. D. Garfinkel and J. T. Edsall. *bibliog Am Chem Soc J* 80:3807-12 Ag 5 '58

IMIDAZOLINE

- Investigations in heterocycles; imidazole and imidazolinol[2,1-b]thiazolium compounds. G. deStevens and A. Halamandaris. *bibliog Am Chem Soc J* 79:5710-11 N 5 '57

IMIDES

- Racemization by the dicyclohexylcarbodiimide method of peptide synthesis. G. W. Anderson and F. M. Callahan. *bibliog Am Chem Soc J* 80:2802-3 Je 5 '58
- Synthesis and reactions of some cyclic imides. C. M. Hendry. *bibliog Am Chem Soc J* 80:973-6 F 20 '58
- Synthesis and stability of acyl radicals; some reactions of diacyl diimides. R. Cramer. *bibliog Am Chem Soc J* 79:6215-19 D 5 '57

IMIDO group

- New homolytic substitution reaction; introduction of imido groups. A. Fono. *Chem & Ind* p414 Ap 5 '58

IMINES

- Basicity constants and rates of hydration of some imines. G. J. Buist and H. J. Lucas. *bibliog Am Chem Soc J* 79:6157-60 D 5 '57

IMINO acids. See Acids**IMINO compounds**

- Anti-tumor activities *in vitro* of 5-imino-1,2,4-dithiazolidin-3-thione and bis(diethylthiocarbamoyl)disulfide toward the Krebs-2 ascites carcinoma. F. E. Reinhart and others. *bibliog Franklin Inst J* 265:58-62 Ja '58

IMINODIETHANOL

- Lap inhibitor stops diethanolamine corrosion. J. D. Sudbury and others. *il diag Pet Refiner* 37:183-4 My '58

IMMUNITY

- Immunochemical study of a bacterial DNA. J. H. Phillips and others. *bibliog diags Am Chem Soc J* 80:2710-14 Je 5 '58
- Immunological specificities involving multiple units of galactose. M. Heidelberger and others. *bibliog Am Chem Soc J* 80:113-16 Ja 5 '58
- Influence of natural and artificially induced immunity on simian infections with polioviruses. J. E. Fox and others. *bibliog J Am J Pub Health* 48:1181-92 S '56

See also

- Antigens and anti-bodies

IMPACT

- Crater formation in metallic targets. W. S. Partridge and others. *bibliog il J Ap Phys* 29:1332-6 S '58
- Impact and fatigue properties of ductile cast iron. C. F. Walton. *bibliog il diags Machine Design* 30:128-31 Ja 23 '58
- Impact forces in mechanisms. R. C. Johnson. *diags Machine Design* 30:138-46 Je 12 '58
- Impact properties of high-purity nickel-chromium-molybdenum steels. J. M. Capus and G. Mayer. *Iron & Steel Inst J* 189:255 Jl '58
- Impact resistance of gray iron. F. R. Broten and J. F. Wallace. *bibliog il Machine Design* 29:85-7 D 26 '57
- Improved impact epoxy adhesives. S. S. Stivala and W. J. Powers. *diag Ind & Eng Chem* 50:935-8 Je '58
- Influence of ferrite banding on the impact properties of mild steel. W. S. Owen and others. *bibliog il diag Welding J* 37:sup 368-74 Ag '58

- New method of impact shattering; breaking down solids into extremely fine sizes without the aid of mechanical moving parts. T. Nagel. *il diag Eng & Min J* 153:110-11 Ap '58

- Relation of Charpy impact properties to microstructure of three ship steels. W. S. Owen and others. *bibliog il Welding J* 36:sup503-11 S '57

- Shock factors for impact loads; reference book sheet. G. H. Howell. *Product Eng* 29:99-1 Mr 17 '58

- Stress-strain relationships in yarns subjected to rapid impact loading; wave propagation in long textile yarns impacted transversely. J. C. Smith and others. *bibliog diags Textile Res J* 28:288-302 Ap '58; Same. *J Res Nat Bur Stand* 60:517-34 My '58

- Studies of high-velocity impact in wax. W. S. Partridge and W. G. Clay. *bibliog il diag J Ap Phys* 29:339-42 Je '58
- Thirty years of plastics impact testing. R. F. Westover. *bibliog Plastics Tech* 4:223-7+, 348-52 Mr-Apr '58

See also

- Notched bar testing

IMPACTORS

- Cascade impactor for adiabatic measurements. J. A. Brink, Jr. *bibliog diags Ind & Eng Chem* 50:646 Ap '58
- Determination of aerosol size distributions by jet impactor-light scattering technique. J. K. Thompson. *diag Anal Chem* 29:1847-50 D '57

IMPEDANCE

- Application of negative-impedance repeaters on long rural telephone lines. H. T. Uthlaut, Jr. *bibliog map diags Com & Electronics* p230-4 My '58
- Calculation of characteristic impedance by conformal transformation; coaxial transmission line. J. C. Anderson. *diags Brit Inst Radio Eng J* 18:49-54 Ja '58
- Conjugate-impedance network analyzer operating at 50 c/s. W. Casson and A. W. Hales. *diags Inst E E Proc* 105 pt A:295-303 Je '58
- Device for matching a galvanometer or dc indicator to its associated circuit. T. M. Dauphinee. *diag R Sci Instr* 29:240-1 Mr '58
- Digital short-circuit solution of power system networks including mutual impedance. M. J. Lantz. *diag Power Apparatus & Systems* p 1230-3; Discussion. 1233-5 F '58
- D-c transistor amplifier for high impedance input. D. Schuster. *il diags Electronics* 31:64-5 F 28 '58
- Fast cable impedance tests. J. H. Mennie. *il diag Electronics* 31:86-7 F 28 '58
- High-impedance radio frequency probe. F. H. Tooker. *il diags Radio-Electronics* 29:78-4 Jl '58
- Impedance and polarization measurements in fused lithium chloride-potassium chloride. H. A. Laitinen and H. C. Gaur. *bibliog diags Electrochem Soc J* 104:730-7 D '57; Correction. 105:433 Jl '58
- Impedance and return loss performance of telephone plant in metropolitan areas. L. Bogan. *bibliog diags Com & Electronics* p257-61 Jl '58; Abstract. *Elec Eng* 77:225 Mr '58
- Impedance measurement. J. Giovanelli. *diags Audio* 42:2-4 My '58
- Impedance sets transformer cost. L. Rabins and W. L. Wheelock. *il diags Elec World* 149:67-9-4 F 3 '58
- Improvement of impedance for microwave reflector feed. M. W. Scheldorf. *il diag Inst Radio Eng Proc* 45:1548-9 N '57
- Instrument for the measurement of surface impedance at microwave frequencies. A. E. Karbowiak. *il diags Inst E E Proc* 105 pt B:195-203 Mr '58
- Limiting values of driving-point impedances and transfer functions due to component variations. S. Jones. *diags Applications & Ind* p38-40 Mr '58; Abstract. *Elec Eng* 77:403 Mr '58
- Low impedance pickups. R. E. Flory. *diags Electronic Ind* 17:supO 20 Ap '58
- Low-impedance transistor preamp. W. F. Jordan. *diag Electronics* 31:78-9 Mr 23 '58
- Match, or not to match? Y. Beers. *Q S T* 42:13-15+ S '58
- Measurement of amplifier internal impedance. W. H. Anderson. *diags Audio* 42:22-3+ S '58
- Measurement of impedance and attenuation of a cable through an arbitrary loss-free junction. J. Allison and F. A. Benson. *bibliog diags Inst E E Proc* 105 pt B:487-95 S '58
- Measurement of shunt impedance of a cavity. K. B. Mallory. *diags J Ap Phys* 29:790-3 My '58

IMPEDANCE—Continued

- Measurement of the characteristic impedance of a coaxial cable. L. E. D'Alton. *diag Electronic Eng* 30:37-8 Ja '58; Discussion 30:399 Je '58
- Measuring tv aerial performance; impedance measurements. F. R. W. Stafford. *il diags Wireless World* 64:294-8 Je '58
- New applications of impedance networks as analog computers for electronic space charge and for semiconductor diffusion problems. G. Čremošnik and others. *bibliog il diags Inst Radio Eng Proc* 46:868-77 My '58
- One-valve d.c. amplifier with high-impedance input. P. Belton. *bibliog il diags Electronic Eng* 30:454-6 JI '58
- Preamplifier matches input impedance. *diag Electronics* 31:81 Mr 28 '58
- Simplified calculations for transmission lines; reference sheet. H. F. Mathis. *diags Electronics* 31:74 Ap 26 '58
- Simulation of the operational impedances of synchronous machines on network analyzers. C. Adamson and A. M. S. El-Serafi. *bibliog il diags Power Apparatus & Systems* p 1373-8; Discussion. 1378 F '58
- T and pi network design, using Smith chart; reference sheet. H. F. Mathis. *diags Electronics* 31:94 Ja 17 '58
- Three output immittance theorems; linear networks in transistor circuitry. H. Stockman. *bibliog diags Electronic Ind* 17:61-3+ Ja '58
- Transistor impedance changer. I. F. Barditch and J. D. Sullivan. *il diags Electronic Ind* 17:77 Ja '58
- Transistor impedance matching. H. P. Williams. *il Electronic & Radio Eng* 34:128-9 Ap '57; Discussion. 34:314-15; 35:236-7 Ag '57, Je '58
- Transistorized negative-impedance telephone repeaters. R. P. Dimmer. *bibliog il diags Com & Electronics* p305-11 JI '58
- Transmission-line matching. H. A. Kampf. *diags Radio-Electronics* 29:58 S '58
- Two automatic impedance plotters. R. S. Cole and W. N. Honeyman. *bibliog il diags Electronic Eng* 30:442-6 JI '58
- Why match impedances? P. Penfield, jr. *bibliog diags Audio* 42:32+ Ap '58
- IMPELLERS.** See Superchargers
- IMPERIAL chemical industries, ltd.**
Billingham enterprise; short history of the Billingham division of imperial chemical industries ltd. from 1920 to 1957. E. A. Blench. *il diags Chem & Ind* p26-33, 960-8 JI 26-Ag 2 '58
- Review for 1957. *Ind Chem* 34:240 My '58
- IMPORTS**
Aluminum imports touch off tariff tiff. *Mod Metals* 14:72+ Je '58
- Imports, are they growing? survey of the month. *Mill & Factory* 62:75-8 F '58
- Imports; two case histories. *Textile Ind* 122:40 My '58
- Recent export/import trends; special market report. *Electronics* 31:25-8 Ja 24 '58
- Soviet bloc imports fall. *Chem & Eng N* 36:34 Ag 11 '58
- U.S. industries hurt by imports; need immediate help. T. E. Veltfort. *Heating-Piping* 29:82-5 D '57
- See also
Petroleum industry and trade—United States
—Imports problem
- Statistics**
Facts and figures for the chemical process industries; exports and imports. V. Kinnard. *Chem & Eng N* 36:79-84 S 1 '58
- IMPRINTING (animals).** See Animals, Habits and behavior of
- IMPROVED products.** See Products, Improved
- INCANDESCENT electric lamps.** See Electric lamps, Incandescent
- INCENTIVE wages.** See Wage payment plans
- INCENTIVES in industry**
Incentive plans are aid to accounting procedure. J. Taylor. *Foundry* 86:210-13 JI '58
- Incentives can improve your stockroom. N. G. Zav. *il Mill & Factory* 63:96-8 JI '58
- Incentives for mine foremen. C. W. Roundtree, jr. *Coal Age* 63:104-5 Ja '58
- Uranium industry needs a new incentive. C. S. Cronan. *Chem Eng* 65:72+ Je 2 '58
- See also
Bonus system
Profit sharing
Wage payment plans
- INCIDENT process method.** See Dramatization in training

INCINERATORS

- Incinerator doubles as duth oven to solve waste-wood disposal and air-pollution problems. F. W. Reiter. *il Power* 102:114-15 Ja '58
- See also
Refuse incinerators, Domestic
- INCINERATORS, Refuse.** See Refuse incinerators
- INCINERATORS, Sewage.** See Sewage incinerators
- INCLUSION compounds.** See Molecular compounds
- INCOME tax**
Test your tax I.Q. *Pet Eng* 29:E 11+ D '57; Same. *Pit & Quarry* 50:136+ Ja '58; *Rock Prod* 61:100-1+ F '58; *Coal Age* 63:137-8 Mr '58
- Accounting**
How you can help your company save tax dollars. H. Bland. *Power Ind* 74:16-17+ F '58
- Deductions**
Start planning those tax deductions. P. Lockwood. *Pet Refiner* 37:252+ Je '58
- INCONEL.** See Nickel alloys
- INDACENE**
2,2a,3,3a,4,5-Hexahydro-1H-cyclopent[1kl]-as-indacene. H. Rapoport and G. Smolinsky. *Am Chem Soc J* 79:5831-2 N 5 '57
- INDAN**
Chemistry and use of polyalkylindan musk odorants. A. Post. *bibliog Am Perfumer & Aromatics* 71:46-9 Mr '58
- Condensed cyclobutane aromatic systems; the synthesis of some α -diazoindanones; ring contraction in the indane series. M. P. Cava and others. *bibliog Am Chem Soc J* 80:2257-63 My 5 '58
- INDANDIONE**
Monohydrazones of 2-acyl-1,3-indandiones. R. A. Braun and W. A. Mosher. *bibliog Am Chem Soc J* 80:2749-51 Je 5 '58
- Wolff-Kishner reduction of 2-acyl-1,3-indandiones. R. A. Braun and W. A. Mosher. *bibliog Am Chem Soc J* 80:4919-21 S 20 '58
- INDANOL**
Indanol. S. L. Shapiro and others. *bibliog Am Chem Soc J* 80:3726-33 JI 20 '58
- INDANONE**
Condensed cyclobutane aromatic systems; the synthesis of some α -diazoindanones; ring contraction in the indane series. M. P. Cava and others. *bibliog Am Chem Soc J* 80:2257-63 My 5 '58
- Optical rotatory dispersion studies; 8-methyl-indandiones. C. Djernassi and others. *bibliog Am Chem Soc J* 80:4853-7 S 20 '58
- Steric effects on the nuclear magnetic resonance spectra of some cyclohexanone, indanone and camphor compounds. W. D. Kummer and others. *bibliog Am Chem Soc J* 80:2533-6 My 20 '58
- INDAZOLE**
Identification of o-cyanophenylhydrazine as 3-amino-indazole. M. A. Aron and J. A. Elvidge. *Chem & Ind* p 1234-5 S 20 '58
- Reinvestigation of the Fischer indazole synthesis. C. Ainsworth. *bibliog Am Chem Soc J* 80:967-70 F 20 '58
- Substituted 6-aminoethylindazoles. C. Ainsworth. *bibliog Am Chem Soc J* 80:965-7 F 20 '58
- INDENE**
Cyclohepta[klm]benz[e]indene; further considerations on the stability of complex polynuclear systems. P. D. Gardner and others. *bibliog Am Chem Soc J* 80:143-8 Ja 5 '58
- Determination of naphthalene in town gas by the titrate method; the inden correction. R. A. Mott and I. Moulson. *J. Ap Chem* 7:553-6 O '57
- INDEPENDENT natural gas association of America**
Annual meeting, New Orleans, Sept. 14-16. *Oil & Gas J* 56:68 S 22 '58; *Am Gas Assn Mo* 40:43 O '58; *Gas Age* 122:16 O 16 '58
- INDEPENDENT petroleum association of America**
Annual meeting, 23th, Dallas; with abstracts of papers. *Oil & Gas J* 56:82-3 N 4 '57
- Midyear meeting, Chicago. *Oil & Gas J* 56:75-6 My 5 '58
- INDEX numbers (economics)**
Control earning index. W. E. Vannah. *flow charts il Control Eng* 6:67-71 Ag; 84-7 O '58
- INDEX of refraction.** See Refractive index

INDEXES

Index to IRE standards on definitions of terms 1942-1957. *Inst Radio Eng Proc* 46: 449-76 F '58 (reprints \$1)

Indexes to national standards and specifications. *Materials in Design Eng* 47:100 Mr '58

INDEXING

Rubber compounding information: sources, indexing, retrieving. K. S. Rostler. *bibliog* il *diags Rubber Age* 82:678-86 Ja '58

Searchers seek to open literature logjam. *diags Chem Eng* 65:34+ F 10 '58

INDEXING (machine work)

Air indexing fixture. G. F. Groschke. *diags Mach* 64:198-9 N '57

Cleveland instrument co.: angular positioning of Omnindex indexing tables. J. D. Cooney and B. K. Ledgerwood. *il diags Control Eng* 5:112-14 Mr '58

Development of a high-speed indexing mechanism. R. C. Johnson. *il diags Machine Design* 30:134-8 S 4 '58

Drum switch controlled indexing; Snyder tool co. H. Cutler. *il Ap Hydraulics* 11:63 J1 '58

Flexibility pays off on short lots; automatic indexing. *il Steel* 143:96-7 Ag 4 '58

Indexing devices; drawings with text. F. Strasser. *Product Eng* 29:48-9 S 1 '58

Indexing fixture for positioning aluminum drums. A. Arnott. *diags Light Metal Age* 15:18 D '57

Indexing machine speeds typewriter speed assembly. C. J. Sammons. *il diags Automation* 5:55-6 J1 '58

Indexing turret toolholder. W. W. Johnson. *diag Tool Eng* 40:80 Ja '58

Magnetron beam switching tubes counting circuit controls numerically programmed index table. C. B. Smith. *il diag Elec Manuf* 61:138-42+ Mr '58

Modern engineering service co.; Jacy precision index and pierce machine. J. D. Cooney and B. K. Ledgerwood. *il diag Control Eng* 5:100-1 Mr '58

Modified valves smooth a big indexing job. M. H. Benston and A. M. Lane. *il diags Ap Hydraulics* 11:72-3+ Mr '58

Ratchet and two pawls control movement of indexing fixture. C. Bossmann. *diags Mach* 63:156-7 S '58

Rubber bumpers shock cushion indexing worm-drive pinion. *il diags Machine Design* 30:134-5 Mr 6 '58

Standardized indexing chassis automates special machines. *il Am Mach* 102:149 My 19 '58

Turret tooling speeds broaching. *il diag Mach* 64:142-3 F '58

INDIA

See also subdivision India under special subjects, e.g.

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- Engineering education
- Fuel supply
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- Roads
- Sewerage

INDIANS of North America

See also

- Havasupai Indians

INDICATORS. See Liquid level indicators

INDICATORS and test papers

Application of peroxidase test paper in food processing. H. J. Morris. *bibliog Food Tech* 12:265-7 Je '58

Chelometric titrations using an azoarsenic acid indicator. J. S. Fritz and others. *bibliog Anal Chem* 30:1111-14 Je '58

Complexone-type metallochromic indicators. J. Körbi and others. *bibliog Chem & Ind* p 1232-3 S 20 '58

Crystal violet as a reversible indicator in acetyl chloride. R. C. Paul and others. *bibliog Chem & Ind* p622-3 My 24 '58

Ion exchange resins as indicators. W. E. Miller. *Anal Chem* 30:1462-4 S '58

New group of metallochromic indicators. J. Körbi and others. *Chem & Ind* p 1624-5 D 14 '57

Shipments overheated? paper strips tell. H. J. Peppie and R. F. Dale. *il Food Eng* 30:90-1 Ag '58

Test paper for detecting peroxidase. H. J. Morris. *bibliog J Agri & Food Chem* 6:383-4 My '58

INDIGOFERA

Studies on the toxicity of indigofera endecaphylla. E. M. Hutton and others. *bibliog il J Nutrition* 64:321-37; 65:429-40 Mr, J1 '58

INDIUM

Diffusion of indium in tin single crystals. A. Sawatsky. *J Ap Phys* 29:1303-5 S '58

Explosive oxidation of dinitrogen tetroxide in the presence of indium. C. C. Addison and others. *Chem & Ind* p 1004-5 Ag 9 '58

Indium as an anode material. T. L. Boswell. *bibliog Electrochem Soc J* 105:239-41 My '58

Indium resistance thermometer. G. K. White and others. *R Sci Instr* 29:131-2 F '58

Solid-state dissolution of germanium by indium in semiconductor devices. J. Roschen and C. G. Thornton. *il J Ap Phys* 29:923-8 Je '58

Metallography

Metallographic aspects of alloy junctions. A. S. Rose. *il diags RCA R* 19:423-32 S '58

INDIUM alloys

Ag-In-Cd could replace Hf for pressurized water reactor control rods. I. Cohen and others. *bibliog il Nucleonics* 16:122-7 Ag '58

Fused bath for electrodeposition of molten cadmium-indium alloy. G. L. Schnable and J. C. Favas. *bibliog il Electrochem Soc J* 105:34-8 F '58

INDIUM antimonide

Anti-reflexion coatings for indium antimonide and other semi-conductor filters. S. D. Smith and T. S. Moss. *J Sci Instr* 35:105-6 Mr '58

Dislocations and selective etch pits in InSb. J. D. Venables and R. M. Broudy. *bibliog il diags J Ap Phys* 29:1025-8 J1 '58

Etch pitting on single-crystal indium antimonide. K. E. Maringer. *il J Ap Phys* 29:1261 Ag '58

Indium antimonide infrared filter. J. M. Powell and S. W. Kurnick. *J Ap Phys* 29:1129-30 J1 '58

Influence of crystal orientation on the surface behavior of InSb. M. C. Levine and others. *diags J Ap Phys* 29:1131-2 J1 '58

INDIUM fluorides

Fluoride complexes of indium(III). J. E. Roberts and A. W. Laubengayer. *bibliog diags Am Chem Soc J* 79:5895-7 N 20 '57

INDIUM halides

Lower halides of indium. R. J. Clark and others. *bibliog Am Chem Soc J* 80:4764-7 S 20 '58

INDIUM phosphide

Decomposition method for producing p-n junctions in InP. K. Weiser. *bibliog il J Ap Phys* 29:223-30 F '58

INDIVIDUALITY

Chemical anthropology, an open door. R. J. Williams. *bibliog (63 ref) diag Am Scientist* 46:1-23 Mr '58

INDO-EUROPEAN languages

Indo-European language. P. Thieme. *il maps Sci Am* 199:63-8+ O '58

INDOLE

Absolute configuration of some indole alkaloids. E. Wenkert and N. V. Brink. *bibliog Am Chem Soc J* 80:3434 J1 '58

Anodic polarography with a rotating platinum microelectrode; oxidation of various indole alkaloids. M. J. Allen and V. J. Powell. *Electrochem Soc J* 105:541-4 S '58

α -Chymotrypsin-catalyzed hydrolysis of methyl hippurate in aqueous solutions at 25° and pH 7.9. Its inhibition by indole and its dependence upon added non-aqueous solvents. T. H. Applewhite and others. *bibliog Am Chem Soc J* 80:1457-64 Mr 20 '58

Fischer indole synthesis: 2-carbethoxy-4,7-dimethylindole from ethyl pyruvate, 2,6-dimethylphenylhydrazones. R. B. Carlini and others. *bibliog Am Chem Soc J* 79:5712-19 N 5 '57

γ -Ketophosphonic acid derivatives in the indole series. J. Szumowski. *bibliog Am Chem Soc J* 80:3782-7 J1 20 '58

INDOLE—Continued

- Novel conversion of derivatives of oxindoles to indoles. E. Wenkert and others. *bibliog Am Chem Soc J* 80:4899-903 S 20 '58
- Oxidation-reduction studies in the realm of indole alkaloids. E. Wenkert and D. K. Roychoudhuri. *bibliog Am Chem Soc J* 80:1613-19 Ap 5 '58
- Preparation of substituted indoles. R. E. Ireland. *Chem & Ind* p979 Ap 2 '58
- Synthesis of indoles by catalytic reduction of α -nitrobenzyl cyanides. H. R. Snyder and others. *bibliog Am Chem Soc J* 80:4622-5 S 5 '58
- Synthesis of 4-nitro-, 5-nitro-, 6-nitro-, 7-nitroindole. S. M. Parmerter and others. *bibliog Am Chem Soc J* 80:4621-2 S 5 '58
- Synthetic oxytocics; synthesis and reactions of 3-indolyl-2-pyridylcarbinols and of 2,3-(2,3'-indolo)-hexahydroquinolizines. H. Bader and W. Orsohnik. *bibliog Am Chem Soc J* 79:5686-9 N 5 '57
- Unsaturated aromatic amines; a novel synthesis of indoles. J. E. Hyre and A. R. Bader. *bibliog Am Chem Soc J* 80:437-9 Ja 20 '58
- Use of neighboring group effects for the selective cleavage of peptide bonds; on the mechanism of oxidation of β -substituted indoles with N -bromosuccinimide. A. Patchornik and others. *bibliog Am Chem Soc J* 80:4748-9 S 5 '58

INDOLEACETIC acid

- Behavioral changes in rats and guinea pigs induced by the administration of indole 3-acetic acid and 6-aminonicotinamide. W. T. Sullivan and L. M. Strong. *bibliog J Nutrition* 65:199-209 Je '58

INDOLINE

- Co-ordinated derivatives of 2-phenylisophosphindoline. F. G. Mann and H. R. Watson. *Chem & Ind* p 1264 S 27 '58

INDONESIA

- See also*
- Petroleum industry and trade—Indonesia
- Petroleum laws and regulations—Indonesia
- Rubber industry and trade—Indonesia

INDOPHENOL

- Indophenol complexes; a new group of metallochromic indicators. J. Körbl and V. Svoboda. *Chem & Ind* p 1233-4 S 20 '58
- Modified indophenol-xylene extraction method for the determination of ascorbic acid in soybeans. F. B. Weakley and L. L. McKinney. *bibliog Am Oil Chem Soc J* 35:281-4 Je '58

INDUCED polarization. *See* Polarization, Dielectric**INDUCTANCE**

- Electronic ac mutual inductance bridge for measuring small susceptibilities at low temperatures. W. L. Pilling and others. *bibliog diags R Sci Instr* 29:159-62 F '58
- Equivalent diameter, inductance and reactance determined for stranded conductor; engineering reference sheet. F. R. De Weese. *Elec World* 150:64 J1 14 '58
- Exact inductance with variable toroid. *il diags Electronics* 31:102 Je 8 '58
- Frequency modulation by inductance variation; a magnetically-stable ferrite modulator. F. Slater. *bibliog il diags Brit Inst Radio Eng J* 18:189-204 Mr '58

INDUCTION (electricity)

- See also*
- Magnetic induction
- INDUCTION coils**
- Design of optimum inductors using magnetically hard ferrites in combination with magnetically soft materials. J. T. Ludwig. *J Ap Phys* 29:497-9 Mr '58
- Ferrite cores gain momentum. *Electronics* 31:35 Ja 24 '58
- Induction-heater coil does not arc-over. *Electronics* 31:34 J1 4 '58
- Precise reference inductor. D. Gagan. *J Sci Instr* 35:31-2 Ja '58; *Discussion*. 35:351 S '58
- Spherical coil as an inductor, shield, or antenna. H. A. Wheeler. *bibliog diags Inst Radio Eng Proc* 46:1595-602 S '58
- INDUCTION hardening.** *See* Case hardening—Electric hardening
- INDUCTION heating, High frequency.** *See* Electric heating, Industrial—High frequency heating
- INDUCTION motors.** *See* Electric motors, Induction
- INDUCTIVE interference.** *See* Electric lines —Inductive interference
- INDUSTRIAL accidents.** *See* Accidents, Industrial
- INDUSTRIAL alcohol.** *See* Alcohol, Industrial

INDUSTRIAL arbitration. *See* Arbitration, Industrial**INDUSTRIAL arts**

- Design digest issue. *il diags Product Eng* 28: A-J Mid-O '57
- Design digest issue. *il diags Product Eng* 29:sec A-J Mid-S '58

INDUSTRIAL brushes. *See* Brushes, Industrial**INDUSTRIAL buildings**

- Are you underrating your present structures? K. E. McKee. *il Power Ind* 74:16-17+ Mr '58
- Structural thermal insulation. C. Hammond. *Engineer* 205:661 My 2 '58
- Those worrisome package builders. *Arch Forum* 108:120-3+ Ap '58
- What's new in plant structures. *il Plant* 17:34-5 Ap '58

See also

- Commercial buildings
- Concrete construction
- Department stores
- Factories
- Office buildings, Industrial
- Store buildings
- Warehouses

Air conditioning

- Air conditioning; industrial plants. *il plans diags Prog Arch* 39:126-33 Mr '58

INDUSTRIAL cooling. *See* Cooling, Industrial**INDUSTRIAL cooperation**

- International collaboration in the chemical industry. E. Landau. *il map Chem Eng Prog* 53:531-8 N '57
- Seventeen-company program seeks optimum machining rates. *il diags Am Mach* 102:83-5 Je 2 '58

INDUSTRIAL design. *See* Design**INDUSTRIAL designers, American society of.** *See* American society of industrial designers**INDUSTRIAL diamonds.** *See* Diamonds, Industrial**INDUSTRIAL districts**

- The new New Orleans. R. Cantwell. *il map Arch Forum* 107:96-104+ D '57

INDUSTRIAL economists. *See* Economists, Industrial**INDUSTRIAL education**

- See also*
- Apprentices
- Employees, Training of
- Engineering education
- Foremen—Training
- Foundry practice—Study and teaching
- Supervisory workers—Training
- Technical education
- Textile education
- Trade schools
- Vocational education

Cooperative plan

- Advance management course in Caracas. *Pet Eng* 29:E8-9 N '57

INDUSTRIAL efficiency. *See* Efficiency, Industrial**INDUSTRIAL electric locomotives.** *See* Electric locomotives, Industrial**INDUSTRIAL engineering**

- Effective engineering management; abstract. T. E. Williams. *Tool Eng* 39:214 N '57
- Industrial engineering; abstracts of AFS papers. *Foundry* 36:142+ Ag '58
- Industrial engineering in the paper industry. J. Pearson. *Tappi* 41:sup 191A-2A Ag '58
- Industrial engineering to reduce coal mining cost. W. L. Zeller. *il Min Eng* 9:1338-40 D '57
- Industrial engineering; what can it do? E. B. Leisenring, Jr. *il Min Cong J* 43:74-7 N '57
- Materials in motion. A. F. Gould. *Mech Eng* 79:1116-18 D '57
- What is the relationship between the chief engineer and the head of the production department? points of view. *Product Eng* 28:38-9 D 2 '57

See also

- Engineering departments
- Operations research
- Systems engineering
- Time study

INDUSTRIAL engineers

- Professional work of the quality control engineer. A. V. Feigenbaum. *diag Ind Quality Control* 14:5-8 F '58
- Role of the industrial engineer in the mining industry. I. K. Hearn. *il Min Cong J* 43:52-5 D '57

INDUSTRIAL engineers—Continued

Salesmanship, the plant engineer's most important skill. W. O. Lindstrand. *Plant Eng* 12:86-7 F '58
 To sell a plant engineering project, speak effectively. B. W. Wombacher. *Plant Eng* 12:90-2 J1 '58

See also

American institute of plant engineers
 Engineering departments

INDUSTRIAL expansion
 Capital spending may drop \$5 billion but '58 will still be third biggest year. *Am Mach* 102:97 Mr 24 '58
 Capital spending stumps experts. *Am Mach* 102:71 Je 30 '58
 Cresap complex moving; Mountaineer Carbon and Ormet plants on stream. *Il Chem & Eng* N 36:27-8 My 28 '58
 Cutback on plant outlays due next year. *Eng* N 159:143-4 N 14 '57
 Expansion by joint venture. R. S. Morse. *Chem & Eng* N 36:62-7 Ag 18 '58
 Expansion in the chemical industry. Published in weekly numbers of Chemical and engineering news
 Fine art of growing larger. E. Hart. *Pet Refiner* 37:391-3+ S '58
 How soon would five-year writeoff boost spending? *Am Mach* 102:86 J1 14 '58
 Launching a new plant; abstract. W. H. Dorrance. *Tool Eng* 41:155-6 Ag '58
 Upturn in capital spending may come early in '58. *Am Mach* 102:119-20 Ap 21 '58
 Water resources and industrial expansion. R. E. Fuhrman. *Tappl* 41:sup214A-16A Ap '58
 What's ahead in capital spending? 652 metal-working firms report plans. *Am Mach* 101:170-3 N 4 '57

See also

Factories—Expansion

INDUSTRIAL films. See Moving pictures in industry

INDUSTRIAL heating. See Electric heating, industrial; Heating, industrial

INDUSTRIAL heating equipment association
 Annual meeting, Pittsburgh, Jan. 27-28. *Foundry* 86:182+ Mr '58

INDUSTRIAL hygiene. See Hygiene, industrial
INDUSTRIAL hygiene foundation
 Annual meeting, 22d, Pittsburgh, Oct. 30-31. *Ind Med* 28:565-7 D '57
 Annual meeting, 22d, Pittsburgh, Oct. 30-31, 1957. *A M A Archives Ind Health* 17:345-610 My '58

INDUSTRIAL laws and regulations

See also

Factory laws and regulations

INDUSTRIAL location. See Location in industry

INDUSTRIAL locomotives. See Locomotives, industrial

INDUSTRIAL management

Engineers and management; abstracts. E. Smith. *Engineer* 804:896-9 D 20 '57; *diag Engineering* 184:776 D 20 '57; *Chem & Eng* p34-5 Ja 11 '58
 Engineers in management? H. W. Johnson. *Mech Eng* 80:146-7 S '58
 Engineer's place in industrial management. F. W. Miller. *Mech Eng* 80:145-6 My '58
 How to measure management performance. C. Tyler. *Chem Eng* 85:119-20 Je 30 '58
 Job of the specialist in management. C. A. Beck. *Mech Eng* 80:60-1 Mr '58
 Management and engineering in the age of automation. A. Harvey. *biblog Mech Eng* 80:66-9 My '58; *Discussion*. V. F. Caputo. 80:98 O '58
 Management control of small engineering firms; abstracts of papers. *Engineering* 185:145 Ja 1 '58

Management has responsibilities to engineers. P. Walworth. *Civil Eng* 28:405 Je '58
 Managerial significance of research; British institute of management annual conference. *Engineering* 184:649 N 22 '57

New product planning needs manufacturing team for automation. D. J. Yomine. *Automation* 5:34-7 Ar '58

Pattern for success: E. I. du Pont de Nemours & Co., inc. J. Q. du Pont. *Tappl* 40:sup32A+ D '57

Philosophy of management. L. E. Newman. *Mech Eng* 80:53-4 O '58

Place of the engineer in industrial management; large and small companies' viewpoints. R. G. Ernest; F. W. Miller. *Elec Eng* 77:203-7 Mr '58

Rise of the business economist: commercial planning on systematic basis. *Engineering* 184:810 D 21 '57

Scientific management of ballistic missile systems. I. Stambler. *Il Aviation Age* 29:18-19+ Ap; 18-19+, cover My; 18-19+ Je '58

Standards; management resource for difficult times. L. B. Moore. *Mag of Stand* 29:271-3 S '58

Technical research management. M. A. Williamson. *Ind Lab* 9:5-7 Ap; 8-10 My; 88-91 Je; 80-1 J1; 71-3 Ag; 27-8+ S; 124-8 O '58

Too many chiefs. S. D. Silver and N. Birnbaum. *Ind Lab* 9:22-5 My '58

What is the proper balance between government and commercial work within a company? points of view. *Product Eng* 29:28-9 Ag 25 '58

What should an engineer learn and unlearn to become a good manager? points of view. *Product Eng* 29:42-3 Mr 10 '58

What's wrong with industrial productivity? T. Metaxas. *Mill & Factory* 62:79-84 Ap '58

See also

Bonus system
 Committees (in management)
 Communication in management
 Efficiency, industrial
 Employment management
 Engineering departments
 Factory management
 Foundry management
 Industrial engineering
 Industrial engineers
 Inspection
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 Linear programming
 Machine shop management
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 Mine management
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 Specialization in industry
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 Clay products plants
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 Flour mills
 Gas companies
 Oil companies
 Packing houses
 Petroleum refineries
 Potteries
 Printing offices
 Rolling mills
 Steel works
 Woolen and worsted mills

Study and teaching

Banff school expands advanced management courses. D. Cameron. *Il Pet Eng* 30:E18 Ja '58

Engineers team up with college and company for management training. K. C. Harder. *Machine Design* 30:108-13 Ja 23 '58

Management training. F. Chilson. *Drug & Cosmetic Ind* 82:209+ F '58

Shell runs academy for its managers. J. P. O'Donnell. *Oil & Gas J* 56:70-2 F 10 '58

INDUSTRIAL medical association

Annual meeting, 43d, Atlantic City, April 19-25. *Ind Med* 27:300-7 Je '58

President's page; association news, etc. Published in monthly numbers of *Industrial medicine and surgery*

INDUSTRIAL medicine. See Medical service, industrial

INDUSTRIAL medicine and surgery (periodical)

Industrial medicine and surgery as the international journal in occupational health; editorial. *Ind Med* 27:425-6 Ag '58

INDUSTRIAL mobilization

See also

Stockpiling

INDUSTRIAL motor trucks. See Motor trucks, industrial

INDUSTRIAL painting. See Painting, industrial

INDUSTRIAL pensions. See Pensions, industrial

INDUSTRIAL photography. See Photography—industrial applications

INDUSTRIAL poisons. See Poisons, industrial

INDUSTRIAL psychiatry. See Psychiatry, industrial

INDUSTRIAL psychology. See Psychology, industrial

INDUSTRIAL railroads. See Railroads, Industrial

INDUSTRIAL relations

- Changing workers' attitudes. A. J. M. Sykes. Research 11:236-9 Je '58
- Human relations; key to success. J. F. Daly. Am Gas Assn Mo 39:26-8 D '57
- Industrial relations may change. Chem & Eng N 35:39 N 13 '57
- Industrial relations round-table. W. T. Simmons, ed. Am Gas Assn Mo 40:16+ F: 14+ Mr: 18+ Ap: 15+ Je: 9+ Jl-Ag: 15+ S: 23+ O '58
- Industrial relations; where to? W. M. McFeely. Paper Ind 39:770-1 D '57
- Ole Sage episode; boss-worker problems in the food plant. L. C. Miller. Published in monthly numbers of Food engineering
- Stress and strain in human relations. Z. M. T. Tarkowski. bibliog diags Engineering 185:305-6 Mr 7 '58

See also

- Arbitration, Industrial
- Employment management
- Industrial management
- Profit sharing
- Psychology, Industrial
- Safety devices and measures
- Strikes
- Trade unions
- Unemployment

INDUSTRIAL research

- Costs of research and development increase four per cent. Electronics 31:14 S 26 '58
- How top management evaluates its research program. T. T. Miller. Chem & Eng N 36: 88-92+ F 24 '58
- Importance of research told at new plant dedication. J. R. Killian, jr. Ind Lab 9:82 Ag '58
- Industrial research and development today; abstract. L. R. Hafstad. Tool Eng 40:209-11 My '58
- Industrial research programs and academic research. H. Gershinowitz. Am Scientist 46: 24-32 Mr '58
- Industry makes room for research and development. II Product Eng 28:23-4 N 18 '57
- Managerial significance of research; British institute of management annual conference. Engineering 184:649 N 22 '57
- Manufacturing research; a plan for the future. A. Vleck, jr. and L. E. Laux. II Tool Eng 39:75-9 N '57
- Opportunities in an industrial research career. R. W. Calrns. II Chem & Eng N 36:6-8 pt 2 Ja 27 '58
- Production research in metal cutting. M. E. Merchant. bibliog II Mech Eng 79:1137-41 D '57
- Research age. F. Soday. Ind & Eng Chem 50:sup 133A-4A Ja '58
- Research on a limited budget. C. H. Kline. II Soap & Chem Spec 34:179+ Mr '58
- Research outlays up. Chem & Eng N 36:29 O 20 '58
- Research to aid operators of multiple-spindle bar units; Cooperative machining project. II Iron Age 181:113-16 Je 19 '58
- Research will shape next 100 years at Johns-Manville. II plans Ind Lab 9:8-11 Je '58
- Scientists need special training in experimentation. C. F. Rassweiler. Chem & Eng N 35:74-8+ N 4 '57
- Should you buy research? Steel 142:62-4 Ap 7 '58
- Specialized service laboratory; Alchem limited. II Can Chem Process 42:94-6+ My '58
- They offer recipes for top research management; Columbia 8th annual conference on research and development. Product Eng 29:22 Je 23 '58
- Why shackle research? J. W. Reid. Product Eng 28:32-3 D 16 '57

See also

- Automobile research
- Cement research
- Ceramic research
- Coal research
- Coke research
- Concrete research
- Dye research
- Electric research
- Food research
- Foundry research
- Gas research
- Glass research
- Laboratories
- Lubrication research
- Metallurgical research
- Operations research
- Packaging laboratories
- Paint research

Paper research

- Petroleum research
- Pittsburgh university. Mellon institute of industrial research
- Plastics research
- Pottery research
- Products, New
- Refrigeration research
- Research companies
- Research departments
- Rubber research
- Scientific research
- Sulphite pulp manufacturers research league
- Textile research
- Welding research
- Wood research

Accounting

- Devise formula for research cost decisions. R. J. Freeman. Ind Lab 9:108-10 O '58

Bibliography

- Research and development reports. Published in monthly numbers of Industrial laboratories
- Suggest literature for research administrator. G. P. Bush and L. H. Hattery. Ind Lab 9:8-10 Ap '58

Finance

- Research and development spending soars despite recession. Product Eng 29:21-2 Ap 21 '58

- Research dollars; the big spark. W. H. Chartener. Chem Eng 65:110+ Ja 13 '58

INDUSTRIAL sand association, National. See National industrial sand association

INDUSTRIAL service association, National. See National industrial service association

INDUSTRIAL tractors. See Tractors, Industrial

INDUSTRIAL trucks. See Motor trucks, Industrial

INDUSTRIAL trusts. See Trusts, Industrial

INDUSTRIAL waste. See Trade waste

INDUSTRY

- How modern is American industry? Food Eng 30:50-3 O '58

See also

- Business
- Chemical industries
- Electric industries
- Gas industry
- Iron industry and trade
- Location in industry
- Petroleum industry and trade
- Photography in industry
- Specialization in industry
- Steel industry and trade
- Textile industry

Classification

- New approach to collecting instrument-industry statistics. L. A. Edelman. Control Eng 5:86-8 Ap '58

Decentralization

- Burroughs decentralizes. Electronics Bsns ed 30:37-8 N 20 '57

INDUSTRY and education. See Education and industry

INDUSTRY and state

- Congress and synthetic rubber; abstract. J. R. Blandford. Rubber World 138:268-9 My '58

See also

- Government ownership

Great Britain

- National policy for the aircraft industry. F. Beswick. Engineering 186:269-70 Ag 29 '58

United States

- Demand mounts for two-point program to stimulate purchase of capital goods. Am Mach 102:91 Je 16 '58

INERTIA (mechanics)

- Constant-tension calendar drive features inertia compensation. J. V. McCaughy. II diags Control Eng 5:86-9 Je '58
- Forces on cylinders and plates in an oscillating fluid. G. H. Keulegan and L. H. Carpenter. bibliog II diags J Res Nat Bur Stand 60:423-40 My '58
- Inertia—electronically; dynamometers controlled by magnetic tape. R. F. Knudsen. II diags I S A J 5:52-4 Ap '58
- Origin of inertia. N. S. Rasor. diags Am J Phys 26:188-9 Mr '58
- Unbalanced inertia forces in slider-crank mechanisms of large eccentricity. E. Mewes. diags J Ap Mech 25:225-32 Je '58

- INERTIA, Moments of.** See Moments of inertia.
- INERTIAL guidance.** See Guided missiles—Control.
- INERTIAL navigation.** See Air navigation; Navigation.
- INFANT mortality**
See also
Fetus, Death of
- Statistics
Comparison of prematurity and perinatal mortality in a general population and in the population of a prepaid group practice medical care plan. S. Shapiro and others. *Am J Pub Health* 48:170-87 F '58
- INFANTS, Newborn**
Control of an outbreak of staphylococcal infections among mothers and infants in a suburban hospital. F. R. Peketty and others. *bibliog* (53 titles) *Am J Pub Health* 48:298-310 Mr '58
Evaluation of the phone survey in an outbreak of staphylococcal infections in a hospital nursery for the newborn. W. A. Murray, Jr. and others. *bibliog* *Am J Pub Health* 48:310-18 Mr '58
Influence of maternal iron deficiency on the newborn. T. R. C. Sisson and C. J. Lund. *bibliog* *Am J Clinical Nutrition* 8:376-85 Jl '58
Observations relative to the nature and control of epidemic staphylococcal disease. F. H. Wentworth and others. *bibliog* *Am J Pub Health* 48:287-93 Mr '58
- INFANTS, Photography of.** See Photography of children.
- INFANTS, Premature**
Comparison of prematurity and perinatal mortality in a general population and in the population of a prepaid group practice medical care plan. S. Shapiro and others. *Am J Pub Health* 48:170-87 F '58
- INFANTS food**
Colorimetry of baby foods. G. E. Livingston and others. *Food Tech* 12:273-5 Je '58
- Advertising
Direct brand promotion is Gerber's strategy in mail program. *Il Food Eng* 30:54 Je '58
- INFANTS supplies**
What's in store: plastics for the nursery. C. Craig. *Il Brit Plastics* 31:366-9 S '58
- INFECTIOUS diseases**
Advances in the chemotherapy of infection. A. I. Braude. *A M A Archives Ind Health* 17:391 My '58
Communicable disease and the public health; abstract. R. J. Anderson. *Am J Pub Health* 48:791-2 Je '58
See also
Bacteria, Pathogenic
Encephalitis, Epidemic
Encephalomyelitis
Influenza
Insects as carriers of infection
Malaria
Menigitis
Polioomyelitis
Psittacosis
Tuberculosis
Typhoid fever
Viruses
- INFECTIOUS diseases in animals**
Zoonoses in their relation to rural health; abstract. K. F. Meyer. *Ind Med* 27:401 Ag '58
- INFLAMMABILITY of textiles.** See Textile fabrics—Inflammability.
- INFLAMMABLE liquids**
Petroleum transportation. *Safety Maint* 116:50+ Ag '58
Safe storage and handling of flammable liquids. *Il Safety Maint* 115:37-8 My '58
Which extinguishers perform best on small flammable liquid fires. *Il diags Safety Maint* 114:64-7 N '57
See also
Gasoline
- INFLAMMABLE materials**
See also
Magnesium—Fire hazards
Textile fabrics—Inflammability
- Testing
Small tunnel-furnace test for measuring surface flammability. H. D. Bruce and V. P. Minutti. *bibliog* *Il diag A S T M Bul* p61-8 My '58
- INFLAMMABLE mixtures**
Classification of hazardous areas for electrical installations on barges employed in drilling operations in Lake Maracaibo, Venezuela. J. C. K. Mühlenberg. *bibliog* *Il plans diags Pet Eng* 29:B 143+ N '57
Flame arresters for gas or vapour explosions. K. N. Palmer. *Engineering* 185:438 Ad '48
Hollow plungers are dynamite. J. B. Murphy. *Il diag Power* 101:122-3 N '57
New explosive-mixture detector safeguards engine tests. E. E. Gorton and G. J. Lyons. *Il S A E* 5:31-5 Ag '58
See also
Detonation
Dust explosions
- INFLATION (finance)**
How inflation affects cost analysis. F. C. Jelen. *Pet Refiner* 37:101-6 Ag '58
Is inflation worth controlling? B. Solomon. *Am Gas Assn Mo* 39:29-30+ N '57
60 per cent rise in wage rates is offset by inflationary trend. W. V. Weir. *Water Works Eng* 111:349 V '58
- INFLATOPLANE.** See Airplanes, Light
- INFLUENCE lines**
Analysis of multiple-span continuous trusses. B. C. F. Wei. *diags Am Soc C E Proc* 83 (ST 2 no 1187):1-21 Mr '57; Discussion. 83 (ST 2 no 1382):145-61 S '57; Reply. 84 (ST 2 no 1576):3-7 Mr '58
Analytical and experimental study of helicoidal girders. Y. F. Young and A. C. Scordelis. *bibliog* *Il diags Am Soc C E Proc* 84 (ST 5 no 1756):1-29 S '58
- INFLUENZA**
Epidemiological aspects of acute respiratory diseases including influenza. A. D. Langmuir. *Ind Med* 27:498-9 O '58
Flu war isn't so bad. *Il Oil & Gas J* 55:114 D 30 '57
Outbreak of influenza-like disease in the Chinese army medical college in 1941. C. P. Li. *bibliog* *Am J Pub Health* 48:760-4 Je '58
Plant cafeteria precautions against Asian flu. *Safety Maint* 114:49 D '57
- Vaccines
Asian influenza. *Safety Maint* 114:37-8 O '57
Asian influenza immunization program, it's effects on absenteeism. S. Gottlieb. *Ind Med* 27:456-7 S '58
- INFORMATION**
See also
Communication
Reports
- INFORMATION, Technical.** See Technical information.
- INFORMATION, Theory of.** See Communication, Theory of.
- INFORMATION centers**
Approach to Williamsburg. *Il plans diag Arch Forum* 108:112-15 F '58
- INFORMATION service**
Esso's technical information div. makes good. *Chem & Eng N* 36:83-4 Ag '58
Information headaches. *Il Chem & Eng N* 36:104-5 F 24 '58
See also
Scientific information
- INFORMATION service, Government**
National science foundation ready to take the lead for all federal science literature services. *Chem & Eng N* 36:37 Jl '58
No antisecrecy law needed. W. P. Rogers. *Chem & Eng N* 36:40+ Mr 17 '58
- INFORMATION storage and retrieval systems**
Accuracy control in a file processor. J. C. Hammerton. *diags Electronic Eng* 30:536-40 S '58
Automated library soon? memory's all ready. M. M. Astrehan. *Machine Design* 30:41 Je 26 '58
Cryogenic devices in logical circuitry and storage. J. W. Bremer. *diags Elec Manuf* 61:78-83 F '58
Electronically sorted punched cards cut polymer compounding time; Enjay laboratories. R. F. Neu. *Il diags Ind Lab* 9:62-3 Ja '58
Fundamental concepts in the design of the flying spot store; semipermanent information storage system developed for use in electronic switching system. C. W. Hoover, Jr. and others. *bibliog* *Il diags Bell System Tech J* 37:1161-94 S '58
Investigation of storage capacity required for a meteor-burst communications system. R. A. Rach. *Inst Radio Eng Proc* 45:1707-9 D '57

INFORMATION storage and retrieval systems**—Cont.**

- Presently available tools for information retrieval. J. Rabinow. *Elec Eng* 77:494-8 Je '58
- Relay memory gets cargoes ashore. P. A. Jassoy. *il diags Control Eng* 5:117+ Je '58
- Transmission aspects of data transmission service using private line voice telephone channels. P. Mertz and D. Mitchell. *bibliog diags Bell System Tech J* 36:1451-86 N '57
- U.S.S.R. scientists work on unique memory device. L. Gutenmakher. *Aero/Space Eng* 17:31 O '58
- Use electronics to sort parcel-post mail. *il Electronics* 31:8 My 9 '58

See also

- Electronic data processing
Punched card system

INFORMATION theory. See **Communication, Theory of**

INFRARED photography. See **Photography, Infrared**

INFRARED rays

- Characteristics of junctions in germanium. N. J. Harrick. *bibliog diags J Ap Phys* 29:764-70 My '58
- Excitation of short infrared pulses with high repetition rate by electron bombardment of cuprous oxide. R. Frerichs and F. Welchman. *bibliog il diags J Ap Phys* 29:710-13 Ap '58
- Fundamentals of infrared. M. S. Juzycz. *bibliog Elec Eng* 77:704-6 Ag '58
- Infrared and microwave modulation using free carriers in semiconductors. A. F. Gibson. *bibliog diags J Sci Instr* 35:273-8 Ag '58
- Infrared continuum radiation from high-temperature air. T. Wentink, Jr. and others. *bibliog J Ap Phys* 29:742-3 Ap '58
- Infrared radiation: 48th Kelvin lecture. G. B. B. M. Sutherland. *bibliog il diags Inst E E Proc* 105 pt B:306-16 J '58
- Infrared transparency of magnetic tracks. G. Lewin. *SMPTE J* 66:517-22, 760-3 S. D '57; Discussion. 67:265-6 Ap '58
- Semiconductors for infrared detectors. *Product Eng* 29:14 F 24 '58

See also

- Glass-infrared rays transmission
Spectrum, Infrared

Apparatus

- Airborne infra-red solar spectrometer. J. T. Houghton and others. *bibliog diags J Sci Instr* 35:329-33 S '58
- Airlines to test infrared warning. *Electronics* 31:8+ Je 6 '58
- Apparatus for the observation of infrared streaming dichroism of polymer solutions. G. R. Bird and others. *bibliog diags R Sci Instr* 23:305-9 Ap '58
- Combined positive and negative infrared analyzer has features of both. L. E. Maley. *diags I S A J* 5:85-9 S '58
- Design for a multi-channel infrared spectrometer using transistor electronics. D. G. Avery and R. C. Bowes. *diags J Sci Instr* 35:212-16 Je '58
- High-resolution grating spectrometer for the infra-red region. M. A. Ford and others. *bibliog il diags J Sci Instr* 35:55-8 F '58
- Indium antimonide infrared filter. J. M. Powell and S. W. Kurnick. *J Ap Phys* 29:1129-30 J '58
- Infrared absorption of gases; abstract. H. Hummel. *Ind Chem* 34:261-2 My '58
- Infrared analyzer for missile safety. *Electronics* 31:94 Je 6 '58
- Infrared application to guidance and control. R. W. Powell and W. M. Kauffman. *diags Aero/Space Eng* 17:66-71 My '58
- Infrared collision warning proposed. *Electronics* 31:27 Mr 7 '58
- Infrared gas analyzers for paint control. A. E. Martin and others. *bibliog il diags Research* 11:258-65 J '58
- Infrared radiation and its detection. *diags Electronic & Radio Eng* 34:412-15 N '57
- Intruder alarm uses phase-sensitive detector. S. Bagno and J. Fasal. *il diags Electronics* 31:102-5 F 14 '58
- Japan tries infrared tv. *Electronics* 30:33 D 20 '57
- Keeping your analyzers on stream. J. F. Combs and others. *il diags I S A J* 5:54-8 Mr '58
- New infrared is all electronic. H. R. Walker. *Electronics* 31:3 F 28 '58
- New intermetallics offer wide infrared response. S. J. Nicolosi and others. *bibliog il diags Electronics* 31:48-51 J 14 '58

- Sapphire for infra-red detectors. *il Engineering* 135:817 Je 27 '58
- Small infrared spectrometer. J. U. White and others. *il diags R Sci Instr* 29:511-16 Je '58
- Synthetic sapphire used as infrared sensor in electronic equipment. *il Elec Manuf* 62:122 S '58
- Tunable infra-red interference filter. S. D. Smith and O. S. Heavens. *diags J Sci Instr* 34:492-6 D '57

Industrial applications

- Applying infrared analyzers to control furnace atmospheres. J. L. Garrison. *il diags Automation* 5:46-8 Je '58
- Infrared, an indispensable tool. *flow diags il Can Chem Process* 41:134-6+ N '57
- Infrared heating can be practical and economical. C. H. Foulds. *il Power* 102:78-9+ Ja '58
- Infrared heating for the factory of the future. *Arch Rec* 122:242 N '57
- Infrared heating system developed for today's factory of tomorrow. C. H. Foulds. *il diags Gas* 34:82-5 My '58
- Infrared pinpoint pinhole leaks. *Product Eng* 29:23 F 24 '58
- Infrared saves on space heating; food plants. C. H. Foulds. *il Food Eng* 30:121 Mr '58
- Infrared solves wrinkle pattern problem; Cross-Strong enameling co. *il Ind. Finishing* 34:50+ My '58
- Infrared system efficient in heating high-bay buildings. C. H. Foulds. *il diags Foundry* 86:217-18+ Ja '58
- Infrared to heat tomorrow's factory. *il diags Arch Rec* 123:184-5 Ja '58
- New test facility simulates flight through the thermal barrier. *Automotive Ind* 117:148+ O 15 '57
- New tool finds gas leaks quickly; infrared analyzer. *il Oil & Gas J* 56:105 My 19 '58
- On-stream control with an infrared analyzer. L. W. Adams and others. *diags Control Eng* 5:84-5 J 1 '58

Industrial heating

- Burn-off cleaning and paint baking in one radiant oven. H. Swink. *il Ind Finishing* 34:82-3 Ag '58
- 80-ft conveyor and infra-red oven speed cushion production. *il Elec World* 150:94 S 15 '58
- Fannon Products develops new gas fired infra-red heating process. *Am Gas Assn Mo* 40:46 Q '58
- Gas is used in infrared car thawing. *il Am Gas Assn Mo* 40:22-3 F '58
- Heating both sides speeds laminate punchinx. *il diags Electronics* 31:126 S 12 '58
- How to design for radiant heating. L. M. Polentz. *diags Chem Eng* 65:137-40 Ap 7; 151-4 Ap 21 '58
- Infrared controls heating of titanium. *il Steel* 142:130 F 3 '58
- Infrared degreases license plates. *il Steel* 142:31 Je 30 '58
- Infrared heat cures bend troubles. E. E. Langman. *il Am Mach* 102:108-9 S 22 '58
- Infrared heating saves 55 per cent in New Jersey plant; AllCast non-ferrous metals co. *il Gas Age* 121:24+ F 6 '58
- Infrared processing is really catching on; new quartz lamps open door to top-efficient cooking, baking, drying. *il Food Eng* 30:110-14 F '58
- Infrared radiant heating improves manufacturing processes. P. H. Krupp. *il diags Automation* 5:49-54 Ag '58
- Infrared speeds drying of paint on license plates. R. O. Smith. *il Elec World* 150:76 Ag 11 '58
- Infrared speeds finishing of concrete columns. R. G. Scott. *il Elec World* 149:114 Je 9 '58
- Now, infrared lamps preheat for welding. L. C. McWilliams. *il Power* 102:134 Je '58
- Portable infra-red heaters replace oil-fired units. D. W. Runquist. *il Elec World* 149:78 Je 30 '58
- Special heat-stress rigs test full-size missile parts; quartz infrared lamps. *il diags Iron Age* 182:54-5 J 31 '58
- Use of infra-red heating for the drying of ores and test products at the Mines branch laboratories. R. A. Elliott. *il Can Min & Met Bul* 51:111-13 F '58

Lamps

- Curve followers program heat runs; simulate the heating conditions encountered by missile during re-entry into earth's atmosphere. J. W. Powell. *il diags Control Eng* 5:169 S '58

INFRARED rays—Lamps—Continued

Infrared helps farm and fertilizer operations. R. R. Bowen and R. Alexander. *Il Elec World* 150:66 S 1 '58

Measurement

Infrared range; nomograph. M. E. Seymour. *Aviation Age* 28:69 Ja '58

Measurement uses

Measuring width in a hot strip mill; servo-driven optical device uses infrared radiation. *Il diag Metallurgica* 57:307-8 Je '58

Military applications

Infrared scans reentry. *Il Electronics* 31:8 Ag 15 '58

Scientific applications

Large-size silicon crystals for infrared applications. *Elec Manuf* 61:11-12 Je '58

INFRARED spectrum. See Spectrum, Infrared

INGOTS, Aluminum. See Aluminum ingots

INGOTS, Steel. See Steel ingots

INHIBITORS of corrosion. See Corrosion and anti-corrosives

INJECTIONS, Intravenous

Recent advances in intravenous fat alimentation. J. F. Mueller. *bibliog Am J Clinical Nutrition* 6:42-8 S '58

INJURIES, Industrial. See Accidents, Industrial

INJURIES from electricity. See Electricity, Injuries from

INK, Fluorescent

Penetrant methods of inspection. R. Schnurmann. *Il Research* 11:254-7 J '58

INLETS

Stability of coastal inlets. P. Bruun and F. Gerritsen. *Il maps Am Soc C E Proc* 84 [WW 3 no 1644]:1-49 *bibliog*(p47-9) My '58; Discussion. R. E. Hickson. *84 [WW 4 no 1785]:11-16 S '58*

INNER-SHIELD welding. See Electric welding, Arc

INORGANIC chemistry. See Chemistry, Inorganic

INOSINE

5-Amino-4-imidazolecarboxamide riboside from inosine; ring-opening reactions of purine nucleosides. E. Shaw. *bibliog Am Chem Soc J* 80:3899-902 Ag 5 '58

INOSINIC acid

Formation of a helical complex between polyinosinic acid and polycytidylic acid. D. R. Davies and A. Rich. *Am Chem Soc J* 80:1003-4 F 20 '58

INOSITOL

Critical evaluation of *myo*-inositol as an ascorbic acid-sparing agent. L. Anderson and others. *bibliog J Nutrition* 64:167-76 F '58

Inositol phosphates: pinitol 4-phosphate and (—)-inositol 3-phosphate. G. L. Kilgour and C. E. Ballou. *bibliog Am Chem Soc J* 80:2956-60 Ag 5 '58

Preparation and characterization of di-O-benzylidene-(—)-inositol. E. A. Shneur and C. E. Ballou. *Am Chem Soc J* 80:3960-1 Ag 4 '58

Site of cleavage of *myo*-inositol by purified enzymes of rat kidney. F. C. Charalampous and others. *Am Chem Soc J* 80:2022 Ap 20 '58

INPUT-output data. See Linear programming

INSCRIPTIONS, Polynesian

Talking boards of Easter Island. T. S. Barthel. *Il map Sci Am* 198:61-6+ Je '58; Discussion. T. Heyerdahl. 199:16-1+; Reply. 18 S '58

INSECT baits

Esters of 6-methyl-3-cyclohexene-1-carboxylic acid as attractants for the Mediterranean fruit fly. S. I. Gertler and others. *bibliog J Agri & Food Chem* 6:592-4 Ag '58

INSECT infestation of food. See Food—Insect infestation

INSECT repellents

Concept of insect repellency. J. Abrams and Z. D. Dworkin. *Il Soap & Chem Spec* 34:84-8+ Ap '58

Diethyltoluamide in aerosol repellents. H. F. Pierce. *Soap & Chem Spec* 34:80-1+ Je '58

Insect repellent stick. *Drug & Cosmetic Ind* 82:663 My '58

Insect repellents. C. N. Smith. *bibliog Il Soap & Chem Spec* 34:105+ F; 126-7+ Mr '58

Pest repellents. *Il J Agri & Food Chem* 6:88-90 F '58

INSECTICIDES

Application of insecticides at dumps. G. C. LaBrecque. *Il Pub Works* 89:92-3 J '58

Cotton insecticides. *Il J Agri & Food Chem* 6:173-4 Mr '58

Diazinon: residual household spray. D. B. Whitlow. *bibliog Soap & Chem Spec* 34:67-70 O '58

Do people read labels on household insecticides? A. C. Miller and others. *Soap & Chem Spec* 34:61-3+ J '58

Insecticidal principles of haplophyton cimicidum: the nature of the acidic function of haplophytine. H. R. Snyder and others. *bibliog Am Chem Soc J* 80:3708-10 J '58

Insecticide sales contest. L. E. Carls. *Il Soap & Chem Spec* 34:117-19+ My '58

Insecticides and the soil. C. F. Eno. *Il J Agri & Food Chem* 6:348-51 My '58

Low pressure aerosol insecticides. R. A. Fulton. *Il Soap & Chem Spec* 33:65-7+ N '57

Naturally occurring oxygen heterocycles; characterization of an insecticidal principle from *mammea americana*. L. C. Djerassi and others. *bibliog Am Chem Soc J* 80:3686-91 J '58

Nekooosa-Edwards; control program of insect loss in stored pulpwood. *Tappl* 41:sup 142A Ap '58

Safer insecticides coming. *Chem & Eng N* 36:48 Ja 13 '58

Sesoxane on the way: Shulton's synergist could change insecticide buying habits. *Il Chem & Eng N* 36:36-7 F 17 '58

Silica kills bugs; inorganic coated silica aerogel. *Chem & Eng N* 36:21 O 27 '58

Sprayers can help sell insecticides. P. L. Hauser. *Il Soap & Chem Spec* 34:82+ S '58

See also

DDT

Insects, Injurious and beneficial—Resistance to control

Isodrin

Lindane

Methoxychlor

Parathion

Pyrethrins

Analysis

Analysis of mixtures of isomers of demeton. K. Groves. *bibliog J Agri & Food Chem* 6:30-1 Ja '58

Determination of 2,3-*p*-dioxanediithiol S,S-bis (O,O-diethyl phosphorodithioate). C. L. Dunn. *bibliog Il J Agri & Food Chem* 6:203-9 Mr '58

Spectrophotometric determination of 2-(*p*-tert-butylphenoxy)-1-methyl-2-chloroethyl sulfite (aramite) residues. M. E. Brokke and others. *bibliog diag J Agri & Food Chem* 6:26-7 Ja '58

Carriers

See Insecticides—Diluents

Diluents

Distribution of diluents, carriers. *Il J Agri & Food Chem* 6:503-5 J '58

Manufacture

Safeguards encircle new insecticide plant. *Il Chem Eng* 65:76-8 Mr 10 '58

Safety in the chemical industry: safety aspects in the design of an organic insecticide plant. K. M. Curwen. *plan diag Chem & Ind* p 1096-101 Ag 23 '58

Physiological effect

Anticholinesterase activity; recognition and detection in the field and hospital. H. H. Goiz. *bibliog A M A Archives Ind Health* 18:138-41 Ag '58

Biological activity of several O,O-dialkyl alpha-acyloxyethyl phosphonates. E. W. Arthur and J. E. Casida. *bibliog*(26 ref) *J Agri & Food Chem* 6:360-5 My '58

Blood cholinesterase activity. J. H. Wolfale. *bibliog A M A Archives Ind Health* 16:403-10 N '57

Bovine metabolism of organophosphate insecticides; subacute feeding studies with O,O-dimethyl 1-carbomethoxy-1-propen-2-yl phosphate. J. E. Casida and others. *bibliog J Agri & Food Chem* 6:558-62 S '58

Bovine metabolism of organophosphorus insecticides; metabolic fate of O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate in rats and a cow. F. W. Plapp and J. E. Casida. *bibliog J Agri & Food Chem* 6:662-7 S '58

Effects of chronic and acute exposure of rats to endrin. L. E. Spector and C. A. Maaske. *diags A M A Archives Ind Health* 18:268-72 S '58

INSECTICIDES—Physiological effect—Cont.

In vivo effects of paired combinations of five organic phosphate insecticides. M. W. Williams and others. *bibliog J Agri & Food Chem* 6:514-16 J1 '58

Insecticide toxicity: a doctor's view. M. R. Zayon. *Soap & Chem Spec* 34:75+ Je '58

Study of exposure to parathion in a greenhouse. D. Culver and others. *bibliog il A M A Archives Ind Health* 18:235-47 S '58

Toxicity and mechanism of action of D-Syston. T. J. Bombinski and K. P. DuBois. *bibliog A M A Archives Ind Health* 17:192-9 Mr '58

Residues

Colorimetric determination of residual perchloroethylene in fumigated wheat. J. H. Brumbaugh and D. E. Stallard. *bibliog J Agri & Food Chem* 6:465-8 Je '58

Colorimetric estimation of malathion residues in animal products. M. V. Norris and others. *J Agri & Food Chem* 6:111-14 F '58

Determination of allethrin residues in milk and meats. D. E. McClellan and J. B. Moore. *J Agri & Food Chem* 6:463-5 Je '58

Endrin content of body tissues of steers, lambs, and hogs receiving endrin in their daily diet. L. C. Terriere and others. *bibliog J Agri & Food Chem* 6:516-18 J1 '58

Endrin content of milk and body tissues of dairy cows receiving endrin daily in their diet. U. Kligemazi and others. *bibliog J Agri & Food Chem* 6:518-21 J1 '58

Field persistence comparisons of residues of the insecticide, diazinon, in lemons and Valencia oranges and effects on juice flavor. F. A. Gunther and others. *bibliog J Agri & Food Chem* 6:521-3 J1 '58

Lindane residue changes during the fermentation and processing of pickles. M. R. Johnston. *bibliog Food Tech* 12:281-3 Je '58

Persistence of residues of 2,3-p-dioxane-dithiol S,S-bis(O,O-diethyl phosphorodithioate) as an acaricide on and in mature lemons and oranges. F. A. Gunther and others. *J Agri & Food Chem* 6:210-11 Mr '58

Residues in milk from dairy cattle treated with methoxychlor for fly control. K. Heinrich and others. *J Agri & Food Chem* 6:281-3 Ap '58

Statistics

CSMA insecticide sales survey: with tables. *Soap & Chem Spec* 34:81+ J1 '58

Testing

Household aerosol insecticides. H. O. Schroeder and H. A. Jones. *bibliog il Soap & Chem Spec* 33:115+ D '57

Residual effectiveness of certain insecticides in German cockroach control. J. M. Grayson and F. E. Jarvis. *Jr Soap & Chem Spec* 34:91-2+ Mr '58

Sesoxane as a synergist for methoxychlor. H. E. Fairchild. *Soap & Chem Spec* 34:82+ Ja '58

INSECTS

Juvenile hormone: larva of an insect makes a hormone which keeps it from changing into a pupa until it has reached its full growth. C. M. Williams. *il diags Sci Am* 198:67-70+ F '58

See also

Flies
Gypsy moths

Breeding

Care and feeding of insects: raising insects in the laboratory. *il J Agri & Food Chem* 6:177-8 Mr '58

Host plants

Insect and a plant: studies of how the corn borer adapts to its host (the corn plant). S. D. Beck. *bibliog il diags Sci Am* 198:87-90+ My '58

INSECTS, Injurious and beneficial

Why not pest-preventive construction? H. Frinks. *il diags Prog Arch* 39:136-8 S '58

See also

Ants
Cockroaches
Grasshoppers
Termites

Control

Don't let the insects rule. G. C. Decker. *il J Agri & Food Chem* 6:98-103 F '58

Florida's pesticide needs. W. A. Simanton. *il Soap & Chem Spec* 34:85-7+ F '58

Resistance to control

Household aerosol insecticides. H. O. Schroeder and H. A. Jones. *bibliog il Soap & Chem Spec* 33:115+ D '57

Insecticide resistance. A. W. A. Brown. *Pub Works* 89:206+ Ap '58

INSECTS as carriers of infection

Arthropod-borne encephalitis in the U.S.A. A. W. Donaldson. *bibliog Am J Pub Health* 48:1307-14 O '58

INSECTS as pollinizers

Essential oils train bees for fruit blossom pollination. B. E. Borud. *il diags Am Perfumer & Aromatics* 72:38-40 J1 '58

INSPECTION

Advances in inspection techniques as aids to process control in non-ferrous metals production: symposium. *Engineering* 185:575-6 My '58

Boards now inspect socks at Athens hosiery mills. *il Textile World* 108:126 Ag '58

Constant inspection assures accuracy: Aircraft div. of Holley Carburetor. *il Iron Age* 181:112 Mr '58

Depth perception improves inspection. *il Am Mach* 101:119 N 4 '57

Dial indicators simplify inspection problems. A. H. Emery. *il diags Tool Eng* 39:111-13 N '57

Efficient inspection during production. *Ind Finishing* 34:104-5 Mr '58

How to cut gear inspection costs. F. Bohle. *il diags Am Mach* 101:124-9 D 16 '57

Inspection and testing: forum on technical progress. *Steel* 142:304-6+ Ja 6 '58

Inspection team serves supplier and user. R. H. Eshelman. *il Iron Age* 181:104-5 My 8 '58

Line-of-action dontometer inspects spur gears to ± 1 sec of arc; Sperry gyroscope co. R. J. Ross and J. P. Wright. *il diags Am Mach* 102:113-17 Ja 13 '58

Metalworking, 1962: inspection methods and gaging. W. J. Darmody. *Am Mach* 101:142 N 18 '57

Operating characteristic curves for the lot plot sampling inspection plan when population is normal. D. H. Shaffer. *bibliog Ind Quality Control* 14:12-15 Je '58

Preventive maintenance by nondestructive testing methods pays off: Spencer chemical co. L. W. Zinn. *il Ind & Eng Chem* 50:sup1A-2A F '58

Production suggestions: information from American machinist and other publications: developments to watch: inspection, testing, quality control. *il Am Mach* 102:E 1-5 Mid-S '58

Psychological bias in attribute sampling. J. H. Toulouse. *Ind Quality Control* 14:5-12 Je '58

Special inspection tests determine the spring-making properties of pre-tempered steel strip. W. R. Johnson. *il diags Ind Quality Control* 14:31-2 F; 36-8 Mr '58

See also

Bridges, Railroad—Inspection
Gages
Magnetic testing
Motor vehicles—Inspection
Safety inspection

INSTANT coffee. See Coffee, Soluble

INSTITUTE for exploratory research. See United States—Army Institute for exploratory research

INSTITUTE of American poultry industries. Poultrymen gage trends, techniques: IAPI's fact-finding conference, Kansas City: abstracts of papers. *Food Eng* 30:46-7 My '58

INSTITUTE of appliance manufacturers. Annual meeting, 26th. Cincinnati, June 1-4: abstracts of papers. *Cer Ind* 71:50 J1 '58
Meeting, Washington, Dec. 1-4. *Cer Ind* 70:62-4+ F '58

INSTITUTE of British foundrymen. Annual meeting, 55th. Buxton, May 13-16. *Foundry* 86:128+ J1 '58

INSTITUTE of cellulose chemistry. Anniversary and meeting, 50th. Darmstadt, May 5-11: with abstracts of papers, *Ind Chem* 34:543-4 O '58

INSTITUTE of ceramic engineers. National. See National Institute of ceramic engineers

INSTITUTE of food technologists. Annual meeting, 18th. Chicago, May 25-29: program. *Food Tech* 12:sup 17-18 Ja '58

Annual meeting, 18th. Chicago, May 25-29: program, abstracts of papers and social events. *Food Tech* 12:insert 3-62 Ap '58
Ohio Valley section meeting, Reynoldsburg, Ohio, Jan. 10. *Food Tech* 12:sup 15-16+ Ap '58

INSTITUTE of food technologists—Continued
What training should a four-year food technology student receive? summary report on the educational conference, Institute of food technologists, Monticello, Ill. Food Tech 12:7-8+ S '58

INSTITUTE of gas technology

Gas companies sponsor scholarships. Am Gas Assn Mo 40:33+ O '58

INSTITUTE of metals. See American Institute of mining, metallurgical and petroleum engineers—Institute of metals division

INSTITUTE of metals, London

Institute of metals; some recollections and reflections. R. S. Hutton. bibliog Inst Metals J 86:465-75 J '58
Spring meeting, London, April 28; 50th anniversary jubilee lecture, Prof. R. S. Hutton's personal recollections of the early days. Chem & Ind 55:24-5 My 3 '58

INSTITUTE of petroleum

Annual general meeting, 45th, London, April 22. Inst Pet J 44:227-8 J '58
Annual report, year ending Dec. 1957. Inst Pet J 44:216-26 J '58

INSTITUTE of radio engineers

Annual meeting, New York, March 24-27; program. Electronic Ind 17:94-5+ Mr '58
Annual meeting, New York, March 24-27; program and abstracts of papers. Inst Radio Eng Proc 46:622-7 Mr '58
Annual meeting, New York, March 24-27; program and list of exhibitors. Electronics 31:270+ Mr 14 '58
Electronics and the IRE, 1967. D. G. Fink. Inst Radio Eng Proc 46:1187-90 S '57
Highlights of the IRE convention, bibliog il diags Electronics 31:62-5 Ap 26 '58
IRE awards, 1958 and new fellows. Inst Radio Eng Proc 46:sup 14A-16A+ Ap '58
IRE committees, 1958; representatives in colleges and other bodies. Inst Radio Eng Proc 46:sup 13+ Je '58
IRE's 1958 Fellows predict future for the electronic industries. Electronics Ind 17:96+ Mr '58

Joint technical advisory committee (JTAC) under the sponsorship of the IRE and the Electronic Industries association; ten years of service. D. G. Fink. Inst Radio Eng Proc 46:823-6 My '58
News from the 1958 meeting. il Radio-Electronics 29:56-7 Je '58
Report of the secretary, 1957. H. Pratt. Inst Radio Eng Proc 46:1318-22 Je '58

INSTITUTE of the aeronautical sciences

Annual meeting, 26th, New York. Aircraft Eng 30:88 Mr '58
Annual meeting, 26th, New York, Jan. 27-30; with abstracts of papers. Aeronautical Eng R 17:13+ Mr: 58-61 Ap '58
IAS awards for 1957. Aeronautical Eng R 17:24-7 Mr '58
National summer meeting, Los Angeles, July 8-11. Aero/Space Eng 17:21 O '58
Roster of members, 1958-1959. Aero/Space Eng 17:127-314 S '58
Zero to infinity; editorial. Aeronautical Eng R 16:24-5 D '57

INSTITUTE of transportation and traffic engineering

See California university—Institute of transportation and traffic engineering

INSTITUTION of chemical engineers

Annual dinner, London, April 30. Chem & Ind 55:50-1 My 10 '58

INSTITUTION of mechanical engineers

Annual report of the council for the year 1956; with report of annual general meeting, April 25, 1957. Inst Mech Eng Proc 171 no 8:283-350 '57

Annual report of the council for the year 1957. Inst Mech Eng Proc 172 no 5:161-221 '58

INSTITUTION of naval architects

Annual spring meeting, London, March 25-27; with abstracts of papers. Engineer 205: 503-5, 537-9, 575-6 Ap 4-18 '58

Summer meeting, Paris, June 30-July 4; with abstracts of papers. Engineer 206:101-2, 137-9, 165-70 J '18-Ag 1 '58

INSTITUTIONAL advertising.

See Advertising, Institutional

INSTRUCTION manuals

Quick check for writing instructions; reference book sheet. H. E. French. Product Eng 29:85+ Mr 3 '58

Use your operating and maintenance manuals. Power Eng 61:95 D '57

INSTRUCTIONS

How to make instructions clear. J. O. Dibbs. diags Product Eng 28:64-5 D 23 '57

See also
Safety instructions and training

INSTRUMENT panels

Color standards for panel tubing. Franklin Inst J 265:436 My '58
Designing instrument and panel lighting. R. Coburn. il diags Machine Design 30:142-6 Mr 20 '58

Electroluminescence, new area-source of light. A. R. Gardner. il diags Product Eng 29:74-7 S 15 '58

Instrument panels made for easier operation. J. D. Yanak. diags Pet Refiner 37:224-8 Mr '58

Mockup for instrument panels. A. J. Waldron. il Chem Eng 66:164+ Ja 13 '58

INSTRUMENT society of America

Annual instrument-automation conference and exhibit, 13th, Philadelphia, Sept. 14-19; program and list of exhibitors. I S A J 5: 54-7 Ar: 102-11+ S '58

Conference and trade show, Philadelphia. il Electronics 31:8 S 26 '58

How ISA helps the sales engineer. R. N. Pond. I S A J 5:163-9 S '58

ISA faces the future. H. C. Frost. I S A J 5:167-8 S '58

ISA national organization roster and section officers. I S A J 5:72-6 Mr '58

National organization roster and section officers. I S A J 5:163-9 S '58

President's annual report for 1958. R. J. Jeffries. I S A J 5:156-6 S '58

Treasurer's report for 1958. H. W. Hudson. I S A J 5:159 S '58

INSTRUMENTS

Application of instrumentation to pulp mill atmospheric discharges. D. F. Adams and R. K. Koppe. bibliog Tappi 41:366-72 J '58

Atomic review; physical aids. il Engineering 185:396-7 Mr 28 '58

Automatic control of ground instrumentation during the launching and flight of experimental guided missiles. R. Garvey. il diags Electronic Eng 30:54-60 F '58

Automation in the mineral industries. J. McCaslin. il diags Min Eng 10:337-41 Mr '58

Automation with process instruments; abstract. W. H. Ridley. Textile World 108:125 Ja '58

Automotive Industries machine tool and production equipment; quality control section. il Automotive Ind 119:115-18 S 1 '58

Blast furnace instrumentation. D. W. Gillings. bibliog il diags Instruments & Automation 31:256-9 F '58

Chemical-treatment control; instrumentation, the basis for better processing. il Textile World 108:80-1 O '58

Continuous galvanizing instrumentation. W. E. Hand. il Instruments & Automation 31: 278-9 F '58

Designing instrument and panel lighting. R. Coburn. il diags Machine Design 30:142-6 Mr 20 '58

Development of instrumentation in chlorination. R. J. Baker and A. E. Griffin. bibliog Am Water Works Assn J 50:489-94 Ap '58

Developments and trends in process control in Europe. A. J. Young. bibliog Chem Eng Prog 54:47-9 S '58

Edwards air force base flight testing grows up. L. H. Young. il map Control Eng 5:22-4+ F '58

European instrumentation and automation. R. Rimbach. Instruments & Automation 31:106-10 Ja '58

Experience of an instrument manufacturer with systems engineering. Perkin-Elmer Corp. V. Williams and P. A. Wilks. Instruments & Automation 31:84-5 Ja '58

Figuring costs for power plant instrumentation. H. R. Karp. Control Eng 5:25-6 J '58

Food packers ask: who's to pay for new instrument development? panel discussion. Control Eng 5:50+ Ja '58

How sales engineers contribute to the instrument industry. H. E. Benson. I S A J 5:61 Mr '58

Instrument bearings for 300F and up. N. A. Sinclair. Product Eng 29:72-5 F 3 '58

Instrument calibration scheduling simplified with electronic data processing machines. W. Lawrence. il diags Ind Quality Control 14:32-6 My '58

Instrument makers pace science and technology. il Ind Lab 9:78-9+ S '58

Instrument sales bright. Control Eng 5: 56+ S '58

ISA instrumental methods of analysis symposium, Houston, May 12-14. I S A J 5: 65-6 J '58

Instru-mentality; how would your electrical staff rate on this test? W. A. Weibel. il diags Plant Eng 12:111-14 Je: 120-3 J '58

INSTRUMENTS—Continued

- Instrumentation. Published in monthly numbers of Analytical chemistry
- Instrumentation. R. Wall. Published in monthly numbers of Industrial and engineering chemistry
- Instrumentation for a boiling water reactor. L. Kornblith, Jr. Elec Eng 77:696-8 Ag '58
- Instrumentation in a small fine chemical works. D. B. B. Greensmith. flow sheet il Manuf Chem 29:5-8 Ja '58
- Instrumentation in an atomic power station. Elec Manuf 61:10 My '58
- Instrumentation in an ideal's new Houston cement plant. T. B. Douglas. Min Eng 10:Trans 266-8 F '58
- Instrumentation in vacuum induction melting. E. G. Vogt. il diag Instruments & Automation 31:267-9 F '58
- Instrumentation of a pressurized water reactor atomic power plant; Shippingport atomic power plant. S. Baron and T. L. R. Williamson. il plan diags I S A J 5:46-51 J '58
- Instrumentation of Patricia blast furnace no. three Fairless works. W. E. Williams. il diags I S A J 5:94-8 S '58
- Instrumentation plays vital role in rocket development. K. R. Stehling. diags Aviation Age 30:20-1- JI '58
- Instrumentation studies. J. A. Van den Akker and others. il diags Tappi 41:sup224A-38A Ag '58
- Instrumenting the combustion process for removing H₂S from water. diag I S A J 5:37 My '58
- Instrumenting the Pennsylvania advanced reactor slurry-test loop. E. A. Goldsmith and W. W. Wentzel. flow diag il I S A J 5:50-9 Je '58
- Instruments and techniques for analyzing products. C. M. Albright, Jr. Product Eng 28:A 18-19 Mid-O '57
- Instruments at work. il I S A J 5:40 Ja '58
- Instruments for atomic energy; market report. G. Sideris. Electronics 31:21-4 My 16 '58
- Instruments for heater-oil production. S. F. Kapff and J. C. Rhodes. flow diag diag Oil & Gas J 56:100-2 Je 16 '58
- Instruments for process control. il Engineer 205:69 Ja 10 '58
- Instruments help overhaulers; China grove cotton mills. A. B. Roberts. il diag Textile Ind 122:129- Ag '58
- International challenge to instrumentation; editorial. A. V. Astin. I S A J 5:40- S '58
- Inventory of new equipment and accessories; instruments and controls. il Chem Eng 64: 289-92- Mid-N '57
- Is instrumentation up-to-date in your plant? il diag Can Chem Process 42:95-116 S '58
- Laboratory instrumentation moves into plant. A. Savitzky. bibliog il diags Anal Chem 30: sup 17A-22A Mr '58
- Metalworking, 1962; instrumentation. C. S. Draper. Am Mach 101:141-2 N 18 '57
- New approach to collecting instrument-industry statistics. L. A. Edelman. Control Eng 5:86-8 Ap '58
- New gear for wind tunnels. il diag Electronics 31:15-16 Ag 8 '58
- New instruments. Published in monthly numbers of Instruments and automation
- New instruments. Published in monthly numbers of Review of scientific instruments
- New instruments and apparatus. il Manuf Chem 29:15-20 Ja '58
- New trends in the instrumentation of refinery processes. S. W. J. Wallis and D. S. Townend. bibliog il diags Inst Pet J 44:29-37; Discussion. 37-40 F '58
- Nine ways to make instruments readable. R. M. Rowell. il diags Product Eng 29: 61-3 F 3 '58
- Nuclear power plant instrumentation. R. C. Faught, Jr. il diags Elec Eng 76:1046-51 D '57
- Progress and trends in chemical and petroleum instrumentation; symposium. Control Eng 5:23 Ap '58
- Progress in process instrumentation. bibliog Ind Chem 34:35-6, 87-8, 135-6, 197-9, 250-2, 288-90, 447-8, 505-6, 561-2 Ja-MY, JI-O '58
- Radiotracer instrumentation solves tough process problems. R. J. Allen. il diags I S A J 5:38-41 JI '58
- Refinery equipment; instrumentation and control. il Pet Eng 30:C28-33+ JI 15 '58
- Russians call for 300 per cent instruments increase by 1961. A. V. Astin. Machine Design 30:36+ F 6 '58

Scanning the field of instrumentation, automatic control and automation; illustrations with text. Published in monthly numbers of ISA journal

Search for continuous control. G. B. Hall. il Can Chem Process 42:82-3 Ja '58

Seven rules simplify instrument gear specifications. W. A. Wiegand. il Product Eng 28: 80-1 N 25 '57

Shares and prices; atomic instrumentation manufacturers. Electronics 31:5 S 5 '58

Sintering-plant instrumentation. A. A. Latowski. il diag Instruments & Automation 31:270-2 F '58

Survey reveals most popular analyzer types. B. W. Thomas. I S A J 5:46-7 F '58

Testing and machine control; modern instruments pay off in better yarns and fabrics. il Textile World 103:82-4 O '58

Three ways to estimate instrumentation costs of process plants. J. W. Bernard. diag Control Eng 5:88-91 F '58

Transistors in instrumentation. il diags I S A J 5:68-79 S '58

Trends in glass plant instrumentation; abstract. J. R. Green. Glass Ind 39:37-8+ Ja '58

Truck houses blast instruments. il Eng N 160:64 F 20 '58

What's new? R. A. Wylie, ed. Published in monthly numbers of Industrial quality control

See also

- Aeronautic instruments
- Balances
- Control equipment
- Dynamometers
- Electric instruments
- Integrators
- Magnetic instruments
- Medical instruments and apparatus
- Meteorological instruments
- Pneumatic instruments
- Radio instruments
- Recording instruments
- Scientific apparatus and instruments
- Stroboscopic instruments

Bearings

Guide to lubricants for instrument ball bearings. R. F. Irwin. Product Eng 29:66-9 Je 9 '58

Intraciprocation bearing system. il Machine Design 30:92 Ag 7 '58

Bibliography

- New books. Published in monthly numbers of Control engineering
- New literature. Published in monthly numbers of Instruments and automation

Exhibitions

Instrument-automation conference and exhibit, 13th, Philadelphia, Sept. 14-19; list of exhibitors, floor plan, products. Ind Lab 9:33-8+ S '58

Instrument society of America's 13th annual instrument-automation conference and exhibit. Chem & Eng N 36:100+ S 29 '58

Instruments, electronics, and automation exhibition. London, April 16-25, il diags Engineer 205:585-7, 623-4, 663-5 Ap 18-MY 2 '58; Engineering 185:488-9, 549-51 Ap 18, MY 2 '58; Ind Chem 34:250-2 MY '58; Wireless World 64:208-9, 284-90 MY-Je '58; Control Eng 5:18-19 Je '58

Instruments, electronics and automation exhibition. London, April 16-25; list of exhibitors and floor plans. Electronic & Radio Eng 35:144-8 Ap '58

International instrument congress and exhibition. Düsseldorf, Nov. 2-10, il diag Engineer 204:764, 838-40 N 22, D 6 '57

International instrument show, 4th, March 24-29. Aircraft Eng 30:152 MY '58

Maintenance and repair

Good records, key to successful maintenance. L. Clouse. I S A J 5:45-8 Ap '58

Installing and maintaining process stream analyzers. Can Chem Process 42:87-9 JI '58

Modern maintenance program for process instrumentation. W. H. Matthews. il I S A J 5:38-41 MY '58

Nuts and bolts of instrument maintenance. W. S. Hitt. il I S A J 5:46-9 Ag '58

Will you be able to service tomorrow's instruments? A. P. Olbrich and C. H. Trotter. I S A J 5:49-51 JI '58

INSTRUMENTS—Continued

Manufacture

Photocetching produces thin metal parts without dies. G. R. Hockmeyer. *Il Mach* 64:129-31 Mr '58

Study and teaching

Instrument engineers of tomorrow train in Pittsburgh high school. *Il I S A J* 5:56-7 Ap '58

Testing

Metering problems in the navy calibration program. L. M. Morrow. *diags Instruments & Automation* 31:1214-17 JI '58
Soviets test Sputnik instruments. *Electronics* 31:49 Ap 4 '58

INSTRUMENTS, Electric. See Electric instruments

INSTRUMENTS, Optical. See Optical instruments

INSTRUMENTS, Surgical. See Surgical apparatus and instruments

INSTRUMENTS, Surveying. See Surveying instruments

INSULATING bushings. See Bushings, Insulating

INSULATING materials

Epoxy-asbestos for class B insulation. *Il Materials in Design Eng* 46:208+ N '57
International activities in the temperature classification of electrical insulating materials. L. J. Berberich and K. N. Mathes. *bibliog Power Apparatus & Systems* p69-73 Ap '58

Why temperature ratings on motors: abstract. *Machine Design* 30:186 Mr 20 '58

See also

Glass—Electric properties

Mica

Paper, Insulating

Porcelain, Insulating

Resinous products—Insulating materials

Rubber, Artificial—Electric properties

Steatite

Standards

Development of standards for insulation systems and insulating materials. M. L. Schmidt. *Power Apparatus & Systems* p747-9 O '58

Testing

Effect of coil winding and processing on the electrical strength of oil-immersed insulating materials; effects which arise in the manufacture of transformers. W. T. Sackett, jr. *bibliog Il Power Apparatus & Systems* p 118-23 Ap '58

INSULDUR, another milestone in transformer insulation development. J. G. Ford and others. *Il Power Apparatus & Systems* p804-8 O '58

Internal oxidation mechanism for nontracking organic insulations. R. S. Norman and A. A. Kessel. *bibliog Il diag Power Apparatus & Systems* p632-6 Ag '58

Motor test aids nuclear research. *Il Ind Lab* 3:74-5 F '58

Thermal evaluation of electrical insulation as a design tool. J. F. Dexter. *bibliog Il Elec Manuf* 61:88-92+ Mr '58

See also

Insulating oil—Testing

INSULATING oil

Effect of transformer-oil-preservation methods on the dielectric strength of oil. R. B. Kaufman and others. *Il Power Apparatus & Systems* p 1315-20 F '58; Abstract. *Elec Eng* 77:65 Ja '58; Discussion. *Power Apparatus & Systems* p 1320-1 F '58

Insulating oils: symposium. *bibliog Il diags Inst Pet J* 44:259-317 S '58

Keep an eye on oil and insulation. *diags Elec World* 150:69-71 Ag 25 '58

Mechanism of copper catalysis in insulating oil oxidation. C. N. Thompson. *bibliog Inst Pet J* 44:295-310; Discussion. *Il diags* 310-17 S '58

Mobile plant for conditioning transformer oil. *Il Engineering* 185:5 Ja 3 '58

Oil reclaiming process saves 10.5 per cent; Virginia electric & power co.; with cost data. O. R. Compton. *diag Elec World* 148: 82-3 N 18 '57

Special oil used in testing super-power klystrons. J. D. Bianco. *Il Elec Manuf* 62:132+ Ag '58

Testing

Breakdown of transformer oil under impulse voltages. R. Hancox and H. Tropper. *bibliog Il diags Inst E E Proc* 105 pt A:250-8; Discussion. 258-61; Reply. 261-2 Je '58

Effect of composition on the oxidation stability of electrical oils. J. L. Jezi and others. *bibliog Power Apparatus & Systems* p718-21 O '58

Electric research association. International electrotechnical commission work on oxidation tests for insulating oils in the last decade. P. W. L. Gossling. *bibliog Inst Pet J* 44:273-83 S '58

Improved method of oil preservation and its effect on gas evolution. W. J. Degman and others. *bibliog Il diags Power Apparatus & Systems* p657-62; Discussion. 663-6 O '58

Measurement of the surface tension and interfacial tension of insulating oils. L. Massey and others. *Il diags Inst Pet J* 43:282-7 O '57

Rapid spot-test methods for the evaluation of used transformer oil; paper chromatographic test methods. R. E. Reinhard and others. *bibliog Power Apparatus & Systems* p893-4 O '58

Seven standard tests for transformer liquid; fact file. N. Peach. *diags Power* 102:126-7 Ja '58

INSULATING porcelain. See Porcelain, Insulating

INSULATING varnish. See Varnish, Insulating

INSULATION (electric)

Advanced concept for turbine-generator stator-winding insulation. E. J. Flynn and others. *bibliog Il diags Power Apparatus & Systems* p358-65; Discussion. 365-70; Reply. 370-1 Je '58

Charge transfer upon contact between metals and insulators. D. O. Van Ostenburg and D. J. Montgomery. *bibliog diags Textile Res J* 28:22-31 Ja '58

Choice of insulation and surge protection of overhead transmission lines of 33kv and above. A. M. Thomas and D. F. Oakshott. *bibliog map Inst E E Proc* 104 pt A:229-39 Je '57; Discussion. *diags* 104 pt A:240-8; 105 pt A:405-10 Je '57, Ag '58

Conductors and insulators: electron energy levels in solids. *diags Wireless World* 64: 227-30 My '58

Development of plastic dielectric capacitors; abstract. J. H. Cozens. *Brit Inst Radio Eng J* 13:137 F '58

Effects of electron irradiation on the electrical properties of mylar. E. L. Brancato and J. G. Allard. *bibliog Il diags Power Apparatus & Systems* p 1539-45 F '58

Electrical insulation of underground pipelines. G. B. McComb. *bibliog Il diags Pet Eng* 29: D38+ JI; D45-9 O '57; 30:D42a-45 Mr '58

Eliminate wiring problems with mineral-insulated cable. W. J. Richard. *Il Power Eng* 82:54-7 JI '58

Evaluation and applications of fiber-insulated magnet wire. H. L. Saums and W. W. Pendleton. *bibliog Elec Manuf* 61:93-103 F '58

Firm develops new silicones. *Electronics* 31: 30 My 16 '58

Fogbow keeps contaminants out; suspension insulator. *Il Elec World* 150:47 Ag 11 '58

How insulators trimmed 230-kv line cost; Florida power & light co. W. H. Johnson and R. L. McCoy. *Il diag Elec World* 149: 64-5 Ad 14 '58

Insulation breakdown leads to fire; Bermuda electric light co., Ltd. G. H. Skelton. *Il Safety Maint* 115:57 Ja '58

Insulation co-ordination of gas-insulated transformers. G. Camilli and R. E. Coates. *Il Power Apparatus & Systems* p220-2; Discussion. 222-4 Je '58

Insulator contamination problem as influenced by silicone surface coatings; abstract. J. E. Conner and A. D. Lantz, jr. *Il Elec Eng* 77:297 Ap '58

Insulator provides fault bus protection. C. W. Beringhaus. *Il Elec World* 150:54 S 1 '58

Insulator stack rated for 138 kv. H. B. Weaver. *Il Elec World* 148:90 N 18 '57

Internal oxidation mechanism for nontracking organic insulations. R. S. Norman and A. A. Kessel. *bibliog Il diag Power Apparatus & Systems* p632-6 Ag '58; Abstract. *Elec Eng* 77:699 Ag '58

Irradiated polyethylene insulation systems. K. J. Mackenzie and R. A. Ward. *bibliog Il Elec Manuf* 61:56-61 Ja '58

Location and causes of motor failure; insulation. K. P. Grenfell. *Tappi* 41:sup 166A-8A F '58

Magnet wire hits 500C. *Electronics Bsns* ed 30:36 N 10 '57

New plastic output soars. *Electronics* 31:28 F 7 '58

INSULATION (electric)—Continued

- New protectants for polyethylene; suppressing thermal oxidation. F. H. Winslow. *il* Bell Lab Rec 36:318-22 S '58; Abstract. Rubber World 139:81 O '58
- Plastics and ceramic foams for electronic applications. W. R. Cumming and P. M. Andrews. *il* Elec Manuf 61:100-4 My '58
- Powdered epoxy permits one-dip coatings. *il* Elec Manuf 62:128-9 Ag '58
- Seawater power neoprene protected. *il* Elec Eng 77:473 My '58
- Silicone insulation for traction motors. *il* diags Engineer 205:528-9 Ap '58
- Standard basic insulating materials. Elec Eng 77:727-9 Ag '58
- Super-thin bonded insulating films. W. K. W. Chen and W. E. Estey. diags Elec Manuf 62:84-9+ Ag '58
- Teflon tubing. *il* Electronic Ind 17:82-+ Ag '58
- Where is it? applying cements, bonding compounds, and plastic coaters. *il* Electronic Ind 17:90-+ J1 '58

See also

- Dielectrics
Electric cables—Protection
Electric resistance
Electric wire—Protection
Electric wiring
Insulating materials
Insulating oil
Paper, Insulating
Porcelain, Insulating
Telephone cables—Protection

Failure

- Analytical studies of lightning performance of 1- and 2-ground-wire 138-kv double-circuit lines of the Commonwealth Edison co. R. W. Caswell and others. *il* maps diags Power Apparatus & Systems p254-61; Discussion. 261-3 J1 '58
- Hypothesis concerning lightning phenomena and transmission-line flashover. L. B. Johnson and A. J. Schultz. bibliog map Power Apparatus & Systems p 1470-7; Discussion. 1477-9 F '58
- Impulse flashover characteristics of long strings of suspension insulators. A. P. Rohlfis and H. B. Fiegel. bibliog *il* diags Power Apparatus & Systems p 1321-9 F '58
- Influence of water resistivity and precipitation rate upon 60-cycle wet flashover voltage. Com & Electronics p350-7; Discussion. 357-8 J1 '58
- 1956 lightning field investigation on the Ohio valley electric corp. 345-kv system. R. H. Schumann and others. bibliog *il* map diags Power Apparatus & Systems p 1447-56 F '58; Excerpts. Elec Eng 77:208-12 Mr '58; Discussion. Power Apparatus & Systems p 1456-9 F '58
- Plastic shields for insulators stop flashovers. C. M. Wagner. diags Elec World 149:61 Mr O '58
- Suspension insulator flashover under high impulse voltages. B. E. Kingsbury. bibliog diags Power Apparatus & Systems p 1429-33 F '58
- Treeing in polyethylene as a prelude to breakdown. D. W. Kitchin and O. S. Pratt. *il* Elec Eng 77:218-23 Mr '58; Same. Power Apparatus & Systems p 180-6; Discussion. 185-6 Je '58

Standards

- Development of standards for insulation systems and insulating materials. M. L. Schmidt. Power Apparatus & Systems p747-9 O '58
- U.S. helps work on insulating materials; IEC meetings. Vasteras, Sweden. Mag of Stand 29:268-9 S '58

Testing

- Electrical insulation properties at ultrahigh temperatures. G. I. Duncan and M. M. Felger. *il* diag Elec Eng 77:318-22 Ap '58
- Insulation aging in pure oxygen and in a vacuum. L. C. Whitman. *il* Power Apparatus & Systems p294-7 Je '58; Abstract. Elec Eng 77:781 S '58; Discussion. Power Apparatus & Systems p297-8 Je '58
- Invention quickly finds defective insulators; Northern Illinois gas co.'s cathodic protection program. T. Spedden. *il* diags Am Gas Assn Mo 40:34-7 Je '58; Same. map Gas Age 121:11-15+ Ja 23 '58; Same. Gas 34: 77-81 Mr '58
- Sample holder for thin-sheet-insulation dielectric measurements up to 600 C. M. C. Halleck. bibliog *il* diags Power Apparatus & Systems p343-8 Je '58

INSULATION (heat)

- Analysis of porous thermal insulating materials; discussion. bibliog Ind & Eng Chem 49:1936 N '57
- At one southwestern plant, magnesite insulation gives temperature control. P. R. Austin. *il* diag Oil & Gas J 56:139 Mr 3 '58
- Calculate fuel oil storage tank heat losses. K. M. Ritchie. *il* Pet Eng 30:C42-3 Ag '58
- Cellular plastics in appliance construction; abstract. F. R. Marshall. Machine Design 30:160 Ja 23 '58
- Development of ceramic insulating materials for high-temperature use. W. D. Kingery and others. bibliog diag A S M E Trans 80:705-10 Ap '58
- Evaluation of the thermal insulative characteristics of ceramic coatings. W. J. Plankenhorn. bibliog *il* diag Am Cer Soc Bul 37:366-9 Ag 15 '58
- Fast, low-cost erection of freezer room by employing cellular glass insulating blocks. *il* Plant 17:31 My '58
- Heat resistant laminate for supersonic airborne equipment. F. W. Jahns, Jr. *il* Elec Manuf 61:84-5 Ja '58
- High-flying insulation; Min-K aviation insulation. Chem & Eng N 36:46-7 Mr 24 '58
- High temperature foam. Arch Forum 107:149 D '57
- How research can improve performance of fibrous and reflective insulation. W. Turberville. *il* diags Heating-Piping 30:126-30 J1 '58
- How to choose thermal insulation. C. M. Bosworth. *il* Product Eng 28:97-100 N 11 '57
- Improving attic space insulating values. F. A. Joy. bibliog diags Heating-Piping 30:223-9 Ja '58
- Influence of insulation on moisture-condensation aspects of a steel-framed cold-storage warehouse structure. C. F. Kayan and E. G. Gates. diags Refrig Eng 66:39-44 Je '58
- Inside insulation saves cost. R. F. Benenati. *il* Chem Eng 65:148 My 5 '58
- Insulate with titanate. *il* Chem & Eng N 36: 54-5 O 27 '58
- Insulation has radically low thermal conductivity; Min-K. Materials in Design Eng 47:143 My '58
- Missile insulating material for 1300 deg F and higher. *il* Aviation Age 29:85 My '58
- Modern insulation techniques provide the heat barrier at River Rouge. *il* Power 102: 116-17 Ap '58
- Monel netting cuts insulation maintenance costs; Southern kraft div. of International paper co. *il* Paper Ind 40:31 My '58
- Multiple reflective aluminum insulation cuts over-all costs of air conditioning. *il* diag Plant 18:27-8 J1 '58
- Permeability of plastics films to refrigerant 12 and nitrogen. H. M. Parmelee. bibliog *il* Refrig Eng 66:35-40+ F '58
- Promoting insulation helps Brooklyn Union sell gas for house heating. *il* Gas Age 121: 21-2 F 20 '58
- Reflective surfaces for thermal insulation: an experiment. *il* Refrig Eng 66:40-1+ Ap '58
- Simple, standardized techniques insulate effectively. *il* diags Combustion 29:38-9 D '57
- Some aspects of the stabilization of vinyl insulation. J. G. Henricks and N. L. Cooperman. Plastics Tech 4:127-31 F '58
- Structural thermal insulation. C. Hammond. Engineer 205:661 My 2 '58
- Superior heat resistance and bonding of asbestos-base phenolic compounds. H. E. Barkan. Elec Manuf 61:12 My '58
- Surfacings for glass fiber and foam thermal insulation. W. P. Ellis. *il* Heating-Piping 30:136-9 J1 '58
- Temperatures of bituminous roof-surfaces; discussion. D. G. Stephenson. bibliog A S T M Bul p67-70 F '58
- Thermal conductivity and dielectric strength of perlacel insulation. J. M. Karpinski and others. bibliog diags Am Cer Soc Bul 37:329-33 J1 15 '58
- Thermal insulation for nuclear systems. C. G. Collins and G. W. Jomerozy. bibliog diag Heating-Piping 30:129-34 Ag '58
- Thermal insulation materials. R. J. Fabian. *il* Materials in Design Eng 47:119-38 Mr '58 (reprints 35c)
- Thermal insulation with reflective surfaces. H. E. Robinson and others. Arch Rec 123: 278+ My '58
- Today, aluminum jacketing protects your insulation. S. Elonka. *il* Power 101:134-5 D '57

INSULATION (heat)—Continued

- Unusual insulation technique puts plant in service fast; F.&M. Schaefer brewing co. *il* Power Ind 74:28 Ap '58
- Urethane-insulated door is strong, lightweight. *il* Materials in Design Eng 46:227-8 N '57
- Use economical insulation thickness. *il* Power 101:110-11 D '57
- Vapor problems in thermal insulation. N. B. Hutcheon. Heating-Piping 30:150-2 Ag '58
- Ventilating roof insulation. H. J. Rosen. *diags* Prog Arch 39:167 Ap '58
- What to watch for when insulating air conditioning systems. C. F. Gilbo. *il* Heating-Piping 30:110-14 Ag '58; Discussion. J. H. Shaw. 30:102-3 S '58
- Why prefab insulation cuts costs. W. C. Turner. *il* *diags* Pet Refiner 37:163-6 Ja '58

See also

- Asbestos
Mineral wool
Pipe coverings
Steam pipe coverings

INSULDUR. See Paper, Insulating

INSULIN

- Action of insulin. R. Levine and M. S. Goldstein. *diags* Sci Am 198:99-100+ My '58; Discussion. 199:18+ S '58
- Isolation and determination of structure of peptides with streptogenin activity; the disulfide of leucylvalylcysteinylglutanylarginine from insulin. G. L. Tritesch and D. W. Woolley. *bibliog* Am Chem Soc J 80:1490-3 Mr 20 '58
- Physicochemical properties of p-carboxyphenylazinsulins. W. L. Koltun. *bibliog* Am Chem Soc J 79:5681-6 N 5 '57
- Studies on the synthesis of insulin peptides. G. R. Holland and L. A. Cohen. *bibliog* Am Chem Soc J 80:3765-9 Jl 20 '58

INSURANCE, Boiler

- Know what your boiler insurance covers? R. F. Hawkins. *il* Power Eng 62:61 My '58

INSURANCE, Group

- ASME approves group-insurance program for members. *Mech Eng* 80:141-3 Ap '58

See also

- Insurance, Health—Employees insurance

INSURANCE, Health

- Four years of progress in health insurance. J. F. Follmann, Jr. *Am J Pub Health* 47:1381-9 N '57
- Medical relationship with union, management, and government. J. H. Holzbog. A M A Archives Ind Health 18:142-4 Ag '58
- New sociomedical concepts involving industry; panel discussion. A M A Archives Ind Health 17:408-27 My '58

See also

- Insurance, Medical expense

Employees insurance

- Health plan pushed by OCAW for its members. Oil & Gas J 55:72 D 2 '57

INSURANCE, Life**Agents****Service**

- Public service award program of the life insurance business; editorial. *Am J Pub Health* 47:1445-6 N '57

Health conservation service

- Public service award program of the life insurance business; editorial. *Am J Pub Health* 47:1445-6 N '57

INSURANCE, Medical expense**Employees insurance**

- What's new in major medical plans. *Am Gas Assn Mo* 40:27-8+ S '58

INSURANCE, Mortgage

- Conventional mortgage aid system under P.H.A. A. M. Cole. *Arch Rec* 123:264+ Ja '58

INSURANCE, Social

- New sociomedical concepts involving industry; panel discussion. A M A Archives Ind Health 17:408-27 My '58
- Reconciliation of pensions and social security disability insurance. R. E. Royes. A M A Archives Ind Health 17:590-2 Je '58
- Self-employed individuals retirement act. H. J. Ashe. Pit & Quarry 50:121-2 F '58
- Significance of the 1956 social security amendments to the insurance business. J. H. Miller. A M A Archives Ind Health 17:587-9 Je '58

INSURANCE, Workmens compensation

- Economic aspects of the noise problem. G. Winbigger. Noise Control 4:34-6+ Jl '58
- Insurance and noise. J. F. Morrison. Noise Control 4:31-4+ Jl '58

INSURANCE company buildings

- Insurance company headquarters; Commercial standard insurance co., Fort Worth. *il* Arch Forum 109:121 Jl '58
- Offices organized within windowless building; Gulf life insurance co. G. A. Sanderson. *il* plan Prog Arch 39:108-10 Je '58
- This building is different; executives are in the center; State mutual life insurance co. of America, Worcester, Mass. *il* Eng N 159:85 N 28 '57

Electric equipment

- Designed for efficiency, convenience and comfort; Fireman's fund insurance co. building. *il* *diags* Elec Constr & Maint 57:32-3 Ap '58
- Modern planning for easy expansion; new home for Connecticut general life insurance co. *il* Power 101:87-9 N '57

Lighting

- Better lighting from group relamping of 31,503 fluorescent; Equitable life assurance society of United States building. *il* Plant 17:54 Ap '58
- Low brightness troffers give high comfort in office lighting; home office building of American hardware mutual insurance co. *il* plan *diag* Elec Constr & Maint 57:38-9 Ja '58

INTAKES

- Better water supply for Wayne county; locating the new intake. F. P. Coughlan, Jr. *il* maps Am Water Works Assn J 50:668-78 My '58
- How not to catch fish; electric fish screens. H. S. Burkey. *il* Power Ind 74:14-15 Ap '58
- Lake intakes. C. W. Reib. *Am Soc C E Proc* 83 [SA 6 no 14651]:1-6 D '57
- Small men and machines drive 42 in. tunnel. Oahe reservoir site. *il* Eng N 160:63 F 27 '58
- Thermal and osmotic countermeasures against some typical marine fouling organisms. D. L. Fox and E. F. Corcoran. *Corrosion* 14:31-2 Mr '58
- Water intakes in the Detroit river. E. A. Hardin. *il* maps plans *diags* Am Soc C E Proc 84 [SA 2 no 1592]:1-24 Ap '58; Discussion. *bibliog* 84 [SA 6 no 1855]:5-10 N '58
- Water intakes in the Niagara river and Lake Ontario. R. H. D. Murray. *Am Soc C E Proc* 84 [SA 2 no 1607]:1-11 Ap '58

INTERGERIMINE

- Squaldine and intergerimine. A. G. González and A. Calero. *Chem & Ind* p 126 F 1 '58

INTEGRAL equations

- Optimization of time-varying linear systems with nonstationary inputs. M. Shinbrot. *bibliog* A S M E Trans 80:457-62 F '58

INTEGRALS

- Evaluation of integrals involving combinations of Bessel functions and circular functions; electrical surveying of oil wells. L. de Witte and K. P. Fournier. *diag Assn for Computing Mach J* 5:119-26 Ap '58
- Heat-balance integral and its application to problems involving a change of phase. T. R. Goodman. *bibliog* A S M E Trans 80:335-42 F '58
- Measurements of the effective resonance integral in uranium metal and oxide in different geometries. E. Hellstrand. *bibliog* (25 ref) *diags* J Ap Phys 28:1493-502 D '57
- Numerical computation of Cagniard's integrals. C. H. Dix. *bibliog* *diags* Geophysics 23:198-222 Ap '58
- Numerical evaluation of expressions involving complete elliptic integrals. F. W. Grover. *bibliog* Com & Electronics p496-502 S '58

INTEGRATION

- Derivative via integration. M. Fogel. *diag Instruments & Automation* 31:1525 S '58
- Error bounds for the Runge-Kutta single-step integration process. J. W. Carr. 3d. *bibliog* Assn for Computing Mach J 5:39-44 Ja '58
- Use numerical integration and differentiation. W. E. Ball and R. C. Johnson. *bibliog* Chem Eng 64:282+ D '57

INTEGRATORS

- A.c. velodyne integrator. J. B. Sharp and R. W. Williams. *diags* J Sci Instr 35:125-9 Ap '58
- Current integrator for astronomical photoelectric photometry. R. H. Weitbrecht. *bibliog* *diags* R Sci Instr 28:883-8 N '57

INTEGRATORS—Continued

- Electronic integrator with immediate digital output; testing synchronous activity of nerve fibers within a bundle. B. L. Hisey and E. R. Perl. bibliog il diags R Sci Instr 29:355-9 My '58
- Improved electromagnet integrator. A. J. Dyer. diag J Sci Instr 35:240-2 Jl '58
- Integrating voltage sources. G. F. Schrader. diag Electronic Ind 17:55-7 F '58
- Integrator-amplifier for core measurements. C. E. Goodell. il diags Electronics 31:110-13 F 14 '58
- New integrating circuit and electrical analog for transient diffusion and flow. J. R. Macdonald. diags R Sci Instr 28:924-6 N '57
- Nonlinear integrator for servomechanisms. J. C. Clegg. diags Applications & Ind p41-2 Mr '58; Abstract. Control Eng 5:180 My '58
- Stairstep integrator analyzes rotation. G. E. Edens. il diag Electronics 31:41-3 Mr 28 '58
- Velocity servo integrator. L. J. N. Mother-sill. il S A J 5:58-60 Ap '58

INTELLECTUAL cooperation

- NATO viewpoints on share-the-scientific-wealth plan. Product Eng 28:111-12 N 25 '57
- Should the US share scientific secrets with its allies? points of view. Product Eng 28:36-7 D 30 '57

INTELLECTUAL property**Protection***See also*

Trade secrets

- INTENSITY of spectral line. *See* Spectrum—Intensity

INTERCOMMUNICATING systems

- Remote transistor ear. F. J. Bauer, jr. il diag Radio-Electronics 29:44-6 Je '58
- Sound power phones ease out-of-sight jobs. G. R. Roberts. il Elec World 149:76 Je 9 '58
- Versatile new intercom system. H. T. Carter. il Bell Lab Rec 36:31-5 Mr '58

See also

- Radio telephone in factories
- Telautograph

Specifications

- Electrical specifications; signal, communications and auxiliary systems. Elec Constr & Maint 57:134-6+ My '58

- INTERCONNECTION of electric plants. *See* Electric plants—Interconnection

- INTERCONNECTION of power systems. *See* Electric plants—Interconnection

- INTERDEPARTMENT radio advisory committee. *See* United States—Interdepartment radio advisory committee

INTERFACES

- Calculation of energy dissipation by gamma radiation near the interface between two media. M. J. Berger. bibliog diag J Ap Phys 28:1502-8 D '57
- Coalescence of liquid drops at oil-water interfaces. L. E. Nielsen and others. bibliog J Colloid Sci 13:441-58 O '58
- Diffusion of tungsten in nickel and reaction at interface with SrO. H. W. Allison and G. E. Moore. bibliog il diags J Ap Phys 29:842-8 My '58
- Diffusion phenomena in pressure welding. A. G. Guy and A. L. Eliss. bibliog il diag Welding J 36:sup473-80 N '57
- Displacement discontinuity on the interface of two joined dissimilar semi-infinite elastic solids. J. T. Frasier. J Ap Mech 25:292-3 Je '58
- Equations of state for ionized monolayers at the oil-water interface. D. A. Haydon. bibliog J Colloid Sci 13:159-62 Ap '58
- Evaluation of interface energies in metallic systems. J. W. Taylor. bibliog Inst Metals J 86:456-63 Je '58
- Friction in cold rolling. G. T. van Rooyen and W. A. Backofen. bibliog il diags Iron & Steel Inst J 186:235-44 Je '57; Correction. 188:353 Ap '58
- How to measure liquid interface levels. J. R. Hackman. diags I S A J 5:80-3 Ja '58
- Mold-metal interface reactions. H. F. Taylor and J. Navarro. bibliog il diags Foundry 55:76-80 D '57
- Nature of high-temperature brazing alloy; base metal interface reactions. W. Feduska. bibliog il Welding J 37:sup62-73 F '58
- Peltier heat at the interface between a metal and its melt. J. M. Bardeen and B. S. Chandrasekhar. J Ap Phys 29:1372-3 S '58

- Polymers made easily; interfacial polycondensation. il Chem & Eng N 36:52-4 S 15 '58

- Temperature distribution at tool-chip and tool-work interface in metal cutting. B. T. Chao and K. J. Trigger. bibliog diags A S M E Trans 80:311-18; Discussion. 318-20 F '58

- Tool-work-thermocouple compensating circuit. K. J. Trigger and others. diags A S M E Trans 80:302-6 F '58

- Transient interface temperatures in plain peripheral milling. D. E. McFeron and B. T. Chao. bibliog il diags A S M E Trans 80:321-9 F '58

See also

Electric double layer

INTERFACIAL tension

- How temperature and composition affect surface and interfacial tensions. W. R. Gam-bill. bibliog Chem Eng 65:143-6 My 5 '58
- Measurement of the surface tension and interfacial tension of insulating oils. L. Massey and others. il diags Inst Pet J 43:282-7 O '57

INTERFERENCE (light)

- Assessing surface finish: new interference microscope. il diags Metallurgia 56:310-12 D '57

- Correction due to aperture in transmission interference microscopes. E. Ingelstam and L. P. Johansson. bibliog il diags J Sci Instr 35:15-17 Ja '58

- Fizeau-type interference between beams of light reflected from three surfaces. A. H. Cook. il diags J Sci Instr 34:455-8 N '57

- Means of preventing the formation of Newton's rings during contact printing of motion-picture film. C. E. Osborne. il SMPTE J 67:169-71 Mr '58

- Measurements of quenching stresses in a bearing ring by interference fringes. T. Mura and H. Yoshimoto. bibliog il diags J Ap Phys 29:115-19 F '58

- Reversible photoelectric fringe counting. R. L. Eisner. bibliog diags R Sci Instr 29:521-3 Je '58

- INTERFERENCE, Radio. *See* Radio communication—Interference

- INTERFERENCE, Television. *See* Television transmission—Interference

- INTERFERENCE filters. *See* Light filters

INTERFEROMETERS

- Checking master gage blocks with an interferometer. il diags Tool Eng 40:115-16 Ja; 41:70-2 Ag '58

- Interferometer for measuring gauge block parallelism. il diag Engineer 205:595-6 Ap 13 '58

- Interferometer used to study transient heating of water. E. A. McLean and others. bibliog il diag R Sci Instr 29:225-3 Mr '58

See also

Radio interferometers

INTERFEROMETERS, Sonic

- Alternative to gimbals for an ultrasonic interferometer. A. N. Hunter. diag J Sci Instr 35:181 My '58

- Ultrasonic interferometer for the measurement of the temperature dependence of elastic constants. R. P. Espinola and P. C. Waterman. bibliog diag J Ap Phys 29:718-21 Ap '58

INTERFEROMETRY

- Calibration of mirror extensometers by optical interferometry. A. F. C. Brown. il diags Engineering 186:180-2 Ag 8 '58

- Microstructure of crazed plastics. S. B. Newman and I. Wolock. il Plastics World 16:6-7 Je '58

- Ultrasonic interferometer measurements of the amount of bound water; saccharides. H. Shilo. Am Chem Soc J 80:70-3 Ja 5 '58

INTERIOR decoration

- Coffee and sugar exchange. L. Sloane. il Prog Arch 39:154-9 Je '58

- Comfort and amenities; furnishings and decoration. T. H. Robsjohn-Gibbings. Arch Rec 122:179-82 N '57

See also

Church decoration and ornament

Living rooms

Paneling

Screens (architecture)

Wall coverings, Plastic

- INTERIOR walls. *See* Walls, Interior

- INTERLOCKING signals. *See* Railroads—Signal

- INTERMEDIATE range ballistic missile. *See* Guided missiles

INTERMEDIN

Isolation, characterization and amino acid sequence of a melanocyte-stimulating hormone from bovine pituitary glands. I. I. Geschwind and others. *bibliog diag Am Chem Soc J* 79:6394-401 D 20 '57

INTERMETALLIC compounds

Intermetallic crystals grown by new zone-refining technique. J. M. Whelan. *Bell Lab Rec* 36:267 J1 '58

Intermetallics at work. *il diags Product Eng* 29:72-4 Jc 9 '58

Labo pushing intermetallics. *Electronics* 31:14-4 My 9 '58

New intermetallics offer wide infrared response. S. J. Nicolosi and others. *bibliog il diags Electronics* 31:48-51 J1 4 '58

Preparation and properties of aluminum antimonide. A. Herczog and others. *bibliog il diags Electrochem Soc J* 105:533-40 S '58

Shape, size, and growth of some intermetallic compounds in liquid bismuth. P. J. Barton and G. W. Greenwood. *bibliog il diags Inst Metals J* 86:504-9 J1 '58

Where to use the new semiconductor materials. R. K. Willardson and T. S. Shilliday. *il Materials in Design Eng* 47:114-18 Mr '58

Zone melting and crystal pulling experiments with AlSi. W. P. Allred and others. *il diags Electrochem Soc J* 105:93-6 F '58

INTERNAL audits. See Auditing—Internal control

INTERNAL combustion engines

Design digest issue; motors, engines and controls. *il diags Product Eng* 28:H 1-56 Mid-O '57

Design digest issue; motor, engines and controls. *diags Product Eng* 29:H 1-38 Mid-S '58

Details of the Willys four-cylinder aluminum engine. *diags Automotive Ind* 118:69+ My 1 '58

How 1-c engines use thermal energy. B. G. A. Skrotzki. *il diags Power* 102:98-101+ Ap '58

How internal-combustion engines work. B. G. A. Skrotzki. *il diags Power* 102:90-3+ Mr '58

Mechanics of vehicles; powerplant characteristics. J. J. Taborek. *il Machine Design* 29:148-53 D 12 '57

Medium-power vertical and horizontal oil engines. *il diags Engineer* 204:716-17 N 15 '57

Reciprocating engine with half as many parts; novel use of a cam. *il Power Ind* 74:13+ O '58

Two-stroke engine; abstract. W. B. Burkett. *il S A E J* 66:106-6 J1 '58

Unbalanced inertia forces in slider-crank mechanisms of large eccentricity. E. Mewes. *diags J Ap Mech* 25:225-32 Je '58

See also

Automobile engines

Diesel engines

Gas turbines

Motor boat engines, Outboard

Motor cars (railroad)

Motor truck engines

Tractors

Bearings

Laboratory investigations can curb engine bearing failures. R. J. Ronan and others. *il Plant* 18:33-4 J1 '58

Combustion research

New research tool aids combustion analysis. J. A. Robinson and others. *diags S A E J* 66:62-3 Ja '58

Spectrometric investigations of *n*-heptane preflame reactions in a motored engine. K. J. Eipenberg and A. J. Pahnke. *bibliog diags Ind & Eng Chem* 49:2067-73 D '57

Control

Governors regulate turbine and engine speed and load. A. W. Carey, Jr. and D. G. Mark. *diags Power Eng* 62:50-3 My '58

Cooling

Compressor and engine jacket systems require proper water conditioning. O. H. Frels. *flow diags Pet Eng* 29:D58-60+ N '57

Cooling-system maintenance pays off. D. Haack. *Oil & Gas J* 55:163-4+ N 4; 251-3 N 18; 123-4+ D 2 '57

Operation and characteristics of thermostats for engine cooling. S. H. Blazey. *diags Product Eng* 28:F20-2 Mid-O '57

Vapor phase cooling systems turn waste heat to useful steam. *diags Power Eng* 62:62-3 My '58

Deposits

Radiotracer studies of engine deposit formation. C. N. Sechrist and H. H. Hammen. *bibliog Ind & Eng Chem* 50:341-2 Mr '58

Rumble in single-cylinder engines. J. A. Robinson and others. *diags Product Eng* 29:H2-5 Mid-S '58

Exhaust

Exhaust purifier puts freeze on fumes from cold-storage truck. *il Safety Maint* 115:59-60 My '58

Muffler eliminates noxious fumes. *il Mech Eng* 80:90 Je '58

Oxy-muffler; a catalytic exhaust purifier for application to engines operated in buildings. *Automobile Eng* 48:392 O '58

Fuel

Recent engine developments in relation to fuels and lubricants. D. Downs. *bibliog diags Inst Pet J* 44:147-60; Discussion. 160-7 Je '58

Surface ignition control by phosphorus fuel additives. J. B. Hinamp and J. A. Warren. *bibliog diags Ind & Eng Chem* 50:251-6 F '58

See also

Airplane engines—Fuel

Gasoline

Internal combustion engines—Combustion research

Fuel feeding

Positive petrol distribution. *il diags Engineer* 205:666-9 My 2 '58

See also

Automobile engines—Fuel feeding

Lubrication

How oil quality affects operation of LPG engines; abstract. W. Floyd. *S A E J* 66:134 Ap '58

Mechanism of explosions in starting air lines; fire resistant lubricants for internal combustion engines. R. S. Ridgway. *diags Pet Refiner* 37:171-4 Je '58

Natural gasoline; are you over-lubricating engines? J. E. Mallow. *Pet Refiner* 37:145-6 Ap '58

Recent engine developments in relation to fuels and lubricants. D. Downs. *bibliog diags Inst Pet J* 44:147-60; Discussion. 160-7 Je '58

Viscosity is still the key to good lubrication of 1-c engines. W. M. Kaufmann. *il diags Power* 102:110-12+ J1 '58

Maintenance and repair

Cooling-system maintenance pays off. D. Haack. *il Oil & Gas J* 55:163-4+ N 4; 251-3 N 18; 123-4+ D 2 '57

Manufacture

Barrel finishing boosts output; Continental motors corp. gasoline engine parts. *il Steel* 142:99 My 12 '58

Noise

Less noise from small engines. R. Kamo and F. Iwatsuki. *diags Product Eng* 28:95-8 N 25 '57

Rumble in single-cylinder engines. J. A. Robinson and others. *diags Product Eng* 29:H2-5 Mid-S '58

Specifications

Automotive gasoline engines specifications, 1958; tables. *Automotive Ind* 118:198-207, 216-17 Mr 15 '58

Starting

High-torque induction motors for engine starting. *il Elec Manuf* 62:130 S '58

Mechanism of explosions in starting air lines; fire resistant lubricants for internal combustion engines. R. S. Ridgway. *diags Pet Refiner* 37:171-4 Je '58

Superchargers

Squeeze more work out of an engine. B. G. A. Skrotzki. *il diags Power* 102:88-91 My '58

Testing

Engine testing. *il Automobile Eng* 48:12-13 Ja '58

Industrial-engine analyzer. *il Mech Eng* 79:1047 N '57

Railcar engine test bed. *il Engineer* 204:718 N 15 '57

Scope analyzes reciprocating engines. E. Sammis. *il diags Electronics* 31:68-71, cover My 9 '58

INTERNAL combustion engines, Marine
National boat show, 4th, London. *il Engineer* 205:86-8 Ja 17 '58

INTERNAL friction. See Friction, Internal

INTERNAL security

Engineer comes into his own; engineer vs security. R. M. Koff. *Product Eng* 23:102-4 Mr 31 '58

INTERNATIONAL acetylene association

IAA and the Acetylene journal. F. T. Tancula. *Welding Eng* 43:44+ Mr '58

INTERNATIONAL aeronautical conference

Conference, 6th, London and Folkestone, Sept. 1-15. *Aeronautical Eng R* 16:30-3 N '57
SAE looks overseas; impressions of SBAC exposition at Farnborough and Anglo-American aeronautical conference. W. Littlewood. *S A E J* 66:61-3 Ja '58

INTERNATIONAL alloys, ltd.

Silver jubilee. *Il Metallurgia* 57:26-7 Ja '58

INTERNATIONAL association for bridge and structural engineering

IABSE; its work and organization. F. Baron. *Civil Eng* 28:530-1 JI '58

INTERNATIONAL association of electrical inspectors

Western section annual meeting, 54th, Detroit, Sept. 7-10. *Elec Constr & Maint* 57:211-17 O '58

INTERNATIONAL association of printing house craftsmen

Annual meeting, 39th, Detroit, Aug. 10-13. *Inland Ptr* 141:104+ S '58
Club presidents, 1958. *Inland Ptr* 141:67-76 Ag '58

INTERNATIONAL astronautical federation

Congress, 8th, Barcelona, Oct. 6-12; with abstracts of papers. *Engineer* 204:640-1 N 1 '57

Congress, 9th, Amsterdam, Aug. 25-30. *Engineer* 206:421-2 S 12 '58; *Engineering* 186:370-1 S 19 '58; *Space/Aeronautics* 30:184-90 O '58

INTERNATIONAL atomic energy agency

International atomic energy agency fellowships. *Elec Eng* 77:859 S '58

IAEA speeds flow of technical information. *Product Eng* 23:27 Ag 11 '58

INTERNATIONAL bank for reconstruction and development

Recent loans made by the world bank. *Eng J* 41:87-8 Mr '58

INTERNATIONAL business machines corporation

IBM clears its T-zone; deal to buy Texas Instruments' transistors. *Control Eng* 5:44 Mr '58

INTERNATIONAL chemical workers union

Cause for concern in CPI? Chem & Eng N 35:22 O 13 '58

Union merger started by OCAW and Chemical Workers. O. A. Knight and W. Mitchell. *Oil & Gas J* 56:54 Ag 25 '58

INTERNATIONAL childrens center, Paris

Activities. E. Berthet. *Am J Pub Health* 48:458-67 Ap '58

INTERNATIONAL conference on coastal engineering

Conference, 6th, Gainesville, Fla. *Eng N* 159:23 D 12 '57

INTERNATIONAL conference on large high tension electric systems

Biennial meeting, 17th, Paris, June 4-14; with abstracts of papers. *Engineer* 205:883-4, 925-8, 962-3; 206:10-14. 54-7 Je 13-JI 11 '58; *Engineering* 185:821-2 Je 27 '58

CIGRE reports European power systems will be expanded at 380 kv. C. R. Earle. *Il maps diags Power Eng* 62:supC 1-12 Ag '58

Conference, 17th, Paris, June 4-14. *Elec World* 150:40-2 JI 7 '58; *Mech Eng* 80:104-6 Ag '58; *Elec Eng* 77:843-5 S '58

INTERNATIONAL conference on peaceful uses of atomic energy

Conference, 2d, Geneva, Sept. 1-13. *Chem & Eng N* 36:25-7 S 1; 90-3 S 22 '58; *Electronics* 31:8 S 12 '58; *Eng N* 161:21 S 13 '58; *Combustion* 30:54 O '58; *Electronic Eng* 30:598-603 O '58; *Research* 11:373-5 O '58; *Sci Am* 199:52-3 N '58

Conference, 2d, Geneva, Sept. 1-13; abstracts of papers. *Engineer* 206:408-11. 445-9 S 12-19 '58; *Engineering* 186:298-301. 334-5, 400-3 S 5-12, 26 '58; *Elec World* 150:58-60+ S 29 '58

Conference, 2d, Geneva, Sept. 1-13; roundup report. *Nucleonics* 16:17-28 S '58

Geneva 1958; special report on papers. *Il plans diags Nucleonics* 16:61-110+ S '58

Peaceful uses of atomic energy; summary of Geneva conference. J. Cockcroft. *Il Engineering* 186:372-5 S 19 '58

INTERNATIONAL congress of dermatology

Congress, 11th, Stockholm, July 31-August 6. *Ind Med* 27:83-4 F '58

INTERNATIONAL congress on large dams

Congress, 6th, New York; abstracts of papers. *Elec World* 150:54-7 S 29 '58; *Eng N* 161:23-5 S 25 '58

INTERNATIONAL cooperation

U.S.-Euratom pact promises economic nuclear power plants. *Machine Design* 30:40-1 JI 24 '58

See also

Intellectual cooperation

International telecommunication union

Physics—international aspects

Scholarships and fellowships, International

Standards, International

World health organization

INTERNATIONAL cooperation administration

Foreign aid electronics up. *Electronics* 31:28 Je 27 '58

Sanitary engineering education; ICA assistance in Peru. M. L. Granstrom. *Il Am Soc C E Proc* 83 SA 2 no 1224:1-11 Ap '57; Discussion. E. Babbitt. 33 [SA 5 no 4221:11-13 O '57; Reply. 84 [SA 1 no 1557]:15-16 F '58

INTERNATIONAL cybernetic association

Annual meeting, Namur, Belgium. *Control Eng* 5:36+ F '58

INTERNATIONAL electrotechnical commission

A look at the International electrotechnical commission. *Electronic Ind* 17:145+ F '58

Meeting, Stockholm, July 1-17. *Mag of Stand* 23:256-7 263-5 S '58

Reports from three committees. *Mag of Stand* 23:270 S '58

INTERNATIONAL fellowship club

Metal finishing suppliers' association and its predecessor, the I.F.C. A. P. Munning. *Metal Finishing* 56:77-80 My '58

INTERNATIONAL foundry congress

Congress, Stockholm, Aug. 19-24; abstracts of papers. *Foundry* 85:244+ N '57

INTERNATIONAL gas turbine congress

Congress, Mons, Belgium, June 4-6. *Engineer* 206:73-4 JI 11 '58

INTERNATIONAL geophysical year

Arctic IGY research team. *Elec Eng* 77:569-70 Jy '58

Canadian armament research and development establishment I.G.Y. upper air research program. R. F. Chinnick. *biblio* 11 (cover) diags *Eng J* 41:61-7 Ag '58

Electronics and the IGY. J. McQuay. *Il diags Radio-Electronics* 29:35-9 F 32-5 Mr '58

Electronics part in IGY. *Il Electronics Bsns* ed 30:22-3 N 20 '57

International geophysical year. D. C. Rose. *Il maps Eng J* 41:45-60; Discussion. 86+ Ag '58

IGY probes ionosphere; illustrations with text. *Electronic Ind* 17:104 F '58

I.G.Y. rocket experiments. *Brit Inst Radio Eng J* 18:416 JI '58

One third of IGY. *Sci Am* 198:54+ Mr '58

Progress report. J. Kaplan. *Il Chem & Eng N* 36:100-3, cover Mr 31 '58

Radio studies during the International geophysical year 1957-8. W. J. G. Beynon. *Il maps diags Brit Inst Radio Eng J* 18:401-12; Discussion. 412-15; Reply. 415-16 JI '58

Rockets probe upper atmosphere. *Franklin Inst J* 265:316; 266:74-6 Ap. JI '58

Soviet Union and the I.G.Y. *diag Eng J* 41:84 Ja '58

World-wide IGY data collection; teletype equipment. H. D. Dickstein. *diags Electronic Ind* 17:144-7 Ap '58

World-wide observations gather data in cooperative program. *Il Elec Eng* 76:1107-9 D '57

INTERNATIONAL institute of refrigeration

U.S. national committee offers participation in IIR. *Refrig Eng* 65:50 D '57

INTERNATIONAL labor organization

Tripartite technical meeting on mines other than coal mines. Geneva, Nov. 25-Dec. 7. *Min Cong J* 44:46 Ap '58

INTERNATIONAL mineral dressing congress

Congress, Stockholm, Sept. 18-21. *Min Eng* 9:1384 D '57

INTERNATIONAL minerals and chemical corporation

IMC offers help through program of Full orbit service. *Chem & Eng N* 36:24+ Je 9 '58

INTERNATIONAL organization for standardization

ISO recommendations. *diags Rubber Chem & Tech* 31:sup 14-29 Ja '58

Meeting, Harrogate, June 9-21. *Mag of Stand* 29:256-62 S '58; *Metallurgia* 58:84-5 Ag '58

INTERNATIONAL organization for standardization—Continued
 Technical committee 45 on rubber 7th meeting, Zurich, Sept. 30-Oct. 5, Rubber Age 82:1047 Mr '58
 USA selected for Technical committee 61 plastics meeting, C. H. Adams, Mag of Stand 29:14-15 Ja '58

INTERNATIONAL petroleum association of America
 Annual meeting, 28th, Dallas, Pet Eng 29: E 12+ D '57

INTERNATIONAL radio consultative committee. See International telecommunication union

INTERNATIONAL relations
 Problem is to sharpen the truth, R. M. Nixon, Mech Eng 80:56-7 My '58
 See also
 Communism and democracy

INTERNATIONAL rubber study group
 Meeting, 14th, Hamburg, June 9-14, Rubber Age 83:674-5 JI '58; Rubber World 138:597 JI '58

INTERNATIONAL scholarships and fellowships. See Scholarships and fellowships, International

INTERNATIONAL scientific radio union
 General assembly, 12th, Boulder, Colo., Aug. 22-Sept. 5, 1957, Inst Radio Eng Proc 46: 1350-83 JI '58

INTERNATIONAL silk congress
 Congress, New York, Textile Ind 122:98 Ja '58

INTERNATIONAL standards. See Standards, International

INTERNATIONAL technical congress
 Congress, 7th, Paris, May 19-23; with abstracts of papers, Engineer 205:986-7; 206:32-3 Je 27-JI 4 '58

INTERNATIONAL telecommunication union
 International radio conference, 1959, F. C. de Wolf, Inst Radio Eng Proc 46:1618-21 D '57
 International radio consultative committee, J. S. Cross, Inst Radio Eng Proc 46:1622-8 D '57

INTERNATIONAL union of leather chemists societies
 Conference, 5th, Rome, Sept. 16-20, Chem & Ind p 1476-7 N 9 '57

INTERNATIONAL union of pure and applied chemistry
 Progress report on IUPAC; interview with R. Morf, Chem & Eng N 36:83-8 S 15 '58

INTERPLANETARY flight. See Space flight

INTERPOLATION
 Interpolation, link between programmed points and smooth curves, E. C. Johnson, bibliog diags Control Eng 5:153-7 S '58

INTERRUPTERS, Electric. See Electric circuit breakers

INTERSTATE oil compact commission
 Midyear meeting, Salt Lake City, Oil & Gas J 56:57 Je 30 '58

INTERSTELLAR space. See Space, Interstellar

INTESTINES
 Diseases
 Enteroviruses, Am J Pub Health 47:1556-66 D '57

INTRAVENOUS injections. See Injections, Intravenous

INVAR
 How to make invar stay put, W. S. Eberly, Product Eng 28:80-1 D 9 '57

INVENTIONS
 Checklist: inventions that baffle Uncle Sam, Product Eng 28:117 N 11 '57
 How to invent, F. E. Gilmore, Pat Refner 37: 187-9+ Ag; 396-400; 196-8+ O '58 (to be cont)
 Invention and insight, R. E. Mueller, Inst Radio Eng Proc 46:783 Ap '58
 Inventions, anyone? Chem & Eng N 35:45-6 D 16 '57
 Invisible roadblocks to invention, H. R. Johnson, diags Product Eng 29:34-5 F 10 '58
 Legally acceptable invention records, G. M. Naimark, bibliog Drug & Cosmetic Ind 82: 596-7+ My '58
 Open doors to serendipity, W. F. Thompson, Ind Lab 9:43-5 Mr '58
 Reason and chance in scientific discovery, R. Taton, Review, by J. R. Newman, Sci Am 198:141-2+ Ap '58
 Wanted: inventions, Instruments & Automation 31:1524-5 S '58
 See also
 Patents

INVENTIONS, Employees
 Employer can waive shop rights to inventions, A. W. Gray, Foundry 86:311+ My '58

Idea in the bath, Engineer 205:123-4 Ja 24 '58
 The little man can't protect his patents, D. Von Ludwig, Product Eng 29:26-7 JI 28 '58; Discussion, 29:38-40 S 22 '58

INVENTORIES

Approach to linear inventory-production rules, R. Pinkham, Op Res 6:185-9 Mr '58
 Hands-off inventory control, Elwell-Parker electric co, il Mill & Factory 62:131 Mr '58
 How do you inventory your coal? F. M. Reiter, diags Power Eng 61:72-5 N '57
 How Owens-Illinois uses two-way radio reporting inventory control, J. Walsh and A. M. Hilliard, il Glass Ind 38:559-60 O '57
 Production and inventory planning in a fluctuating market, S. Danø and E. L. Jensen, Op Res 6:235-5 Mr '58
 Pushbutton inventory control, H. L. Lewis, il diags Mill & Factory 61:114-15 N '57
 Quality control of inventory turnover, L. B. Kahn, Ind Quality Control 14:4-7 Ap '58

Accounting

Data processing machines in daily report of inventory condition; Fulton bag & cotton mills, il Textile Ind 122:92-6+ S '58
 Inventory valuation by sampling, W. E. Courtright and A. A. Procassini, Ind Quality Control 14:16-21 F '58

INVENTORS

Individual invention, a lost art? W. J. Kroll, Product Eng 29:32-3 F 24 '58
 Lost art, invention, J. W. Lincoln, Product Eng 29:26-7 Je 2 '58
 Should you use outside inventors? G. S. Hastings, Product Eng 29:29-30 Ja 13 '58

INVESTMENT casting. See Lost wax process

INVESTMENT casting institute

Annual meeting, 5th, Chicago, Nov. 19-21; abstracts of papers, Foundry 86:160+ Ja '58
 Spring technical meeting, Muskegon, June 24-25; with abstracts of papers, Foundry 86:108+ Ag '58

INVESTMENT trusts

Funds eye military, Electronics 31:5 Je 27 '58

INVESTMENTS

Focusing the crystal ball: what influences in the future will affect your investment? J. B. Weaver, Ind & Eng Chem 50:sup43A-4A Mr '58

INVESTMENTS, Foreign

United States

Capital flows to Latin America, Chem & Eng N 36:72 Ja 20 '58
 Common market lures U.S. investments, il maps Chem & Eng N 36:72-7 Je 16 '58
 New high for foreign investments, Chem & Eng N 36:32 O 6 '58
 No change planned in Latin America; investment climate unchanged, Chem & Eng N 36: 17-19 Je '58

INVESTMENTS, Foreign (in Canada)

Foreign funds in Canada, S. J. Cook, Chem & Eng N 36:84-6 Je 9 '58

INVESTMENTS, Foreign (in Great Britain)

Dollar technology in Britain; American strength in pharmaceuticals and cosmetics, il Manuf Chem 29:365-7 S '58

INVESTMENTS, Foreign (in Venezuela)

Why Venezuelan laws draw outside capital; interview with C. F. de la Cova, Pet Eng 29:A27-9 N '57

IODIDES

Acid iodides, D. W. Theobald and J. C. Smith, Chem & Ind p 1007 Ag 9 '58
 Displacement reaction of haloalkenes with iodide ion; a survey of reactivity and mechanism, S. I. Miller and P. K. Yonan, bibliog Am Chem Soc J 79:5931-7 N 20 '57
 Iodides of hydrazine, E. C. Gilbert and J. C. Declus, bibliog Am Chem Soc J 80:3871-2 Ag 5 '58

Mechanisms of exchange reactions between elementary iodine and aromatic iodides, S. Levine and R. M. Noyes, bibliog Am Chem Soc J 80:2401-9 My 20 '58

Rate and mechanism of the electrooxidation of iodide, J. Jordan and R. A. Javick, Am Chem Soc J 80:1264 Mr 5 '58

Studies on the chemistry of halogen and of polyhalides; voltammetry of iodine species in acetonitrile, A. I. Popov and D. H. Geske, bibliog Am Chem Soc J 80:1340-52 Mr 20 '58

IODIDES—Continued

Transformations of polyfluoroalkyl iodides. M. Hauptschein and others. *bibliog Am Chem Soc J* 79:6248-53 D 5 '57

See also

Antimony iodide
Cesium iodide
Lithium iodide
Methyl mercury iodide
Potassium iodide
Rubidium iodide
Silver iodide
Sodium iodide

Analysis

Determination of iodide by oxidation with nitrous acid. J. K. Johannesson. *bibliog Anal Chem* 30:1535-6 S '58
Determination of small amounts of iodide in the presence of chloride by potentiometric titration. R. H. Stokes and L. A. Woolf. *Anal Chem* 29:1883-5 D '57

IODINATION

Kinetics of aromatic halogenation; the iodination of 2,4-dichlorophenol and anisole with iodine monochloride. E. Berliner. *bibliog Am Chem Soc J* 80:856-61 F 20 '58

IODINE

Further study of the flash photolysis of iodine. D. L. Bunker and N. Davidson. *bibliog diag Am Chem Soc J* 80:5085-90 O 5 '58
cis-hydroxylation of a synthetic steroid intermediate with iodine, silver acetate and wet acetic acid. R. B. Woodward and F. V. Brutcher, jr. *bibliog Am Chem Soc J* 80:209-11 Ja 5 '58
Iodine for quick acting sanitizers. L. Gershenfeld and B. Witten. *bibliog Soap & Chem Spec* 34:67-8+ J1 '58

Iodine sorption values of some chemically modified cottons. A. V. Bailey and others. *bibliog Textile Res J* 28:895-6 O '58
Iodine-vapor-filled ultraviolet photon counter. R. T. Brackmann and others. *bibliog diag R Sci Instr* 29:125-8 F '58

Mechanisms of exchange reactions between elementary iodine and aromatic iodides. S. Levine and R. M. Noyes. *bibliog Am Chem Soc J* 80:2401-9 My 20 '58

Molecular complexes and their spectra; the molecular complex between iodine and triethylamine. S. Nagakura. *bibliog Am Chem Soc J* 80:520-4 F 5 '58

Rate constants for combination of iodine atoms in inert solvents. H. Rosman and R. M. Noyes. *bibliog Am Chem Soc J* 80:2410-15 My 20 '58

Reaction between potassium ferrocyanide and iodine in aqueous solutions. W. L. Reynolds. *bibliog Am Chem Soc J* 80:1830-5 Ap 20 '58

Reaction of dimnitrogen tetroxide and iodine with olefins and acetylenes. T. E. Stevens and W. D. Emmons. *bibliog Am Chem Soc J* 80:338-41 Ja 20 '58

Reaction of iodine in methanol with decaborane and tetraborane. A. E. Messner. *Anal Chem* 30:547-8 Ap '58

Room temperature tarnishing of silver in bromine and iodine. J. L. Weininger. *bibliog J Electrochem Soc J* 105:577-81 O '58

Studies on the chemistry of halogen and of polyhalides; voltammetry of iodine species in acetonitrile. A. I. Popov and D. H. Geske. *bibliog Am Chem Soc J* 80:1340-52 Mr 20 '58

Vapor phase photolysis of (+)-2-methylbutanal-iodine mixtures at wave length 3130 Å. J. T. Gruver and J. G. Calvert. *bibliog Am Chem Soc J* 80:3524-7 J1 20 '58

Analysis

Determining serum protein-bound iodine. R. D. Strickland and C. M. Maloney. *bibliog Anal Chem* 29:1870-3 D '57

Isotopes

Mock iodine for I^{131} calibrations. *Nucleonics* 16:134 Ag '58

Nuclear reactions

Measurement of the Xe^{135} cross section and I^{135} fission yield of I^{135} . G. P. Hopkins and C. P. Jamieson. *J Ap Phys* 28:1362-3 N '57

IODINE bromide

Halogenation of butyl rubber with iodine monochloride and iodine monobromide. R. T. Morrissey. *bibliog Rubber World* 133:725-32 Ag '58

IODINE chloride

Halogenation of butyl rubber with iodine monochloride and iodine monobromide. R. T. Morrissey. *bibliog Rubber World* 133:725-32 Ag '58

Kinetics of aromatic halogenation; the iodination of 2,4-dichlorophenol and anisole with iodine monochloride. E. Berliner. *bibliog Am Chem Soc J* 80:856-61 F 20 '58

Spectra

Infrared spectra of iodine monochloride charge-transfer complexes. W. B. Person and others. *bibliog Am Chem Soc J* 80:2049-53 My 5 '58

IODINE fluorides

Formylation of alcohols with iodine pentafluoride and dimethylformamide. T. E. Stevens. *Chem & Ind* p 1090 Ag 16 '58.

IODOBENZENE

Formation and dissociation of iodobenzene dichloride in carbon tetrachloride. L. J. Andrews and R. M. Keefer. *bibliog Am Chem Soc J* 80:1723-8 Ap 5 '58

Kinetics of dissociation of derivatives of iodobenzene dichloride in acetic acid. R. M. Keefer and L. J. Andrews. *bibliog Am Chem Soc J* 80:277-81 Ja 20 '58

IODOFORM**Analysis**

Determination of iodoform by photooxidation. S. Bose. *bibliog Anal Chem* 30:1137-9 Je '58

IODOMETHANE

Diffusion and hot radical kinetics in the photolysis of methyl iodide in cyclohexane. R. F. Pottier and others. *bibliog Am Chem Soc J* 80:4224-30 Ag 20 '58

Organic sulfides and polysulfides; reactions with methyl iodide. Y. Minoura. *bibliog Rubber Chem & Tech* 31:621-3 J1 '58

IODOMETRY

Improved iodometric method of analysis for *tert*-butyl peresters. L. S. Silbert and D. Swern. *bibliog Anal Chem* 30:385-7 Mr '58

Iodometric estimation of small quantities of acetaldehyde. S. Bose. *bibliog Anal Chem* 30:1526-7 S '58

IODONIUM compounds

Diarylodonium salts. H. E. Bachofner and others. *bibliog Am Chem Soc J* 80:4269-81 Ag 20 '58

Diarylodonium salts; decomposition of substituted diphenyliodonium halides in inert solvents. J. M. Bernier and M. Mausner. *Am Chem Soc J* 80:4535-6 S 5 '58

IODOPROPANE

Role of hydrogen iodide in the photoisomerization of *n*-propyl iodide. C. E. McCauley and G. J. Hilsdorf. *bibliog Am Chem Soc J* 80:5101-4 O 5 '58

ION counters. See Counters (electrons, ions, etc.)

ION exchange

Absorption of polyvalent cations on ion exchangers through ion-pair or complex formation. C. B. Amphlett and J. Kennedy. *Chem & Ind* p 1200-2 S 13 '58

Adsorption, dialysis, and ion exchange; an introduction. G. P. Monet. *bibliog flow diag* *Chem Eng Prog* 53:514-17 N '57

Amino acid progress; General Mills has new way to make arginine. *il Chem & Eng N* 35:50+ F 3 '58

Anion exchange of titanium(IV) in hydrofluoric acid. P. H. Woods and L. D. Cookerell. *bibliog Am Chem Soc J* 80:1534-6 Ap 5 '58

Anion-exchange studies; activity coefficients of some electrolytes in the resin phase. F. Nelson and K. A. Kraus. *bibliog Am Chem Soc J* 80:4154-61 Ag 20 '58

Automatic equipment for determination of amino acids separated on columns of ion exchange resins. D. H. Simmonds. *bibliog il diag* *Anal Chem* 30:1043-9 Je '58

Chemical exchange. D. R. Augood. *bibliog diag* *Ind Chem* 34:16-26, 181-90, 245-8, 435-41, 533-42 Ja, Ap-May, Ag, O '58

Comparison of the rate of mutarotation and O^{18} exchange of glucose. D. Rittenberg and C. Graff. *diag* *Am Chem Soc J* 80:3370-2 J1 5 '58

Decomposition of hexachloro-*u*-trichlorodinitrogenstate(III) ion and exchange of radiochlorine between this ion and chloride ion in aqueous solution. G. L. Hawkins and C. S. Garner. *bibliog Am Chem Soc J* 80:2946-50 Je 20 '58

Detection of a cyclopropenyl anion by deuterium exchange. R. Breslow and C. M. Battiste. *Chem & Ind* p 1143-4 Ag 30 '58

Determination of total fluoride content in uranium tetrafluoride using ion exchange columns. K. F. Sporek. *Anal Chem* 30:1030-2 Je '58

ION exchange—Continued.

- Drug maker runs ion column on thick broth; ion exchange process absorbs streptomycin from unfiltered whole nutrient broth. *il* *diags* *Chem Eng* 65:54-6 Je 2 '58
- Effect of temperature, pressure, acidity and solvent on an aquo ion exchange reaction. H. R. Hunt and H. Taube. *bibliog* *Am Chem Soc J* 80:2842-6 Je 5 '58
- Effects of the exchangeable ion on the dehydration properties of vermiculite. W. S. Ernst, Jr. and others. *bibliog* *Am Cer Soc J* 41:238-41 J1 1 '58
- Electrodialysis using ion-exchange membranes. S. M. Partridge and A. M. Peers. *bibliog* *diags* *Ap Chem* 8:49-67 Ja '58
- Electron-exchange reactions between large complex cations. E. Eichler and A. C. Wahl. *bibliog* *Am Chem Soc J* 80:4145-9 Ag 20 '58
- Electrons and ions; keys to mineral processing. J. W. Franklin. *diags* *Eng & Min J* 153:91-100 Ap '58
- Exchange of hypochlorite and of hypobromite ions with water. M. Anbar and H. Taube. *bibliog* *Am Chem Soc J* 80:1073-7 Mr 5 '58
- Exchange of oxygen atoms among carbon dioxide, carbon monoxide and oxide catalysts of spinel type. Y. Yoneda and others. *bibliog* *diags* *Am Chem Soc J* 80:4503-7 S 5 '58
- Exchange of oxygen between phosphoric acid and water. B. Keisch and others. *bibliog* *Am Chem Soc J* 80:4778-82 S 20 '58
- Exchange properties of the tetracyanonickelate ion with certain amino acid complexes of nickel(II). R. C. Calkins and N. F. Hall. *bibliog* *Am Chem Soc J* 80:5028-31 O 5 '58
- Exchange reactions between hydrogen gas and hydroxyl groups; a convenient preparation of tritium-labeled water. C. M. Gwinn and J. A. Kresge. *bibliog* *diags* *Am Chem Soc J* 80:5281-3 O 5 '58
- Exchange reactions of chromium(II) ion and certain chromium(III) complex ions. D. L. Ball and E. L. King. *bibliog* *Am Chem Soc J* 80:1091-4 Mr '58
- Five years of ion exchange; service experience in plating department chemical waste treatment. S. Rothstein. *il* *plan* *diags* *Plating* 45:835-41 Ag '58
- Fractionation of commercial papain by ion exchange. O. Gavron and F. Dratz. *bibliog* *J Agri & Food Chem* 6:115-17 Ag '58
- Fractionation of deoxyribonucleic acids on columns of anion exchangers; methodology. A. Bendich and others. *bibliog* *diags* *Am Chem Soc J* 80:3949-56 Ag 5 '58
- Granular processes; ion exchange. W. A. Seike. *diags* *Chem Eng Prog* 53:601-5 D 5 '57
- Ion-exchange and solvent-extraction studies on Co(II) and Zn(II) complexes of some organic acids. J. Schubert and others. *bibliog* *Am Chem Soc J* 80:4799-802 S 20 '58
- Ion exchange as a unit operation. F. X. McGarvey. *Chem Eng* 64:255-60 D '57
- Ion exchange now yields phytic acid. *flow sheet* *il* *Chem Eng* 65:61-2 Ja 27 '58
- Ion exchange paper in rapid separation and identification of basic amino acids; arginine, histidine and lysine from casein hydrolyzates. M. M. Tuckerman. *bibliog* *Anal Chem* 30:231-3 F '58
- Ion exchange separation of uranium from thorium. R. H. Polier and others. *bibliog* *Ind & Eng Chem* 50:613-16 Ap '58
- Ion exchange spectrophotometric determination of thorium. O. N. Neizer and others. *bibliog* *Anal Chem* 30:1182-5 J1 '58
- Ion exchange studies of transguanylation reactions; rearrangement of 3,2-aminoethylisothiourea to 2-mercaptoethylguanidine and 2-aminothiazoline. J. X. Khym and others. *bibliog* *Am Chem Soc J* 79:5663-6 N 5 '57
- Ion exchange studies of transguanylation reactions; rearrangement of 3-aminopropylisothiourea and N-substituted aminoethyl and aminopropylisothioureas to mercaptoalkylguanidines and 2-aminothiazolines or penthiazolines. J. X. Khym and others. *bibliog* *Am Chem Soc J* 80:3342-9 J1 5 '58
- Ion exchange; the present and the future. T. R. E. Kressman. *bibliog* *diags* *Ind Chem* 24:333-6 Je '58
- Ion fractionation by permselective membranes; factors affecting relative transfer of glycine and chloride ions. W. T. DiBenedetto and E. N. Lightfoot. *bibliog* *diags* *Ind & Eng Chem* 50:631-6 Ap '58
- Isotopic exchange reactions; evidence for the tetrachloroborate anion from kinetic studies. R. H. Herber. *bibliog* *Am Chem Soc J* 80:5080-3 O 5 '58
- Kinetics of hydrogen exchange between hydrogen peroxide and water studied by proton magnetic resonance. M. Anbar and others. *bibliog* *Am Chem Soc J* 80:2630-4 Je 5 '58
- Kinetics of the exchange of chlorine between hydrogen chloride and acetyl chloride in the vapor phase. W. J. Neill and M. Kahn. *bibliog* *Am Chem Soc J* 80:2111-12 My 5 '58
- Kinetics of the silver(I)-silver(II) exchange reaction. B. M. Gordon and A. C. Wahl. *bibliog* *diags* *Am Chem Soc J* 80:273-6 Ja 20 '58
- Mechanism of the Hofmann elimination reaction; deuterium exchange and isotope rate effects. V. J. Shiner, Jr. and M. L. Smith. *bibliog* *Am Chem Soc J* 80:4095-8 Ag 5 '58
- Membrane processes; ion exchange. A. G. Winger. *flow sheet* *il* *diags* *Chem Eng Prog* 53:606-12 D '57
- Moving beds; double ion exchange capacity; new standards in six Elliot Lake, Ont. uranium mills. *il* *Chem Eng* 65:80-4 S 22 '58
- Novel ion-exchange method for the isolation of streptomycin. C. R. Bartels and others. *il* *diags* *Chem Eng Prog* 54:49-51 Ag '58
- Oxygen exchange between oxy-anions and water; chlorite, chlorate and perchlorate ions. T. C. Hoering and others. *bibliog* *Am Chem Soc J* 80:3876-9 Ag 5 '58
- Platinum-catalyzed exchange of aromatic compounds with deuterium oxide. W. G. Brown and J. L. Garrett. *bibliog* *Am Chem Soc J* 80:5272-4 O 5 '58
- Preparation of carrier-free vanadium, scandium, and arsenic activities from cyclotron targets by ion exchange. U. Schindewolf and J. W. Irvine, Jr. *bibliog* *Anal Chem* 30:106-8 My '58
- Preparing uranium tetrafluoride by ion exchange and electrolysis; Excer process. I. R. Higgins and others. *bibliog* *flow sheet* *il* *diags* *Ind & Eng Chem* 50:285-92 Mr '58
- Recovery of disposal of plating wastes? R. J. Schaeffer. *flow diags* *il* *Metal Finishing* 56:46-8 S '58
- Review of fundamental developments in analysis. R. Kunin and others. *Anal Chem* 30:681-6 *bibliog* (p684-6) pt 2 Ap '58
- Separation of rhodium and iridium from base metals by ion exchange. A. G. Marks and F. E. Beamish. *bibliog* *Anal Chem* 30:1464-6 S '58
- Ten ways to regenerate ion exchangers. J. S. Samkoff. *diags* *Power* 102:126-9 Je '58
- Theory of ion exchange and development of charge in kaolinite-water systems. W. G. Lawrence. *bibliog* *diags* *Am Cer Soc J* 41:136-40 Ap 1 '58
- Treatment of radioactive wastes using ion transfer membranes; removal of bulk electrolytes; abstract. E. A. Mason and others. *Chem Eng Prog* 54:93-4 F '58
- Unit operations in chemical engineering. R. Kunin and others. *Ind & Eng Chem* 50:458-62 *bibliog* (p461-2) pt 2 Mr '58
- Wineries ok ion exchange. *Chem & Eng N* 36:42-3 My 5 '58
- See also
- Resinous products—Ion exchange
- ION rocket engine. See Rocket engines
- IONIUM
- Analysis
- Radiochemical determination of ionium in uranium fluorination ash. F. L. Moore. *bibliog* *Anal Chem* 30:1020-1 F '58
- IONIZATION, Electrolytic
- Charge and specific ion effects on sedimentation in the ultracentrifuge. K. O. Pedersen. *bibliog* *Franklin Inst J* 265:503-8 Je '58
- Ionization and dissociation of hydrazoic acid and methyl azide by electron impact. J. L. Franklin and others. *bibliog* *Am Chem Soc J* 80:298-302 Ja 20 '58
- Raman spectra of amino acids and related compounds; the ionization of cysteine. D. Garfinkel and J. T. Edsall. *bibliog* *Am Chem Soc J* 80:3823-6 Ag 5 '58
- Second ionization constant of hydrogen selenide. R. H. Wood. *bibliog* *Am Chem Soc J* 80:1559-62 Ap 5 '58
- Thermodynamics of ionization of amino acids; the first ionization constants of some glycine peptides. E. J. King. *bibliog* *Am Chem Soc J* 79:6151-6 D 5 '57
- Transference number of phosphoric acid by the e.m.f. method. M. Kerker and W. F. Espenschied. *bibliog* *Am Chem Soc J* 80:776-9 F 20 '58
- See also
- Electric conductivity

IONIZATION, Gaseous

- Application of total ionization principles to mass spectrometric analysis, G. F. Crable and N. D. Coggeshall, *bibliog Anal Chem* 30:310-13 Mr '58
- Cavity ionization as a function of wall material, F. H. Attix and others, *bibliog diags J Res Nat Bur Stand* 60:235-43 Mr '58
- Controlled thermonuclear power; recent results of research on high-temperature plasmas, II diags *Wireless World* 64:111-14 Mr '58
- Cosmical electrodynamics, J. H. Piddington, *bibliog* (30 ref) *II Inst Radio Eng Proc* 46:349-55 Ja '58
- Cross sections for ionization by electrons, F. W. Lampe and others, *Am Chem Soc J* 79:6129-32 D 5 '57
- Determination of the equilibrium temperature of a plasma, J. Dickerman, *bibliog J Ap Phys* 29:598 Mr '58
- Diffusion and elastic collision losses of the fast electrons in plasmas, G. Medicus, *bibliog diags J Ap Phys* 29:903-8 Je '58
- Effects on radio astronomical observations due to longitudinal propagation in the presence of field-aligned ionization, S. Rush and L. Colin, *bibliog diags Inst Radio Eng Proc* 46:356-7 Ja '58
- Electron plasma in space? W. H. Pickering, *Electronics* 31:14-1 J 13 '58
- Hotter than sun's surface; Plasmatron, a new device for creating and sustaining temperatures, *Chem & Eng N* 36:60 Ag 25 '58
- Ion propulsion; electric power for space flight, K. R. Stehling, *II diags Aviation Age* 28:38-40+ Ja '58
- Ionization and dissociation of allene, propyne, 1-butyne, and 1,2- and 1,3-butadienes by electron impact; the C_2H^+ ion, J. Collin and F. P. Lossing, *Am Chem Soc J* 79:5848-53 N 20 '57
- Ionization by ultra-speed pellets, C. D. Hendricks, Jr, *bibliog diags J Ap Phys* 28:1339-41 N '57
- Ionization in the trail of high-velocity pellets, W. S. Partridge and L. D. Harris, *II diags J Ap Phys* 28:1269-71 N '57
- Ions make trouble at Mach 10, *II diags Electronics* 31:13-14 Mr 7 '58
- Ions may take men to Mars; ionic propulsion, *II diags Electronics Bsns ed* 30:19-20 N 10 '57
- Livermore's mirror machine: Pyrotron; abstract, R. F. Post, *Nucleonics* 16:123 My '58
- Mach-150 shock waves aid study of ionized gases, *Machine Design* 29:5-6 O 31 '57
- Plasma jet; research at 25,000°F., J. W. Reid, *II diags Machine Design* 30:22-4 F 6 '58
- Plasma physics and hypersonic flight, J. W. Bond, Jr, *bibliog II diags Jet Propulsion* 28:223-35 Ap '58
- Radio reflections from satellite-produced ion columns, C. D. Hendricks, Jr, and others, *Inst Radio Eng Proc* 46:1763 O '58
- Reactions of gaseous ions; water, F. W. Lampe and others, *Am Chem Soc J* 79:6132-5 D 5 '57
- Time delay between high-speed pellets and associated luminosity and ionization, P. E. Tucker and others, *J Ap Phys* 29:868-70 My '58
- Time lag between high-speed pellets and the ionization in their trails, R. A. Davidson and W. S. Partridge, *diags J Ap Phys* 28:1304-8 N '57

IONIZATION chambers

- Cavity ionization as a function of wall material, F. H. Attix and others, *bibliog diags J Res Nat Bur Stand* 60:235-43 Mr '58
- Combination ion chamber-proportional counter dosimeter for measuring gamma-ray contamination of neutron fields, M. Slater and others, *bibliog diag R Sci Instr* 29:601-5 JI '58
- Ionic altimeter measures up to 250,000 ft, R. F. Redemski, *II diags Aviation Age* 28:50-3 F '58
- Mass spectrometer ionization chamber, J. A. Rickard, *II diags R Sci Instr* 28:967-8 N '57

IONIZATION gauges

- Gettering of oxygen by a nonoperating ion gauge, B. J. Todd, *diag J Ap Phys* 29:232 F '58
- Ionization gauges for measuring pressures up to the millimeter range, G. J. Schulz and A. V. Phelps, *bibliog diags R Sci Instr* 28:1051-4 D '57
- Nuclear gage sees through slurry pipe to control density; Permanente cement co. H. F. Utley, *Pitt & Quarry* 51:162 JI '58
- Simple and inexpensive emission regulator for ionization gauges, M. P. Reece, *bibliog diag J Sci Instr* 34:513-14 D '67

IONOSPHERE. See Atmosphere, Upper

IONS

- Basic behavior of molecules and ions in acetic anhydride, C. A. Streuli, *bibliog Anal Chem* 30:997-1000 My '58
- Built-in ion trap protects cathode, W. R. Aiken and R. E. Heller, *diag Electronics* 31:126 F 14 '58
- Chart showing the sphere of influence of atoms and ions in minerals, J. H. Remick, *Am Mineralogist* 43:166-8 Ja '58
- Combination of manganese and cobaltous ions with imidazole, R. B. Martin and J. T. Edsall, *bibliog Am Chem Soc J* 80:5033-5 O 5 '58
- Complexes of magnesium ion with pyrophosphate and triphosphate ions, S. M. Lambert and J. I. Watters, *bibliog Am Chem Soc J* 79:5606-8 N 5 '57
- Determination of free acid in the presence of hydrolyzable ions, G. L. Booman and others, *bibliog Anal Chem* 30:284-7 F '58
- Development of an occluded-salt ion source, K. W. Ehlers and others, *bibliog diags R Sci Instr* 29:614-19 JI '58
- Effect of binding of ions and other small molecules on protein structure; two electrophoretically distinguishable types of interaction of bovine serum albumin with acidic media, J. R. Cann, *bibliog Am Chem Soc J* 80:4263-4 Ag 20 '58
- Effects of unipolar air ions on micro-organisms and on evaporation, A. P. Kreuger and others, *bibliog diags Franklin Inst J* 266:9-19 JI '58
- Electron spin resonance spectra of aromatic mononegative and monopositive ions, E. de Boer and S. I. Weissman, *bibliog Am Chem Soc J* 80:4549-55 S 5 '58
- Electrons and ions; keys to mineral processing, J. W. Franklin, *diags Eng & Min J* 159:85-100 Ap '58
- Etching of refractories and cermets by ion bombardment, T. K. Bierlein and others, *II diags Am Cer Soc J* 41:196-200 Je 1 '58
- Hydrolytic tendencies of metal chelate compounds; effect of metal ion, R. C. Courtney and others, *bibliog Am Chem Soc J* 80:2121-8 My 5 '58
- Ion trap for pentode; abstract, W. R. Aiken and R. E. Heller, *diag Wireless World* 64:440 S '58
- Ionic association; the equilibrium between ion pairs and free ions, R. M. Fuoss, *bibliog Am Chem Soc J* 80:5059-61 O 5 '58
- Ions' role in air conditioning takes on new importance, J. C. Beckett, *diag Heating-Piping* 30:165-7 Ja '58
- Kinetics and mechanism of the reactions between chloroaquochromium(III) ions and silver ion, P. J. Elving and B. Zemel, *Am Chem Soc J* 79:5855-9 N 20 '57
- Kinetics of the exchange of nickel ethylenediaminetetraacetate ion with nickelous ion, C. M. Cook, Jr, and F. A. Long, *bibliog Am Chem Soc J* 80:33-7 Ja 5 '58
- Mass determination of ions detected by Bennett ion rf mass spectrometer, C. Y. Johnson, *J Ap Phys* 29:740-1 Ap '58; Correction, 29:1134 JI '58
- Mass spectra of propyne and propyne- d_3 , and the appearance potentials of C_2H_3^+ , C_2H_2^+ and deuterated ions, J. Collin and F. P. Lossing, *bibliog Am Chem Soc J* 80:1568-70 Ap 5 '58
- Mass spectrometer for the study of ion-molecule collision processes, G. F. Wells and C. E. Melton, *bibliog diag R Sci Instr* 28:1065-9 D '57
- Mechanism of racemization of complex ions; effect of added large ions upon the rates of dissociation and racemization of *tris*-(1,10-phenanthroline)-iron(II) ion, A. Jensen and others, *bibliog Am Chem Soc J* 80:335-8 My 20 '58
- Metal ion complexes of 2-(2-aminoethylamino)-ethanol; reaction of the copper(II) complexes with sodium hydroxide, J. L. Hall and W. E. Dean, *bibliog Am Chem Soc J* 80:4183-8 Ag 20 '58
- Photochemistry of complex ions; some photochemical reactions of aqueous PbBr_2 , $\text{Mo}(\text{CN})_6^{4-}$ and various $\text{Co}(\text{II})$ and $\text{Cr}(\text{III})$ complex ions, A. W. Adamson and A. H. Sporer, *bibliog Am Chem Soc J* 80:3565-70 Ag 5 '58
- Polarography of metal ions in fused lithium chloride-potassium chloride eutectic, H. A. Laitinen and others, *bibliog Anal Chem* 30:1266-70 JI '58

IONS—Continued

- Preparation of high-ortho novolak resins; metal ion catalysis and orientation effect. D. A. Fraser and others. *bibliog J Ap Chem* 7:616-89 D '57
- Properties of ion filled waveguides. L. D. Smaulin and P. Chorney. *diags Inst Radio Eng Proc* 46:360-1 Ja '58
- Reactions between dry inorganic salts; the effect of common ions on the transition temperature of cesium chloride. L. J. Wood and others. *bibliog diag Am Chem Soc J* 80:307-12 Ja '58
- Resonance mass selector. A. Elberman. *diag R Sci Instr* 28:910-13 N '57
- Role of ions in the radiation induced exchange of hydrogen and deuterium. S. O. Thompson and O. A. Schaeffer. *bibliog diag Am Chem Soc J* 80:553-8 F '58
- Standardization of mass spectra by means of total ion intensity. A. Hood. *bibliog Anal Chem* 30:1218-20 J1 '58
- Strong or isovalent hyperconjugation in some alkyl radicals and their positive ions. N. Muller and R. S. Mulliken. *bibliog Am Chem Soc J* 80:3489-97 J1 20 '58
- Thermionic ions from hydrogen palladium. C. H. Bachman and P. A. Silberg. *il diags J Ap Phys* 29:1266-7 Ak '58
- Uncommon valency ions and the difference effect. M. E. Straumanis. *bibliog diag Electrochem Soc J* 105:284-6 My '58

See also

- Anions
Cations
Counters (electrons, ions, etc.)
Dissociation
Electrolysis
Electrons
Hydrogen ion concentration
Ionization, Electrolytic
Ionization, Gaseous
Micelles
Solution (chemistry)

Beams

- Application of the ion bombardment cleaning method to titanium, germanium, silicon, and nickel as determined by low-energy electron diffraction. H. E. Farnsworth and others. *bibliog diags J Ap Phys* 29:1150-61 Ag '58
- Focusing procedures for electrostatic accelerators. C. H. Johnson and others. *bibliog diags R Sci Instr* 28:942-8 N '57
- Investigation of the perveances and beam profiles of an aperture disk emission system. E. R. Harbin. *bibliog diags J Ap Phys* 29:909-13 Je '58
- Observation of the deflected ion beam trajectory from a cyclotron. K. Kimura and others. *il diag R Sci Instr* 29:142-3 F '58
- Production of millimicrosecond pulses by radio-frequency sweeping of the ion beam in the terminal of an electrostatic accelerator. C. M. Turner and S. D. Bloom. *bibliog il diags R Sci Instr* 29:480-7 Je '58

Mobility

- Mobilities in fused $\text{KNO}_3\text{-AgNO}_3$ mixtures. F. R. Duke and B. Owens. *bibliog Electrochem Soc J* 105:476-7 Ag '58

Pairs

- Dissociation constant of the cobalt(III) hexammine-sulfate ion pair from spectrophotometry. E. W. Davies and C. B. Monk. *bibliog Am Chem Soc J* 80:5032-3 O '58
- Ionic association; the equilibrium between ion pairs and free ions. R. M. Fuoss. *bibliog Am Chem Soc J* 80:5059-61 O '58
- Salt effects and ion pairs in solvolysis and related reactions. S. Winstein and others. *bibliog Am Chem Soc J* 80:169-81, 459-65 Ja 5-20 '58
- Thermodynamics of ion pair dissociation; tetrabutylammonium picrate in chlorobenzene, *o*- and *m*-dichlorobenzene. P. H. Flaherty and K. H. Stern. *bibliog Am Chem Soc J* 80:1034-8 Mr '58

IOWA

See also

- Electric utilities—Iowa
Electronics industry—Iowa
Water supply—Iowa

IPRONIAZID

- Iproniazid for angina; abstract. T. Cesarman. *Drug & Cosmetic Ind* 82:517-4 Ap '58

Analysis

- Photometric determination of iproniazid and related compounds. R. J. Colarusso and others. *bibliog Anal Chem* 30:62-5 Ja '58

IRAN

See also

- Building—Iran
Gas, Natural—Iran
Petroleum—Iran
Petroleum industry and trade—Iran
Petroleum pipe lines—Iran

IRAQ

- Iraq has been building with oil money. Oil & Gas J 56:49 J1 21 '58

See also

- Bridges—Iraq
Irrigation—Iraq
Petroleum industry and trade—Iraq

Economic conditions

- Help from the West in Iraq. M. G. Ionides. *il map Engineering* 186:172-4 Ag 8 '58

IRELAND

See also

- Copper mines and mining—Ireland
Minerals and mineral resources—Ireland

IRESIN. See Sesquiterpenes

IRIDIUM

- Application of thorla-iridium as the source of ionizing electrons in mass spectrometry. C. E. Melton. *bibliog R Sci Instr* 29:250 Mr '58

See also

- Iridosmine
Analysis

- Separation of platinum, palladium, rhodium, and iridium by paper electrochromatography. W. M. MacNevin and M. L. Dunton. *bibliog diags Anal Chem* 29:1806-9 D '57
- Separation of rhodium and iridium from base metals by ion exchange. A. G. Marks and F. E. Beamish. *bibliog Anal Chem* 30:1464-6 S '58

IRIDIUM PLATING

- Iridium electroplate withstands 2400 F. Materials in Design Eng 47:208 Ap '58

IRIDOMYRMECIN

- Studies in the iridomyrmecin series; abnormal ring closure of a 1,6-keto aldehyde. N. L. Wendler and H. L. Slates. *bibliog Am Chem Soc J* 80:3937-9 Ag '58

IRIDOSMINE

- Chemical analysis of iridosmines and other platinum-metal minerals. A. D. Westland and F. E. Beamish. *bibliog Am Mineralogist* 43:503-16 My '58

IRON

- Cathodic protection of iron in the temperature range 25 C-92 C. G. R. Hoey and M. Cohen. *bibliog Corrosion* 14:54-6 Ap '58
- Cathodic reduction of oxide films on iron. K. H. Eubank and others. *bibliog il Electrochem Soc J* 105:74-8 F '58
- Complexes of pyridinaldazine with iron(II) and nickel(II). W. J. Stratton and D. H. Busch. *il diags Am Chem Soc J* 80:3191-5 J1 5 '58
- Conditions for stability of graphite, iron, and its oxides and carbides. D. I. Cameron. *Iron & Steel Inst J* 189:251-5 J1 '58
- Develop new method for bonding aluminum to iron. *Light Metal Age* 16:18 Ap '58
- Domain changes during longitudinal magnetization of iron whiskers. G. G. Scott and R. V. Coleman. *il J Ap Phys* 28:1612-13 D '57
- Domain observations on iron whiskers. R. W. DeBols and C. D. Graham, jr. *bibliog il diags J Ap Phys* 29:528-9, 931-9 Mr, Je '58
- Effect of amines on polarization of iron electrodes. A. J. Schram and L. R. Burns. *bibliog diag Electrochem Soc J* 105:241-5 My '58
- Effect of iron and copper contaminants on cotton degradation in peroxide bleaching. *bibliog Am Dyestuff Rep* 47:79-83 F 10 '58
- Effect of oxygen on ferric ion yields in aqueous solutions containing polonium. C. N. Trumbore. *bibliog Am Chem Soc J* 80:1772 Ap 5 '58
- Effects of magnetic fields upon anisotropic iron crystals. J. H. L. Watson and others. *il J Ap Phys* 29:306-8 Mr '58
- Electrode potential studies on iron in dilute phosphate-chromate solutions. E. N. Ride. *bibliog J Ap Chem* 8:175-83 Mr '58
- Exchange anisotropy in the iron-iron oxide system. W. H. Meiklejohn. *J Ap Phys* 29:454-5 Mr '58
- Ferromagnetism for the determination of the a.c. magnetization curve and the iron losses of small ferromagnetic sheet samples. H. Blomberg and E. J. Karttunen. *bibliog diags Inst E E Proc* 105 pt A:375-84; Discussion. 402-5 Ag '58

IRON—Continued

- Fischer-Tropsch synthesis with iron catalysts; effect of reaction temperature on product composition. D. Gall and P. J. Kipping. *bibliog Inst Pet J* 44:243-52 Ag '58
- How iron affects forgeability of copper alloys. C. H. Hannon. *il Iron Age* 180:125-7 N 7 '57
- Iron and phosphate slag from byproduct ferrophosphorus. J. M. Potts and others. *bibliog diag Electrochem Soc J* 105:148-51 Mr '58
- Kinetics of the ferrous iron-oxygen reaction in acidic phosphate-pyrophosphate solutions. J. King and N. Davidson. *bibliog Am Chem Soc J* 80:1542-5 Ap 5 '58
- Loss of exchange coupling in the surface layers of ferromagnetic particles. F. E. Luborsky. *bibliog J Ap Phys* 29:309-10 Mr '58
- Magnetic domain patterns on iron whiskers. R. V. Coleman and G. G. Scott. *il diags J Ap Phys* 29:526-7, cover Mr '58
- Measurement of iron and copper losses in transformers. T. E. Specht and others. *Power Apparatus & Systems* p470-6 Ag '58; *Abstract, Elec Eng* 77:402 My '58
- Mechanism of racemization of complex ions; effect of added large ions upon the rates of dissociation and racemization of *tris*-(1,10-phenanthroline)-iron(II) ion. A. Jensen and others. *bibliog Am Chem Soc J* 80:2354-8 My 20 '58
- Mechanism of the iron-hydrogen sulfide reaction at elevated temperature; abstract. F. Hügl and others. *Pet Refiner* 37:182 My '58
- Method for measuring magnetostriction corrected for initial domain distribution and its application to nickel and iron. H. E. Stauss. *bibliog J Ap Phys* 29:182-4 F '58
- Mobilization of iron in podzol soils by aqueous leaf extracts. M. Schnitzer. *bibliog Chem & Ind p* 1594-5 D 7 '57; *Repl. C. Bloomfield, bibliog* p29-30 Mr 1 '58
- Oxidation of iron pretreated for porcelain enameling. L. E. Fussell and R. L. Hadley. *bibliog il Am Cer Soc J* 41:81-8 Mr 1 '58
- Physical and magnetic properties of elongated single-domain iron and iron-cobalt permanent magnets. R. C. Lever and others. *J Ap Phys* 29:304-6 Mr '58
- Properties of materials: irons and steels. *Materials in Design Eng* 48:32-7 Mid-O '58
- Quantitative high-temperature oxidation of porcelain enameled iron. H. G. Lefort and A. L. Friedberg. *bibliog Am Cer Soc J* 41:216-26 Je 1 '58
- Reaction between iron and water in the absence of oxygen. V. J. Linnenbom. *bibliog Electrochem Soc J* 105:322-4 Je '58
- Recovering iron values from blast furnace dust; patent. *diag Iron & Steel Eng* 35:22-4 Mr '58
- Relation between crystallite orientation and magnetic properties of elongated single-domain iron particles. F. E. Luborsky and others. *bibliog il diags J Ap Phys* 29:389-93 Je '58
- Size dependence of the wall characteristics in a two-domain iron particle. H. Amar. *bibliog J Ap Phys* 29:542-3 Mr '58
- Solidus, subsolidus, and subsolidation phase equilibria in the system Fe-Al-O. L. M. Atlas and W. K. Sumida. *bibliog Am Cer Soc J* 41:150-60 My 1 '58
- Some factors affecting the activity of sintered iron catalysts for the Fischer-Tropsch synthesis. T. A. Dorling and others. *bibliog J Ap Chem* 8:533-49 S '58
- Study of the effect of chloride ion on films formed on iron in sodium nitrite solutions. G. W. Melors and others. *bibliog il Electrochem Soc J* 105:332-8 Je '58
- Substitution for iron in ferrimagnetic yttrium-iron garnet. M. A. Gillo and S. G. Geller. *bibliog J Ap Phys* 29:380-1 Mr '58
- Time decrease of permeability in iron. G. W. Rathenau. *bibliog J Ap Phys* 29:239-42 Mr '58
- See also
- Cast iron
- Water purification—Iron removal
- Water supply—Iron content
- Wrought iron
- Analysis
- Analysis of high-purity iron. R. E. Heffelfinger and others. *bibliog Anal Chem* 30:112-14 Ja '58
- Determination of arsenic in iron and steel. *diags Iron & Steel Inst J* 188:331-7 Ap '58
- Determination of ferrous iron in pulverized fuel ash and slags from pulverized fuel-fired boilers. P. J. Jackson. *bibliog J Ap Chem* 7:605-10 N '57
- Investigations on colorimetric methods of metallurgical analysis; estimation of silicon in cast iron using the Dubosq type colorimeter. G. V. L. N. Murty. *bibliog Metallurgia* 58:52-4 Jl '58
- Spectrophotometric determination of iron in clay and limestone. P. F. Lott and K. L. Cheng. *Anal Chem* 29:1777-8 D '57
- Spectrophotometric determination of iron with ethylenediamine di(*o*-hydroxyphenylacetic acid). A. L. Underwood. *Anal Chem* 30:44-7 Ju '58
- Bibliography
- Abstracts of current literature and book notices. Published in monthly numbers of the Journal of the Iron and steel institute
- Desulfurization
- See Iron—Sulfur content
- Hydrogen content
- Present status of measurements of the diffusion coefficients of hydrogen in iron and mild steel. R. C. Frank. *J Ap Phys* 29:1262-3 Ag '58
- Metallography
- History, manufacture and properties of pearlitic malleable iron. M. Tilley. *bibliog il Foundry* 86:64-9 Ag '58
- Investigation of nitride precipitates in pure iron and mild steels. G. R. Booker and others. *bibliog il Iron & Steel Inst J* 187:205-15 N '57
- Microstructures of cast crystals. *Engineer* 204:321 D 6 '57
- Observation of dislocation sites in iron. F. W. C. Boswell. *il Metal Prog* 72:92-3 D '57; *Same cond. Engineer* 205:175 Ja 31 '58
- Recrystallisation of iron. F. Haessner and P. Schwaab. *Engineer* 205:820 D 6 '57
- Strain-aging, work-hardening, and inhomogeneous deformation in Armco iron after static and dynamic deformation. H. P. Tardif and W. Erickson. *J Ap Mech* 25:285-7 Je '58
- See also
- Cast iron—Graphitization
- Nitrogen content
- Behavior of nitrogen in three per cent silicon iron. R. E. Fryxell and others. *bibliog il Iron & Steel Inst J* 189:327-32 Ag '58
- Phosphorus content
- Effect of phosphorus on the tensile and notch-impact properties of high-purity iron and iron-carbon alloys. B. E. Hopkins and H. R. Tipler. *bibliog il Iron & Steel Inst J* 188:218-37 Mr '58
- O.L.P. oxygen, lime-powder injection, a new steelmaking process. B. Trentini and M. Allard. *bibliog il J Metals* 10:466-70 Jl '58
- Refining of phosphoric irons. B. Trentini and M. Allard. *Engineer* 205:968 Je 27 '58
- Standards
- Guide to materials standards and specifications. S. P. Kaidanovsky. *Materials in Design Eng* 47:110-14 Ap '58
- Sulfur content
- Desulfurization of iron and steel. S. L. Gertsman. *il diags Foundry* 86:48-53 Ag '58
- Lime powder desulfurization proves practical, efficient. *diag Iron Age* 180:66-7 O 31 '57
- Testing
- Control of flux waveforms in iron testing by the application of feedback amplifier techniques. J. McFarlane and M. J. Harris. *bibliog diags Inst E E Proc* 105 pt A:395-402; *Discussion* 402-5 Ag '58
- Effect of alternate corrosion and abrasion on some ferrous metals. J. Dearden and J. D. Swindale. *bibliog Iron & Steel Inst J* 185:227-34 F '57; *Abstract. Metal Prog* 73:144-49 Ap '58
- Effect of phosphorus on the tensile and notch-impact properties of high-purity iron and iron-carbon alloys. B. E. Hopkins and H. R. Tipler. *bibliog il Iron & Steel Inst J* 188:218-37 Mr '58
- Fatigue tests on alpha-iron; abstract. M. Hempel and others. *diags Engineer* 204:603 O 25 '57
- IRON, Galvanized
- Influence of bicarbonate ion on inhibition of corrosion by sodium silicate in a zinc-iron system. H. L. Shuldener and L. Lehrman. *bibliog il diag Am Water Works Assn J* 49:1432-40 N '57

IRON, Molten

Hot-metal pre-treating tower. J. M. Gaines and D. C. Hilty. *diag J Metals* 10:452-5 J '58

Removal of small amounts of nitrogen from molten iron. W. P. Rees. *Iron & Steel Inst J* 188:351 Ap '58

IRON, Powdered

Adding metallic iron to concrete? if so, proper control and application are important. L. Liberthson. *II Plant Eng* 12:150-1 Je '58

Electrolytic iron powders; production and properties. W. M. Shafer and C. R. Harr. *II Electrochem Soc J* 105:413-17 J '58

Electrolytic production of straight and alloyed metal powders. I. Ljungberg. *bibliog Iron & Steel Inst J* 189:303-6 Ag '58

Industry looks at direct reduction. J. W. Franklin. *flow sheets II diags Eng & Min J* 158:84-93 D '57

Iron-powder electrodes. *Engineering* 184:711 D 6 '57

Iron-powder electrodes cut welding time on fork-truck frames. R. Zeh. *II Welding J* 36:1099-100 N '57

Iron powder made by the H-iron process. J. F. Kuzmick and K. W. Bruland. *flow sheets II Metal Prog* 73:92-6 Mr '58

Iron powder part replaces steel bars. *Materials in Design Eng* 46:204-4 D '57

Metal powders are dimensionally stable. *Materials in Design Eng* 47:170-4 Je '58

Metallic waterproofing makes good moisture barrier; finely powdered iron particles in cement mixture. L. Liberthson. *II Plant* 17:29-30 Je '58

Powdered metal tool bodies boost machining efficiency. H. Frommelt. *II Iron Age* 180:166-7 N 14 '57

Sweden; iron powder to rolled steel in one operation; Stora powder steel process. B. Kalling and others. *bibliog II diag J Metals* 9:1440-4 N '57

IRON, Sponge

Carbon monoxide reduction of iron ore. O. Stelling. *diags J Metals* 10:290-5 Ap '58

IRON alloys

Electrodeposition of iron-molybdenum alloys. L. O. Case and A. Krohn. *bibliog II diags Electrochem Soc J* 105:512-20 S '58

Materials of construction for chemical engineering; stainless steels and other ferrous alloys. W. A. Luce and J. H. Peacock. *II Ind & Eng Chem* 50:1482-8 *bibliog* (p 1487-8) pt 2 S '58

Production of Dicalloy by vacuum arc melting. D. R. Carnahan. *II Metal Prog* 74:100-2 Ag '58

Selection of welding-rod chemical composition through mathematics. G. H. Bohn. *Welding J* 36:sup541-3 D '57

W-545, a better turbine disk alloy. J. T. Brown. *II diag Metal Prog* 74:87-90 Ag '58

See also

Alnico
Meehanite
Spiegeleisen
Steel alloys

Aluminum alloys

Coming; better Thermanol alloys. W. J. Buehler and C. G. Dalrymple. *bibliog II Metal Prog* 73:78-81 My '58

Further magnetic and X-ray diffraction studies on iron-rich iron-aluminum alloys. A. Taylor and R. M. Jones. *bibliog J Ap Phys* 29:522-3 Mr '58

Low residual induction in high-aluminum iron alloys. D. Pavlovic and K. Foster. *bibliog II J Ap Phys* 29:3383-9 Mr '58

Selective oxidation of Al from an Al-Fe alloy. R. E. Grace and A. U. Seybolt. *bibliog diag Electrochem Soc J* 105:522-5 O '58

Transitions from ferromagnetism to antiferromagnetism in iron aluminum alloys. H. Sato and A. Arrott. *bibliog J Ap Phys* 29:515-17 Mr '58

Carbon alloys

Effect of phosphorus on the tensile and notch-impact properties of high-purity iron and iron-carbon alloys. B. E. Hopkins and H. R. Tipler. *bibliog II Iron & Steel Inst J* 188:218-37 Mr '58

Electrical resistivity of high-purity iron-carbon alloys. S. V. Radcliffe and E. C. Rollason. *bibliog Iron & Steel Inst J* 189:45-8 My '58

Solid state graphitization in iron-carbon-silicon alloys. A. Taub. *II Foundry* 86:82-3 O '58

Chromium alloys

Adiabatic vacuum calorimeter from 600° to 1600° C; specific heats of titanium, 44 per cent Cr-Fe alloy, and a low-alloy steel. L. Bachurst. *bibliog diags Iron & Steel Inst J* 189:124-34 Je '58

Solubility of nitrogen in iron-chromium alloys. E. T. Turkdogan and S. Ignatowicz. *bibliog Iron & Steel Inst J* 188:242-7 Mr '58

Chromium aluminum alloys

Electrical resistance alloy with improved properties. *Materials in Design Eng* 48:128 J '58

Chromium molybdenum alloys

High-chromium-molybdenum white iron for abrasion-resistant castings. T. E. Norman. *II Foundry* 86:128-4 Je '58

Chromium nickel alloys

Enthalpy and heat capacity from 0° to 300° C of three nickel-chromium-iron alloys of different carbon contents. T. E. Douglas and A. W. Harman. *J Res Nat Bur Stand* 60:563-8 Je '58

Cobalt alloys

Physical and magnetic properties of elongated single-domain iron and iron-cobalt permanent magnets. R. C. Lever and others. *J Ap Phys* 29:304-6 Mr '58

Nickel alloys

Effects of composition and processing variables on the magnetic properties of the 50 per cent nickel-iron alloy. M. J. Savitski. *J Ap Phys* 29:353-5 Mr '58

High temperature oxidation of iron-nickel alloys. M. J. Brabers and C. E. Birchenall. *bibliog II Corrosion* 14:33-6 Ag '58

Nickel alloys for controlled thermal expansion. E. M. Wise. *II Product Eng* 28:68-71 O 28 '57

Nickel-iron alloys for electronic devices. *Materials in Design Eng* 47:164-4 My '58

Uniaxial magnetic anisotropy induced in Fe-Ni alloys by magnetic anneal. E. T. Ferguson. *bibliog J Ap Phys* 29:252-3 Mr '58

See also

Invar

Silicon alloys

Behavior of nitrogen in three per cent silicon iron. R. E. Fryxell and others. *bibliog II Iron & Steel Inst J* 189:327-32 Ag '58

Cube oriented magnetic sheet; a major advance in magnetic materials. G. W. Wiener and K. Detert. *II diags J Metals* 10:507-8 Ag '58

Cube texture in body centered magnetic alloys. G. Wiener and others. *diag J Ap Phys* 29:366-7 Mr '58

Design advances from magnetism research; soft magnetic alloys. *II diags Elec Manuf* 61:87-91 Ja '58

Development of preferred orientations in silicon iron. J. R. Brown. *bibliog diags J Ap Phys* 29:359-60 Mr '58

Doubly-oriented magnetic sheet will increase efficiency of electrical equipment. *II diags Iron & Steel Eng* 34:154-4 O '57

Effect of elastic bending on magnetic properties of oriented silicon iron. R. W. Cole. *bibliog J Ap Phys* 29:370-1 Mr '58

Effect of nitrides in silicon iron on the determination of oxygen by chlorination, and the possible direct determination of aluminum nitride. F. J. Armonson and H. L. Bennett. *bibliog Iron & Steel Inst J* 188:122-7 F '58

Effect of sample thickness on the field annealing of 6.5 per cent Si-Fe. P. A. Albert. *J Ap Phys* 29:351-2 Mr '58

Electrochemical deterioration of graphite and high-silicon iron anodes in sodium chloride electrolytes. S. Tudor and others. *bibliog II Corrosion* 14:53-9 F '58

Influence of impurities on the magnetic properties of high-purity three per cent silicon iron. D. A. Leak and G. M. Leak. *bibliog II Iron & Steel Inst J* 187:190-4 N '57

Magnetic properties of cube textured silicon-iron magnetic sheet. J. L. Walter and others. *J Ap Phys* 29:363-6 Mr '58; Same. *II J Metals* 10:509-11 Ag '58

(110) [001] secondary recrystallization texture in three percent silicon-iron. H. C. Fiedler. *bibliog J Ap Phys* 29:361-2 Mr '58

Silicon iron has four way magnetism. *II Materials in Design Eng* 46:168-4 D '57

IRON alloys—Silicon alloys—Continued

Silicon iron sheet is magnetic in four directions. *II Materials in Design Eng* 46:179-80 N '57

Solid state graphitization in iron-carbon-silicon alloys. A. Taub. *II Foundry* 86:82-3 O '58

Solubility and diffusion of carbon in a silicon-iron alloy. D. A. Leak and G. M. Leak. *bibliog Iron & Steel Inst J* 189: 256-62 JI '58

Subgrain structure in an Fe-Si crystal as seen by X-ray extinction contrast. J. B. Newkirk. *II diag J Ap Phys* 29:995-8 Je '58

Temperature dependence of magnetic properties of silicon-iron. C. W. Chen. *bibliog diags J Ap Phys* 29:1337-43 S '58

See also
Silicon steel

Testing

Constitution of alloys of iron with ruthenium, rhodium, palladium, and silver. W. S. Gibson and W. Hume-Rothery. *diags Iron & Steel Inst J* 189:243-50 JI '58

IRON and steel engineers, Association of. See Association of iron and steel engineers

IRON and steel institute

Annual meeting, 89th, London, May 7-8. *Iron & Steel Inst J* 189:197-200 JI '58

Autumn general meeting, London, Sept. 24. *Iron & Steel Inst J* 188:1-3 Ja '58

Programme of special meeting in Belgium and Luxembourg, June 17-28. *Iron & Steel Inst J* 189:12-14 My '58

Report of council for 1957. *Iron & Steel Inst J* 189:1-11 My '58

IRON and steel institute, American. See American iron and steel institute

IRON bacteria

Cultivation, morphology, and classification of the iron bacteria. R. S. Wolfe. *bibliog II diags Am Water Works Assn J* 50:1241-9 S '58

Performance of paper machine wet felts; role of iron bacteria in the plugging of felts. E. F. Drescher. *bibliog II Tappi* 40:904-10 N '57

IRON carbides

Appearance of FeC in a hydrocarbon synthesis catalyst. J. D. Louw and others. *II Am Chem Soc J* 79:5899-902 N 20 '57

See also

Cementite

IRON carbonitrides

Fischer-Tropsch synthesis; nitrides and carbonitrides of iron as catalysts. J. F. Shultz and others. *bibliog Ind & Eng Chem* 49: 2055-60 D '57

IRON carbonyls

Bimuclear iron carbonyls and their significance as catalytic intermediates. H. W. Sternberg and others. *bibliog Am Chem Soc J* 79:3116-21 D 5 '57

Iron and nickel by carbonyl treatment. R. M. Lewis and others. *flow sheet diags J Metals* 10:419-24 Je '58

Quinone iron tricarbonyl complex and its significance in organic synthesis; abstracts. H. W. Sternberg and others. *bibliog Am Chem Soc J* 80:1009-10 F 20 '58; *Chem & Eng N* 36:43-4 My '58

IRON chlorides

Addition of hydrogen bromide to 1-halocyclohexene and the rearrangement of dihalocyclohexanes in the presence of ferric chloride. H. L. Goering and L. L. Sims. *bibliog Am Chem Soc J* 79:6270-4 D 5 '57

Removal of Coxsackie and bacterial viruses and the native bacteria in raw Ohio River water by flocculation with aluminum sulfate and ferric chloride. S. L. Chang and others. *bibliog Am J Pub Health* 48:159-69 F '58

Thermal analysis of the ferrous chloride-potassium chloride system. H. L. Pinch and J. M. Hirshon. *Am Chem Soc J* 79: 6149-50 D 5 '57

Vaporization of iron(II) chloride in bromine. L. E. Wilson and N. W. Gregory. *bibliog Am Chem Soc J* 80:2067-9 My '58

IRON compounds

Behavior of [Fe(bipy)]²⁺ type compounds in strong HClO₄. E. A. Healy and R. K. Murrman. *Am Chem Soc J* 79:5827-8 N 5 '57

Complexes of pyridinaldehyde with iron(II) and nickel(II). W. J. Stratton and D. H. Busch. *bibliog Am Chem Soc J* 80:1286-9 Mr 20 '58

Corrosion of stainless steels in boiling acids and its suppression by ferric salts. M. A. Streicher. *bibliog diags Corrosion* 14:19-30 F '58

Cyclopentadienyl-aromatic sandwich complexes of manganese and iron. T. H. Coffield and others. *bibliog Am Chem Soc J* 79:5826 N 5 '57

Determination of 1,1'-ferrocene dicarboxylic acid in presence of ferrocene monocarboxylic acid by infrared spectroscopy. E. F. Wolfarth. *Anal Chem* 30:185-6 F '58

Investigation of the catalytic mechanism of catalase and other ferric compounds with doubly O¹⁸-labeled hydroperoxide. R. C. Jarman and J. H. Wang. *Am Chem Soc J* 80:786-7 F 20 '58

Model magnified billion times; model of ferrocene. *Franklin Inst J* 266:46 JI '58

Some reactions of (ferrocenylmethyl)trimethylammonium iodide. J. M. Osgerby and P. Fauson. *bibliog Chem & Ind* p 196-7 F 15 '58

Tervalent iron complexes of 1:10-phenanthroline. C. M. Harris and T. N. Lockyer. *Chem & Ind* p 1231 S 20 '58

Tetrahydropyridoferrocene. J. M. Osgerby and P. L. Fauson. *Chem & Ind* p 1144-5 Ag 30 '58

Spectra

Correlation of infrared spectra with the structure of substituted ferrocenes. M. Rosenblum. *bibliog Chem & Ind* p953 JI 26 '58

IRON founding

Albion malleable iron co.; shell molding. R. H. Herrmann and J. C. Miske. *II Foundry* 86: 94-5 Ap '58

Automated molding and pouring; installation at the George Fischer Ltd. malleable iron foundry in Switzerland. *II Foundry* 86:70-6 Je '58

Bath foundry at Bilston; Bilston foundries. *ltd. II Engineer* 205:779-80 My 23 '58

Boxing, oxidation, production of shell molded castings. R. H. Herrmann and J. C. Miske. *II Foundry* 86:96-7 Ap '58

Casting iron patterns in zircon sand; Cadillac motor car div. of General Motors corp. C. W. Yaw. *II Foundry* 86:74-5 O '58

Continuous casting of gray iron. A. Wittmoser. *II diag Metal Prog* 73:83-4 Ja '58

Cost accounting procedures for the gray iron foundry. A. E. Grover. *II diag Foundry* 85: 110-13 N: 94-7 D '57; 86:103-7 Ja; 89-91 F: 146-9 Je '58

Desulfurization of iron and steel. S. L. Gertsman. *II diags Foundry* 86:48-53 Ag '58

Domestic bath; semi-automatic production of thin castings; Bilston foundries. *II diag Engineering* 185:637-8 My 16 '58

Effect of gas flushing on the consumption of magnesium in the production of nodular iron; abstract. W. Patterson. *Metal Prog* 73:198-4 Mr '58

Engineering castings inc. is producing small castings in stacked shell molds. R. H. Herrmann and J. C. Miske. *II Foundry* 86:98-9 Ap '58

Ford motor company's Thames foundry at Dagenham. *II Engineer* 205:852-3 Je 6 '58

Ford Thames foundry. *II plans diag Automobile Eng* 48:233-46 Je '58

Ford Thames foundry. Dagenham. *II plan Engineering* 185:732-3 Je 6 '58

Ford's new foundry at Dagenham. *II plan Metallurgia* 57:16-18 Ja '58

Ford's new Thames foundry sets high standard in design. *II Foundry* 86:82-3-4 Ag '58

Foundry modernization to double production in ten years; foundries operated by General electric co. R. H. Herrmann. *II plans Foundry* 86:70-5 Mr; 158-63 Mr; 62-4 Je '58

Gleason works achieves newness in a foundry; with list of equipment suppliers. R. H. Herrmann. *II plan Foundry* 86:78-88 F '58

Gray iron; abstracts of American foundrymen's society papers. *Foundry* 86:176-4 JI '58

Gray iron foundry pursues continued plant improvement; Inter-state foundry co. K. L. Mountain. *II plan Foundry* 86:98-101 JI '58

How to set production standards for pouring, shifting, shakeout. J. E. Keith. *Foundry* 86: 85-9 JI '58

Layout to reduce materials handling; Blackheart malleable iron foundry. *II plan Engineering* 186:156-7 Ag 1 '58

Link-Belt's new foundry provides efficient operations. R. H. Herrmann. *II plan diag Foundry* 86:40-7 Ag '58

Making sheaves by stack molding. R. H. Herrmann. *II diags Foundry* 86:150-2 Ja '58

Malleable iron; abstracts of American foundrymen's society papers. *Foundry* 86:168-9 JI '58

IRON founding—Continued

- Malleable iron castings; new foundry for Shotton Bros. Ltd. flow chart *il* Automobile Eng 48:316-20 Ag '58
- Malleable iron foundry; Shotton Brothers, Ltd. *il* Engineer 206:142-3 JI 25 '58
- Mechanized molding line is fast and flexible; Albion malleable iron co. W. G. Gude. *il* diag Foundry 86:62-5 S '58
- Mechanized molding line produces gray iron brake drums. R. H. Herrmann. *il* Foundry 86:90-3 JI '58
- Midwest foundry co.; shell molded castings. R. H. Herrmann and J. C. Miske. *il* Foundry 86:102-3 Ap '58
- Pearlitic malleable castings. O. K. Hunsaker. Product Eng 28:D7 Mid-S '58
- Proper use of cores can improve casting production; Kirloskar Brothers Ltd. C. A. Phalnikar. *il* Foundry 86:134-4 Ja '58
- Safety saves money at Albion malleable iron co. J. C. Miske. *il* Foundry 86:54-7 Ag '58
- Shell molding incentive plan increases production 35 per cent; Production pattern & foundry co. E. W. Jahn. *il* Foundry 86:160-2+ Mr '58
- Shooting borings into cupola reduces melting cost. R. E. Dixon. *il* Foundry 86:218+ My '58
- Steps to take in eliminating hot tears. H. Chappie. *il* Foundry 86:82-4 JI '58
- Swiss foundry modernizes melting plant. V. Frey. *il* Foundry 86:56-61 S '58
- Why you need a cost system. A. E. Grover. *il* diag Foundry 85:110-13 N '57

See also

- Cast iron
- Cast iron—Graphitization
- Chilled iron
- Cupola furnaces
- Malleable founders' society
- Pattern making

IRON in the body

- Influence of maternal iron deficiency on the newborn. T. R. C. Sisson and C. J. Lund. *bibliog* Am J Clinical Nutrition 6:376-85 JI '58
- Iron absorption and metabolism. J. F. Herndon and others. *bibliog* J Nutrition 64:615-23 Ap '58
- Loss of calcium, phosphorus, iron, and nitrogen in hair from the scalp of women. F. A. Johnston and others. *bibliog* Am J Clinical Nutrition 6:136-41 Mr '58

IRON industry and trade

- Developments in the iron and steel industry during 1957. I. E. Madsen. *il* diags Iron & Steel Eng 35:138-39 Ja '58
- Raw material supplies and the future development of the iron and steel industry. C. R. Wheeler. *diag* Iron & Steel Inst J 189: 101-9 Je '58
- Raw materials for the American iron and steel industry. J. C. O. Harris. *bibliog* J Metals 9:1529-32 D '57

See also

- Steel industry and trade

History

- Early engraving of Coalbrookdale. *il* Iron & Steel Inst J 189:12a-12b My '58
- History of the British iron and steel industry from c. 450 B.C. to A.D. 1775. H. R. Schubert. Review by C. Singer. *il* Iron & Steel Inst J 188:204-8 Mr '58
- John Wilkinson, ironmaster. J. H. S. Green. *bibliog* *il* map Research 11:250-3 JI '58

See also

- Saugus iron works

Argentina

- Iron and steel needs of Argentina. J. B. De Nardo. *il* Metal Prog 73:109-11 Ja '58

British Columbia

- Iron ore and other raw-material sources for a primary iron and steel industry in western Canada. T. H. Jones. *bibliog* map Can Min & Met Bul 51:564-73 S '58

California

- Industrial minerals used in California's iron and steel industry. K. W. Mote. *bibliog* map diags Min Eng 10:765-7 JI '58

Canada

- Iron and steel. *il* Eng J 41:96-101 Ap '58

Great Britain

- Coal, iron and steel. Engineer 205:100-1 Ja 17 '58

- History of the British iron and steel industry from c. 450 B.C. to A.D. 1775. H. R. Schubert. Review by C. Singer. *il* Iron & Steel Inst J 188:204-8 Mr '58
- Productivity in the iron and steel industry, 1945-1956. M. D. Brisby. *bibliog* Engineer 205:425-6 Mr 21 '58

India

- India's iron and steel industry grows. *il* Engineering 186:206-7 Ag 15 '58

IRON metallurgy

- Carbon monoxide reduction of iron ore. O. Stelling. *diags* J Metals 10:290-5 Ap '58
- Case for direct reduction. *diags* Steel 141: 130+ O 28 '57
- Concentration of low grade ores; patent. *diag* Iron & Steel Eng 35:28+ Ag '58
- Developments in the iron and steel industry during 1957. I. E. Madsen. *il* diags Iron & Steel Eng 35:139-39 Ja '58
- Direct reduction is closer; R-N process. flow sheet Steel 142:10+ Mr 17 '58
- Direct reduction of iron ore in the United States. H. W. McQuaid. *diags* Iron & Steel Eng 35:69-77; Discussion. 77-3 Ja '58
- Direct reduction process is home; Strategic-udy process to make iron. *diag* Chem & Eng N 36:48 Ap 14 '58
- Distribution curves for sink-and-float separation of iron ores. R. G. Wuerker. *bibliog* Min Eng 10:Trans 788-91 JI '58
- Downdraft taconite pellet hardening. A. English and M. F. Morsan. flow *diag* *il* J Metals 10:122-4 F '58
- Dry concentration of iron ore. *il* diags Eng & Min J 159:88-9 Ja '58
- Experience with sinter burden in Swedish blast-furnaces. U. Notini. *Iron & Steel Inst J* 189:322-6 Ag '58
- Flotation starts on the Mesabi; Hill annex tailings reclamation plant. R. W. Livingston. *il* plans *diags* Eng & Min J 159:90-3 Ja '58
- Four iron ore agglomerating techniques. D. C. Violette and others. flow *diag* *il* diags Min Eng 10:354-64 Mr '58
- Getting more iron from blast furnaces; National steel corp.'s program. Steel 141:164+ D 9 '57
- Industrial minerals used in California's iron and steel industry. K. W. Mote. *bibliog* map *diags* Min Eng 10:765-7 JI '58
- Industry looks at direct reduction. J. W. Franklin. flow sheets *il* diags Eng & Min J 158:84-93 D '57
- Iron and nickel by carbonyl treatment. R. M. Lewis and others. flow sheet *diags* J Metals 10:419-24 Je '58
- Iron and steel institute; summaries of papers for special meeting in Belgium and Luxembourg, June 18-28. Iron & Steel Inst J 189: 109-12+ Je '58
- Iron powder made by the H-iron process. J. P. Kuznick and K. W. Bruland. flow sheets *il* Metal Prog 73:92-6 Mr '58
- Jones & Laughlin installs sintering plant at Otis works. *il* Iron & Steel Eng 35:174+ Mr '58
- Low-cost method strengthens iron ore pellets. *il* *diag* Iron Age 180:130-1 N 21 '57
- Lurgi pelletizing process; a combined updraft-downdraft technique. K. J. E. Meyer and H. Rausch. *il* diags J Metals 10:129-33 F '58
- Method of sintering ore fines; patent. *diag* Iron & Steel Eng 35:23-4 Ag '58
- Modern attacks on iron ores. C. F. Hoffman. *il* Metal Prog 74:67-70 S '58
- New iron ore sintering plant emphasizes industry trend. G. J. McManus. *il* Iron Age 182:88-9 S 18 '58
- New process, new plant; high grade iron from Inco's concentrates. *il* Min Eng 10: 864-6 Ar '58
- New source for iron ore; utilizing the iron component of nickel ores. *il* Steel 143:88 S 22 '58
- New U.S. developments in direct reduction; abstract. A. Hegarty. Metal Prog 73:192+ Mr '58
- Pelletizing in shaft furnaces. F. D. DeVaney. *diags* J Metals 10:125-8 F '58
- Pick right atmosphere to sinter iron. Steel 143:80-1 JI 28 '58
- Process for reducing the metalloidal content of iron; patent. *diags* Iron & Steel Eng 35:21 Je '58
- Recent developments in iron smelting and steelmaking processes. W. J. Armstrong. *bibliog* Can Min & Met Bul 51:674-6 S '58
- Reduction of iron ore in a kiln; patent. *diags* Iron & Steel Eng 35:33 Ar '58

IRON metallurgy—Continued

- Refining of phosphoric irons. B. Trentini and M. Allard. Engineer 205:968 Je 27 '58
- R-N direct reduction process. A. Stewart and H. K. Work. bibliog flow sheet il J Metals 10:460-4 Jl '58
- R-N process for direct reduction of iron ores. flow diag il Metal Prog 73:73-7 Ap '58; Same. Am Gas Assn Mo 40:33-5+ Jl-Ar '58
- Research in the direct reduction of iron ore. H. S. Turner. il Min Cong J 43:59-63 D '57
- Rotary kiln enters iron-ore-reduction race. il diag Chem Eng 65:52-4 My '58
- Simplify process for iron ore reduction; Strategic-Udy process. Tool Eng 40:201 Je '58
- Sinter-plant assessment trials at John Sumners and sons. Shotton. H. Bates and others. diags Iron & Steel Inst J 188:45-54 Ja '58
- Sintering 5000 tons a day! United States steel corp. il diag Metal Prog 74:74-7 S '58
- Smelting titaniferous ores. H. U. Ross. bibliog diags J Metals 10:407-11 Je '58
- Steel takes technical stock. Engineering 186:145 Ar 1 '58
- Updraft pelletizing of specular-hematite concentrates. D. C. Violetta. il diag J Metals 10:118-21 F '58
- Why metallurgy of iron shot is important. A. M. Hall. il Iron Age 181:84-6 Ja 16 '58

See also

- Blast furnaces
Cast iron
Foundry practice
Iron, Sponge
Iron founding
Sintering
Wrought iron

History

- Dud Dudley, an overestimated writer. R. A. Mott. Metallurgia 56:296-7; Discussion. E. N. Simons. 297-8 D '57
- Unconventional iron smelting processes. M. O. Holowaty and C. M. Squarcy. il diag J Metals 10:456-9 Jl '58

IRON mines and mining

- Steam cleaners aid maintenance in iron country. J. Ruona; P. Tarro. il Eng & Min J 169:118 My '58

Michigan

- Tracy mine of Jones & Laughlin steel corp. R. W. Braund. il plan Min Eng 10:88-90 Ja '58

Ontario

- Open pit conveyors at Steep rock iron mines. E. H. Mulligan. il map Min Cong J 44:24-8 Ja '58
- Pit operations at the Marmoraton mine. Hastings county. Ontario. C. A. Lorenson and J. S. K. McChesney. il Can Min & Met Bul 51:577-9 S '58
- Steep Rock's Hogarth shaft. G. B. Hamilton. map Min Cong J 44:58-60 My '58

Quebec (province)

- Mesabi to the North. maps Min Eng 10:678-9 Je '58
- Open-pit mining by the Iron ore co. of Canada at Knob Lake, Quebec. V. Gregoire. flow sheet il map Can Min & Met Bul 51:505-11 Ag '58

Utah

- Economy of shovels. E. F. Hanson. il Min Cong J 44:50-3 Je '58

Venezuela

- Mivenca plans \$52-million iron mine. map Eng & Min J 158:144+ N '57

IRON nitrides

- Fischer-Tropsch synthesis; nitrides and carbonitrides of iron as catalysts. J. F. Shultz and others. bibliog Ind & Eng Chem 49:2055-60 D '57

IRON ores

- Environmental control of sedimentary iron minerals. N. K. Huber. bibliog Econ Geol 53:123-40 Mr '58
- Facies relations in the gunflint iron formation. E. M. Goodwin. bibliog il maps diags Econ Geol 51:565-95 S '56; Discussion. E. A. Alexandrov. 52:458-61 Je '57; Reply. 53:349-51 My '58
- Goethite-hematite relation. an ore microscope observation. M. K. Bose. diag Am Mineralogist 43:989-90 S '58
- Iron-coke process. H. Barking and C. Eyermann. il diag J Metals 10:274-6 Ap '58

- Iron ore; a slow year points up changing supply pattern. T. M. Rohan. il Iron Age 182:175-7 S 11 '58
- Iron ore and steel, 1957. Eng & Min J 159:118-20 F '58
- Iron ore; review and outlook, 1957. R. C. Fish. il Min Cong J 44:67-9 F '58
- Look at raw materials for steel industry. il Steel 143:152-4 S 15 '58
- Mineralizing solutions that carry and deposit iron and sulfur. E. S. Butler. bibliog Min Eng 8:Trans 1012-17 O '56; Discussion. A. D. Muto. 10:Trans 595 My '58
- Mineralogical changes in weathered sedimentary ironstones. R. F. Youell. Am Mineralogist 43:774-6 Jl '58

See also

- Hematite
Ilmenite
Iron industry and trade
Iron metallurgy
Magnetite
Pyrrhotite
Taconite

Testing

- Iron ore reducibility tests. diags Min Eng 10:682 Je '58
- Programme-controlled reduction test for blast-furnace burdens. R. Linder. bibliog il diags Iron & Steel Inst J 189:233-43 Jl '58

British Columbia

- Iron ore and other raw-material sources for a primary iron and steel industry in western Canada. T. H. James. bibliog map Can Min & Met Bul 51:564-73 S '58

Canada

- Canadian iron ore, and where it will go in the next 25 years. P. E. Cavanagh. Min Eng 10:680-2 Je '58

Labrador

- Suggested interpretation of the Quebec-Labrador iron deposits. G. V. Douglas and L. P. Compton. bibliog Econ Geol 52:709-11 S '57

Lake Superior region

- Studies of the system iron oxide-silica-water at low oxygen partial pressures. S. S. Flasch and E. F. Osborn. bibliog diags Econ Geol 52:923-43 D '57

New York (state)

- Genesis of titaniferous magnetites and associated rocks of the Lake Sanford district. N.Y. J. L. Gillson. bibliog il Min Eng 8:Trans 296-301 Mr '56; Discussion. A. Hubaux. 10:Trans 379-80 Mr '58

Ontario

- High-grade iron ore at Copper Cliff, Ontario. P. Queneau and others. il diag J Metals 10:527-32 Ag '58

Quebec (province)

- Suggested interpretations of the Quebec-Labrador iron deposits. G. V. Douglas and L. P. Compton. bibliog Econ Geol 52:709-11 S '57

United States

- U.S. ore production at high level in 1957. Civil Eng 28:382 My '58

Yugoslavia

- Chamositic iron ore deposits near Tsjmiste, western Macedonia, Yugoslavia. B. M. Page. bibliog il maps diags Econ Geol 53:1-21 Ja '58

IRON oxides

- Acid recovery from spent pickle liquor; Blaw-Knox co. T. F. Bernhart. flow diag diag Sewage & Ind wastes 30:296-300 Mr '58
- Antiferromagnetic domain walls and the magnetization process in α -Fe₂O₃. I. S. Jacobs and C. P. Bean. bibliog diags J Ap Phys 29:537-8 Mr '58
- Cavity formation in iron oxide. D. W. Juenker and others. bibliog il Corrosion 14:57-64 Ja '58
- Coercive force of iron oxide micropowders at low temperatures. A. H. Morrish and L. A. K. Watt. bibliog diags J Ap Phys 29:1029-33 Jl '58
- Conditions for stability of graphite, iron, and its oxides and carbides. D. I. Cameron. Iron & Steel Inst J 189:251-5 Jl '58
- Differential thermal analysis above 1200°C. T. F. Newkirk. bibliog diags Am Cer Soc J 41:409-14 O 1 '58
- Exchange anisotropy in the iron-iron oxide system. W. H. Melkiorjohn. J Ap Phys 29:454-5 Mr '58

IRON oxides—Continued

Ferrubron manufacturing co.; production of micaceous iron oxide. Chem & Ind p785-6 Je 23 '58

Ionic valences in manganese-iron spinels. A. H. Eschenfelder. bibliog J Ap Phys 29:378-80 Mr '58

Iron oxide slime coatings in flotation. D. W. Fuerstenau and others. bibliog Min Eng 10:Trans 792-5 JI '58

Phase equilibrium relationships at liquidus temperatures in the system $\text{FeO-Fe}_2\text{O}_3\text{-Al}_2\text{O}_3\text{-SiO}_2$. A. Muan. bibliog diags Am Cer Soc J 40:420-31 D 1 '57

Reactions between iron oxides and alumina-silica refractories. A. Muan. Am Cer Soc J 41:275-86 Ag 1 '58

Relationship between $\text{O}^{2-}/\text{Fe}^{3+}$ ratios in coexisting quartz, carbonate, and iron oxides from various geological deposits. R. N. Clayton and S. Epstein. bibliog diags J Geol 66:352-73 JI '58

Studies of the system iron oxide-silica-water at low oxygen partial pressures. S. S. Flaschen and E. F. Osborn. bibliog diags Econ Geol 52:32-43 D '57

Subsolidus relations between mullite and iron oxide. W. E. Brownell. bibliog Am Cer Soc J 41:226-30 Je 1 '58

System $\text{Fe}_2\text{O}_3\text{-Mn}_2\text{O}_3$. H. J. Van Hook and M. L. Keith. bibliog Am Mineralogist 43: 69-83 Ja '58

See also

Ferrites

Hematite

IRON powder. See Iron, Powdered

IRON silicates

Iron-silica slag network helps wrought iron resist corrosion; abstract. E. F. Best. bibliog II Corrosion 14:118+ F '58

Phase equilibria at high temperatures in iron silicate systems. A. Muan. bibliog Am Cer Soc Bul 37:81-4 F 15 '58

See also

Fayalite

Olivine

IRON sulfates

Intergranular corrosion resistance of austenitic stainless steels; ferric sulfate-sulfuric acid test. M. A. Streicher. bibliog II A S T M Bul p77-86 Ap '58

Low temperature oxidation of solid ferrous sulfate heptahydrate with oxygen in the presence of solid calcium hydroxide. E. Reig and others. bibliog diags Am Chem Soc J 80: 1874-6 Ap 20 '58

IRON sulfides

See also

Pyrite

Pyrrhotite

IRON thiocyanates

Ion $\text{Fe}(\text{CNS})^{2+}$: its association constant and absorption spectrum. D. D. Perrin. bibliog Am Chem Soc J 80:3852-6 Ag 5 '58

Kinetics of the formation of the ferric thiocyanate complex. J. F. Below, Jr. and others. bibliog II diags Am Chem Soc J 80:2961-7 Je 20 '58

IRON works

See also

Forging

Foundries

Saurus iron works

Steel works

Verein deutscher eisenhüttenleute

Electric equipment

Trends in electrification and automation of iron and steel processes. W. E. Miller. II diags Iron & Steel Eng 34:83-94 O '57

Waste

Air and water pollution in the iron and steel industry. A. Parker. Iron & Steel Inst J 189:297-302 Ag '58

Australia

New sintering plant at Port Kembla, N.S.W. Engineer 204:907 D 20 '57

IRONWORK, Artistic

May is now National ornamental iron month; Tennessee fabricating co. II Welding Eng 43: 70-1 My '58

New approach to ornamental metal. II Arch Rec 123:212 Je '58

IRRADIATED coal. See Coal, Irradiated

IRRADIATED food. See Food, Irradiated

IRRADIATED fuel. See Fuel, Irradiated

IRRADIATED lubricating oils. See Lubricating oils, Irradiated

IRRADIATED plastics. See Plastics, Irradiated

IRRADIATION

Blanching of drying oils by ionizing radiation.

J. B. Lavigne. bibliog(26 ref) Am Oil Chem Soc J 35:117-20 Mr '58

Block polymers by high energy radiation; abstract. D. Turner. Chem & Ind p995;

Discussion. 995-6 Ag 3 '58

Carbonis from irradiated proteins. Chem & Eng N 36:50-1 Ap 7 '58

Crosslinking efficiencies in the methyl methacrylate-ethylene dimethacrylate and ethyl methacrylate-ethylene dimethacrylate systems; degradative analysis by electron irradiation. A. R. Shultz. bibliog Am Chem Soc J 80:1854-60 Ap 20 '58

Cryostat for reactor irradiation. C. C. Sartain and H. P. Yockey. bibliog flow diags R Sci Instr 29:118-21 F '58

Damage to various films by gamma irradiation. II Paint Oil & Chem R 121:6-7+ Ja 23 '58

Degradation of cellulose in a vacuum with ultraviolet light. J. H. Flynn and others. bibliog diags J Res Nat Bur Stand 60:229-33 Mr '58

Dislocation point-defect clusters, and cavities in neutron irradiated LiF crystals. J. J. Gilman and W. G. Johnston. bibliog II J Ap Phys 29:877-88 Je '58

Double-bond formation in paraffinic hydrocarbons on exposure to ionizing radiation. R. M. Black. bibliog J Ap Chem 8:169-63 Mr '58

Dynamic hot cell; fuels, lubricants, and hydraulic fluids tested for radiation damage; Inland testing laboratories. II Chem & Eng N 35:48 N 4 '57

Effect of gamma irradiation on the potential behavior of platinum and stainless steel electrodes. W. B. Clark. bibliog Electrochem Soc J 105:483-5 Ag '58

Effect of high intensity radiation on electronic parts and materials. C. P. Lascaro and A. L. Long. diags Elec Manuf 62: 119-21+ S '58

Effect of neutron irradiation on the mechanical properties of copper and nickel. M. J. Makin. bibliog Inst Metals J 86:449-55 Je '58

Effect of X-rays and β -irradiation on $\alpha,\beta,\gamma,\delta$ -tetraphenylporphine; sturpy phosphoric acid, concentrated sulfuric acid and 49 per cent sulfuric acid as solvents. A. Szutka and others. bibliog Am Chem Soc J 80:3016-19 Je 20 '58

Effects of gamma radiation on cotton. F. A. Elcin and J. A. Elcin. Jr. bibliog(48 ref) Textile Res J 28:198-206 Mr '58

Effects of ionizing radiation on choline chloride and its analogs. R. M. Lemmon and others. bibliog Am Chem Soc J 80:2730-3 Je 5 '58

Effects of neutron irradiation on germanium and silicon. G. C. Messenger and J. P. Spratt. bibliog diags Inst Radio Eng Proc 46: 1038-44 Je '58

Effects of short duration neutron radiation on semiconductor devices. W. V. Behrens and J. M. Shaul. bibliog Inst Radio Eng Proc 46:601-5 Mr '58

Electrons sterilize sutures. II Electronics 31: 20 F 21 '58

Fission recoil decomposition of calcium nitrate solutions. R. G. Sowden and E. M. Lynde. bibliog Am Chem Soc J 80:2593-3 My 20 '58

Gamma irradiation facilities in the United States. R. H. Ellis, Jr. map Nucleonics 16:108-9 JI '58

General effects of ionizing radiation on rubbers, plastics, fibers and resins; abstract. R. B. Mesrobian. Rubber Age 83:327 My '58

Graft polymerization in rubber latex by γ -irradiation. E. G. Cockbain and others. Chem & Ind p759-60 Je 21 '58

How transistors operate under atomic radiation. R. L. Riddle. II diags Electronics 30: 125-7 D 1 '57

Influence of irradiation on creep. G. Schoeck. bibliog J Ap Phys 29:112 Ja '58

Inhibition of crystallization in polyethylene subsequent to gamma irradiation. T. F. Williams and others. Am Chem Soc J 80: 2595-6 My 20 '58

Irradiation changes in metal crystals studied. Franklin Inst J 264:430 N '57

Irradiation of polycaprolactam with γ -rays and electrons. T. G. Majury and S. H. Pinner. bibliog J Ap Chem 8:168-71 Mr '58

Irradiation of p - n junctions with gamma rays; a method for measuring diffusion lengths. R. Gremmelmaier. bibliog diags Inst Radio Eng Proc 46:1045-9 Je '58

IRRADIATION—Continued

- Irradiation sources for industry, M. R. Jeppson, *il* *diags* *Instruments & Automation* 31: 639-43 Ap '58
- Irradiation to aid production; Metropolitan-Vickers new irradiation laboratory, *il* *Research* 11:279-80 J1 '58
- Low-temperature irradiation of *n*-type germanium, J. W. Cleland and J. H. Crawford, Jr., *bibliog* *J Ap Phys* 29:149-51 F '58
- Low-temperature thermal conductivity in neutron irradiated vitreous silica, A. F. Cohen, *bibliog* *J Ap Phys* 29:591-3 Mr '58
- Magnetic susceptibility of neutron-irradiated quartz, D. K. Stevens and others, *J Ap Phys* 29:66-8 Ja '58
- Material mutations; modern alchemist uses nuclear radiation, F. A. Twitser and J. W. Blizard, Jr., *il* *Machine Design* 30:22-5 J1 10 '58
- Materials; Geneva 1958. *Nucleonics* 16:108-10-4 S '58
- Modern alchemy; mercury from gold, *Ind & Eng Chem* 49:sup28A+ N '57
- Motor test aids nuclear research, *il* *Ind Lab* 9:74-5 F '58
- Multiple sample holder for electron irradiation, A. MacLachlan, *il* *diag R Sci Instr* 29:790-1 S '58
- Neutron irradiation effects in borosilicate glass and their detection by ultrasonic attenuation and velocity measurements, R. Truell and others, *J Ap Phys* 29:225-6 F '58
- New irradiation laboratory at Metropolitan-Vickers' Barton works, *il* *Ind Chem* 34:372 J1 '58
- Nitric acid via radiation lies ahead; abstract, P. Hartek and S. Dondes, *Chem & Eng N* 36:62+ S 22 '58
- Nuclear irradiation of coal for use with Diesel fuel, R. McBrien, *il* *Min Cong J* 44:82-4 Ag '58; *Abstract. Oil & Gas J* 56:109 Ap 7 '58
- Optical and electron microscope examination of preselected areas, T. K. Bierlein and B. Mastel, *diag R Sci Instr* 28:960-1 N '57
- Poly(vinyl methyl ether) elastomers by high energy radiation, D. Duffey, *bibliog* *Ind & Eng Chem* 50:1267-72 S '58
- Radiation effects in magnetic materials, D. I. Gordon and others, *bibliog* *il* *Nucleonics* 16: 73-7 Je '58
- Radiation fixes nitrogen; abstract, A. R. Jones, *Chem & Eng N* 36:46 My 5 '58
- Radiation in the petroleum industry, T. J. Hardwick and R. P. Nelak, *Chem Eng Prog* 54:72-3 F '58
- Radiation induced *cis-trans* isomerization of polybutadiene, M. A. Golub, *Am Chem Soc J* 80:1794-8 Ap 20 '58
- Radiation induced decomposition of lead nitrate, E. R. Johnson, *Am Chem Soc J* 80: 4460-2 S 5 '58
- Radiation works for man; biological studies use a new tool, *il* *Gen Elec R* 61:24-5 J1 '58
- Radical and molecular yields in the γ -irradiation of liquid methanol, G. E. Adams and J. H. Baxendale, *bibliog* *Am Chem Soc J* 80:4215-19 Ag 20 '58
- Role of ions in the radiation induced exchange of hydrogen and deuterium, S. O. Thompson and O. A. Schaeffer, *bibliog* *diag Am Chem Soc J* 80:553-8 F 5 '58
- Silicone-insulated motor exposed to radiation source, *Elec Eng* 77:274-5 Mr '58
- Square bubbles in irradiated lithium fluoride crystals, *il* *Metalurg* 56:245 N '57; *Same cond. Engineer* 205:303 F 21 '58
- Study of order in annealed and irradiated alpha brass by lattice parameter measurements, R. Feder and others, *bibliog* *J Ap Phys* 29:984-8 Je '58
- Survey of the radiation stability of hydrocarbon fuels, J. G. Carroll and others, *bibliog* *diags Aeronautical Eng* 17:61-5; *Discussion*, 65; *Reply*, 65-6 Mr '58
- Synthesis of cage-like molecules by irradiation of Diels-Alder adducts, R. C. Cookson and others, *Chem & Ind p* 1003-4 Ag 9 '58
- Thorium-uranium bodies and irradiation studies, C. L. Hoening and others, *bibliog* *il* *Am Cer Soc J* 41:117-23 Ap 1 '58
- Trans-isomerization of oleic acid and potassium oleate by ionizing radiation, H. P. Pan and others, *bibliog* *Am Oil Chem Soc J* 35:1-5 Ja '58
- Ultraviolet irradiation and the wool fiber epiteuicle, A. R. Haly, *Textile Res J* 28: 182-3 F '58
- Uses of atomic radiation, A. Charlesby, *Engineering* 185:648 My 23 '58

Using electrons in chemical processing, J. W. Ranft, *il* *plan Ind & Eng Chem* 50:196-8 F '58

See also

Coal, irradiated
Food, irradiated
Fuel, irradiated
Lubricating oils, irradiated
Plastics, irradiated

IRRAWADDY river

Irrawaddy River system of Burma, H. R. Norman and J. B. Alexander, *il* *maps Am Soc C E Proc* 84 [WW 4 no 1766]:1-19 S '58

IRRIGATION

Drainage in relation to a permanent irrigation agriculture, C. R. Maierhofer, *Am Soc C E Proc* 84 [IR 1 no 1506]:1-8 Ja '58

Engineer and worldwide conservation of soil and water, O. W. Israelsen, *bibliog* *il* *diags Am Soc C E Proc* 84 [IR 3 no 1775]:1-22 S '58

Impact of modern equipment on irrigation and drainage, E. A. Braker, *il* *Civil Eng* 28: 506-9 J1 '58

Importance of hydraulics of surface irrigation, V. E. Hansen, *bibliog* *diag Am Soc C E Proc* 84 [IR 3 no 1788]:1-8 S '58

Influence of climate on irrigation agriculture, W. D. Criddle, *Am Soc C E Proc* 84 [IR 1 no 1504]:1-5 Ja '58

Irrigation requirements based on climatic data, G. H. Hargreaves, *bibliog* *map Am Soc C E Proc* 82 [IR 3 no 1105]:1-10 N '56; *Discussion*, M. A. Selim, 83 [IR 1 no 1257]: 25-8 My '57; *Reply*, 84 [IR 1 no 1521]:7-8 Ja '58

Rural irrigation district becomes urban water system, *il* *Water Works Eng* 111:94 O '58

Water supply versus irrigation in humid areas, M. G. Boyer, *map Am Soc C E Proc* 84 [IR 1 no 1500]:1-13 Ja '58

Worldwide view of irrigation developments, N. D. Gulhati, *map Am Soc C E Proc* 84 [IR 3 no 1751]:1-14 S '58

See also

Sewage irrigation
Soil moisture
Trade waste irrigation

Afghanistan

Rockfill dams; Kajaki central core dam, Afghanistan, G. F. Sudman, *il* *map plan diags Am Soc C E Proc* 84 [PO 4 no 1735]: 1-22 Ae '58

Egypt

Basic step towards full utilization of the river Nile; high Aswan dam, M. A. Selim, *il* *map plan diag Civil Eng* 28:591-5 Ag '58

Greece

Grecian lake area reclaimed for agriculture, G. E. Papadopoulos, *map diag Civil Eng* 28: 294 Ap '58

India

Longest dam in the world; Hirakud project in Orissa state, *il* *diag Engineering* 185: 413-14 Mr 28 '58

Iraq

Iraq's Operation bootstrap; big dams instead of hanging gardens, W. G. Bowman, *il* *map plan Eng N* 159:32-4- D 26 '57

Rockfill dams; the Derbendi Khan dam, C. V. Davis, *il* *map plan diags Am Soc C E Proc* 84 [PO 4 no 1741]:1-23 Ag '58

Israel

Did ancient water engineers know best? H. Shuval, *il* *diag Eng N* 160:57-8+ Ap 17 '58

Jordan

Jordan River valley will be irrigated, *map Civil Eng* 28:289 Ap '58

Middle western states

Irrigation in the Midwest, *Am Water Works Assn J* 50:315-18 Mr '58

New Jersey

Irrigation in New Jersey, R. L. Hardman, *Am Soc C E Proc* 84 [IR 2 no 1591]:1-9 Ap '58; *Discussion*, F. L. Hotes, 84 [IR 3 no 1784]:39 S '58

Sardinia

Large irrigation scheme completed on Sardinia, *Eng N* 160:100 My 15 '58

Saskatchewan

South Saskatchewan River dam, *Eng J* 41: 105 S '58

IRRIGATION—Continued

Southern states

Irrigating in the humid areas. E. A. Kimbrough, jr. bibliog Am Soc C E Proc 83 [IR 2 no 1352]:1-13 S '57; Discussion. H. F. Blaney. 84 [IR 2 no 1615]:5-7 Ap '58

IRRIGATION, Overhead

This woodland spray system disposes billion gallons of waste water annually; Seabrook farms co. E. L. Seabrook. II map Food Eng 29:112-14-J '57

IRRIGATION canals

Graphical solution for flow in earth channels with trapezoidal cross-sections. I. D. Carino. diags Am Soc C E Proc 83 [IR 2 no 1360]:1-9 S '57; Discussion. 84 [IR 2 no 1615]:13-22 Ap '58; Reply. 84 [IR 3 no 1784]:5 S '58

IRRIGATION water

Common errors in measurement of irrigation water. C. W. Thomas. bibliog II diag Am Soc C E Proc 83 [IR 2 no 1362]:1-24 S '57; Discussion. 84 [IR 2 no 1615]:23-30 Ap '58; Reply. 84 [IR 3 no 1784]:7-10 S '58

Irrigation use of water. L. B. Bohanan. Am Water Works Assn J 50:310-14 Mr '58

Methods of computing consumptive use of water. W. D. Criddle. map Am Soc C E Proc 84 [IR 1 no 1507]:1-27 Ja '58; Discussion. 84 [IR 2 no 1615]:35-7 Ap; [IR 3 no 1784]:33-6 S '58

Potential use of water by irrigation in the humid area. K. E. Beauchamp. bibliog maps Am Soc C E Proc 84 [IR 3 no 1760]:1-14 S '58

Water quality from the standpoint of irrigation. L. V. Wilcox. II Am Water Works Assn J 50:650-4 My '58

Water reclamation and refuse disposal; California sewage and industrial waste association, 30th annual conference. Water & Sewage Works 105:306-7 JI '58

ISANO oil

Isano oil, a conjugated triple bond glyceride. J. A. Kneeland and others. bibliog Am Oil Chem Soc J 35:361-3 JI '58

ISENBERGER, Nathan Perry

Memorial. D. E. Lounsbury. por Am Assn Pet Geologists Bul 42:225-8 Ja '58

ISLANDS, Artificial

Man made island for oil drilling; Rincon island. II Eng N 160:31+ My 8 '58

ISOALLOXAZINE

Synthesis of 6-ethyl-7-methyl-9-(1'-p-ribityl)-isoalloxazine and 6-methyl-7-ethyl-9-(1'-p-ribityl)-isoalloxazine. J. P. Lamboy. bibliog Am Chem Soc J 80:110-13 Ja 5 '58

ISOBUTANE

Alkar and Butamer, two from Universal Oil Products; method to make ethylbenzene from ethylene, another for butane isomerization. H. W. Grote. diags Chem & Eng N 36:54+ Ap 7 '58

Butamer; Universal oil products co. flow diag Pet Refiner 37:258 S '58

Butane vapor-phase isomerization; Shell development co. flow diags Pet Refiner 37:259 S '58

Catalytic isomerization; Phillips petroleum co. flow diag Pet Refiner 37:260 S '58

Solvent effects in the reactions of free radicals and atoms; effects of solvents on the position of attack of chlorine atoms upon 2,3-dimethylbutane, isobutane and 2-deuterio-2-methylpropane. G. A. Russell. bibliog Am Chem Soc J 80:4987-96 S 20 '58

ISOBUTYL alcohol

Liquid-phase esterification of oleic acid and isobutyl alcohol. W. C. Ling and C. J. Geankoplis. bibliog Ind & Eng Chem 50:939-42 Je '58

ISOBUTYL mercaptan

2-Methyl-1-propanethiol; chemical thermodynamic properties and rotational isomerism. D. W. Scott and others. bibliog Am Chem Soc J 80:55-9 Ja 5 '58

ISOBUTYLENE

Effects of capillary shape on flow characteristics and degradation of polymer solutions. H. S. White and H. V. Belcher. bibliog II diags J Res Nat Bur Stand 60:215-19 Mr '58

Melting and glass transitions in polyisobutylene. R. M. Kell and others. bibliog Rubber Chem & Tech 31:499-504 JI '58

Some thermodynamic properties of the systems polybutadiene-benzene and polyisobutene-benzene. R. S. Jessup. bibliog diags J Res Nat Bur Stand 60:47-53 Ja '58

Analysis

Determination of polyisobutylene in rubber products. K. E. Kress. II Anal Chem 30:287-90 F '58

Manufacture

Isobutylene extraction; Esso research and engineering co. flow diag Pet Refiner 36:302 N '57

Polybutene; Cosden petroleum corp. flow diag Pet Refiner 36:275 N '57

ISOBUTYRONITRILE

Thermal decomposition of 2,2'-azo-bis-isobutyronitrile. J. P. Van Hook and A. V. Tobolsky. bibliog Am Chem Soc J 80:779-82 F 20 '58

ISOCITRIC acid

Crystallographic evidence for the relative configuration of naturally occurring isocitric acid. J. P. Glusker and others. Am Chem Soc J 80:4426-7 Ar 20 '58

ISOCOUMARIN

(±)-3 : 4-Dihydro-6 : 8-dimethoxy-3-methylisocoumarin. W. R. Logan and G. T. Newbold. bibliog Chem & Ind p 1485-6 N 9 '57

ISOCYANATES

Isocyanate foams; panel discussion. Rubber World 133:890-2 S '58

Isocyanates, amazing means to many ends. II Mill & Factory 62:105 Mr '58

Microwave absorption and molecular structure in liquids; the dielectric relaxation times and dipole moments of several aryl isocyanates and related compounds. E. R. Jolliffe and C. P. Smyth. bibliog Am Chem Soc J 80:1064-6 Mr 5 '58

Reactions of orthoesters with aryl isocyanates. C. W. Whitehead and J. Traverso. Am Chem Soc J 80:962-5 F 20 '58

Rearrangement of N-bromosuccinimide to β-bromopropionyl isocyanate. H. W. Johnson, jr. and D. E. Rublitz. bibliog Am Chem Soc J 80:3150-2 Je 20 '58

See also

Phenyl isocyanate

Analysis

Detection of urea, melamine, isocyanate, and urethan resins; rapid group test for nitrogen, silicon, phosphorus, and titanium in coating materials. M. H. Swann and G. G. Esposito. Anal Chem 30:107-9 Ja '58

ISODEXTROPIMARIC acid

Dextropimaric and isodextropimaric acids. O. E. Edwards and R. Howe. bibliog Chem & Ind p629-30 My 24 '58

Stereochemistry of dextro- and isodextropimaric acid. B. E. Craven and others. bibliog Chem & Ind p 1084 Ar 16 '58

ISODRIN

Photochemical isomerization of isodrin. R. C. Cookson and E. Crundwell. Chem & Ind p 1004 Ar 9 '58

Synthesis of ¹⁴C-labelled 1:2:3:4:11:11-hexachloro-1:4:5:8:9:10-hexahydro-1:4-endo,endo-5:8-diendomethylene-naphthalene (Isodrin). G. T. Brooks. bibliog Chem & Ind p 134 F 15 '58

ISOFLAVONE

Naturally occurring oxygen heterocycles; the structure of the isoflavone tianluquayin. P. Crabbe and others. bibliog Am Chem Soc J 80:5258-63 O 5 '58

ISO-KEL process. See Gasoline, Natural—Manufacture

ISOLEUCINE

3-Cyclohexene-1-glycine, an isoleucine antagonist. J. E. Edelson and others. Am Chem Soc J 80:2693-700 Je 5 '58

Observations on the chromatographic heterogeneity of normal adult and fetal human hemoglobin; a study of the effects of crystallization and chromatography on the heterogeneity and isoleucine content. D. W. Allen and others. bibliog Am Chem Soc J 80:1628-34 Ap 5 '58

Synthesis of a biologically active octapeptide similar to natural isoleucine angiotensin octapeptide. H. Schwartz and others. bibliog Am Chem Soc J 79:5697-703 N 5 '57

ISOMALTOSE

Structures of isomaltose and gentiobiose. M. L. Wolfmon and others. bibliog Am Chem Soc J 80:2015-18 Ap 20 '58

ISOMERISM

Derivatives of fluorene; stereoisomerism and polymorphism of N-aryl azomethines. M. E. Taylor and T. L. Fletcher. bibliog Am Chem Soc J 80:2246-9 My 5 '58

ISOMERISM—Continued

Diastereomeric tetrahydropyranyl ethers of hydroquinone. B. Stern and others, *bibliog* Am Chem Soc J 79:5797-800 N 5 '57

Isomerism of some α -hydroxysilanes to silyl ethers. A. G. Brook, *bibliog* Am Chem Soc J 80:1886-9 Ap 20 '58

ISOMERIZATION

Base-catalyzed isomerization of 5,8-dihydro-1-naphthol and its methyl ether. J. F. Eastham and D. R. Larkin, *bibliog* Am Chem Soc J 80:2587-92 Ja 5 '58

Butane vapor-phase isomerization; Shell development co. flow diag *Pet Refiner* 37:259 S '58

Catalytic isomerization; Phillips petroleum co. flow diag *Pet Refiner* 37:260 S '58

Cis, trans isomerization of conjugated inoleates by iodine light. W. E. Tolberg and D. H. Wheeler, *bibliog* Am Oil Chem Soc J 35:385-8 Ag '58

Cis-trans isomerization of dichlorobis-(ethylenediamine)-cobalt(III) chloride and dichlorobis-(propylenediamine)-cobalt(III) chloride in alcohol. E. C. Brasted and C. Hirayama, *bibliog* Am Chem Soc J 80:788-94 F 20 '58

Cis-trans isomerization of dihydroxo- and diqua-bis-ethylenediamine-cobalt(III) ions. J. Y. Tong and P. E. Yankwich, *bibliog* Am Chem Soc J 80:2664-7 Je 5 '58

Conformational analysis; epimerization equilibria of alkylcyclohexanols. E. L. Eliel and R. S. Ro, *bibliog* Am Chem Soc J 79:5992-4 N 20 '57

First pentane isomerization unit. L. E. Dean and others, flow sheet *Oil & Gas J* 56:54-6 S 29 '58

From natural to super-premium gasoline; combining alkylation with isomerization and reforming. R. E. Sutherland and D. H. Belden, flow diag *Pet Refiner* 37:119-23 Jl '58

Further studies of the isomerization of bovine plasma albumin; the effect of detergent ions at low pH and preliminary observations at high pH. J. R. Foster and K. Aoki, *bibliog* diags Am Chem Soc J 80:5215-19 O 5 '58

Further studies on the isomerization of polyunsaturated fatty acids by potassium tertiary butoxide. B. S. Sreenivasan and J. B. Brown, *Am Oil Chem Soc J* 35:39-93 F '58

Hydro-isomerization of paraffin wax. F. Breimer and others, *bibliog* *Inst Pet J* 43:297-306 N '57

Iso-Kel; M. W. Kellogg co. flow diag *Pet Refiner* 37:261 S '58

Isomate; Standard oil co. (Indiana), flow diag *Pet Refiner* 37:262 S '58

Isomate; Pure oil co. flow diag *Pet Refiner* 37:263 S '58

Isomerization. *Pet Refiner* 37:251-2 S '58

Isomerization equilibrium of bovine plasma albumin in the presence of urea. J. F. Foster and K. Aoki, *bibliog* Am Chem Soc J 80:1117-23 Mr 5 '58

Isomerization of bicyclo(2.2.1)-2,5-heptadiene to cycloheptatriene. W. M. Halper and others, *bibliog* *diag Ind & Eng Chem* 50:1131-4 Ag '58

Isomerization of C¹⁴-labeled sugars to saccharinic acids. J. C. Sowden and others, *bibliog* Am Chem Soc J 79:6450-4 D 20 '57

Isomerization of D-glucose-1-C¹⁴ to D-and L-sorbose-C¹⁴ by a strong base resin. J. C. Sowden and R. R. Thompson, *bibliog* Am Chem Soc J 80:1435-7 Mr 20 '58

Isomerization of O,O-diethyl O-2-diethylaminoethyl phosphorothionate. T. R. Fukuto and E. M. Stafford, *bibliog* Am Chem Soc J 79:6083-5 N 20 '57

Isomerization of saturated hydrocarbons; the aluminum bromide catalyzed isomerization of ethyl-B-C¹⁴-cyclohexane. H. Pines and others, *bibliog* diags Am Chem Soc J 80:1930-3 Ap 20 '58

Kinetics of the isomerization of substituted 5-amino-1,2,3-triazoles. E. Lieber and others, *bibliog* Am Chem Soc J 79:5962-7 N 20 '57

Liquid-phase butane isomerization, diags *Pet Eng* 30:C51-2 Mr; C38a-38b My '58

Liquid-phase catalytic isomerization of α -pinene. V. P. Wystrach and others, *bibliog* Am Chem Soc J 79:5786-90 N 5 '57

Liquid-phase isomerization; Shell development co. flow diag *Pet Refiner* 37:264 S '58

Penex; Universal oil products co. flow diag *Pet Refiner* 37:265 S '58

Pentaftining; Atlantic refining co. flow diag *Pet Refiner* 37:266 S '58

Radiation induced *cis-trans* isomerization of polybutadiene. M. A. Golub, *Am Chem Soc J* 80:1794-8 Ap 20 '58

Rate of thermal isomerization of *cis*-butene-2. W. F. Anderson and others, *Am Chem Soc J* 80:2334-6 My 20 '58

Reaction of hydrogen iodide in the photoisomerization of *n*-propyl iodide. C. E. McCauley and G. J. Hilsdorf, *bibliog* Am Chem Soc J 80:5101-4 O 5 '58

Study of oxazolidine ring isomerization in models of the diterpenoid alkaloids. N. J. Leonard and others, *bibliog* Am Chem Soc J 80:5185-93 O 5 '58

Thermal isomerization of cyclobutene. W. Cooper and W. D. Walters, *bibliog* Am Chem Soc J 80:4220-4 Ag 20 '58

Trans-isomerization of oleic acid and potassium oleate by ionizing radiation. H. F. Pan and others, *bibliog* Am Oil Chem Soc J 35:1-5 Ja '58

ISOMERS

Addition of methyl radical to *cis* and *trans* isomers. A. R. Bader and others, *bibliog* Am Chem Soc J 79:5621-5 N 5 '57

Analysis of mixtures of isomers of a demeton. K. Groves, *bibliog* J Agri & Food Chem 6:30-1 Ja '58

cis-isomer from the Wittig reaction. P. C. Hughes, *Chem & Ind* p 1086 Ag 15 '58

Clathrate cage isomers. W. D. Schaeffer, *Chem & Eng N* 36:43-4 Ja 13 '58

Effects of TDI isomer ratio in polyurethane foams. G. T. Gmitter and E. E. Gruber, *Rubber Age* 83:83-7 Ap '58

Isomer distribution in the oxo reaction. V. L. Hughes and L. Kirshenbaum, *bibliog* *Ind & Eng Chem* 49:1999-2003 D '57

Octaftining, new process for isomers, diag *Pet Refiner* 37:208-4 Ag '58

Studies on diastereomeric α -amino acids and corresponding α -hydroxy acids; configuration of the isomeric γ -hydroxyglutamic acids. L. Benoit and others, *bibliog* Am Chem Soc J 79:6192-3 D 5 '57

Use of nuclear magnetic resonance to determine configurations of *cis-trans* isomers. D. Y. Curtin and others, *bibliog* Chem & Ind p 1205-6 S 13 '58

Electric analogies

Isomer simulator and the distortion of a delay analyzer. S. Akpinar, *diag R Sci Instr* 29:285-7 Ap '58

ISOMORPHISM

Some isomorphous ternary oxides containing tantalum. S. Galasso and others, *Am Chem Soc J* 80:1262-3 Mr 5 '58

ISONIAZID. See Isonicotinic acid

ISONICOTINIC acid

Effect of isonicotinic acid hydrazide and vitamin B₆ on glutamic-oxalacetic transaminase levels in whole blood. M. Sass and G. T. Murphy, *bibliog* Am J Clinical Nutrition 6:424-9 Jl '58

Study of the effect of deoxypyridoxine or isoniazid upon mineral retention and liver enzyme activities of pyridoxine-deficient male rats. E. W. Hartsook and others, *bibliog* J Nutrition 65:547-59 Ag '58

ISOPARAFFINS

Analysis

Direct determination of isoparaaffins and *n*-paraaffins in olefin-free gasoline by mass spectrometer. W. C. Ferguson and H. E. Howard, *bibliog* Anal Chem 30:314-17 Mr '58

ISOPENTANE. See Methyl butane

ISOPHTHALIC acid

Manufacture

Some new developments in propylene chemistry; process for manufacture of terephthalic and isophthalic acids and isotactic polypropylene. J. M. Goppel and R. L. Mettievier-Meyer, flow diags *diag Res* search 11:339-44 S '58

ISOPIMARIC acid

Stereochemistry of the pimelic acids. E. Wenkert and J. W. Chamberlin, *Am Chem Soc J* 80:2912-13 Je 5 '58

ISOPRENE

From heavy water, heavy rubber; polyisoprene rubber in which all of the hydrogens have been replaced by deuterium. Chem & Eng N 36:35-6 Je 9 '58

How *cis*-isoprene polymerizes; abstract. R. S. Stearns and L. E. Forman, *diag Chem & Eng N* 36:52 S 22 '58

ISOPRENE—Continued

- Isoprene polymerization by organometallic compounds. H. Morita and A. V. Tobolsky. *Am Chem Soc J* 79:5853-5 N 20 '57
- Polyisoprene gets ready. *Ind & Eng Chem* 50:sup30A-2A My '58
- Polyisoprene question: when? *Il Chem & Eng N* 36:16-17 JI 28 '58
- SKI rubber, a new polyisoprene. S. A. Subbotin and others. *Rubber Chem & Tech* 31:44-8 Ja '58
- SKI rubber, polyisoprene, similar to natural rubber. K. F. Anikanova and others, bibliog *il diags Rubber Chem & Tech* 31:30-43 Ja '58
- Unsaturated phenols; the reaction of isoprene with phenol. A. E. Bader and W. C. Bean. *Am Chem Soc J* 80:3073-6 Je 20 '58

ISOPROPYL alcohol

- Alcohol headache; rising costs. *Chem & Eng N* 36:44 O 6 '58
- Rates of solvolysis of substituted phenyldimethylcarbinyl chlorides in methyl, ethyl and isopropyl alcohols; influence of the solvent on the value of the electrophilic substituent constant. Y. Okamoto and others, bibliog *Am Chem Soc J* 80:4972-6 S 20 '58

Manufacture

- Isopropyl alcohol; Stone & Webster engineering corp. flow diag *Pet Refiner* 38:257 N '57

ISOPROPYL diphenyl

- Use of isopropylbiphenyl as solvent in liquid scintillators. W. L. Buck and R. K. Swank. *R Sci Instr* 29:252 Mr '58

ISOPROPYL ether

- Phenol recovery by use of isopropyl ether. N. H. Kirchgesner, bibliog flow diags *Sewage & Ind Wastes* 30:191-8 F '58

ISOPROPYL group

- Azulenes; migration of the isopropyl group during the synthesis of 1-isopropyl-8-methylazulene. W. Herz, bibliog *Am Chem Soc J* 80:3139-41 Je 20 '58

ISOPROPYL iodide

- Photochemical studies; isopropyl iodide. G. R. McMillan and A. M. Noyes, jr. bibliog *Am Chem Soc J* 80:2108-11 My 5 '58

ISQUINOLINE

- Rearrangement of isquinoline-N-oxides; observations with N-hydroxyisocarbostyrils and other substituted derivatives. M. M. Robison and B. L. Robison, bibliog *Am Chem Soc J* 80:3443-9 JI 5 '58

ISQUINOLINIUM compounds

- Reductive cyclization of indolylethylisquinolinium salts. J. W. Huffman, bibliog *Am Chem Soc J* 80:5193-5 O 5 '58

ISOSANTALENE

- Synthesis of α -santalene and of *trans*- $\Delta^{1,2}$ -iso- α -santalene. E. J. Corey and others, bibliog *Am Chem Soc J* 79:5773-7 N 5 '57

ISOSAPOGENINS

- Steroidal sapogenins; side chain structure of 20-isosapogenins. M. E. Wall and H. A. Walens, bibliog *Am Chem Soc J* 80:1984-7 Ap 20 '58

ISOSEBACIC acid

- Isesebacic acid almost ready. C. E. Frank, *Il Chem & Eng N* 36:28-9 Ap 28 '58

ISOTHIOCYANATES

- Amino acids; preparation and chemistry of α -carbaldoxyalkyl isothiocyanates. D. L. Garmaine and others, bibliog *Am Chem Soc J* 80:3332-4 JI 5 '58
- Distinction between organic thio- and isothiocyanates. E. Lieber and J. Ramachandran, *Chem & Ind* v 1234 S 20 '58
- Reaction of organic isothiocyanates with hydrazoic acid and azide ion. E. Lieber and J. Ramachandran, bibliog *Chem & Ind* v461-2 Ap 19 '58
- Structure and antimicrobial activity of some isothiocyanate oxides and sulfides. C. K. Bradsher and others, bibliog *Am Chem Soc J* 80:414-17 Ja 20 '58

ISOTHIUREA*See also*

- Aminoethylisothiurea
Methyl isothiurea

ISOTHIURONIUM compounds

- Synthesis of aminoalkylisothiuronium salts and their conversion to mercaptoalkylguanidines and thiazolines. D. G. Doherty and others, bibliog *Am Chem Soc J* 79:5667-71 N 5 '57

ISOTONIC solutions

- Oral treatment of burn shock. K. Markley. *A M A Archives Ind Health* 16:427-34; Discussion. 436 N '57

ISOTOPES

- Analyzing radionuclides quickly and accurately; abstract. D. L. Love. *Chem & Eng N* 36:53-4 Ap 28 '58

- AEC chops prices. *Chem & Eng N* 36:24-5 Ap 21 '58

- Atomic review: by-products and waste products. *Engineering* 186:108-9 JI 25 '58

- Canned energy for the atomic age. *Il Welding J* 37:808-9 Ag '58

- Carrier precipitation of trace elements; radioisotope evaluation of efficiency. E. E. Pickett and B. E. Hankins, bibliog *Anal Chem* 30:47-50 Ja '58

- Chemical exchange. D. R. Augoud, bibliog diags *Ind Chem* 34:16-26, 181-90, 245-8, 435-41, 533-42 Ja, Ap-May, Ag, O '58

- Isotopes boom in Britain. *Il Chem & Eng N* 35:80 N 18 '57

- Japs push radioisotopes. *Electronics* 31:40 S 19 '58

- Making labeled compounds; chemical effects of nuclear transformations. J. B. Evans and others, bibliog (42 ref) *diag Ind & Eng Chem* 50:192-5 F '58

- Mass isotope dilution assay for gibberellic acid. B. H. Arison and others, bibliog *Anal Chem* 30:1083-5 Je '58

- Nuclear radiation and radioisotopes in metallurgy; abstract. M. T. Simnad. *J Metals* 10:329 My '58

- Principles of isotope dilution assays. C. Rosenblum, bibliog (65 ref) *Anal Chem* 29:1740-4 D '57

- Radioisotopes canned for industrial use in double-walled stainless steel container. *Il Ind Lab* 9:33 Je '58

- Radioisotopes in Russia. H. J. Gomberg, *Il Nucleonics* 16:136-4 Ag '58

- Recent advances in physics; nobelium and the new heavy isotopes. D. Park, bibliog *Am J Phys* 26:210-13 Ap '58

- Review of fundamental developments in analysis: nucleonics. W. W. Meinke, *Anal Chem* 30:686-728 bibliog (p703-28) pt 2 Ap '58

- Stable isotope dilution chemical analysis by mass spectrometry. R. K. Webster, bibliog *diag Ind Chem* 34:495-501 S '58

- Structural analysis of clinical dextrans by periodate oxidation and isotope dilution techniques. J. D. Moyer and H. S. Isbell, bibliog *Il Anal Chem* 29:1862-8 D '57

See also

- Deuterium

- also subdivision Isotopes under names of elements, e.g.

Arsenic

Carbon

Cobalt

Gold

Helium

Iodine

Krypton

Lead

Plutonium

Scandium

Sodium

Sulfur

Uranium

Vanadium

Xenon

Industrial applications

- Atoms in industry. *Il diags Machine Design* 30:22-5 My 29 '58

- Control of castings with the aid of radioactive isotopes; abstract. B. B. Guliyayev and L. G. Demina. *Aeronautical Eng R* 17:17 Ja '58

- Gamma radiography; comparison of British and Soviet equipment. *Il diags Engineering* 185:444-6 Ad 4 '58

- Index of cavitation erosion by means of radioisotopes. S. L. Kerr and K. Rosenborg, bibliog *Il diag A S M E Trans* 80:1308-11; Discussion. 1312-14 Ag '58

- Industrial applications of radioisotopes. *Air Cond Heat & Ven* 55:78 Ag '58

- Industrial isotopes. *Comp Air Mag* 62:347 N '57

- Instrument makers pace science and technology. *Il Ind Lab* 9:78-9+ S '58

- Isotopes and their application in the field of industrial materials. F. C. Aebersold. *A S T M Bul* p27+ F '58

- Isotopes headed for upswing. *Chem & Eng N* 36:34-5 Je 9 '58

- Isotopes; industry's new work horses. *Il Steel* 142:104-5 My 12 '58

- Nondestructive testing; isotope radiography, a practical substitute for the X-ray. S. Elonka, *Il diag Power* 102:118-19 Mr '58

- Radiation gages improve bulk material level control. S. Regas, *diags Automation* 6:78-80 Ja '58

ISOTOPIES—Industrial applications—*Continued*
 Radiographic inspection; a practical method for pinpointing boiler-tube corrosion. R. M. Peterson. *Il Power* 102:112-13 Ja '58
 Radioisotopes aid Esso develop new gasoline. *Chem Eng Prog* 54:78 Je '58
 Radioisotopes measure mercury inventory in electrolytic chlorine plant. *Il Chem Eng* 65:64 S 8 '58
 Radioisotopes take on a bigger role in industry. R. S. Rochlin. *Il Gen Elec R* 60:39-42 N '57
 Reducing static electricity inside storage tanks by use of radioactive material. J. J. Conradi and others. *bibliog* *diags Oil & Gas J* 55:197-8+ N 18 '57
 Safe use of isotopes in industry. W. A. Brobst. *Mech Eng* 80:69-70 Mr '58; *Abstract. Eng J* 41:87-8 My '58
 Use of penetrating radiation in the process industries. J. E. Jacobs. *Il Tool Eng* 41:156-8 Jl '58
 Uses of atomic radiation. A. Charlesby. *Engineering* 185:648 My 23 '58
 Utilization of radioisotopes in textiles; seminar. *Textile Ind* 122:32 Je '58
 Venezuelans take isotopes course; Tracerlab conducts first out-of-country radioisotope handling course for Schlumberger engineers. *Il Chem & Eng N* 35:66 D 16 '57
 Wanted: ideas; AEC is sparking hunt for ideas from industry on new uses for radioisotopes. *diags Ind & Eng Chem* 50:sup 34A+S '58
 Why industry is shunning atoms. F. L. Green. *Il Iron Age* 181:54+ My 1 '58

Therapeutic use

See Radiotherapy

ISRAEL

See also subdivision Israel under special subjects, e.g.

Chemical engineering
 Irrigation
 Petroleum
 Public health

ISRAEL institute of technology

Technion and the state of Israel. *Il Eng J* 41:89-90 My '58

ITACONIC acid

Stereochemistry of the itaconic acid-cyclopentadiene adduct. B. E. Tate and A. Bexley. *bibliog Am Chem Soc J* 79:6519-21 D 20 '57

ITALIAN chemical society

Joint meeting with Society of chemical industry, Turin, Italy, May 26-June 2. *Manuf Chem* 29:290-4 Jl '58

ITALY

See also subdivision Italy under special subjects, e.g.

Chemical engineering
 Chemical industries
 Hydroelectric plants
 Moving picture industry
 Petroleum industry and trade
 Roads
 Television broadcasting
 Water supply

Antiquities

See also

Pompeii

Industries and resources

Industrial notes from Italy. *Il Eng J* 41:102-4 S '58

ITERATION (mathematics)

Modern matrix iteration processes of Bernoulli and Graeffe type. F. L. Bauer. *bibliog Assn for Computing Mach J* 5:246-57 Jl '58

Progress in thermal design of oil-cooled rotating machinery: iteration technique programmed for the IBM 650 digital computer. P. B. Richards. *diags Elec Eng* 77:808-12 S '58

J

JACKS

Four jacks and eight H-beams put up river spans; Manus River bridge. *Il Eng N* 160: 48-3 Ap 10 '58
 Industrial know-how handbook: jacks and rams. *Il diags Mill & Factory* 62:MH28 My '58

JACKS, Hydraulic. See Hydraulic jacks

JACKSONVILLE, Florida

See also

Building—Jacksonville, Florida.

JACOB, Kenneth D.

Jacob gets Wiley award. *por Chem & Eng N*

38:107 O 27 '58

JACOBSON, Bernard H.

1958 Commercial chemical development association award winner. *por(cover) Chem & Eng N* 36:116 F 24 '58

JAILS. See Prisons

JALOUSIES. See Blinds, Glass

JANITORS

Change in janitorial system pays dividends.

F. N. Braathen. *Il Plant Eng* 12:118 Ja '58

JANSKY, Karl Guthe

Discovery and identification by K. G. Jansky of electromagnetic radiation of extraterrestrial origin in the radio spectrum. C. M. Jansky, Jr. *Inst Radio Eng Proc* 46:13-15 Ja '58

JAPAN

See also subdivision Japan under special subjects, e.g.

Architecture, Domestic
 Atomic power plants
 Automobile industry and trade
 Ceramic industries
 Chemical engineering
 Chemical industries
 Electronics industry
 Fertilizer industry
 Hydroelectric plants
 Metal working industries
 Moving picture industry
 Petroleum
 Petroleum industry and trade
 Plastics industries
 Public health
 Television broadcasting
 Textile machinery industry

Patent office

Shame show indicts Japanese design plates. *Il Product Eng* 29:20-1 Jl 21 '58

JAPANESE architecture. See Architecture, Japanese

JASMINE

Jasmin extraction; abstract. M. Lotfy and others. *Drug & Cosmetic Ind* 83:91 Jl '58

JAZZ music

Jazz and all that. C. A. Robertson. Published in monthly numbers of *Audio*

JEANS, Philip Charles

Sketch. G. Stearns. *por J Nutrition* 64:2-12 Ja '58

JEEPS. See Motor vehicles

JEFFERSON county, Alabama

See also

Sewerage—Jefferson county, Alabama

JELLY, Jam, etc.

Some effects of sweeteners on frozen fruits used for preserve manufacture. A. H. Bocklan and M. Aref. *bibliog Food Tech* 12:393-7 Ar '58

Manufacture

Continuous jelly manufacture. J. D. Ponting and others. *bibliog* flow sheets *Il Food Tech* 12:252-4 My '58; Same cond. *Food Eng* 30:84-5 My '58

JERSEY CITY

Sewerage

Jersey City pollution abatement facilities. D. L. Gallagher. flow diags *Il map diags Water & Sewage Works* 105:179-83 My '58

JET engines. See Airplane engines—Jet engines

JET fuel. See Gas turbines, Aircraft—Fuel

JET mining. See Hydraulic mining

JET piercing. See Drilling and boring (earth and rocks)

JET propulsion

Application of steam-driven water jets for propulsion purposes. J. M. Burgers and A. Ghaffari. *J Res Nat Bur Stand* 60:137-41 P '58

Measure rocket thrust available from plasma jet. *Machine Design* 30:15 Ja 23 '58

Rational choice of flame-holder shape. A. A. Putnam. *Jet Propulsion* 28:60-1 Ja '58

See also

Airplanes, Jet propelled
 Helicopters—Jet propulsion
 Rocket propulsion

Bibliography

Book reviews. Published in monthly numbers of *Jet propulsion*

Technical literature digest. Published in monthly numbers of *Jet propulsion*

JET propulsion—Continued

Patents

New patents. Published in monthly numbers of jet propulsion

JETS

Aerodynamics of nonuniform flows as related to an airfoil extending through a circular jet. S. Rethorst. bibliog diags J Aeronautical Sci 25:11-28 Ja '58
Dredge jets channel with discharge pipe. H Eng N 181:105-6 S 18 '58
Experimental data on turbulent wall jets. A. Sigalla. bibliog H diags Aircraft Eng 30:131-4 My '58
Flow induced by jets. G. Taylor. J Aero/Space Sci 25:464-5 J 1 '58
High-pressure jetting of regenerative air preheaters. B. L. Canaday. H Combustion 29:55-8 F '58
Hydraulic jet cleans topping unit condensers. L. E. West. diags Pet Eng 29:C60 N '57
Jet flame sinks past blast holes. H Eng N 159:88 N 14 '57
Possible explanation of after-jet by the detonation of shaped charges. S. Singh. J Ap Phys 28:1365-6 N '57
Special case of swirling viscous flow. D. G. Mabey. bibliog diags J Aeronautical Sci 25:212-14 Mr '58
Spreading of supersonic jets from axially symmetric nozzles. C. J. Wang and J. B. Peterson. diags Jet Propulsion 28:321-8 My '58

See also

Air jets

Steam jets

JETTIES

Pre-cast concrete jettty. Eng J 41:88 My '58
Pre-cast concrete jettty. H plan diags Engineering 185:47-8 Ja 10 '58

See also

Groins

JEWELERS lathes. See Lathes

JEWELRY

Alloys for precious metal jewelry. R. H. Atkinson. H Metal Prog 72:107-11 N '57

See also

Enamel and enameling (arts and crafts)
Rings (jewelry)

Manufacture

Fabricating techniques for jewelry. R. H. Atkinson. H Metal Prog 72:94-8 D '57
Investment casting of precious metal jewelry. R. H. Atkinson. H diags Metal Prog 73:97-101 F '58
Materials and processes in manufacture of costume jewelry. R. H. Atkinson. H Metal Prog 73:74-8 Mr '58

JIGS

Building-block gages cut jig fabrication costs. J. Less and L. Willick. H diags Tool Eng 40:97-9 F '58
Design and drafting standards for jigs and fixtures; reference sheet. A. F. Hird. Tool Eng 39:123-6 N '57
Designing jigs and fixtures for resistance-welding. L. V. Hale. H Mach 65:152-4 O '58
Drill jig design. C. Andrews. diags Tool Eng 41:49 J 1 '58
Jig borer picks its tools; controlled by punched cards. H Steel 141:119 D 16 '57
Jig-clamp dimensions; reference book sheet. G. R. Tindale. diags Am Mach 101:171-18 N 18 '57
Jig locking device speeds production. F. A. Adams. diags Am Mach 101:125 D 2 '57
Jig speeds valve dismantling. W. R. Hayes. H Elec World 148:110-1 N 25 '57
Jigs and fixtures from standard sets of parts. W. B. Heginbotham and others. diags Engineering 185:829 Je 27 '58
Jigs and fixtures: good design pays big dividends. R. F. Thuma. H Iron Age 181:102-4 Mr 27 '58; Abstract. Tool Eng 40:205 Mr '58
Jigs for making crystallographic wire models. W. Huxches and C. A. Taylor. H diags J Sci Instr 35:261-4 J 1 '58
Newall small jig borer. H Engineer 205:865 Jw 6 '58
Nonsticking plugs for jigs and fixtures. J. R. Paquin. diags Tool Eng 40:117-18 Je 18 '58
Numerically-controlled jig borer selects its own tools. H Am Mach 102:156 Mr 10 '58
Operation of jigs. A. P. Massmann. Min Eng 9:1327 D '57
Production jig borer. H Engineer 204:688 N 8 '57
Spacing jigs hold capacitors for ladder networks. H Electronics 31:104-1 Ja 3 '58

Vacuum drilling jig. H Steel 141:178-18 N 13 '57
Washington talks it over with industry; are there enough jigs and fixtures for war? J. J. Coen. Am Mach 102:142 F 24 '58

JIGS (mining)

Cleaning fine coal with newly developed jig. E. H. Citron. Min Eng 10:Trans 488-9 Ap '58
Fine coal cleaning with the feldspar jig; Northern Pacific railway co. E. R. McMullen. H Min Cons J 44:44-7 Ja '58
St Joe jig aids airleg drilling of long cut. H diags Eng & Min J 159:87 My '58
These jigs pay their own way; Yuba consolidated gold fields. H Rock Prod 61:114-1 Mr '58

JOB analysis

How to measure individual performance. R. G. Trout. Chem Eng 65:173-4 S 22 '58
It's true; the man can make the job! Chem Eng 65:179-80 Ap 21 '58
Putting a value on engineering work. R. G. Trout. Chem Eng 65:146 S 8 '58
Survey on Iowa wage rates, main extensions, and job classifications. AWWA Iowa section committee report. Am Water Works Assn J 50:375-84 Mr '58

JOB assignment

Full-fashioned knitters; do you have multiple assignments? W. B. Snow. H Textile Ind 122:175-1 Ap '58
Solution of the quota problem by a successive-reduction method. D. F. Votaw, jr. Op Res 6:56-64 Ja '58

JOB work

Automation for small-lot producers. H diags Automation 5:54-68 Mr '58
Determination of feasible shipping schedules for a job shop. W. Karush and L. A. Moody. Op Res 6:35-55 Ja '58
Determining machine loading for the job shop. J. E. Epprecht. H Tool Eng 41:105-8 S '58
Diversity no problem to large job shop; Ford's Hardware div. plant. T. M. Rohan. H Iron Age 180:140-1 D 5 '57
Flexibility pays off on short lots; automatic indexing. H Steel 143:96-7 Ag 4 '58
Job-shop challenges materials-handling systems; Merrimack valley works. Western electric co. J. R. Mandel. flow charts diags Mech Eng 80:77-80 Ap '58
Six turret lathes take on job lots; illustrations and drawings with text. Am Mach 102:82-4 Je 30 '58

Quality control

Automation for small-lot producers; quality control. L. E. McCabe. H diags Automation 5:61-5 Mr '58
Job shop quality control; Atomic fuel dept., Westinghouse electric corp. F. Caplan, jr. H Steel 142:75 Ja 13 '58

JOBBER relations

How the steel distributor helps solve maintenance problems. W. K. Creal. H Plant 17:56-7 Ja '58

JOHN Fritz medal. See Fritz, John, medal

JOHNSON, Joseph Wright

Memorial. W. E. Wallis. por Am Assn Pet Geologists Bul 42:914-15 Ap '58

JOHNSON, Rawleigh M.

ASME elects four members to grade of Fellow. Mech Eng 80:140 Ap '58

JOHNSON, William S.

W. S. Johnson received American chemical society award for creative work in synthetic organic chemistry. por Chem & Eng N 26:53 Ap 28 '58

JOINTS

Brazing: processes, joint designs and fluxes. H diags Welding Eng 43:32-3 Ag '58
Casing-joint thread lock. M. E. True and W. A. Pitts. H Oil & Gas J 56:116-1 Je 2 '58
Control joints. C. G. Marchant and D. S. Wild. diags Prog Arch 39:146-8 Je '58
Design digest issue; fastening and joining. H diags Product Eng 29:G 1-44 Mid-S '58
Design digest issue; fastening and joining. H diags Product Eng 28:G 1-78 Mid-O '57
Dr brazing of aluminum. J. W. Maston. H diags Light Metal Age 16:8-11 F '58; Same cond. Mod Metals 14:86-7 F '58
Elements of joint design for welding. K. H. Koopman. bibliog diags Welding J 37:579-88 Je '58
How to calculate stresses in adhesive joints. H. A. Perry. diags Product Eng 29:64-7 J 1 '58
Joints for curtain walls. W. F. Koppes and others. diags Arch Rec 123:225-3-4 F '58
New joint system for metal walls. H diags Prog Arch 39:153-5 Ap '58

JOINTS—Continued

Sealing curtain-wall joints. G. J. Schulte. *il* diags Prog Arch 39:123-31 J1 '58
Simple rotary joint for beam antenna feedlines. T. F. Snyder. *il* diag Q S T 42:23 Je '58
Steel penstock assembly stress relieved on the job. *il* Eng N 160:40-1 Ja 9 '58
Vacuum limitations of rubber O-ring joints. J. R. Young. *diag* R Sci Instr 29:795-6 S '58

See also

Couplings
Electric cables—Joints
Gaskets
Glass—Joining to metal
Packing
Pipe joints
Riveted joints
Screws
Solder and soldering
Welding

Testing

Fatigue strength of silver-alloy brazed joints in steel. C. H. Chatfield and S. Tour. *il* Welding J 37:307-40 Ja '58
Grit and shot-reinforced high tensile bolted joints. R. L. Sanks and C. C. Hampton, Jr. *il* diags Am Soc C E Proc 83 [ST 6 no 1435]: 1-31 N '57
Soldered joints are shake-tested. *il* Plant Eng 12:114 J1 '58
Tightening and tensile tests on joints. J. E. Field. *diag* Engineer 205:654-8, 700-3 My 2-9 '58

Ultrasonic resonance testing of glued metal joints. J. Schijve. *bibliog* diags Aircraft Eng 30:269-71 S '58

JOINTS, Glass

Simple glass sliding joint for vacuum work. G. W. Gore. *diag* J Sci Instr 34:459 N '57

JOINTS, Universal

Dynamical behavior of rotating shafts driven by universal (Hooke) couplings. R. M. Rosenberg. *bibliog* diag J Ap Mech 25:47-51 Mr '58

JOISTS, Steel**Standards**

How standards assure safe construction. C. H. Luedeman. *il* Mag of Stand 29:6-7 Ja '58

JOJOBA oil

Epoxidized jojoba oil as a stabilizer for vinyl chloride containing plastics. S. P. Fore and others. *bibliog* Am Oil Chem Soc J 35:469-72 S '58

Review of chemistry and research potential of *Simmondsia chinensis* (jojoba) oil. N. B. Knoepfer and H. L. E. Vix. *bibliog* *il* J Agri & Food Chem 6:118-21 F '58

JONES, Halbert M.

ACMI's new president. J. Campbell. *por* Mod Textiles Mag 39:36-7+, cover Ap '58

JORDAN**See also**

Irrigation—Jordan
Petroleum—Jordan

JOULE-THOMSON coefficient

Calculation of virial and Joule-Thomson coefficients at extremely high temperatures. E. A. Mason and J. T. Vanderslice. *bibliog* Ind & Eng Chem 50:1033-5 J1 '58

JOULE-THOMSON effect

Joule-Thomson process in the liquefaction of helium. E. H. Brown and J. W. Dean. *bibliog* J Res Nat Bur Stand 60:161-8 Mr '58

JOURNAL bearings. See Bearings**JOURNALISTIC photography. See Photography, Journalistic****JUNCTION transistor. See Transistors****JUNIOR achievement movement**

Gas industry helps teach youth business. *il* Am Gas Assn Mo 40:18-20 My '58

J.A. program offers unique opportunity for civic effort. *il* Gas Age 121:9-12 My 15 '58

Taking time out for the future; chemical companies and their employees, high school students in J.A. programs. L. C. Hart. *il* Chem & Eng N 36:84-90, cover My 26 '58

Teen are glass blowers in business. H. H. Slawson. *Glass* Ind 39:484-+ S '58

JUPITER (planet)

More uses for Cat Eye; three moons of Jupiter photographed by electronic light amplifier. *il* Electronics 31:14-+ Ag 15 '58

JURASSIC period. See Geology, Stratigraphic—Jurassic**JUTE**

Size of the intermicellar spaces and capillaries in jute fibers as revealed by X-ray analysis. S. K. Chowdhury. *bibliog* *il* Textile Res J 27:935-9 D '57

Some properties of native hemp, jute, and kapok celluloses. T. E. Timell. *bibliog* (27 ref) Textile Res J 27:854-9 N '57

Uronic acids of jute fibre hemicellulose. H. C. Srivastava and G. A. Adams. *bibliog* Chem & Ind p920 J1 19 '58

See also

Wool—Jute mixtures

Testing

Change of cross-sectional area of single jute filaments with relative humidity. A. C. Chakravarty. *bibliog* diags Textile Res J 28:878-80 O '58

Mechanism of rupture of jute yarn under tensile stress. B. L. Banerjee and M. K. Sen. *bibliog* Textile Res J 27:846-54 N '57

JUVENILE hormone. See Hormones**K****KAHN, Louis I.**

L. Kahn and the living city. Arch Forum 108:114-19 Mr '58

KALDO process. See Steel metallurgy—Oxygen processes**KALICHEVSKY, Vladimir Anatole**

Obituary. *por* Pet Eng 30:C50 Mr '58

KANAMYCIN. See Antibiotics**KANSAS**

See also subdivision Kansas under special subjects, e.g.

Gas, Natural
Geology
Petroleum
Petroleum industry and trade
Petroleum pipe lines
Water supply

KANSAS CITY, Missouri**Water supply**

Metering to establish distance-demand water service rates. M. P. Hatcher. *il* map Pub Works 89:100-2 Ap '58

KANSAS turnpike. See Roads—Kansas**KANTZER, Basil P.**

1958 president. Society of petroleum engineers of AIME. J. B. Alford and R. W. Taylor. *por* J Pet Tech 10:11 F '58

KAOLIN

Factors involved in plasticity of kaolin-water system. W. G. Lawrence. *bibliog* Am Cer Soc J 41:147-50 My 1 '58

KAOLINITE

Deflocculation of kaolinite by alkali polyphosphates. A. S. Michaels. *bibliog* diags Ind & Eng Chem 50:951-3 Je '58

Kaolinite fractions, their effect on physical properties of reinforced plastics. G. P. Larson. *bibliog* *il* diag Mod Plastics 35:157-8+ My '58

Theory of ion exchange and development of charge in kaolinite-water systems. W. G. Lawrence. *bibliog* diags Am Cer Soc J 41:336-40 Ap 1 '58

KARACHI; Pakistan**Water supply**

Water for the city of Karachi. *il* Eng N 159:66 N 14 '57

KARL Fischer reagent. See Fischer reagent**KARNAUGH maps. See Logic, Symbolical and mathematical****KATHAROMETERS**

Behavior of katharometers for gas chromatography in carrier gases of low thermal conductivity. J. Bohemen and J. H. Purnell. *bibliog* J Ap Chem 8:433-40 J1 '58

KATZ, Alexander

Pioneer American flavorist. M. H. Baker. *por* Am Perfumer & Aromatics 72:43-5 J1 '58

KEARNS, Henry

Commerce voice on tariffs. *por* Eng & Min J 159:211 F '58

KEKULÉ, Friedrich August

Back to Kekulé; ideas of organic structure suggested one hundred years ago. Research 11:408 O '58

KEL-F. See Chlorotrifluoroethylene

- KELLAND, Philip**
Sketch. E. S. Barr. Am J Phys 26:109-10 F '58
- KELLOGG, M. W., company**
Kellogg diversifies; spreads refining know-how to other process industries. Oil & Gas J 56:67 My 5 '58
- KELLY, M. J.**
Dr. Kelly to receive 1959 John Fritz medal. Bell Lab Rec 36:351 S '58
- KENAF**
Cuba develops kenaf. Chem & Eng N 36:78 F 3 '58
- KENNEDY, Eugene P.**
E. P. Kennedy received Paul-Lewis laboratories award in enzyme chemistry. por Chem & Eng N 36:57 Ad 28 '58
- KENTUCKY**
See also subdivision Kentucky under special subjects, e.g.
Coal mines and mining
Gas, Natural
Geology
Petroleum
Petroleum industry and trade
- KENTUCKY crushed stone association**
Annual meeting, Louisville, March 29. Pit & Quarry 50:101 Je '58
- KERATIN**
Amino acid composition of keratins; comparison of the chemical composition of merino wools of differing crimp with that of other animal fibers. D. H. Simmonds. bibliog Textile Res J 23:314-17 Ap '58
Application of statistical theory of elastomers to supercontracted keratin fibers. A. R. Haly and M. Feughelman. bibliog Textile Res J 27:919-24 D '57
Fine structure of keratin. E. H. Mercer. bibliog diags Textile Res J 27:860-6 N '57
Keratinization; abstract. P. Flesch. Drug & Cosmetic Ind 83:366 S '58
Measurement of damage in wool materials; a modification of the Kralis-Market-Viertel (K.M.V.) test; the supercontraction of keratin fibres in solutions of caustic potash. J. W. Bell and others. Soc Dyers & Col J 74:35-3 F '58
Microscopic studies on the structure and composition of keratin fibers. J. Menkart and A. B. Coe. bibliog (31 ref) in pl Textile Res J 28:218-26 Mr '58
Molecular organization in keratins. R. D. B. Fraser and T. P. MacRae. bibliog diags Textile Res J 27:379-84, 867-72 My, N '57
Nature of permanent set in keratin fibers. M. Feughelman and others. bibliog Textile Res J 28:655-9 Ag '58
Penetration and supercontraction of keratin fibers by lithium bromide solutions. A. R. Haly and J. Griffith. bibliog diags Textile Res J 28:32-44 x '58
Reactivity of keratin. R. C. Ghosh and others. bibliog (26 titles) Textile Res J 28:112-19 F '58
Variability of set in keratin fibers. T. Mitchell and M. Feughelman. bibliog diag Textile Res J 28:453-6 Je '58
- KERNER, Abram N.**
A. N. Kerner wins Nichols award. por Chem & Eng N 36:78-9 My 19 '58
- KEROGEN**
Some chemical reactions of Colorado oil shale kerogen. F. M. Brower and E. L. Graham. bibliog Ind & Eng Chem 50:1059-60 JI '58
Thermal extraction and solution of oil shale kerogen. W. R. Thompson and C. H. Prien. bibliog diag Ind & Eng Chem 50:359-64 Mr '58
- KEROSINE**
Jet-age fuel estimates are trimmed. II Oil & Gas J 56:101-3 S 15 '58
Rapid method for the determination of the aromatic contents of petroleum fractions boiling above the kerosene range. B. M. Brook and B. T. Whitman. diag Inst Pet J 44:212-15 JI '58
- Manufacture**
- Combination cracking; Lummus co. flow diag Pet Refiner 37:245 S '58
- KERR cell**
Kerr cell shutter. II Aviation Age 29:81-2 My '58
- KETALS. See Acetals**
- KETENE**
Cyanocarbon chemistry; dicyanoketene acetals. W. J. Middleton and V. A. Engelhardt. bibliog Am Chem Soc J 80:2788-95 Je 5 '58
Cyanocarbon chemistry; heterocyclic compounds from dicyanoketene acetals. W. J. Middleton and V. A. Engelhardt. Am Chem Soc J 80:2829-32 Je 5 '58
- Dehydrohalogenation products of hexahydroterephthaloyl chloride; a bifunctional ketene and a bicyclo[2.2.1]heptan-7-one derivative. W. R. Hatchard and A. K. Schneider. bibliog Am Chem Soc J 79:6261-3 D 5 '57
Nitrogen analogs of ketenes. C. L. Stevens and M. E. Munk. bibliog Am Chem Soc J 80:4065-71 Ag 5 '58
Nitrogen analogs of ketenes; formation of hydroperoxides and vinylamines by reaction with lithium aluminum hydride and organometallic reagents. C. L. Stevens and R. J. Gasser. bibliog Am Chem Soc J 79:6057-62 N 20 '57
Reactions of methylene ketene and carbon dioxide. G. B. Kistlikowsky and K. Sauer. bibliog Am Chem Soc J 80:1066-71 Mr 5 '58
Role of neighboring groups in replacement reactions; the acetoxy group; preparation and reactions of the ketene acetal of *cis*-1,2-cyclohexanediol (2-methylene-*cis*-4,5-tetra-methylenedioxolane). R. M. Roberts and others. bibliog Am Chem Soc J 80:1247-54 Mr 5 '58
- KETOLS**
See also Acyloins
- KETONES**
Adsorption of aldehydes and ketones on anion exchangers in cyanide form. G. Gabrielson. bibliog J Ap Chem 7:533-5 O '57
Bis-(β -diketones); synthesis of compounds of the type $\text{RCOCH}_2\text{CO}-\text{Y}-\text{COCH}_2\text{COR}$. D. F. Martin and others. bibliog Am Chem Soc J 80:4891-5 S 20 '58
Chemistry of enolates; self-condensation of methyl trityl ketone; a novel Claisen condensation. J. L. Greene and H. D. Zook. bibliog Am Chem Soc J 80:3629-32 JI 20 '58
Condensation of aldehydes and ketones with Weissert compounds. L. R. Walters and others. bibliog Am Chem Soc J 80:1177-81 Mr 5 '58
Condensation products of cyclic 1,2-diketones with benzylidene-bis-piperidine and their spectral properties. N. J. Leonard and others. bibliog Am Chem Soc J 79:6436-42 D 20 '57
Correlation of ring size of product with the extent of reduction of diketones by unipositive magnesium anodically generated. W. D. Hoffman and others. bibliog Chem & Ind p 122-3 S 13 '58
Cyanide ion catalyzed cleavage of aromatic α -diketones. H. Kwart and M. M. Baevsky. bibliog Am Chem Soc J 80:580-8 F 5 '58
Dicarbanions of dibenzyl ketone dibenzyl sulfone and α,β,β -triphenylpropionitrile. C. R. Hauser and T. M. Harris. Am Chem Soc J 79:6342 D 5 '57
Epoxy ketones derived from the reactions of 1,4-dihalo-1,4-dibenzoylbutanes with base. H. H. Wasserman and M. J. Gorbunoff. bibliog Am Chem Soc J 80:4568-73 S 5 '58
Family plot of retention volumes for alkyl ketones on dinonyl phthalate. J. R. Young. bibliog Chem & Ind p594-5 My 17 '58
General synthesis of 17-hydroxylated steroidal diazoketones. B. G. Christensen and others. bibliog Chem & Ind p 1259-60 S 27 '58
Isolation of β -diketones in the Kostanecki reaction. Z. L. Jermanska and M. J. Michalska. Chem & Ind p 132 F 1 '58
Mechanism of the electrochemical reduction of phenyl ketones. P. J. Elving and J. T. Leone. bibliog Am Chem Soc J 80:1021-9 Mr 5 '58
Mechanism of the electrochemical reduction of phenyl ketones to alcohols. L. Mandell and others. bibliog Am Chem Soc J 80:5284-5 O 5 '58
Micro-method for differentiating between conjugated aldehydes and ketones. J. P. Critchley and others. bibliog Chem & Ind p596-7 My 17 '58
Molecular rearrangements; additional evidence for the mechanism of the aldehyde-ketone rearrangement. L. W. Kendrick, Jr. and others. bibliog Am Chem Soc J 80:4057-65 Ag 5 '58
New method for the synthesis of bridged ring ketones and medium size ring compounds. C. D. Gutsche and others. bibliog Am Chem Soc J 80:4117 Ag 5 '58
 β -Nitro-ketones. R. Fusco and S. Rossi. Chem & Ind p 1650 D 21 '57
Optical rotatory dispersion studies; α -halo-ketones. C. Djerassi and others. bibliog Am Chem Soc J 80:1216-25 Mr 5 '58
Photochemical reactions of ketones in solution. N. C. Yang and D. D. H. Yang. bibliog Am Chem Soc J 80:2913-14 Je 5 '58

KETONES—Continued

Preparation and reactions of α,α -dibromo- α,α -dinitrocyclic ketones. H. Feuer and others. *bibliog Am Chem Soc J* 79:5768-70 N 5 '57

Preparation of some aldehydes and ketones from lithium aryls. E. A. Evans. *bibliog Chem & Ind p* 1596-7 D 7 '57

Radioysis of simple ketones. P. Ausloos and J. F. Paulson. *bibliog Am Chem Soc J* 80:5117-21 O 5 '58

Reaction of enolic β -ketoesters and β -diketones with phenylmagnesium bromide. J. P. Freeman. *bibliog Am Chem Soc J* 80:1926-30 Ap 20 '58

Reaction of hydrazoic acid with pinonic acid and homoterpenyl methyl ketone. B. A. Parkin and G. W. Hedrick. *bibliog Am Chem Soc J* 80:2899-902 Je 5 '58

Reaction of 2-aminopyridine with α -halo ketones. R. Adams and J. S. Dix. *bibliog Am Chem Soc J* 80:4618-20 S 5 '58

Rearrangement of α,β -epoxy ketones; the α -ethylbenzalacetophenone oxide system. H. O. House and D. J. Reif. *bibliog Am Chem Soc J* 79:6491-5 D 20 '57

Reduction of ketones with diphenyltin dihydride; a new type of hydride reduction. H. G. Kuivila and O. F. Beumel, jr. *Am Chem Soc J* 80:3798 J1 20 '58

Reduction of organic compounds by mixed hydrides; hydrogenolysis of ketones and alcohols. R. F. Nystrom and C. R. A. Berger. *Am Chem Soc J* 80:2896-8 Je 5 '58

Spectral evidence for tautomerism in diazo ketones. F. A. Miller and W. B. White. *bibliog Am Chem Soc J* 79:5974-8 N 20 '57

Sterically blocked ketones, alcohols and acids. H. A. Bruson and others. *bibliog Am Chem Soc J* 80:3633-6 J1 20 '58

Syntheses by free-radical reactions: unsaturated long-chain diketones from cyclic 1-hydroperoxides and 1,3-dienes by additive dimerization. D. D. Coffman and H. N. Cripps. *bibliog Am Chem Soc J* 80:2877-9 Je 5 '58

Transannular nitrogen-carbonyl interaction in cyclic aminoketones and optical rotatory dispersion. N. J. Leonard and others. *bibliog Am Chem Soc J* 80:4858-62 S 20 '58

Unusual Elbs-type reaction observed during a study of the cyclization of ketones. F. A. Vinelli and others. *bibliog Am Chem Soc J* 80:1714-16 Ap 5 '58

Vapor-phase free radical displacement reaction; the reaction of methyl radicals with *trans*-methyl propenyl ketone. J. N. Pitts, jr. and others. *bibliog Am Chem Soc J* 79:6370-2 D 20 '57

See also

Methyl cyclobutyl ketone

Analysis

Determination of oxygenated materials as group types by infrared absorption. E. L. Saier and R. H. Hughes. *bibliog Anal Chem* 30:513-17 Ap '58

KETOXIMES. See Oximes**KETTLES, Electric**

High density polythene electric kettle. *Il Brit Plastics* 31:148 Ap '58

KETTLES, Steam jacketed

Three-way kettle control guards product uniformity; American brewery, inc. L. Trauberman. *diag Food Eng* 29:93 N '57

KEYS and keyways (machinery)

Design of pin keys; data sheet. J. Paull. *diags Machine Design* 30:163-4 Ap 3 '58

How to design for form rolling of knurls, splines, and serrations. *Il diags Machine Design* 30:105-12 Ja 9 '58

How to design involute splines. D. W. Dudley. *Il diags Product Eng* 28:75-80 O 28 '57

When splines need stress control. D. W. Dudley. *Il diags Product Eng* 28:56-61 D 23 '57

Manufacture

Faster and better: Chrysler rolling splines of axle shafts; Roto-Flo cold-forming machines. *Il Mill & Factory* 62:241-2+ Ja '58

New developments in gear and spline production. G. Kousek. *S A E J* 66:74-5 Ja '58

Spline rolling technique for tubular parts. *Tool Eng* 41:115 J1 '58

KIDNEYS

Calculi and kidney calcification from feeding milk diets to rats and hamsters. P. Sambhavaphol and others. *bibliog Il Am J Clinical Nutrition* 6:159-63 Mr '58

Effect of ethionine feeding on liver and kidney coenzyme A content in the rat. A. S. Wenneker and L. Recant. *bibliog J Nutrition* 64:127-36 Ja '58

Localization of mercury in the kidneys after simultaneous administration. A. Bergstrand and others. *Il diag A M A Archives Ind Health* 17:253-6 Mr '58

Diseases

Care of children with nephrosis and cystic fibrosis of the pancreas in a crippled child program. S. G. Dodd and V. Shannon. *bibliog Am J Pub Health* 48:15-21 Ja '58

Kidney changes in vitamin E-deficient rats. T. Moore and others. *bibliog Il J Nutrition* 65:183-98 Je '58

Renal lesions in choline deficiency. W. H. Griffith. *Il Am J Clinical Nutrition* 6:263-70 *bibliog* (p269-70); *Discussion*, 270-3 My '58

KIENLE, Roy H.

Obituary. *Chem & Ind p* 1584 D 7 '57

KILGORE, Lee A.

Engineering personality. *por Westinghouse Eng* 18:75 My '58

KILLIAN, James R. Jr.

Our new special assistant; editorial. *Product Eng* 29:51+ Ja 6 '58

KILNS

Effective tunnel kiln drier. T. W. Garve. *diags Am Cer Soc Bul* 37:229-31 My 15 '58

Experimental cone series designed for use in pottery decorating kilns and enameling furnaces. L. E. Shipley. *bibliog Am Cer Soc Bul* 37:9-11 Ja 15 '58

How's and why's of firing whitewares. *Il Cer Ind* 70:100+ Je '58

Install world's largest ferrite kiln; General ceramics corp. *Il Cer Ind* 70:51 F '58

Kiln rides easy on new gear-linked mount; Vulcan iron works. *diag Chem Eng* 64:186+ D '57

Reduction of iron ore in a kiln; patent. *diags Iron & Steel Eng* 35:33 Ag '58

Rotary kiln enters iron-ore-reduction race. *Il diag Chem Eng* 66:52-4 My 5 '58

Tire-roller placement determines rotary kiln performance. H. H. Wight. *Il diag Rock Prod* 61:120+ F '58 (to be cont)

Western Pottery uses fastest firing schedule in the world for sanitaryware. *Il Cer Ind* 71:90-1 O '58

See also

Cement kilns

Lime kilns

Cars

Kiln car bearing lubricants. W. C. Klefer and H. A. Bedell. *bibliog Am Cer Soc Bul* 37:85-90 F 15 '58

Electric heating

Electric kilns in the ceramic industry. R. Buchkremer. *Il diag Am Cer Soc Bul* 37:27-32 Ja 15 '58

How they make silicon carbide heating elements. W. H. Davenport. *Il diags Cer Ind* 71:104-6 O; 93-5+ N '58

Firing

See also

Cement kilns—Firing

KIMBALL, Weston Cawthorne

Memorial. A. L. Ladner. *por Geophysics* 23:177-8 Ja '58

KIMBERLIN, Charles N.

Sugar to coal: a wise decision. *por Chem & Eng N* 35:102 D 2 '57

KINEMATICS

Dynamics and kinematics of the laying and recovery of submarine cable. E. E. Zajac. *bibliog diags Bell System Tech J* 36:1129-207 S '57; *Excerpts*. *Am Soc Naval Eng J* 70:531-42 Ag '58

Effect of finite rotations on gyroscopic sensing devices. L. E. Goodman and A. R. Robinson. *bibliog diag J Ap Mech* 25:210-13 Je '58

Kinematic drift of single-axis gyroscopes. R. H. Cannon, jr. *diags J Ap Mech* 25:357-60 S '58

Theorem in plane kinematics. J. S. Beggs. *diags J Ap Mech* 25:145-6 Mr '58

KINEMATICS of machinery. See *Machinery, Kinematics of*

KINEPLEX system. See *Radio transmission*

KINESCOPE (television picture tube). See *Television receiving apparatus*

KINESCOPE television recording. See *Television broadcasting—Moving pictures*

KINETIC packaging. See *Packaging—Unit packaging*

KINSTON, North Carolina

Water supply

What water shortage, R. R. Robinson, II Pub Works 89:76-7 J '58

KINZEL, Augustus B.

AIME president 1958, R. A. Bonis, por J Metals 10:138-9 F '58; Same, J Pet Tech 10:12 F '58; Same, Min Eng 10:186-7 F '58
Articulate new president for the AIME, por Eng & Min J 159:117 Mr '58

KISTIAKOWSKY, George B.

Priestly memorial award to Kistiakowsky, por Chem & Eng N 36:94 Ap 14 '58

KITCHEN cabinets

Manufacture

Putty edges of doors for kitchen cabinets, Ind Finishing 34:36-7 J '58

Painting and finishing

Our two years with airless paint spray; Henry M. Carr, Inc. H. M. Carr, II Ind Finishing 34:34-6-7 Ap '58

KITCHENS

Appliances keep moving with kitchen on wheels; Northern Illinois gas co. R. B. Winter, II Am Gas Assn Mo 39:34-5 J '57
Electrical kitchen appliances for 1958, II Machine Design 30:26-9 Ja 23 '58

Gas-fired air conditioning, modern kitchen head features of Ohio department store; May co, II Gas Age 120:20-1-12 '57

Industry honors top builder and eleven New freedom gas kitchens and laundries; NATH convention, Chicago, Jan. 10-24, Am Gas Assn Mo 40:2-6 F '58

Lead pipe installation for kitchens; detail sheet, diags Air Cond Heat & Vent 55:84 Mr '58

Lone Star Gas hitches its wagon to the packaged all-gas kitchen, II Gas Age 120:20-1 N 28 '57

Lone Star Gas pushes Mayfair package kitchen, II Am Gas Assn Mo 39:20-3 D '57

Trends for '58; kitchen demands, H. Hall, II Gas 34:40-52 Ja '58

Lighting

Light for modernized kitchen, II plan diags Elec Constr & Maint 57:80-1 Mr '58

Lighting in restaurant kitchens; Illustrations with text, Illum Eng 53:140-1 Mr '58

KJELDAHL method. See Nitrogen Analysis

KLARMANN, Emil G.

CRMA achievement award, por Soap & Chem Spec 34:177 O '58

KLYSTRON

Application of the potential analog in multi-cavity klystron design and operation, B. V. Yadavalli, bibliog diag Inst Radio Eng Proc 45:1286-7 S '57

Experimental 8-mm klystron power amplifiers, T. J. Bridges and H. J. Curnow, diags Inst Radio Eng Proc 40:430-2 F '58

Klystron amplifier uses capacitive tuning, R. C. Rockwell, II diags Electronics 31:56-7 Ag 29 '58

Measuring frequency of X-band standard cavities, W. A. Gerard, II diags Electronic Ind 17:66-70 F '58

Multi-cavity klystrons, V. J. Norris, bibliog II Electronic Eng 30:321-3 My '58

New breed of microwave tubes; magnetron and klystron face wave tube challenge, J. Holman, II diags Aviation Age 29:118-23-4 My '58

Random thickness gage is frequency stabilized, A. H. Webber, Jr. and others, II diags Electronics 31:70-2, cover Jo 20 '58

Reflex klystrons, A. H. Atherton, bibliog II diags Electronic Eng 30:315-20 My '58

Shf frequency standard uses double conversion, M. C. Thompson, Jr. and others, II diags Electronics 31:100-1 Ap 11 '58

Cooling

Water-cooling of low-power klystrons used in the laboratory, B. Nilsen and others, II R Sol Instr 29:791-2 S '58

Manufacture

Dip-brazing eases machining of complex parts for klystron tube mount, J. Gambos, II Electronics 31:136 Mr 14 '58

Merry-go-round steps up klystron tube output, II Electronics 31:110 My 9 '58

Testing

Special oil used in testing super-power klystrons, J. D. Bianco, II Elec Manuf 62:132-4 Ag '58

Testing superpower klystron, II Electronics 30:182 D 1 '57

KNIT goods

Knit line; 8000 garments per hour; special-purpose packaging machine, II Textile Ind 122:148-9 My '58

See also

Dyes and dyeing—Knit goods

Nylon Knit goods

Sweaters

Underwear

Shrinkage

New method to measure knitted-fabric shrinkage, C. A. Baker, II Textile World 107:112-14 D '57

KNITTING

Better warping = better fabrics; tricot warping technique at Mojud lingerie, II Textile Ind 122:184-5 Ap '58

Fact file, diags Textile World 108:35-40 Mid-J '58

How to knit Naaba yarns, C. J. Dudzik, II Mod Textiles Mag 39:53-4 O '58; Same cond, Textile Ind 122:126-8 J '58

Tips for using Luxex metallic yarn in warp, circular, and flat-bed knitting, II diags Textile Ind 122:203-1 O '58

See also

Knit—Manufacture

KNITTING machines

Knitted carpets roll forward, II Mod Textiles Mag 39:40-4 Ag '58

Knitters are solving technical problems; hosiery, underwear and outerwear, II Textile World 108:97-9 F '58

Modernization in knitting mills means more production per manhour, II Textile World 108:71-5 O '58

Pointers on knitting raschel lace, L. E. Licht, II Textile World 108:144-5 Mr '58

Ten ways to knit pile fabrics, J. H. Blore, II Textile World 108:66-7 S '58

Tricot let-off eliminates shadow marks; Mojud lingerie, II Textile Ind 122:138 Ja '58

See also

Hosiery machines

Lubrication

When and how to lubricate tricot machines, J. A. Wortman, Textile World 108:204 F '58

Maintenance and repair

Fixing pilot menders, W. D. Frye, II Textile Ind 122:139-40 My '58

How to improve throw-out rods, W. Shew-nuke, II diags Textile Ind 122:139-40 Mr '58

Improved Komel vertical shaft bushings, R. C. Metz, diag Textile Ind 122:153 Ag '58

They tend to their tricot knitters; Mojud's preventive maintenance program, II Textile Ind 122:157 F '58

Needles

For latch needles; hands off! W. Shewnuko, II Textile Ind 122:160-4 Ap '58

KNITTING mills

Key to successful full-fashioned outerwear making at Huntley knitting mills; fashion, service, maintenance, II Textile Ind 122:148-9-1 S '58

See also

Hosiery mills

Employees

Training is a production tool, R. C. McLeod, II diag Textile Ind 122:140-1-4 Mr '58

Equipment

Knitwear products and methods change at Grille-Jaco mills, II Textile World 108:104-6 F '58

Modernization in knitting mills means more production per manhour, II Textile World 108:71-5 O '58

Photo scanner loosens fabric losses, A. B. Morgan, II Elec World 160:112 J '58

Management

Punched-card system helps this knitting mill; Lisle mills, Inc. A. H. Wishner, II Mod Textiles Mag 39:33-4 My '58

Quality control

Knitting quality incentives pay off in lower costs, J. H. Blore, II Textile World 108:72-5 Jo '58

KNITTING needles*See also*

Knitting machines—Needles

KNOTS and splicesAre we using the wrong knot? W. Wegener and J. Schneider. *diags Textile Ind* 122: 127-8 Ap '58**KNURLING**How to design for form rolling of knurls, splines, and serrations. *il diags Machine Design* 20:105-12 Ja 9 '58Knurling becomes a design criterion; resistance brazing. W. L. Hughes and L. E. Mills. *il Welding Eng* 43:37 Ap '58**KOCHS, August**A. Kochs of Victor Chemical. *por Chem & Eng N* 35:118 D 9 '57**KODACOLOR.** *See* Photography—Films**KOHLER company**Kohler strike; test case for the future? A. N. Weckler. *il Mill & Factory* 62:85-90 Mr '58**KOHLRAUSCH, Rudolph Herman Arndt**Sketch. E. S. Barr. *por Am J Phys* 26:110-11 F '58**KOJIC acid**Behavior of kojic acid toward acrylonitrile, halo acids and hydrogen cyanide. C. D. Hurd and S. Trofimenko. *Am Chem Soc J* 80:2526-7 My 20 '58KOLDWELD process. *See* Welding—Cold welding**KOPCZYNSKI, John F.**Meet his honor the tool engineer. M. L. Stone. *por Tool Eng* 41:98-101 Ag '58**KOPF, Joseph Leonard**Tribute. *Mech Eng* 79:1111 D '57**KOPPERS company**Koppers streamlines. *Chem & Eng N* 36:25 Mr 3 '58KRAFT paper. *See* Wrapping paper**KRAMER, Andrew W.**Power Engineering editors promoted. *por Power Eng* 62:65 Ja '58**KROGER company**What makes Kroger tick. F. K. Lawler. *il Food Eng* 30:55-6 Ap '58**KROLL, William J.**Kroll receives Acheson medal. *por Chem & Eng N* 36:108 O 20 '58Lone wolf researcher; Perkin medalist says teamwork has not replaced sealing-wax-baling-wire science. N. J. Kroll. *por Chem & Eng N* 36:45, cover Ja 27 '58Perkin medal award to W. J. Kroll. *por Electrochem Soc J* 105:sup58C-9C Mr '58W. J. Kroll chosen Acheson medalist. *por Electrochem Soc J* 105:sup 174C Ag '58**KRYPTON****Isotopes**Krypton-85 sources. *Nucleonics* 16:110 Ap '58**KUKA, K. S.**Cameron, Brandt and Kuka win AISE paper awards. *Iron & Steel Eng* 34:132 O '57**KURTI, Nicholas**Presentation of the first Fritz London award. J. G. Daunt. *Phys Today* 11:18 Mr '58**KUWAIT***See also*

Petroleum industry and trade—Kuwait

KWASHIORKORFatty liver in children. S. Frenk and others. *il Am J Clinical Nutrition* 6:298-307 bibliog (p305-7); Discussion. 307-9 My '58**KYANITE**Densification of domestic kyanite at high temperatures. H. H. Wilson and G. A. Bole. *Am Cer Soc Bul* 37:269-71 Je 15 '58Flotation of a Canadian kyanite. R. A. Wyman. *bibliog diags Min Eng* 10:Trans 111-12 Ja '58**L**LACT (lease automatic custody transfer). *See* Petroleum—MeasurementLC welding system. *See* Electric welding, ArcLOX. *See* Oxygen, LiquidL.S.T. *See* Landing craft**LABELING**Be sure all containers are properly labeled. J. J. Whalen. *Ind Finishing* 34:91-3 D '57Carbon tet. poisoning case. *Soap & Chem Spec* 34:95+ Je '58**LABELS**Do people read labels on household insecticides? A. C. Miller and others. *Soap & Chem Spec* 34:61-3+ J1 '58Double-duty label pre-sells and re-sells. C. R. Havighorst. *il Food Eng* 30:62-3+ J1 '58Effective label redesign gives you multi-benefits; Nestlé Decaf. *il Food Eng* 30:84-5 F '58Getting sharper competition? you may need a label change; Dole label. C. R. Havighorst. *il Food Eng* 29:76-8 D '57Is your label making sales? *il Paint Oil & Chem R* 121:24+ S 18 '58Tape labels cut inventory costs; Mogen David Wine corp. *il Food Eng* 30:81 Mr '58*See also*

Safety labels

Tags

Laws and regulationsCSMA's model labeling act. *Soap & Chem Spec* 33:71+ N '57New fiber labeling law. S. Gotshal. *Mod Textiles Mag* 39:32+ O '58Past, present and future of labeling specialties. R. T. L. Ackerly. *Soap & Chem Spec* 34:71+ Ag '58**Printing**Labels by offset balance seasonal automotive work; Calvert lithographing co. *il Inland Ptr* 140:54-5 Ja '58LABOR (obstetrics). *See* Childbirth

LABOR and laboring classes

See also

Bonus system

Boycott

Efficiency, Industrial

Electric workers

Employees

Employment management

Foundries—Employees

Government employees

Industrial management

Metal workers

Research workers

Safety devices and measures

Strikes

Textile workers

Trade unions

Wages

Hygiene*See* Hygiene, Industrial**International aspects***See also*

International labor organization

United StatesProfits, wages, and unions. W. I. King. *Paint Oil & Chem R* 121:10-12 Ja 23 '58**LABOR contracts**Requirements for competitive-employment contracts. A. W. Gray. *bibliog Machine Design* 80:98-101 My 1 '58**LABOR cost**Direct operating labor costs. C. F. Prutton and others. *flow sheet diags Chem Eng Prog* 53:461-75, 556-62, 581-5 O-D '57How to estimate piping labor on carbon steel piping. O. R. Roberts. *diag Pet Refiner* 37:147-9 Mr '58Operating costs; direct job costs applied to material and labor. R. Ashley. *il Elec Constr & Maint* 57:75 F; 91 Mr; 88-9 J1 '58'Round the clock or weekends off? J. B. Weaver and F. S. Lyndall. *bibliog Ind & Eng Chem* 50:sup61A-3A My '58**LABOR disputes***See also*

Strikes

LABOR laws and regulations*See also*

Employers liability

Labor contracts

Strikes—Laws and regulations

Workmen's compensation

United StatesConsultant held not subject to Fair labor standards act. *Civil Eng* 28:146 F '58Reaffirmation of fundamental human rights. N. C. Rockwood. *Rock Prod* 61:20+ Ag '58**Taft-Hartley law**O'Sullivan-URW strike contributes to stalemate on new labor legislation. J. F. King. *Rubber World* 138:438-9 Je '58

LABOR productivity

Do you need a labor-meter? how Shell does it. *E. D. Macy. Pet Refiner* 37:137-40 Ja '58

Labor productivity: is it up or down? survey of the month. *Mill & Factory* 62:69-72 Ja '58

See also

Efficiency, Industrial
Production standards

LABOR recruiting

Principles and practices of college recruiting. *Refrig Eng* 65:66-74 N '57

LABOR requirements (for production)

Learning curves; key to better labor estimates. *M. S. Titleman. Product Eng* 28:36-8 N 18 '57

LABOR saving devices

See also

Calculating machines
Machinery, Automatic
Mechanical handling
Punched card system

LABOR standards

See also

Production standards

LABOR supply

Engineers, skilled labor supply to rise sharply. *Eng N* 160:80-1 Mr 27 '58

See also

Employment
Employment systems
Unemployment

LABOR unions. See Trade unions**LABORATORIES**

Electronics research laboratory. *Il Engineer* 204:604-6 O 25 '57

Laboratory for school design. *Il Eng N* 160:70 My 15 '58

Laboratory gets unusual facade. *Il Eng N* 159:71-2 D 12 '57

New division expands Alcoa Research; Foil and packaging div. *Il Ind Lab* 9:16-17 Ag '58

Organizing a manufacturing laboratory. *G. W. Jernstedt. Il Tool Eng* 41:43-6 Jl '58

Research and teaching facilities, needs stressed by USPHS. *A. C. McGuinness. Arch Rec* 124:354-4 S '58

Role of the national laboratory in American scientific progress. *L. V. Berkner. Phys Today* 11:18-22 Ap '58

Specialized service laboratory; Alchem limited. *Il Can Chem Process* 42:94-6+ My '58

See also

Aeronautic laboratories
Atomic research laboratories
Automobile laboratories
Bell telephone laboratories
Brookhaven national laboratory
Cement laboratories
Chemical engineering laboratories
Chemical laboratories
Concrete laboratories
Dye laboratories
Electric laboratories
Engineering laboratories
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Hydraulic laboratories
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Petroleum laboratories
Pharmaceutical laboratories
Photographic laboratories
Physical laboratories
Public health laboratories
Radiochemical laboratories
Research companies
Rubber laboratories
Sewage laboratories
Sound laboratories
Testing laboratories
Underwriters laboratories
United States—Army signal research and development laboratory

Air conditioning

Chemicals air-condition research labs; Kathabar system. *G. A. Kelly. Il diag Ind Lab* 9:26-8 Ap '58; *Abstract. Food Eng* 30:101-2 Jl '58

Panel heating, cooling system simulates variety of load conditions; laboratory of Barber-Colman co. *W. G. Young. Il diag Heating-Piping* 30:115-16 Ag '58

Costs

Aeronautical engineering research building, Ohio; unit prices. *Eng N* 159:112 N 14 '57

Equipment

Cities Service builds custom research center. *Il plans Ind Lab* 9:57-60, cover Ap '58

Dance hall becomes modern food and drug research lab. *Il plans Ind Lab* 9:76-8 Jl '58

Design and construction of three new laboratories. *Il plans diags Manuf Chem* 29:137-51 Ap '58

Fisher revamps catalog. *Il Chem & Eng N* 36:126-+ S 29 '58

Steel company opens corrosion research lab; Carpenter steel co. *Il plan Ind Lab* 9:8-11 Ag '58

Ultrasonics comes back to lab. *A. G. McKenna. Il Ind Lab* 9:14-16 Ja '58

Heating and ventilation

Use polyethylene components for laboratory venting system. *Il Ind Lab* 9:74 Ja '58

Layout

Design and construction of three new laboratories. *Il plans diags Manuf Chem* 29:137-51 Ap '58

Safety measures

Industrial medical problems in an electronic research center. *G. M. Knauf, bibliog A M A Archives Ind Health* 17:383-8 My '58

LABORATORIES, Chemical. *See Chemical laboratories*

LABORATORIES, Metallurgical. *See Metallurgical laboratories*

LABORATORIES, Testing. *See Testing laboratories*

LABORATORIES, Traveling

High school labmobile in Oklahoma. *Il Chem & Eng N* 36:88-9 Je 9 '58

New mobile laboratory; Building research station acoustics laboratory. *P. H. Parkin. Il plan Engineer* 205:463-4 Mr 28 '58

LABORATORY animals

Respirator suitable for both small and large laboratory animals. *H. E. Guttman. diags R Sci Instr* 29:427-8 My '58

LABORATORY furnaces. *See Furnaces, Laboratory*

LABORATORY glassware. *See Glassware, Laboratory*

LABORATORY work

Do college students benefit from high school laboratory courses? *S. C. Brown. Am J Phys* 26:334-7 M '58

Evaluating laboratory instruction by use of objective-type tests. *H. Kruglak. Am J Phys* 26:31-2 Ja '58

LABRADOR

See also

Geology—Labrador
Iron ores—Labrador
Mines and mineral resources—Labrador

LACE

Pointers on knitting raschel lace. *L. E. Licht. Il Textile World* 108:144-5 Mr '58

LACE fabrics

Millman who loves to sell; Scranton lace co. *J. Campbell. Il Mod Textiles Mag* 39:31-2+ Mr '58

LACE research association

Research association for a small craft industry; abstract and discussion. *J. MacCallum. Chem & Ind* p86-7 Ja 25 '58

LACQUER and lacquering

Butyrate lacquer used to protect aluminum. *Il Plating* 45:257-+ Mr '58

Clear coat preserves aluminum surface; butyrate lacquer. *Il Iron Age* 181:114 Ja 30 '58

Clear lacquer finish for new white furniture. *Il Ind Finishing* 34:120 Ap '58

Hot lacquers and factors that affect their use. *F. E. Kern. Ind Finishing* 34:41-2+ Ag '58

Non-yellowing lacquer protects outside aluminum products; butyrate lacquer. *Il Ind Finishing* 34:58-60 F '58

Pennsylvania industrial plant first aluminum-clad building to receive new weather resistant coating. *Il Arch Rec* 123:260-1 Mr '58

Some developments and applications of brittle lacquers. *J. R. Lingo, bibliog Il diags Aircraft Eng* 30:94-100, 142-8, 173-9 Ap-Je '58

Using retarder to prevent blushing. *Ind Finishing* 34:62-3 My '58

LACQUER and lacquering—Continued

What is the color? What is the gloss? lacquer enamels. C. C. Barbera. *Ind Finishing* 34: 46+ Ap '58

See also

Strains and stresses—Brittle coating test

Color

Color control to keep everyone happy. E. L. Neff. *Ind Finishing* 34:118-19 Ap '58

Testing

Flexibility tests for enamel and lacquer films. G. I. Norman. *Ind Finishing* 34:110-11 N '57
For coating evaluation, have uniform conditions. G. Norman. *Ind Finishing* 34:110-11 Ap '58

LACQUER industry and trade

Cut price offers, vs salesmanship. *Ind Finishing* 34:64-5 My '58

LA CROSSE, Kansas**Water supply**

Fluoride reduction at La Crosse, Kan. R. L. Culp and H. A. Stoltenberg. *bibliog Am Water Works Assn J* 50:428-31 Mr '58

LACTALBUMIN. See Albumin**LACTAMS**

Preparation of thiazolidines and related compounds; lactams and lactamides. G. L. Oliver and others. *bibliog Am Chem Soc J* 80:702-7 F 5 '58

LACTATION

Reproduction and lactation studies with bitches fed semipurified diets. J. A. Ontko and P. H. Phillips. *bibliog J Nutrition* 65:211-18 Je '58

LACTOglobulin. See Globulins**LACTONES**

Absolute configuration of costol (sesquibenzohiol) and alantolactone. V. Benešová and others. *bibliog Chem & Ind* p363-4 Mr 22 '58

Configurations of the nepetalactones and related compounds. R. B. Bates and others. *bibliog Am Chem Soc J* 80:3420-4 Jl 5 '58

Friedel-Crafts condensation of *trans*-2-hydroxycyclohexanecarboxylic acid lactone with aromatic hydrocarbons. D. D. Phillips and D. N. Chatterjee. *bibliog Am Chem Soc J* 80:1360-6, 1911-15 Mr 20; Ap 20 '58

Infrared spectra of carbohydrates, differentiation of γ - and δ -lactones of aldonic acids. S. A. Barker and others. *Chem & Ind* p658-9 My 31 '58

Kinetics and mechanism of the reactions of B-isovalerolactone in water. H. T. Liang and P. D. Bartlett. *bibliog Am Chem Soc J* 80:3585-90 Jl 20 '58

Structure of alantolactone. K. Tsuda and others. *bibliog Am Chem Soc J* 79:5721-4 N 5 '57

Synthesis of lactones. P. S. Starcher and B. Phillips. *bibliog Am Chem Soc J* 80: 4079-82 Ag 5 '58

See also

Butyrolactone
Propiolactone

LACTOSE

Reversible transgalactosylation. J. H. Pazur and others. *bibliog Am Chem Soc J* 80: 1433-5 Mr 20 '58

Structural characterization of products of enzymatic disproportionation of lactose. L. H. Pazur and others. *bibliog Am Chem Soc J* 80:119-21 Ja 5 '58

LACTUCIN

Structure of lactucin. L. Dolejš and others. *bibliog Chem & Ind* p530-1 My 3 '58

LADDERS**Safety measures**

American ladder institute members and standards a must! *II diags Mag of Stand* 29:163-5 Je '58

LADDERS, Plastic

Non-conductive ladder. *Mod Plastics* 35:216 J 5 '58

LADLES, Foundry. See Foundry ladles**LAGOONS, Sewage. See Sewage lagoons****LAGRANGE equations**

Codification of Lagrangian formulation. H. E. Koenig and W. A. Blackwell. *Inst Radio Eng Proc* 46:1428-9 Jl '58

Lagrange equations in electrical networks. F. L. Rydner. *diags Franklin Inst J* 266:27-38 Jl '58

Standardised polynomials for curve fitting. M. Fine. *Roy Aeronautical Soc J* 62:212-15 Mr '58

LAKE deposits

Hypothesis regarding the origin of tholinolite tufa at Pyramid lake, Nev. D. H. Radbruch. *bibliog map diags Geol Soc Bul* 68:1683-7, pl 1 D '57

LAKES

Evaporation from free water surfaces at high altitudes. H. F. Blaney. *bibliog Am Soc C E Proc* 82 IIR 3 no 11041:1-15 N '56; Discussion 83 IIR 1 no 12571:15-23 My '67; Reply. 84 IIR 1 no 15211:3-5 Ja '68

See also

Erie, Lake
Glacial lakes
Great Lakes
Great Salt Lake
Huron, Lake
Maracaibo, Lake
Michigan, Lake
Ontario, Lake
Pyramid lake, Nevada

LAKES, Artificial

Automatic tidal gates create lake; Ridgefield Park, N.J. F. C. Ziegler. *II map Eng N* 160:33+ Ap 24 '58

LALANDE, William A.

Chemical fraternity cites LaLande; Philadelphia chapter of Alpha chi sigma 7th annual award. *por Chem & Eng N* 36:119 Jl 21 '58

LAMB shift. See Spectrum**LAMBS****Feeding**

Effect of various levels and sources of fluorine in the fattening ration of Columbia, Rambouillet, and Targhee lambs. L. E. Harris and others. *bibliog J Agri & Food Chem* 6:365-8 My '58

Influence of varied cellulose and nitrogen levels upon ration digestibility and nitrogen balance of lambs fed semipurified rations. W. C. Ellis and W. H. Pfander. *J Nutrition* 65:235-50 *bibliog*(p248-50) Je '58

LAMINARIBIOSE

Isolation of laminaribiose from hydrol. A. Sato and others. *bibliog Chem & Ind* p887 Jl 12 '58

LAMINARIN

Barry degradation of laminarin. E. L. Hirst and others. *Chem & Ind* p834 Je 28 '58

LAMINATED construction

Adhesive-bond future challenged by 1000F uses. K. Buchele. *S A E J* 66:46-7 Mr '58

Adhesive films make strong honeycomb panels. *diag Mod Metals* 14:86 F '58

Aluminum laminates for structural applications. J. J. Saunders and H. R. Merriman. *Product Eng* 28:B 14 Mid-O '57

Attaching sandwich components. *Mech Eng* 79:154-5 D '57

B-58 wing panels. T. G. Pownall. *diags S A E J* 66:36 J '58

Brazing honeycomb sandwich. F. J. Filippi. *II diags Tool Eng* 41:98-101 S '58

Brazing sheet follows contoured surfaces; honeycomb construction. *II Iron Age* 181:106 My 1 '58

Composite adhesive films used in honeycomb sandwich construction. *Mach* 64:147-8 Ap '58

Dense urethane foam is fastening edge for sandwich panels; receives citation in Materials in design engineering competition. *II diags Materials in Design Eng* 47:153-4 Ap '58

Easy machining for un-expanded honeycomb; illustrations and drawings with text. H. R. Cook. *J Am Mach* 102:104-5 F 10 '58

Epoxy resin putty for sandwich fastening. *II Materials in Design Eng* 47:202+ F '58

Fiberglass laminate solves missile control problem. *II Am Mach* 101:162 D 16 '57

Graphite blocks aid honeycomb brazing. *II Iron Age* 181:130 Ap 17 '58

Honeycomb absorbs shock. *II Materials in Design Eng* 47:134+ Mr '58

Honeycomb gets new brazing method; Convar div. of General dynamics corp. R. B. Stanton. *II Welding Eng* 43:62-4 Ag '58

Honeycomb making advances: Solar aircraft co. *II Steel* 143:102 S 29 '58

Honeycomb-sandwich structures. A. Marshall. *II diags Machine Design* 30:126-35, cover My 15 '58

Honeycomb scrap upgraded. *II Steel* 143:96 S 22 '58

Honeycomb termed ideal absorber. *II Light Metal Age* 15:40 O '57

How easily can honeycomb structures be machined? R. G. Keilner. *II Mach* 65:132-7 S '58

Laminated frames for private craft. *II Brit Plastics* 31:32 Ja '58

LAMINATED construction—Continued

- Method for fastening honeycomb structures. R. J. Schwab. *diags Materials in Design Eng* 47:168+ Mr '58
- Minimum weight design problem for cylindrical sandwich shells. W. F. Freiberger. *bibliog J Aeronautical Sci* 24:847-8 N '57
- New methods meet the challenge of honeycombs; Boeing airplane co. *il Steel* 143:60-1 S 1 '58
- Paper, plastics, and weight-saving construction in aircraft. G. May. *il diags Aero/Space Eng* 17:34-9 JI '58
- Plastic panels allow easy plant expansion. *il Am Mach* 102:147 My 13 '58
- Poisson's ratio for honeycomb sandwich cores. G. A. Hoffman. *J Aero/Space Sci* 25:534-5 Ag '58
- Quick-frozen water clamps honeycomb for machining. H. H. Powell. *il diags Am Mach* 102:102-3 F 24 '58
- Reduce erection costs of sandwich walls; American can co. *il Plant* 17:52-3 Ja '58
- Selection guide for sandwich-panel core and facing materials. R. K. Humke. *il Product Eng* 29:70-5 Ja 20; 80-3 Ap 28; 56-60 My 26 '58
- Slit and electrogrid honeycomb for B-52 panels. W. G. Koehler. *il diags Am Mach* 102:93-5 Je 16 '58
- Two ways to machine titanium honeycomb. A. C. Gilbrath. *il Mod Metals* 14:78 Ap '58
- Welded studs facilitate fabrication of field-assembled insulated aluminum sandwich wall. *il Welding J* 37:141-2 F '58

Testing

- New test for honeycombs; Bondcheck. *il Welding Eng* 43:98 Ap '58
- Ultrasonics test honeycomb bond. *il Product Eng* 28:89 D 23 '57
- LAMINATED glass.** See Glass, Laminated
- LAMINATED metals.** See Metals, Laminated
- LAMINATED paper.** See Paper, Laminated
- LAMINATED plastics.** See Plastics, Laminated
- LAMINATED products**
- Foam-core sandwiches. *il Light Metal Age* 15:22 O '57
- Heat-seal polyester film laminates to wood, metal. *il Materials in Design Eng* 47:141 My '58
- Lamination selection in choke design. I. Richardson. *Elec Manuf* 61:155 Je '58
- Low-cost film bonds sandwich units; elastomer-phenolic adhesive bonds flat metal sheet and plastic film to make metals and plastics. *il Iron Age* 181:63 Ja 9 '58
- Magnetic force method welds vinyl-laminated steel sheet. *il Product Eng* 29:19 Je 30 '58
- Magnetic-force welding; the new joining method for vinyl-clad steel. F. R. Park. *il diags Product Eng* 29:82-5 S 15 '58
- Metal and plastic join forces; vinyl sheets are continuously bonded to metal sheet by heat and pressure. G. G. Carr. *il Iron Age* 181:56-7 Ap 3 '58
- New shapes in honeycomb. *il diag Machine Design* 30:26 JI 10 '58
- New vistas for vinyl-metal laminates. R. P. Hooker. *il Mach* 64:99-103 Je '58
- Plastic-coated metals ride uptrend; plastic laminations. *il Steel* 142:104-5 Ap 7 '58
- Putting honeycomb scrap to work. J. Lewis. *il Tool Engr* 39:91-2 D '57
- Shims you can peel for on-the-spot alignment. M. Lockwood. *il Mach* 64:126-9 Je '58
- Simple machine produces core for honeycomb structure; Rohr aircraft corp. *il Automotive Ind* 118:65 Ja 15 '58

Manufacture

- Honeycomb structures machined by ingenious Northrop methods. C. O. Herb. *il Mach* 64:140-5 JI '58
- LAMINATED wood.** See Wood, Laminated
- LAMME, Benjamin Garver, medal**
- Dr. Kelly praises achievements of H. S. Black. 1957 Lamme medalist. *Bell Lab Rec* 36:298 Ag '58
- Harold S. Black, 1957 Lamme medalist presentation and acceptance. *il Elec Eng* 77:720-3 Ag '58
- Lamme gold medal awarded to H. S. Black. *Bell Lab Rec* 36:266 JI '58
- LAMP shades**
- Finishing spun aluminum lamp shades. *Ind Finishing* 34:84+ Ja; 98 Mr '58

LAMPREYS

- Chemistry aids trout fishing; sea lamprey larvae wiped out by 3,4,6-trichloro-2-nitrophenol. *il Ind & Eng Chem* 50:sup22A-3A Mr '58

LAMPS

- See also
- Lanterns**
- Painting and finishing
- Job finisher problems; goose neck lamp parts. *Ind Finishing* 34:98-9 My '58
- LAMPS, Electric.** See Electric lamps
- LANCHESTER, F. W.**
- Lanchester's contributions to the theory of flight and operational research. *il Von Kármán, pors Roy Aeronautical Soc J* 62:80-91; Discussion. 91-3 F '58

LAND

- See also
- Eminent domain
- Subdivision
- Basic requirements for subdivision approval. G. W. Cheadle. *il Pub Works* 89:97-9 S '58
- Dual plants treat water and sewage for a subdivision. C. E. Wright. *il Pub Works* 88:106-7 N '57
- Handling the problems of subdivision homes. V. W. Sauer. *il Pub Works* 88:85-9+ N '57

Valuation

- See Land values
- LAND mobile radio services**
- Ssb and similar systems; wise allocation of the spectrum will be important for gas utilities and other members. R. P. Gifford. *Gas Age* 122:23-4+ Ag 7 '58
- LAND reclamation.** See Reclamation of land
- LAND subsidence.** See Subsidence (earth movements)
- LAND utilization**
- City's threat to open land; round table report. *il Arch Forum* 108:86-90+ Ja '58

- See also
- Reclamation of land
- Zoning

Land values

- Outlook for city land prices; abstract. W. Zeckendorf. *Arch Forum* 109:143 JI '58

LANDFILLS. See Refuse disposal**LANDING craft**

- Electric couplings on modern LST's. J. A. Wasmund. *il diag Marine Eng/Log* 63:72-4 My '58

LANDING gear. See Airplanes—Landing gear**LANDSCAPE architecture.** See Landscape gardening**LANDSCAPE gardening**

- High speed parks; abstract. L. Halprin. *Arch Forum* 108:172+ My '58
- Landscape substations win suburban acceptance. G. Metz. *il diag Elec World* 149:64-5 F 3 '58
- Structure and garden spaces related in sequence. *il plans diags Prog Arch* 39:95-103 My '58
- See also
- Lawns

LANDSLIDES

- Huge rock slide on Snoqualmie pass. *il Roads & Str* 101:60 F '58
- Landslides plague Palisades highway. *il Eng N* 160:23 Ap 24 '58
- 13 million cu yd landslide cuts canal; Gota, Sweden. *il Eng N* 161:58-9 JI 3 '58

- See also
- Subsidence (earth movements)

LANGMUIR, Irving

- Obituary. *por Gen Elec R* 60:5 N '57
- Obituary. V. J. Schaffer. *por (pl) J Colloid Sci* 13:3-5 F '58

LANGUAGE and languages

- Through history with standards. *Mag of Stand* 29:177 Je '58

Study and teaching

- Talk their language; U.S. Office of education backs a federal program to improve America's language ability abroad. *Chem & Eng N* 36:75 F 10 '58

LANOLIN. See Wool fat**LANOSTEROL**

- 1,2-Methyl shifts in the cyclization of squalene to lanosterol. R. K. Maudgal and others. *bibliog Am Chem Soc J* 80:2589-90 My 20 '58

LANTERN slides

Classification system for lantern slides and other visual aids in occupational health. C. P. McCord and W. A. Cook. *Ind Med* 27:46-9 Ja '58
Use giant lantern slides for refractories study. *Ind Lab* 9:46 My '58

See also

Slide films
Transparencies

LANTERNS

How to use lanterns effectively for highway warning and for lighting barricades. *il Pub Works* 88:143 D '57

LANTHAN. See Lanthanum oxide

LANTHANUM borides

Europium hexaboride and lanthanum tetraboride. E. J. Felner and others. *Am Chem Soc J* 80:3473 JI '58

LANTHANUM carbide

Structures of lanthanum dicarbide and sesquicarbide by X-ray and neutron diffraction. M. Atoji and others. *bibliog diags Am Chem Soc J* 80:1804-8 Ap 20 '58

LANTHANUM cobalt oxide

Lanthanum rhodium and lanthanum cobalt oxides. A. Wold and others. *Am Chem Soc J* 79:6365-6 D 20 '57

LANTHANUM manganese nickel oxide

Some magnetic and crystallographic properties of the system $\text{LaMn}_{1-x}\text{Ni}_x\text{O}_{3-x}$. A. Wold and others. *bibliog diags J Ap Phys* 29:387-9 Mr '58

LANTHANUM oxide

Beta-alumina-type structure in the system lanthana-alumina. R. S. Roth and S. Hasko. *bibliog Am Cer Soc J* 41:146 Ap 1 '58

LANTHANUM rhodium oxide

Lanthanum rhodium and lanthanum cobalt oxides. A. Wold and others. *Am Chem Soc J* 79:6365-6 D 20 '57

LAPLACE equation

Best five-point difference analogue of Laplace's equation. D. Greenspan. *Franklin Inst J* 266:39-45 JI '58

Nine-point analogues of Laplace's equation; difference equation approximation. D. Greenspan. *Franklin Inst J* 264:453-5 D '57
Some further results on the rubber membrane theory and Laplace's equation. W. Fulop. *J Sci Instr* 34:453-4 N '57

LAPLACE transformation

Analysis of multiple sampler systems with finite pulse width, open loop. G. Farmanfarma, *diags Applications & Ind* p20-8 Mr '58

Curve plotting routine for the inverse Laplace transform of rational functions. T. R. Bashkow. *Assn for Computing Mach J* 5:52-6 Ja '58

LAPPING

Lapping 4920-pound weldments for radar systems. C. E. Calebaugh. *il Mach* 64:136-9 JI '58

Machine lapping for flatness and finish. H. I. Sole. *il Diesel Power* 36:28-30 O '58

Preparation of semiconductor devices by lapping and diffusion techniques. H. Nelson. *bibliog il diags Inst Radio Eng Proc* 46:1062-7 Je '58

See also

Honing

LAPPING machines

Beer cock and valve lapping machine. *il Engineer* 205:226 F 7 '58

Finishing surfaces by vibration. R. C. Hitchcock and J. F. Moran. *il diags Tool Eng* 40:127-30 Ap '58

Lapmaster 48 lapping machine. *il Automobile Eng* 48:203 My '58

1958 production preview; grinding, honing, lapping. *il diags Am Mach* 102:133-41 Ja 27 '58

Taft-Peirce semi-automatic lapping machines. *il Mach* 64:186-1 Je '58

Control

Trigger circuit controls quartz crystal lapping. J. F. Brumach and others. *il diags Electronics* 31:66-7, cover JI 18 '58

LAPS

Lap for lead screws. H. J. Gerber. *diags Tool Eng* 40:84 Ap '58

LARCH

Determination of dihydroquercetin in Douglas fir and western larch wood. G. M. Barton and J. A. F. Gardner. *bibliog Anal Chem* 30:279-81 F '58

LARSON, Leonard

President, 1953, Association of iron and steel engineers. *por Iron & Steel Eng* 35:89 Ja '58

LARYNX

Some aspects of singing. J. E. Hardy. *bibliog il diag Research* 11:356-9 S '58

LASKER, Albert and Mary, foundation

Albert Lasker awards for 1957. *Am J Pub Health* 47:1581-6 D '57

LATCHES

Instant-release latch mechanism. B. R. Obra. *diags Mach* 64:156-7 F '58

LATERITE

Laterite soils and their engineering characteristics. K. S. Bawa. *map Am Soc C E Proc* 83 [SM 4 no 1428]:1-15 bibliog (p 11-14) N '57; Discussion. 84 [SM 1 no 1559]:13-14 F; [SM 2 no 1657]:33-9 My '58; Reply. 84 [SM 4 no 1828]:9-10 O '58

LATEX

Beater addition of latex and the effect of particle size distribution. B. Andersson and V. Stannett. *il Tappl* 40:399-900 N '57

See also

Rubber, Artificial—Latex
Rubber latex

LATHES

Also interchanges pre-tooled lathes in spring-winding line. J. K. Grudis. *il diags Am Mach* 102:102-3 Je 30 '58

Atlas introduces line of 12-in. general-purpose, back-geared lathes. *il Am Mach* 102:136 Ap 7 '58

Attachment produces scroll threads. P. C. Sun. *diags Am Mach* 102:138 My 5 '58

Automated lathe line for axle production. H. Chase. *il Mach* 64:142-3 Mr '58

Automatic tracer lathes combine rough and finish operations. *il Am Mach* 102:148 F 24 '58

Built-in indicator. H. J. Gerber. *il diags Tool Eng* 40:80-1 Ja '58

Canavese production copying lathe. *il Engineer* 205:150 Ja 24 '58

Carbide tooling and single-purpose lathes speed machining of forged crankpins. *il diags Mach* 64:173-6 N '57

Center drive lathe machines disks. *il diags Tool Eng* 40:95 Mr '58

Chatter of lathe tools under orthogonal cutting conditions. S. A. Tobias and W. Fishwick. *diags A S M E Trans* 80:1079-87; Discussion. 1087-5 JI '58

Circuit design for a large lathe; Baldwin-Lima-Hamilton corp. Z. C. Van Schwartz. *il diags Ap Hydraulics* 11:80-1 JI '58

Close tolerances with diamond tools and standard lathes. *il Am Mach* 102:109 S 22 '58

Coiling wire on shop lathe produces several hundred brazing rings in ten minutes. *il Mill & Factory* 63:123 Ag '58

Contour-chasing lathe machines spiral parts. *il diags Machine Design* 30:10 F 6 '58

Copying lathe. *il Engineering* 186:167 Ag 8 '58

Denham heavy-duty lathe. *il Engineer* 206:500 S 26 '58

Do-it-yourself automation. *il Mill & Factory* 61:114 D '57

Drilling and turning combined on automatic lathe. *il Tool Eng* 41:110 S '58

Dual-function motor is end-mounted on lathe. *il Elec Manuf* 61:149-50 F '58

Facing contours can be machined on engine lathe, using a full-size template. F. G. Forquer. *diags Tool Eng* 41:44 Ag '58

15-in. Sheldon lathe fills gap between belt-driven and geared head lathes. *il Am Mach* 102:135 S 22 '58

Fratelli Morando heavy-duty lathe. *il Engineer* 205:516-17 Ap 4 '58

Gisholt Masterline ram type turret lathe with Lynn Recipromatic hydraulic drive. *il diags Tool Eng* 41:179-80 Mr '58

Grinding cams on a lathe. C. McLaughlin. *il diags Tool Eng* 40:83 Ap '58

Gun-drilling on a turret lathe. *il Mach* 65:121 O '58

High-speed automatic turret lathe features fast, easy setup. *il Am Mach* 102:150 My 19 '58

Hydraulic drive automates Gisholt hand-operated turret lathes. *il Am Mach* 102:149 F 24 '58

Instrument lathes used in drilling holes as small as 0.0006 inch. S. Levin. *il Mach* 64:126 Mr '58

Jaw thread sections formed on lathe. J. C. Sobkowiak. *diags Mach* 64:197-8 N '57

Large-swing lathe announced by R. K. Le Blond machine tool co. *il Mach* 64:201 N '57

Lathe cuts spirals. *il Product Eng* 29:62 Mr 3 '58

Lathe hydraulics; the Bullard co. *il diags Ap Hydraulics* 11:67 JI '58

LATHES—Continued

- Lathes modified to resurface rolls; automatic submerged arc welding of alloy steel surface. J. Angus. *Il Plant Eng* 12:127 My '58
- Lathes trim finishing costs; rotogravure cylinders for the printing industry. J. Schaefer. *Il Steel* 142:86-7 My 12 '58
- Lathes turn missile bodies and other large, light workpieces. *Il Am Mach* 102:148 My 19 '58
- LeBlond contour-chasing lathe equipped to automatically machine spiral-shaped parts. *Il diags Mach* 64:175-6 Mr '58
- LeBlond contour chasing lathe machines spiral shaped parts. *Il Am Mach* 102:151 F 10 '58
- Missile parts machined in jeweler's lathes. *Il Mach* 64:154 J '58
- Monarch Missile Master contouring lathe. *Il Mach* 64:173-4 Ag '58
- Multi-cavity molds produced in lathe. F. C. Aston. *diags Am Mach* 102:105 Je 30 '58
- Multiple-spindle copying lathe turns transmission shafts in 32 seconds. *Il diags Am Mach* 102:117-18 Je 2 '58
- 1958 production preview; turning. *Il Am Mach* 102:106-11 Ja 27 '58
- Pneumatic lathe mandrel compensates for component variations. G. R. Tindale. *diags Mach* 64:181 Ja '58
- Preset tools cut auto-lathe setup time. J. L. Anderson. *Il diags Am Mach* 101:116-18 N 4 '57
- Radius-bar attachment for lathe operations. J. C. Sobkowiak. *diags Mach* 65:153-4 S '58
- Ravensburg hydraulic face copying lathe. *Il Engineering* 184:681 N 29 '57
- Rockwell-Delta metalworking lathe. *Il Mach* 64:135-6 Ap '58
- Schmid turret attachment for centre lathes. *Il Engineering* 184:680 N 29 '57
- Shaving-tool corrections; reference book sheet. I. Zorich. *diags Am Mach* 101:105 D 30 '57
- Single machine now does work of two. *Il Iron Age* 181:96-7 My 15 '58
- Six turret lathes take on job lots; illustrations and drawings with text. *Am Mach* 102:82-4 Je 30 '58
- Small commutators plunge-ground on new lathe. *Il Elec Manuf* 62:116 J1 '58
- Special lathe whips spiral cutting. *Il Steel* 142:77 Ja 27 '58
- Thread chasing on an engine lathe. H. J. Gerber. *Il Tool Eng* 40:82-3 Mr '58
- Tracer lathe chases spiral contours. *Il Iron Age* 181:114 F 27 '58
- Tracer lathe replaces four machines; National supply co. *Il Steel* 142:98-9 Ap 28 '58
- Use of ultra high-speed 150 horsepower lathe for machinability studies. H. J. Siekmann. *Il Tool Eng* 40:85-8 Ap '58
- Versatile boring-bar holder for lathe operations. R. Minser. *diags Mach* 64:169-70 Ap '58
- Versatile lathe cuts tool cost. *Il diag Product Eng* 29:73 J1 21 '58

See also

- Machine shop practice
Machine tools
Screw machines
Turning

Control

- Barnes engineering co.; Binotrol positioning control. *Il diag Control Eng* 5:119 F '58
- Electrical impulses provide two-dimensional contouring control. *Il diags Automation* 5:57-9 J1 '58
- Numerically controlled Belgian lathe. R. Bingen and others. *Il diags Control Eng* 5:172-5 S '58
- Sequence controller applied to capstan lathe. *Il Engineering* 185:765 Je 13 '58

Standards

- Standard machine vs. special machine; a case study. T. W. Black. *Il diags Tool Eng* 40:103-6 Ja '58

Tailstocks

- Method of applying power-feed to the tailstock. F. E. Riley. *diag Power Eng* 61:94 N '57
- Tailstock speed and force control; New Britain machine co. W. Retz and J. Carpenter. *Il diag Ap Hydraulics* 11:64-5 J1 '58
- Tailstock tool-holder for chamfering operations. J. C. Sobkowiak. *diags Mach* 64:158 Ap '58

LATIN AMERICA**See also**

- Chemical industries—Latin America
Drug trade—Latin America
Electronics industry—Latin America
Medical service—Latin America
Petroleum industry and trade—Latin America
LATIN square design. See Experimental design

LATTICES. See Crystals—Lattices

LAUNCHING**See also**

- Guided missiles—Launching
Satellites, Artificial—Launching

LAUNDRIES**Waste**

- Highlights of research in sanitary engineering; New York university; treatment of radioactive laundry wastes. W. E. Dobbins. *Il Pub Works* 58:35-6 D '57

LAUNDRY

- Absorbency of terry towels; effect of home laundering. B. G. Murphy and A. R. Macormac. *bibliog Textile Res J* 28:337-42 Ap '58
- Effect of laundering on chlorine retention and crease resistance; abstract. O. C. Bacon. *Textile Ind* 122:100-4 Ja '58
- How laundering affects cotton finished with DMEU resins; abstract. O. C. Bacon and others. *Textile World* 108:133-4 F '58

See also

- Textile fabrics—Washability
LAUNDRY equipment. Domestic
Die cast zinc rotor lengthens life of washer-drier pump; award of merit in Materials in design engineering competition. *Il Materials in Design Eng* 47:139 Ap '58
- 1958 home laundry appliance sales expected to remain at high level. *Gas Age* 121:21-4 F 6 '58
- Washing and spinning; Hoovermatic. *Il Engineering* 184:556 N 1 '57

LAUNDRY waste. See Laundries—Waste

LAURATES

- Interaction of sucrose monolaurate with other surface-active agents. L. Osipow and others. *Am Oil Chem Soc J* 35:127-9 Mr '58

LAURENCE, William L.

- W. L. Laurence received James T. Grady award. *Proc Chem & Eng N* 36:122 Ap 28 '58

LAURIC acid**See also**

- Perlauric acid

LAVA

- Alteration of olivine and orthopyroxene in basic lavas and shallow intrusions. H. G. Wilshire. *bibliog Il Am Mineralogist* 43:120-47 Ja '58

LAW**See also**

- Architects—Law
Expert evidence
Nuisances
Patent laws and regulations

LAWN mowers

- Automotive type differential and coil springs applied in lawn mowers; illustrations with text. *Machine Design* 30:126-7 Ap 17 '58
- Castings cut mower costs. *Il Product Eng* 29:89 Ap 28 '58
- Early lawn mowers. G. E. Fussell. *Il Engineer* 205:280 F 21 '58
- Powered lawn mowers. S. R. Griffith. *Il diags Machine Design* 30:22-6 My 1 '58
- Shape of mowers to come. *Il Product Eng* 28:84 Q 28 '57
- Swivel wheels on one side of mower increase maneuverability. *Il Machine Design* 30:139 My 29 '58

Manufacture

- Acrylonitrile-butadiene-styrene grass catcher. *Il Mod Plastics* 36:105 S '58
- To build a better mower; torsion bar impact tools. *Il Comp Air Mag* 63:24-5 Ja '58

LAWN sprinklers. See Sprinklers

LAWNS

- Specifications for lawns and planting. L. Circle. *Prog Arch* 39:132-5 My '58

LAWYERS

- Role of the attorney in multipurpose developments. P. A. Townner. *bibliog Am Water Works Assn J* 50:357-62 Mr '58

- LAYOUT. See subdivision Layout under special subjects, e.g. Factories; Foundries; Locomotive works; Machine shops; Machine works; Metal working plants; Petroleum refineries; Plating shops; Printing offices; Shipyards; Textile mills

LAYOUT models. See Models. Layout

LAYRITE concrete products company

Layrite Concrete Products holds open house for Northwest block men, architects, engineers. *Il Concrete* 66:7 Ag '58

LEACHING

Air agitation and pachuca tanks. A. G. W. Lamont. *bibliog* diags *Can J Chem Eng* 36:153-60 Ag '58

Bacterial leaching of manganese ores. E. C. Perkins and F. Novelli. *bibliog* *Il Min Cong J* 44:72-3 Ag '58

Electrolytic zinc's calcine leaching; Electrolytic zinc co. of Australasia. *ltd. plan Eng & Min J* 159:107-9 Mr '58

How bacteria leaches low-grade ores. S. Zimmerman. *diags Eng & Min J* 159:89-91 Je '58

Leaching of manganese from pyrolusite ore by pyrite. G. Thomas and B. J. P. Whalley. *bibliog* *Can J Chem Eng* 36:37-43 F '58

Solvent extraction and resin-in-pulp, favorites on the Colorado plateau; Western nuclear corp. and Vitro uranium co. *flow sheet* *Il Eng & Min J* 159:92-5 My '58

See also

Extraction processes

Hydrometallurgy

LEAD

Abundances of copper, zinc, and lead in some sulfide deposits. R. L. Stanton. *bibliog* diags *J Geol* 66:484-502 S '58

Anodic corrosion and hydrogen and oxygen overvoltage on lead and lead antimony alloys. P. Ruetschi and B. D. Cahan. *bibliog* diags *Electrochem Soc J* 104:406-13 JI '57; Discussion. 105:360-1; Reply. 361-3 Je '58

Anodization of lead and lead alloys in sulfuric acid. J. Burbank. *bibliog* *Il Electrochem Soc J* 104:693-701 D '57

Control of the properties of glazes by the aid of eutectics; alkali-alumina-silica and lead-alumina-silica systems separately and in combinations. A. S. Watts. *diags Am Cer Soc J* 41:249-53 JI 1 '58

Deformation of deoxyribonucleate; precipitation of heat-deformed DNA with millimolar lead ion. V. L. Stevens and E. L. Duggan. *bibliog* *Am Chem Soc J* 79:5703-6 N 5 '57

Disintegration of lead cathodes. L. W. Gastwirt and H. W. Salzberg. *bibliog* *Electrochem Soc J* 104:701-3 D '57

Experimental and theoretical pressures and velocity fields for various lead extrusions. E. G. Thomsen and J. Frisch. *bibliog* *Il diags A S M E Trans* 80:117-22; Discussion. 122-3 Ja '58

Fluoride complexes of zinc, copper and lead ions in aqueous solution. R. E. Connick and A. D. Paul. *bibliog* *Am Chem Soc J* 80:2069-71 My '58

Lead-acid storage batteries; changes in positive active material density during various conditions of service. J. F. Dittmann and J. F. Sams. *Il Electrochem Soc J* 105:553-5 O '58

Materials of construction for chemical engineering; lead and its alloys. E. J. Mul-larkey. *Il Ind & Eng Chem* 50:1449-54 *bibliog* (p 1453-4) pt 2 S '58

Properties of materials; lead and its alloys. Materials in Design Eng 48:104-5 Mid-O '58

Self-discharge reactions in lead-acid batteries. P. Ruetschi and R. T. Angstadt. *bibliog* diags *Electrochem Soc J* 105:555-63 O '58

Spectrophotometric study of the stability of lead(IV) in hydrochloric acid solutions. H. G. Heal and J. May. *Am Chem Soc J* 80:2374-7 My '58

See also

Glass-Lead content

Lead metallurgy

Steel-Lead content

Analysis

Determination of lead in polyvinyl chloride compositions containing lead stabilizers. S. Grossman and J. Haslam. *bibliog* *J Ap Chem* 7:639-44 N '57

Dithizone method for determination of lead in monazite. E. A. Powell and C. A. Kinsler. *bibliog* *Anal Chem* 30:1139-41 Je '58

Mass spectrometric determination of lead in manganese nodules. T. J. Chow and C. R. McKinney. *bibliog* diags *Anal Chem* 30:1499-503 S '58

Spectrochemical determination of lead in steel. L. C. Flickinger and others. *Anal Chem* 29:1778-9 D '57

Corrosion

Cathodic protection of lead cable sheath in the presence of alkali from deicing salts. W. H. Bruckner and W. W. Lichtenberger. *Il diags Corrosion* 14:19-24 Ap '58

Corrosion of lead by bromine and its prevention. M. R. Bloch and others. *Il J Ap Chem* 8:171-4 Mr '58

Corrosion of lead by dilute aqueous organic acids. E. L. Coles and others. *Il J Ap Chem* 8:341-3 My '58

Corrosion of lead sheath in manhole water. *Il map Corrosion* 14:45-7 F '58

Electrochemical properties of PbO₂ and the anodic corrosion of lead and lead alloys. P. Ruetschi and B. D. Cahan. *bibliog* *Il Electrochem Soc J* 105:369-77 JI '58

Isotopes

Formation of volatile compounds by Pb²¹² recoiling from alpha decay. J. Kay and F. S. Rowland. *Am Chem Soc J* 80:3165 Je 20 '58

Lead isotope composition of Peruvian galenas. J. L. Kulp and others. *bibliog* map *Econ Geol* 52:314-22 D '57

Metallography

Annealing twins in zone-refined lead and lead-silver alloys. G. F. Bolling and W. C. Winegard. *bibliog* *Il diags Inst Metals J* 86:492-6 JI '58

Prices

Lead producers seek tariff. *Electronics* 31:35 F 21 '58

LEAD, Powdered

Lead powder connects superconducting film. J. A. Kurtz. *Il Electronics* 31:92-4 JI 4 '58

LEAD acetate

Organic sulfides and polysulfides; reactions with doctor solution, silver nitrate, cupric acetate and lead acetate. Y. Minoura. *bibliog* *Rubber Chem & Tech* 31:618-20 JI '58

LEAD alloys

Anodic corrosion and hydrogen and oxygen overvoltage on lead and lead antimony alloys. P. Ruetschi and B. D. Cahan. *bibliog* diags *Electrochem Soc J* 104:406-13 JI '57; Discussion. 105:360-1; Reply. 361-3 Je '58

Anodization of lead and lead alloys in sulfuric acid. J. Burbank. *bibliog* *Il Electrochem Soc J* 104:693-701 D '57

Electrochemical properties of PbO₂ and the anodic corrosion of lead and lead alloys. P. Ruetschi and B. D. Cahan. *bibliog* *Il Electrochem Soc J* 105:369-77 JI '58

Lead-arsenic alloy increases battery life. Materials in Design Eng 47:163-4 My '58

Materials of construction for chemical engineering; lead and its alloys. E. J. Mullarkey. *Il Ind & Eng Chem* 50:1449-54 *bibliog* (p 1453-4) pt 2 S '58

Properties of materials; lead and its alloys. Materials in Design Eng 48:104-5 Mid-O '58

Properties of materials; lead-tin -antimony alloys. Materials in Design Eng 48:117-19 Mid-O '58

Redetermination of the liquidus of the system lead-magnesium in the range 0-3 weight percent magnesium. G. Forsley and J. T. Maskrey. *bibliog* *Il diags Inst Metals J* 86:446-8 Je '58

LEAD azides

Thermal decomposition of α -lead azide in air. G. Todd. *Il Chem & Ind* p 1005-6 Ag 9 '58

LEAD bromide

Transport numbers in pure fused salts; lead chloride, lead bromide, thallous chloride, and silver nitrate. R. W. Laity and F. R. Duke. *bibliog* *Electrochem Soc J* 105:97-9 F '58

LEAD carbonate

Basic lead carbonate, 2 PbCO₃.Pb(OH)₂; crystallographic data. G. Katz and R. Lefker. *bibliog* *Anal Chem* 29:1894 D '57

LEAD chloride

Transport numbers in pure fused salts; lead chloride, lead bromide, thallous chloride, and silver nitrate. R. W. Laity and F. R. Duke. *bibliog* *Electrochem Soc J* 105:97-9 F '58

LEAD clad steel

See Steel, Lead clad

LEAD compounds

Electrical conductivity of PbO-BaO₂ melts. W. C. Phelps, Jr. and R. E. Grace. *bibliog* *J Metals* 9:Trans 1447-8 N '57

Formation of volatile compounds by Pb²¹² recoiling from alpha decay. J. Kay and F. S. Rowland. *Am Chem Soc J* 80:3165 Je 20 '58

Lead compound semiconductors in rocket instrumentation. *Elec Manuf* 61:9-10 Je '58

Polarographic study of thiourea complexes of cadmium and lead in aqueous media. T. J. Lane and others. *Am Chem Soc J* 80:315-18 Ja 20 '58

See also

Tetraethyl lead

LEAD in the body

Analytical studies on lead in human urine. K. W. Nelson and R. E. Hamm. *bibliog* II A M A Archives Ind Health 17:38-44 Ja '58

Effect of edathamil calcium-disodium on retention of lead in the liver. J. Teisinger and others. *diag* A M A Archives Ind Health 17:302-6 Ap '58

Effect of edathamil calcium-disodium on the lead content of red blood cells and blood proteins. J. Teisinger and others. *bibliog* II A M A Archives Ind Health 17:295-301 Ap '58

LEAD industry and trade

Import problem can be solved. A. Fletcher. *Eng & Min J* 158:86-8 N '57

Lead. 1957. R. L. Ziegfeld. *Eng & Min J* 159:133-5 F '58

Lead-zinc quotas blasted. *Chem & Eng N* 36:19-21 O 13 '58

Pb-Zn imports cut back. *Chem & Eng N* 36:54 O 6 '58

Trying year for lead and zinc. 1957. C. E. Schwab. II *Min Cong J* 44:80+ F '58

LEAD lining

Lead lining stops flue gas corrosion: Consolidated mining & smelting co. of Canada sinter gas handling facilities. II *Eng & Min J* 159:104 Je '58

Use lead to control refinery corrosion. E. J. Mullarkey. *bibliog* II *Pet Refiner* 37:201-6 Ap '58

LEAD metallurgy

Re-grind practice at Canadian exploration limited. H. A. Steane. *flow sheets* *Can Min & Met Bul* 51:215-18 Ap '58

Vacuum dezinching of Parkes' process zinc crusts. V. F. Leferrer. II *diag J Metals* 9: Trans 1459-60 N '57

LEAD mines and mining**Missouri**

How St Joe uses mining research. J. J. Reed and others. *bibliog* *diags* *Eng & Min J* 159:35-7 My '58

Sardinia

How Montevecchio cut haulage costs. II *Eng & Min J* 158:105-6 D '57

LEAD nitrate

Radiation induced decomposition of lead nitrate. E. R. Johnson. *Am Chem Soc J* 80:4460-2 S 5 '58

LEAD ores

Factors controlling the localization of ore deposits in the Shullsburg area. Wisconsin-Illinois zinc-lead district. R. R. Reynolds. *bibliog* *maps* *diags* *Econ Geol* 53:141-63 Mr '58

See also**Galena****LEAD oxides**

Color and light scattering of platinum in some lead glasses. R. J. Ryder and G. E. Rindone. *bibliog* II *Am Cer Soc J* 41:415-23 O 1 '58

Electrochemical properties of PbO₂ and the anodic corrosion of lead and lead alloys. P. Rüetschi and B. D. Cahan. *bibliog* II *Electrochem Soc J* 105:369-77 J1 '58

Electrolytic production of sodium perchlorate using lead dioxide anodes. J. C. Schumacher and others. *bibliog* II *Electrochem Soc J* 105:151-5 Mr '58

Lead dioxide anode for commercial use. J. C. Grigger and others. *bibliog* II *Electrochem Soc J* 105:100-2 F '58

Lead oxide-lead sulfate and lead oxide-lead selenate systems. R. O. Jones and S. Rothschild. *bibliog* *Electrochem Soc J* 105:206-9 Ap '58

Low temperature heat capacities and entropies at 298.15° K. of lead sesquioxide and red and yellow lead monoxide. E. G. King. *Am Chem Soc J* 80:2400-1 My 20 '58

Volatility studies of lead silicate melts. R. L. Hallise and R. L. Cook. *bibliog* *diag* *Am Cer Soc J* 41:331-6 S 1 '58

LEAD pigment. See Pigments**LEAD pipes. See Pipes, Lead****LEAD plating**

Thickness of lead deposits; measurement by means of beta rays. G. Gabrielson and K. Ljunggren. *diag* *Metal Finishing* 56:52-3 F '58

LEAD poisoning

Oral administration of edathamil calcium disodium (calcium disodium versenate). L. D. Fagnotto and others. *bibliog* A M A Archives Ind Health 17:29-33 Ja '58

LEAD screws. See Leadscrews**LEAD selenate**

Lead oxide-lead sulfate and lead oxide-lead selenate systems. R. O. Jones and S. Rothschild. *bibliog* *Electrochem Soc J* 105:206-9 Ap '58

LEAD silicates

Spectra of simple glasses in the infrared range and their relations to the structure of glass; lead glasses; tr. by W. Eitel. V. A. Florinskaya and R. S. Pechenkina. *Glass* Ind 39:38-6 F '58

Volatility studies of lead silicate melts. R. L. Hallise and R. L. Cook. *bibliog* *diag* *Am Cer Soc J* 41:331-6 S 1 '58

LEAD soaps. See Soap, Metallic**LEAD sulfate**

Lead oxide-lead sulfate and lead oxide-lead selenate systems. R. O. Jones and S. Rothschild. *bibliog* *Electrochem Soc J* 105:206-9 Ap '58

LEAD sulfide**See also****Galena****LEAD tetraacetate**

Lead tetraacetate oxidation of *cis*- and *trans*-9,10-dihydro-9,10-phenanthrenediols: a kinetic study. E. J. Moriconi and others. *bibliog* *diags* *Am Chem Soc J* 80:656-61 F 5 '58

Organic disulfides and related substances: oxidation of thiols to disulfides with lead tetraacetate. L. Field and J. E. Lawson. *bibliog* *Am Chem Soc J* 80:838-41 F 20 '58

Oxidations with lead tetra-acetate; abstract. Criegee. *Ind Chem* 34:399 J1 '58

LEAD tetraethyl. See Tetraethyl lead**LEAD titanate**

Growing of ferroelectric PbTiO₃ crystals. J. Kobayashi. *bibliog* II *J Ap Phys* 29:866-7 My '58

LEADERSHIP

How to run an effective meeting. W. L. Knighten. *Chem Eng* 65:157-8 Ja 27 '58

Organizing for productivity. *Machine Design* 30:28-30 Ap 3 '58

Rate yourself as a conference leader. R. D. Stevens. *Pet Refiner* 37:244+ Je '58

LEADSCREWS

Correcting lead screws. *Engineering* 184:537 O 25 '57

Lap for lead screws. H. J. Gerber. *diags* *Tool Eng* 40:84 Ap '58

LEAK detectors

Automatic testing for leaks in cylinder blocks. H. Chase. II *diag* *Automotive Ind* 117:68-9 O 15 '57

Detector warns of pipeline leaks. W. H. Clancy. *diags* I S A J 5:60 Ap '58

Distribution system leakage. E. E. Bolts, jr. *Water & Sewage Works* 105:104-6 Mr '58

Fabricating a vacuum test chamber; how to check welded seams for leaks. *diag* *Welding Eng* 43:62 My '58

Fog applicator finds air leaks in boilers. *Elec World* 149:97 Mr 3 '58

How to find leaks in a central hydraulic system. II *diag* *Ap Hydraulics* 11:84-5 F '58

How to find leaks quickly. II *Power* 102:130 J1 '58

How to find microscope leaks in process equipment. P. Winter and others. II *Ind & Eng Chem* 50:supe3A-6A My '58

Infrared finds leaks. *Chem & Eng N* 35:70+ N 11 '57

Infrared pinpoint pinhole leaks. II *Product Eng* 29:23 F 24 '58

Leak abatement techniques at St Louis. C. F. Buettner. *Am Water Works Assn J* 50:507-9; Discussion. T. J. Skinner. 509-10 Ap '58

Leak prevention through in-process leak detection; fluorescent penetrants and fluorescent additives. R. P. Turner. II *Welding J* 36:1167-71 D '57

Locate tube leaks with unit operating; Virginia electric & power co. D. M. Tatem. II *Elec World* 149:102 Je 23 '58

Methods for detecting and locating leaks in buried condensate return lines; abstract. S. F. Whirl. *Air Cond Heat & Ven* 55:79 J1 '58

Purple dye locates disastrous leaks. II *Chem Eng* 64:168+ D '57

Pushmobile leak detector devised by BU. II *Gas Age* 122:13-14 Ag 7 '58

Testing boilers for leaks. II *Engineer* 205:71 Ja 10 '58

Testing for leaks in air suspension systems. II *Automotive Ind* 118:72 My 15 '58

Thermal conductivity leak detector. C. C. Minter. *diags* *R Sci Instr* 29:793-4 S '58

LEAK detectors—Continued

Tracers in cement help find water leaks in wells. D. H. Stormont. *il* *diags* Oil & Gas J 55:163+ N 11 '57

See also
Gas detectors

LEAKAGE of gas. *See* Gas leakage

LEARNING, Psychology of

How to invent. F. E. Gilmore. *Pet Refiner* 37:187-9+ Ag; 396-400; 196-8+ O '58 (to be cont)

Repetition and learning. I. Rock. *Sci Am* 199: 68-70+ Ag '58

See also
Transfer of training

LEARNING curves

Learning curves; key to better labor estimates. M. S. Tittleman. *Product Eng* 28:36-8 N 18 '57

LEASE automatic custody transfer. *See* Petroleum—Measurement

LEASES

See also
Building—Construction-leasing

LEASING

See also
Lighting fixtures—Leasing
Machinery—Leasing

LEASING of equipment

Get the most calories from your working dollars. D. L. Salinger. *Food Eng* 29:57-9 N '57
Leasing of motor equipment. J. J. Carrell. *Pub Works* 89:94-6+ JI '58

Need new equipment? maybe you should lease it. C. C. Kane. *Mod Metals* 14:28+ My '58

LEAST squares

Application of statistics to the analysis of production decline data; combining principle of least squares with theory of equations. A. T. Chatas and W. W. Yankee, Jr. *bibliog* J *Pet Tech* 10:52-4 Ag '58
Applications of least squares methods. J. B. Oppell and B. H. Sage. *bibliog Ind & Eng Chem* 50:303-6 My '58

Centroids, vectors, and least squares. S. I. Askovitz. *bibliog diags Am J Phys* 26:164-8 Mr '58

Least squares. C. H. Chou. *bibliog Ind & Eng Chem* 50:799-302 My '58

Linear least-squares smoothing and prediction, with applications. S. Darlington. *bibliog diags Bell System Tech J* 37:1221-94 S '58

Punger lift method of oil production; principles of operation and least squares equations. C. M. Beeson and others. *diags Pet Eng* 30:B96+ Je '58

Short methods in adjustment of observations. M. V. Smirnov and P. E. Wylie. *diags Am Soc C E Proc* 84 [ISU 1 no 1596]:1-8 Ap '58

LEATHER

See also
Tanning

LEATHER chemists societies. International union of. *See* International union of leather chemists societies

LEAVES

Inhibition of pectinolytic and cellulolytic enzymes in cucumber fermentations by scuppernong grape leaves. J. L. Eitchells and others. *bibliog Food Tech* 12:204-8 My '58

Occurrence of humic acid in leaves. H. Raudnitz. *Chem & Ind* p 1650-1 D 21 '57

Occurrence of 2-O-methyl-L-fucose as a constituent of plum leaf polysaccharides. J. D. Anderson and others. *bibliog Chem & Ind* p 1453 N 2 '57

Oxygen demand of leaves in water. E. S. Chase and A. F. Ferullo. *Water & Sewage Works* 105:204-5 My '58

LEBANON

See also
Building—Lebanon

LECITHIN

Lecithin in oil-in-water emulsions. D. A. Yeaton and others. *bibliog Am Oil Chem Soc J* 35:435-8 Ag '58; *Abstract. Drug & Cosmetic Ind* 83:357 S '58

Lecithin; versatile cosmetic ingredient. L. C. Woods. *il Am Perfumer & Aromatics* 71:23-5 My '58

LEDOL

Structure of ledol. L. Dolejš and others. *bibliog Chem & Ind* p494-5 Ap 26 '58

LEE, Tsung Dao

Nobel prizes. *Sci Am* 197:59-60 D '57
Nobel prizes to Todd, Lee, and Yang. *por Chem & Eng N* 35:114 N 11 '57

LEEDSKALNIN, Ed

Projects of Florida builder baffle engineers. C. Lake. *por Civil Eng* 28:290 Ap '58

LEGUMES

See also
Clover
Indigofera

LEHIGH university

College gets I-T-E analyzer. *il Elec World* 149: 104 My 19 '58

LEIPZIG fair. *See* Machinery—Exhibitions

LEISURE

See also
Retirement

LEMOLS. *See* Resinous products

LEMONS

Field persistence comparisons of residues of the insecticide, diazinon, in lemons and Valencia oranges and effects on juice flavor. F. A. Gunther and others. *bibliog J Agri & Food Chem* 6:521-3 JI '58

Flavonoids of citrus; isolation of a new flavonol from lemons. R. M. Horowitz. *Am Chem Soc J* 79:6561-2 D 20 '57

Persistence of residues of 2,3-p-dioxanedithiol S,S-bis(O,O-diethyl phosphorodithioate) as an acaricide on and in mature lemons and oranges. F. A. Gunther and others. *J Agri & Food Chem* 6:210-11 Mr '58

Sizes 3,800 lemons a minute. M. Johnson, Jr. *il Food Eng* 30:101 Je '58

LENGTH, Standards of. *See* Standards of length

LENGTH measurement

Decimal and millimeter equivalents of parts of an inch; data sheet. F. Koenig. *comp. Mach* 64:223 Mr '58

Hommel precision length-measuring machine. *il Engineering* 185:229 F 21 '58

Pneumatic method of measuring cotton fiber staple length. H. M. Brown. *diag Textile Res J* 28:516-20 Je '58

Use of dial gauges in calculating the results of fibrograph length tests. J. T. Rouse. *il Textile Res J* 28:505-10 Je '58

LENGTH of life. *See* Longevity

LENSES

Amateur scientist; refracting telescope in which the main lens consists of one piece of glass. C. L. Stong. *diags Sci Am* 198: 130+ My '58

Electron optical action of an annular aperture lens. L. A. Harris. *diags Inst Radio Eng Proc* 46:1655-6 S '58

General solution of the Luneberg lens problem. S. P. Morgan. *bibliog diags J Ap Phys* 29:358-63 S '58

Method of making ophthalmic lens; patent. *Glass Ind* 39:221 Ap '58

New series of lenses for vidicon-type cameras. J. D. Hayes. *il diags SMPTE J* 67: 593-5 S '58

Vidicon camera lenses. G. H. Cook. *diags SMPTE J* 67:596-3 S '58

Zoom lenses for closed circuit television. F. G. Back. *bibliog SMPTE J* 67:598-9; Discussion. 599-600 S '58

See also
Astigmatism (lenses)
Glass, Optical
Magnifiers

Standards

Focal lengths and markings of 35mm motion-picture projection lenses; American standard. *SMPTE J* 67:409 Je '58 (reprints 25c)

Testing

Marginal performance of corrected ophthalmic lenses. F. E. Washer and W. R. Darling. *il diags J Res Nat Bur Stand* 60:551-62 Je '58

LENSES, Contact

No more specs. *Ind Med* 27:457 S '58

LENSES, Photographic

Directory of ultra-long lenses for missile or Sputnik tracking. *Ind Phot* 7:64-5, 80 F '58
Erealite Pro-Zoom; fastest, 8mm zoom lens. *il Mod Phot* 22:104 Mr '58

For the intimate approach; hand hold a long lens. P. Caulfield. *il Mod Phot* 22:56-8 F '58

How about a wide-angle or telephoto lens for your Polaroid Land camera? J. Wolbarst. *Mod Phot* 22:126 Je '58

How to choose the right lens for each shot. G. Winogrand. *il Mod Phot* 22:62-7 Ap '58

New lens type. G. Ashton. *Ind Phot* 7:28+ Ag '58

Special lenses for movies. D. B. Elsendrath, Jr. *Ind Phot* 7:62+ Mr '58

35mm camera lenses. G. H. Cook. *diags SMPTE J* 67:534-6 Ag '58

- LENSES, Photographic—Continued**
Which lens is best? four or five element, f/2.8 or 3.5, diags Mod Phot 22:84 My '58
Which long lenses are available to fit your camera? check this list. Mod Phot 22:60 F '58
Your first accessory lens: telephoto or wide-angle? Mod Phot 22:36 Je '58
Your normal lens: can you make wide angle shots? D. Jackson. II Mod Phot 22:54-5 Je '58
Your normal lens: use it for tele pictures. H. Keppler. II Mod Phot 22:52-3 Je '58
- LENSES, Plastic**
Plastics lenses. L. D. Bronson. II Mod Plastics 35:118-21+ D '57
- Testing**
- Measuring the abrasion resistance of plastic lenses for sunglasses. P. M. Kamath and H. O. Buzzell. II diags Plastics Tech 4: 132-64 F '58
- LEPTOMITUS taectus**
Slime infection, literature review: sphaerotilus, leptomitosis. M. E. Harrison and H. Heukelekian. Sewage & Ind Wastes 30:1278-302 bibliog (p 1299-302) O '58
- LEPTOSPIROSIS**
Some epidemiological aspects of leptospirosis; abstract. M. M. Galton and R. W. Menges. Am J Pub Health 48:789 Je '58
- LETTERS, Business.** See Commercial correspondence
- LETTUCE**
Demeton residues in collards, lettuce, and mustard. C. H. Van Middelme and R. E. Waites. bibliog J Agri & Food Chem 6:594-7 Ag '58
- LEUCINE**
See also
Isoleucine
- LEUCITE nepheline dolerite.** See Basalt
- LEUCKART reduction.** See Reduction, Chemical
- LEUCOANTHOCYANIDINS**
Naturally-occurring isomer of the leucoanthocyanidin peltogynol. W. G. C. Forsyth and others. Chem & Ind p556-7 My 31 '58
- LEUCOCYANIDIN**
Cacao leucocyanidin. W. G. C. Forsyth and J. B. Roberts. Chem & Ind p755 Je 21 '58
- LEUCOXENE**
Is leucocene always finely crystalline rutile? V. T. Allen. bibliog Econ Geol 51:830-3 D '56; Reply. S. W. Bailey and E. N. Cameron. 52:716-20 S '57
- LEUKEMIA**
Anti-leukemia drugs; abstract. A. Goldin. Drug & Cosmetic Ind 82:519 Ap '58
- LEVEL control, Liquid.** See Liquid level control
- LEVEL indicators**
Blaw Knox double-diaphragm level indicator. II Engineer 206:106 JI 18 '58
Capacity-operated level controller; Tektor Major. II Engineering 185:228 F 21 '58
Fielden capacitance-operated level controller. II Engineer 205:256-7 F 14 '58
Level indicator for silos. II Engineering 186: 384 S 19 '58
- LEVEL indicators, Liquid.** See Liquid level indicators
- LEVELS**
Device for levelling bored parts. W. M. Hallday. diags Mach 65:150-1 O '58
Truck sets its own dock height; automatic dock ramp levelling device. II Textile Ind 122:89 JI '58
- LEVER brothers company**
Career opportunities. II Chem & Eng N 36: 40 pt 2 Ja 27 '58
- LEVERS**
How to avoid bent vibrator levers. diags Mod Textiles Mag 39:50+ Mr '58
Lever problem in machine design. W. W. Johnson. diags Mach 64:178 F '58
13 handy lever mechanisms; drawings with text. F. Strasser. diags Product Eng 29:98-9 S 15 '58
- LEVITATION melting.** See Electrometallurgy
- LEVITTOWN, New Jersey**
Levittown III; schools are on the bulider. Eng N 160:28 Je 12 '58
- LEVOPIMARIC acid**
Air oxidation of resin acids; photo-sensitized oxidation of levopimaric acid. R. N. Moore and R. V. Lawrence. bibliog Am Chem Soc J 80:1438-40 Mr 20 '58
Preparation and some of the properties of trans-6,14-dihydrolevopimaric acid-6,14-endo- α ,8-succinic acid. N. J. Halbrook and R. V. Lawrence. bibliog Am Chem Soc J 80: 368-70 Ja 20 '58
- LEWIS, Warren K.**
A.P. honors Lewis. por Oil & Gas J 56:70 O '28 '57
- LEWIS acids.** See Acids
- LEXAN.** See Resinous products
- LIABILITY**
See also
Damages
- LIBBY, Willard F.**
Gibbs award honors atomic pioneer. por Chem & Eng N 36:110 Je 9 '58
- LIBERAL education**
Future of science and the liberal arts. G. W. Giddings. Gen Elec R 61:13-15 JI '58
Liberal arts and the space age; editorial. F. H. Driggs. J Metals 10:563-4 S '58
- LIBRARIES**
See also
Books—Conservation and restoration
College libraries
- LIBRARIES, Special**
See also
Engineering libraries
- LIBRARIES, Technical.** See Technical libraries
- LIBRARY buildings**
Main library, Palo Alto, Calif. II plan Arch Rec 123:194-5 F '58
Palo Alto's Mitchell park branch library. II plan Arch Rec 123:192-3 F '58
University of South Carolina library. II plan Arch Rec 123:190-1 F '58
- Lighting**
- Built-in raceway for book stack lighting; Morris Raphael Cohen library of City college of New York. II diags Elec Constr & Maint 57:76-9 F '57
Contemporary methods relight a nineteenth-century library; Stratford, Conn. public library. R. W. Benjamin and J. Barney. II diags Illum Eng 52:616-13 D '57
Lighting a library; Highland Park library; data sheet. D. Davis and M. McCreight. II Illum Eng 53:31 Ja '58
Luminous ceiling lights modern library and enhances architectural design; West End library at Hamilton, Ont. II diags Elec Constr & Maint 57:92-3 Ja '58
- LIBYA**
See also
Petroleum—Libya
Petroleum industry and trade—Libya
- LICENSE plates.** See Automobiles—License plates
- LICENSES**
See also
Architects—Registration
Automobile drivers—Licenses
Engineers—Registration
- LIENS**
See also
Mechanics lien
- LIESEGANG rings**
Studies of periodic formations. A. C. Chat-terji and H. Bhagwan. bibliog II J Colloid Sci 13:232-41 Je '58
- LIFE (biology)**
Survival is not enough. H. S. Forest. bibliog Am Scientist 46:51-6 Mr '58
- LIFE saving**
See also
Mine rescue work
- LIFEBOATS**
Polyester/glass lifeboats for S.S. Oriana. II diag Brit Plastics 31:415 O '58
- LIFT bridges.** See Bridges, Lift
- LIFT trucks.** See Electric trucks, Industrial; Motor trucks, Industrial
- LIFTING**
See also
Hoisting
- LIFTING magnets**
Magnetic handling devices. L. R. Moskowitz and A. F. Israelson. II diags Automation 5:43-61 Ja '58
Magnets help lift heavy pipe. II Oil & Gas J 58:119 Ar 18 '58
- LIFTS.** See Elevators
- LIGHT**
Emission of light from electric discharges of microsecond durations in gases at atmospheric pressure. D. P. C. Thackeray. bibliog II J Sci Instr 35:208-12 Je '58
How do we see? vision research improves design of lighting systems; panel discussion. II Plant Eng 12:109-10 Ag '58
Light as an architectural material. A. H. Feder. II Prog Arch 39:124-31 S '58
Light modulator records airborne radar displays using an ultrasonic cell. L. Levli. II diags Electronics 31:80-3 Ag 1 '58

LIGHT—Continued

Measurement and specification of color rendition properties of light sources. D. Nickerson. *bibliog Illum Eng* 53:77-86; Discussion. 87-9; Reply. 89-90 F '58

Millimicrosecond photomultiplier tests with oscilloscope light pulses. J. E. Draper. *R Sci Instr* 29:179-80 F '58

Observation of domains in the ferrimagnetic garnets by transmitted light. J. F. Dillon, Jr. *bibliog J Appl Phys* 29:1286-91 S '58

Transparent ferromagnetic light modulator using yttrium iron garnet. C. S. Porter and others. *J Appl Phys* 29:495-6 Mr '58

See also

Aberration (optics)
Absorption of rays
Astigmatism (lenses)
Brightness
Color
Daylight
Diffraction
Dispersion of rays
Glare
Infrared rays
Interference (light)
Lighting
Photochemistry
Photoelasticity
Photoelectric effect
Photometry
Phototropy
Polarization (light)
Radiation
Reflection (optics)
Spectrum analysis
Ultraviolet rays

Absorption

See Absorption of rays

Velocity

Leybold apparatus for measuring the velocity of light by means of a rotating mirror. E. D. Thompson. *J Appl Phys* 26:44-5 Ja '58; Discussion. M. N. Mainardi. 26:504 O '58

Universal standard of time and the velocity of light. R. Gerharz. *bibliog Inst Radio Eng Proc* 45:1549-50 N '57

LIGHT, Colored

Mixed red, white light makes all other colors. R. C. Toth. *Illum Eng* 53:sup 18A Ja '58

Trends in lighting equipment design; color in lighting. B. C. Cooper. *diags Elec Constr & Maint* 57:89 O '58

Year-round business of Christmas lamps. G. F. Prideaux. *J Gen Elec R* 60:24-7 N '57

LIGHT, Scattering of

Construction and testing of a universal light scattering apparatus for the investigation of macromolecules in solution. W. J. Hughes and P. Johnson. *bibliog diags J Sci Instr* 35: 157-9 My '58

Dispersion of starch granules and the validity of light scattering results on amylopectin. S. R. Erlander and D. French. *bibliog J Am Chem Soc* J 80:4413-20 Ag '58

Experimental investigations on the light scattering of colloidal spheres. R. M. Tabibian and W. Heller. *bibliog diags J Colloid Sci* 13:6-23 F '58

How far out? light scattering gives more definite idea of range of molecular forces. *Chem & Eng N* 36:37-8 Ag '58

Light-scattering studies on aqueous aluminum nitrate solutions. J. K. Ruff and S. Y. Tyree. *bibliog Am Chem Soc J* 80: 1523-6 Ap '58

Molecular weight of the phosphotungstic acids by light scattering. M. Kerker and others. *bibliog diags Am Chem Soc J* 80: 1539-42 Ap '58

LIGHT airplanes. See Airplanes, Light**LIGHT amplifiers**

Hysteresis effect in cadmium selenide and its use in a solid-state image storage device. F. H. Nicoll. *J Appl Phys* 29:77-85 Mr '58

More uses for Cat Eye; three moons of Jupiter photographed by electronic amplifier. *J Electronics* 31:14-4 Ag 15 '58

New night vision device sees by reflected starlight. *Machine Design* 30:8 Ag 21 '58

Night vision unit uses starlight; cascaded photosensitive image intensifier. *Electronics* 31:92 S 26 '58

Solid-state amplifying fluorescent screen. B. Kazan. *bibliog J Appl Phys* 29:19-34 Mr '58

LIGHT filters

Anti-reflection coatings for indium antimonide and other semi-conductor filters. S. D. Smith and T. S. Moss. *J Sci Instr* 35:105-6 Mr '58

Automatic spectrometer using interference filters. E. Rohner and M. S. O. Strutt. *bibliog diags R Sci Instr* 28:1074-8 D '57

Choose the right filter for color. *Mod Phot* 22:61 Ag '58

Dissatisfied with your color film results? try exposure control and correction filters. M. A. Matzkin. *Mod Phot* 22:100 S '58

Glass filters for color printing. R. L. White and R. C. Lovick. *diags SMPTE J* 67:29-31 Ja '58

Heat-reflecting filters in carbon-arc projection systems. R. Fischer and M. Ploke. *diags SMPTE J* 67:502-4 J '58

Improved uv filter for isolation of the 2537-A line of a mercury low-pressure lamp. R. H. McFarland and others. *R Sci Instr* 29:738-9 Ag '58

Indium antimonide infrared filter. J. M. Powell and S. W. Kurnick. *J Appl Phys* 29:1129-30 J '58

Modern's 1958 black-and-white filter guide. N. Rothschild. *Mod Phot* 22:78-9 S '58

Narrow-band optical filter to isolate the 4245 Å spectral region. R. P. Thorne and R. F. Warren. *diags J Sci Instr* 35:186 My '58

Tunable infrared interference filter. S. D. Smith and O. S. Heavens. *diags J Sci Instr* 34:492-6 D '57

LIGHT projection

Floodlighting a sign; lighting data sheet. G. C. Linthicum and G. T. Anderson, Jr. *J Illum Eng* 53:289 My '58

Floodlighting accents beauty of monument and fountains. *J Illum Eng* 53:289-90 My '58

Floodlighting Niagara falls; abstract. W. A. Dalrymple and C. A. Albini. *J Illum Eng* 53:503-4 S '58

Floodlights for the falling waters of Niagara. T. G. Proctor and H. Stephenson. *J Illum Eng* 53:503-4 S '58

How to estimate floodlighting requirements; data sheet. *diags Elec Constr & Maint* 57:160-2 J '58

Illuminated fountain; New York's international airport. *J Illum Eng* 53:289-90 My '58

Internal reflector projection lamps; abstract. J. M. Harris. *Illum Eng* 53:483 S '58

Light curtain safeguards pressmen. *J Illum Eng* 53:483 S '58

Lighting for landscaping; Helsinki's restaurant. *J Illum Eng* 53:286 My '58

Lighting of parking lots at shopping centers. W. Harrison. *J Illum Eng* 53:483 S '58

New reflective surface improves efficiency of lighting system. *Elec Manuf* 62:130-4 Ag '58

Outdoor applications of new reflector contour designs for higher output fluorescent lamps; abstract. S. C. Peek and J. P. Keenan. *J Illum Eng* 53:502-3 S '58

Relighting the Washington monument. J. S. Haney. *J Illum Eng* 53:433-6 Ag '58

Trends in lighting equipment design; outdoor lighting. B. C. Cooper. *J Elec Constr & Maint* 57:91 O '58

See also

Airports—Lighting
Buildings—Exterior lighting

LIGHT ships. See Lightships**LIGHT signals**

Control panel speeds foreman too. *J Illum Eng* 53:311-17 Je '58

Fifty years of signal lighting. F. C. Breckenridge. *Illum Eng* 53:311-17 Je '58

*See also***Searchlights****LIGHTING**

Acoustics and lighting. G. W. Clark. *diags Illum Eng* 53:93-9; Discussion. 99-102; Reply. 102 F '58

Better light, better sight bureau's three-pronged drive. *J Elec World* 149:87 F 24 '58

Better lighting needed; Illuminating engineering society's lighting handbook. *Eng N* 160:115 Je 19 '58

Commercial markers using radioactive gases; abstract. C. W. Wallhausen. *Metal Prog* 73:202-4 Je '58

Cross hatched effect of interior lighting adds interest to exterior; Warren petroleum corp. building. *J Illum Eng* 53:444 Ag '58

LIGHTING—Continued

- Device determines lighting requirements. H. R. Blackwell. Elec Eng 77:654-5 J1 '58
- Electroluminescence: a progress report. II diag. Machine Design 30:10+ Je 26 '58
- Electroluminescence in action; how to light up porcelain enamel and glass. A. V. J. Martin. II diag. Cer Ind 71:73-5 Ag '58
- Fundamental aspects of lighting. H. L. Logan. II diag. Elec Eng 77:36-41 Ja '58
- High frequency lighting with only one moving part. S. Krasnow. II diag. Plant Eng 12: 96-8 O '58
- Is lighting architecture? panel discussion. Prog Arch 39:178-80 S '58
- Lighting factors to be considered in textile color matching. W. B. Reese. bibliog II diag. Am Dyestuff Rep 47:49-56 Ja 27 '58
- Lighting progress in 1956-1957. II diag. Illum Eng 53:1-21 Ja '58
- Lighting; utilities look again to their birthright; survey report. T. R. Jordan. Elec World 150:61-6 J1 21 '58
- New basis for footcandle requirements; symposium. Dearborn, Mich. March 3-4. Illum Eng 53:sup9A-13A+ Ap '58
- Prize winning solutions to lighting problems. II Illum Eng 53:53-8 F '58
- Recommendations for quality and quantity of illumination. Illum Eng 53:422-4 Ag '58
- Research and engineering progress, 1957. II Gen Elec R 61:27-9 Ja '58
- Trends in lighting equipment design; industrial lighting. E. C. Cooper. II diag. Elec Constr & Maint 57:90 O '58
- What is electroluminescence? bonanza for porcelain enamel and glass. A. V. J. Martin. II diag. Cer Ind 71:70-2 Ag '58

See also

- Christmas lighting
- Daylight
- Electric lamps
- Gas lighting
- Glare
- House lighting
- Light projection
- Office lighting
- Photometry
- Searchlights
- Stage lighting
- Street lighting
- Tunnel lighting
- also subdivision Lighting under special subjects, e.g.
- Airplane factories
- Airplanes
- Airport buildings
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- Amphitheaters
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- Bank buildings
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- Bowling alleys
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- Insurance company buildings
- Kitchens
- Library buildings
- Lunchrooms and cafeterias, Employees
- Machine shops
- Moving picture studios
- Moving picture theaters
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- Paper and pulp mills
- Petroleum refineries
- Photography
- Post offices
- Printing offices
- Reception rooms
- Restaurants
- Roads
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- Shopping centers
- Shuffleboard courts
- Steam plants
- Store buildings
- Supermarkets
- Swimming pools
- Television studios
- Textile mills
- Theaters
- Tunnel approaches
- Warehouses
- Washington monument

Competitions

- My most interesting lighting job; Illuminating engineering society contest winners. II Illum Eng 52:551-67 N '57

Control

- Capacitors for discharge-lighting control circuits. J. P. Pitts. bibliog Inst E E Proc 105 pt A:441-4 Ag '58
- High-voltage lighting features low-voltage control at Virginia's new state office building. II diag. Elec Constr & Maint 57:92-5 Mr '58
- Recommended light characteristics of polystyrene used in illumination. diag Illum Eng 53:284-6 My '58

Design

- See Lighting engineering

Exhibitions

- National lighting exposition, 1st. New York, March 9-12. Illum Eng 53:sup9A My '58

Flicker

- Lighting flicker caused by electric arc furnaces. W. E. Schwabe. II diag. Iron & Steel Eng 35:93-9; Discussion. 99-100 Ag '58

Maintenance and repair

- See Lighting fixtures—Maintenance and repair

Specifications

- Electrical specifications. diag. Elec Constr & Maint 57:109-16 My '58

Standards

- Setting standards for levels of illumination. W. J. McGuinness. Prog Arch 39:9 S '58

Tables, calculations, etc.

- Analysis of light distributions from linear source street luminaires. E. G. McPhail. diag. Illum Eng 53:193-7; Discussion. 197-202 Ap '58
- Approximations and the interreflection method. D. E. Spencer. bibliog Illum Eng 53:243-9; Discussion. 249-51 My '58
- Calculation of utilization coefficients for indoor luminaires by computers. P. A. Zaphyr and G. A. Horton. bibliog Illum Eng 53: 236-40 My '58
- Computation of the effective intensity of flashing lights. C. A. Douglas. bibliog Illum Eng 53:641-6 D '57
- Effective intensity of flashing lights. T. H. Projector. bibliog Illum Eng 52:630-40 D '57
- Hazards and pitfalls in footcandle calculations. E. Balogh. Illum Eng 53:217-19 Ap '58
- How much does lighting decrease? footcandle readings taken at various fluorescent lighting installations. Illum Eng 53:216 Ap '58
- How to estimate floodlighting requirements; data sheet. diag. Elec Constr & Maint 57:160-2 J1 '58
- New footcandle tables. Illum Eng 53:425-32 Ag '58
- Photometer for measurement of effective intensity of condenser-discharge lights. C. A. Douglas. diag Illum Eng 53:205-8 Ap '58
- Predetermination of luminances by finite difference equation; abstract. P. F. O'Brien and J. A. Howard. diag Illum Eng 53:469-70 S '58
- Versatile method of calculating illumination and brightness; abstract. B. F. Jones and J. R. Jones. Illum Eng 53:487-8 S '58

LIGHTING, Architectural

- Architectural design answers lighting questions; W. A. Alexander memorial coliseum at Georgia Tech. C. F. Howe. II diag. Illum Eng 53:72-4 F '58
- Architecture for day and night; De Bijenkorf department store, Rotterdam. II plans Arch Rec 122:167-74, cover N '57
- Custom lighting with standard equipment. II diag. Arch Rec 124:197-201+ Ar '58
- Harmony of architecture and lighting at St Louis air terminal building. II Illum Eng 52:552-5 N '57
- Lighting: a basis for design. D. Phillips. II Arch Rec 123:187-94 Ap '58
- Lighting is architecture. II plans diag. Prog Arch 39:115-80 S '58
- Panels which polarize light. II diag. Arch Forum 109:136-8 S '58
- Wall lighting for hallways; lighting data sheet. R. Patterson. II diag Illum Eng 53: 241-2 My '58
- LIGHTING, Decorative**
- Floodlighting accents beauty of monument and fountains. II plan diag. Elec Constr & Maint 57:90-1 Ja '58

LIGHTING, Decorative—Continued

Lighting glass shelves; data sheet, R. Rutter; A. Page, *il diags Illum Eng* 53:59-60 F '58

Techniques for lighting fireplace walls; lighting data sheet, B. Waggener and others, *il diags Illum Eng* 52:585-8 N '57

Transilluminated curtains; lighting data sheet, R. Patterson, *il diags Illum Eng* 53:209-10 Ap '58

See also

Christmas lighting
Fountains—Lighting
Light, Colored

LIGHTING, Industrial

High bay industrial lighting; data sheet, R. W. Renkel, *il Illum Eng* 53:47 Ja '58

High-level lighting for manufacturing; Erickson tool co. *il Elec Constr & Maint* 57:98+ J '58

How do we see? vision research improves design of lighting systems; panel discussion, *il Plant Eng* 12:109-10 Ag '58

Low cost high-bay lighting solution, D. N. Schneider, *il diags Plant Eng* 12:107-8 Mr '58

Mercury and fluorescent team-up for industry; abstract, M. Christensen and Q. D. Dobras, *il Illum Eng* 53:506-7 S '58

New method of determining illumination required for tasks, C. L. Crouch, *il Illum Eng* 53:416-22 Ag '58

Recommendations for quality and quantity of illumination, *Illum Eng* 53:422-4 Ag '58

Transistorized high-frequency power source for lighting; Westinghouse electric corp. *il Plant* 17:67 Ja '58

Trends in lighting equipment design; industrial lighting, B. C. Cooper, *il diags Elec Constr & Maint* 57:90 O '58

See also

Factories—Lighting
Foundries—Lighting

Tables, calculations, etc.

New footcandle tables, *Elec Constr & Maint* 57:103-12 O '58

New footcandle tables, *Illum Eng* 53:425-32 Ag '58

LIGHTING engineering

Futures unlimited, S. G. Hibben, *Illum Eng* 52:609-10 N '57

Light, form and design, C. X. Meyer, *il Illum Eng* 53:165-7 Mr '58

Lighting design and layout data, *diags Elec Constr & Maint* 57:25-41 Mid-S '58

Lighting for hotels, *il diags Illum Eng* 53:359-99 J '58

Power groove lamps provide 10,000 footcandles for sunlight tests; Eastman Kodak co. *il diags Elec Constr & Maint* 57:77-9 S '58

Nomenclature

Illuminating engineering nomenclature and photometric standards, *Illum Eng* 52:600-8 N '57

Tables, calculations, etc.

Interreflections in asymmetrical rooms, P. F. O'Brien, *bibliog diags Illum Eng* 53:131-6; Discussion, 136-8; Reply, 138-9 Mr '58

Terminology

International lighting vocabulary, Franklin Inst J 266:81 J '58

LIGHTING engineers

See also

Illuminating engineering society

LIGHTING fixtures

Custom lighting with standard equipment, *il diags Arch Rec* 124:197-201+ Ag '58

Fluorescent lighting fittings, *il Engineer* 205:222 F '58

Lighting for hotels, *il diags Illum Eng* 53:359-99 J '58

Low brightness troffers give high comfort in office lighting; home office building of American hardware mutual insurance co. *il plan diags Elec Constr & Maint* 57:88-9 Ja '58

New design approaches to residential lighting, E. W. Commery, *il plans diags Illum Eng* 53:291-9 Je '58

Trends in lighting equipment design, B. C. Cooper, *il diags Elec Constr & Maint* 57:77-96 O '58

Unique support for storage bin lighting, *il diags Elec Constr & Maint* 57:102+ Je '58

Water-cooled luminaire in a panel-air system, W. F. Spiegel, *bibliog diags Heating-Piping* 30:139-46 Je '58

See also

Reflectors
Street lighting fixtures

Leasing

Without one cent of capital leased lighting plan improves illumination at low cost; Parker-Hannifin corp., E. C. Hartley, *il Plant Eng* 12:93-4 J '58

Maintenance and repair

Maintenance factors and features of industrial fluorescent luminaires; abstract, G. J. Taylor and R. D. Bradley, *Illum Eng* 53:509-10 S '58

New simple approach to group relamping of fluorescent lamps; abstract, E. W. Beggs, *il Illum Eng* 53:500-1 S '58

Portable-adjustable maintenance lighting; Garden State plaza shopping center, *il Elec Constr & Maint* 57:102+ J '58

1700 maintenance contracts; Flood-lite service, inc. B. J. Hartmann, *il Elec Constr & Maint* 57:105-11 Ja '58

Special lighting maintenance tools; Fluorescent service corp., Tampa, Fla., *il diags Elec Constr & Maint* 57:88-92+ S '58

LIGHTING fixtures, Plastic

New styrene for plastics lighting fixtures, R. A. McCarthy, *Plastics Tech* 4:640-3+ J '58

Plastics in lighting, *il Brit Plastics* 31:165 Ap '58

Testing

Evaluation of performance of polystyrene components of fluorescent luminaires in actual service and under accelerated testing; abstract, D. A. Popielski and R. A. McCarthy, *Illum Eng* 53:507-8 S '58.

LIGHTING maintenance. See Lighting fixtures—Maintenance and repair**LIGHTING maintenance contractors. National association of. See National association of lighting maintenance contractors****LIGHTING research**

Demonstration laboratory for outdoor roadway lighting; abstract, R. M. Sweetland and K. D. Tobin, *il plan Illum Eng* 53:492-3 S '58

New method of determining illumination required for tasks, C. L. Crouch, *il Illum Eng* 53:416-22 Ag '58

Practical daylighting prediction, J. W. Griffith and others, *Illum Eng* 53:185-90 Ap '58

Research reveals need for higher lighting intensities; University of Michigan's Vision research laboratories, B. C. Cooper, *il Elec Constr & Maint* 57:86-8 Je '58

Research shows need for step-up in recommended lighting levels, *Arch Rec* 124:200 J '58

LIGHTNING

Analytical studies of lightning performance of 1- and 2-ground-wire 138-kv double-circuit lines of the Commonwealth Edison co. R. W. Caswell and others, *il maps diags Power Apparatus & Systems* p254-61; Discussion, 261-3 Je '58

Calculation of transmission line lightning voltages by field concepts, R. Lundholm and others, *bibliog diags Power Apparatus & Systems* p 1271-81; Discussion, 1281-3 F '58

Factors affecting the lightning performance of transmission lines, J. H. Hagenguth and J. G. Anderson, *bibliog il diags Power Apparatus & Systems* p 1379-90; Discussion, 1390-2 F '58

Hypothesis concerning lightning phenomena and transmission-line flashover, I. B. Johnson and T. J. Schultz, *bibliog map Power Apparatus & Systems* p 1470-7; Discussion, 1477-9 F '58

Lightning performance of 138-kv twin circuit transmission lines of Commonwealth Edison co. operating experience and field studies, R. W. Caswell and others, *bibliog il map diags Elec Eng* 77:142-8 F '58; Same, *Power Apparatus & Systems* p 1480-9; Discussion, 1489-91 F '58

Lightning stroke, C. F. Wagner and A. R. Hileman, *diags Power Apparatus & Systems* p229-40 Je '58; Excerpts, *Elec Eng* 77:149 F '58; Discussion, *Power Apparatus & Systems* p240-2 Je '58

1956 lightning field investigation on the Ohio valley electric corp. 345-kv system, R. H. Schломann and others, *bibliog il map diags Power Apparatus & Systems* p 1447-56 F '58; Excerpts, *Elec Eng* 77:208-12 Mr '58; Discussion, *Power Apparatus & Systems* 1456-9 F '58

Some properties of lightning impulses which produce whistlers, R. A. Hellwell and others, *Inst Radio Eng Proc* 46:1760-2 O '58

See also

Thunderstorms

LIGHTNING arresters

Experience with breaker restriking and arrester destruction on the Pennsylvania power & light co. 220-kv system, M. C. Galivano and others. *Il diags Elec Eng* 77: 303-11 Ap '58; Same. *Power Apparatus & Systems* p224-7; Discussion. 227-8 Je '58

Graded arrester gap design solves contamination problem. W. H. Bason and T. J. Carpenter. *diag Elec World* 149:83-4 F 24 '58

Homemade lightning arresters. J. A. Keesler. *diag Q S T* 42:79 My '58

Lightning protection of equipment with remotely mounted lightning arresters. A. H. Knable. *diags Power Apparatus & Systems* p79-86; Discussion. 86-8; Reply. 88-9 Ap '58

New design creates three improvements in station arresters. P. M. Ross. *Il Elec World* 149:66+ Ja 20 '58

Failure

Arrester failure blacks out Twin cities. *Elec World* 148:55 N 11 '57

Testing

Expanding system requirements indicate need for more severe lightning-arrester tests. G. F. Lincks. *bibliog Power Apparatus & Systems* p 187-9; Discussion. 189-91; Reply. 191-2 Je '58

LIGHTNING protection

Analytical studies on lightning phenomena involving towers, insulator strings, and transmission lines. I. B. Johnson and A. J. Schultz. *bibliog Il diags Power Apparatus & Systems* p 1310-14 F '58

Lightning sparks AIEE transmission session. *Elec World* 148:65-6 N 4 '57

LIGHTSHIPS

Light vessel St Gowan. *Il Engineer* 206:228 Ag 8 '58

LIGNIN

Chemical utilization of lignins. I. A. Pearl. *Paper Ind* 40:30-1 Ap '58

Determinations of molecular weight of lignin degradation products by three methods. S. K. Gross and others. *bibliog diags Anal Chem* 80:518-21 Ap '58

Effect of nitrogen rate and clipping frequency upon lignin content and digestibility of coastal Bermuda grass. F. E. Knox and others. *bibliog J Agri & Food Chem* 6:217-19 Mr '58

Investigations on lignins and lignification. S. N. Acerbo and others. *bibliog Am Chem Soc J* 80:1990-4 Ap 20 '58

Lignin. F. E. Nord and W. J. Schubert. *Il diags Sci Am* 199:104-10+ O '58

Short wavelength ultraviolet absorption of alkali-lignin; a means of control in kraft cooking and brown stock washing. T. N. Kleibert and C. S. Joyce. *bibliog Tappi* 41: 372-80 Jl '58

Study of the lignin fraction obtained from the alkaline hydrogenation of maplewood. H. G. Arlt, Jr. and others. *bibliog Tappi* 41:64-70 F '58

Volatile fraction of white birch soda lignin. I. Sobolev and C. Schuerch. *bibliog Tappi* 41:447-52 Ag '58

See also

Lignosulfonates

LIGNIN sulfonates. See Lignosulfonates

LIGNITE

Brown coal burning gas turbines. J. C. Wisdom. *Il diags Engineer* 206:328-31 Ag 29 '58

Fluid-bed pretreatment of bituminous coals and lignite; direct hydrogenation of chars to pipeline gas. K. C. Channabassappa and H. R. Linden. *bibliog (29 titles) diag Ind & Eng Chem* 50:637-44 Ap '58

Isolation of triterpenes from North Bohemian brown coal. V. Jarolim and others. *bibliog Chem & Ind* p 1142-3 Ag 30 '58

Pelletized fuel can be made from fine sizes of lignite. *Air Cond Heat & Ven* 55:129 My '58

West German brown coal. *Il map diags Engineer* 205:867-8, 906-8, 945-8, 988-9 Je 6-27 '58

See also

Coal

LIGNOSULFONATES

Chemical utilization of lignins; chemicals from lignosulfonates. I. A. Pearl. *Paper Ind* 40: 30-1 Ap '58

Chemicals from wood. C. Placek and others. *bibliog flow sheets Il Ind & Eng Chem* 50:570-6 Ap '58

Gyp muds now practical for Louisiana coastal drilling; new thinner, ferrochrome lignosulfonate. J. M. Hurdle. *bibliog Oil & Gas J* 55:93-5 O 28 '57

Pulp mills research program at the University of Washington. V. F. Felicetta and J. L. McCarthy. *flow sheet Il diag Tappi* 40:851-86 bibliog (103 ref, p864-6) N '57

LILLY, Eli, and company

Career opportunities *Il Chem & Eng* N 36:41 pt 2 Ja 27 '58

LIME

Chemistry of water softening by the lime-soda process. A. P. Black. *Water Works Eng* 111:231, 484, 582+ Mr. My-Je '58

Correlation of equilibrium data for the system $\text{SO}_2\text{-H}_2\text{O-CaO}$. W. A. Dickens and A. W. Plummer. *bibliog Tappi* 40:895-9 N '57

Differential thermal analysis above 1200°C. T. F. Newkirk. *bibliog diags Am Cer Soc J* 41:409-14 O 1 '58

Lime around the world. V. J. Azbe. *Il maps Rock Prod* 61:110-12+ F: 94+ Jl '58

Lime; market; cost problems drive out some producers. *Rock Prod* 61:88-9 Ja '58

Lime powder desulfurization proves practical, efficient. *diag Iron Age* 180:66-7 O 31 '57

Low cost street construction with lime stabilization. A. R. Kelley. *Il Pub Works* 89:113-14 F '58

O.L.P., oxygen, lime-powder injection, a new steelmaking process. B. Trentini and M. Allard. *bibliog Il J Metals* 10:466-70 Jl '58

Phase equilibrium studies in the system $\text{CaO-Cr}_2\text{O}_3\text{-SiO}_2$. F. P. Glasser and E. F. Osborn. *bibliog diags Am Cer Soc J* 41: 358-62 S 1 '58

Recovery of green liquor dregs in the lime mud system; Weyerhaeuser timber co. J. R. Parkinson. *Tappi* 40:sup202A-3A D '57

Studies in the system $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2\text{-H}_2\text{O}$; new data on the polymorphism of Ca_2SiO_4 and its stability in the system $\text{CaO-SiO}_2\text{-H}_2\text{O}$. D. M. Roy. *bibliog Am Cer Soc J* 41: 293-9 Ag 1 '58

Use of lime in high-pressure-cured building products; abstract. R. C. Valore, Jr. *Pit & Quarry* 8:191 Jl '58

Water-powered device treats acid water automatically; Tasa coal co. *Il Coal Age* 63:148 Mr '58

Worn-out road rebuilt with lime stabilization; Fox Point, Wis. *Il Pub Works* 88:100-1 N '57

Manufacture

Efficiency is the word at Mercer Lime and Stone. *Il Rock Prod* 61:110-12+ Mr '58

See also

Lime kilns

LIME as fertilizer

Ag-lime field needs aggressive promotion, uni-form standards; interview with J. L. Morrow. G. C. Lindsay. *Rock Prod* 61:152+ My '58

Agstone, prime factor in steady growth of Minnesota producer; Bryan rock products, Inc. *flow diag Il Pit & Quarry* 50:143+ My '58

Intelligent liming. *J Agri & Food Chem* 6:572-3 Ag '58

Iowa agricultural limestone association 13th annual meeting. Des Moines. March 5-6. *Pit & Quarry* 50:107 My '58

Old plant makes way for new as Kentucky firm ups agstone output; Gary brothers crushed stone co. B. C. Herod. *Il Pit & Quarry* 50:108-10+ My '58

Pennsylvania stone producers association Agricultural limestone division annual meeting. Harrisburg. March 27. *Pit & Quarry* 50:71 Je '58

See also

National agricultural limestone institute

LIME association, National. See National lime association

LIME handling

Improvements in lime handling, feeding, and slaking at Lansing, Mich. J. F. Dye. *Il diags Am Water Works Assn J* 50:263-70 F '58

LIME kilns

Azbe's unitized lime kiln. V. J. Azbe. *diags Rock Prod* 60:95+ S: 107+ N '57

Conversion to gas increases lime output at Mercer lime & stone co. *Il Pit & Quarry* 50:160-1 Ja '58

Factors of dust suppression in small to medium-size rotary kiln systems. W. G. Bauer. *diag Pit & Quarry* 50:134-5+ My; 51:156-6+ Jl; 108-10 Ag '58

Kiln ring removal. *Pit & Quarry* 50:154+ My '58

Producer-gas-fired lime kilns. B. J. Gee. *Il Chem & Ind* p 140-4 F 8 '58

Revamped kilns smooth lime burning; Chemstone corp. *Il diags Chem Eng* 65:64+ Jl 28 '58

LIME kilns—Continued

Unusual features patented in rotary kiln design. diag Pit & Quarry 50:120-4 My '58
 Uranium industry demands spark lime plant expansion in Canada; Gypsum lime & alabastine, Canada, Ltd. W. E. Trauffer. il Pit & Quarry 50:112-15+ My '58

LIME plants**Equipment**

Lime produced, recovered in city of Dayton's new calcining plant. B. C. Herod. il Pit & Quarry 50:128-32+ My '58
 Old plant makes way for new as Kentucky firm ups eastone output; Gary brothers crushed stone co. B. C. Herod. il Pit & Quarry 50:108-10+ My '58
 Uranium boom reason for building of new lime plant; Cobo minerals, Ltd. W. E. Trauffer. il Pit & Quarry 51:191-3 JI '58
 Uranium industry demands spark lime plant expansion in Canada; Gypsum lime & alabastine, Canada, Ltd. W. E. Trauffer. il Pit & Quarry 50:112-15+ My '58

Waste

Clean air and clear water mark the good neighbor; Warner co. of Bellefonte, Pa. il Mill & Factory 62:102-4 Je '58

LIMESTONE

Algal disintegration of Bahamian limestone coasts. E. G. Purdy and L. S. Kornicker. bibliog J Geol 66:97-9, pl 1 Ja '58
 Ancient sediments of Bahaman type. F. W. Beales. bibliog il Am Assn Pet Geologists Bul 42:1845-50 Ar '58
 Case history study of ten new cement plants; rod mill crushes limestone for wet process. il Rock Prod 61:102-3 My '58
 Environmental studies of carboniferous sediments; application of geochemical criteria. E. T. Degens and others. bibliog map diags Am Assn Pet Geologists Bul 42:981-97 My '58
 Finger-print pattern on certain calcareous soils. W. F. Tanner. il Am Assn Pet Geologists Bul 42:438-40 F '58; Discussion. K. A. W. Crook. 42:3001 D '58

How fractured limestone responds to water flooding. W. E. Nolan and G. R. Locker. diags Oil & Gas J 55:100-2+ O 28 '57

In only five weeks, small plant turns huge hill into roadbed; Quarve and Anderson. il Rock Prod 61:138+ My '58

Laboratory study of laminar and turbulent flow in heterogeneous porosity limestones; abstract. C. R. Stewart and W. W. Owens. J Pet Tech 10:Trans 131A Je '58

Limestone aquifers of Maryland. E. G. Otton and C. A. Richardson. bibliog map diag Econ Geol 53:722-36 S '58

Limestone mines; their potential commercially and strategically; abstract. R. W. Hunt. il Pit & Quarry 50:189-90 JI '58

Petrology of Beaver Lodge Madison limestone reservoir, North Dakota. D. Towse. bibliog il maps diags Am Assn Pet Geologists Bul 41:2493-507 N '57

Ripping stone pays off for Florida lime producer. il Pit & Quarry 50:185+ My '58

Side line booms into a full time job; limestone mining was a side line, Hanna coal co. il Rock Prod 60:96-9+ N '57

Significance of coccolithophorids in calcium-carbonate deposition. M. N. Bramlette. bibliog Geol Soc Bul 69:121-6 Ja '58

Variations in isotopic composition of oxygen and carbon in Leadville limestone (Mississippian, Colorado) and in its hydrothermal and metamorphic phases. A. E. J. Engel and others. bibliog map diags J Geol 66:374-93, pl 1 JI '58

Waiting; 10,000,000 tons of limestone and Warner co.'s going after it with stone mining methods and belt conveyors. E. Meschter. il diags Rock Prod 61:132-4+ Ja '58

See also
 Dolomite
 Marble

Analysis

Spectrophotometric determination of iron in clay and limestone. P. F. Lott and K. L. Cheng. Anal Chem 29:1777-8 D '57

Transportation

Two special lime vehicles for Imperial chemical industries, Ltd. J. Grindrod. il Pit & Quarry 50:157-8 My '58

LIMITED access highways. See Expressways

LIMITERS, Electric current. See Electric current limiters

LIMPETS

Observations on limpets. M. Francis. diag Research 11:sup 11-12 Ap '58

LINCOLN, Nebraska**Water supply**

Spacing wells to control water temperatures and drawdown. W. P. Richards and B. B. Watts. il map Water Works Eng 111:464-6, cover My '58

LINCOLN tunnel. See New York (city)—Tunnels

LIND, Charles McClelland

Obituary. J. C. Meacham. por Am Assn Pet Geologists Bul 42:473-4 F '58

LINDANE

More gamma; researchers develop process that increases gamma isomer content of benzene hexachloride; abstract. W. E. Bissinger. Chem & Eng N 36:58 Ap 21 '58

LINEAR accelerators

Design of linear electron accelerators with beam loading. R. B. Neal. bibliog J Ap Phys 29:1019-24 JI '58

Energy stabilization of the Berkeley proton linear accelerator. H. E. Knowles. bibliog diags R Sci Instr 29:130-6 F '58

Minnesota 10-, 40-, and 68-mev proton linear accelerator. E. A. Day and others. bibliog il plan diags R Sci Instr 29:457-76 Je '58

LINEAR equations. See Equations, Linear

LINEAR programming

Approach to linear inventory-production rules. R. Pinkham. Op Res 6:185-9 Mr '58
 Determination of feasible shipping schedules for a job shop. W. Karush and L. A. Moody. Op Res 6:35-55 Ja '58

High-speed computer technique for the transportation problem; stepping stone method. J. B. Dennis. diags Assn for Computing Mach J 5:132-53 Ap '58

How to solve those linear programming problems. R. L. McIntire. Oil & Gas J 55:135 D 9 '57

How you can use linear programming. N. V. Reinhold and B. L. Hansen. il Mill & Factory 61:75-80 D '57

Licking problems the brain way. C. E. French and M. M. Snodgrass. il Food Eng 29:52-6 N '57

Linear programming can be easy math. G. F. Hadley. diags Product Eng 29:55-8 Mr 3 '58

Linear programming model for scheduling crude oil production. A. S. Lee and J. S. Aronofsky. bibliog J Pet Tech 10:51-4 JI '58

Linear programming, tool for small business. S. Spiegelman. Am Mach 102:110-12 Je 16 '58

Minimization of fuel costs by the technique of linear programming. A. P. Hayward and others. bibliog plan diag Power Apparatus & Systems p 1288-93; Discussion. 1293-5 F '58

Optimum nonlinear gasoline blending on the IBM 650 computer. F. R. Dornhelm and B. T. Borgerson. bibliog diag Oil & Gas J 56:91-7 My 26 '58

Piping and plant design, can linear programming help? A. Battersby. bibliog diags Manuf Chem 29:368-70+ S '58

Planning your distribution. F. H. Magee. Mod Materials Handling 13:110-13 Ap '58

Practical guide to the dual theorem. H. M. Wagner. Op Res 6:364-84 bibliog(p382-4) My '58

Production and inventory planning in a fluctuating market. S. Danø and E. L. Jensen. Op Res 6:293-5 Mr '58

Reduced lead times. R. Medros. Tool Eng 40:208-10 Ja '58

Solution of the quota problem by a successive-reduction method. D. F. Votaw, Jr. Op Res 6:56-64 Ja '58

Target-assignment problem. A. S. Manne. Op Res 6:346-61 My '58

This method simplifies input-output analysis of mechanisms; principle of virtual work. J. O. Predale. diags Product Eng 29:90-4 Mr 17 '58

Warehouse-location problem. W. J. Baumol and P. Wolfe. diags Op Res 6:262-63 Mr '58

What is linear programming? R. L. McIntire. Oil & Gas J 55:121 N 25 '57

See also

Simplex method

LINEMENS equipment

Hot-stick arrangement proves time saver. E. E. Elwood. diag Elec World 149:134 Je 27 '58

LINEMENS equipment—Continued

- Pole-top scaffold safeguards lineman. *Il Elec World* 149:100 Ap 28 '58
 Telescoping hot stick cuts climbing, saves time. A. E. Haak. *Il Elec World* 149:80+ F 3 '58
 Telescoping rod eases hot-line work. O. B. Hayden. *Il Elec World* 149:100 Ap 28 '58
 Two layer rubber gloves promote safety. A. R. Jones. *Il Elec World* 150:98 Ag 4 '58

See also

Gloves, Safety
 Hats, Safety

Testing

- Develops test for hot sticks for ehv work. D. C. Hubbard. *Il Elec World* 148:105+ N 25 '57
 Magnetic tester finds cracks in climbers. F. W. Jones. *Il Elec World* 149:134 Ja 27 '58

LINEN**See also**

Dyes and dyeing—Linen

LINGANE, James J.

- Hasler, Lingane receive Beckman, Fisher awards. *por Anal Chem* 30:sup25A My '58
 J. J. Lingane received Fisher award in analytical chemistry. *por Chem & Eng N* 36:48 Ap 28 '58

LINGERIE. See Underwear**LINING fabrics**

- Expanded vinyls in special purpose garments; U.S. ensolite interlinings. T. G. Tompkins. *Mod Textiles Mag* 39:53+ Ja '58
 Hold that width! carpet backing fabrics. *Il Textile Ind* 122:107-9 F '58

LINKS and link motion

- Adjustable linkage changes the pitch in lead-screw tapper. *Il diag Machine Design* 30:132 Je 12 '58
 Calculating force relationships in converting linear to rotary motion; data sheet. D. P. Hanley. *diag Machine Design* 30:147-9 Mr 6 '58
 Complex numbers and four-bar linkages. R. S. Hartenberg. *bibliog diags Machine Design* 30:156-63 Mr 20 '58
 Flight-control linkages. R. L. Roemer. *Il diags Mech Eng* 30:158-60 Je '58
 How to apply drag-link mechanisms in the synthesis of mechanisms. K. Hain. *bibliog diags Machine Design* 30:104-13 Je 26 '58
 Linkage keeps table flat. *Il diag Product Eng* 29:64 F 3 '58
 Linkages vs. cams. T. P. Goodman. *bibliog diags Machine Design* 30:102-9 Ag 21 '58
 Linkages gain on cams. *diags Product Eng* 28:75 D 23 '57
 Motion characteristics of slider-crank linkages. E. P. Pollitt. *Il diags Machine Design* 30:136-42 My 15 '58
 Proposed standardized system for notation and classification of the four-bar linkage. B. L. Harding. *diags Machine Design* 29:136-8 N 28 '57
 Tables, calculations, etc.
 Calculating velocities and accelerations in four-bar linkages. G. H. Martin. *diags Machine Design* 30:146-9 Ap 17 '58
 Synthesis of a four-bar mechanism for prescribed extreme values of the angular velocity of the driven link. J. Hirschhorn. *diags J Ap Mech* 25:349-51 S '58

LINOLEATES

- Cis, trans isomerization of conjugated linoleates by iodine and light. W. E. Tolberg and D. H. Wheeler. *bibliog Am Oil Chem Soc J* 35:385-8 Ag '58
 Coupled oxidation of β -carotene by a linoleate-lipoxidase system and by autoxidizing linoleate. J. Friend. *bibliog Chem & Ind* p597-8 My 17 '58

LINOLEIC acid

- Reaction of mercaptoacetic acid with methyl linoleate and linoleic acid. S. P. Fore and others. *bibliog Am Oil Chem Soc J* 35:225-30 My '58

LINTYPE

- Your slug-casting machine problems. L. Brevington. Published in monthly numbers of Inland printer

LIPIDES

- Chemical studies on a pig heart muscle lipid which stimulates the enzymatic reduction of cytochrome-c. G. V. Marinetti and others. *bibliog Am Chem Soc J* 80:402-4 Ja 20 '58
 Countercurrent distribution of sorghum lipides in leaf and stem extract. M. C. Burnett and others. *bibliog J Agric & Food Chem* 6:374-7 My '58

- Effect of dietary protein, fat, and choline upon the serum lipids and lipoproteins of the rat. R. E. Olson and others. *bibliog Am J Clinical Nutrition* 6:111-18 Mr '58
 Effect of lipotropic factors upon serum lipids and vascular disease in man. T. D. Labecki. *bibliog Am J Clinical Nutrition* 6:325-30; Discussion. 331 My '58
 Effect of mono-enoic fatty acid esters on the growth and fecal lipides of rats. T. K. Murray and others. *bibliog Am Oil Chem Soc J* 35:156-8 Ap '58
 Filter paper electrophoresis of lipids in mixed solvent systems. D. F. H. Wallach and J. E. Garvin. *bibliog diags Am Chem Soc J* 80:2157-61 My 5 '58
 Flour lipid characterization; chromatographic and other studies; abstract. N. Fisher and others. *Chem & Ind* p 147; Discussion. 148-9 F 8 '58
 Flour lipids; a note of the acetone-soluble fraction. H. Zentner. *Chem & Ind* p 129-30 F 1 '58
 Incorporation of acetate-2-C¹⁴ into liver and carcass lipids and cholesterol in biotin-deficient rats. M. R. Gram and R. Okey. *bibliog J Nutrition* 64:217-28 F '58
 Photosynthesis of galactolipids. A. A. Benson and others. *bibliog Am Chem Soc J* 80:4740 S 5 '58
 Polar lipids in wheat flour. D. G. H. Daniels. *bibliog Chem & Ind* p653-4 My 31 '58
 Transformation of some lipids in anaerobic sludge digestion. H. Heukelekian and P. Mueller. *bibliog Sewage & Ind Wastes* 30:1108-20 S '58

Analysis

- Determination of polyunsaturated acids in lipides of plasma and tissue. R. T. Holman and H. Hayes. *bibliog diag Anal Chem* 30:1422-5 Ag '58
 Dyeing method for quantitative determination of lipides and lipoproteins directly on filter paper. K. F. Talluto and others. *bibliog Anal Chem* 30:1059-62 Je '58

LIPOLIC acid

- Discovery spurs lipolic acid study; abstract. L. J. Reed. *Chem & Eng N* 36:49 Ap 21 '58
 Synthesis of racemic, optically active and radioactive α -lipolic acids. D. S. Acker and W. J. Wayne. *bibliog Am Chem Soc J* 79: 6483-7 D 20 '57

LIPOPROTEINS

- Molecular weights and dimensions of some high-density human serum lipoproteins. K. H. Hazen. *bibliog Am Chem Soc J* 80:2152-6 My 5 '58

Analysis

- Dyeing method for quantitative determination of lipides and lipoproteins directly on filter paper. K. F. Talluto and others. *bibliog Anal Chem* 30:1059-62 Je '58

LIPOTROPIC substances

- Reflections upon some lipotropic facts and fantasies. C. C. Lucas. *Am J Clinical Nutrition* 6:504-12 *bibliog*(p510-12) S '58
 Symposium on the mode of action of lipotropic factors in nutrition. *bibliog Il diags Am J Clinical Nutrition* 6:197-331 My '58

LIPSTICKS

- Perfumes for cosmetics. V. Vasic. *bibliog Manuf Chem* 29:431-2 O '58

LIQUEFIED gases. See Gases, Liquefied**LIQUEFIED petroleum gas**

- Atmospheric Gas Light to expand LP-gas storage facilities by nearly four million gallons. *Gas Age* 121:16 Mr 20 '58
 Creole Petroleum now exports LPG. R. T. Tudeala. *R. map diag Pet Eng* 30:C 12-14 Jl '58
 Early LPG flood runs into trouble. *map Oil & Gas J* 55:59-60 D 2 '57
 Finding LPG can be tough. *Il Oil & Gas J* 56:69 Je 16 '58
 Gas liquids looking for more outlets. S. W. Downer. *Pet Eng* 30:C 12 My '58
 How oil quality affects operation of LPG engines; abstract. W. Floyd. *S A E J* 66:134 Ap '58
 In the Panhandle field, LPG injection. J. L. Relph. *J Pet Tech* 10:24 My '58
 LP-gas for industrial trucks; special report. *Il Mod Materials Handling* 13:103-12 Je '58
 LPG pilot flood turns up new clues. *Oil & Gas J* 55:80-1 D 9 '57
 LPG sets new record. *Oil & Gas J* 55:42 D 23 '57
 LPG spurs Bisti production at Sunray project. *Oil & Gas J* 56:56-7 Jl 21 '58

LIQUEFIED petroleum gas—Continued

L.P.G. storage hits its seasonal peak; propane price jumps $\frac{1}{2}$ cent. Oil & Gas J 55:118 N 11 '57

Little Big Inch delivers LPG to Ohio terminal. Oil & Gas J 56:115 J1 28 '58

Other chemicals for the farm. II J Agri & Food Chem 6:576-7 Ag '58

Peak shaving with LPG; Peoples gas light and coke co. J. K. Dawson, flow diag II Gas 34:37-44 J1 '58

Pilot LPG injection underway at Bisti, D. M. Taylor, II maps diag Pet Eng 29:B38-40+D '57

U.S. could nearly double LPG production in emergency. Pet Eng 29:C30 N '57

See also

Gas, Natural—Liquefaction

Propane

Measurement

NBS prover checks LP-gas dispenser vs meter reading. II Gas Age 121:22-3 Je 26 '58

Statistics

Gas-liquids output hits a new high, 1957; with charts and tables. Oil & Gas J 56:176-8 Ja 27 '58

Growing storage to help LPG pricing. Oil & Gas J 56:40-3 S 29 '58 (reprints 50c)

LPG gas sales gain five per cent last year; gas utility use shows sharp gain; tables by end use and by state. Gas Age 122:41-3 O 16 '58

LP-gas sales up 4.1 per cent. G. R. Benz and others, II Gas Age 121:41-54 Ja 9 '58; Same. Pet Refiner 37:276+ Ja '58; Same cond. Am Gas Assn 40:15-16 Ja '58; Same cond. Pet Eng 30:C 13-15 Ja '58; Abstract. Chem & Eng N 35:19 D '57

LPG sales; jump instead of slump. Oil & Gas J 56:114 S 1 '58

LPG stocks fall sharply to 1957. Oil & Gas J 56:98 F 24 '58

Storage

Big hit drills mine shaft. II Oil & Gas J 56:73 S 8 '58

Breather pipe to outdoors vents valve air pocket. S. R. Lewis, diag Heating-Piping 30:134 Je '58

Carving out a cavern through a needle's eye; Esso's Bayway refinery. II plan Eng N 160:36-8 Ja 23 '58

Growing storage to help LPG pricing. R. Bizal, Oil & Gas J 56:40-3 S 29 '58 (reprints 50c)

Is your LPG storage safe? H. F. Jewson, II diags Gas 34:49-58 F '58

Largest man-made storage caverns mined. Civil Eng 28:221 Mr '58

Largest man-made storage caverns now being mined at Esso refinery. II Gas Age 121:20 F 20 '58

LPG-storage well logging; gamma-ray logging tool. R. F. Sippel and H. D. Hodges, diag Pet Eng 30:B 113+ Ap '58

Sonar caliper simplifies LPG storage surveys. J. P. Chisholm and G. D. Patterson, II Pet Eng 30:B90-2 Ja '58

See also

Propane—Storage

Transportation

Flow patterns and capacities of U.S. pipeline systems, maps Oil & Gas J 56:supp Mr 10 '58

LPG transportation trends, maps diag Gas Age 121:21-5 Ap 3 '58

LIQUID alums. See Alums, Liquid

LIQUID carbon dioxide. See Carbon dioxide, Liquid

LIQUID chlorine. See Chlorine, Liquid

LIQUID cooling welding system. See Electric welding, Arc

LIQUID fuel

Hydrocarbon synthesis in combustion; liquid fuels. B. D. Tebbens and others, II A M A Archives Ind Health 17:152-60 F '58

See also

Airplane engines—Fuel

Automobile engines—Fuel

Automotive fuel

Fischer-Tropsch process

Gasoline

Liquefied petroleum gas

Motor boat engines, Outboard—Fuel

Oil fuel

Manufacture

Report on pilot plant synthesis of liquid fuels. C. T. Yu and others, bibliog flow diag II Chem Eng Prog 54:55-8 Mr '58

Sampling

Sampling and testing of liquid fuels. C. W. G. Martin, bibliog Combustion 30:51-5 Ag '58

Storage

Safe storage for liquid fuels. G. Michael, II Power Ind 74:16-17 Ag '58

Testing

Sampling and testing of liquid fuels. C. W. G. Martin, bibliog Combustion 30:51-5 Ag '58

Shock tube technique for study of autoignition of liquid fuel sprays. G. J. Mullaney, bibliog II diags Ind & Eng Chem 50:53-8 Ja '58

LIQUID helium. See Helium, Liquid

LIQUID hydrogen. See Hydrogen, Liquid

LIQUID level control

Boiler drum level control. A. Waxman, diags Instruments & Automation 31:872-5 My '58

Control liquid level at 100 psi and 1000°F. II Power Ind 74:12-13 S '58

Makes acid handling safe; automatic liquid level control. II Steel 142:115 Ap 28 '58

Radiation gages improve bulk material level control. S. Regas, diags Automation 5:75-80 Je '58

Tank siphon never loses prime. C. F. A. Roberts, diags Chem Eng 65:153-4 O 6 '58

LIQUID level indicators

Glass level measurement in furnaces. E. W. Jones, Glass Ind 39:546-7 O '58

How to measure liquid interface levels. J. R. Hickman, diags I S A J 5:60-3 Ja '58

Level measurement in flowing liquids with multiple thermocouple. J. A. Seiner, diags Chem Eng 65:178 My 19 '58

LIQUID metals. See Mercury; Metals, Molten

LIQUID meters

Solve batch liquid metering problems with a volumetric tank. M. Bass, diags Chem Eng 65:150-2 O 20 '58

LIQUID methane. See Methane, Liquid

LIQUID nitrogen. See Nitrogen, Liquid

LIQUID oxygen. See Oxygen, Liquid

LIQUID scintillators. See Counters (electrons, ions, etc.)

LIQUID sulfur dioxide. See Sulfur dioxide, Liquid

LIQUIDS

Apparatus for the continuous delivery of small volumes of liquid. G. C. Ware, diag Sewage & Ind Wastes 30:121-2 S '58

Apparatus for the viscometry of organic liquids at high temperature. W. G. Burns and others, bibliog diags J Sci Instr 35:291-3 Ag '58

Bulk viscosity of liquids. N. Hiral and H. Eyring, bibliog diags J Ap Phys 29:810-16 My '58

Conference on simple liquids, Varenna sul Lago di Como, Italy, Sept. 11-14. Phys Today 11:22-3 Ja '58

Continuous measurement of liquid density. A. Linford, II diags Ind Chem 34:481-8 S '58

Controlling liquid flow. C. F. Wapiennik and J. A. Bures, diag R Sci Instr 29:797-8 S '58

Evidence of rupture in droplet layers on heated liquid surfaces. W. C. Levengood, II Am J Phys 26:35-7 Ja '58

Field modulation of liquid induced excess surface currents on germanium $p-n$ junctions. W. T. Eriksen, diags J Ap Phys 29:730-3 Ap '58

Film boiling of flowing subcooled liquids. E. I. Motte and L. A. Bromley, bibliog Ind & Eng Chem 49:1921-8 N '57

Flow of a viscous liquid on a rotating disk. A. G. Emslie and others, bibliog J Ap Phys 29:858-62 My '58

Fracture of glass under various liquids and gases. C. J. Cuff, Glass Ind 39:103-4 F '58

Generalized equation of state for gases and liquids. J. O. Hirschfelder and others, bibliog diags Ind & Eng Chem 50:375-85 Mr '58

Generalized thermodynamic excess functions for gases and liquids. J. O. Hirschfelder and others, Ind & Eng Chem 50:386-90 Mr '58

Glass; its transparency and structure; liquids and glasses. H. H. Holscher, II diags Glass Ind 39:212-20+ Ap '58

Handling and dispensing materials; liquids are metered; cylinder banks feed gases. II Plant Eng 12:135-6 Mr '58

Handling volatile liquids from storage. D. MacGregor, diag Chem Eng 65:158+ Mr 10 '58

LIQUIDS—Continued

- Heat transfer in laminar boundary-layer flows of liquids having a very small Prandtl number. G. W. Morgan and others. *J Aeronautical Sci* 25:173-80 Mr '58
- Instrument for measuring wavelength of ultrasound in liquid. N. Yamamoto. *Il R Sci Instr* 29:355-6 Ji '58
- Liquid content of garbage and refuse. J. S. Wiley. *bibliog Am Soc C E Proc* 83 [SA 5 no 1411]:1-8 O '57; Discussion. 84 [SA 2 no 1614]:7-8; Reply. 8-11 Ap '58
- Liquid-liquid flow in packed towers. M. Leva and C. Y. Wen. *bibliog diags Chem Eng* 64:267-71 D '57
- Liquid rope-coil effect. G. Barnes and R. Woodcock. *Il Am J Phys* 26:205-9 Ap '58
- Longitudinal diffusivity of liquids in packed beds. D. A. Strang and C. J. Geankoplis. *bibliog diags Ind & Eng Chem* 50:1305-8 S '58
- Low temperature liquid phase oxidation of hydrocarbons; a literature survey. F. Morton and R. T. T. Bell. *bibliog diags Inst Pet J* 44:260-72 S '58
- Method for the rapid and precise determination of the densities of liquids. G. L. Gaines, Jr. and C. P. Rutkowski. *bibliog diag R Sci Instr* 29:509-10 Je '58
- Microwave absorption and molecular structure in liquids. R. W. Rampolla and others. *bibliog Am Chem Soc J* 80:1057-66 Mr '58
- Mixing in laminar-flow systems. W. D. Mohr and others. *diags Ind & Eng Chem* 49:1855-6 N '57
- Modified spin-echo method for measuring nuclear relaxation times. S. Meiboom and D. Gill. *diags R Sci Instr* 29:588-91 Ag '58
- Predict liquid diffusivities. W. R. Gambill. *bibliog Chem Eng* 65:113-16 Je 30 '58
- Rate of heat transfer in liquids with gas injection through the boundary layer. E. E. Gose and others. *J Ap Phys* 28:1509 D '57
- Shape of liquid immiscibility volume in the system barium oxide-boric oxide-silica. E. M. Levin and G. W. Cleek. *bibliog Am Cer Soc J* 41:175-9 My 1 '58
- Sing-around ultrasonic velocimeter for liquids. M. Greenspan and C. E. Tschiegg. *bibliog Il diags R Sci Instr* 28:397-901 N '57
- Solution of the Bloch equations for determination of relaxation times in liquids. P. S. Hubbard, Jr. and T. J. Rowland. *bibliog diags J Ap Phys* 28:1275-81 N '57
- Spherical apparatus for measuring the thermal conductivity of liquids. V. E. Schrock and E. S. Starkman. *bibliog Il diags R Sci Instr* 29:625-9 Ji '58
- Surface tension for pure liquids. W. R. Gambill. *bibliog (29 ref) Chem Eng* 65:146-50 Ap 7 '58
- Ternary liquid equilibria. R. Jagannadha Rao and others. *bibliog J Ap Chem* 7:435-9, 659-66 Ag. D '57
- Thermal diffusion in liquids; measurements and a molecular model. S. Whitaker and R. L. Pigford. *bibliog diags Ind & Eng Chem* 50:1026-32 Ji '58
- What makes a liquid? J. S. Dahler. *Product Eng* 29:10 S 8 '58
- See also*
- Atomizers
- Drops
- Equation of state
- Evaporation
- Films
- Fluids
- Hydraulics
- Hydrodynamics
- Inflammable liquids
- Interfacial tension
- Jets
- Nitrogen, Liquid
- Pesticides
- Solution (chemistry)
- Surface tension
- Vapor pressure
- Viscosity
- Water
- Analysis**
- Combustion microanalysis of volatile liquids. J. M. Corliss. *diag Anal Chem* 29:1902 D '57
- Use of mixed stationary liquids in gas-liquid chromatography. W. H. McFadden. *bibliog Anal Chem* 30:479-81 Ap '58
- Testing**
- Magnetic device tests quenching liquids. *Il Elec Manuf* 61:156 F '58
- LIQUIDS, Inflammable.** *See* Inflammable liquids

LIQUOR industry

- See also*
- Brewing industries
- Vodka
- Wine
- LIQUORS**
- Fascinating story of cordials. V. G. Fourman. *bibliog Am Perfumer & Aromatics* 72:33-6 S '58
- See also*
- Vodka
- Wine
- LISTENING.** *See* Attention
- LISTING.** Johann Benedict
- Sketch. E. S. Barr. *Am J Phys* 26:108 F '58
- LITERATURE searching**
- Use of computers for mechanized literature searching in operations research libraries. R. Coile and B. Foster. *Op Res* 6:434-8 My '58
- LITHIUM**
- Cleavage of symmetrically substituted disilanes by lithium in tetrahydrofuran. H. Gilman and G. D. Lichtenwalter. *bibliog Am Chem Soc J* 80:608-11 F 5 '58
- Lithium and beryllium pegmatites of southeastern Manitoba. J. F. Davies. *bibliog map diags Can Min & Met Bul* 51:420-6 Ji '58
- Lithium and its compounds. *Engineer* 205: 809 My 30 '58
- Lithium-based grease reduces blast furnace lubrication costs. *Il Iron & Steel Eng* 34: 162+ O '57
- Lithium cleavages of some heterocycles in tetrahydrofuran. H. Gilman and J. J. Dietrich. *bibliog Am Chem Soc J* 80:380-3 Ju 20 '58
- Lithium improves properties in aluminum alloy. *Il Materials in Design Eng* 46:159 D '57
- Lithium. 1957. M. Sittig. *Eng & Min J* 159: 147-8 F '58
- Lithium type ceramic coatings resist prolonged heat at 1350° F. *Il Materials in Design Eng* 46:161-2 D '57
- Whither lithium? *Chem Eng Prog* 54:144+ Ap '58
- LITHIUM alloys**
- Influence of sodium on magnesium-lithium alloys. R. J. M. Payne and J. D. L. Eynon. *bibliog Inst Metals J* 86:351-2 Ap '58
- LITHIUM aluminum hydride**
- Epoxyethers; reduction with lithium aluminum hydride. C. L. Stevens and T. H. Coffield. *bibliog Am Chem Soc J* 80:1919-21 Ap 20 '58
- Laboratory preparation of lithium deuteride and lithium aluminum deuteride. A. F. L. C. Holding and W. A. Ross. *bibliog diags Chem Eng* 46:321-4 My '58
- Mechanism of halide reductions with lithium aluminum hydride; reduction of certain bromohydrins and epoxides. E. L. Elie and D. W. Delmonte. *bibliog Am Chem Soc J* 80:1744-52 Ap 5 '58
- New ring enlargement; reaction of nitro-cycloalkanes with lithium aluminum hydride. G. E. Lee and others. *bibliog Chem & Ind* p417-18 Ap 5 '58
- Nitrogen analogs of ketenes; formation of hydroperoxides and vinylamines by reaction with lithium aluminum hydride and organometallic reagents. C. L. Stevens and R. J. Gasser. *bibliog Am Chem Soc J* 79:6057-62 N 20 '57
- Reactions of germanium tetrachloride with lithium aluminohydrides; lithium tri-*t*-butoxyaluminohydride as an efficient reagent for the preparation of germane. S. Sujish and J. N. Keith. *bibliog Am Chem Soc J* 80:4138-40 Ag 20 '58
- LITHIUM amide**
- Metalation and addition reactions of allylbenzene and propenylbenzene with butyllithium and lithium amide. H. F. Herbrandson and D. S. Mooney. *bibliog Am Chem Soc J* 79:5809-14 N 5 '57
- LITHIUM borohydride**
- Etherates of lithium borohydride; the system lithium borohydride-diethyl ether. T. L. Kolski and others. *bibliog diag Am Chem Soc J* 80:549-52 F 5 '58
- Etherates of lithium borohydride; the system lithium borohydride-dimethyl ether. G. W. Schaeffer and others. *bibliog Am Chem Soc J* 79:5912-15 N 20 '57
- LITHIUM bromide**
- Penetration and supercontraction of keratin fibers by lithium bromide solutions. A. R. Haly and J. Griffith. *bibliog Il diag Textile Res J* 28:32-40 Ja '58

LITHIUM chloride

- Electromotive force series in molten lithium chloride-potassium chloride eutectic. H. A. Lahtinen and C. H. Liu. bibliog Am Chem Soc J 80:1015-20 Mr 5 '58
- Impedance and polarization measurements in fused lithium chloride-potassium chloride. H. A. Lahtinen and H. C. Gaur. bibliog diags Electrochem Soc J 104:730-7 D '57; Correction. 105:433 J1 '58
- Polarography of metal ions in fused lithium chloride-potassium chloride eutectic. H. A. Lahtinen and others. bibliog Anal Chem 30:1266-70 J1 '58
- Solubility of water in molten mixtures of LiCl and KCl. W. J. Burkhard and J. D. Corbett. bibliog Am Chem Soc J 79:6361-3 D 20 '57

LITHIUM compounds

- Addition of silyllithium compounds containing methyl and phenyl groups to benzophenone in tetrahydrofuran. H. Gilman and G. D. Lichtenwalter. bibliog Am Chem Soc J 80:607-8 F 5 '58
- Heats of formation at 25° of the crystalline hydrides and deuterides and aqueous hydroxides of lithium, sodium and potassium. S. R. Gunn and L. G. Green. bibliog Am Chem Soc J 80:4782-8 S 20 '58
- Intramolecular cleavage-cyclization reaction of silicon-containing organolithium compounds. D. Wittenberg and H. Gilman. Am Chem Soc J 80:2677-80 Je 5 '58
- Lithia agents boost heat resistance of ceramic coatings. P. A. Huppert. Aviation Age 29:56-8 My '58
- Lithium and its compounds. Engineer 205: 309 My 30 '58
- Mesomorphic behaviour of the sodium and lithium soaps prepared from oxidized paraffin wax. K. O. Ingold and I. E. Fuddington. bibliog (36 ref) Inst. Pet J 44: 41-4 F '58
- Preparation of some aldehydes and ketones from lithium aryls. E. A. Evans. bibliog Chem & Ind p 1596-7 D 7 '57
- Proximity effects; the reaction of *cis*- and *trans*-cyclooctene oxide with lithium diethylamide. A. C. Cope and others. bibliog diags Am Chem Soc J 80:2855-9 Je 5 '58
- What's new in refractory ceramic coatings for super metal alloys. II Cer Ind 70:62-4 Mr '58

See also

Butyllithium
Phenyllithium

LITHIUM fluoride

- Cleavage cracks and dislocations in LiF crystals. J. J. Gilman and others. bibliog II diags J Ap Phys 29:601-7 Ap '58
- Creation of dislocations in LiF crystals at low stresses. J. J. Gilman and W. G. Johnston. J Ap Phys 29:110-11 Ja '58
- Dislocation etch pit formation in lithium fluoride. J. J. Gilman and others. bibliog II diags J Ap Phys 29:747-64 My '58
- Dislocations, point-defect clusters, and cavities in neutron irradiated LiF crystals. J. J. Gilman and W. G. Johnston. bibliog II J Ap Phys 29:877-88 Je '58
- Movement of dislocation loops in lithium fluoride. S. Amelinckx and W. Dekeyser. diags J Ap Phys 29:1000-1 Je '58
- Nucleation of dislocations accompanying electric breakdown in LiF crystals. J. J. Gilman and D. W. Stauff. bibliog II diags J Ap Phys 29:120-7 F '58
- Phase equilibria in the alkali fluoride-uranium tetrafluoride fused salt systems; systems LiF-UF₄ and NaF-UF₄. C. J. Barton and others. bibliog II diags Am Cer Soc J 41:63-9 F 1 '58
- Square bubbles in irradiated lithium fluoride crystals. II Metallurgia 56:245 N '57; Same cond. Engineer 205:303 F 21 '58

LITHIUM halides

- Chemical evidence for the structure of the diammoniate of diarsenic; the reactions of borohydride salts with lithium halides and aluminum chloride. S. G. Shore and R. W. Parry. bibliog Am Chem Soc J 80:12-15 Ja 5 '58

LITHIUM hydride

- Laboratory preparation of lithium deuteride and lithium aluminum deuteride. A. F. L. C. Holding and W. A. Ross. bibliog diags J Ap Chem 8:321-4 My '58

LITHIUM iodide

- Centrifugal electromotive force; the transference numbers of lithium, rubidium and cesium iodides; the iodide-iodine complex. B. R. Ray and others. bibliog diags Am Chem Soc J 80:1029-34 Mr 5 '58

LITHIUM metallurgy

- Lithium extraction from run-of-mine spodumene ore. H. J. Andrews. II Chem Eng Prog 54:54-5 Ja '58
- LITHIUM nickel oxide**
Some ferrimagnetic properties of the system Li₂Ni₂O₃. J. B. Goodenough and others. J Ap Phys 29:382-3 Mr '58

LITHIUM ores

- Kings Mountain lithium mining operations; Foote mineral co. N. O. Johnson. II Min Cong J 44:52-6 Ja '58

See also

Spodumene

LITHIUM oxides

- Studies in lithium oxide systems. B. S. R. Sastry and others. bibliog II diags Am Cer Soc J 41:7-17, 88-92 Ja 1, Mr 1 '58

LITHIUM phosphates

- Lithiophosphate. D. J. Fisher. bibliog Am Mineralogist 43:761-2 J1 '58

LITHIUM silicates

- Influence of platinum nucleation on crystallization of a lithium silicate glass. G. E. Rindone. bibliog II Am Cer Soc J 41:41-2 Ja 1 '58

See also

Petalite

LITHIUM titanium fluorides

- Preparation and thermal stability of lithium titanium fluoride. G. J. Janz and others. bibliog Am Chem Soc J 80:4126-8 Ag 20 '58

LITHOGRAPHERS national association

- LNA approves recommendation to change association name. Inland Ptr 141:53 J1 '58

LITHOGRAPHIC technical foundation

- Annual meeting, Chicago. Feb. 20-21. Inland Ptr 140:73 Mr '58

LITHOGRAPHY

- In-plant printing department. B. E. Arpag. Ind Phot 7:48+ My '58
- New York employing printers association Lithographic division meeting. Inland Ptr 140:57+ Mr '58
- Paper and paperboard in lithography. R. F. Frederick. Tappi 41:sup 165A-7A My '58
- Winners named in 3M contest for excellence in lithography. Inland Ptr 140:66 D '57

See also

Photolithography
Printing, Offset

LITTLE, Arthur D., inc.

- Career opportunities. II Chem & Eng N 36:42 Ja 27 '58

LITTLETON, Jesse T.

- J. T. Littleton to receive Toledo award. Glass Ind 38:696 D '57
- Littleton receives Toledo award. pors Glass Ind 39:90-2 F '58

LIVER

- Effect of dietary fat on the fatty acid composition of cholesterol esters in rat liver. S. Mukherjee and others. bibliog J Nutrition 65:469-79 J1 '58
- Effect of edathamil calcium-disodium on retention of lead in the liver. J. Teisinger and others. diags A M A Archives Ind Health 17:302-6 Ap '58
- Effect of ethionine feeding on liver and kidney coenzyme A content in the rat. A. S. Wenneker and L. Recant. bibliog J Nutrition 64:127-36 Ja '58
- Effect of nonionic emulsifiers on experimental dietary injury of the liver in rats. P. Gyrdy and others. bibliog J Agri & Food Chem 6:139-42 F '58
- Effects of feeding wool-fat sterols on the sterol content of serum and liver of the rat. C. H. Duncan and others. J Nutrition 64:426-31 Mr '58
- Influence of diet upon tissue concentration of vitamin B₆. K. E. Cheslock. bibliog J Nutrition 65:53-61 My '58
- Nutritional fatty livers in rats. A. E. Harper. Am J Clinical Nutrition 6:242-51 bibliog (p249-51); Discussion. 261-3 My '58
- Presence of maltose, maltotriose and maltotetraose in liver. W. H. Fishman and H. Sie. bibliog II Am Chem Soc J 80:121-3 Ja 5 '58
- Role of choline in the hepatic oxidation of fat. C. Aronim. Am J Clinical Nutrition 6: 221-33 bibliog (p232-3); Discussion. 234 My '58
- Study of the effect of deoxypyridoxine or isoniazid upon mineral retention and liver enzyme activities of pyridoxine-deficient male rats. E. W. Hartsook and others. bibliog J Nutrition 65:547-59 Ag '58

LIVER—Continued

Diseases

- Acute reduction in plasma amino acids by carbohydrate infusion in diabetes and liver disease. M. E. Rubini and D. Seligson. *Am J Clin Nutr* 6:365-75 J1 '58
- Cytopathologic changes in liver cord cells of arginine-deficient chicks. E. L. Jung-herr and others. *Am J Clin Nutr* 6:281-92 Je '58
- Fatty liver in children, kwashiorkor. S. Frenk and others. *Am J Clin Nutr* 6:293-307 (bibliog p305-7); Discussion. 307-9 My '58
- Fatty liver in man and the role of lipotropic factors. G. J. Gabuzda. *Am J Clin Nutr* 6:280-93 (bibliog p292-3); Discussion. 293-7 My '58
- Fatty liver of portal type; cured by lysine plus tryptophan. G. P. Vennart and others. *J Nutr* 64:635-8 Ap '58
- Studies on the toxicity of indigofera endecaphylla. E. M. Hutton and others. *Am J Nutr* 64:321-37; 65:429-40 Mr. J1 '58
- LIVER extracts**
- Citrovorum factor cyclodehydrogenase. J. M. Peters and D. M. Greenberg. *Biol Chem Soc J* 80:2719-22 Je 5 '58
- LIVING rooms**
- Living areas. L. Sloane. *Prog Arch* 39: 145-51 My '58
- LLOYDS, London**
- Lloyd's new building. *Eng Engineer* 185:274-5 F 28 '58
- LOAD (electric plants).** See Electric plants (central stations)—Load
- LOAD (mechanics)**
- Alignment chart for loads on ditch conduits. L. E. Livingston. *Am Soc C E Proc* 83 (Works 105:114-15 Mr '58
- Analysis of helical beams under symmetrical loading. A. M. C. Holmes. *Biol Chem Soc J* 80:307-15 (IST 6 no 1437):1-37 N '57; Discussion. 84 (IST 3 no 1656):75-8 My '58; Reply. *Am Soc C E Proc* 83 (IST 6 no 1827):7-10 O '58
- Approximate analysis of Timoshenko beams under dynamic loads. B. A. Boley and C. C. Chao. *Am Soc C E Proc* 83 (IST 6 no 1827):7-10 O '58
- Are you underrated your present structures? K. E. McKee. *Eng Power Ind* 74:16-17-4 Mr '58
- Bearing capacity of concrete. W. Shelton. *Am Soc C E Proc* 83 (IST 6 no 1827):7-10 O '58
- Behavior of certain alloys subjected to dynamic loading. R. G. Crum and R. T. Mavis. *Am Soc C E Proc* 83 (IST 6 no 1827):7-10 O '58
- Behavior of the lubricating film and side leakage in dynamically loaded bearings. M. N. Özdas. *Am Soc C E Proc* 83 (IST 6 no 1827):7-10 O '58
- Bending of an elastically restrained circular plate under normal loading over a sector. W. A. Bassali and R. H. Dawoud. *Am Soc C E Proc* 83 (IST 6 no 1827):7-10 O '58
- Bending of thin uniform circular rings. W. J. Goodey. *Am Soc C E Proc* 83 (IST 6 no 1827):7-10 O '58
- Calculating bolt loads. J. T. Meinenberg. *Machine Design* 30:137 Je 12 '58
- Calculation of stresses in rails due to static vertical loads. C. Storey. *Eng Engineer* 185:311-12 Mr 7 '58
- Circuit analysis of laterally loaded continuous frames. F. Baron. *Am Soc C E Proc* 83 (IST 1 no 1147):1-32 (bibliog p21-2) Ja '57; Discussion. Y. Nubar. 83 (IST 5 no 1382):33-6 S '57; Reply. 84 (IST 1 no 1522):9-10 Ja '58
- Demonstrations of plastic behaviour of steel frames. H. M. Nelson and others. *Am Soc C E Proc* 83 (IST 1 no 1147):1-32 (bibliog p21-2) Ja '57; Discussion. Y. Nubar. 83 (IST 5 no 1382):33-6 S '57; Reply. 84 (IST 1 no 1522):9-10 Ja '58
- Design data for flat air bearings under steady load conditions. E. L. Wunsch. *Am Soc C E Proc* 83 (IST 1 no 1147):1-32 (bibliog p21-2) Ja '57; Discussion. Y. Nubar. 83 (IST 5 no 1382):33-6 S '57; Reply. 84 (IST 1 no 1522):9-10 Ja '58
- Destructive impulse loading of reinforced concrete beams. F. T. Mavis and M. J. Greaves. *Am Soc C E Proc* 83 (IST 1 no 1147):1-32 (bibliog p21-2) Ja '57; Discussion. Y. Nubar. 83 (IST 5 no 1382):33-6 S '57; Reply. 84 (IST 1 no 1522):9-10 Ja '58
- Development of multiple-wheel CBR design criteria. C. R. Foster and R. G. Allen. *Am Soc C E Proc* 83 (IST 1 no 1147):1-32 (bibliog p21-2) Ja '57; Discussion. Y. Nubar. 83 (IST 5 no 1382):33-6 S '57; Reply. 84 (IST 1 no 1522):9-10 Ja '58
- Du Pont constant load method of measuring abrasion resistance of vulcanized natural and synthetic rubbers. *Rubber Chem & Tech* 31:sup 14-17 Ja '58
- Dynamic loads on the teeth of spur gears. S. L. Harris. *Biol Chem Soc J* 80:2719-22 Je 5 '58
- Effect of initial eccentricities on column performance and capacity. J. M. Hayes. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Effect of loading rate on adhesive strength. F. Moser and S. S. Knoell. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Effect of loads on the spring constant of a particular type of flexure. E. G. Blotner. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Effective width of thin rectangular plates. M. Ojalvo and F. H. Hull. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Elastic materials under axial loading. A. N. Procter. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Elastic structures with nonlinear load-deflection curves. B. M. Ma. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- G loading of rotating bodies. C. P. Nachod. *Product Eng* 28:830 Mr O '58
- Garrison Dam-tunnel test section investigation; symposium. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57; Discussion. A. A. Erenin. 84 (IST 6 no 1657):43-4 My '58
- General method for analysis of flat slabs and plates. J. E. Brochie. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57; Discussion. J. Chinn. 29:787-91; Reply. 791-5 Mr '58
- Ground rules for determining or comparing bearing capacity ratings; with nomograph. L. Fiderer. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Increased resistance to deformation of clay caused by repeated loading. H. B. Seed and others. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Influence of load and thermal distortion on the design of large thrust bearings. R. A. Baudry and others. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Influence of repeated bending loads on biaxial residual stresses in shot-peened plates. T. M. Elmsesser. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Lateral load analysis of two-column bents. J. E. Goldberg. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Laterally loaded plates. R. Hicks. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Load-deflection relations and surface strain distributions for flat rubber pads. A. N. Gent. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Load test of 120-ft precast, prestressed bridge girder. F. R. Khan and A. J. Brown. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Load test on flat slab floor with embedded diaphragm grillage caps. D. D. Meisel and others. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Load-torque factor in precision gear backlash. W. Aksamit. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Load transfer is key to subway job; BMT subway division tunnel at the DeKalb ave. station in Brooklyn. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Measuring the preload of ball or roller bearings; abstract. C. L. Emmerich. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Model study of a dynamically laterally loaded pile. R. D. Gault. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Performance of dowelled joints under repetitive loading. L. W. Teller and H. D. Cashell. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Pole embedment to resist lateral load. D. Patterson. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Practical aspects of ultimate strength design; design charts for selection of critical load-factor combination. A. L. Parme. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Rundown on the conjugate-beam method; reference book sheet. E. D. Clark. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57
- Shock factors for impact loads; reference book sheet. G. H. Howell. *Am Soc C E Proc* 83 (IST 6 no 1440):1-4 N '57

LOAD (mechanics)—Continued

Some factors influencing the area-load characteristics for semismooth contiguous surfaces under static loading. F. F. Ling. bibliog diags A S M E Trans 80:1113-20 J '58

Some solutions of the Timoshenko beam equation for short pulse-type loading. H. J. Plass, jr. bibliog diags J Ap Mech 25: 379-85 S '58

Stress distributions around hydrostatically loaded circular holes in the neighborhood of corners. A. J. Durelli and A. S. Kobayashi. bibliog il diags J Ap Mech 25: 178-83 Je '58

Tests on struts in the elastic and plastic ranges. K. B. Ayers and R. C. Coates. bibliog diags Engineering 185:88-9 Ja 17 '58

Time dependence of mechanical breakdown in bundles of fibers; infinite ideal bundle under oscillating loads. B. D. Coleman and D. W. Marquardt. bibliog J Ap Phys 29: 1091-9 JI '58

12 ways to load-test gears; instructions illustrated. G. Shipley. Product Eng 29:77-82 Je 6 '58

Ultimate strength analysis of long hinged reinforced concrete columns. B. Broms and I. M. Viest. bibliog diags Am Soc C E Proc 84 [ST 1 no 15101:1-38 Ja '58; Discussion. 84 [ST 2 no 15761:59 Mr; [ST 4 no 17211:11-19 JI; [ST 5 no 17871:19-20 S '58

Under-reinforced concrete beams under long-term loads. H. A. Sawyer, jr. and J. E. Stephens. il diags Am Concrete Inst J 29: 21-9 JI '57; Correction. 29:sup26-7 N '57; Discussion. S. Soretz. 29:779-84; Reply. 784-5 Mr '58

Watch out for compression loads. L. A. Yerkovich. il diag Product Eng 28:72-5 D 9 '57

See also

Airplanes—Load
Bridges—Load
Influence lines
Strains and stresses

LOAD cells. See Scales

LOAD dispatching. See Electric plants (central stations)—Load dispatching

LOADING and unloading

Automated warehouse doubles storage volume. il diags Plant 18:48-9 S '58

Boom loading; Fowler loader, a boom-type attachment for lift trucks. il Mech Eng 80:99-100 Mr '58

Gleason quenching press; automatic loader and unloader. il Mach 64:191-2 Ja '58

How to automate production equipment. R. Le Grand. il diags Am Mach 102:145-60 Ap 21; 73-5 Je 30; 81-3 JI 28; 102-4 S 22 '58

Palletized storage, automated warehouse are one-man job. diags Machine Design 30:12 My 15 '58

Plater unloads automatically; Stanley co. il diag Steel 142:33 F 24 '58

Spring-loaded metal fingers uncage bottles at high speed. il plan diag Machine Design 29:100-1 O 31 '57

See also

Conveying machinery
Dumping appliances
Mechanical handling
Pipe handling

Barges

Conveyor system speeds loading of New York Trap Rock barges. il Pit & Quarry 51:118-19 Ag '58

Cars

Adjustable platform aids material loading. E. J. Erwood and C. A. Erwood. diags Chem Eng 65:158 Mr 10 '58

Automatic car-loading at South-East Coal. il diags Coal Age 63:94-5+ Je '58

Efficient handling of carbon black shipments; unitized loading. E. H. Baker and J. W. Hamilton. il plans Rubber Age 84:88-90 O '58

Electronic scales keep tabs on hung up material; Chesapeake and Ohio railway ore unloading facilities. il Mod Materials Handling 13:89 JI '58

How to unload industrial lumber. il diags Mod Materials Handling 13:132-5 Mr '58

New car shaker speeds bulk cement unloading. il Concrete 66:37-8 Je '58

Ways of handling coal in freezing weather. Power Eng 62:90 Mr '58

See also

Car dumpers

Mine cars

Piloted relief valves keep power requirements low; loading system for mine cars. W. R. Stamler. il diags Ap Hydraulics 11:77-9 Mr '58

Motor trucks

Boosts payload and saves dollars; New process baking co. il Food Eng 30:72 Ap '58

Burtonwood hydraulic tail-lift for the loading and unloading of vehicles. il diags Automobile Eng 47:525-8 D '57

Efficient handling of carbon black shipments; unitized loading. E. H. Baker and J. W. Hamilton. il plans Rubber Age 84:88-90 O '58

Gravity speeds truck loading, unloading; handling large sheet metal parts. il Iron Age 181:89 My 1 '58

Handling system brightens truck future; Sprout Waldron developed a line of bulk carriers with built-in pneumatic handling systems. il diag Chem Eng 65:94-+ F 10 '58

Handling system protects celestial blood; bound; straps secure satellite tracking camera from factory to White Sands observatory. il Mod Materials Handling 13: 77 F '58

Hiab hydraulic loader. il Engineering 186:364 S 19 '58

Loading vehicles mechanically; Dock-o-matic loading ramp. il diag Engineering 185:574 My 2 '58

Safety guards stabilize loads during transit; special frame with drums and corrugated sidewall with bags. il Mod Materials Handling 13:125 Mr '58

Truck sets its own dock height; automatic dock ramp leveling device. il Textile Ind 122:89 JI '58

What is direct loading? abstract. B. W. Hupp. Mod Materials Handling 13:56 S '58

Ships

Relay memory gets cargoes ashore. P. A. Jassoy. il diags Control Eng 5:117-+ Je '58

West coast goes for big pallets in big way. il Mod Materials Handling 13:74-5 F '58

See also

Cargo handling

Tank cars

Safer loading-rack operations at pipeline terminals. C. H. Scruggs and D. L. Hope. il diags Oil & Gas J 55:109-+ O 28 '57

Use of tank car chlorine. R. M. Harwood and R. Haw. il diag Water & Sewage Works 105:267-9 JI '58

Tank trucks

Safer loading-rack operations at pipeline terminals. C. H. Scruggs and D. L. Hope. il diags Oil & Gas J 55:109-+ O 28 '57

LOADING machines

Air under pressure loads parts in oscillating collector plate; illustrations with text. Machine Design 30:145-5 Mr 20 '58

Brown dual pivot loader. il Engineering 186:196 Ag 15 '58

Hydraulically operated loading shovel; J. C. Bamford (excavators), Ltd. il Engineer 205: 902 Je 13 '58

1958 equipment buyer's guide; yard and outdoor equipment. il Mod Materials Handling 13:217-40 My '58

Rock drilling and loading. il Engineering 185: 421 Ap 4 '58

Selecting loaders for mining; with specifications. il Eng & Min J 159:97-101 Mid-Je '58

Self-loading hauler is efficient. C. G. Kuehn, jr. diags Eng & Min J 159:112 My '58

Side-tipping bucket for high loaders. il Engineering 186:26 JI 4 '58

LOANS, Bank

Bank loans on gasoline plants. F. E. McGonagill, jr. J Pet Tech 10:13-16 F '58

Role of Canadian banks in the oil and gas industry. A. D. Insley. Can Min & Met Bul 51:108-10 F '58

See also

Credit, Bank

LOANS, Employees

West Penn up with a wiring, heating, appliances and lighting for employees deal. Elec World 149:100 Mr 24 '58

LOBBIES (architecture)

Progressive Architecture interior design data; lobby. il Prog Arch 39:136-7 Ja '58

LOBLOLLY pine. See Pine**LOCAL anesthetics.** See Anesthetics, Local

LOCATING (machine work)

- Building-block gages cut jig fabrication costs, J. Less and L. Willick, *il* *diags* Tool Eng 40:37-9 F '58
- Built-in indicator, H. J. Gerber, *il* *diag* Tool Eng 40:80-1 Ja '58
- Design of relieved locator pins, F. Murray, *diags* Mach 64:164-6 N '57
- Drillpress setup aided by combination bevel protractor, F. Strasser, *diag* Am Mach 101:167 N 18 '57
- Nonsticking plugs for jigs and fixtures, J. R. Paquin, *diags* Tool Eng 40:117-18 Je '58
- Optical system positions tooling accurately, *il* *diag* Tool Eng 40:93 My '58
- Templet locates work, N. Lenorio, *diag* Am Mach 102:122 Je 16 '58
- Tracer device locates punched holes from blueprints, *il* *Iron Age* 180:85 N 28 '57
- Turret punch press controlled by optical locator, *il* *Mach* 64:139 Ag '58
- Turret punchpress works from full size, non-dimensional drawing, *il* *Am Mach* 102:127 Je 16 '58

LOCATION in industry

- Environment and industry: report on the Princeton conference, *Arch Rec* 124:159-62 J '58
- Gas utility's place in area industrial development, G. R. Walton, *Gas Age* 122:36-40 Ag 21 '58
- Industrial geography at a glance, map Tool Eng 40:136 Mr '58
- Moving out of London, *Engineering* 186:137 Ag 1 '58
- See also*
- Factories—Location

LOCKE, Frederick, W. S. Jr

- 1958 water-based aviation award won by navy BuAer scientist, *por Aero/Space Eng* 17:15+ Ag '58

LOCKING devices

- Axle lockbolt, *diags Automobile Eng* 48:357 S '58
- Jig locking device speeds production, F. A. Adams, *diags Am Mach* 101:125 D 2 '57
- Locking ability of hexagon locknuts; reference book sheet, *diag Am Mach* 102:147 Mr 10 '58; Same *abr*, *Product Eng* 29:G6 Mid-S '58

LOCKS (hydraulic engineering)

- American locks of the St Lawrence seaway, J. P. Davis, map *diag Am Soc C E Proc* 84 [WW 4 no 1771]:1-16 S '58
- Beauharnois canal locks, D. McIntyre, *il* map plans *diags Am Soc C E Proc* 84 [WW 4 no 1781]:1-13 S '58
- Calumet River lock, Calumet-Sag project, Illinois, W. J. Santina and E. G. Hoffmann, maps plans *diags Am Soc C E Proc* 84 [WW 3 no 1642]:1-20 My '58
- Canal juggling keeps lock traffic moving; Wilson lock and dam project, G. K. Leonard and others, *il* *diags Eng N* 160:40-2+ Ap 10 '58
- Contractor's planning for navigation locks, F. J. Larkin, *il* plans *diags Am Soc C E Proc* 84 [WW 2 no 1572]:1-13 Mr '58
- Fewer locks of larger size are key to billion dollar program of modernizing Ohio River navigation, R. E. Smyser, Jr, map *diags Eng N* 160:65-6+ Ap 17 '58
- Highest sector-gate lock is under way; new ship canal to San Francisco Bay tributary, map *Eng N* 161:28 JI 3 '58
- Hydraulic design of Columbia River basin navigation locks, G. C. Richardson and M. J. Webster, *il* map plans *diags Am Soc C E Proc* 84 [WW 4 no 1773]:1-24 S '58
- Lock job moves fast with water borne equipment; Markland dam on the Ohio river, *il* *Eng N* 160:28-3, cover Ap 24 '58
- Lock of 100-ft lift built into Wilson dam, H. T. Loft and C. W. Bell, Jr, *il* map *diags Civil Eng* 28:496-501, cover JI '58
- Model studies of sector gate type locks, F. R. Brown, *il* *Am Soc C E Proc* 84 [WW 4 no 1767]:1-16 S '58
- New concrete form holds lock wall armor; Greenup Lock job on the Ohio river, *il* *Eng N* 160:58 Ap 24 '58
- St Lawrence seaway; planning and constructing the Lachine section, L. H. Burpee, *il* maps *diags Eng J* 41:55-68 S '58

Models

- Eisenhower and Grass River lock models, M. E. Nelson and H. J. Johnson, plans *diags Am Soc C E Proc* 84 [HY 2 no 1582]:1-15 Ap '58; Discussion, M. J. Webster, 84 [HY 6 no 1856]:81-4 N '58

LOCKS and keys**Manufacture**

- Lock machining keyed to high output; Yale & Towne mfg. co. F. J. Giannitti, *il* *Mach* 64:95-8 Ag '58

LOCOMOTIVE boilers

- Draught in the locomotive boiler, W. A. Tuplin, *Engineer* 205:122-3 Ja 24 '58

LOCOMOTIVE shops

- Diesel locomotive maintenance depot, *il* *Engineer* 204:760 N 22 '57
- Paper wipers are working on the railroad, *il* *Safety Maint* 114:26+ N '57
- See also*

Railroads—Shops**LOCOMOTIVE terminals****See also****Locomotive shops****LOCOMOTIVE works****Layout**

- Straight-line locomotive output, *il* *Am Mach* 102:96 Je 2 '58

LOCOMOTIVES

- Engineering industries; locomotives and rolling stock, *Engineering* 185:51-2 Ja 10 '58
- French locomotive experiences, E. H. Livesay, *il* plans *diags Engineer* 204:698-701, 735-3; 206:240-50, 284-6 N 15-22 '57, Ag 15-22 '58
- Research and engineering progress, 1957; rail, *il* *Gen Elec R* 61:52-3 Ja '58
- See also*
- Electric locomotives
- Motor cars (railroad)
- Railroads—Rolling stock

History

- Mogul locomotive preserved, *il* *Engineer* 206:371 S 5 '58

Maintenance and repair**See also****Locomotive shops****Performance**

- Locomotive performance, E. C. Poultney, *Engineer* 205:245-9 F 14 '58
- Train performance and locomotive tonnage ratings calculated by digital computer, J. E. Hogan, flow chart *Applications & Ind p* 123-5 JI '58; Same, *Elec Eng* 77:424-9 My '58

Wheels

- Advancing adhesion, development and test of a chemical formulation to condition the running surface of rail for improved wheel-to-rail adhesion, F. G. Fisher and others, *il* *A S M E Trans* 80:1037-49; Discussion, 1049-52; Reply, 1052-3 JI '58

LOCOMOTIVES, Atomic powered

- Atomic locomotive may be USSR's new first, *Product Eng* 28:114 N 11 '57
- Atomic powerplants are out, for highway vehicles, locomotives or transport planes until problems are solved, E. D. Reeves, *S A E J* 66:69 Mr '58
- Nuclear research is developing many opportunities in the transportation field, R. McBrien, *S A E J* 66:45 F '58

LOCOMOTIVES, Diesel

- British locomotive uses mechanical transmission, L. F. R. Fell and G. M. Barrett, plan *diag S A E J* 66:51-3; Discussion, 53-5; Reply, 56 Mr '58
- Clyde Diesel locomotive crane with hydraulic transmission, *il* *diag Engineer* 205:440-1 Mr 21 '58
- Continental railways; illustrations with text, *Engineer* 205:pl 14 Je 10 '58
- Diesel locomotives; illustrations with text, *Engineer* 205:pl 4 Ja 3 '58
- Diesel shunting locomotive, *il* *Engineer* 206:306 Ag 22 '58
- Experiences with the Fell locomotive, L. F. R. Fell, *Engineer* 204:779-81 N 29 '57
- New cranking battery for Diesel locomotive, *il* *Diesel Power* 35:43 N '57
- Underground operation with safety, *il* *Diesel Power* 36:30 Ja '58

Cooling

- Laboratory testing of railroad Diesel cooling system corrosion inhibitors, J. I. Bregman and D. B. Boies, *il* *Corrosion* 14:33-7 Je '58

Fuel

- Nuclear irradiation of coal for use with Diesel fuel, R. McBrain, *il* *Min Cong J* 44:82-4 Ag '58; Abstracts, *Oil & Gas J* 56:109 Ap 7 '58; *Mech Eng* 80:75 S '58
- Railroad Diesels can use residual blend fuels, *il* *A S T M Bul* p25-6 Ja '58

LOCOMOTIVES, Diesel—Continued**Maintenance and repair**

Industrial locomotives need overhauling too.
K. O. Anderson, *il* Plant 18:48-9 J1 '58

LOCOMOTIVES, Diesel-electric

British railways main-line Diesel-electric locomotive, *il* Engineer 206:180-2 Ag 1 '58
Diesel-electric shunting locomotive, *il* Engineer 204:645 N 1 '57
Eastern region Diesels, *il* Engineering 185:607 My 9 '58
800 h.p. Diesel-electric locomotive, *il* Engineer 204:759 N 22 '57
Electro-Motive div. standardizes dual-purpose locomotive, *il* Diesel Power 36:30 Mr '58
Industrial locomotive custom-built for job, *il* Diesel Power 36:62+ Ap '58
Main-line Diesel-electric locomotive, *il* Engineering 184:759-60 D 13 '57
Main-line Diesel-electric locomotive, *il* Engineering 183:221 Ag 15 '58
Secondary filtration protects locomotive Diesels, *il* Diesel Power 36:118-19 My '58
1250 h.p. Diesel-electric locomotives for British railways, *il* Engineer 204:683 N 8 '57

Air supply

Field experience with electrostatic precipitator on Diesel locomotive engine air intake.
P. Kangas and others, *il* diag Applications & Ind p230-5 S '58
Practical air filtration for Diesel locomotives.
M. B. Adams, Applications & Ind p209-12 S '58

Cleaning

Evaluation of the effect of dirt on Diesel-electric locomotives, J. W. Horine, Applications & Ind p212-15 S '58

Cooling

Railway traction equipment ventilating systems; abstract, B. A. Widell, Elec Eng 77:585 J1 '58

Lubrication

Lubrication problems arising from railway traction modernization, G. A. Dickens and W. B. Broadbent, bibliog *il* Inst. Pet J 44:183-97; Discussion, 197-206 J1 '58

Manufacture

Straight-line locomotive output, *il* Am Mach 102:96 Je 2 '58

Reconstruction

Diesels designed for rebirth, *il* Product Eng 23:78-9 F 17 '58
New units for old, through remanufacture, *il* Diesel Power 36:56-7 O '58

Testing

Performance and efficiency tests on the 3300 h.p. Deltic locomotive, O. S. Nock, *il* Engineer 206:60-3 J1 '58

LOCOMOTIVES, Diesel-hydraulic

Diesel-hydraulic locomotive of 2,000 h.p. *il* Engineering 185:316 Mr 7 '58
Diesel-hydraulic locomotive of 2,200 h.p. *il* Engineering 186:123 J1 25 '58
Diesel-hydraulic locomotives, *il* Mech Eng 80:98 Ap '58
Diesel-hydraulic traction, *il* Engineer 206:105 J1 18 '58

LOCOMOTIVES, Electric. See Electric locomotives**LOCOMOTIVES, Gas turbine**

Locomotive maintenance records prove gas turbines rugged, R. C. Hill, *il* Power Eng 61:82+ D '57

Maintenance and repair

Gas-turbine maintenance in severe service, R. C. Hill, *il* diag Mech Eng 79:639-42 J1 '57; Discussion, 80:121-2 Mr '58

LOCOMOTIVES, Industrial

Diesel-electric shunting locomotive, *il* Engineer 204:645 N 1 '57
Diesel shunting locomotive, *il* Engineer 206:306 Ag 22 '58
Diesel shunting locomotive, *il* Engineering 185:102 Ja 24 '58
Flywheel locomotive, Engineering 185:123 Ja 24 '58
Industrial locomotive custom-built for job, *il* Diesel Power 36:62+ Ap '58
Shunting locomotive, *il* Engineer 204:794 N 29 '57

See also

Electric locomotives. Industrial Locomotives, Mine

Maintenance and repair

Industrial locomotives need overhauling too.
K. O. Anderson, *il* Plant 18:48-9 J1 '58

LOCOMOTIVES, Mine

Underground operation with safety, *il* Diesel Power 36:30 Ja '58

See also

Electric locomotives, Mine

LOCTITE. See Sealing compositions**LOCUST**

Pulp from young black locust wood; abstract, G. Jayme and H. Semmler, Paper Ind 39:875 Ja '58

LOG-normal universes. See Frequency distribution (statistics)**LOGARITHMS**

Improvements to the high-accuracy logarithmic receiver, R. T. Stevens, diag Inst Radio Eng Proc 45:1738-9 D '57
Logarithmic mean temperature difference; data sheet, Air Cond Heat & Ven 55:83-4 F; 65-6 Mr '58
Time behaviour of logarithmic amplifier input circuits, T. P. Planagan, diag J Sci Instr 34:450-2 N '57

LOGGING. See Lumbering**LOGIC, Symbolical and mathematical**

Design by logic; automatic chemical batching, Boolean algebra, J. P. Laird, diag Mech Eng 80:58-41 Ja '58; Discussion, 80:89 J1 '58
Engineering applications of Boolean algebra, B. Beizer and S. W. Leibholz, bibliog diag Elec Manuf 61:129-38 My; 98-108+ Je; 62:100-9 J1; 108-17+ Ag; 67-79+ S '68 (reprints 52)

Extension of Boolean algebra for analysis of mixed-switch diode circuits, B. Beizer, diag Inst Radio Eng Proc 46:779-80 Ap '58
Fundamentals of Boolean algebra, Electronic Ind 17:462+ Je '58

Fitting logic to work in designing distributed program control systems, R. A. Mathias, diag Control Eng 5:139-45 S '58

Realization of events by logical nets, I. M. Copi and others, diag Assn for Computing Mach J 5:181-96 Ad '58

Sequential functions, G. N. Raney, Assn for Computing Mach J 5:177-80 Ap '58

Simplification of a class of Boolean functions, E. Hirschhorn, Assn for Computing Mach J 5:67-75 Ja '58

Synthesis of series-parallel network switching functions, W. Semon, bibliog diag Bell System Tech J 37:877-98 J1 '58

LOGS

See also
Bark peeling

LONDON

Underpass for London? Engineering 184:601 N 8 '57

See also

Airports—London

Architecture

London look; gallery of photographs, W. Evans, Arch Forum 108:114-19 Ap '58

Harbor

Harbour radar, Electronic Eng 30:605 O '58
Radar for port of London, map Engineer 206:305 Ag 22 '58

Industries

Moving out of London, Engineering 186:137 Ag 1 '58

Science museum

Science museum revisited, H. Clausen, Engineer 206:493-4 S 26 '58

Subway

Automatic signalling on the Northern line, *il* Engineer 205:96-7 Ja 17 '58

Extension of General post offices underground railway, *il* Engineer 205:139-40 Ja 24 '58

London underground railway rolling stock, Engineer 205:109 Ja 17 '57

Passenger flow in subways and on staircases, Engineering 186:245 Ag 22 '58

Water supply

Ashford Common filtration works, *il* plan diag Engineer 206:171-5 Ag 1 '58

London's water supply; new works, during 1957, *il* Engineer 205:140-1 Ja 24 '58

Making Thames water drinkable; M.W.B.'s Ashford common filtration works, plan Engineering 186:255-6 Ag 22 '58

Metropolitan water board annual reports, Engineering 185:191 F 7 '58

LONG BEACH, California

Oil blamed for subsidence. *Oil & Gas J* 56: 82 Mr 3 '58

See also

Electric plants (central stations)—Long Beach, California

LONG distance telephone. See Telephone—Long distance

LONG ISLAND, New York

See also

Electronics industry—Long Island, New York

Gas supply—Long Island, New York

Water supply—Long Island, New York

LONGEVITY

Effect of restricted food intake on the life span of genetically obese mice. *P. W. Lane and M. M. Dickie. J Nutrition* 64:549-54 Ap '58

See also

Mortality

LONGIFOLENE

4:7-Dimethylazulene from longifolene. *T. Kubota. Chem & Ind* p951 JI 26 '58

LONGWALL stoping. See Coal mines and mining—Longwall system

LOOM fixers

Encourage loom fixers to ask for advice. *C. West. JI Textile Ind* 122:167-8 O '58

Here's how one mill adopted loom-gauge settings. *JI Textile World* 108:60-1 S '58

Loomfixer training pays off at Buck creek cotton mills. *JI Textile World* 108:94-5 Ja '58

LOOMS

Alloy loom part permits substantial yearly saving. *duralumin. diags Textile Ind* 122: 215+ O '58

Follow these pointers to weave woolen tweeds. *E. P. Schremp. JI Textile World* 108:96+ Mr '58

Georgia TOE discusses loom parts and equipment. *Textile World* 107:126-7 D '57

How fast will your looms run? *R. B. Pressley. Textile World* 108:58-9 Ag '58

Improved loom dobby. *diags Textile World* 107:160 D '57

Judson mills eliminates wavy cloth with let-offs. *JI Textile World* 108:47+ S '58

Keeping out the insects; new loom for production of insect screening. *JI Mill & Factory* 61:246+ D '57

Loom improvements and roll run-out; South Carolina div. of Southern textile association fall meeting. *Textile Ind* 122:75 Ja '58

Looms were modernized by many mills in 1957. *Textile World* 108:92-3 F '58

Mill may be loom output control system into data processing unit. *R. E. Bayha. diag Textile Ind* 122:62-3 JI '58

Mill men reply to more speed with 8" quills? *Textile Ind* 122:139+ Ag '58

Mills with new looms produce 30 per cent more cloth. *Textile World* 108:62-4 O '58

New let-off ends wavy cloth, cuts loom upkeep. *Southern loom development co. JI Mod Textiles Mag* 39:51 O '58

New looms at Graniteville. *JI Textile World* 107:140 D '57

Piedmont cotton mills diversifies production. *JI Textile World* 108:39+ Mr '58

Shuttleless loom blows at 320 ppm. *P. Abbenheim. JI diags Textile Ind* 122:114-16 Ap '58

Tests to improve weaving and cloth quality. *N. L. Enrick. diag Mod Textiles Mag* 38:40+ D '57

Textile automation: new mass-counting system analyzes loom operations. *JI Textile World* 108:102-3 F '58

Cleaning

Cotton mills improve ways to keep weave rooms clean. *JI Textile World* 108:52-3+ Ap '58

How they clean looms in Georgia mills. *Textile Ind* 122:86-90 Ja '58

Control

Here's how one mill adopted loom-gauge settings. *JI Textile World* 108:60-1 S '58

How E-model loom brakes can be made more effective. *diag Textile World* 108:62+ JI '58

Try this loom setting indicator. *diags Textile Ind* 122:157 Ap '58

Maintenance and repair

How E-model loom brakes can be made more effective. *diag Textile World* 108:62+ JI '58

How to avoid bent vibrator levers. *diags Mod Textiles Mag* 39:50-1 Mr '58

How to set filter feelers to make more and better cloth. *W. C. Westbrook. diags Textile World* 108:140-1 Mr '58

Look in the quill can to check loom performance. *W. C. Westbrook. Textile World* 108:71 Je '58

Loom upkeep practices surveyed. *C. West. JI Textile Ind* 122:122-3+ Ag '58

Preventive maintenance improves loom performance. *JI Textile World* 108:79+ Ja '58

Scheduled inspection increases the life of loom pickers. *R. B. Pressley. diags Textile World* 108:72-3+ Ja '58

Use a new formula to make effective loom-stop checks. *E. R. Beckner. Textile World* 108:69+ Ap '58

See also

Loom fixers

LOS ANGELES

Los Angeles votes to give Chavez Ravine site to Dodgers for new baseball stadium. *JI Arch Forum* 109:13 JI '58

Sanitary affairs

Air pollution lab reports. *E. R. Stephens and R. C. Doerr. bibliog Franklin Inst J* 265:148-52 F '58

Sewerage

Los Angeles enlarges its sewage facilities. *D. L. Narver, Jr. and E. H. Graham, Jr. JI maps plan diags Civil Eng* 27:782-6, 856-8; 28:6-11 N 57-Ja '58

Sewage disposal in Santa Monica bay, Calif. *C. G. Gunnerson. maps Am Soc C E Proc* 84 [SA 1 no 1534]:1-23 bibliog (25 titles, p27-8) F '58

Water supply

Control of earthy, musty odors in water by treatment with residual copper. *K. A. Bartholomew. bibliog Am Water Works Assn J* 50:481-6; Discussion. *J. K. G. Silvey. 486-8 Ap '58*

LOS ANGELES county, California

See also

Sewerage—Los Angeles county, California

LOST wax process

Aluminum investment castings with guaranteed properties. *JI Materials in Design Eng* 47:144 Mr '58

Engineering properties of pattern waxes. *G. J. Marsel and others. JI Tool Eng* 39: 95-8 N '57

Epoxy radomes made by unique lost wax process. *G. Mooring and C. R. Lemons. JI Plastics World* 16:8-9 Ap '58

Investment casting institute 5th annual meeting. *Chicago. Nov. 19-21; abstracts of papers. Foundry* 86:160 Ja '58

Investment casting of precious metal jewelry. *R. H. Atkinson. JI diags Metal Prog* 73: 97-101 F '58

Investment casting problems. *C. W. Ammen. diag Foundry* 86:188+ S '58

Investment castings go civilian. *JI diags Steel* 142:95-8 Mr 3 '58

Lost wax builds de-iceable radomes: Illustrations with text. *Am Mach* 101:106-8 D 2 '57

Metalworking, 1962; investment casting. *D. von Ludwig. diag Am Mach* 101:136-7 N 18 '57

Miniature investment castings. *V. S. Lazars. JI Materials in Design Eng* 48:96-7 JI '58

Processing high-temperature alloys; vacuum melting improves investment casting. *J. A. Miller. bibliog JI Metals* 10:522-4 Ag '58

Vacuum cast nickel alloy vs best cobalt alloy. *J. J. Eisenhauer and J. Preston. JI Materials in Design Eng* 47:116-17 F '58

Viscosity measurements for thick slurries. *D. J. Kenny and P. A. Rutt. JI diag Foundry* 86:238+ My '58

LOTIONS

Dermatological lotions. *Drug & Cosmetic Ind* 82:663+ My '58

LOUD speaking apparatus

A-592 amplifier speaker. *Audio* 42:33 Mr '58

Bakers ultra 12" loudspeaker. *JI Audio* 42:34+ Je '58

Compass-1, a new loudspeaker design. *M. D. Thalberg. JI Audio* 42:34+ Ap '58

Design for a folded corner horn; low-frequency unit. *H. J. F. Crabbe. bibliog JI diags Wireless World* 64:57-62 F '58

Designing a low-distortion 12-watt amplifier. *R. M. Voss. JI diag Radio-Electronics* 29:33-4 Ag '58

Electronic boat horn and hailer. *H. L. Davidson. JI diag Radio-Electronics* 29:81-2 JI '58

Equalization of sound systems. *W. Rudmose. Noise Control* 4:24-9 JI '58

Equipment review. Published in monthly numbers of *Audio*

LOUD speaking apparatus—Continued

- Evolution of a loudspeaker telephone; illustrations with text. E. J. Tangerman. *Product Eng* 29:30-1 J1 '58 '59
- 400 loudspeakers. H. Gernsback. *il Radio-Electronics* 29:46-7 O '58
- Heathkit EA-2 amplifier. *il Audio* 42:30-1 J1 '58
- Induction pickups and the drive-in movie. A. Nadel. *il diag Radio-Electronics* 29:34-5 Mr '58
- Know your levels. N. H. Crowhurst. *diags Radio-Electronics* 29:39-42 Je '58
- Loudspeaker checks jets. *il Electronics* 31:14 J1 '58
- Madison Fielding series 320 stereo amplifier. *Audio* 42:42-3 S '58
- Multichannel audio mixer-preamplifier. 'H. Reed. *il diags Audio* 42:27-8+ Ja '58
- Neshaminy Z-200 dynamic-electrostatic loudspeaker system. *il Audio* 42:52-+ Mr '58
- New products. Published in monthly numbers of *Audio*
- Paging preamplifier. M. Horowitz. *il diags Audio* 42:22-3+ Ap '58
- Public address dummy load. R. H. Houston. *il diags Radio-Electronics* 29:46-7 Je '58
- Push-button loud-speaker telephones. *Engineering* 136:333 S 12 '58
- Push-pull amplifiers drive speaker directly. J. Rodriguez De Miranda. *il diags Electronics* 31:76-9 J1 '58
- Sound system data. *diags Elec Constr & Maint* 57:49-51 Mid-S '58
- Speaker system for the stereo age. A. S. Hegeman and N. Eisenberg. *il diags Radio-Electronics* 29:42-4, cover S '58
- Standing waves in listening rooms; aural effects under steady state and transient conditions. J. Moir. *diags Wireless World* 64:254-9 Je '58
- Stereo speakers, where do they go? G. L. Augspurger. *il diags Radio-Electronics* 29:39-40 Mr '58
- Stereophonic recording and playback amplifier. W. B. Denny. *il diags Audio* 42:24-7+ S '58
- Three-channel effect with two stereo channels. P. W. Klipsch. *diag Radio-Electronics* 29:55 F '58
- Three-channel remote amplifier. A. Stratmoen. *il diag Audio* 42:24-6 Je '58
- Use of twin-T networks. N. H. Crowhurst. *diags Audio* 42:19-24+ Mr '58

Cabinets

- Compact ultra-linear speakers for stereo. V. Brochner. *il diags Audio* 42:33+ Ag '58
- Custom-built corner horn enclosures. L. Gagnon. *il plans diags Audio* 42:20-3+ F '58
- KLH research and development corporation loudspeaker line. *il Audio* 42:33-9 My '58

Manufacture

- Adhesives improve product quality; loudspeakers. *il Steel* 142:113 Je 16 '58

Power supply

- Amplifier performance; specifications and evaluation. H. Burstein. *Audio* 42:24-5, 52-3 F '58
- Amplifier using new 6CZ5's. N. Grossman. *diag Audio* 42:23 J1 '58
- High-fidelity amplifier design and performance. M. Horowitz. *il diags Radio-Electronics* 29:40-2 Ap '58

Tables, calculations, etc.

- Exponential horn dimensions; calculations for ribbon loudspeakers. J. R. G. Twisleton. *Wireless World* 64:193 Ap '58

Testing

- Master control unit for audio tests. L. B. Hedge. *il diags Radio-Electronics* 29:54-7 Mr '58

Transistor apparatus

- All-transistor home amplifier. E. T. Canby. *Audio* 42:12+ F '58
- Direct-coupled transistor audio amplifier for transistorized amplifiers and portable receivers. D. A. G. Tait. *diags Wireless World* 64:237-9 My '58
- Portable transistor music system. R. S. Burwen. *il diags Audio Eng Soc J* 6:10-18 Ja '58
- Transistorized passenger-address system adjusts to aircraft noise. J. M. Tewksbury. *il diags Electronics* 31:106-7 F 14 '58

Tuning

- Improved loudness control. J. P. Wentworth. *diags Audio* 42:30+ Ja '58

LOUDERBACK, George Davis

Memorial. A. Pabst. *bibliog por Am Mineralogist* 43:297-301 Mr '58

LOUDNESS. See Sound—Measurement**LOUISIANA**

See also subdivision Louisiana under special subjects, e.g.

Architecture, Domestic

Gas, Natural

Petroleum

Petroleum industry and trade

Petroleum laws and regulations

Sewerage

LOUISVILLE, Kentucky**Sanitary affairs**

Operation of Louisville's new incinerator. H. J. Cates. *flow diag Pub Works* 88:110-11+ D '57

LOUVERS

Arc spotwelding stiffens louver panels. R. Molthrop. *il diag Am Mach* 102:90-1 S 8 '58

Trends in lighting equipment design; louver ceilings. B. C. Cooper. *il diags Elec Constr & Maint* 57:81 O '58

LOW temperature. See Temperature, Low**LUBRICATING greases**

Basic factors in the formation and stability of nonsoap lubricating greases. G. J. Young and others. *bibliog J Colloid Sci* 13:358-82 Ag '58

Factors in lubricating grease qualities. C. J. Boner. *Pet Eng* 30:C38 Ag '58

Grease flow in shielded bearings. R. O'Halloran and others. *Lub Eng* 14:104-7; Discussion. 107+ Mr '58

Lithium-based grease reduces blast furnace lubrication costs. *il Iron & Steel Eng* 34:162+ O '57

Mill saves with multipurpose grease; Tennessee coal & iron div., U.S. Steel. *il Steel* 143:68+ Ag 11 '58

New grease developed for extreme-temperature use. *Oil & Gas J* 56:102 F 3 '58

New thickener for multipurpose lubricating greases. R. J. Rosscup and others. *il Lub Eng* 14:16-18 Ja '58

Analysis

Rapid chromatographic analysis of soap-thickened lubricating greases. G. W. Powers, Jr. and F. J. Fiehl. *bibliog diag Anal Chem* 30:28-31 Ja '58

Manufacture

Grease manufacturing; Stratford engineering corp. *flow diag Pet Refiner* 37:313 S '58

Testing

Compatibility of greases. R. Tourret and A. J. S. Baker. *il diags Inst Pet J* 44:19-13 Ja '58

Modern grease testing. *il (cover) Lub Eng* 14:193 My '58

Viscosity index

Determination of grease consistency using an automatic worker viscometer. H. J. Connors. *bibliog diag Lub Eng* 14:22-6+ Jm '58

Effect of capillary length-to-diameter ratio on grease viscosity. W. R. Miller and others. *bibliog Lub Eng* 14:216-20 My '58

LUBRICATING greases, irradiated

Radiation damage in lubricating greases. B. W. Hotten and J. G. Carroll. *bibliog il Ind & Eng Chem* 50:217-20 F '58

LUBRICATING oil industry

Lube capacity up. *Oil & Gas J* 56:60 Ap 28 '58

LUBRICATING oils

Analysis of equilibrium operating temperatures of railroad journal bearings. W. M. Keller and G. L. Pigman. *Lub Eng* 14:108-15 Mr '58

Better lube oils through research and test. *Diesel Power* 36:34 J1 '58

Boundary lubricity of non-polar hydrocarbon oils and their mixtures. Y. Tamai. *bibliog diags Inst Pet J* 44:207-11 J1 '58

Developments in aircraft turbine lubricants. K. L. Berkey. *diag S A E J* 66:60-3 Ap '58; Abstract. *Aircraft Eng* 30:239 Ag '58

Diesel engine lubricants; their selection and utilization with particular reference to oil alkalinity. A. Dyson and others. *bibliog il diag Inst Mech Eng Proc* 171 no 23:717-30; Discussion. 731-7; Reply. 737-40 '57

Fire-resistant turbine lubricants; Duquesne light co. J. J. O'Connor. *il diag Power* 102:73-7 My '58

LUBRICATING oils—Continued

- Fleets save dollars with multigrade oils; with cost data. L. J. Test and R. E. Greeger. S A E J 66:81 Ja '58
- How lube failure affects gears. E. S. Reynolds and J. R. Hicks. *Il Power* 102:118-19 J1 '58
- Influence of alkali on the oxidation of lubricating oils. K. U. Ingold and I. E. Puddington. bibliog *Il Inst Pet J* 44:168-77 Je '58
- Lube-oil decision reached by FTC. Oil & Gas J 56:94 Mr 17 '58
- Lube-oil demand is falling. Oil & Gas J 56:78 Mr 3 '58
- Lubricating oil additives and the motor industry; abstract. D. P. Dodgson. Chem & Ind p 1473 N 9 '57
- Mechanism of sludge suspension in engine oil. P. J. Agius and D. Mulvey. bibliog *Il Inst Pet J* 44:229-36; Discussion. 237-42 Ag '58
- New nonmetallic oil additive reduces engine deposits. J. A. Miller and C. K. Parker, jr. *Il S A E J* 66:38-41 N '57
- New oil reduces cylinder-linear wear. C. E. Habermann. *Il Marine Eng/Log* 63:63-4 J1 '58
- Pure oil co. refinery has found two ways to distribute lube oil. L. Resen. *Il diag Oil & Gas J* 56:140 Mr 3 '58
- State of dispersion of detergent additives in lubricating oil and other hydrocarbons. J. E. Peri. bibliog *Il diag Am Oil Chem Soc J* 35:110-17 Mr '58
- Trends in Diesel lubes; abstract. E. M. Johnson and H. V. Lowther. S A E J 66:75 Je '58
- Vacuum dehydration of oils. G. J. Topol. *diag Lub Eng* 14:21-4 Ja '58
- Viscosity is still the key to good lubrication of i-c engines. W. M. Kaufmann. *Il diag Power* 102:110-12-1 J '58
- What about oil pour point? here's why flow at low temperature may not be enough. R. B. Purdy. *Il Plant Eng* 12:116-17-4 F '58

Analysis

- Analyze for Ba, Ca, and Zn this way; lube additives and oils. R. J. Bertolacini. bibliog *Pet Refiner* 37:147-9 F '58
- Nonaqueous titration of zinc; rapid method for zinc in lubricating oils. T. L. Marple and others. *Anal Chem* 30:937-40 My '58

Manufacture

- Continuous contact filtration; Filtrrol corp. flow diag *Pet Refiner* 37:293 S '58
- Crude distillation for maximum lubes; Foster Wheeler corp. flow diag *Pet Refiner* 37:312 S '58
- Duo-Sol; the Milwhite co. flow diag *Pet Refiner* 37:272 S '58
- Furfural refining; Texaco development corp. flow diag *Pet Refiner* 37:274 S '58
- Percolation filtration; Minerals & chemicals corp. of America. flow diag *Pet Refiner* 37:306 S '58
- Phenol extraction; the M. W. Kellogg co. flow diag *Pet Refiner* 37:275 S '58
- Propane dewaxing and deoiling; M. W. Kellogg co. flow diag *Pet Refiner* 37:277 S '58
- Relationship between the capacity and efficiency of dewaxing filters. R. M. Butler. *Can J Chem Eng* 36:182-6 Ag '58
- Solvent dewaxing; Texaco development corp. flow diag *Pet Refiner* 37:280 S '58
- SO₂ extraction; Stone & Webster engineering corp. flow diag *Pet Refiner* 37:278 S '58
- World's newest complete lube plant of Daura refinery near Baghdad, Iraq. M. A. G. Naqib and J. W. Mitchell. *Il diag Oil & Gas J* 56:101-6 Ag 11 '58

Prices

- Gas, oil costing motorist less. Oil & Gas J 56:86 Mr 17 '58

Testing

- Design and testing consideration of lubricants for gear applications. E. E. Shipley. bibliog *diag Lub Eng* 14:148-52-4 Ap '58; Same cont. *Product Eng* 29:E 2-5 Mid-S '58
- Don't ask gasoline-engine oils to pass Diesel-engine tests. J. K. Patterson and W. E. Wadley. S A E J 66:53-60 My '58
- Effect of additives on crankcase oil filterability. R. L. Willis and E. C. Ballard. bibliog *Il diag Lub Eng* 14:58-63-4 F '58
- Evaluation of anti-seizure and recovery-from-seizure properties of e.p. lubricants by the four-ball testing machine. C. Paleari and others. bibliog *Inst Pet J* 44:178-81 Je '58

Identification of reclaimed oils by statistical discrimination of infrared absorption data. A. Ungar and A. M. Trozolo. bibliog *Anal Chem* 30:187-91 F '58

- Influence of pressure and temperature on oil viscosity in thrust bearings. B. Sternlicht. *diag ASME Trans* 80:1108-12 J1 '58
- Mix and laboratory evaluation of oils for rolling of copper alloys. F. L. Reynolds. *Il Lub Eng* 14:98-103-4 Mr '58
- New combination test developed for gear oils. S A E J 66:32 D '57
- Petter engine tests of Diesel lubricating oils. R. Tourret and R. W. Sale. *Il Inst Pet J* 43:273-81 O '57
- Vehicle dynamometer for fuel and lubricating oil research. H. J. Batwell and others. *Il diag Automobile Eng* 48:297-302 Ag '58

Viscosity index

- Find viscosity index by nomograph. D. S. Davis. *Pet Refiner* 37:330 S '58
- Predicting effects of temperature and shear rate on viscosity index-improved lubricants. H. H. Horowitz. bibliog *Ind & Eng Chem* 50:1039-94 J1 '58

LUBRICATING oils, Irradiated

- Analysis of films formed by radioactive e.p. additives. E. H. Loesser and S. B. Twiss. bibliog *Lub Eng* 14:343-9 Ag '58
- Lubricants suffer when subjected to nuclear radiation; abstract. L. W. Manley and others. S A E J 66:50-1 Ag '58
- Radiolysis and radiolytic oxidation of lubricants. R. O. Bolt and J. G. Carroll. bibliog *Ind & Eng Chem* 50:221-8 F '58

LUBRICATION and lubricants

- ASLE-ASME lubrication conference, 1st. Toronto, Oct. 7-9; abstracts of papers. *Product Eng* 28:198-4 N 11 '57
- ASME and ASLE lubrication conference, 1st. Toronto, Oct. 7-9. *Mech Eng* 79:1091-2 N '57
- Better lubrication at lower cost; Phillips petroleum co. J. E. Mallow. Oil & Gas J 56:101-2 Ap 28 '58
- Cement mill lubrication. M. S. Clark. flow chart. *Il diag Pit & Quarry* 50:82-3-4 F; 93-4 Mr '58
- Coded lubrication system; decalcomanias for good control, minimum supervision. R. C. Garretson. *Il Plant Eng* 12:126-7 S '58
- Controlled lubrication program minimizes maintenance; F. E. Myers & bro. co. R. W. Casciani. *Il Plant* 17:39-41 F '58
- Conventional lubricants are sufficiently radiation-resistant for most nuclear power reactor applications. E. D. Reeves. S A E J 66:56-7 My '58
- Die lubricant improves metal flow. *Il Iron Age* 180:182-3 N 14 '57
- Fast liquid supply speeds production. *Il Iron Age* 181:108-9 F 20 '58
- Freons; potential greases; abstract. D. H. Buckley and R. L. Johnson. Chem & Eng N 36:48-9 S 22 '58
- Get your money's worth from maintenance oils. E. A. Cyrol and W. L. Johnson. *Il Mill & Factory* 63:77-80 J1 '58
- Guest editors sift London conference papers on lubrication and wear. E. Rabinowicz; H. A. Hartung. *Product Eng* 28:82-3 N 25 '57
- How to lubricate ways; horizontal, vertical and cross-slide; drawings with text. W. O. Wright. *Product Eng* 28:114-15 D 9; 92-3 D 23 '57
- Improved silicone lubricants operate at 700 F. *Il Materials in Design Eng* 47:151-4 Ja '58
- Increased machine productivity demands well designed lubrication practices. R. H. Guy. *Lub Eng* 14:142-4 Ag '58
- Industrial know-how handbook; lubricants. Mill & Factory 62:PT26-7 My '58
- Inert gas boosts oil's ability; lubricating missiles and space vehicles. *Il Chem & Eng N* 36:34-5 O 13 '58
- Inventory of new chemicals and materials; lubricants. Chem Eng 64:172-3 Mid-N '57
- Lube lines. A. F. Brewer. Published in monthly numbers of Lubrication engineering
- Lubricate close fits by salt bath sulfurizing. G. B. Troup. *Il Iron Age* 181:72-4 Ja 9 '58
- Lubricate under corrosive conditions. Chem Eng 65:154-4 F 10 '58
- Lubricating with air. N. Chronis and others. *Il diag Product Eng* 28:99-106 N 25 '57
- Lubrication and wear. *Engineer* 204:555 O 18 '57
- Lubrication committee updates reports; abstracts of two papers compiled from reports of the ASME research committee. *Product Eng* 28:104-5 D 9 '57

LUBRICATION and lubricants—Continued.

- Lubrication field notes (cont). S. Jester. Power 102:123+ Ja '58
 Lubrication; forum on technical progress. Steel 142:391-2+ Ja '58
 Lubrication in the refinery, diags Oil & Gas J 55:244 N 18; 117 D 2; 141 D 9; 133 D 16; 218 D 30 '57; 58:114 Ja 13 '58
 Lubrication of roller chains; illustrated instructions. Product Eng 28:E 10-11 Mid-O '57
 Magnolia up with lube plant at Beaumont. S. Pet Refiner 37:229 Je '58
 Maintenance of sleeve bearings. E. J. Clement. *il* Mill & Factory 62:95-102 F '58 (reprints 25c)
 Metalworking, 1962; lubrication. R. Q. Sharpe. Am Mach 101:140-1 N 18 '57
 Molybdenum disulfide for high temperature sliding. G. W. Rowe. Engineer 206:487 S 26 '58
 New lubricants, hydraulic fluids for high temperatures; three new silicone fluids. E. D. Brown, Jr. Materials in Design Eng 47:124-6 Ap '58
 New products. Published in monthly numbers of Lubrication engineering
 Plastics as solid lubricants and bearings; friction and wear of plastics with particular reference to polytetrafluoroethylene. A. J. G. Allan. bibliog Lub Eng 14:211-15 My '58
 Possibilities in the field of dry lubricants; abstracts. R. L. Johnson. Machine Design 30:138+ Mr 20 '58; Tool Eng 40:208-7 Je '58
 Proper selection and use of lubricants for lubricated plug valves. R. F. Klein. *il* Plant Eng 12:84-5 Aa '58
 Railroad lubricants; their storage and handling; abstract. C. M. Larson. Lub Eng 14: 229 My '58
 700 F hydraulic fluid, but no seals, bearings. Product Eng 28:118 N 11 '57
 Storage and handling of lubricants. diags Safety Maint 116:22-6 Aa '58
 Synthetic lube market growing. Chem & Eng N 36:36 S 15 '58
 Technical services laboratory for oil fuels and lubricants; Mobil oil co. *il* Engineer 204:643 N 1 '57
 Thin film lubrication; lubrication of the four ball machine. C. Siripongse and A. Cameron. diag Engineering 186:147-9 Aa 1 '58
 Thin films of polytetrafluoroethylene resin as lubricants and preservative coatings for metals. V. G. Flitzsimmons and W. A. Zisman. bibliog *il* Ind & Eng Chem 50:781-4 My '58; Abstract. Machine Design 30:184 Mr 20 '58
 Uses one lubricant for all operations. *il* Iron Age 180:152-3 N 7 '57

See also

- Friction
 Graphite
 Lubricating greases
 Lubricators
 Molybdenum sulfides
 Oil mists
 Oil reclamation
 Oil seals
 also subdivision Lubrication under special subjects, e.g.
 Air compressors
 Airplane engines
 Automobile engines
 Automobiles
 Bearings
 Bearings, Roller
 Blast furnaces
 Coal mining machinery
 Construction equipment
 Conveying machinery
 Cranes, derricks, etc.
 Diesel engines
 Diesel engines, Marine
 Electric motors
 Gas compressors
 Gas turbines, Aircraft
 Gasoline pumps
 Gearing
 Internal combustion engines
 Knitting machines
 Locomotives, Diesel-electric
 Machine tools
 Motor boat engines, Outboard
 Motor truck engines
 Nuclear reactors
 Pneumatic machinery
 Printing presses
 Pumps
 Refrigeration and refrigerating machinery
 Rolling mills
 Spinning machinery

Steam turbines
 Stokers, Mechanical
 Textile machinery
 Wire rope

Bibliography

- Abstracts of papers appearing in ASLE transactions. Lub Eng 14:221-3 My '58
 Bearings, lubricants and lubrication. Mech Eng 80:64-74 bibliog(p1-4) S '58
 Literature abstracts. W. E. Campbell, ed. Lub Eng 14:33+, 71, 116, 225 Ja-Mr, My '58
 Summaries of foreign papers. diags Lub Eng 14:186-7 Ap '58

Patents

- Patent abstracts. A. Burchick, comp. Lub Eng 14:36-7, 76, 118-9, 230-2, 356-8, 401-3, 530-1 Ja-Mr, My, Aa-S, D '58

Standards

- Standardization of plant lubricants and lubrication practices. R. O. Kageff. Lub Eng 14:94-7+ Mr '58

Testing

- Dynamic hot cell; fuels, lubricants, and hydraulic fluids tested for radiation damage; inland testing laboratories. *il* Chem & Eng N 36:48 N 4 '57
 High temperature lubricant studies. E. E. Klaus and M. R. Fenske. flow diag *il* diags Lub Eng 14:266-73 Je '58
 Lubricants at higher temperatures; assessing the effects on ball bearing failures. D. Scott. *il* diag Engineering 185:660-3 My 23 '58
 Measurement of extreme pressure properties of lubricants; Timken extreme pressure tester. *il* diags A S T M Bul p28-32 F '58
 Molybdenum disulfide and related solid lubricants. B. C. Stupp. bibliog *il* diag Lub Eng 14:159-63 Ap '58

LUBRICATION and lubricants (cutting and grinding)

- Bactericide improves bearing production. Mach 64:98 Aa '58
 Behavior of cutting fluids in reaming steels. L. V. Colwell and H. Brander. A S M E Trans 80:1073-7; Discussion. 1077-8 JI '58
 Coolant filtration improves product quality. V. G. Drake. *il* Tool Eng 40:101-2 Je '58
 Coolants key to rapid boring. *il* Product Eng 29:69 My 26 '58
 Coolant stops rancidity; Illinois tool works. *il* Steel 143:70 JI 7 '58
 Cutting fluid selection. Metal Prog 73:102-3 F '58
 Cutting fluids; reference sheet. E. L. H. Bastian. Tool Eng 41:91-2 JI '58
 Cutting fluids; research, development and practical application. G. Vosmer and E. J. Ritter. *il* diags Tool Eng 40:317-23 Ap '58
 Filtering out a production problem. *il* Mach 64:130 Jm '58
 Filtration of brass mill coolants; abstract. G. E. Signor. Lub Eng 14:229 My '58
 Heat coolant to hold tolerances. *il* Am Mach 102:88-9 JI 14 '58
 Increased machine productivity demands well designed lubrication practices. R. H. Guy. Lub Eng 14:142-4 Ap '58
 Industrial know-how handbook; cutting compounds. *il* Mill & Factory 62:MW20 My '58
 Influence of surface-active agents on the dimensions of chip elements in cutting; abstract. G. L. Epifanov. Lub Eng 14:187 Ap '58
 Is your lube oil giving you top mileage? Norwegian micro-fog lubrication units. *il* diags Iron Age 181:108-9 F 27 '58
 Method for studying the behavior of cutting fluids in wear of tool materials. L. V. Colwell. *il* diags A S M E Trans 80:1054-8 JI '58
 Picking the best soluble oil for the job. S. C. Zylstra. *il* Mach 64:118-20 Mr '58
 Radioactive cutting tools determine efficiency of cutting oils; illustrations with text. Am Mach 101:114-15 D 30 '57
 Selecting coolant systems and pumps for machine tools. J. A. Lord. *il* diags Mach 64:106-11 Je '58
 Spraying of coolants increases tool life. A. Wilcox. *il* Tool Eng 40:111-12 Ap '58
 System prevents waste buildup in central coolant supply. A. B. Myler. *il* Iron Age 182:56-7 JI 31 '58
 Vital importance of cutting fluids and coolants. J. Geschelln. Automotive Ind 118: 324+ Mr 15 '58
 Which cutting fluid for abrasive belt grinding? H. N. Dyer. *il* Am Mach 102:76-8 JI 28 '58

LUBRICATION and lubricants (cutting and grinding)—Continued**Cleaning**

- Clarifying coolants. *il* Engineering 184:586 N 8 '57
 Recovery of used cutting oils: evaluation of centrifugal clarification. A. H. Lipton and R. F. McKibben. *bibliog il* Lub Eng 14: 252-4 Je '58

Physiological effect

- Dermatitis in industry. D. C. Braun and R. Sitgreaves. *bibliog A M A Archives Ind Health* 17:259-72 Ap '58

Testing

- Tests for soluble oils; reference book sheet. A. B. Myler. *il* Am Mach 102:107-4 Je 2 '58
LUBRICATION and lubricants (metal drawing)
 Lubrication effects accompanying the stick-slip clear reactor metals. P. Lowenstein. *diags* Lub Eng 14:262-5+ Je '58
 Selecting press drawing lubricants; reference sheet. L. Salz. *Tool Eng* 40:123-6 Mr '58

LUBRICATION engineers, American society of. See American society of lubrication engineers**LUBRICATION research**

- Behavior of the lubricating film and side leakage in dynamically loaded bearings. M. N. Ozdas. *bibliog il* diags A S M E Trans 80:826-32 My '58
 Chemist faces lubrication problems; abstract. G. Hugel. *Lub Eng* 14:187 Ap '58
 Electrical effects accompanying the stick-slip phenomenon of sliding of metals on plastics and lubricated surfaces. G. W. Sohl and others. *bibliog il* diags A S M E Trans 79:1963-70 N '57
 Experiments on imperfect lubrication. M. D. Hersey and C. W. Staples. *bibliog diags A S M E Trans* 80:1104-7 J1 '58
 Influence of pressure and temperature on oil viscosity in thrust bearings. B. Sternlicht. A S M E Trans 80:1108-12 J1 '58
 Pressure-viscosity effect; background. H. A. Hartung. *bibliog A S M E Trans* 80:1097-8 J1 '58
 Research focuses on gas bearings. N. Chironis. *il* diags Product Eng 28:100-2 N 25 '57
 Russian research on lubrication and wear. D. Godfrey. *bibliog diags Lub Eng* 14:27-31 Ja '58
 Simulated gear-tooth contacts; some experiments upon their lubrication and subsurface deformations. A. W. Crook. *bibliog diags Inst Mech Eng Proc* 171 no 5:187-96, pl 1-5; Discussion. 196-210. Reply. 210-14 '57
 Solution of Reynolds' equation for finite journal bearings. O. Pinkus. *bibliog diags A S M E Trans* 80:858-64 My '58
 Some aspects of the thermal desorption of a boundary lubricant. E. P. Kingsbury. *bibliog diags J Ap Phys* 29:888-91 Je '58
 Theoretical and experimental analysis of hydrodynamic gas-lubricated journal bearings. E. Sternlicht and R. C. Elwell. *bibliog il* diags A S M E Trans 80:865-75; Discussion. 875-8 My '58
 Thin film lubrication. C. Siripongse and others. *bibliog diags Engineering* 186:146-9 Ar 1 '58
 Viscosity-pressure effect on friction and temperature in a journal bearing. S. J. Needs. A S M E Trans 80:1099-102; Discussion. H. A. Hartung. 1102-3 J1 '58

LUBRICATORS

- Automatic oil distributor revolves with turret. H. F. Stone. *diag Am Mach* 102:114 Je 2 '58
 Automatic silicone lubricator for recording tapes and motion picture films. Franklin Inst J 264:378 N '57
 Centralized lubrication: Centralube Multiminor. *il* Engineering 185:100 Ja 24 '58
 Development and application of spray lubrication. E. J. Gesdorf. *il* plan diags Iron & Steel Eng 35:115-24; Discussion. 124-6 My '58
 Industrial know-how handbook: lubricating systems and devices. *diags Mill & Factory* 62:PT28-9 My '58
 Is your lube oil giving you top mileage? Norwegian micro-fog lubrication units. *il* diags Iron Age 181:108-9 F 27 '58
 Lubrication on the run. *il* Mill & Factory 62:120 Ap '58
 Lubricators go automatic too. R. W. Meyers. *il* diag Diesel Power 36:18-19 Ar '58
 Miniature centralized lubrication. *il* Mech Eng 80:89 My '58
 Multi-point lubricator. *il* Engineer 204:574 O 18 '57

- New merchant and bar mill has improved lubrication system. *il* diag Iron & Steel Eng 34:137-8+ O 57
 New products. Published in monthly numbers of Lubrication engineering
 Reserve lubrication system for sleeve bearings has built-in time-delay valve. *diags* Machine Design 30:121 Je 12 '58
 Today's industrial machines necessitate modern lubrication methods; air-borne systems for bearing lubrication. E. K. Gould. *il* diags Plant 17:60-1+ Ja '58

LUCITE

- Two acrylic resins for reinforced plastics; Lucite 201X and 202X. M. S. Ziegler and others. *il* Materials in Design Eng 47:149-50+ Mr '58

LUKE, Edmon George

- He put Ameronit in the black. J. Campbell. *pers Mod Textile Mag* 39:29-30+. cover J1 '58

LUMBER

- See also*
 Hard woods
 Lumbering
 Timber

Transportation

- Sea worms; ancient problem solved by novel ocean-going barge. *Tappi* 40:sup 144A-5A D '57

LUMBER camps**Food supply**

- Modern cookery comes to the man-in-the woods. *il* Paper Ind 39:1020-1 Mr '58

LUMBER handling

- Forces involved in pulpwood holding grounds. R. J. Kennedy. *il* diags Engr J 41:58-68 Ja '58; Discussion. 41:76-7 F: 84+ J1 '58
 How to unload industrial lumber. *il* diags Mod Materials Handling 13:132-5 Mr '58
 Works like an elephant off the road fork lift truck designed by B. G. Le Tournau, Inc. for handling redwood logs at a California sawmill. *il* diag Product Eng 29:65 Mr 3 '58

- See also*
 Wood handling

LUMBER trade

- See also*
 Lumbering

LUMBERING

- Integrated hardwood logging. C. E. Hein. *Paper Ind* 40:294+ Ar '58
 Logging mechanization in the U.S.S.R.; abstract. A. Koroleff. *Tappi* 41:sup91A-2A J1 '58
 Utilization of hardwood logging residue. L. W. Hooker. *Paper Ind* 39:689+ N '57

LUMINANCE. See Luminosity**LUMINESCENCE**

- Accurate electroluminescent graphical-output unit for a digital computer. T. Kilburn and others. *bibliog il* diags Inst E E Proc 105 pt E:136-44; Discussion. 151-6 Mr '58
 Apparatus for the study of thermoluminescence from minerals. G. E. Ashby and R. C. Kellagher. *bibliog il* diags Am Mineralogist 43:695-706 J1 '58
 Calcium-silicate-tungstate phosphor; phase relationships and fluorescent properties. D. E. Harrison and F. A. Hummel. *bibliog diags Electrochem Soc J* 105:34-7 Ja '58
 Calcium-silicate-tungstate phosphor; preparation and physical properties. S. Jones. *Electrochem Soc J* 105:37-40 Ja '58
 Cathodoluminescence. *Electronic Ind* 17:170 Ap '58
 Commercial markers using radioactive gases; abstract. C. W. Wallhausen. *Metal Prog* 73:202+ Je '58
 Development and applications of transparent cathode-ray screens. C. Feldman. *il* diags SMPTE J 67:455-60; Discussion. 460 J1 '58
 Development of a single fired phosphorescent porcelain enamel. E. R. Eichbaum. *bibliog Am Cer Soc Bul* 37:148-51 Mr 15 '58
 Effect of impurities on the plaque brightness of a 3000°K calcium halophosphate phosphor. A. Wachtel. *bibliog diag Electrochem Soc J* 105:256-60 My '58
 ELF, a new electroluminescent display. E. A. Sack. *diags Inst Radio Eng Proc* 46:1694-9 O '58
 Electroluminescence; a progress report. *il* diag Machine Design 30:10+ Je 26 '58
 Electroluminescence and field effects in phosphors. H. F. Ivey. *bibliog(81 ref)* diags Electrochem Soc J 104:740-8 D '57
 Electroluminescence in action; how to light up porcelain enamel and glass. A. V. J. Martin. *il* diags Cer Ind 71:73-5 Ar '58

LUMINESCENCE—Continued

- Electroluminescence, new area-source of light. A. R. Gardner. *Il diags Product Eng* 29:74-7 S 15 '58
- Electroluminescence of zinc sulfoselenide phosphors with copper activator and halide coactivators. I. J. Hegyi and others. *bibliog Electrochem Soc J* 104:717-21 D '57
- Electroluminescence phenomenon in digital indicator design. P. G. Jacobs. *diags Elec Manuf* 62:10-11 J1 '58
- Electroluminescent digital indicator with Elpak translation logic. E. A. Sack. *il diags Com & Electronics p* 113-18 Mr '58; *Abstract. Elec Eng* 77:517 Je '58
- Electroluminescent display. *diags Electronics* 31:62-3 Ap 25 '58
- Electron excitation of bilayer screens. L. R. Koller and H. D. Coghlin. *J Ap Phys* 29: 1064-6 J1 '58
- Electron traps and the electroluminescence brightness and brightness waveform. F. F. Morehead, Jr. *bibliog Electrochem Soc J* 105:461-8 Ag '58
- Energy transfer and sensitization in single crystal phosphors. R. Leach. *bibliog Electrochem Soc J* 105:27-33 Ja '58
- Investigations in the CuGaS₂-ZnS and AgGaS₂-ZnS systems. E. F. Apple. *bibliog Electrochem Soc J* 105:251-5 My '58
- Luminescence, fluorescence, phosphorescence; what's the difference? C. Hobardo. *Ind Finishing* 34:70- F '58
- Luminescence in plastics. *Il Plastics Tech* 4:920 O '58
- Luminescence of self-coactivated ZnS:Cu. M. H. Aven and R. M. Potter. *bibliog Electrochem Soc J* 105:134-40 Mr '58
- Luminescent and photoelectric materials research; abstracts of two papers. H. F. Ivey; L. L. Antes. *Inst Radio Eng Proc* 46:793 Ap '58
- Method of recording the glow curve of thermoluminescence. K. Osada. *il diag R Sci Instr* 28:1091-2 F '58
- Neutron detection via slow phosphor decay; abstract. R. B. Owen. *il Nucleonics* 16:54 Je '58
- Numbers flash from new indicator; electroluminescent panels. E. A. Sack. *il Iron Age* 181:51 F 20 '58
- Particle size and efficiency of electroluminescent zinc sulfide phosphors. W. Lehmann. *bibliog Electrochem Soc J* 105:585-8 O '58
- Phosphor standards ready; samples for radar, tv, and radioactivity detectors. *il Chem & Eng N* 36:44 Je 9 '58
- Plastic phosphor matrix for fast-neutron detection. B. Brown and E. B. Hooper, Jr. *bibliog Nucleonics* 16:96-4 Ap '58
- Review of the measurement of the quantum efficiency of inorganic phosphors. J. Tregellas-Williams. *bibliog diag Electrochem Soc J* 105:173-8 Mr '58
- Scintillation track chambers; filaments drawn from plastic phosphors. G. T. Reynolds. *bibliog diags Nucleonics* 16:60-2 Je '58
- Sedimentation volumes of a phosphor powder in potassium silicate and potassium silicate-barium acetate settling media. J. F. Hazel and L. Florito. *diags Electrochem Soc J* 105:57-8 Ja '58
- Self-luminous materials. J. L. Semnara. *il Materials in Design Eng* 48:89-92 S '58
- Solid-state light practical for digital display. *il Electronics* 31:86 Mr 28 '58
- Solid-state panel amplifies X-rays; contains photoconductive and electroluminescent phosphor materials. B. Kazan. *il diags Electronics* 31:34-7 S 12 '58
- Some factors influencing the optimum design of cascade image intensifiers. L. Mandel. *J Sci Instr* 35:266-8 J1 '58
- Some pros and cons on electroluminescence. *il Plant* 18:56-7 Ag '58
- Temperature characteristics of barium strontium lithium silicate phosphors. A. H. McKeag. *bibliog Electrochem Soc J* 105:78-81 F '58
- Transparent phosphors improve cathode ray tube. *Electronics* 31:92- F 28 '58
- Triboluminescence in semiconductors. D. A. Jenny. *J Ap Phys* 29:1515 D '57
- What is electroluminescence? bonanza for porcelain enamel and glass. A. V. J. Martin. *il diag Cer Ind* 71:70-2 Ag '58
- ZnS:Sn, Li phosphor. A. Wachtel. *Electrochem Soc J* 105:432-3 J1 '58

See also
Fluorescence

LUMINOSITY

- Evaluation of the luminous-transmittance requirements for railroad-signal glassware in terms of standard source A of the International commission on illumination. F. C. Breckenridge. *J Res Nat Bur Stand* 60: 317-20 Ap '58
- IRE standards on television; measurement of luminance signal levels, 1958. *diags Inst Radio Eng Proc* 46:482-6 F '58 (reprints 60c); *Correction*. 46:1417 J1 '58
- Spectral luminosity of fluorescent lamps. C. Jerome. *Ilum Eng* 53:41-4; *Discussion*. 44-6 Ja '58
- Time delay between high-speed pellets and associated luminosity and ionization. P. E. Tucker and others. *J Ap Phys* 29:868-70 My '58
- LUMINOUS ceilings.** See **Ceilings**
- LUNCH period**
Wanted, an hour for lunch. W. Raisglid. *Am Mach* 102:97 Je 2 '58
- LUNCHES, Employees**
Employee feeding. *il Rubber Age* 83:495-7 Je '58
- Metalworking takes to vending. G. G. Carr. *il Iron Age* 181:81 Je 19 '58
- LUNCHROOMS and cafeterias, Employees**
Employees' food services facilities; a medical department advisory and supervisory function. R. C. Conant. *bibliog il Ind Med* 26: 487-91 N '57
- Gas gives banking concern's new 350-seat employee cafeteria top service efficiency. A. Q. Smith. *il Gas Age* 121:19 Ap 3 '58
- Plan food services for low maintenance. M. O'Shaughnessy. *il Plant Eng* 12:118-20+ S '58
- Plant cafeteria precautions against Asian flu. *Safety Maint* 114:49 D '57
- Lighting**
Lighting a small cafeteria; Connecticut light and power co. offices; lighting data sheet. H. B. Adams. *il Ilum Eng* 53:235 My '58
- LUNEBERG lens.** See **Lenses**
- LUNG hernia.** See **Hernia**
- LUNGS**

Diseases

- Bacteriological and epidemiological studies of pulmonary diseases associated with atypical acid-fast bacilli. A. V. Hardy and others. *Am J Pub Health* 48:754-9 Je '58
- Effect of antifoaming compounds on mortality and pulmonary edema. C. L. Punte and E. J. Owens. *bibliog Ind Med* 27:313-15 J1 '58
- Epidemiological study of lung cancer in asbestos miners. D. C. Braun and T. D. Truan. *A M A Archives Ind Health* 17:634-53 bibliog(p651-3) Je '58
- Significance of atypical mycobacteria in disease; abstract. E. Wolinsky. *Am J Pub Health* 48:788 Je '58

Dust diseases

- Biological action of Degussa submicron amorphous silica dust (Dow Corning silica). G. W. H. Scheepers and others. *bibliog il diag A M A Archives Ind Health* 16: 125-46, 203-24, 280-301, 363-79, 499-513 Ag-D '57
- Biological action of fiberglass-plastic dust. G. W. H. Scheepers and others. *bibliog il plan A M A Archives Ind Health* 18:34-57 J1 '58
- Experimental infective pneumoconiosis. E. J. King and others. *il A M A Archives Ind Health* 16:389-92 bibliog(36 titles, p391-2) N '57
- Fatal pulmonary disease caused by an atypical acid-fast bacillus. M. Dworski and others. *bibliog il Ind Med* 26:536-40 D '57
- Fibrosis and collagen in rats' lungs produced by etched and unetched free silica dusts. R. M. Englebrecht and others. *bibliog il A M A Archives Ind Health* 17:237-94 Ap '58
- Medical indices of coal workers' pneumoconiosis; abstract. P. J. Chapman. *diag J Sci Instr* 34:429-30 N '57
- Roentgen resurvey of cement workers. O. A. Sander. *bibliog il A M A Archives Ind Health* 17:96-103 F '58
- Stannosis; benign pneumoconiosis owing to inhalation of tin dust and fume. H. Oyan-guren and others. *bibliog il Ind Med* 27:427-35 S '58

See also
Silicosis

LUPINES

Total synthesis of oxygenated lupin alkaloids. E. E. van Tamelen and J. S. Baran. *bibliog Am Chem Soc J* 80:4659-70 S 5 '58

LUREX. See Textile fibers, Metallic

LURGI pelletizing process. See Iron metallurgy

LURGI process. See Gas manufacture—Complete gasification processes

LUSTER

See also
Mercerizing

LUTTGE, William H.

Prime mover in Chemstrand sales. J. Campbell. *pers Mod Textiles Mag* 39:31-2+, cover My '58

LUVIERNE, Minnesota

Sewerage

Sewage treatment plant is designed for easy operation. G. G. Ehrlich. *il Pub Works* 89: 95-6 Ja '58

LUXEMBURG effect. See Radio communication—Interference

LYCOTONINE

Structural relationship of deltaine, delphe-line and lycotonine. M. Carmack and others. *bibliog Am Chem Soc J* 80:497 Ja 20 '58

LYCOPENE

Some cleavage products of the boron trifluoride complexes of α -carotene, lycopene and γ -carotene. W. V. Bush and L. Zechmeister. *Am Chem Soc J* 80:2991-3 Je 20 '58

LYSINE

Absorption of radiolysine by the chick as affected by penicillin administration. H. H. Draper and C. Lowe. *bibliog J Nutrition* 64:33-42 Ja '58

Action of thrombin on lysine substrates. S. Ehrenpreis and others. *bibliog Am Chem Soc J* 79:8086-7 N 20 '57

Biological availability of lysine. J. D. Gupta and others. *bibliog J Nutrition* 64:259-70 F '58

Compositional effects on the configuration of water-soluble polypeptide copolymers of L-glutamic acid and L-lysine. E. R. Blout and M. Idelson. *bibliog Am Chem Soc J* 80:4909-13 S 20 '58

Effect of dietary energy concentration and age on the lysine requirement of growing chicks. H. G. Schwartz and others. *bibliog J Nutrition* 65:25-37 My '58

Fatty liver of portal type: cured by lysine plus tryptophan. G. P. Vennart and others. *J Nutrition* 64:635-8 Ap '58

Fortification of bread with lysine. R. Culik and H. R. Rosenberg. *bibliog il diag Food Tech* 12:169-74 Ap '58

How lysine ups protein value of cereal foods. C. Feldberg and C. P. Hetzel. *bibliog il Food Eng* 30:110-11 Mr '58

Lysine content of cottonseed meals. W. H. Martinez and L. L. Frampton. *J Agri & Food Chem* 6:312 Ap '58

Lysine supplementation of a breakfast cereal and milk combination. R. Thjessen, Jr. and G. H. Reussner, Jr. *bibliog J Agri & Food Chem* 6:363-3 My '58

Racemization of lysine by proteus vulgaris. H. P. Huang and others. *Am Chem Soc J* 80:1006-7 F 20 '58

Relationship of protein level to the minimum lysine requirement of the rat. R. Bressani and E. T. Mertz. *bibliog J Nutrition* 65: 481-91 JI '58

Wheat cereal diets. rat caries, lysine and minerals. F. J. McClure. *bibliog J Nutrition* 65:619-31 Ag '58

Analysis

Ion exchange paper in rapid separation and identification of basic amino acids: arginine, histidine, and lysine from casein hydrolyzates. M. M. Tuckerman. *bibliog Anal Chem* 30:231-3 F '58

LYSINE, Analogs of

DL-4-oxalysine, an inhibitory analog of lysine. T. J. McCord and others. *bibliog Am Chem Soc J* 79:5693-6 N 5 '57

LYSOZYME

Countercurrent distribution studies with ribonuclease and lysozyme. T. P. King and L. C. Craig. *bibliog Am Chem Soc J* 80: 3366-70 JI 5 '58

Spectra

Raman spectra of amino acids and related compounds: the Raman spectra of certain peptides and of lysozyme. D. Garfinkel and J. T. Basall. *bibliog Am Chem Soc J* 80:3818-23 Ag '58

M

MACADAM roads. See Roads, Macadam

MCCONE, John A.

McCone tabbed as next AEC chief. *por Elec World* 149:43 Je 16 '58

MCFARLAN, Ronald L.

Sketch. *por Inst Radio Eng Proc* 45:1184 S '57

MCGILL university

McGill university and the teaching of chemistry in Canada. R. V. V. Nicholls. *Chem & Ind p* 1106-3 Ag 23 '58

McGill university makes ready for future developments in engineering. *il Eng J* 41:106-7 S '58

MACHINABILITY. See Metal cutting; Steel cutting

MACHINE design. See Machinery—Design

MACHINE load forecasting. See Machinery management—Machine load forecasting

MACHINE parts

Additives put muscle into sintered nylon parts. L. W. Alexander. *il diag Product Eng* 29:86-7 S 15 '58

Develop new metals process. *Steelmet*. F. R. Hensel. *il Ind* 106:3 Ag 23 '58

Forming data for part details; reference book sheet. *diags Am Mach* 101:147-4 D 16; 103 D 30 '57

Get tailor-made properties with sintered steel. R. Talmage. *il Iron Age* 181:104-6 Ap 3 '58

High density boosts strength; Mallory's Steel-met process uses special powders. *il Chem & Eng N* 36:45-6 Ja 13 '58

Miniature investment castings. V. S. Lazara. *il Materials in Design Eng* 48:96-7 JI '58

New parts and materials. *il Published in bi-weekly numbers of Machine design*

1958 production preview: parts and materials. *il Am Mach* 102:254-5 Ja 27 '58

Plastics cut costs in machine tools. *Ex-Cell-O corp*. E. Quastier. *il Mod Plastics* 35:110-11 My '58

Sintered ferrous compacts have high density. P. R. Mallory & co. *il Mach* 65:138-9 S '58

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Testing

Camera shows how parts burst at high speeds; Allison div., General motors corp. R. H. Eshelman. *il Iron Age* 181:116-18 Ap 17 '58

MACHINE pins. See Pins, Machinery

MACHINE shop management

Control of a job-shop machine floor. W. R. Elmendorf. *diag Mech Eng* 80:61-4 O '58

Costly machining bottlenecks; how to break them. L. Fowler. *il Iron Age* 182:80-2 Ag 7 '58

Model production control setup benefits small firm; Formsprag co. R. H. Eshelman. *il Iron Age* 181:83-5 Ja 23 '58

Modern management for the small plant (cont.). S. A. Tucker. *Am Mach* 101:125-8 N 4 '57; 102:135-9 Mr 10 '58

Production nuggets; information from American machinist and other publications, developments to watch; management and personnel. *Am Mach* 102:A 1-9 Mid-S '58

Simple production system keeps machine shop humming; Sandusky foundry & machine co. J. F. Welch. *il Mill & Factory* 62:134-5 Mr '58

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Assembling methods

Industrial management

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Machine shops—Layout

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Quality control

Egg-crate inspection system cuts rejects; Parker aircraft co. W. R. Baker. *il Tool Eng* 41:83-5 S '58

Quality control begins with a gazing policy; Warner & Swasey. R. Le Grand. *il Am Mach* 101:100-4 D 2 '57

MACHINE shop practice

Abstracts of foreign literature. M. Kronenberg. Published in monthly numbers of Tool engineer

Automated line adjusts easily to design changes; Expert automation machine co. R. H. Eshelman. *il* plans Iron Age 180:144-6 D 5 '57

Clearing the breechblock production bottleneck. G. C. Hohenstein and others. *il* diags Mach 64:139-41 Mr '58

Family of specials tackles short runs; basic design uses rotary tables and fixture slides. *il* diags Steel 142:96-8 Mr 17 '58

Four advanced carbide dies; Oberg mfg. co. R. Le Grand. *il* diags Am Mach 102:128-31 Mr 10 '58

Gadgets; ingenious devices and ideas to help the tool engineer. Published in monthly numbers of Tool engineer

How easily can honeycomb structures be machined? R. G. Kellner. *il* Mach 65:132-7 S '58

How we saved \$75,000 in three months; disposable cutting tips and optimum machining speeds; DC motor & generator dept. General electric co. H. J. Brice. *il* Steel 142:144-6 Mr 10 '58

Ideas from overseas. *il* Mill & Factory 63:98 Ag '58

In shops around the country (cont). *il* Mach 64:170-1 N '57; 158-9 Ja; 152-3 F; 150-1 Mr; 65:114-5 S; 146-7 O; 150-1 N '58

Laboratory precision for electromechanical devices; North American Aviation's Automatics div. C. O. Herb. *il* Mach 64:112-19 J1 '58

Layout tool. C. McLaughlin. diags Tool Eng 41:103 S '58

Making precision measurements with optical tools. J. C. Moody and J. M. Bunch. *il* diags Tool Eng 40:83-91 F '58

Making the most of know-how; Thompson products co. Valforgings. *il* Iron Age 181:58 Ap 10 '58

Optical tooling; short cut to accurate alignment. W. C. Czygan. *il* diags Iron Age 180:63-5 O 31 '57

Prize winning practical ideas chosen by our readers as the best from each issue, are condensed on the following pages. diags Am Mach 102:J 16-22 Mid-S '58

Problem clinic: mathematical problems in shop work and tool design. diags Mach 64:178-9 F '58

Proper hole design can reduce part cost; drawings with text. F. Rogers. Product Eng 28:F44-7 Mid-O '57

Shop shots; illustrations and drawings with text (cont). Am Mach 101:122-3 N 4; 122-3 D 2 '57; 102:104-5 Ap 7 '58

Simple shop practices for short runs; Tube div., Radio corporation of America; illustrations with text. H. J. Ackerman and others. Am Mach 102:97-100 Ja 13 '58

Simplified storage system for semi-automatic tooling; power take-off unit supplied by Twin disc clutch co. K. Rose. *il* Automotive Ind 118:54-6+ Ja 15 '58

Six machines replace 17, save \$41,000/yr; Royal McBee corp. H. E. Tulloch. *il* Am Mach 102:95-6 Ag 11 '58

Striking machine operation for the mechanical pin-boy; Pinspotter. J. E. McConnell. *il* diags Mach 64:134-6 F '58

Three-dimensional model simplifies compound-angle setups. O. Skild. *il* diags Mach 64:143-6 Ja '58

Tolerance charts aid dimensioning for machining; Utica drop forge & tool co. W. K. Wood. Am Mach 101:81-4 D 30 '57

See also

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Motor trucks, Industrial

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Shafts

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Springs (mechanism)

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Vacuum cleaners

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Air conditioning

Rejects drop, output grows with novel a.c.;

Hires Castner & Harris in Philadelphia. L. Albertson. *il* Elec World 148:71 D 23 '57

Costs

ABC's of machine-hour rates; how to allocate all company costs to production centers.

S. A. Tucker. *il* Am Mach 102:113-23 My 5 '58

Comparing machine cost and time factors. J. G. Adietta. *il* diags Automation 5:55-9 My '58

Determining economic lot size. F. J. Langier. Tool Eng 40:116-18 F '58

Numerical control cost too high? H. W. Mergler. Iron Age 181:107 My 22 '58

Equipment

Advanced equipment increases production of shock absorbers; Gabriel co. *il* diags Automotive Ind 118:70-2 F 1 '58

B.M.C. engine replacement plant. *il* Automotive Eng 48:402-4 O '58

Machines, equipment, materials, parts; 1958 production preview. *il* diags Am Mach 102:105-264 Ja 27 '58

New equipment installed at AC Spark Plug plant. *il* plan Automotive Ind 118:54-74 F 1 '58

Shop custom-machines for nuclear research; Argonne national laboratory. J. R. Bell. *il* Ind Lab 9:34+ O '58

We cut product price 20 per cent with more efficient machines; Waldron & co. H. M. Soars, jr. *il* Steel 143:98-9 S 8 '58

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Holding devices

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Layout

How Link-Belt got a new plant without building one; Philadelphia plant. A. Ashburn. *il* plans Am Mach 102:129-35 Ja 13 '58

MACHINE shops—Continued**Lighting**

Machine shop relighted; Shepard Niles crane and hoist corp. *il Illum Eng* 53:252 My '58
New lighting brightens machine shop production outlook. W. Martin. *il Elec Work* 150:94 J1 28 '58

Power

See also
Electric driving

Safety measures

Machining metal with safety. W. A. Isaacson. *il Safety Maint* 115:14-17 My '58
Radioactive decontamination process enables rebuilding of worn parts; Fairchild camera and instrument corp. *il Ind Lab* 9:12-13 Je '58
Safety check list; reference book sheet. J. E. Bedford. *Am Mach* 102:127 S 22 '58
Safety measures crack down on pressroom injury rate. *il Mill & Factory* 63:104-5 Ag '58

MACHINE tool builders association, National. See National machine tool builders association

MACHINE tool distributors association, American. See American machine tool distributors association

MACHINE tool industry

Justice dept. gives machine tool industry clean bill of health. W. P. Rogers. *Am Mach* 102:138-9 F 24 '58
Machine tool salesmen go to school. *Am Mach* 102:142-3 F 10 '58
New plans for military tooling. E. J. Egan, Jr. *Iron Age* 181:77 Ap 3 '58
US defense capacity threatened by unrestricted machine tool imports. *Am Mach* 102:104-5 My 5 '58
World machine tool builders woo Japan's budding auto industry at Osaka fair. *il Am Mach* 102:102 My 19 '58

See also

Brown and Sharpe manufacturing company

National machine tool builders association

Rental plans

Government tool disposal policies under fire. *Am Mach* 102:152 Ja 13 '58
Machinery rentals; new lease on life? *Steel* 142:86-7 Ag 14 '58

Surplus tools

New U.S. surplus tool policy. E. J. Egan, Jr. *Iron Age* 181:87 Ap 17 '58
Surplus tools head for schools. E. J. Egan, Jr. *Iron Age* 181:77 Je 26 '58
U.S. averts surplus tool flood; schools reserve pool absorb bulk of surplus. E. J. Egan, Jr. *Iron Age* 182:41 Ag 28 '58

China

Red China bids for a place in the metal working sun. B. Finney. *il Am Mach* 102:96-9 S 22 '58

Czechoslovakia

Czech machine tool sales soar in Mexico. *Am Mach* 102:91 Ag 11 '58

Germany

Leipzig fair unveils some startling developments from East Germany's machine tool putsch. D. Scott. *il Am Mach* 102:115-17 Ap 21 '58

Great Britain

British machine tool industry. H. Clausen. *Engineer* 205:541 Ap 11 '58
Engineering industries; machine tools. *Engineering* 185:52-3 Ja 10 '58

Poland

Poland comes of industrial age at Poznan fair. *il Am Mach* 102:87-9 J1 28 '58

Russia

How Moscow designs; how new industrial equipment is developed. *il Product Eng* 29:13-19 J1 14 '58
Russia revisited; research and development sparks Soviet drive for metalworking supremacy. E. J. Tangerman. *il Am Mach* 102:91-3 J1 14 '58
Russian tools at the Brussels fair. *il Am Mach* 102:92-3 Je 2 '58
Soviet plant; boring, milling and turning; illustrations with text. *Engineering* 184:554-5 N 1 '57
Soviet plant; grinding and gear-cutting machines. *il Engineering* 184:522-3 O 25 '57

MACHINE tools

American institute of electrical engineers 9th annual machine tool conference, Milwaukee. *Am Mach* 101:186 N 18 '57

Automotive industries machine tool and production equipment; machine tool section. *il diag Automotive Ind* 119:79-93 S 1 '58

Carmakers seek answer to high tool cost. *Product Eng* 29:19-20 J1 23 '58

Contour-finishing misses noses to two micro-inches. R. Le Grand. *il diags Am Mach* 102:101-3 My 5 '58

Dynamic brake stops power tools. F. J. Di Elsi. *il diag Radio-Electronics* 29:31-2 Ag '58

Foreign machine tools. *il diag Product Eng* 29:32 F 17 '58

Functional symbols for machine tools. *diags Product Eng* 29:88 My 12 '58

Future machine tool needs of the aircraft industry. J. N. Gosche. *Mach* 64:159 J1 '58

How GM lists machine tools. *Steel* 143:112 S 8 '58

How we buy machine tools. W. W. Kuyper. *il Steel* 142:116-17+ Ap 28 '58

Ideas for machine tools. *il diags Ap Hydraulics* 11:63-70+ J1 '58

Industrial know-how handbook. *il diags Mill & Factory* 62:MW6-13 My '58

LaSalle special machine for rapid processing of rear-axle housings. *il Mach* 64:182 Ja '58

Machine capability, a key to lower costs. N. B. MacLaren. *Am Mach* 102:78-9 Je 30 '58

Machine tool research project. *Engineer* 204:815 D 6 '57

Machines, equipment, materials, parts; 1958 production preview. *il diag Am Mach* 102:105-62 Ja 27 '58

Natco double opposed adjustable multiple-spindle head machine for processing electric-motor frames. *il Mach* 64:181 Mr '58

New cutting tools accelerate machine tool research and development. *il Product Eng* 29:23 Ag 4 '58

New ideas on cutting tool life; super cutting speeds. E. J. Egan, Jr. *Iron Age* 181:63 Ja 16 '58

New production and plant equipment. Published in semi-monthly numbers of Automotive industries

Nilson vertical four-slide forming machine. *il Mach* 64:184 Ap '58

1958 ASTE tool show; here's what's new! *il Automotive Ind* 118:74-80 Ap 15 '58

Production machine tool hydraulic forum, 3d. Detroit. *Mach* 64:169 J1 '58

Production machining with die-making equipment. G. H. De Groat. *il Am Mach* 101:110-12 D 2 '57

Production nuggets; information from American machinist and other publications; developments to watch; machining. *il diags Am Mach* 102:2-17 Mid-3 '58

Recess tool cuts handling; multispindle machine drills, reams, and chamfers. *il Steel* 141:107 D 16 '57

Selecting coolant systems and pumps for machine tools. J. A. Lord. *il diags Mach* 64:106-11 Je '58

Snyder special combination machine for processing tractor track rollers. *il Mach* 64:175 J1 '58

Snyder trunnion type special machine for processing four different groups of parts. *il Mach* 64:200-1 N '57

Standard machine vs. special machine; a case study. T. W. Black. *il diags Tool Eng* 40:103-6 Ja '58

Tool change brings surprise savings. *il Iron Age* 181:88-9 Ja 16 '58

Tools at work. Published in monthly numbers of Tool engineer

See also

Arbors and mandrels

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Specialist's way of making a way; Ohio knife co. O. C. Underhill. *Il Mach* 65:142-5 O '58

Control

Achieving fine tolerances in tracer-controlled contour machining. J. M. Case. *Il Tool Eng* 40:201-4 Mr '58
All-electronic devices run series of machine tools; Hughes aircraft co. *Il Machine Design* 30:14-15 Ap 3 '58

AIEE machine tool conference, 9th. Milwaukee, Nov. 4-6. *Automotive Ind* 117:79+ D 1 '57

AIEE 9th annual machine tool conference. Iron Age 180:107 N 21 '57

Automatic control and inspection; abstracts of two papers. D. T. N. Williamson; H. J. Elton. *Engineering* 185:478 Ap 11 '58

Automatic inspection. D. H. McConnell. *Il diag Mech Eng* 80:65-7 O '58

Automatic machine tool for small shop; Digital system. *Il Electronic Ind* 17:7 J1 '58

Barriers to faster cutting; report at the ASTE show highlights what we need to work at tomorrow's machining speeds. *Steel* 142:100 My 5 '58

Basic concepts in selecting integrated machine tool systems. W. F. Jessup. *Il diags Automation* 5:50-5 Ap '58

Drive delivers constant horsepower; variable speed control for machine tools is based on use of planetary differentials and hydraulic clutches. *Il Steel* 142:154+ Ap 14 '58

Gage modules advance machine-control design. *Il Elec Manuf* 62:110-13+ J1 '58

High performance servos can be used on machine tools. S. F. Watanabe. *Il diags Ap Hydraulics* 11:98+ Mr '58

How fluid power compares with other machine tool controls. F. D. Yeaple. *Ir diags Product Eng* 29:70-1 Ag 18 '58

How the application affects the choice of program controller. J. L. Dutcher. *Il Control Eng* 5:118-21 S '58

Integrating standard machines to perform special jobs. J. A. Staley. *Il Automation* 5:57-8 Je '58

Machine-tool control advances; 22d Westinghouse machine-tool forum. *Elec Manuf* 62:63-71 J1 '58

Machine-tool controls reach new performance highs; Westinghouse 22d machine tool forum. *Am Mach* 102:104 My 19 '58

Machine tool electrification forum, 22d. Iron Age 181:83 My 8 '58

Machine tool electrification forum, 22d. Buffalo. April 29-30. *Automotive Ind* 118:62-5 Je 1 '58

New yardstick, Nutrax transducer. J. L. Gray and F. Brouwer. *Il diags Westinghouse Eng* 18:156-60 S '58

Position readout system for large machine tools; objectives and accomplishments; abstract. A. O. Fitzer. *Tool Eng* 41:229-31 S '58

Program control applied. *Il diags Control Eng* 5:163-82 S '58

Reliability of electronic machine controls. H. L. Palmer. *Automation* 5:150+ F '58

Robot machines can serve you now. flow diag *Il diags Mill & Factory* 63:83-6 S; 102-5 O '58

Selecting punched tape or punched card equipment for program control. L. H. Young. *Il Control Eng* 5:128-33 S '58

Semi-automatic device times machine operation. O. O. Nagelis. *diags Mach* 64:176 F '58

Some aspects of the application of closed loop servo systems to machine tool control. R. J. F. Howard. *Il diags Brit Inst Radio Eng J* 18:237-47 Ap '58

Tape control system for machine tools. *Il Engineer* 206:155 J1 25 '58

Teddington pneumatic size control equipment. *Il Engineer* 206:426 S 12 '58

Three ideas at work in machine control; Westinghouse machine tool electrification forum, 22d; abstracts of papers. *Control Eng* 5:113+ J1 '58
Toroidal transformers for an analogue system of machine tool control. D. A. Alexander. *Il diags Brit Inst Radio Eng J* 18:71-81 F '58

See also

Drilling and boring machinery—Control
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Design

Buhr Economatics for combined automated processing with maximum versatility. *Il Mach* 64:198-200 My '58

Economical small-lot machining of large parts. *Il diags Mach* 64:150-4 Ap '58

Growing versatility of ultrasonic machining. J. Welch. *Il Mach* 64:119-23 F '58

Trends in appearance design. *Il Product Eng* 28:32-5 N 18 '57

Trends in appearance design for the machine-tool industry. *Il diags Product Eng* 29:28-7 Ag 25 '58

See also

Transfer mechanism

Electric driving

Designing drive systems for compatibility with program controllers. J. L. Winget. *Il Control Eng* 5:158-62 S '58

Drive rod made of springs shock-cushions power hammer; drawings with text. *Machine Design* 30:112-13 F 6 '58

Motor keys to machine tool drives. *Product Eng* 29:28 Ja 27 '58

Pivoted motor-and-head mounting offers sensitive up-and-down adjustment. *Il Machine Design* 30:123 My 15 '58

Troubleshooting industrial motor control. V. Kumpf. *Il diags Plant Eng* 12:89-93 Ag '58

Wide-range spindle drive. *Il Product Eng* 29:113 Mr 31 '58

Exhibitions

ASTE tool show, Philadelphia, May 1-8; products, floor plan, list of exhibitors. *Il diag Tool Eng* 40:172-222+ Ap '58

American society of tool engineers Western Industrial exposition and seminars meeting, Los Angeles, Sept. 29-Oct. 3; program, floor plan, list of exhibitors, products. *Tool Eng* 41:125-52 S '58

Guide to the 1958 ASTE tool show. *Il plans diag Am Mach* 102:173-205+ Ap 21 '58

Moitch & Merryweather stages multi-builder show. *Il Am Mach* 102:96 Je 2 '58

1958 tool show reflects two decades of progress. *Tool Eng* 40:129-30 Mr '58

Poland comes of industrial age at Poznan fair. *Il Am Mach* 102:67-9 J1 28 '58

Preview of equipment to be seen at the engineers' show. *Il Mach* 64:158-89 My '58

Russian tools at the Brussels fair. *Il Am Mach* 102:92-3 Je 2 '58

Tool show report. *Il Am Mach* 102:97+ My 19 '58

Fixtures

Crank-throw fixtures for offset turning. S. P. Gould. *diags Mach* 64:175 F '58

Design and drafting standards for jigs and fixtures; reference sheet. A. F. Hird. *Tool Eng* 39:123-6 N '57

Fixture makes saw grinding easy. C. Molloy. *diags Am Mach* 102:125 F 10 '58

Indexing turret toolholder. W. W. Johnson. *diag Tool Eng* 40:80 Ja '58

Jigs and fixtures from standard sets of parts. W. B. Heginbotham and others. *diags Engineering* 185:829 Je 27 '58

Jigs and fixtures; good design pays big dividends. R. F. Thuma. *Il Iron Age* 181:102-4 Mr 27 '58; Abstract. *Tool Eng* 40:205 Mr '58

Nonsticking plugs for jigs and fixtures. J. R. Paquin. *diags Tool Eng* 40:117-18 Je '58

Second operations simplified with interchangeable-jaw fixture. T. Rokay. *diags Am Mach* 101:136 D 16 '57

Six spring-loaded chucks and holding fixtures; drawings with text. S. Rappaport. *Product Eng* 29:86-7 Ja 20 '58

Standard units grind special drill point. *Il Iron Age* 181:135-6 Je 19 '58

Two-way clamping and automatic work-centering fixtures. W. M. Halliday. *diags Mach* 64:154-7 N '57

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Washington talks it over with industry; are there enough jigs and fixtures for war?
J. J. Coen. *Am Mach* 102:142 F 24 '58

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Lubrication

Dependable lubes needed for machine tools; abstract. B. M. Dunham. *S A E J* 68:106 Ag '58

Fog lubrication of machine tools. D. G. Faust. *Il diag Lub Eng* 14:54-7 F '58

Friction and lubrication of machine tool slideways. T. M. Birchall and A. I. W. Moore. *Il diags Engineer* 206:476-9 S 28 '58

Maintenance and repair

How to modernize maintenance. G. C. Bonnell. *Iron Age* 182:85 J1 10 '58

Maintenance tip for industrial machines. *Il Safety Maint* 116:19 J1 '58

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Cutting tools—Maintenance and repair

Manufacture

Quality control begins with a gaging policy; Warner & Swasey. R. Le Grand. *Il Am Mach* 101:100-4 D 2 '57

Reconstruction

Hydraulic tracers convert planers into contour mills. W. N. Engel. *Il Am Mach* 102:122-3 S 8 '58

Machining to millionths; rebuilding new machine tools helps do it. *Il Am Mach* 102:133-40 F 10 '58

Modern tools through conversion. *Il Tool Eng* 40:157 My '58

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Standards

Big Three set machine tool standards. *Product Eng* 29:24-5 Ap 21 '58

Propose new international mechanical standards. *Am Mach* 102:96 Ag 11 '58

Storage

Low-cost, high-quality storage cavern; dehumidified limestone cavern. *Il plan Eng N* 160:37-8 Ap 3 '58

Storing precision tools in the yard; protective coatings; Solar aircraft co. *Il Mod Materials Handling* 13:114-15 Ap '58

Unit construction

Are building block practical? *Il Iron Age* 182:77-81 Ag 14 '58

Building block concept; machine tool builders speak their minds. *Am Mach* 102:146-9 Ja 13 '58

Building block units can bring you automation. C. J. Vlahos. *Il diags Mill & Factory* 62:83-90 F '58

Ford maps four-stage program for building-block machines. *Il diags Am Mach* 101:121-3 D 16 '57

Ford sells the building block. *Steel* 141:130 N 4 '57

Hartford takes the plunge, from specials to building blocks. *Il Am Mach* 102:89 Ap 7 '58

How building block design works. R. H. Esheiman. *Il Iron Age* 181:126-8 My 22 '58

Standardized tools for U.S.? Pentagon shows interest in Ford's building block concept. *Il Steel* 141:67-8 N 4 '57

Standardized units simplify designs. *Il Tool Eng* 40:92 F '58

Vibration

Machine tool chatter; effect of flexibility in machine and foundation. W. Fishwick and S. A. Tobias. *diags Engineering* 185:568-72 My 2 '58

MACHINE tools, Used
Used production machines can be a wise investment. F. Laurens. *Am Mach* 102:3-1 Mid-S '58

MACHINE translation. *See Translating machines*

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Copying processes

Adams copy grinding with abrasive belts. *Il Engineer* 206:301-2 Ag 22 '58

Canavese production copying lathe. *Il Engineer* 205:150 Ja 24 '58

Contour-chasing lathe machines spiral parts. *Il diags Machine Design* 30:10 F 6 '58

Copy facing lathe. *Il Mech Eng* 80:96 My '58

Copy milling methods. *Il diags Brit Plastics* 31:116-20 Mr '58

Copying lathe. *Il Engineering* 186:167 Ag 8 '58

Multiple-spindle copying lathe turns transmission shafts in 32 seconds. *Il diags Am Mach* 102:117-18 Je 2 '58

Numerical vs. tracer controls; Douglas Aircraft tries both. E. J. Egan, Jr. *Il Iron Age* 180:19-20 D 9 '57

Our duplicator paid for itself in less than a year; Radiation counter laboratories inc. *Il diag Steel* 143:112-13 J1 21 '58

Ravensburg hydraulic face copying lathe. *Il Engineering* 184:681 N 29 '57

Tracer lathe chases spiral contours. *Il Iron Age* 181:114 F 27 '58

Tracers trade tinfol for graphite; Mealey contour following signal device. *Il Am Mach* 102:112 F 24 '58

Two-dimensional unit speeds tracer work. *Iron Age* 180:187 N 14 '57

MACHINE works

Metropolitan-Vickers transformer factory; illustrations with text. *Engineer* 204:824 D 6 '57

Modernised machine tool works; Fredk. Town and sons. *Il Engineer* 204:871 D 13 '57

Oil-engine works modernised; Petters limited. *Il Engineering* 185:382 Mr 21 '58

Thirteen acres under one roof; Caterpillar tractor co. *Il Engineering* 184:642 O 25 '57

Traction motor factory; illustrations with text. *Engineer* 204:787 N 29 '57

Equipment

GE reveals how it makes large gears. L. J. Collins. *Il diags Am Mach* 102:113-20, cover S 22 '58 (reprints 25c)

King-size tooling for big jobs; W. F. and John Barnes. *Iron Age* 181:32 Mr 6 '58

Mack modernizes facilities for cab and axle shaft production. *Il diag Automotive Ind* 119:60-1 J1 15 '58

Material handling time reduced 75 per cent; General machine products co. G. M. Pfundt. *Il Plant* 17:34-6 F '58

Mechanized austempering of steel harrow disks; International harvester co. of Canada. *Il diag Metal Prog* 74:78-80 S '58

One furnace does three jobs; Farmall works, International harvester co. *Il Steel* 142:74-6 F 24 '58

Rocket-engine manufacture requires machining ingenuity. Aerojet-general corp. C. O. Herb and W. E. Moller. *Il Mach* 65:121-6 S '58

Shop for large structural assembly work; Ransome and Rapier. *ltd. Il Engineer* 206:457-8 S 19 '58

Special purpose machine factory; CVA jigs, moulds and tools, *ltd. Il Engineer* 206:227 Ag 8 '58

Special tooling for tractor crankshafts; Caterpillar tractor co. *Il Automotive Ind* 119:57 Ag 1 '58

Transformer factory; Metropolitan-Vickers electrical co. *Il Engineering* 184:795-6 D 20 '57

Vehicle cost records pay off; Caterpillar tractor co. P. F. Leccoc. *Mod Materials Handling* 13:98-100 N '58

Layout

Do-it-yourself plant layout pays off; DeWalt div. of American machine & foundry co. A. C. Wedge. *Il Plant Eng* 12:106-8 Je '58

MACHINE works—Continued

Maintenance and repair

This is maintenance in a heavy industrial plant; Caterpillar tractor co. F. Tancula. *il* Welding Eng 43:23-9 J1 '58

Management

Computers in production; programming for turret punchpresses pays off; Allis-Chalmers mfg co. A. H. Knable and R. Stowe. *diags Am Mach* 102:116-17 Mr 24 '58
Integrated process control system at the Cummins engine co. E. L. Arnoff and others. *diags Op Res* 6:467-97 J1 '58

Power

Packaged boiler automation pays off as Dana corp. streamlines plant. H. L. Becker. *il Power Eng* 62:83-4 O '58

Quality control

Punch cards aid quality control; Allis-Chalmers mfg. co. *il Steel* 142:122-3 Mr 10 '58

Records

Keeping tabs on plant tools; simple system of forms and checks works well for Kenworth motor truck co. *il Plant Eng* 12:137-9 Mr '58

MACHINERY

See also

Agricultural machinery
Assembling methods
Balancing of machinery
Bearings
Bearings, Ball
Bearings, Roller
Belting
Bending machines
Bolts and nuts
Brakes
Broaching machines
Bushings
Calculating machines
Calendars
Clamps
Clutches
Coal mining machinery
Conveying machinery
Couplings
Cranes, derricks, etc.
Crankcases
Crankshafts
Crushing machinery
Cutting machines
Cutting off machines
Die casting machines
Disks
Dyeing machines
Electric machinery
Electric welding machines
Engineering
Excavating machinery
Fans, Mechanical
Filling machines
Fits (machinery)
Food machinery
Forging machinery
Foundry machinery
Friction
Gear cutting machines
Governors (machinery)
Grinding machines
Hoisting machinery
Hydraulic machinery
Hydraulic presses
Internal combustion engines
Inventions
Jacks
Jigs
Keys and keyways (machinery)
Knitting machines
Lathes
Looms
Lubrication and lubricants
Machine shop practice
Machine tools
Marking machines
Mechanical engineering
Mechanical handling
Mechanics
Metal working machinery
Milling machines
Mining machinery
Molding machines
Packaging machinery
Packing
Paper making machinery
Pattern making
Paving machines
Perforating machines

Pins, Machinery
Planing machines
Plating machinery
Pneumatic machinery
Power transmission
Presses
Printing machinery
Printing presses
Profiling machines
Pumping machinery
Pumps
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Shoe machinery
Shoveling machines
Spinning machinery
Springs (mechanism)
Steam turbines
Testing machines
Textile machinery
Threading machines
Time study (of machinery)
Tractors
Trenching machinery
Turbines
Typesetting machines
Valves
Vending machines
Washers (machinery)
Water wheels
Waxing machines
Welding machines
Winding machines
Wire forming machines
Woodworking machinery

Alignments

See Alinement of machinery

Bases

Building block automation; standardization of interchangeable components of in-line transfer machines. J. C. Keebler. *plan diags Automation* 5:47-8 F '58

Cleaning

See also

Printing presses—Cleaning

Control

Applying transistors for industrial use in automatic control devices. J. R. Walker. *diags Automation* 5:84-90 F '58
Dimensional controlling systems. R. A. Souler. *il diags Automation* 5:81-4 Ja; 73-4 Mr '58
How to understand automatic control. G. H. Amber and P. S. Amber. *il Mach* 102:110-12 S 22; 106-8 O 6 '58
Locating hand-operated controls. J. B. Teeple. *bibliog diag Machine Design* 30:165-6 S 18 '58
Transients trouble suburban industries, traced to excessive control sensitivity. C. E. Quick. *Elec World* 149:56-8 F 10 '58

See also

Drilling and boring machinery—Control
Grinding machines—Control
Textile machinery—Control

Design

Anticipating dynamic behavior. J. B. Hartman. *bibliog diags Machine Design* 30:118-24 Ag 7 '58
Debugging; that last step in design. D. C. Cumming. *il Product Eng* 29:92-4 S 15 '58
Design digest issue; mechanical parts and design analysis. *il diags Product Eng* 28:F 1-82 Mid-O '57
Design digest issue; mechanical parts and design analysis. *diags Product Eng* 29:F 1-46 Mid-S '58
Design for automatic production. *bibliog il diags Product Eng* 29:81-92 Je 23 '58
Designing for safety. N. Prasinos. *diags Mech Eng* 80:70-3 My '58
Expand tests to pick machine designers. *Product Eng* 28:88 D 23 '57
For spring action, which cantilever beam is best? K. Maier. *diags Product Eng* 29:83-7 F 17 '58
Formulas and charts for calculating deflection of circular rings loaded normal to plane of curvature; data sheet. H. D. Tabakman. *diag Machine Design* 29:167-72 N 14 '57

MACHINERY—Design—Continued

- High-speed motion-picture cameras for analyzing and designing high-speed mechanisms. D. Colasanto. *il* *diag* Machine Design 30:118-22 Ja 23 '58
- How of safe design; abstract. H. H. Mabie. Machine Design 29:176-4 N 14 '57
- How to apply drag-link mechanisms in the synthesis of mechanisms. K. Hain. *bibliog* *diags* Machine Design 30:104-13 Je 26 '58
- How to design conveyor rolls for drive or drag. L. H. Austin. *diags* Product Eng 29:78-9 S 15 '58
- How to design for form rolling of knurls, splines, and serrations. *il* *diags* Machine Design 30:105-12 Ja 9 '58
- How to design for thread rolling. *il* *diags* Machine Design 29:102-12 D 26 '57
- How to figure deflections of elastically supported cantilever beams; reference book sheet. T. E. Callahan. *diags* Product Eng 29:63-4 Ag 4 '58
- Human-factors engineering. J. D. Vandenberg and C. T. Goldsmith. *bibliog* *il* *diags* Machine Design 30:108-13 Ap 17; 104-9 My 1; 114-13 My 15; 123-6 Je 12; 123-6 Je 26; 109-13 Ji 10 '58
- Impact forces mechanisms. R. C. Johnson. *diags* Machine Design 30:138-46 Je 12 '58
- Linkages vs. cams. T. P. Goodman. *bibliog* *diags* Machine Design 30:102-9 Ag 21 '58
- Locating hand-operated controls. J. E. Teeple. *bibliog* *diag* Machine Design 30:165-6 S 18 '58
- Machine designer; man and a task. G. H. Amber and P. S. Amber. Product Eng 28:33 N 4 '57
- Mechanics of applying electric motors. W. R. Harris. *il* *diags* Machine Design 29:109-15 N 28 '57
- New developments in printer slotters. L. J. Baudis. H. W. Moser. Tappi 40:sup 189A-92A N '57
- 1958 design engineering show, Chicago; products, program, floor plan, list of exhibitors. *il* *diags* Machine Design 30:156-8 Ap 3 '58
- Paperboard models aid weldment design. J. C. Horth. *il* *diags* Machine Design 30:132-4 F 6 '58
- Parts of various shapes carried by flat, grooved rubber belts; design of a new surface-finishing machine; illustrations with text. Machine Design 30:114-15 Ja 9 '58
- Photoelasticity; fast solution to practical design problems; abstracts of two ASME annual meeting papers. Product Eng 28:103-5 D 9 '57
- Physical research applied to machine design; high-pressure fluid transmissions. H. Thoma. *il* Engineering 184:779-81 D 20 '57
- Potential machine designer. J. F. D. Smith. Mech Eng 80:76-7 F '58
- Principles and practices of constant-load cam design for high-speed operation. J. A. Carlson. *il* *diags* Machine Design 30:121-3 Ji 10 '58
- Problem clinic; mathematical problems in shop work and tool design. *diags* Mach 64:178-9 F '58
- Resistance to rolling and sliding. A. C. Dunk and A. S. Hall, jr. *il* *diags* A S M E Trans 80:915-19; Discussion. 919-20 My '58
- Runners of experimental turbomachines. L. Young. *bibliog* *diags* Engineering 185:376-8 Mr 21 '58
- Three-dimensional photoelasticity and its application in machine design. M. M. Leven and A. M. Wahl. *il* *diags* Machine Design 30:150-4 Mr 6 '58
- Trends in appearance design in Switzerland. *il* Product Eng 29:38-9 My 5 '58
- Using digital computers. J. R. M. Alger. Machine Design 29:128-32 D 12 '57
- V-form stud driver develops timed rotary forcing action. *il* Machine Design 30:112-13 My 1 '58
- Work capacities of energy storage systems on basis of unit weight and unit volume. L. V. Kline and others. A S M E Trans 80:909-14 My '58
- See also*
- Cams
- Drafting room practice
- Fits (machinery)
- Friction
- Gearing—Design
- Keys and keyways (machinery)
- Machine tools—Design
- Machinery, Kinematics of

Exhibitions

- East German turbojet among displays at Leipzig fair. D. Scott. *il* *diags* Automotive Ind 118:62-4 My 1 '58
- German industries fair, 12th, Hanover, April 27-May 6. *il* plan Engineer 205:673, 711-12, 748-50, 786-8 My 2-23 '58
- Leipzig Fair spotlights Soviet lag in product design. *il* Product Eng 29:22 Ap 7 '58
- Leipzig spring fair, March 2-11. *il* *diag* Engineer 205:445-6 Mr 21 '58
- National coated abrasive machinery show, 3d, Troy, June 10-13. Automotive Ind 119:62-3+ Ji 15 '58

Foundations

- Interaction between a vibratory machine and its foundation. R. Plunkett. *diags* Noise Control 4:18-22 Ja '58
- Lift-slab scheme raises generator 40 ft in 20 hours. E. R. Peterson. *il* Power 102:88-9 Ja '58
- Reinforcement of press foundations by post-tensioning. F. Kramrich. plan *diags* Am Concrete Inst J 29:361-3 My '58
- Wanted: improved anchoring method. H. K. Lee. *diags* Am Mach 101:105 D 2 '57
- What you should know to design a compressor foundation. W. F. Swiger. *bibliog* *diags* Pet Eng 30:D23-7 Ag '58

Idleness

See Idleness, Industrial

Leasing

- Equipment leasing conserves working capital. C. C. Kane. Tool Eng 41:73-4 Ag '58
- See also*
- Machine tool industry—Rental plans

Length of service

- 69 per cent of Canadian production equipment over ten years old, census finds. Am Mach 102:74-5 Ji 28 '58

Maintenance and repair

- Machinery overhaul. A. F. Brewer. Lub Eng 14:337-4 Ag '58
- Maintenance of sleeve bearings. E. J. Clement. *il* Mill & Factory 62:95-102 F '58 (reprints 25c)
- New parts from old with hardsurfacing. *il* Mill & Factory 63:106 Ag '58

See also

- Automobile factories—Maintenance and repair

Manufacture

- Gleason works achieves newness in a foundry; with list of equipment suppliers. R. H. Herrmann. *il* plan Foundry 86:78-88 F '58
- See also*
- Cylinders (engines, etc.)—Manufacture
- Machines parts
- Machine works

Models

- Kit makes designing job easier; you can work out your own machine models. E. J. Egan, jr. *il* Iron Age 181:60 Ja 23 '58
- Machine-construction kit. *il* Mech Eng 80:89 F '58

Mounting

- Air pressure measures machine level, isolates vibration. *il* *diag* Product Eng 28:101 O 28 '57
- Fair loading improves machine accuracy. *il* *diags* Tool Eng 40:87-8 Mr '58
- Rx for machine shakes; sandwich type mounts damp equipment vibrations. W. E. Seales. *il* Plant Eng 12:117 Ap '58
- Specially developed pads under machines subdue noise and vibration. *il* Mill & Factory 63:130 S '58
- Vibration mount loads machine supports fairly. *il* *diag* Tool Eng 40:95 Ja '58

See also

- Machinery—Vibration

Name plates

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Noise

- How to reduce machine noise. D. B. Smith. *il* Am Mach 102:106-7 S 22 '58
- Human-factors engineering; design for hearing. J. D. Vandenberg and C. T. Goldsmith. *bibliog* *diag* Machine Design 30:114-18 My 15 '58
- Machine mounts cut down vibration shock and noise. *il* Safety Maint 114:19-20 N '57

MACHINERY—Noise—Continued

- Reduce noise at its source. T. Soule. *il*
Safety Maint 114:48-51 O '57
Rubber cushions, when bearings must be
quiet. R. E. Downes. *diags* Product Eng
29:96-7 Ap 28 '58

Patents

- Noteworthy patents, *diags* Published in bi-
weekly numbers of Machine design
Some fundamental principles of patent eth-
ics. A. W. Gray. *bibliog* Machine Design
30:103-4 Ja 9 '58

Protection

- Now, you can protect machinery against vibra-
tion. S. Elonka. *il* *diags* Power 102:108-9 JI
'58

Safety devices

- Designing for safety. N. Prasinos. *diags*
Mech Eng 80:70-3 My '58
Electronic control press guard; Curtain of
light. *il* Elec Constr & Maint 57:105 Mr '58
Guard your dangers and tag them too! E. J.
Mulligan. *il* Safety Maint 114:14-17 D '57
Keeping up with machine guard develop-
ments; illustrations with text. Safety Maint
115:54-7 F '58
Machine safety in the push button era. R.
F. Thuma. *il* *diags* Safety Maint 116:14-16
JI; 14-17+ Ag '58
Magnetic-base shield protects machine opera-
tor. B. S. Cox. *diag* Am Mach 102:98 Ag
25 '58
Unusual applications of machine guarding.
J. E. Kane. *il* Safety Maint 115:14-20+
Ja '58

See also

- Plastics machinery—Safety devices
Woodworking machinery—Safety measures

Small size

- Making precision points in space; Parker-
Hartford corp. *il* Am Mach 102:100-1 S
22 '58

Speed

- Controlled acceleration devices. J. R. East-
man. *diags* Product Eng 29:75-80 Mr 3 '58
Fine grinding at supercritical speed. R. T.
Hukki. *bibliog* Min Eng 10:Trans 581-9;
Discussion. 589-91 My '58
Speed boost cuts tough metals; Ryan aero-
nautical co. speeds, tool material and
geometry, and machining methods. *il* Steel
142:38-9 Je 2 '58

See also

- Electric motors—Speed

Standards

- Putting standards to work; American ma-
chine & foundry co. E. Woerter. *Machine*
Design 30:94-9 Ag 21 '58

See also

- Fits (machinery)

Temperature

- Heat transfer from a rotating cylinder with
and without crossflow. W. M. Kays and
I. S. Bjorklund. *bibliog* *il* *diags* A S M E
Trans 80:70-7; Discussion. A. Carmi. 77-8
Ja '58

See also

- Electric machinery—Temperature

Transportation

- How to airlift heavy equipment. *il* Iron Age
180:117 N 14 '57
Sending machines and spares by air. A. J.
Weight. *Engineering* 185:242 F 21 '58
Shipping by air freight can save more than
time; special report. T. M. Rohan. *il* Iron
Age 181:83-5 Ap 24 '58

See also

- Construction equipment—Transportation

Vibration

- Detecting resonant frequencies in complex
structures. R. F. Thuma. *diags* Machine
Design 29:149-52 N 14 '57
Grinder supports reduce vibration. *il* *diag*
Product Eng 29:85 Mr 17 '58
Machine mounts cut down vibration shock
and noise. *il* Safety Maint 114:19-20 N '57
Now, you can protect machinery against vibra-
tion. S. Elonka. *il* *diags* Power 102:108-9 JI
'58
Practical considerations involved in shock and
vibration isolation. R. T. Lowe. *il* *diags*
Noise Control 4:53-7+ Mr '58
Simplified tabular method for torsional vibra-
tion analysis of multiple-rotor shaft sys-
tems; data sheet. J. Hirschhorn and K.
Johnston. *diags* Machine Design 30:141-
6 My 29 '58

- Theory of regenerative machine tool chatter.
S. A. Tobias and W. Fishwick. *diags* Engi-
neer 205:199-203, 233-9 F 7-14 '58

- Trouble-shooting impending mechanical
failures; an analyzer detects and measures
vibration. G. L. Bourdages. *il* Plant 18:45-7
AE '58

- Vibration; a survey of industrial applica-
tions; abstract. J. P. den Hartog. Engi-
neering 184:661-3 N 22 '57

- Vibration analysis proves worth in production.
D. L. Bernhard. *il* Iron Age 181:86-8 My 1
'58

- Vibration detectors cure mysterious machin-
ing ills. *il* *diag* Iron Age 181:98-9 F 6 '58

- Vibration instruments push back design
frontiers. *il* *diag* Ind Lab 9:92-4 S '58

- Vibration isolators with zero stiffness; draw-
ings with text. Product Eng 29:52-3 S 29
'58

See also

- Balancing of machinery
Machinery—Foundations
also subdivision Vibration under special
subjects, e.g.
Aircrafts, Jet propelled
Compressors
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Guided missiles
Steam turbines

MACHINERY, Automatic

- Are you ready for automatic spray painting?
E. H. Cocks. *il* Mill & Factory 63:91-3 S
'58

- Automated production lines for Chrysler pow-
er steering. K. Rose. *il* *diag* Automotive
Ind 119:38-40 Ag 1 '58

- Automatic color dispensers; the coming re-
tail trend? *il* Paint Oil & Chem R 121:6-10
F 6 '58

- Automatic machines for low-production parts.
H. N. Maynard. *il* *diags* Tool Eng 41:65-9 JI
'58

- Automatic machining of large workpieces. *il*
diags Tool Eng 40:94 Je '58

- Automation between machines nets us \$38,436
a year; Eaton mfg. co.'s Axle div. R. E.
Wilbert. *il* *diags* Steel 143:112-13 JI 14 '58

- Automation featured in motor and generator
manufacture. J. M. Crawford; B. W. Wy-
man. *il* Elec Eng 77:277 Mr '58

- Automation for small-lot producers; manu-
facturing functions. E. Suuronen. *il* Auto-
mation 5:58-61 Mr '58

- Automation news report; production, vehicles,
aircraft (cont). S. Cummings. *il* Automotive
Ind 117:112+ N 1; 72 D 1 '57; 118:118+ Ja 1;
102 F 1; 67+ Mr 1; 58-9+ Ap 1; 70-1 My 1;
72+ Je 1; 119:57 JI 1; 50 Ag 1; 134+ S 1;
66 O 1 '58

- Automation triples forging output. *il* Steel
143:90-1 S 29 '58

- Automotive Industries machine tool and pro-
duction equipment; automation and materi-
al handling section. *il* *diag* Automotive
Ind 119:111-14 S 1 '58

- Auxiliary handling devices integrate stand-
ard machines; production of gears. F. Za-
waski. *il* *diag* Automation 5:59-62 Ja '58

- Bearing line needs few operators; Timken
roller bearing co. *il* Steel 142:80-2 Je 2 '58

- Blower wheel production automated; Mayne
products co. *il* *diags* Automation 5:74-5 My
'58

- Buhr automated multiple-operation machine
for quantity production of high-quality
transmission parts. *il* Mach 64:162-3 Je '58

- Buhr Economatics for combined automated
pressing with maximum versatility. *il*
Mach 64:198-200 My '58

- Building-block line handles various shaft
sizes. R. H. Eshelman. *il* *diag* Iron Age
180:82-4 N 28 '57

- Building block units can bring you automa-
tion. C. J. Vlahos. *il* *diags* Mill & Factory
62:83-90 F '58

- Buy maintenance when buying. L. F. Lewis.
Iron Age 182:57 JI 17 '58

- Carbide tooling on automatics. *il* *diag* Mach
64:128-31 Ap '58

- Chrysler automates new stamping plant. J.
Niemenen. flow charts *il* Mach 64:188-93 D
'57

- Closing wirebounds automatically; interview
with David G. Kingsley. G. C. Thomas. *il*
Mod Materials Handling 13:110-14 F '58

- Complex lines switch easily to different
models; Norge div., Borg-Warner corp.
V. C. Rice. *il* Iron Age 182:75-8 JI 17 '58

- Consider low-cost automation. B. Eldridge
and J. L. Fisher, Jr. Steel 143:98-9 S 22 '58

- Considerations in selecting automatic paint-
ing equipment. E. H. Cocks. *il* *diags* Auto-
mation 5:66-9 Ag '58

MACHINERY, Automatic—Continued

- Debugging; that last step in design. D. C. Cumming. *il Product Eng* 29:92-4 S 15 '58
- Detroit re-automates for '58 production. G. H. De Groat. *il diags Am Mach* 101:117-18 S 8; 105-10 O; 129-34 N 4; 113-20 D 2 '57
- Do-it-yourself automation. *il Mill & Factory* 61:114 D '57
- Getting the most from your multiple-spindle bar automatic. *il Mach* 64:165-8 J1 '58
- Heat treating of roller bearings is geared to automatic production; Timken Buycrus, Ohio, plant. L. E. Everett and O. E. Cullen. *il diags Metal Prog* 73:67-73 Je '58
- How to automate production equipment. R. Le Grand. *il diags Am Mach* 102:145-60 Ap 21; 73-5 Je 30; 81-3 J1 28; 102-4 S 22 '58
- Hydraulic control of automatic machinery; synthesis of systems. R. Hadekel. *diags Automation* 5:63-8 F; 82-90 Ap; 69-76 Je; 71-6 Ag '58
- Hydraulics for the tool engineer. H. L. Stewart and J. M. Moritz. *il diags Tool Eng* 39: 81-5 D '57; 40:87-92 Ja '58
- Hydraulics makes tapping automatic; National acme co. H. Brown. *il diag Ap Hydraulics* 11:72-4 J1 '58
- Industrial know-how handbook; components for automation. *il Mill & Factory* 62: MW40-1 My '58
- Kingsbury multi-unit automatic for processing automatic transmission parts. *il Mach* 64:174 Ap '58
- Let automation give heavy jobs a lift; setup for machining railway car wheels. R. H. Esheleman. *il Iron Age* 181:104-5 Mr 20 '58
- Lewis automatic finishing machine uses liquid abrasive process. *il Am Mach* 101:124 D 30 '57
- Long parts cut on standard automatic. *il Mach* 64:190 My '58
- Machinery and automation. J. C. Keebler. *il Automation* 5:121-6-7 Je '58
- Making tapered roller bearings; Timken roller bearings co. *il diags Automation* 5:57-62 F '58
- Mill handles big plane parts; Martin co. *il Steel* 142:123 Ap 7 '58
- New equipment. *il diags* Published in monthly numbers of *Automation*
- Partial automation for small runs. *il diags Tool Eng* 39:88 D '57
- Planning automatic assembly. G. H. Kendall and L. Walter. *il plans diags Engineering* 136:184-5 Ag 8 '58
- Pontiac's new molding line. E. J. Texler. *flow diag il Foundry* 55:110-13 D '57
- Scrap handling speeded by new automatic shear. *il diags Automation* 5:9-10 Ap '58
- Simplified storage system for semi-automatic tooling; power take-off unit supplied by Twin disc clutch co. K. Rose. *il Automotive Ind* 118:54-6-7 Ja 15 '58
- Tooling that makes steering easy. E. Altholz. *il diags Mach* 64:161-7 My '58
- Wet blast finishing goes automatic. *il Steel* 141:106-7 D 16 '57
- Work-loading devices to increase output from Wickman chucking automatics. *il Automobile Eng* 48:113-16 Mr '58

See also

Assembling machines
Automation
Screw machines
Transfer mechanism
Vending machines

Patents

Patents. Published in monthly numbers of *Automation*

MACHINERY, Kinematics of

- Anticipating dynamic behavior. J. B. Hartman. *bibliog diags Machine Design* 30:118-24 Ag 7 '58
- Determining oscillatory accelerations. J. F. Sodaro. *Product Eng* 28:F 14 Mid-O '57
- Polygonal action in chain drives. S. Maralingam. *diag Franklin Inst J* 265:23-8 Je '58
- Simple formula for determining the position of maximum slider velocity in a slider-crank mechanism. C. U. Ip and L. C. Price. *bibliog diag A S M E Trans* 80:415-17; Discussion. 417-18 F '58
- Velocity and acceleration analysis of plane and space mechanisms by means of independent-position equations. F. H. Raven. *bibliog diags J Ap Mech* 25:1-6 Mr '58

See also

Cams
Links and link motion
Mechanical movements

MACHINERY, Replacement of

- Are you paying for equipment you don't have? *il Foundry* 86:130-45 My '58

- Can industry afford new tools? cost of not replacing may be higher. M. J. Barloon. *Iron Age* 181:98 Je 19 '58
- Determining equipment replacement needs; Struthers Wells corp. R. A. Butler. *Plant Eng* 12:110-12 O '56
- Economics of plant renewal and replacement. C. W. Griffiths. *Inst Mech Eng Proc* 171 no 13:469-82, pl 1-2; Discussion. 483-92; Reply. 492-3 '57
- Fresh approach to replacement turns investment into capital. *il Am Mach* 102:90-1 Ap 7 '58
- How modern is American industry? *Food Eng* 30:50-3 O '58
- How to put your finger on profit-eating machines. *Food Eng* 30:33-4 O '58
- Machine capability, a key to lower costs. N. B. MacLaren. *Am Mach* 102:78-9 Je 30 '58
- Market and cost trends call for modernization. *Food Eng* 30:54-5 O '58
- Mix business sense with machine replacement formulas. *il Iron Age* 182:49-51 Ag 28 '58
- Modernization of production equipment, a must; J. Gescheln. *Automotive Ind* 119:74-8-9 S 1 '58
- New approach to replacement studies. B. A. Margo. *Tool Eng* 40:73-8 Ja '58
- Production clinic: when is the right time to replace a certain piece of equipment? *Soap & Chem Spec* 34:173 S '58
- Proper depreciation helps finance equipment replacement. R. L. Berry. *Foundry* 86:151-3 My '58
- Replacement of steel mill plant and equipment with present depreciation reserves. W. T. Hogan. *il Iron & Steel Eng* 84:79-84 D '57
- To modernize, industry needs a tax break; House Ways and means committee hearings. *il diags Mill & Factory* 62:73-6 Je '58
- When to replace a tractor. G. Evancoe. *Pet Eng* 30:D42-3 My '58

See also

Food factories—Equipment financing
Machinery—Length of service
Obsolescence

MACHINERY in industry

- Problems in mechanization in primitive countries. J. V. Thompson. *il Min Eng* 10:868-63 Ag '58

See also

Machinery, Replacement of
MACHINERY industry

See also

Machine tool industry
Machinery—Leasing
Textile machinery industry

Canada

- Canada's wants and fancies; brief guide to the market for engineering products in Canada. *Engineering* 184:778-9 D 20 '57
- Machines and equipment. *il Eng J* 41:103-4 Ap '58

Europe

- Engineering firms in the free trade area (cont.). *Engineering* 184:525-6 589-90, 651-2 O 25, N 8, 22 '57

Great Britain

- Engineering industries. *Engineering* 185:19-22, 50-5, 84-7, 114-17 Ja 3-24 '58

Russia

- How Moscow designs; prices? selling? re-design? service? map *Product Eng* 29:21-2-4 J1 '58
- Soviet plant; testing and automatic equipment; illustrations and drawings with text. *Engineering* 184:586-7 N 8 '58

- MCILROY analyzer. See Water distribution—Electric analogies

MACKINAC straits

- Design of the main towers of the Mackinac bridge. K. H. Chu. *bibliog il diags Am Soc C E Proc* 84 [ST 2 no 1555]:1-26 Mr '58
- Erecting the superstructure of Mackinac bridge. *il diag Eng N* 160:36-40, cover F 6 '58
- Precise surveys for Mackinac bridge. R. M. Boynton. *il plan Am Soc C E Proc* 84 [SU 2 no 1716]:1-8 J1 '58

MCLEOD gage

- Compact oil McLeod gauge. N. A. Florescu. *diag R Sci Instr* 29:528-9 Je '58
- Extension to the range of the McLeod gauge. J. A. Barnard. *diag J Sci Instr* 34:511-12 D '57
- Hydrogen-sensitive McLeod gauge. C. N. Cochran. *diags R Sci Instr* 29:69-70 Ja '58

MCMMASTER university

- First year of engineering completed. *il Eng J* 41:107-8 S '58

MACMULLIN, Robert Burns

R. B. Macmullin awarded 1958 Schoellkopf medal, *por Electrochem Soc J* 105:sup 129C J '58

Schoellkopf medalist MacMullin, globetrotter, *por Chem & Eng N* 36:112 Je 9 '58

MACROMOLECULES. See Molecules**MAGIE, William Francis**

Sketch, E. S. Barr, *Am J Phys* 26:121 F '58

MAGNAFLUX testing. See Magnetic testing**MAGNESIA**

At one southwestern plant, magnesia insulation gives temperature control, P. A. Austin, *il diag Oil & Gas J* 56:139 Mr 3 '58

Casting of magnesium oxide in aqueous slips, S. D. Stoddard and A. G. Allison, *bibliog il diag Am Cer Soc Bul* 37:409-13 S 15 '58

Design factors in using MgO in heaters, G. E. Price, *Elec Manuf* 61:150-1 F '58

Effect of oxide additions on sintering of magnesia, J. W. Neilson and I. B. Cutler, *bibliog Am Cer Soc J* 41:406-9 O 1 '58

Eliminate wiring problems with mineral-insulated cable, W. J. Richard, *il Power Eng* 62:64-7 J '58

Magnesia pulping breaks pollution stalemate; Brown co. flow sheet (p 114-17) *il Chem Eng* 65:60+ S 8 '58

Mechanism of secondary electron emission from MgO single crystals, N. R. Whetten and A. B. Lapovsky, *J Ad Phys* 29:1374 S '58

Physical properties and bond type in Mg-Al oxides and silicates, J. Verhoogen, *Am Mineralogist* 43:552-79 *bibliog* (p578-9) My '58

Role of structural defects in the sintering of alumina and magnesia, J. T. Jones and others, *bibliog Am Cer Soc J* 41:353-7 S 1 '58

Thermal insulation materials: 85 per cent magnesia, R. J. Fabian, *il Materials in Design Eng* 47:125-7 Mr '58

See also

Periclase**Manufacture**

Magnesia from sea via streamlined process; Kaiser chemical div. of Kaiser aluminum & chemical corp.; process flow sheet, T. F. Forbath, *il Chem Eng* 65:112-15 Mr 24 '58

MAGNESITE

Electron microscope and electron diffraction studies of sintering of magnesite, A. Pandey and R. Singh, *il Am Cer Soc J* 41:394-7 O 1 '58

MAGNESIUM

Ca, Mg, S; plant nutrients, *il J Agri' & Food Chem* 6:415-17 Je '58

Complexes of magnesium ion with pyrophosphate and triphosphate ions, S. M. Lambert and J. I. Watters, *bibliog Am Chem Soc J* 79:5606-8 N 5 '57

Complexometric titration of calcium in the presence of magnesium, A. D. Kenny and V. H. Cohn, *Anal Chem* 30:366-8 Ag '58

Effect of gas flushing on the consumption of magnesium in the production of nodular iron; abstract, W. Patterson, *Metal Prog* 73:198+ Mr '58

Fluoroplatinates; preparation, density and solubility of the fluoroplatinates of magnesium and the alkaline earth metals, M. K. Norr and others, *Am Chem Soc J* 80:5035-6 O 5 '58

Influence of copper and vanadium on the sintering of magnesium-type ferrites, L. C. F. Blackman, *J Ap Phys* 28:151-12 D '57

Magnesium and protective coatings for magnesium, H. A. Evangelides, *il Plating* 45:493-8 My '58

Magnesium chemical/metallurgical uses grow; special report, C. K. Bjork and P. F. George, *il Chem & Eng N* 35:72-6 N 18 '57

Magnesium dip brazed accurately, *il Steel* 143:101 Ag 4 '58

Magnesium in aircraft tooling, K. F. Melde, *il Tool Eng* 40:103-5 Je '58

Magnesium industry eyes automobile market, A. W. Shearer, *il diag Automotive Ind* 118:52-5 My 1 '58

Magnesium makes drilling job easier; Chevrolet's Turboide transmission, *il Iron Age* 181:67 Ja 9 '58

Magnesium parts in electronic equipment, H. R. Bullock, *il diag Elec Manuf* 62:60-5+ J '58

Magnesium plate is electroless, *Electronics* 31:18 Je 27 '58

Magnesium will cut army vehicle weight two-thirds, *il Mod Metals* 14:80 F '58

More strength for magnesium, *Product Eng* 28:13 D 30 '57

Pellet extrusions beef up magnesium structures, G. S. Foerster and H. A. Johnson, *il Product Eng* 29:80-1 My 12 '58

Safety of magnesium canning for CO₂-cooled reactors, M. Salesse, *il diag Nucleonics* 16:123-4 F '58

Solution heat treatment of magnesium forgings, *il Materials in Design Eng* 47:147-4 Mr '58

Tool design for machining magnesium; reference sheet, *diag Tool Eng* 40:125-8 Ja '58

Use of magnesium anodes to protect steel mains, H. C. Boone, *il Corrosion* 14:21 J '58

Use of magnesium for the external cathodic protection of marine vessels, C. F. Schrieber, *il diag Corrosion* 14:26-30 Mr '58

Analysis

Complexometric titration of urinary calcium and magnesium, C. L. Yarbro and R. L. Golby, *bibliog Anal Chem* 30:504-6 Ap '58

Flame spectrophotometric determination of microgram quantities of magnesium, L. Magna and others, *bibliog Anal Chem* 29:138-7 D '57

New titrimetric determinations of magnesium and aluminum oxinates, R. M. Powers and others, *bibliog Anal Chem* 30:254-6 F '58

Volumetric determination of magnesium in titanium, M. J. Miles and others, *bibliog Anal Chem* 30:361-3 Mr '58

Corrosion

Corrosion of anodically and cathodically polarized magnesium in aqueous media, G. R. Hoey and M. Cohen, *bibliog* (32 ref) *il diag Electrochem Soc J* 105:245-50 My '58; Discussion, 105:757-8 D '58

Finishing

Chem-Mill; shortcut to hard-to-machine magnesium parts, H. H. Miller, *il Mod Metals* 14:62-4 F '58; Excerpt, *Machine Design* 30:137-8 Ja 9 '58; *Automotive Ind* 117:124 N 15 '57

Fire hazards

Fire hazards of magnesium, *il Safety Maint* 114:62-5 O '57

Protection

Adhesive bonding of magnesium, incorporating a corrosion resistant hot alkaline chromate treatment as the surface preparation, R. J. E. Hunter, *il Metal Prog* 73:130+ My '58

Ceramic coating of magnesium, P. A. Hupert, *il Light Metal Age* 16:8-10 Ap '58

Electroless nickel gives hard surface to magnesium, *il Materials in Design Eng* 48:126 Ag '58

Electroless process plates nickel on magnesium, *Mod Metals* 14:76 Je '58

HAE process to date, *il Light Metal Age* 15:10-14 D '57

Magnesium and protective coatings for magnesium, H. A. Evangelides, *il Plating* 45:493-8 My '58

New coating gives magnesium extra protection, *il Iron Age* 181:64-6 Ja 9 '58

Nickel takes on magnesium; Dow electroless nickel-plating, process, *il Chem & Eng N* 36:64 J '58

Progress in surface treatment of magnesium alloys; anodic processes; abstract, G. Siebel, *Metal Finishing* 56:76-7 Ja '58

Protection of magnesium alloys; abstract and discussion, W. F. Higgins, *Chem & Ind* p218-19 F 22 '58

Testing

Deformation mechanisms in magnesium and some magnesium-aluminum alloys, R. D. Stacey, *bibliog il Metallurgia* 58:125-8 S '58

Uses

Magnesium makes ground heater portable, *il Mod Metals* 14:42-3 My '58

New thorium alloys assure a big role for magnesium in missiles, *il diag Mod Metals* 14:46+ Ap '58

Use of magnesium in future aircraft and missile structures, J. H. Rizley and R. E. Mihal, *il Light Metal Age* 15:24-7 D '57; *Mod Metals* 14:32-4 F '58

Welding

Are welding of wrought magnesium-thorium alloys, L. F. Lockwood and P. Klain, *il diag Welding J* 37:sup255-64 Je '58

New forge welding of aluminum and magnesium alloys, L. A. Cook and D. G. Shafer, *bibliog* (44 titles) *il Welding J* 37:348-58 Ap '58

MAGNESIUM, Molten

Pyrometallurgical separation of uranium from thorium; extraction with liquid magnesium. P. Chiotti and H. E. Shoemaker. *bibliog* *il* *diags* *Ind & Eng Chem* 50:137-40 F '58

MAGNESIUM alloys

Adhesive bonding of magnesium. Incorporating a corrosion resistant hot alkaline chromate treatment as the surface preparation. R. J. E. Hunter. *il* *Metal Prog* 73:130+ My '58

Arc welding of wrought magnesium-thorium alloys. L. F. Lockwood and F. Klein. *il* *diags* *Welding J* 37:sup255-64 Je '58

Bomarc uses magnesium-thorium alloys. *diag* *Steel* 142:148 F 17 '58

Casting magnesium-thorium alloys. T. A. Dickinson. *il* *Foundry* 86:156+ F '58

Chemical milling broadens magnesium-thorium alloy use in missiles. *il* *Mod Metals* 14:62+ Ag '58

HAE process to date. *il* *Light Metal Age* 15: 10-14 D '57

Influence of sodium on magnesium-lithium alloys. R. J. M. Payne and J. D. L. Eynon. *bibliog* *Inst Metals J* 85:351-2 Ap '58

Magnesium alloy treatments; table. *Product Eng* 29:C4 Mid-S '58

Magnesium-thorium alloys lighten Bomarc missile. *diags* *Mod Metals* 14:84 F '58

Metal selector: magnesium; properties. *Steel* 141:178 O 23 '57

New magnesium alloys. R. J. M. Payne and N. Bailey. *il* *Metallurgia* 58:67-8 Ag '58

New thorium alloys assure a big role for magnesium in missiles. *il* *diags* *Mod Metals* 14:46+ Ap '58

Oxidation of an aluminum-three per cent magnesium alloy in the temperature range 200°-550°C. W. W. Smeltzer. *bibliog* *il* *Electrochem Soc J* 105:67-71 F '58

Partial phase diagrams of the systems Mg-Th and Mg-Th-Zr; abstract. A. S. Yamamoto and W. Rostoker. *Metal Prog* 72:146+ D '57

Progress in surface treatment of magnesium alloys; anodic processes; abstract. G. Siebel. *Metal Finishing* 56:76-7 Ja '58

Properties of materials. *Materials in Design Eng* 48:106-9 Mid-Q '58

Protection of magnesium alloys; abstract and discussion. W. F. Higgins. *Chem & Ind* p218-19 F 22 '58

Redetermination of the liquidus of the system lead-magnesium in the range 0-3 weight per cent magnesium. G. W. Horsley and J. T. Maskrey. *bibliog* *il* *diag* *Inst Metals J* 86:446-8 Je '58

Relationship between magnesium content and stress-corrosion susceptibility of aluminum-magnesium alloys. W. J. Vance. *bibliog* *J Appl Chem* 8:123-24 Ja '58

Service performance of cast magnesium alloy anodes. G. L. Christie. *il* *diags* *Corrosion* 14:51-4 JI '58

Structure and mechanical properties of high-purity aluminum-zinc-magnesium alloys. P. C. Varley and others. *bibliog* *il* *Inst Metals J* 86:337-51 Ap '58

Three manganese alloys. J. L. Everhart. *il* *diag* *Materials in Design Eng* 48:144-6 N '57

Upper temperature limit of stability of G.P. zones in ternary aluminum-zinc-magnesium alloys. I. J. Polmer. *bibliog* *diags* *Inst Metals J* 87:24-5 '58-59

Wrought and cast magnesium-thorium and magnesium-zirconium alloys; composition, properties, etc. tabulated; file facts. *Materials in Design Eng* 48:121+ JI '58

Testing

Deformation mechanisms in magnesium and some magnesium-aluminum alloys. R. D. Stacey. *bibliog* *il* *Metallurgia* 58:125-8 S '58

Pure torsion creep tests on magnesium alloy (2 per cent Al) at 20°C. and on 0.2 per cent C steel at 450°C. at low rates of strain (10⁻⁶ to 10⁻⁸ per hour). A. E. Johnson and others. *Metallurgia* 58:109-17 S '58

MAGNESIUM association

Annual meeting, 13th. New York; abstracts of papers. *Automotive Ind* 117:72+ N 15 '57

Annual meeting. New York; abstracts of papers. *Steel* 141:123 O 28: 192+ N 18 '57

Annual meeting, 13th. New York. Oct. 17-18; abstracts of papers. *Foundry* 85:202+ D '57

Meeting. New York. Oct. 17-18. *Am Mach* 101:176 N 4 '57

MAGNESIUM bromide

Rearrangement of cyclohexene oxides with magnesium bromide etherate. S. M. Naqvi and others. *bibliog* *Am Chem Soc J* 79: 6283-6 D 5 '57

MAGNESIUM carbonate

Relation between lattice constants and composition of the Ca-Mg carbonates. J. R. Goldsmith and others. *bibliog* *Am Mineralogist* 43:84-101 Ja '58

See also

Dolomite

MAGNESIUM chloride

Equilibria between titanium metal and solutions of titanium dichloride in fused magnesium chloride. K. Komarek and P. Herasymenko. *diag* *Electrochem Soc J* 105:210-15 Ap '58

MAGNESIUM compounds

Infrared studies on complexes of Mg⁺⁺ with adenosine phosphates. A. Epp and others. *Am Chem Soc J* 80:724-7 F '58

Reduction of triphenylacetone by the α -hydrogen atom of benzylmagnesium chloride. V. F. Raaij and J. F. Eastham. *Am Chem Soc J* 79:6088-9 N 20 '57

Structure and bonding of cyclopentadienylthallium and bis-cyclopentadienylmagnesium. F. A. Cotton and L. T. Reynolds. *bibliog* *diag* *Am Chem Soc J* 80:269-73 Ja 20 '58

MAGNESIUM curbs. See Curbs, Magnesium

MAGNESIUM dichromate

Magnesium dichromate hydrates. R. L. Costa and W. H. Hartford. *Am Chem Soc J* 80: 1809-11 Ap 20 '58

MAGNESIUM dititanate. See Magnesium titanates

MAGNESIUM ferrates

Some properties of quenched magnesium ferrites. D. J. Epstein and B. Frackiewicz. *bibliog* *J Appl Phys* 29:376-7 Mr '58

MAGNESIUM founding

Automatic metering of magnesium for cold chamber die casting; abstracts. F. L. Burkett and F. C. Bennett. *Metal Prog* 73: 136+ F '58; *Tool Eng* 40:210 Je '58

Hot tearing of magnesium casting alloys; abstract. R. A. Dodd and others. *Metal Prog* 73:195-6 My '58

Magnesium association 13th annual meeting. New York. Oct. 17-18; abstracts of papers. *Foundry* 85:202+ D '57

Magnesium precision castings open new production potential. L. H. McCreery. *il* *Light Metal Age* 15:28-30 D '58; *Abstract. Machine Design* 30:139-40 Ja 9 '58

New coring method broadens uses of light metal castings. J. L. Everhart. *il* *Materials in Design Eng* 48:102-5 D '57

New navy fluoroscope proves out in light metals inspection trial; aluminum and magnesium castings. *il* *Light Metal Age* 16:24 F '58

Precision pays off in cast magnesium airframe parts. L. H. McCreery. *il* *Mod Metals* 14:66+ Ap '58

Press forging strengthens light metals castings. W. Rostoker. *il* *Mod Metals* 14:42+ F '58

Third best year reported by job shop die casters. *Mod Metals* 14:56+ My '58

MAGNESIUM industry and trade

Light metals industry, 1957. S. B. White. *il* *Min Cong J* 44:121-2 F '58

Magnesium, 1957. J. D. Hanawalt. *Eng & Min J* 159:132-3 F '58

Year ahead for light metals. K. Darby. *Mod Metals* 14:66+ F '58

MAGNESIUM metallurgy

Electrometallurgy

High purity electrolytic magnesium. F. J. Krenzke and others. *il* *J Metals* 10:28-30 Ja '58

MAGNESIUM nitrate

Maggie concentrates nitric; Hercules Powder nitric acid concentrating process. *il* *diag* *Chem & Eng N* 36:40-1 Je 9 '58

MAGNESIUM oxide. See Magnesias

MAGNESIUM silicates

Physical properties and bond type in Mg-Al oxides and silicates. J. Verhoogen. *Am Mineralogist* 43:552-79 *bibliog* (p578-9) My '58

See also

Forsterite

MAGNESIUM titanates

High-temperature mechanical properties of ceramic materials; magnesium dititanate. E. A. Bush and F. A. Hummel. *bibliog* *il* *diag* *Am Cer Soc J* 41:189-95 Je 1 '58

MAGNESIUM work

Dip brazing magnesium. W. J. Graves. *Light Metal Age* 15:36-7 F '57; Same cond. *il* *Electronics* 31:118+ Ja 17 '58; Same cond. *Machine Design* 30:146+ F '58

MAGNESIUM work—Continued

- High speed coining; magnesium buttons. R. M. Johnson and J. Mourning. *il diags Am Mach* 102:118-19 Mr 24 '58
- How to get more for your machining dollar; magnesium is easy to work with. *il diags Iron Age* 181:118-21 Ap 24 '58
- New process features close control of brazing heat for aluminum or magnesium. *diags Welding Eng* 43:38-9 Je '58
- Stronger magnesium extrusions coming. *il Product Eng* 29:29 Mr 24 '58
- MAGNETIC amplifiers.** See Amplifiers
- MAGNETIC anisotropy.** See Magnetic properties
- MAGNETIC brakes.** See Brakes, Magnetic
- MAGNETIC chucks.** See Chucks, Magnetic
- MAGNETIC clutches.** See Clutches, Magnetic
- MAGNETIC control**
- Troubleshooting industrial motor control. V. Kempf. *il diags Plant Eng* 12:89-93 Ag '58
- See also
- Valves—Magnetic control
- MAGNETIC couplings.** See Couplings, Magnetic
- MAGNETIC field**
- Arc movement due to the magnetic field of current flowing in the electrodes. A. E. Guile and S. P. Mehta. *bibliog il diag Inst E E Proc* 104 pt A:533-40 D '57
- Beam noise in crossed electric and magnetic fields. R. P. Little and others. *diags J Ap Phys* 29:1376-7 S '58
- Coils for magnetic fields. G. M. Clarke. *diags bibliog Electronic & Radio Eng* 35:298-306, 340-4 Ag-S '58
- Continuous measurement and recording of variable magnetic fields by the pme effect. H. Mette. *diag R Sci Instr* 28:1096 D '57
- Distribution of leakage flux around a twisting magnet; a graphic analysis. M. S. Glass. *diags Inst Radio Eng Proc* 46:1751-6 O '58
- Effect of magnetic field on coupled helix attenuators. M. H. Miller and others. *diag J Ap Phys* 28:1363-4 N '57
- Effect of magnetic field on forced convection heat transfer in a parallel plate channel. R. Siegel. *diags J Ap Mech* 25:415-16 S '58
- Effects of magnetic fields upon anisotropic iron crystals. J. H. L. Watson and others. *il J Ap Phys* 29:306-8 Mr '58
- Field strength near rectangular conductors; abstract. J. H. Miller. *Elec Eng* 77:814 S '58
- Livermore's mirror machine. Evelyn R. abstract. R. F. Post. *Nucleonics* 16:123 My '58
- Magnetic deflexion of electron beams without astigmatism. G. D. Archard and T. Mulvey. *diags J Sci Instr* 35:279-83 Ag '58
- Magnetic field antenna. W. J. Polydoroff. *diags Electronic Ind* 17:66-8 Jr '58
- Magnetic fields between plates. J. A. Simpson. *Electronics* 30:31 D 10 '57
- Magnetic sweep calibration utilizing super-regenerative nuclear resonance detection. R. L. Collins. *diags R Sci Instr* 29:176-7 F '58
- Measurement of magnetic fields in aluminum reduction furnaces. H. Kent. *bibliog il diags Electrochem Soc J* 105:603-7 O '58
- Measurement of magnetization curves in high pulsed magnetic fields. I. S. Jacobs and P. E. Lawrence. *bibliog il diag R Sci Instr* 29:173-14 Ar '58
- Microwave magnetic field in dielectric-loaded coaxial line. E. J. Duncan and others. *diags Inst Radio Eng Proc* 46:500-2 F '58
- Modulation in nuclear paramagnetic resonance. R. V. Pound. *R Sci Instr* 28:966-7 N '57
- Motion of an arc in a magnetic field. C. G. Smith. *bibliog diags J Ap Phys* 28:1328-31 N '57
- New method for making magnetic fields visible. L. Suchow. *il J Ap Phys* 29:223-4 F '58
- Production and use of high transient magnetic fields. H. P. Furth and others. *bibliog il diags R Sci Instr* 28:949-58 N '57
- Proton serves as probe in magnetic field measurement. *il Machine Design* 30:10 S 4 '58
- Recrystallization of MnBi induced by a magnetic field; abstract. O. L. Boothby and others. *J Ap Phys* 29:353 Mr '58
- Simultaneous utilization of magnetic deflection and Coulomb scattering in the estimate of particle momenta. Y. B. Kim. *R Sci Instr* 29:650-8 Ag '58
- Stability studies with longitudinal magnetic field on a straight pinched discharge. L. C. Burkhardt and others. *bibliog il J Ap Phys* 29:964-7 Je '58

- Strong magnetic field. H. P. Furth and others. *il diags Sci Am* 198:28-33 F '58
- Suppression of leakage flux in magnetic air circuit breakers. A. P. Strom. *il diags Power Apparatus & Systems* p305-8; Discussion. 308-9 Je '58
- Transformer magnetic field plotting by electrolytic tank. P. H. G. Allen and J. H. Foster. *il R Sci Instr* 28:1095 D '57
- Transistors and diodes in strong magnetic fields. H. A. Kampf. *il diag Electronic Ind* 17:71-3 Mr '58
- Use of β spectrometers with linearly increasing magnetic field. G. A. Groma and E. F. Poczta. *diag R Sci Instr* 29:442-3 My '58
- Variable and reversible magnetic fields obtained from a permanent magnet. J. A. Dalman and L. S. Goodman. *diags R Sci Instr* 28:961-2 N '57
- Velocity filter for nuclear spectroscopy; crossed magnetic and electric fields. L. H. T. Rietjens and others. *diags R Sci Instr* 29:768-9 S '58
- See also
- Cyclotron
- Electromagnetic field
- Ettingshausen effect
- Faraday effect
- Hall effect
- Magnetic shielding
- Magnetohydrodynamics
- Zeeman effect
- MAGNETIC flux welding.** See Electric welding, Arc—Carbon dioxide shielding
- MAGNETIC force welding.** See Electric welding
- MAGNETIC induction**
- Induction flowmeter. V. Cushing. *diags R Sci Instr* 29:692-7 Ag '58
- Induction pickups and the drive-in movie. A. Nadell. *il diag Radio-Electronics* 29:34-5 Mr '58
- Low residual induction in high-aluminum iron alloys. D. Pavlovic and K. Foster. *bibliog il J Ap Phys* 29:368-9 Mr '58
- Measurement of losses of magnetic materials at high inductions at frequencies up to 100 megacycles. I. Bady. *diags J Ap Phys* 29:393-4 Mr '58
- See also
- Electromagnets
- Hysteresis
- MAGNETIC instruments**
- Automatic memory-core handler uses magnetic feed. R. O. Endres. *il diags Elec Manuf* 61:152-1 My '58
- Bending moments by direct measurement; Wiegmann slope differential instrument. G. P. Tschebotarioff and others. *il plan diags Eng N* 160:39-40+ Ap 24 '58
- Device measures effectiveness of quenching media. *il Mach* 114:146 Ja '58
- Fast and sensitive magnetic susceptibility for the study of rapid biochemical reactions. A. S. Brill and others. *bibliog diags R Sci Instr* 29:393-91 My '58
- Ferrimeter for the determination of the a.c. magnetization curve and the iron losses of small ferromagnetic sheet samples. H. Blomberg and P. J. Karttunen. *bibliog diags Inst E E Proc* 105 pt A:375-84; Discussion. 402-5 Ag '58
- Magnetic device tests quenching liquids. *il Elec Manuf* 61:156 F '58
- Magnetic gas locates encased metal parts. P. Seaward. *il diags Electronics* 31:65-7 Ag '58
- Magnetic gauge utilizing the magnetron effect. W. Fulop. *bibliog diags J Sci Instr* 35:52-5 F '58
- Magnetic inverter uses tubes or transistors. C. H. Campbell. *il diags Electronics* 31:158-61 Mr 14 '58
- Magnetic pulse generators. J. E. Sunderlin and M. L. Weinberg. *il diags Elec Manuf* 61:139-43 My '58
- Magnetic saturable-core timing device. J. L. Lowrance. *bibliog il diags Com & Electronics* p393-7 Jl '58
- Mass spectrometer mass marker. J. H. Beynon and S. Clough. *diag J Sci Instr* 35:289-91 Ag '58
- Use magnetic properties to measure quenching; magnetic Quenchometer. *il Machine Design* 29:6 D 26 '57
- Where to look for trouble in ac magnetic starters. S. Spence. *diag Power* 102:124-5 Ja '58
- See also
- Fluxmeters
- Permeameters

MAGNETIC instruments—Continued

Control

Automatic frequency control for a marginal-oscillator magnetic absorption spectrometer. A. W. Nolle and H. L. Henneke. *diags R Sci Instr* 28:330-2 N '57

MAGNETIC materials

Antiferromagnetic structures of $MnSe_2$, $MnSe$, and $MnTe$. L. M. Corliss and others. *diags J Ap Phys* 29:391-2 Mr '58

Application of square hysteresis loop materials in digital computer circuits. A. D. Holt. *bibliog diags Electronic Eng* 30:196-9 Ap '58

Calculation of the energy loss in magnetic sheet materials using a domain model. R. H. Pry and C. P. Bean. *diags J Ap Phys* 29:532-3 Mr '58

Conference on magnetism and magnetic materials, Washington, Nov. 18-21; proceedings. *J Ap Phys* 29:237-548 Mr '58

Conference on magnetism and magnetic materials, Washington, Nov. 18-21; program. *Inst Radio Eng Proc* 45:1563-5 N '57

Cube oriented magnetic sheet; a major advance in magnetic materials. G. W. Wiener and K. Detert. *diags J Metals* 10:507-8 Ag '58

Design advances from magnetism research; AIEE magnetism and magnetic materials conference, Washington, Nov. 18-21. *Elec Manuf* 61:86-90-1 Ja '58

Design characteristics of magnetic steel castings. W. C. Pierce. *il Mech Eng* 80:64-6 Ap '58

Doubly-oriented magnetic sheet will increase efficiency of electrical equipment. *il diags Iron & Steel Eng* 84:154-4 O '57

Ferromagnetic ceramics. G. Economos. *il diags Materials in Design Eng* 48:96-101 S: 109-14 O '58

Improved bridge method for the measurement of core losses in ferromagnetic materials at high flux densities. W. P. Harris and I. L. Coater. *bibliog diags J Res Nat Bur Stand* 60:509-16 My '58

Influence of impurities on the magnetic properties of high-purity three per cent silicon iron. D. A. Leak and G. M. Leak. *bibliog il Iron & Steel Inst J* 187:190-4 N '57

Magnetic materials for use at high microwave frequencies (50-90 kmc/sec). F. K. Du Pré and others. *J Ap Phys* 29:1127-8 Jl '58

Magnetic properties of cube textured transformer sheet. J. L. Walter and others. *il J Metals* 10:509-11 Ag '58; Same. *J Ap Phys* 29:363-5 Mr '58

Magnetostriiction and elastic properties of ferromagnetic substances at high magnetic fields. H. Sato. *bibliog J Ap Phys* 29:456-8 Mr '58

Preparation and properties of crystal-oriented ferroplana samples. A. L. Stults and H. P. J. Wijn. *il J Ap Phys* 29:468-9 Mr '58

Preparation of polycrystalline ferrimagnetic garnet materials for microwave applications. W. P. Wolf and G. P. Rodriguez. *bibliog how chart J Ap Phys* 29:105-8 Ja '58

Radiation effects in magnetic materials. D. I. Gordon and others. *bibliog il Nucleonics* 16: 73-7 Je '58

See-through crystals show magnet secrets. *Product Eng* 29:14 Ja 27 '58

Silicon iron has four way magnetism. *il Materials in Design Eng* 46:168-4 D '57

Silicon iron sheet is magnetic in four directions. *il Materials in Design Eng* 46:179-80 N '57

Single-crystal yttrium/iron garnets (YIGs) replace ferrites in high-frequency electronic systems. *Chem & Eng N* 35:62 D 9 '57

Some recent developments in magnetic alloys; abstract. C. E. Richards. *Brit Inst Radio Eng J* 18:135 F '58

Some results of an electron microscopical study of the metallographic structure of two alloys for permanent magnets (Ticonal G and Ticonal X). J. J. de Jong and others. *bibliog J Ap Phys* 29:297-8 Mr '58

Transparent magnetic oxides. *Bell Lab Rec* 36:36 Ja '58

What you should know about new magnets. C. J. Lynch. *diags Product Eng* 28:34-6 D 2 '57

See also
Alnico
Silicon steel

Testing

Experimental study of magnetic materials for use in ultrahigh-temperature electronic transformers. H. E. Harms. *il diags Com & Electronics* p 181-4 My '58; Same. *Elec Eng* 77:408-12 My '58

New technique for measuring rotational hysteresis in ferromagnetic materials. J. M. Kelly, jr. *bibliog diags R Sci Instr* 28:1038-40 D '57

MAGNETIC measurements

Apping the Hall effect to practical magnet testing. G. R. Hennig. *bibliog il diags Elec Manuf* 61:132-6+ Ap '58

B-H tester measures memory core parameters. T. H. Bonn and others. *il diags Electronics* 31:76-80 Ja 17 '58

Calibration of ballistic galvanometers for magnetic measurements. B. L. Miller. *diag Am J Phys* 28:129-30 F '58

Continuous measurement and recording of variable magnetic fields by the pme effect. H. Mette. *diag R Sci Instr* 28:1096 D '57

Control of flux waveforms in iron testing by the application of feedback amplifier techniques. J. McFarlane and M. J. Harris. *bibliog diags Inst E E Proc* 105 pt A: 395-402; Discussion. 402-5 Ag '58

Direct-reading iron-loss testing equipment for single sheet, single strips and test squares. J. McFarlane and others. *bibliog diags Inst E E Proc* 105 pt A:385-94; Discussion. 402-5 Ag '58

Magnetic measurements on some precipitating systems. A. E. Berkowitz and P. J. Flanders. *J Ap Phys* 29:314-18 M '58

Magnetic measurements with the bridged-T network. J. K. Choudhury and P. C. Sen. *diags J Sci Instr* 35:145-6 Ap '58

Magnetometallurgy; applications and techniques. J. Arrott. *bibliog J Ap Phys* 29: 508-12 Mr '58

Measurement of losses of magnetic materials at high inductions at frequencies up to 100 megacycles. I. Bady. *diags J Ap Phys* 29: 393-4 Mr '58

Measurement of magnetization curves in high pulsed magnetic fields. I. S. Jacobs and P. E. Lawrence. *bibliog il diag R Sci Instr* 29:713-14 Ag '58

Measurement of the properties of various ferrites used in magnetically tuned resonant circuits in the 2.5-45 mc/sec region. F. P. Lombardini and others. *J Ap Phys* 29:395-6 Mr '58

Method for measuring magnetostriiction corrected for initial domain distribution and its application to nickel and iron. H. E. Stauss. *bibliog J Ap Phys* 29:182-4 F '58

Method for measuring saturation magnetization in ring samples. C. D. Graham, jr. *diags J Ap Phys* 29:68-70 Ja '58

Modified spin-echo method for measuring nuclear relaxation times. S. Meiboom and D. Gill. *diags R Sci Instr* 29:668-9 Ag '58

Permeameter controller or magnetic measurements. M. J. Swan. *diags J Sci Instr* 35:344-6 S '58

Re-entrant cavity for magnetic measurements. E. A. Faulkner. *diag J Sci Instr* 34: 514-15 D '57

Steady-state and pulse measurement techniques for thin magnetic films in the vhf-uhf range. D. O. Smith and G. P. Weiss. *il diags J Ap Phys* 29:290-1 Mr '58

Temperature-regulated bismuth resistor for magnetic-field measurements. C. G. Dols and others. *bibliog il diags R Sci Instr* 29: 349-54 My '58

See also
Magnetic permeability
Magnetic susceptibility
Magnetometers

MAGNETIC memory (calculating machines)

Advance in memory devices. *il Elec Eng* 77: 369 Ap '58

B-H tester measures memory core parameters. T. H. Bonn and others. *il diags Electronics* 31:76-80 Ja 17 '58

Bearing memory improves direction finder. R. E. Anderson. *il diags Electronics* 31:44-8 Ja 17 '58

Better controller memory improves control of difficult process. D. Kleiss. *diags Control Eng* 5:131 Mr '58

Counting done by frequency division. *il diag Electronics* 31:98+ Jl 18 '58

Crossed wires; new concept in memory devices; Twistor. *il Electronics* 30:7-8 D 1 '57

Cyclops cores simplify earth-satellite circuits; analog magnetic memory. C. E. Hout and R. L. Van Allen. *diags Electronics* 31:59-62 F 28 '58

MAGNETIC memory (calculating machines)

- Cont.**
 Design advances from magnetism research: thin films, memory elements. *il* diags Elec Manuf 61:95-8 Ja '58
 Design of function generators using short-time memory devices and nonlinear elements. A. W. Revay and D. J. Ford. diags Com & Electronics p 143-52 My '58
 Effect of a transverse field on switching rates of magnetic memory cores. T. D. Rossing and S. M. Rubens. diags J Ap Phys 29:1245-7 Ag '58
 Electrical component manufacture: Plessey Co. *il* Engineer 205:891 Je 13 '58
 Electrical stability of BaTiO₃ single crystals at -195°C. H. L. Stadler. bibliog J Ap Phys 29:743-4 Ap '58
 High-speed memory unit uses superconductivity principle; Persistor. Elec Eng 77:116 Ja '58
 Low-temp research yields hi-speed computer element memory; Persistor. Machine Design 29:5-6 D 26 '57
 Magnetic core event counter for earth satellite memory; recording micrometeorite bombardment. D. H. Schaefer. *il* diags Elec Eng 77:52-6 Ja '58
 Magnetic disk delivers 12-v. Electronics 31:16 Ja 31 '58
 Magnetic drum and tape design monograph. L. L. Resnick. Electronic Ind 16:63 D '57
 Magnetic-drum storage system considered for use as a common sender in nation-wide dialing. H. F. May. *il* diags Com & Electronics p5-10 Mr '58
 New storage element suitable for large-sized memory arrays; the Twistor. A. H. Boeckel. bibliog *il* diags Bell System Tech J 36:1319-40 N '57; Excerpt. J Ap Phys 29:485-6 Mr '58
 Nondestructive memory employing a domain oriented steel wire. U. F. Gianola. bibliog diags J Ap Phys 29:349-53 My '58
 Operating range of a memory using two ferrite plate apertures per bit. M. M. Kaufman and V. L. Newhouse. J Ap Phys 29:487-8 Mr '58
 Permanent-magnet memory system; Madget register. *il* diag Machine Design 30:114 Ap 17 '58
 Production of ferro-magnetic memory cores. *il* Electronic Eng 30:423 JI '58
 Skilled hands make computer parts. *il* Engineering 185:799 Je 20 '58
 Switching properties of permalloy cores of varying coercivity. T. D. Rossing and V. J. Korkowski. diags J Ap Phys 29:479-80 Mr '58
 Terminal properties of magnetic cores: reversal of magnetization. T. C. Chen and A. Papoulis. bibliog diags Inst Radio Eng Proc 46:839-49 My '58
 Three-dimensional printed wiring. E. A. Guditz. *il* diags Electronics 30:160-3 Je 1 '57; Same cond. Ind Phot 7:24-5+ My '58
 Transistorized memory monitors earth satellite. C. S. Warren and others. *il* diags Electronics 31:65-70 Ja 17 '58
 Twisted magnetic wire memory device developed. Automation 5:10+ F '58
 Twistor, a new computer memory. *il* Engineering 184:824-5 D 27 '57
 Twistor: a new magnetic memory concept. Franklin Inst J 265:165-6 F '58
 Twistor, a new magnetic memory device. *il* Electronic & Radio Eng 35:55 F '58

Testing

- Automatic memory-core handler uses magnetic feed. R. O. Endres. *il* diags Elec Manuf 61:152+ My '58

MAGNETIC moment

- Magnetic moments and apparent molecular fields in some rare earth metals and compounds. W. E. Henry. bibliog J Ap Phys 29:524-5 Mr '58

MAGNETIC permeability

- Frequency shifts in cavities with longitudinally magnetized small ferrite discs; permeability tensor values. H. Seidel and H. Boyet. bibliog diags Bell System Tech J 37:637-55 My '58
 High-frequency magnetic permeability measurements using toroidal coils. R. D. Harrington and R. C. Powell. Inst Radio Eng Proc 46:784 Ap '58
 Measurement of permeability at v.h.f. using transmission line technique. J. C. Anderson. diags Brit Inst Radio Eng J 18:417-24 JI '58

- Some aspects of tempering 3% per cent silicon steel as followed by time decay of permeability. E. S. Anolik and J. Singer. bibliog J Ap Phys 29:412-13 Mr '58
 Temperature dependence of microwave permeabilities for polycrystalline ferrite and garnet materials. J. Nemanich and J. C. Cacheris. bibliog J Ap Phys 29:474-6 Mr '58
 Time decrease of permeability in iron. G. W. Rathenau. bibliog J Ap Phys 29:239-42 Mr '58

MAGNETIC properties

- Crystallographic and magnetic studies of the system (NiFe₂O₄)_{1-x}(NiMn₂O₄)_x. P. K. Baltzer and J. G. White. J Ap Phys 29:445-7 Mr '58
 Cube texture in body centered magnetic alloys. G. Wiener and others. diag J Ap Phys 29:366-7 Mr '58
 Effect of elastic bending on magnetic properties of oriented silicon iron. R. W. Cole. bibliog J Ap Phys 29:370-1 Mr '58
 Effect of hydrostatic pressure on temperature on the magnetic properties of a nickel-zinc ferrite. C. Q. Adams and C. M. Davis, Jr. J Ap Phys 29:372-3 Mr '58
 Effects of composition and processing variables on the magnetic properties of the 50 per cent nickel-iron alloy. M. J. Savitski. J Ap Phys 29:353-5 Mr '58
 Electric and magnetic properties of precision balls for electromechanical devices; chart. E. N. Shotts. Elec Manuf 61:145 Ap '58
 Exchange anisotropy in the iron-iron oxide system. W. H. Meiklejohn. J Ap Phys 29:454-5 Mr '58
 Further magnetic and X-ray diffraction studies on iron-rich iron-aluminum alloys. A. Taylor and R. M. Jones. bibliog J Ap Phys 29:522-3 Mr '58
 Influence of impurities on the magnetic properties of high-purity three per cent silicon iron. D. A. Leak and G. M. Leak. bibliog *il* Iron & Steel Inst J 187:190-4 N 67
 Magnetic and thermodynamic properties of copper(II) acetylacetonate. J. J. Fritz and R. G. Taylor. Am Chem Soc J., 80:4484-7 S 5 '58
 Magnetic anisotropy induced by magnetic annealing and by cold working of NiFe crystal. S. Chikazumi. *il* diags J Ap Phys 29:345-50 Mr '58
 Magnetic properties of cube textured silicon-iron magnetic sheet. J. L. Walter and others. J Ap Phys 29:363-5 Mr '58; Same. *il* J Metals 10:509-11 Ag '58
 Magnetic properties of dilute magnetic alloys and of the rare earth metals. G. W. Pratt. *il* bibliog J Ap Phys 29:520-1 Mr '58
 Magnetic properties of stainless steels. W. S. Eberly. Elec Manuf 62:90-4+ S '58
 Magnetism in materials; ferromagnetic domains and their influence on magnetic properties. H. F. Martin. *il* diags Wireless World 64:70-4 F '58
 Magnetocrystalline anisotropy of Mg-Fe ferrites; temperature dependence. ionic distribution effects, and the crystalline field model. V. J. Folen and G. T. Rado. bibliog J Ap Phys 29:438-40 Mr '58
 Origin of magnetic anisotropy in Co₂Fe₃O₄. J. C. Slonczewski. J Ap Phys 29:448-9 Mr '58
 Oxides of the 3d transition metals. F. J. Morin. bibliog diags Bell System Tech J 37:1047-84 JI '58
 Physical and magnetic properties of elongated single-domain iron and iron-cobalt permanent magnets. R. C. Lever and others. J Ap Phys 29:304-6 Mr '58
 Preparation and properties of crystal-oriented ferroplana samples. A. L. Stuifits and H. P. J. Wijn. *il* J Ap Phys 29:468-9 Mr '58
 Radiation effects in magnetic materials. D. I. Gordon and others. bibliog *il* Nucleonics 16:73-7 Je '58
 Relation between crystallite orientation and magnetic properties of elongated single-domain iron particles. F. E. Luborsky and others. bibliog *il* diags J Ap Phys 29:989-93 Je '58
 Relationship between single crystal and effective polycrystalline anisotropy constants in ferrites. C. J. Kriessman and others. J Ap Phys 29:452-3 Mr '58
 Some ferrimagnetic properties of the system Li₂Ni₂O₄. J. E. Goodenough and others. J Ap Phys 29:382-3 Mr '58
 Some magnetic and crystallographic properties of the system LaMn₂Ni₂O₃. A. A. Wold and others. bibliog diags J Ap Phys 29:387-9 Mr '58

MAGNETIC properties—Continued

- Some properties of quenched magnesium ferrites, D. J. Epstein and B. Frackiewicz, *bibliog J Ap Phys* 29:376-7 Mr '58
- Temperature dependence of ferromagnetic anisotropy, W. J. Carr, jr, *bibliog J Ap Phys* 29:436-7 Mr '58
- Temperature dependence of magnetic properties of silicon-iron, C. W. Chen, *bibliog diags J Ap Phys* 29:1337-43 S '58
- Uniaxial magnetic anisotropy induced in Fe-Ni alloys by magnetic anneal, E. T. Ferguson, *bibliog J Ap Phys* 29:252-3 Mr '58
- Zr₂Ni, it's magnetic; intermetallic compound, B. T. Matthias, *Chem & Eng N* 36: 49 Je 16 '58
- See also*
- Magnetic susceptibility
- MAGNETIC prospecting.** *See* Prospecting—Geophysical methods
- MAGNETIC recording.** *See* Magnetic tape recording; Sound—Recording and reproducing—Magnetic recording
- MAGNETIC resonances.**
- Aspidospermine, nuclear magnetic resonance spectra and classical degradations, H. Conroy and others, *bibliog Am Chem Soc J* 80: 5178-85 O 5 '58
- Behavior of the TE modes in ferrite loaded rectangular wave guide in the region of ferrimagnetic resonance, W. J. Crowe, *J Ap Phys* 29:397-8 Mr '58
- Configurations of the 3-methoxycyclohexene oxides; a novel application of proton magnetic resonance spectroscopy to the determination of structure and configuration, R. U. Lemieux and others, *bibliog Am Chem Soc J* 80:2237-42 My 5 '58
- Corrections for nuclear magnetic resonance measurements, D. W. McCall, *bibliog J Ap Phys* 29:739-40 Ap '58
- Damping and the dispersion relations in anti-ferromagnetic resonance, E. S. Dayhoff, *J Ap Phys* 29:344-4 Mr '58
- Detection and structural analysis of furans by proton magnetic resonance, E. J. Corey and others, *bibliog Am Chem Soc J* 80: 1204-6 Mr '58
- Effect of dissolved oxygen on high-resolution nuclear magnetic resonance spectra, D. F. Evans, *bibliog Chem & Ind* p526-7 My 3 '58
- Effect of electronic mean free path on spin-wave resonance in ferromagnetic metals, G. T. Rado, *J Ap Phys* 29:330-2 Mr '58
- Electron paramagnetic resonance spectrometer of very high sensitivity, H. Misra, *bibliog diags R Sci Instr* 29:590-4 Jl '58
- Electron spin resonance spectra of aromatic mononegative and monopositive ions, E. de Boer and S. J. Weissman, *bibliog Am Chem Soc J* 80:4549-55 S 5 '58
- Ferrimagnetic resonance in gadolinium iron garnet, B. A. Calhoun and others, *bibliog J Ap Phys* 29:427-8 Mr '58
- Ferrimagnetic resonance in single crystals of rare earth garnet materials, R. V. Jones and others, *bibliog J Ap Phys* 29:434-5 Mr '58
- Ferromagnetic resonance and nonlinear effects in yttrium iron garnet, R. C. LeCraw and others, *J Ap Phys* 29:326-7 Mr '58
- Ferromagnetic resonance at uhf in thin films, R. H. Kingston and P. E. Tannenwald, *J Ap Phys* 29:232-3 Mr '58
- Ferromagnetic resonance frequency converter, K. M. Poole and P. K. Tien, *bibliog diags Inst Radio Eng Proc* 46:1387-96 Jl '58
- Ferromagnetic resonance in polycrystalline nickel ferrite aluminate, E. Schlömann and J. R. Zeender, *bibliog J Ap Phys* 29:341-3 Mr '58
- Ferromagnetic resonance in ultra-thin films, M. H. Seavey, jr, and P. E. Tannenwald, *bibliog J Ap Phys* 29:292-3 Mr '58
- Ferromagnetic resonance in uniaxial polycrystalline materials, C. A. Morrison and N. Karayianis, *J Ap Phys* 29:339-40 Mr '58
- Field homogenizing coils for nuclear spin resonance instrumentation, M. J. E. Golay, *diag R Sci Instr* 29:313-15 Ap '58
- Improved nuclear magnetic resonance spectrometer, J. M. Mays and others, *diag R Sci Instr* 29:300-2 Ap '58
- Inhomogeneous broadening of magnetic resonance lines, A. M. Clogston, *J Ap Phys* 29:334-6 Mr '58
- Kinetics of hydrogen exchanges between hydrogen peroxide and water studied by proton magnetic resonance, M. Anbar and others, *bibliog Am Chem Soc J* 80:2630-4 Ju 5 '58
- Low-temperature spin-wave resonance at 3000 and 4000 mc/sec in a permalloy having nearly zero magnetocrystalline anisotropy, J. R. Westman and G. T. Rado, *J Ap Phys* 29:328-9 Mr '58
- Magnetic resonance, G. E. Pake, *il diags Sci Am* 199:68-64+ Ag '58
- Magnetic resonance determines moisture, T. F. Conway and R. J. Smith, *il diags Electronics* 31:51-3 F 28 '58
- Magnetic resonance of ferrites with a compensation temperature, J. Pauleve, *bibliog J Ap Phys* 29:259-63 Mr '58
- Microwave properties of polycrystalline rare earth garnets, M. H. Sirvetz and J. E. Zmelner, *J Ap Phys* 29:431-3 Mr '58
- Miniaturized resonant antennas using ferrites, D. M. Grimes, *J Ap Phys* 29:401-2 Mr '58
- Modulation in nuclear paramagnetic resonance, R. V. Pound, *R Sci Instr* 28:966-7 N '57
- Modulation pickup in nuclear magnetic resonance rf spectrometer, G. E. Robinson and F. E. Geiger, jr, *diag R Sci Instr* 29:730-1 Ag '58
- Multiplicities of the uniform precessional mode in ferrimagnetic resonance, I. H. Solit, jr, and others, *J Ap Phys* 29:324-5 Mr '58
- Nuclear magnetic resonance analyzer, new tool for moisture analysis, H. Rubin, *il diags I S A J* 5:64-8 Ja '58
- Nuclear magnetic resonance and infrared study of hindered rotation in nitrosamines, C. E. Looney and others, *bibliog Am Chem Soc J* 79:6136-42 D 5 '57
- Nuclear magnetic resonance spectra; nitrogen inversion rates of N-substituted aziridines (ethylenimines), A. T. Bottini and J. D. Roberts, *bibliog Am Chem Soc J* 80:5203-8 O '58
- Nuclear magnetic resonance spectra of steroids, J. N. Shoolery and M. T. Rogers, *bibliog Am Chem Soc J* 80:5121-35 O 5 '58
- Nuclear resonance pulse apparatus; nuclear spin relaxation times measured, J. C. Buchta and others, *bibliog diags R Sci Instr* 29:56-60 Ja '58
- Nuclear resonance spectroscopy; abstract and discussion, R. E. Richards, *Chem & Ind* p 145-6 F 8 '58
- Origin and use of instabilities in ferromagnetic resonance, H. Suhl, *bibliog diag J Ap Phys* 29:416-21 Mr '58
- Origin of ferromagnetic resonance line broadening in manganese-rich manganese ferrites, S. E. Harrison and others, *J Ap Phys* 29:337-8 Mr '58
- Proton magnetic resonance spectra of azulene and acenaphthylenes, W. G. Schneider and others, *bibliog Am Chem Soc J* 80:3497-502 Jl 20 '58
- Proton magnetic shieldings in the haloalkanes, A. A. Bothner-By and C. Naar-Colin, *bibliog Am Chem Soc J* 80:1728-33 Ap '58
- Proton resonance spectra and structures of mercury(II)-olefin addition compounds, F. A. Cotton and J. R. Leto, *bibliog Am Chem Soc J* 80:4823-6 S 20 '58
- Resonant modes of ferromagnetic spheruloids, L. R. Walker, *bibliog diags J Ap Phys* 29: 318-23 Mr '58
- Review of fundamental developments in analysis; nuclear magnetic resonance spectrometry, C. A. Reilly, *bibliog diag Anal Chem* 29:339-48 pt 2 Ap '58
- Shifts in nuclear magnetic resonance absorption due to steric effects; 2-halobiphenyls, S. Brownstein, *bibliog Am Chem Soc J* 80: 2300-2 My 5 '58
- Sterculic acid; nuclear magnetic resonance spectrum and structure, K. L. Rinehart, jr, and others, *bibliog Am Chem Soc J* 80: 503-4 Ja 20 '58
- Steric effects on the nuclear magnetic resonance spectra of some cyclohexanone, indanone and camphor compounds, W. D. Kumler and others, *bibliog Am Chem Soc J* 80:2533-6 My 20 '58
- Study of precipitate particles in Cu-Co employing ferromagnetic resonance, D. S. Rodbell, *bibliog J Ap Phys* 29:311-12 Mr '58
- Technical applications of microwave physics, D. J. E. Ingram, *bibliog il diags Research* 11:401-7 O '58
- Theory of the ferromagnetic microwave amplifier, H. Suhl, *bibliog diags J Ap Phys* 28: 1225-36 N '57
- Use of nuclear magnetic resonance to determine configurations of cis-trans isomers, D. Y. Curtin and others, *bibliog Chem & Ind* p 1205-6 S 13 '58

MAGNETIC resonance—Continued

- Versatile magnetic resonance spectrometer. J. A. Cowen and W. H. Tantilla. *Il diags* S 58
Am J Phys 26:381-5 S '58
 What nuclear magnetic resonance has to offer. *Il diag Can Chem Process* 42:89-91 My '58

MAGNETIC separators

- Magnetic separator. *Il Engineering* 186:166 Ag 8 '58

MAGNETIC shielding

- Simple model for calculating magnetic shielding of nuclei in molecules. K. Ito. *bibliog diags Am Chem Soc J* 80:3502-5 J1 20 '58

MAGNETIC storage (calculating machines). See Magnetic memory (calculating machines)**MAGNETIC storms**

- Investigation of magnetic storms with radio spectroscopy. *Electronic Eng* 30:204 Ap '58

MAGNETIC surveying

- Magnetic data at 100 m.p.h. with the airborne magnetometer. W. B. Agocs. *maps diags Oil & Gas J* 55:125-6+ N 4 '57

MAGNETIC susceptibility

- Electrodeless method for the measurement of electrolytic conductivity and magnetic susceptibility. W. R. Myers. *diags J Sci Instr* 35:173-5 My '58

- Fast and sensitive magnetic susceptibility for the study of rapid biochemical reactions. A. S. Brill and others. *bibliog diags R Sci Instr* 29:383-91 My '58

- Magnetic study on the photodecomposition of p-(N,N-dimethylamino) - benzenediazonium chloride. E. A. Boudreaux and E. Boulet. *bibliog Am Chem Soc J* 80:1588-90 Ap 5 '58

- Magnetic susceptibilities of minerals in the Frantz isodynamic magnetic separator. S. Rosenblum. *Am Mineralogist* 43:170-3 Ja '58
 Magnetic susceptibility of neutron-irradiated quartz. D. K. Stevens and others. *J Ap Phys* 29:66-8 Ja '58

- Quartz helix magnetic susceptibility balance using the Curie-Cheneveau principle. F. E. Sentfle and others. *Il diag R Sci Instr* 29:429-32 My '58

- Relation of magnetic susceptibility to mineral composition. E. M. Spokes and D. R. Mitchell. *bibliog diags Min Eng* 10:Trans 373-9 Mr '58; *Discussion*. 10:Trans 489 Ap '58
 Some observations on rock magnetism. L. G. Howell and others. *bibliog diags Geophysics* 23:285-98 Ap '58

See also

Curie point**MAGNETIC tape**

- Bulk magnetic film demagnetizing practices. L. D. Grignon and A. P. Green. *Il diags S M P T E* 66:633-7 N '57

- Continuous loop magnetic tape cartridge. B. A. Cousino and R. E. Cousino. *Il diags Audio Eng Soc J* 6:49-56; *Discussion*. 56-7 Ja '58

- Cure for flight-test data indigestion; project DATUM. E. O. Lindfors. *Il diags I S A J* 5:90-3 S '58

- Magnetic drum and tape design nomograph. I. L. Resnick. *Electronic Ind* 16:63 D '57
 Magnetographic control of pipeline butt welds. A. S. Falkevich. *Il diags Gas* 34:121+ Ag '58

- New tensilized polyester film for magnetic tape. J. E. Dean. *Franklin Inst J* 265:434-5 My '58

- Orientation study of ultra-thin molybdenum permalloy tape. P. K. Koh. *bibliog diags J Ap Phys* 29:636-57 Ap '58

- Production and sales statistics. *Electronics* 31:18 S 19 '58

- Reducing magnetic tape print-through. F. Radoxy. *Electronic Ind* 16:58-9+ D '57

- Sandwich magnetic tape prevents wear on oxide. *Machine Design* 30:32 J1 24 '58

- Shares and prices; typical magnetic tape manufacturers. *Electronics* 31:5 Ag 22 '58

- Taped tones control overhead crane. G. V. Sadler. *Il diags Electronics* 31:63-5 Ja 3 '58

See also

Numerical control**Noise**

- Analysis of tape noise in a 100-kc bandwidth. R. E. Glendon. *diag Audio Eng Soc J* 6:35-40; *Discussion*. 40-1 Ja '58

- Squelch circuit mutes magnetic tape echoes. D. Cronin. *Il diags Electronics* 31:66-7 My 9 '58

Standards

- Stereo tape standards; symposium. *Audio Eng Soc J* 6:131-43 Ap '58

MAGNETIC tape recording

- Accuracy control in a file processor. J. C. Hammerton. *diags Electronic Eng* 30:536-40 S '58

- At the base of the magnetic recording. *Engineering* 185:310-11 Mr 7 '58

- Bomarc data dubbing technique is precise, simple. H. M. Krieger. *diag Control Eng* 5:107 Ag '58

- Census uses erasable tape, but data becomes sacred. S. Alexander. *Control Eng* 5:44 Ap '58

- Could you use a tape-loop memory? *diags I S A J* 5:40-1 Mr '58

- Electron mirror microscopy of patterns recorded on magnetic tape. L. Mayer. *bibliog Il J Ap Phys* 29:658-60 Ap '58

- Graphic recording via magnetic tape. R. W. Pyburn. *Il Instruments & Automation* 31:853 My '58

- Inertia-electronically; dynamometers controlled by magnetic tape. R. F. Knudsen. *Il diags I S A J* 5:52-4 Ap '58

- Instrumentation applications of magnetic tape recording. P. A. Mohr. *Il diags Automation* 6:50-6 Je '58

- Magnetic recording is opening up new fields in instrumentation for seismic prospecting. L. B. McManis. *Il Oil & Gas J* 56:116-18 Ja 6 '58

- Magnetic tape for data recording. C. D. Mee. *Il diags Inst E E Proc* 105 pt B:373-80; *Discussion*. 380-2 J1 '58

- Magnetic tape, industry's Jack-of-all-trades. *Il Mill & Factory* 62:117-19 F '58

- Magnetic tape systems for data recording. P. A. Mohr. *Il diags Automation* 5:72-9 F '58

- Missile acceleration recorder. *Il diags Machine Design* 30:123 Ja 9 '58

- New gear aids color-tv. *Electronics Bsns* ed 30:38 N 10 '57

- New look at old seismograms; selversetter permits geophysicists to incorporate old seismograms with the latest field information. *Il Oil & Gas J* 55:70 N 25 '57

- New seismic method magnetically integrates seismic data in the field. N. S. Morrissey. *Il diags Oil & Gas J* 55:192-4 N 4 '57

- Recording photographs magnetically; Ampex Faxtape machine. *Il Engineering* 185:358 Mr 21 '58

- Seismic reflection records obtained by dropping a weight. E. B. Neitzel. *bibliog Il diags Geophysics* 23:58-80 Ja '58

- Selecting a magnetic tape system for program control. D. Halfhill and E. Wildanker. *Il diags Control Eng* 5:134-8 S '58

- Stepped-up tape communication. *Product Eng* 29:28 Ap 21 '58

See also

Sound—Recording and reproducing—Magnetic recording**Television broadcasting—Program recording****MAGNETIC testing**

- Magnaflux testing equipment. *Il Mach* 65:192 S '58

- Magnetic particle inspection of gray iron castings. A. Lindgren. *Il Foundry* 86:178-9+ F '58

- Nondestructive testing; magnetic-particle inspection pinpoints flaws near the surface. S. Elonka. *Il diags Power* 102:130-1 Mr '58

MAGNETISM

- Applications of nonlinear magnetics. H. F. Storm. *diags Com & Electronics* p380-8 bibliog(p387-8) J1 '58

- Can measure magnetism in earth and outer space. *Il diags Machine Design* 30:36+ Ag 7 '58

- Conference on magnetism and magnetic materials. Washington. Nov. 18-21; program. *Inst Radio Eng Proc* 45:1563-5 N '57

- Conference on magnetism and magnetic materials. Washington. Nov. 18-21; proceedings. *J Ap Phys* 29:237-548 Mr '58

- Constraint principle in ferromagnetic domain theory. L. Gold. *bibliog J Ap Phys* 29:544-5 Mr '58

- Recent advances from magnetism research; AIEE magnetism and magnetic materials conference. Washington. Nov. 18-21. *Elec Manuf* 61:86-100+ Ja '58

- Dielectrics stem in magnetism research. T. D. Callinan. *Elec Manuf* 61:10 Ja '58

- Domain observations on iron whiskers. R. W. DeBlois and C. D. Graham, Jr. *bibliog Il diags J Ap Phys* 29:931-9 Je '58

- Electron diffraction for magnetic analysis. S. Yamaguchi. *Il diag R Sci Instr* 29:183-4 F '58

- Examination of the surface and domain structure in ceramic barium titanate. V. J. Tenney and F. R. Anderson. *bibliog Il J Ap Phys* 29:755-8 My '58

MAGNETISM—Continued

- Factors limiting magnetic suspension system. J. E. Breazeale and others. *diag J Ap Phys* 29:414-15 Mr '58
- Ferromagnetic multi-domain particles. H. Amar. *diag Franklin Inst* 265:65-6 Ja '58
- Ferromagnetism without ferromagnetic elements. Franklin *Inst* 266:149 Ag '58
- Ferromagnetism without ferromagnetic elements; zirconium zinc compound. *il Bell Lab Rec* 36:303 Ag '58
- Magnetic analysis of ferromagnetic inclusions found in 18/8 stainless steel. S. Yamaguchi. *il diags Iron & Steel Inst* J 188: 351-2 Ap '58
- Magnetism in materials. D. H. Martin. *il diags Wireless World* 64:28-30, 70-4, 126-31, 178-80 Ja-Ap '58
- New physical constants from dimensional analysis. A. G. Gresky. *bibliog Franklin Inst* J 265:85-95 F '58
- Observation of domains in the ferrimagnetic garnets by transmitted light. J. F. Dillon, Jr. *bibliog il diags J Ap Phys* 29:1286-91 S '58
- Orientation study of ultra-thin molybdenum permalloy tape. P. K. Koh. *bibliog diags J Ap Phys* 29:836-87 Ap '58
- Rigorous approach to the theory of ferromagnetic microstructure. W. F. Brown, Jr. *bibliog J Ap Phys* 29:470-1 Mr '58
- Structure and ferrimagnetism of the ilmenite compound $MnNiO_3$. E. F. Bertaut and F. Forrat. *bibliog diag J Ap Phys* 29:247-8 Mr '58
- Theory of double Bloch walls in thin films. J. Kaczér. *bibliog diags J Ap Phys* 29:569-72 Mr '58; Discussion. R. E. Behringer. 29: 1380-1 S '58
- Transparent magnetic oxides; yttrium iron garnet. Franklin *Inst* J 265:144 F '58
- Utilization of domain wall viscosity in data-handling devices. V. L. Newhouse. *bibliog diags Inst Radio Eng Proc* 45:1484-92 N '57
- See also
- Curle point
- Demagnetization
- Electricity
- Electromagnetic theory
- Electromagnets
- Ettlinghausen effect
- Hall effect
- Hysteresis
- Magnetization
- Magnetostriction

History

- Influence of fashion in the development of knowledge concerning electricity and magnetism. W. R. Amberson. *il diags Am Scientist* 46:33-50 Mr '58

MAGNETISM, Terrestrial

- Earth as a dynamo. W. M. Elsasser. *il maps diags Sci Am* 198:44-8 Mr '58
- Effect of the earth's magnetic field on absorption for a single-loop ionospheric path. R. W. Meadows and A. J. G. Moorat. *bibliog Inst E E Proc* 105 pt B:33-7 Ja '58
- International geophysical year; geomagnetism. D. C. Rose. *Eng J* 41:49-50 Ag '58
- Launching of IGY satellites. W. H. Finlay. *Inst Radio Eng Proc* 46:357 Ja '58
- Some observations on rock magnetism. L. G. Howell and others. *bibliog diags Geophysics* 23:285-98 Ap '58

- See also
- Magnetic storms
- Magnetic surveying

MAGNETITE

- Effect of cation vacancies on the magnetic annealing of cobalt-substituted magnetite. L. R. Bickford, Jr. and others. *J Ap Phys* 29:441-2 Mr '58
- Genesis of titaniferous magnetites and associated rocks of the Lake Sanford district. N.Y. J. L. Gillson. *bibliog il Min Eng R Trans* 296:301 Mr '58; Discussion. A. Hubaux. 10:Trans 379:80 Mr '58
- Origin of magnetic anisotropy in $Co_2Fe_2O_3$. J. C. Slonczewski. *J Ap Phys* 29:448-9 Mr '58
- Structural properties of magnetite concrete; engineering test reactor biological shield. J. M. Raphael. *bibliog il diag Am Soc C E Proc* 84 (ST 1 no 1511):1-26 Ja '58

MAGNETITE, Powdered

- Coercive force of iron oxide micropowders at low temperatures. A. H. Morrish and L. A. K. Watt. *bibliog diags J Ap Phys* 29:1029-33 Ji '58

MAGNETIZATION

- Antiferromagnetic domain walls and the magnetization process in $\alpha\text{-Fe}_2\text{O}_3$. I. S. Jacobs and C. P. Bean. *bibliog diags J Ap Phys* 29:537-8 Mr '58

- Coercive force of iron oxide micropowders at low temperatures. A. H. Morrish and L. A. K. Watt. *bibliog diags J Ap Phys* 29:1029-33 Ji '58
- Domain changes during longitudinal magnetization of iron whiskers. G. G. Scott and R. V. Coleman. *il J Ap Phys* 28:1512-13 D '57
- Effect of a transverse field on switching rates of magnetic memory cores. T. D. Rossing and S. M. Rubens. *diags J Ap Phys* 29:1245-7 Ap '58
- Ferromagnetic dynamical response. H. B. Callen. *J Ap Phys* 29:333-4 Mr '58
- Ferrimeter for the determination of the a.c. magnetization curve and the iron losses of small ferromagnetic sheet samples. H. Blomberg and P. J. Karttunen. *bibliog diags Inst E E Proc* 105 pt A:376-84; Discussion. 402-5 Ag '58
- Flux reversal in thin films of 82 per cent Ni, 18 per cent Fe. C. D. Olson and A. V. Pohm. *bibliog il diags J Ap Phys* 29:274-82 Mr '58
- Loss of exchange coupling in the surface layers of ferromagnetic particles. F. E. Luborsky. *bibliog J Ap Phys* 29:309-10 Mr '58
- Magnetic moments and apparent molecular fields in some rare earth metals and compounds. W. E. Henry. *bibliog J Ap Phys* 29:524-5 Mr '58
- Magnetization processes in heat-treated single crystal cobalt ferrite. S. Foner and J. O. Artman. *bibliog diags J Ap Phys* 29:443-4 Mr '58
- Magnetization reversal by rotation. P. R. Gillette and K. Oshima. *bibliog J Ap Phys* 29:529-31 Mr '58
- Measurement of magnetization curves in high pulsed magnetic fields. I. S. Jacobs and P. E. Lawrence. *bibliog il diag R Sci Instr* 29:713-14 Ag '58
- Method for measuring saturation magnetization in ring samples. C. D. Graham, Jr. *diags J Ap Phys* 29:68-70 Ja '58
- Microwave properties of polycrystalline rare earth garnets. M. El. Sirvetz and J. E. Zneimer. *J Ap Phys* 29:431-3 Mr '58
- Model for nonlinear flux reversals of square-loop polycrystalline magnetic cores. M. K. Haynes. *J Ap Phys* 29:472-4 Mr '58
- Motion pictures of magnetic writing on thin films of $MnBi$. H. J. Williams and R. C. Sherwood. *il J Ap Phys* 29:26 Mr '58
- Nondestructive memory employing a domain oriented steel wire. U. F. Gianola. *bibliog diags J Ap Phys* 29:849-53 My '58
- Pulse generator based on high shock demagnetization of ferromagnetic material. R. W. Kulterman and others. *diags J Ap Phys* 29:500-1 Mr '58
- Pyromagnetic effect; a method for determining Curie points. A. G. Chynoweth. *J Ap Phys* 29:563-5 Mr '58
- Relations between colloid pattern and permanent magnet precipitate during the magnetization reversal in Alnico V. K. J. Kronenberg and R. K. Tenzer. *bibliog il J Ap Phys* 29:299-301 Mr '58
- Relations between different modes of acquisition of the remanent magnetization of ferromagnetic particles. E. F. Wohlfarth. *J Ap Phys* 29:595-6 Mr '58
- Reversible rotation in magnetic films. R. M. Sanders and T. D. Rossing. *J Ap Phys* 29: 288-9 Mr '58
- Rotational model of flux reversal in square loop soft ferromagnets. E. M. Gyorgy. *J Ap Phys* 29:283 Mr '58
- Spontaneous magnetization of some garnet ferrites and the aluminum substituted garnet ferrites. R. Pauthenet. *bibliog J Ap Phys* 29:253-5 Mr '58
- Terminal properties of magnetic cores; reversal of magnetization. T. C. Chen and A. Papoulis. *bibliog diags Inst Radio Eng Proc* 46:839-49 Mr '58
- Transverse flux change in soft ferromagnets. E. B. Humphrey. *J Ap Phys* 29:284-5 Mr '58
- Unusual magnetic behavior of disordered $NiMn$. J. S. Kouvel and others. *bibliog J Ap Phys* 29:518-19 Mr '58

MAGNETOHYDRODYNAMICS

- Alfvén waves, diags Electronics & Radio Eng 35:324-6 S '58

- Electrons may solve reentry problem; abstracts. W. H. Sears. *Electronics* 31:26-7 Mr 7 '58; *Machine Design* 30:38+ Mr 6 '58
- Hydromagnetic effects on stagnation-point heat transfer. J. L. Neuringer and W. McIlroy. *J Aeronautical Sci* 25:332-4 My '58
- Hydromagnetic shocks used in nuclear fusion engine. C. F. Johnson. *bibliog diags Aviation Age* 30:30-6 Ag; 118-20+ S '58

MAGNETOHYDRODYNAMICS—Continued

- Hypersonic stagnation-point flow with a magnetic field. N. H. Kemp. *diag J Aero-nautical Sci* 25:405-7 Je '58
- Incompressible two-dimensional stagnation-point flow of an electrically conducting viscous fluid in the presence of a magnetic field. J. L. Neuringer and W. McIlroy. *diag J Aeronautical Sci* 25:194-8 Mr '58
- Magnetogasdynamics of hypersonic Couette flow. Z. O. Elevisis. *bibliog diag J Aero/Space Sci* 25:601-2 O '58
- Magnetohydrodynamic analysis of heat transfer near a stagnation point. V. J. Rossow. *J Aeronautical Sci* 25:334-5 My '58
- Magnetohydrodynamics; symposium. *Phys Today* 11:26-8 Ap '58
- Prospects for magneto-aerodynamics. E. L. Resler, Jr. and W. R. Sears. *bibliog diag J Aeronautical Sci* 25:235-45+ Ap '58
- Reducing aerodynamic heat-transfer rates by magnetohydrodynamic techniques. R. C. Meyer. *bibliog diag J Aero/Space Sci* 25:561-6+ S '58
- Research in magnetohydrodynamics. W. McIlroy. *diags S A E J* 66:90-3 Ap '58; Abstract. *Aircraft Sci* 20:237 Ag '58
- Tomorrow's new horizons? magnetohydrodynamics. L. P. Smith; R. M. Patrick. *Electronics* 31:17-18 Ja 24 '58

MAGNETOMETALLURGY. See Metallurgy**MAGNETOMETERS**

- Direct quartz crystal control of a low-level Pound-Knight-Walkins spin magnetometer. R. J. Blume. *bibliog diag R Sci Instr* 29:1029-33 Ji '58
- Further development of the vibrating-coil magnetometer. K. Dwight and others. *il J Ap Phys* 29:491-2 Mr '58
- Improved torque magnetometer. W. S. Byrnes and R. G. Crandall. *bibliog diag J Ap Phys* 29:493-5 Mr '58
- Magnetic data at 100 m.p.h. with the airborne magnetometer. W. B. Agocs. *maps diags Oil & Gas J* 55:125-6+ N 4 '57
- Magnetometer is more sensitive. *Electronics* 31:96+ Ag 1 '58
- Magnetometer makes continuous measurements. F. Voelker. *il diags Electronics* 31:152-4 Mr 14 '58
- Nuclear magnetometer. G. S. Waters and P. D. Francis. *bibliog il diags J Sci Instr* 35:88-93 Mr '58
- Self-balancing flux-rate magnetometers. W. A. Geyger. *bibliog diags Com & Electronics* p213-16 My '58

MAGNETO-OPTICS

See also

Faraday effect

MAGNETOSTRICTION

- Applying magnetostrictive actuation for precise linear positioning. J. A. Torn. *il diags Automation* 5:73-6 Ap '58
- Magnetostriction and elastic properties of ferromagnetic substances at high magnetic fields. H. Sato. *bibliog J Ap Phys* 29:456-8 Mr '58
- Method for measuring magnetostriction corrected for initial domain distribution and its application to nickel and iron. H. E. Stauss. *bibliog J Ap Phys* 29:182-4 F '58
- Progress report on standardization of the vibratory-cavitation test. L. E. Robinson and others. *diags A S M E Trans* 80:103-7 Ja '58
- Theory of magnetostriction and σ factor in ferrites. N. Tsuya. *bibliog J Ap Phys* 29:449-51 Mr '58

MAGNETRON

- Air pack for maggies. *diags Space/Aeronautics* 30:172-3 O '58
- Flame jets replace slow annealing in oven; magnetron tubes. W. H. Small. *il Electronics* 31:106+ Ji 18 '58
- High-power magnetrons. *il Electronics* 31:62 Ap 25 '58
- How cold hobbing shapes intricate parts: Raytheon mfg. co. A. Phillips. *il Iron Age* 181:91-3 Ap 3 '58
- Magnetic gauge utilizing the magnetron effect. W. Fulop. *bibliog diags J Sci Instr* 35:52-5 F '58
- Magnetron beam switching tubes counting circuit controls numerically programmed index table. C. B. Smith. *il diag Elec Manuf* 61:138-42+ Mr '58
- New breed of microwave tubes; magnetron and klystron face wave tube challenge. J. Holahan. *il diags Aviation Age* 29:118-23+ My '58
- New voltage-tunable magnetrons; how they work and where. *diags Gen Elec R* 61:34-6 Ji '58

- Saturable reactors fire radar magnetrons. H. E. Thomas. *il diags Electronics* 31:72-5 My 9 '58
- Skullcap method for magnetizing bowl-shaped magnetron magnets. F. X. MacDonough. *J Ap Phys* 29:506-7 Mr '58
- Some special magnetrons and how they illustrate basic ideas. *il diags Wireless World* 64:17-22 Ja '58
- Voltage-tunable magnetron; lightweight low power generator. K. E. Anspach. *il diags Aviation Age* 30:168-71 S '58

Noise

- Fm noise spectra. R. C. Ward. *Inst Radio Eng Proc* 45:1742-3 D '57

MAGNETS

- Alnico horseshoe magnets on conveyor line hold different sizes and shapes of tools. *il Mill & Factory* 63:127 S '58
- Cunife wire magnets of small size. I. L. Cooter and R. E. Mundy. *bibliog J Res Nat Bur Stand* 59:379-82 D '57
- Design advances from magnetism research; permanent magnets. *il diags Elec Manuf* 61:91-4 Ja '58
- Distribution of leakage flux around a twofocusing magnet; a graphic analysis. M. S. Glass. *diags Inst Radio Eng Proc* 46:1751-6 O '58
- Drilling along a magnetic axis. A. S. Brill and others. *diag R Sci Instr* 29:435-6 My '58
- Magnetic belt prevents part damage. *Iron Age* 180:194-5 N 14 '57
- Magnetic handling; magnets in feed mechanisms for handling sheet steel. *il Steel* 143:118 Ji 14 '58
- Magnetic holders for conveyor line. *il Comp Air Max* 63:30 Mr '58
- Magnetic rollers help automation timing; coating and baking of flat metal sheet stock. *Ind Finishing* 34:44-5 My '58
- Magnetic welding fixture. J. E. Martynak. *diags Tool Eng* 41:47 Ji '58
- Magnets cut conveyor costs; Metallurgical products dept. General electric co. *il Steel* 142:120 Ap 7 '58
- Magnets hold tools for dip painting. *il Plant Eng* 12:136 Mr '58
- Magnets solve painting problem. *il Iron Age* 181:91 P 20 '58
- Magnets solve painting problem. *il Tool Eng* 40:106 Mr '58
- Microuniformity of permanent magnets. L. I. Mendelsohn. *J Ap Phys* 29:407-8 Mr '58
- Physical and magnetic properties of elongated single-domain iron and iron-cobalt permanent magnets. R. C. Lever and others. *J Ap Phys* 29:304-6 Mr '58
- Skullcap method for magnetizing bowl-shaped magnetron magnets. F. X. MacDonough. *J Ap Phys* 29:506-7 Mr '58
- Stearns separator uses ceramic magnets. *il diag Tool Eng* 41:113 S '58
- Use of microwave ferrite toroids to eliminate external magnets and reduce switching power. M. A. Treuhart and L. M. Silber. *diags Inst Radio Eng Proc* 46:1538 Ag '58
- Variable and reversible magnetic fields obtained from a permanent magnet. J. A. Dalman and L. S. Goodman. *diags R Sci Instr* 28:361-2 N '57

See also

- Electromagnets
Lifting magnets

Electric analogies

- Understanding and predicting permanent magnet performance by electrical analog methods. R. J. Parker. *diags J Ap Phys* 29:409-10 Mr '58

Testing

- Performance of permanent magnets at elevated temperatures. W. H. Roberts. *J Ap Phys* 29:405-7 Mr '58

MAGNETS, Lifting. See Lifting magnets**MAGNIFIERS**

- How to select and use industrial magnifiers. J. F. Brandt. *il diags Instruments & Automation* 30:2076-9 N '57
- Magnifying powers of optical instruments. D. Richards. *diags Am J Phys* 26:337-9 My '58

- MAGNOLIA petroleum company**
Magnolia's 20 years of research. *Pet Eng* 30:372+ My '58

MAIL advertising. See Advertising, Mail**MAIL handling**

- Automatic post office; abstract. M. Levy. *Franklin Inst J* 265:482 Je '58
- Coded mail sorting; illustrations with text. *Elec Eng* 77:730-1 Ag '58

MAIL handling—Continued

- Electronic automatic mail-sorting device. Elec Manuf 61:11 Ap '58
 Electronic reader sorts mail. A. I. Tersoff. diags Electronic Ind 17:56-60 Ji '58
 Electronic sorting slashes railroad's parcel handling time. *il* Mod Materials Handling 13:94-5 Je '58
 Letter sorting machine. *il* Engineer 206:260-2 Ag 15 '58
 Mail sorter. diags Electronics 31:65 Ap 25 '58
 Mail sorter borrows computer methods; Pennsylvania railroads' 30th street station, Philadelphia. *il* diags Control Eng 5:21 Je '58
 Mechanized letter sorting; electromechanical machine with electronic memory. *il* diags Electronic & Radio Eng 35:390-2 O '58
 Mechanized mail handling. S. R. Griffith. *il* diags Machine Design 30:22-44 My 15 '58
 More on automatic mail-sorting devices. Elec Manuf 61:11-12 My '58
 Post office letter sorter. *il* Engineering 186:243-4 Ag 22 '58
 Post Office tries sorter. *il* Electronics 31:27 My 19 '58
 Printed circuits for Canadian post office's; electronic postal sorting machinery. *il* Electronic Ind 17:63-4 S '58
 Sorting unit set for British post office. Electronics 31:14 S 12 '58
 U.S. automatic letter sorter. Engineering 186:149-50 Ag 1 '58
 Use electronics to sort parcel-post mail. *il* Electronics 31:8 My 9 '58

MAIL order business*See also*

- Sears, Roebuck and company

MAINE*See also*

- Electronics industry—Maine
 Mines and mineral resources—Maine
 Roads—Maine
 Water laws and regulations—Maine

MAINTENANCE contracts

- Contracting for pipeline maintenance; panel discussion. Oil & Gas J 56:181-4 Ap 7 '58
 How to get real control of contract maintenance. F. G. Cook. *il* Plant Eng 12:95-8 Ap '58
 1700 maintenance contracts; Flood-lite service, inc. B. J. Hartmann. *il* Elec Constr & Maint 57:106-11 Ja '58
 Special lighting maintenance tools; Fluorescent service corp., Tampa, Fla. *il* diags Elec Constr & Maint 57:88-92-3 '58

MAINTENANCE departments

- Berkeley pit maintenance area is planned for efficiency. *il* plan diags Eng & Min J 159:110-13 Mr '58
 Big ones can't neglect maintenance, can you? G. B. Arthur. *il* Mill & Factory 61:110-13 D '57
 Cost control in maintenance. W. C. Cooley. Plant Eng 12:104-6 S '58
 Establishing a preventive maintenance program and some specialized problems. R. L. Crawford and others. Plant Eng 12:116-17 Ja '58
 Finding, training maintenance men. J. B. Parmcan and others. Plant Eng 12:112-14 Ja '58
 High book output depends on maintenance; Kingsport press. G. B. Arthur. *il* Mill & Factory 62:98-101 Je '58
 How Esso measures maintenance department performance. Pet Eng 30:C53-4 Mr '58
 Improve maintenance supervisory I.Q. B. W. Wombacher. *il* Plant 18:59-60 Ji '58
 It ain't mechanical. J. L. Lindberg. *il* Iron & Steel Eng 35:166-72 S '58
 Optimum stocks of maintenance stores. R. E. Bley. Mech Eng 80:51-4 S '58
 Productive maintenance; the time is now! C. E. Sutton, jr. Tappi 41:sup 143A-5A My '58
 Program for effective maintenance. F. D. Whitehead, jr. Tappi 41:sup 140A-3A My '58
 Reduce your maintenance costs. G. C. Derick. Chem Eng 65:132-4 Ji 28 '58
 Reducing maintenance costs is painful, too. W. A. Sorenson and others. Plant Eng 12:114-16 Ja '58
 Salesmanship, the plant engineer's most important skill. W. O. Lindstrand. Plant Eng 12:86-7 F '58
 Upgrade your maintenance personnel. G. O. Pitts and L. H. O'Donnell. diags Pet Refiner 37:129-31 Ja '58
 You have to sell maintenance to top management, to maintenance employees. W. C. Cooley. Plant Eng 12:106-11 Ja '58
See also
 Factories—Maintenance and repair

Employees

- Get your money's worth from maintenance oilers. E. A. Cyrol and W. L. Johnson. *il* Mill & Factory 63:77-80 Ji '58

Records

- Good records, key to successful maintenance. L. Clouse. I S A J 5:45-8 Ap '58
 Maintenance system for top machines; card index keeps finger on equipment's pulse. C. M. Vigil. *il* Plant Eng 12:104-6 Mr '58
 Paperwork gets a real trimming; Kellogg co. *il* Food Eng 30:72-4 Je '58
 Preventive maintenance procedures and forms in action, a record of experience. B. W. Wombacher. *il* Plant Eng 12:102-5 Ja '58
 Record-keeping key to battery efficiency. R. W. Hopewell. *il* Plant 17:58-9 Je '58
 Vehicle cost records pay off; Caterpillar tractor co. P. F. Lecocq. Mod Materials Handling 13:98-100 N '58

MAKEREADY. See Printing, Practical—Presswork**MALADJUSTMENT**

- Social maladjustment study unit; an experiment in community mental health education. J. M. A. Weiss and others. bibliog Am J Pub Health 47:1513-19 D '57

MALARIA

- Progress toward malaria eradication in the Americas with special reference to Mexico. D. J. Pietsch. Am J Pub Health 48:713-16 Je '58
 World-wide malaria eradication. P. F. Russell. bibliog Ind Med 27:378-83 Ag '58

MALAYA*See also*

- Medical service—Malaya
 Rubber industry and trade—Malaya

MALEIC anhydride

- Maleic modification of acid-refined tall oil varnishes. E. E. McSweeney and others. bibliog Ind & Eng Chem 50:327-8 Mr '58
 Modification of rubber by reaction with maleic anhydride. J. LeBras and others. bibliog Rubber Chem & Tech 31:664-6 Ji '58; Abstract. Rubber World 139:112 O '58
 Reactions of maleic anhydride with hydrazine hydrate. H. Feuer and others. bibliog Am Chem Soc J 80:3790-2 Ji 20 '58

Manufacture

- Maleic anhydride; Scientific design co. flow diag Pet Refiner 36:258 N '57

MALEIC hydrazide. See Dihydropyridazininedione**MALEIMIDES**

- Carbamylmaleimides from the malonamide-diethyl oxalate reaction. R. H. Wiley and S. C. Slaymaker. bibliog Am Chem Soc J 80:1385-8 Mr 20 '58

MALLEABLE founders society

- Annual fall meeting, Cleveland, Sept. 20. Foundry 85:194 N '57
 Annual meeting, Hot Springs, June 9-10. Foundry 86:94-4 Ag '58
 Market development conference, 9th. Chicago, April 9-10. Foundry 86:303-4 My '58
 Technical and operating conference, Cleveland, Feb. 6-7. Foundry 86:156-4 Ap '58

MALLEABLE iron. See Cast iron**MALLINCKRODT chemical works**

- Career opportunities. *il* Chem & Eng N 36:43 pt 2 Ja 27 '58

MALLOCK cone hardness test. See Hardness—Testing**MALLORY-SHARON titanium corporation**

- Three firms organize atom-age complex. Light Metal Age 15:37 O '57

MALONALDEHYDE**Analysis**

- 2-Thiobarbituric acid method for the measurement of rancidity in fishery products; the quantitative determination of malonaldehyde. R. C. Sinnhuber and T. C. Yu. bibliog Food Tech 12:9-12 Ja '58

MALONATES

- Condensation of monophenyl- and diphenylguanidine with malonates and α -alkylcarbethoxy- γ -butyrolactones. G. S. Skinner and others. Am Chem Soc J 79:6207-9 D 5 '57

- Malonate antipersprant; abstract. A. Rostenberg and E. L. Gonzalez. Drug & Cosmetic Ind 82:231 F '58

MALONIC acid

- Chemistry of allenic acids; the acid behavior of highly branched unsaturated malonic acids prepared by a novel method. J. H. Wotiz and H. E. Merrill. bibliog Am Chem Soc J 80:866-70 F 20 '58

MALONIC acid—Continued

- Decarboxylative condensation; α -alkylcinnamic acids from aromatic aldehydes and alkylmalonic acids. W. J. Gensler and E. Berman. *bibliog Am Chem Soc J* 80:4949-54 S 20 '58
- Preparation and reactions of acylals of disubstituted malonic acids. P. J. Scheuer and S. G. Cohen. *bibliog Am Chem Soc J* 80:4933-8 S 20 '58
- X-ray diffraction study of n -alkyl malonic acids. B. D. Sharma and A. B. Biswas. *bibliog Anal Chem* 30:1356-61 Ag '58

Analysis

- Nonaqueous titration of malonic esters. H. E. Zaugg and F. C. Garven. *bibliog Anal Chem* 30:1444-5 S '58

MALONONITRILE

- Absence of hyperconjugative effects on the structure of malononitrile. N. Muller and D. E. Pritchard. *Am Chem Soc J* 80:3483 JI 5 '58
- Cyanocarbon chemistry: malononitrile dimer. E. A. Carboni and others. *bibliog Am Chem Soc J* 80:2838-40 Je 5 '58

MALT

- Antioxidant in malt and malt sprouts. D. L. Baker and N. N. Hellman. *bibliog Food Tech* 12:33-5 Ja '58
- Flavonoid compounds of hops and of malt concerned in the formation of beer hazes. G. Harris and R. W. Ricketts. *bibliog diags Chem & Ind* p686-7 Je 7 '58
- Mechanised maltings: malting plant at Knapton in Yorkshire. *il Engineering* 186:186 Ag 8 '58
- Preparation of nucleic acids of malt by zone electrophoresis. G. Harris and R. Parsons. *bibliog Chem & Ind* p657-8 My 31 '58

MALTOSE

- Presence of maltose maltotriose and maltotetraose in liver. W. H. Fishman and H. G. Sie. *bibliog il Am Chem Soc J* 80:121-3 Ja 5 '58

MALTOTETRAOSE

- Presence of maltose, maltotriose and maltotetraose in liver. W. H. Fishman and H. G. Sie. *bibliog il Am Chem Soc J* 80:121-3 Ja 5 '58

MALTOTRIOSE

- Presence of maltose maltotriose and maltotetraose in liver. W. H. Fishman and H. G. Sie. *bibliog il Am Chem Soc J* 80:121-3 Ja 5 '58

MAMMALS

- See also
Whales

MAN

- Measurement of the radar cross section of a man. F. V. Schultz and others. *Inst Radio Eng Proc* 46:476-81 F '58
- Survival is not enough. H. S. Forest. *bibliog Am Scientist* 46:51-6 Mr '58

Origin and antiquity

- Some zoological concepts applied to problems in evolution of the hominid lineage. W. L. Brown, Jr. *bibliog diags Am Scientist* 46:161-8 Je '58

MAN, Prehistoric

- Early man in Africa. J. D. Clark. *il map Sci Am* 199:76-84 JI '58

See also

Neanderthal race

MANAGEMENT

- Management and the world struggle. F. R. Barnett. *Mech Eng* 80:50-1 Ag '58

See also

Airlines—Management
Business management
Electric utilities—Management
Factory management
Industrial management
Organization in industry

MANDRELS. See Arbors and mandrels**MANGANESE**

- Combination of manganous and cobaltous ions with imidazole. R. B. Martin and J. T. Edsall. *bibliog Am Chem Soc J* 80:5033-5 O 5 '58
- Dendritic segregation of manganese in steel ingots. R. G. Ward. *bibliog il Iron & Steel Inst J* 188:337-42 Ap '58
- Effect of manganese on the Curie point of cementite; abstract. E. C. Roberts. *Metal Prog* 72:142+ N '57
- Effect of phosphorus and manganese on temper brittleness in chromium-nickel steel; abstract. N. V. Tolstoguzov and A. D. Kramarov. *Metal Prog* 73:172+ My '58

Formation of manganese(II) ion in the discharge of the manganese dioxide electrode. W. C. Vosburgh and others. *bibliog Electrochem Soc J* 105:1-4 Ja '58

Manganese. 1957. J. R. O'Connell, Jr. *Eng & Min J* 159:152-3 F '58

See also

Water purification—Manganese removal
Water supply—Manganese content

Analysis

- Determination of manganese in milk. W. B. Healy. *J Agri & Food Chem* 6:606-8 Ag '58
- Determining fundamental chemistry of manganese in water systems. F. I. Brownley, Jr. *bibliog Am Water Works Assn J* 50:1389-90 O '58

MANGANESE alloys

- Unusual magnetic behavior of disordered Ni_2Mn . J. S. Kouvel and others. *bibliog J Ap Phys* 29:518-19 Mr '58
- See also
Spiegeleisen

MANGANESE bronze

- Old welding process cheats the sea: oxyacetylene welding in the reconditioning and rebuilding of manganese-bronze marine propellers. L. L. Walker, Jr. *il Welding J* 37:225-30 Mr '58

MANGANESE carbonyl

- Alkyl derivatives of manganese carbonyl. T. H. Coffield and others. *Ind & Eng Chem* 49:sup49A D '57

MANGANESE compounds

- Antiferromagnetic structures of MnS_2 , $MnSe_2$, and $MnTe_2$. L. M. Corliss and others. *diags J Ap Phys* 29:391-2 Mr '58
- Cyclopentadienyl-aromatic sandwich complexes of manganese and iron. T. H. Coffield and others. *bibliog Am Chem Soc J* 79:5826 N 5 '57

- Growth of $MnBi$ crystals and evidence for subgrains from domain patterns. W. C. Ellis and others. *bibliog il diags J Ap Phys* 29:534-6 Mr '58

- Manganese-54, uranium-233 and cobalt-60 complexes of some organic acids. N. C. Li and others. *bibliog Am Chem Soc J* 79:5864-70 N 20 '57

- Manganese; gasoline antiknock. R. J. Riggs and others. *Oil & Gas J* 56:107-11 My 12 '58
- Same cond. *Fet Refiner* 37:131-6 JI '58

- Motion pictures of magnetic writing on thin films of $MnBi$. H. J. Williams and R. C. Sherwood. *il J Ap Phys* 29:296 Mr '58
- Recrystallization of $MnBi$ induced by a magnetic field; abstract. O. L. Boothby and others. *J Ap Phys* 29:353 Mr '58

MANGANESE dioxide. See Manganese oxides**MANGANESE ferrates****Spectra**

- Origin of ferromagnetic resonance line broadening in manganese-rich manganese ferrites. S. E. Harrison and others. *J Ap Phys* 29:337-8 Mr '58

MANGANESE metallurgy

- Leaching of manganese from pyrolusite ore by pyrite. G. Thomas and B. J. P. Whalley. *bibliog Can J Chem Eng* 36:37-43 F '58

Electrometallurgy

- Experimental electric smelting of manganese ores; production of iron, silicospiegeleisen, and Portland cement from a low-grade ore. R. A. Campbell and others. *bibliog diags Can Min & Met Bul* 51:288-93 My '58
- High intensity arc process solubilizes domestic manganese silicate ores. *il Chem Eng Prog* 54:78 My '58
- High purity manganese via electrolysis; process flowsheet. C. H. Chilton. *il Chem Eng* 65:136-9 My 19 '58

MANGANESE mines and mining**South Africa**

- Manganese ores from the Kuruman district, Cape province, South Africa. J. J. Frankel. *bibliog il maps diags Econ Geol* 53:577-97 Ag '58

Virginia

- South River mine whips a tough manganese ore problem in Virginia. R. C. Spurgeon and E. J. O'Connell. *flow sheet il Eng & Min J* 159:106-11 My '58

MANGANESE nickel chromium molybdenum steel

- Properties of materials; manganese-silicon and manganese-nickel-chromium-molybdenum steels. *Materials in Design Engr* 48:48 Mid-O '58

MANGANESE nickel oxide

Structure and ferrimagnetism of the ilmenite compound MnNiO_3 . E. F. Bertaut and F. Forrat. *bibliog diag J Ap Phys* 29:247-8 Mr '58

MANGANESE nickel steel

Take wasted dollars off the scrap pile: Stulz-Sickles co. *il Welding Eng* 43:31 My '58

MANGANESE nitrides

Heats of combustion and formation of two manganese nitrides, Mn_3N_2 and Mn_2N . A. D. Mah. *Am Chem Soc J* 80:2954-5 Je 20 '58

MANGANESE ores

Agglomeration flotation of manganese ore. E. H. Gates. *bibliog flow sheet il diags Min Eng* 3:Trans 1368-72 D '57
Bacterial leaching of manganese ores. E. C. Perkins and F. Novelli. *bibliog il Min Cong J* 44:72-3 Ag '58

Ferromanganese from lean ore. B. R. Nijhawan. *diag Metal Prog* 73:112-16 Ja '58

Manganese and chrome ore outlook. J. M. Wardle and E. P. Burke. *il maps Min Eng* 10:368-73 Ag '58

Manganese ores from the Kuruman district, Cape province, South Africa. J. J. Frankel. *bibliog il maps diag Econ Geol* 53:577-97 Ag '58

South River mine whips a tough manganese ore problem in Virginia. R. C. Spurgeon and E. J. O'Connell. *flow sheet il Eng & Min J* 159:106-11 My '58

See also

Pyrolusite**MANGANESE oxides**

Analysis of manganese dioxide with special reference to electrodeposited oxide on graphite. A. Kozawa and W. C. Vosburgh. *bibliog Electrochem Soc J* 105:235-7 Ap '58
Dehydrogenation with manganese dioxide; abstract. R. M. Evans. *Chem & Ind* p246; Discussion. 247 Mr '58

Formation of manganese(II) ion in the discharge of the manganese dioxide electrode. W. C. Vosburgh and others. *bibliog Electrochem Soc J* 105:1-4 Ja '58

Ionic valences in manganese-iron spinels. A. H. Eschenfelder. *bibliog J Ap Phys* 29:378-80 Mr '58

Phase equilibria and fluorescence in a portion of the system $\text{ZnO-MnO-Fe}_2\text{O}_3$. F. A. Hummel and F. L. Katrack. *bibliog diags Electrochem Soc J* 105:528-33 S '58

Relation of the conditions of electrodeposition of manganese dioxide to the discharge characteristics. A. Kozawa and W. C. Vosburgh. *bibliog Electrochem Soc J* 105:59-63 F '58

System $\text{Fe}_2\text{O}_3\text{-Mn}_2\text{O}_3$. H. J. Van Hook and M. L. Keith. *bibliog Am Mineralogist* 43:69-83 Ja '58

See also

Pyrolusite**MANGANESE phosphate**

Investigation of some new cathode depolarizer materials. A. B. Tripler, Jr. and L. D. McGraw. *bibliog Electrochem Soc J* 105:179-83 Ap '58

MANGANESE silicon steel

Properties of materials; manganese-silicon and manganese-nickel-chromium-molybdenum steels. *Materials in Design Eng* 48:48 Mid-O '58

MANGANESE steel

Comparative properties of electrodes for arc welding austenitic manganese steels. W. L. Lutes and H. F. Reid, Jr. *il diags Welding J* 35:776-83 Ag '56; Discussion. H. J. Chapin. 37:702-5; Reply. 705 J '58

Low manganese steels for nuclear applications. H. F. Beekhy. *bibliog il J Metals* 8:Trans 1664-70 D '56; Abstract. *Metal Prog* 73:178+ Mr '58

Properties of materials. *Materials in Design Eng* 48:42 Mid-O '58

Yield point and high-temperature proof stress of carbon-manganese steel. J. Glen. *Engineer* 205:809 My 30 '58

MANGLE transformation. See Transformations (mathematics)

MANGOSTIN. See Plants—Chemical composition

MANHOLE covers

Tests show better metallurgy helps silence manhole covers. C. W. Stevens. *diag Power Eng* 62:110 Ap '58

MANHOLES

Corrosion of lead sheath in manhole water. *il map Corrosion* 14:45-7 F '58

Manholes for modern and noiseless. W. W. Taylor. *il Pub Works* 89:101 Ja '58

Special connecting structures in sewer work; with cost data. R. J. Fletcher. *diags Pub Works* 89:88-90 Ag '58

Square-shaped manhole and lid is rattle-free and easily shimmed. *il Eng N* 159:82 D 12 '57

Transition manhole; detail sheet. *diags Air Cond Heat & Ven* 54:69-70 D '57; 55:71-2 Ja '58

Safety measures

Testing atmospheres in enclosed spaces. H. Allen. *bibliog Engineering* 185:690 My 30 '58

MANIFOLDS

Fir plywood exhaust manifolds pay off for celophane plant. *il Plant* 17:27 F '58

Maintenance saving for the railroads; all-Welded Diesel manifold. *il Welding Eng* 43:51 Ap '58

Sandwich manifolding. A. A. Dicke. *il Product Eng* 29:88-9 F 17 '58

See also

Motor truck engines—Manifolds**MANIPULATORS**

Automatic welder saves 66 per cent; submerged arc welding and a manipulator; Gusset boiler & welding inc. *il Steel* 142:72-3 F 24 '58

G.E.C. power-operated manipulator. *il Metallurgia* 57:303-5 Je '58

General Electric power-operated manipulator. *il Engineer* 205:443 Mr 21 '58; Excerpts. *Engineering* 185:397 Mr 28 '58

Radioisotope capsules sealed by remote control welding. *il Welding J* 37:140 F '58

Removing radioactive cartridges lodged inside reactors. *il Engineer* 205:983 Je 27 '58

MANITOBA

See also

Mines and mineral resources—Manitoba

MANITOBA university

University of Manitoba. *il Eng J* 41:145-6 Ap '58

MANN, David

Obituary. *Product Eng* 28:116+ D 9 '57

MANNANS

See also

Galactomannan**MANNICH reaction**

3-Benzoyl-4-piperidones. E. Van Heyningen. *Am Chem Soc J* 80:156-8 Ja 5 '58

MANNING formula. See Hydraulics

MANNITOL

1,6-Di-O-phenylsulfonyl-D-mannitol; its preparation and use in the synthesis of some derivatives of D-mannitol. G. S. Skinner and others. *Am Chem Soc J* 80:3783-90 J 1 20 '58

MANNOPYRANOSE

Isomers of tetra-O-acetyl-D-mannopyranose. W. A. Bonner. *bibliog Am Chem Soc J* 80:3372-9 J 1 5 '58

MANNOSE

Condensation of nitromethane with D-erythrose, D-arabinose, D-mannose and D-glycero-D-404-ribose in aqueous alkali. J. C. Sowden and R. B. Thompson. *Am Chem Soc J* 80:2236-7 My 5 '58

MANOMETERS

Automatic (constant volume) manometer. J. R. Young. *diag Chem & Ind* p 1111 Ag 23 '58

Calibrating manometer for pressure transducers. J. R. Greer. *diag J Sci Instr* 35:223 Je '58

Description of a sensitive micromanometer. R. Eichhorn and T. F. Irvine, Jr. *bibliog il diags R Sci Instr* 29:23-7 Ja '58

Manometer checks blood pressure in veins. *il Electronics* 30:20+ D 3 '57

Manometric method for the rapid, practical determination of biochemical oxygen demand. E. O. Dillingham and others. *il Tappi* 41:321-33 J 1 '58

Use of a manometric densitometer for molten salts. L. J. B. Husband. *diag J Sci Instr* 35:300-1 Ag '58

Vibrating condenser manometer. J. L. Williams and G. F. Eveson. *diags J Sci Instr* 35:97-9 Mr '58

Wide-range thermal convection manometer. J. A. McMillan and T. Buch. *diag R Sci Instr* 28:381-2 N '57

Wolfe density indicator. S. E. Wolfe. *il diag Can Min & Met Bul* 51:245-7 Ap '58

MANOSTAT. See Pressure regulators

MANUFACTURERS

See also

Trade names**MANUFACTURERS agents**

That job overseas; should you take it? A. Bouteille. *Chem Eng* 64:313-14+ D '67

MANUFACTURERS literature. See Advertising literature

MANUFACTURES*See also*

Automobiles—Manufacture

Inspection

Metal work

Patents

Products, New

MANUFACTURING chemists association

Confidence is MCA tone. Chem & Eng N 36: 29 Je 23 '58

Semi-annual meeting, 7th, New York. Chem & Eng N 35:27-9 D 9 '57; Chem Eng Prog 53:2852-4 D '57

MANUFACTURING methods branch. See United States—Air force—Manufacturing methods branch**MANUSCRIPTS**

Conservation and restoration

Conservation of manuscripts. A. E. A. Werner. bibliog il Research 11:166-72 My '58

MAPLE

Study of the lignin fraction obtained from the alkaline hydrogenation of maplewood. H. G. Artt, Jr. and others. bibliog Tappi 41: 64-70 F '58

MAPPING

Progress report of the committee on highway and bridge surveys of the Surveying and mapping division; foreword to Manual on highway and bridge surveys and chapter I. State plane coordinates, maps diags Am Soc C E Proc 83 [SU 1 no 1306]:1-33 Jl '57; Discussion, J. C. Carpenter. 84 [SU 1 no 1605]: 3-5 Ap '58

Surveying and mapping, St Lawrence power project. J. D. Officer. Am Soc C E Proc 83 [SU 2 no 1446]:1-9 N '57

See also

American congress of surveying and mapping

MAPPING, Aerial

Aerial mapping service of the US Geological survey; Oklahoma City. D. Kennedy. il Am Water Works Assn J 50:502-6 Ap '58

Mapping and measuring in 3-D. D. Allison. il maps diags Arch Forum 108:120-5 Je '58
You can build in radar ground mapping resolution. R. H. Landrade and R. S. Timm. Space/Aeronautics 30:158-63 O '58*See also*

Surveying, Aerial

MAPS*See also*

Electric distribution—Maps

Globes

Petroleum pipe lines—Maps

MAPS, Geological. See Geological maps

MARACAIBO, Lake

Classification of hazardous areas for electrical installations on barges employed in drilling operations. J. C. K. Muhlenberg. bibliog il plans diags Pet Eng 29:B 143+ N '57

Superior hits jackpot. D. Taylor. map diags Pet Eng 29:B53+ N '57

MARBLE

Current technology in the Georgia marble industry; operations of the Calcium marble products div., Georgia marble co. N. Severinghaus, Jr. il Min Eng 9:1341-3 D '57

Joining marble with epoxy resins. H. Gillum. il Prog Arch 39:162-3 Ap '58

Monumental and structural marble production; Tate quadrangle. il Min Eng 9:1344 D '57

MARCONI, Guglielmo

Marconi and microwave transmission beyond the horizon. G. A. Isted. bibliog Engineer 205:207-9 F 7 '58

MARGARINE

Relationship of polymorphism to the texture of margarine containing soybean and cottonseed oils. D. R. Merker and others. bibliog il Am Oil Chem Soc J 35:130-3 Mr '58

MARICOPA county, Arizona

Sanitary affairs

City-county control of subdivision sewage disposal. A. A. Dunbar and J. J. Weinstein. il Pub Works 89:102-4 Ja '58

MARINE biological laboratories

Marine biological laboratory. il Chem & Ind p792-3 Je 28 '58

MARINE biology

Influence of marine bottom communities on the depositional environment of sediments. R. N. Ginsburg and H. A. Lowenstam. bibliog fold map diags J Geol 66:310-18, pl 1-2 My '58

See also

Dinoflagellates

Flagellata

Plankton

MARINE boilers. See Boilers, Marine

MARINE borers

Coal tar creosote studies. T. R. Sweeney and others. bibliog Corrosion 14:53-9 Je: 62-4 Jl '58

MARINE deposits

Distribution of n-paraffins and separation of saturated hydrocarbons from recent marine sediments. E. D. Evans and others. Anal Chem 29:1858-61 D '57

Gases in marine sediments. K. O. Emery and D. Hoggan. bibliog il map diag Am Assn Pet Geologists Bul 42:2174-88 S '58

Influence of marine bottom communities on the depositional environment of sediments. R. N. Ginsburg and H. A. Lowenstam. bibliog fold map diags J Geol 66:310-18, pl 1-2 My '58

Minor internal structures of some recent unconsolidated sediments. D. G. Moore and P. C. Scruton. bibliog il maps diags Am Assn Pet Geologists Bul 41:2723-51 D '57

Modern evaporite deposition in Peru. R. C. Morris and P. A. Dickey. maps Am Assn Pet Geologists Bul 41:2467-74 N '57

Paleontology and stratigraphy of some marine pleistocene deposits in northwest Los Angeles basin, California. P. U. Rodda. bibliog il map diag Am Assn Pet Geologists Bul 41:2475-92 N '57

Preservation of chlorophyll derivatives in sediments off southern California. W. L. Orr and others. maps diags Am Assn Pet Geologists Bul 42:925-62 bibliog(p956-8) My '58

Supposed Permian tillites in northern Mexico are submarine slide deposits. N. D. Newell. bibliog Geol Soc Bul 63:1569-75, pl 1-2 N '57

MARINE engineering

Questions and answers for marine engineers and deck department. Published in monthly numbers of Marine engineering/log

Shipbuilding and marine engineering in 1957. il Engineer 205:22-4, 56-60, 102-5 Ja 3-17 '58

Society of marine port engineers, New York and State university of New York maritime college 6th annual forum, New York, March 22. Marine Eng/Log 63:62-3 My '58

Technical progress in marine engineering during 1957. Am Soc Naval Eng J 70:245-59 My '58

See also

Boilers, Marine

Propellers

Ship propulsion

Ship propulsion, Electric

Ship resistance

Shipbuilding

Society of naval architects and marine engineers

Steam turbines, Marine

Bibliography

Book reviews. Published in monthly numbers of Marine engineering/log

Book reviews and notices. Am Soc Naval Eng J 70:170-4, 381-6 F-My '58

Study and teaching

Training of engineer officers and naval constructors in the Royal navy. I. G. Aylen; S. J. Palmer. bibliog diags Am Soc Naval Eng J 70:61-76 F '58

Russia

Marine engineering notes from the Soviet press. B. M. Kassell. il Am Soc Naval Eng J 70:209-18 My '58

MARINE engines*See also*

Diesel engines, Marine

Gas turbines, Marine

Internal combustion engines, Marine

Motor boat engines, Outboard

Steam turbines, Marine

MARINE fauna*See also*

Barnacles

Mollusks

Plankton

MARINE fauna, Fossil

Significance of coccolithophorids in calcium-carbonate deposition. M. N. Bramlette. bibliog Geol Soc Bul 69:121-6 Ja '58

MARINE flora*See also*

Plankton

MARINE gas turbines. See Gas turbines, Marine

MARINE geology

Cold- and deep-water coral banks. C. Teichert. maps Am Assn Pet Geologists Bul 42:1064-82 bibliog(p 1073-82) My '58

MARINE geology—Continued

Environmental studies of carboniferous sediments; application of geochemical criteria. E. T. Degens and others. bibliog map diags Am Assn Pet Geologists Bul 42:981-97 My '58

Environmental studies of carboniferous sediments; geochemical criteria for differentiating marine from fresh-water shales. E. T. Degens and others. bibliog flow diag map diags Am Assn Pet Geologists Bul 41:2427-55 N '57

MARINE structures

I.C.I. marine research station: Paints div. Il Chem & Ind p947-8 J1 26 '58

Movie camera captures storm-tossed birth of man-made island. Il diag Ind Phot 7:26-7-Ja '58

Performance of epoxy resin coatings in marine environments. F. A. MacDougall. Il Corrosion 14:93-4+ Mr '58

Selection of design wave for offshore structures. C. L. Bretschneider. Am Soc C E Proc 84 [WW 2 no 1568]:1-37 bibliog (27 ref. p 14-16) Mr '58; Correction. 84 [WW 5 no 1884]:5-6; Discussion. 6-8 D '58

See also
Breakwaters
Docks
Intakes
Piers
Piles and pile driving
Wharves. Concrete

MARINOBUFAGIN. See Toad poisons

MARKET research

Case history of month; pinpoint cause of sudden sales drop. Food Eng 30:59 J1 '58

Commercial census can aid sales; Equitable Gas made a complete study of its commercial market. F. E. Jones. Il Am Gas Assn Mo 40:9-10+ Ap '58

Factors in market research. L. F. Marek. Il Chem & Eng N 36:58-9 J1 14 '58

Man in chemical market research. R. E. Chaddock. Ind & Eng Chem 50:sup97A-8A+ My '58

Market research. when and how. Chem & Eng N 36:28-9 O 6 '58

Research spreads; more market research activity. E. Altshuler. Electronics 31:5 F 7 '58

Typical city to be surveyed for paint market data; Peoria, Ill. Paint Oil & Chem R 120:14 D 12 '57

See also
Consumer surveys
Motivation research

MARKET surveys

Economic evaluation of an industrial mineral project. J. E. Castle. Min Eng 10:675-7 Je '58

Market data report; trends and thinking that parallel the national picture now disclosed in broad-spectrum survey. Paint Oil & Chem R 121:9-12+ Ag 21 '58

Peoria paint survey. Paint Oil & Chem R 121:8-14 S 4 '58

MARKETING

Bazaar marketing. Drug & Cosmetic Ind 32:49-51+ Ja '58

Case history of month; marketing. Published in monthly numbers of Food engineering General Aniline and Film revamps marketing setup. Chem & Eng N 36:36-7 S 1 '58

Marketing savvy parlays quality into success; Chun King sales. T. C. Taylor. Il Food Eng 30:52-4 My '58

Ten tips to up your '58 marketing. T. Taylor. Food Eng 29:68-70 D '57

What can you expect in tomorrow's food market? Food Eng 29:64-6 D '57

See also
Chain stores
Dealer relations
Market surveys
Private brands
Supermarkets

New outlets

New plant taps new market; Carling brewery. C. Dixon. diag Food Eng 30:65 Ja '58

Study and teaching.

Quick marketing course sharpens field selling. Food Eng 30:56 J1 '58

MARKETS

Quincy market. 1825-1826. Il plan diags Prog Arch 39:149-52 Ap '58

MARKETS, Municipal

Three-in-one structure for city services; Caen, France combines water tower, government offices and municipal market. Il diag Eng N 160:93-4 My 15 '58

MARKING

Automatic marking gains favor. Il Steel 141: 100 N 25 '57

Mark finely-finished surfaces permanently without deformation; Electromark process. Il Diesel Power 36:29 Ja '58

Tape markers speed marking system. Il Elec World 149:56 Je 30 '58

Use electrochemical process to mark metal specimens. R. A. Botosan. Il Ind Lab 9:3-9 Mr '58; diag Tool Eng 40:104-6 Mr '58; Abstract. Metal Prog 73:111-12 Ap '58

MARKING machines

Automation for electrolytic stencil. Il Product Eng 29:24 My 19 '58

Machine to mark containers. Il Engineering 184:648 N 22 '57

MARQUARDT aircraft company

Marquardt has high hopes for novel ramjets. R. M. Loebelson. Il Space/Aeronautics 30: 16-17 O '58

MARQUENCHING. See Steel, Quenching of**MARS (planet)**

Preliminary considerations on the instrumentation of a photographic reconnaissance of Mars. J. H. Laning, Jr. and others. Il diag Mech Eng 80:74-6 O '58

MARSHES

Building a cement factory in a swamp. Il Eng N 160:50+ Mr 13 '58

See also

Bogs**MARSHMALLOWS**

Smooth fill of sticky food: Hipolite's new automatic filling line for marshmallow creme. Il diag Food Eng 30:79 Mr '58

MARTEMPERING. See Steel, Heat treatment of

MARTENSITE

Alter tool structure for longer life. H. Chase. Il Iron Age 181:117-19 Mr 6 '58

Effect of hydrogen upon martensite formation in low-alloy steels. R. Kumar and A. G. Quarrell. bibliog Iron & Steel Inst J 187: 195-204 N '57

Effect of per cent tempered martensite on endurance limit; abstract. F. Borik and others. Steel 141:144 N 4 '57

Energy absorption studies of welds in tempered martensitic base metal. W. H. Bruckner and C. A. Robertson. Il diags Welding J 37:sup97-100 Mr '58

Martensite phase change in metals. M. A. Jaswon. bibliog Il diags Research 11:315-23 Ag '58

Martensite transformations of the beta phase in copper-aluminum-nickel alloys. D. Hull and R. D. Garwood. bibliog Il diags Inst Metals J 86:485-92 J1 '58

MARVIN, Charles Frederick
Sketch. E. S. Barr. por Am J Phys 26:118-19 F '58

MARX, Henry
H. Marx celebrates his centennial. por Mach 64:173 J1 '58

H. Marx celebrates 100th birthday. por Am Mach 102:104 Je 16 '58

MARYLAND
See also
Geology—Maryland
Roads—Maryland
Water, Underground—Maryland

MASER. See Amplifiers

MASKING
Masking projections for dip or flow coating. Ind Finishing 34:67-9 J1 '58

MASKING (photography)
Direct separations with magenta masking; offset color-correction techniques. H. O. Fazio. bibliog Inland Ptr 141:60-2 S '58

MASONITE
Automation keys production of new material; Enamo Bord, a Masonite material coated with special paint. W. King. Il Elec World 149:78 Mr 31 '58

MASONRY
Design of masonry walls for blast loading. K. E. McKee and E. Sevin. bibliog diags Am Soc C E Proc 84 [ST 1 no 1512]:1-18 Ja '58

See also
Brick construction
Building stone
Waterproofing
See Waterproofing

MASS (chemistry)

Electronic computer for mass identification of particles. W. L. Briscoe. *diags R Sci Instr* 29:401-4 My '58

Rational choice of a unified scale for atomic weights and nuclidic masses. J. Mattauch. *Am Chem Soc J* 80:4125-6 Ag 20 '58

MASS spectra

Mass spectra and relative sensitivities of some polyphenyls. P. Bradt and F. L. Mohler. *J Res Nat Bur Stand* 60:143-5 F '58

Mass spectra of methylcyclopentane and methyl-C₃-cyclopentane. D. P. Stevenson. *bibliog Am Chem Soc J* 80:1571-3 Ap 5 '58

Mass spectra of propyne and propyne-d₃, and the appearance potentials of C₃H₄⁺, C₃H₃⁺ and equivalent deuterated ions. J. Collin and F. P. Lossing. *bibliog Am Chem Soc J* 80:1568-70 Ap 5 '58

Presence of N₂⁺ and N₂⁺ in the mass spectra of molecular nitrogen. G. Junk and H. J. Svec. *Am Chem Soc J* 80:2908-9 Je 5 '58

Standardization of mass spectra by means of total ion intensity. A. Hood. *bibliog Anal Chem* 30:1218-20 JI '58

MASS spectrometers

Application of the mass spectrometer to carbohydrate chemistry. P. A. Finan and others. *Chem & Ind p 1172 S* 6 '58

Consolidated Electrodynamics' mascot eliminates manual picking of mass spectrometer records. *Chem & Eng N* 36:36 JI 28 '58

Derivative mass spectrometry. J. H. Beynon and others. *bibliog J Sci Instr* 35:164-6 My '58

Device for mass spectrometer heated inlet systems. E. H. Rowe. *diag R Sci Instr* 28:1094-5 D '57

Mass determination of ions detected by Bennett ion rf mass spectrometer. C. Y. Johnson. *J Ap Phys* 29:740-1 Ap '58; *Correction*. 29:1134 JI '58

Mass spectrometer for the study of ion-molecule collision processes. G. F. Wells and C. E. Melton. *bibliog diag R Sci Instr* 28:1065-9 D '57

Mass spectrometer ionization chamber. J. A. Rickard. *il diag R Sci Instr* 28:967-8 N '57

Mass spectrometer mass marker. J. H. Beynon and S. Clough. *diag J Sci Instr* 35:289-91 Ag '58

Mass spectrometry, what is it? how is it used? *il diag Mill & Factory* 63:116-17 S '58

Spectrometer spots oil and gas. *il I S A J* 5:23 Mr '58

MASS spectrometric analysis

Application of the mass spectrometer to the study of the upper energy states of molecules. J. D. Morrison. *diags J Ap Phys* 28:1409-13 D '57

Application of thorium-iridium as the source of ionizing electrons in mass spectrometry. C. E. Melton. *bibliog R Sci Instr* 29:250 Mr '58

Application of total ionization principles to mass spectrometric analysis. G. F. Crable and N. D. Coggeshall. *bibliog Anal Chem* 30:310-13 Mr '58

Direct determination of isoparaffins and n-paraffins in olefin-free gasoline by mass spectrometer. W. C. Ferguson and H. E. Howard. *bibliog Anal Chem* 30:314-17 Mr '58

Interpretation of mass spectra of condensates from urban atmospheres. E. R. Weaver and others. *J Res Nat Bur Stand* 59:383-404 D '57

Isotope dilution. α -spectrometer for U and Th determination. L. E. Howard. *bibliog Nuclonics* 16:112-4 F '58

Low voltage techniques in high molecular weight mass spectrometry. H. E. Lumpkin. *bibliog diag Anal Chem* 30:321-5 Mr '58

Machine computation of mass spectrometer analyses; triangular inverse method. H. F. Hopp and R. Wertzler. *Anal Chem* 30:877-9 My '58

Mass spectra of aromatic hydrocarbons filtered from smoky air. F. L. Mohler and others. *bibliog J Res Nat Bur Stand* 60:615-18 F '58

Mass spectrometer image displacements due to second-order aberrations. C. F. Robinson. *bibliog diags R Sci Instr* 29:622-4 JI '58

Mass spectrometer measurements of the diffusion coefficient of hydrogen in steel in the temperature range of 26°-90°C. R. C. Frank and others. *bibliog diags J Ap Phys* 29:892-8 Je '58

Mass spectrometer-type analysis for olefins in gasoline. L. Mikkelsen and others. *bibliog Anal Chem* 30:317-21 Mr '58

Mass spectrometric analysis; aliphatic ethers. F. W. McLafferty. *bibliog Anal Chem* 29:1782-3 D '57

Mass spectrometric analysis of high-boiling coal-hydrogenation products using low-ionizing voltage. A. G. Sharkey, jr. and others. *bibliog Chem & Ind* p833-4 Je 28 '58

Mass spectrometric appearance potential study of isotopically labeled diboranes. W. S. Koski and others. *bibliog Am Chem Soc J* 80:3202-7 JI 5 '58

Mass spectrometric determination of lead in manganese nodules. T. J. Chow and C. R. McKinney. *bibliog diags Anal Chem* 30:1499-503 S '58

Mass spectrometry for analysis. *diag Oil & Gas J* 56:243 S 15 '58

Mass spectrometry in process control. R. Wall. *il diags Control Eng* 5:113-18 Ap '58

New mass spectrometric method for determining alcohols and water in complex mixtures. S. H. Langer and others. *bibliog Anal Chem* 30:1353-6 Ag '58

Oak Ridge gaseous diffusion plant reports on 15 years of process mass spectrometry; Union carbide nuclear co. B. J. Bogardus and J. R. Mahoney. *il diags I S A J* 5:26-30 Ag '58

Review of fundamental developments in analysis; mass spectrometry. V. H. Dibeler and R. M. Reese. *Anal Chem* 30:604-13 *bibliog*(p609-13) pt 2 Ap '58

Rhenium as an electron emitter in mass spectrometry. C. F. Robinson and A. G. Sharkey, jr. *bibliog R Sci Instr* 29:250-1 Mr '58

Semiautomatic assembly of mass spectrometry matrices. D. R. McAdams. *Anal Chem* 30:881-5 My '58

Stable isotope dilution chemical analysis by mass spectrometry. R. K. Webster. *bibliog diag Ind Chem* 34:495-501 S '58

Transmission and remote calculation of mass spectrometer data. C. H. Mihm and others. *diags Anal Chem* 30:874-6 My '58

MASS transfer. See Diffusion

MASSACHUSETTS

See also

Electricity supply—Massachusetts

Roads—Massachusetts

MASSACHUSETTS institute of technology

Department of nuclear engineering announced. *Elec Eng* 77:558 Je '58

MASSACHUSETTS turnpike. See Roads—Massachusetts

MASSAQUEUA, New York

See also

Water supply

Leakage and tuberculation troubles overcome in new main extensions. R. Montgomery. *il Water Works Eng* 111:134+ F '58

MASTERS, Frederick Hill

Obituary. *por Engineering* 185:164 F 7 '58

MASTICS (asphalt composition, etc.)

Examination of building mastics and similar compositions; abstract and discussion. J. Bowler-Reed. *Chem & Ind* p348-9 Mr 22 '58

Here's the case for mastic paints. F. M. Kennedy, jr. *il Plant Eng* 12:138-40 My '58

High density asphalt mastic coating; Southern natural gas co. N. L. Brown. *Gas Age* 120:37+ N 28 '57; *Same*. *il Gas* 34:132+ Mr '58

MASTODON

Notice of a late Wisconsin mastodon. W. D. Turnbull. *J Geol* 66:96-7 Ja '58

MASTS and rigging

Calculating stresses in ships' masts. F. J. Halligey. *diags Engineering* 186:163-4 Ag 1 '58

MATAKAM tribe. See Africa. French West—Native races

MATERIAL constants. See Physical constants

MATERIAL control

See also

Inventories

MATERIAL handling

Company puts own products to use to cut costs; Rapids-Standard co. *il Mill & Factory* 61:84-6 D '57

For flake and pellet, a clean, smooth ride; pneumatic conveying setup handles high-purity polyethylene. *il diag Chem Eng* 65:66+ S 8 '58

Handling equipment helps the handicapped; Abilities, Inc. *il Mod Materials Handling* 13:131 Mr '58

Inventory of new equipment and accessories; packaging and handling equipment. *il Chem Eng* 64:349-50+ Mid-N '57

MATERIAL handling—Continued

- Light-metal materials handling; aluminum Tote Bins and Tote Tilts. *il* Light Metal Age 15:24 O '57
- Materials handling conference and exhibit, Cleveland, June 9-12. *Mech Eng* 80:118-20 Ag '58
- Materials handling in the paint and varnish industry. H. J. McCormick. *il* Paint Oil & Chem E 121:14-17 Mr '58
- Materials in motion. A. F. Gould. *Mech Eng* 79:1116-18 D '57
- Metalworking, 1962; materials handling. F. H. Wiley. *Am Mach* 101:139 N 18 '57
- Modern equipment makes handling a cinch; Steel city electric co. E. B. Flick. *il* Mill & Factory 62:82-3 Je '58
- New products and accessories; latest news in materials handling and packaging equipment. *il* Published in monthly numbers of Modern materials handling
- Production nuggets; information from American machinist and other publications; developments to watch; materials handling, services. *il* *diag* Am Mach 102:H 1-3 Mid-S '58
- Push buttons keep raw materials on the move; new Johns-Manville plant. C. J. Vlahos. *il* Mill & Factory 62:94-5 Ja '58
- Reducing storage costs through proper handling. E. W. Fair. *Foundry* 86:355-6+ My '58
- Salute to materials handling. A. Dreier. *Mod Materials Handling* 13:106-7 Jl '58
- Technics takes over; Rapids-Standard co. *il* Steel 141:125 O 28 '57
- Unit operations in chemical engineering; materials handling. R. W. Wesson. *bibliog* (32 ref) *il* Ind & Eng Chem 50:474-7 pt 2 Mr '58

See also

Carts
Food handling
Mechanical handling
Pallets
Skids

Costs

- Act now to sell cost cutting. *Mod Materials Handling* 13:83-5 Ag '58
- An industry attacks materials handling costs; production school of Midwest feed manufacturers' association. *il* *Mod Materials Handling* 13:92-3 Ag '58
- New ammunition for the cost battle; materials handling cost elements. F. Golden. *Mod Materials Handling* 13:99-101 F '58

Safety measures

- Check your materials handling accidents! R. C. Sweeney. *il* Safety Maint 115:14-19 Je '58
- Storage and handling of lubricants. *diag* Safety Maint 116:22-6 Ag '58

Study and teaching

- Off-campus handling courses recommended. W. M. Whitits. *Mod Materials Handling* 13:59 Ja '58

MATERIAL handling institute

- Annual meeting, New York, Dec. 10. *Mod Materials Handling* 13:72 F '58

MATERIALS

- Building materials. M. B. Moore. *il* Ind & Eng Chem 50:sup52A-6A F '58
- Condensed review of some recently developed materials arranged alphabetically by trade names, properties, applications; with names and addresses of manufacturers. *Mach* 65: 131-41 O '58
- Design digest issue; nonmetallic materials and finishes. *il* *diag* Product Eng 28:C 1-62 Mid-O '57
- Design digest issue; nonmetallic materials and finishes. *il* *Product Eng* 29:C 1-44 Mid-S '58
- Guide to materials standards and specifications. S. P. Kaldanovsky. *Materials in Design* 47:86-100 Mr; 110-14 Ap; 110-13 My; 113-17 Je; 48:93-5 Jl; 101-3 Ag '58
- Material mutations; modern alchemist uses nuclear radiation. F. A. Twitchell and J. W. Blizard, Jr. *il* Machine Design 30:22-5 Jl 10 '58
- Material selection for thread and form rolling. *il* *diag* Machine Design 30:137-43 Ja 23 '58
- Materials at the Physical society exhibition. *il* *Engineering* 185:400 Mr 28 '58
- Materials at work; new and interesting applications of engineering materials. Published in monthly numbers of Materials in design engineering
- Materials detonating in liquid oxygen. *il* *diag* Engineering 186:391 S 19 '58

Materials for electronics; special report. J. Markus and D. A. Findlay. *il* *diag* Electronics 29:185-216 O '56; Excerpts. *Product Eng* 28:G32-3 Mid-O '57

Materials in design engineering awards competition for the best use of materials in product design; award winners. *il* *diag* Materials in Design Eng 47:127-58 Ap '58 (reprints 50c)

Materials of construction for chemical engineering; 12th annual review. *bibliog* *il* Ind & Eng Chem 50:1426-98 pt 2 S '58

Materials selector; 1957-58 reference issue. *Materials in Design Eng* 46:1-430 Mid-S '57; Correction. 47:151 F '58

Materials selector; 1958-59 reference issue. *Materials in Design Eng* 48:1-478 Mid-O '58

New materials that the design engineer should know about. *bibliog* *Mech Eng* 79: 720-32 Ag '57; Same. *Am Soc Naval Eng J* 70:144-58 F '58

Preservation by inoculation; antibiotics as materials preservatives. *Ind & Eng Chem* 50:sup30A-1A Mr '58

Production nuggets; information from American machinist and other publications; developments to watch; materials, components. *il* *Am Mach* 102:G 1-5 Mid-S '58

Selection guide for sandwich-panel core and facing materials. R. K. Humke. *il* *Product Eng* 29:70-5 Ja 20; 80-3 Ap 28; 56-60 My 26 '58

Standards and the new science of materials. C. A. Hochwalt. *A S T M Bul* p27-9 My '58

See also

Ceramic materials
Packaging materials
Raw materials
also subdivision Materials under special subjects, e.g.
Airplanes
Automobiles
Motor buses
Nuclear reactors
Rockets
Satellites, Artificial

Wear

Wear characteristics of fine-pitch gear materials. R. J. Benson. *Machine Design* 30:121-2 Je '58

See also

Metals—Wear

MATERIALS Strategic. See Strategic materials

MATERIALS, Strength of. See Strength of materials

MATERIALS handling equipment distributors association

Annual meeting, Chicago, June 5-7. *Mod Materials Handling* 13:106-7 Ag '58

MATERIALS in design engineering (periodical)

Materials in design engineering awards competition for the best use of materials in product design; award winners. *il* *diag* Materials in Design Eng 47:127-58 Ap '58 (reprints 50c)

MATERNAL and infant welfare

Maternal and child health in the developing countries; progress, problems and promise. J. M. Bierman. *bibliog* *Am J Pub Health* 48:883-97 Jl '58

Prenatal care in metropolitan Boston. L. S. Rosenfeld and A. Donabedian. *bibliog* *Am J Pub Health* 48:1115-24 S '58

Research in human reproductive wastage; implications for public health. J. Whitridge, Jr. *bibliog* *Am J Pub Health* 48:22-3 Ja '58

MATHEMATICAL instruments

See also

Calculating machines
Integrators

MATHEMATICAL logic. See Logic, Symbolical and mathematical

MATHEMATICAL models

Easy as pi; mathematically derived nuclear periodic table. J. J. Grebe. *Chem & Eng N* 38:22-3 My 5 '58

Focusing in collision problems in solids; sputtering and radiation damage of solids. R. H. Sipsbee. *bibliog* *diag J Ap Phys* 28:1246-50 N '57

Mathematical analysis of the Kahn compatible single-sideband system. J. P. Costas. *diag* *Inst Radio Eng Proc* 46:1396-401; Discussion. L. R. Kahn. 1429-30 Jl '58

Mathematical model of terrain shielding. R. R. Hare, Jr. *diag* *Op Res* 6:530-7 Jl '58

Model for nonlinear flux reversals of square-loop polycrystalline magnetic cores. M. K. Haynes. *J Ap Phys* 29:472-4 Mr '58

Model for solute diffusion in crystals with the diamond structure. R. A. Swalln. *bibliog J Ap Phys* 29:870-4 Ap '58

MATHEMATICAL models—Continued

- Model for the mechanism of oil recovery from the porous matrix due to water invasion in fractured reservoirs. J. S. Aronofsky and others. *J Pet Tech* 10:Trans 17-19 Ja '58
- Piping and plant design, can linear programming help? A. Battersby, bibliog diags *Manuf Chem* 29:368-70+ S '58
- Rocket test stand pressure controller design. G. E. Click and R. G. Halliday, diags *Aero/Space Eng* 17:72-7 My '58
- Rotational model of flux reversal in square loop soft ferronagnets. E. M. Gyorgy, *J Ap Phys* 29:283 Mr '58
- Simple geometric model for the effect of porosity on material constants. F. Euler, bibliog diag *J Ap Phys* 28:1342-5 N '57
- Some properties of a simplified model of solid propellant burning. L. Green, jr, bibliog diag *Jet Propulsion* 28:386-92 Je '58

MATHEMATICAL physics

- Interpreting dynamic measurements of physical systems. S. Lees, bibliog diags *A S M E Trans* 80:833-57 My '58
- See also*
- Boundary value problems
 - Differential equations
 - Dirac equation
 - Elasticity
 - Electricity
 - Equation of motion
 - Equation of state
 - Gaussian quadratures
 - Hydrodynamics
 - Laplace equation
 - Magnetism
 - Mechanics
 - Tensors
 - Thermodynamics

MATHEMATICAL recreations

- Mathematical games (cont), M. Gardner, diags *Sci Am* 197:126+ D '57; 198:92+ Ja; 104+ F; 128+ Mr; 118+ Ap; 122-6 My; 108+ Je; 199:102+ J1; 100+ Ag; 182+ S; 124+ O; 136-8 N '58
- Mathmanship. J. Carberry, *Am Soc Naval Eng J* 70:505-6 Ag '58
- Timewasters for these long winter evenings. *Pub Works* 89:97+ F '58

MATHEMATICAL statistics

- See also*
- Frequency distribution (statistics)
 - Statistical methods

MATHEMATICIANS

- See also*
- Women as mathematicians

MATHEMATICS

- Computers, mathematics, and statistics: annual review. A. Rose and others. *Ind & Eng Chem* 50:512-19 bibliog(p518-19) pt 2 Mr '58
- Innovation in mathematics. P. R. Halmos, diags *Sci Am* 199:66-73 S '58
- Mathematical tools, diag *Electronic & Radio Eng* 35:268-70 J1 '58
- Slide rule mathematics. I. Ritow, diags *Elec Manuf* 61:97-109 Mr; 101-8 Ap '58 (reprints 81)
- Some practical mathematical techniques. G. K. Carter, bibliog *Com & Electronics* p295-302 J1 '58

See also

- Calculus
- Correlation (statistics)
- Determinants (mathematics)
- Differential equations
- Dynamics
- Equations
- Equations, Linear
- Fourier series
- Functions
- Geometry
- Graphic methods
- Harmonic analysis
- Integrals
- Integration
- Interpolation
- Iteration (mathematics)
- Logarithms
- Matrices
- Mechanics
- Metric system
- Numbers, Theory of
- Numeration
- Polynomials
- Probabilities
- Square root
- Statistical methods
- Topology
- Transformations (mathematics)
- Trigonometry
- Vector analysis

History

- History of mathematics. J. F. Scott, Review, by E. Nagel, *Sci Am* 199:141-2 O '58

Study and teaching

- Centroids, vectors, and least squares. S. I. Askovitz, bibliog diags *Am J Phys* 26:164-8 Mr '58
- Improving secondary-school teaching in science and mathematics. D. B. Anderson, *Civil Eng* 28:264-5 Ap '58
- Only one of eight university candidates has four years of math. *Product Eng* 29:39 Ap 28 '55
- Plan modernized math for young students. *Product Eng* 29:17 Je 2 '58
- Teaching of elementary mathematics. E. P. Rosenbaum, *il diags Sci Am* 198:64-73 My '58

MATRICES

- Analyzing combinational circuits by boolean matrices and Karnaugh maps. B. Belzer and S. W. Leibholz, diags *Elec Manuf* 61:93-103+ Je '58
- Application of the Witte rearranging method to a typical structural matrix. B. Klein, *J Aeronautical Sci* 25:342-3 My '58
- Approximate solution of matrix problems. A. S. Householder, bibliog *Assn for Computing Mach J* 5:205-43 J1 '58
- Calculation of torsional natural frequencies of branch systems. A. C. Gilbert, bibliog diag *Roy Aeronautical Soc J* 62:599-603 Ag '58
- Certain applications of matrices to circuit theory. L. A. Pipes, bibliog diags *Com & Electronics* p251-5 My '58
- Condition of certain matrices. J. Todd, bibliog *J Res Nat Bur Stand* 60:1-7 Ja '58
- Conference on matrix computations, Detroit, Sept. 3-6, 1957; abstracts of papers, *Assn for Computing Mach J* 5:100-15 Ja '58
- Evaluation of spar matrices for stiffness analyses. R. J. Melosh and R. G. Merritt, diags *J Aero/Space Sci* 25:537-43 S '58
- Linear computations over a complex field. J. Schmidtmayer, bibliog *Roy Aeronautical Soc J* 62:451-5 Je '58
- Load-sharing matrix switch. G. Constantine, jr, *il diag Electronics* 31:118+ S 12 '55
- Matrix formulation of linearly coupled vibration problems. H. L. Cox, diags *Aircraft Eng* 30:202-9 J1 '58
- Matrices, diags *Electronic & Radio Eng* 35:67-9, 100-2, 138-40 F-Ap '58
- Matrix analysis of beams. R. W. Clough, bibliog diags *Am Soc C E Proc* 84 [EM 1 no 1494]:1-24 Ja '58
- Matrix analysis of logical networks. E. J. Schubert, bibliog diags *Com & Electronics* p 10-13 Mr '58
- Matrix manipulator, *il diags Ind Quality Control* 15:21-3 Ag '58
- Matrix math compiler. L. C. McGinn, *Franklin Inst J* 264:415-16 N '57
- Matrix programming of electronic analog computers. R. E. Horn and P. M. Honnell, diags *Com & Electronics* p420-6; Discussion, *il* 426-8 S '58
- Modern matrix iteration processes of Bernoulli and Graeffe type. F. L. Bauer, bibliog *Assn for Computing Mach J* 5:246-57 J1 '58
- Property of semi-definite hermitian matrices. G. G. den Broeder, jr, and H. J. Smith, *Assn for Computing Mach J* 5:244-5 J1 '58
- Random notes on matrices. K. Goldberg, *J Res Nat Bur Stand* 60:321-5 Ap '58
- Semiautomatic assembly of mass spectrometry matrices. D. R. McAdams, *Anal Chem* 30:881-5 My '58
- Simple method of matrix structural analysis. B. Klein, diags *J Aeronautical Sci* 24:39-46 bibliog(p45-6), 813-20; 25:385-94 Ja, N '57, Je '58
- Some error bounds of givens. R. L. Causey, *Assn for Computing Mach J* 5:127-31 Ap '58
- Tables for diagonalizing second-order matrices. R. E. Trees and C. D. Coleman, *J Res Nat Bur Stand* 60:201-14 Mr '58
- Transistor formulas use h-matrix parameters: reference sheet. E. Hayes, jr, diags *Electronics* 31:81-2 F 23 '58
- See also*
- Linear programming

MATRILINE

- Dipole moments and the conformations of matridine and related compounds. B. Eda and others, bibliog *Am Chem Soc J* 80:2426-8 My 20 '58

MATTER

Anti-matter. G. Burbidge and F. Hoyle. *Il diags Sci Am* 198:34-9 Ap '58

See also

Atoms
Compressibility
Dynamics
Glassy state
Hardness
Physics
Solids

MAUSOLEUMS

Mausoleum for Jinnah; London firm takes 1st prize in international competition. *Il plans Arch Rec* 123:32-4 Je '58

MAVAR. See Amplifiers**MAYBECK, Bernard Ralph**

Obituary. *por Arch Rec* 122:24 N '57; *Arch Forum* 107:77-4 D '57

MAYER, Joseph E.

Lewis award to Mayer. *por Chem & Eng N* 36:114 Je 9 '58

MEASUREMENT

Interpreting dynamic measurements of physical systems. S. Lees. bibliog diags A S M E Trans 80:333-57 My '58

Measurement aspects of process control. A. E. Alkman. *diags Chem Eng Prog* 54:42-4 S '58

Measurement in the U.S.S.R. A. V. Astin. *Chem Eng Prog* 54:8-4 Ap '58

Measurement standards. *Mech Eng* 80:74 Ja '58

Measuring loads of solid flat steel parts. G. C. Field. *Metal Finishing* 56:70-1 Mr '58

Precise measurement and the race for technological supremacy. A. V. Astin. *Il Mag of Stand* 29:36-40 F '58; Same abr. *Elec Eng* 77:294-6 Ap '58; Abstracts. *Rubber World* 137:879 Mr '58; *Product Eng* 29:22 JI 28 '58

Standardized measurements produce compatible components. W. J. Darmody. *Il diags Mag of Stand* 29:101-6 Ap '58

V-belt standard clears measurement fog. J. L. Fihe. *Il diags Mill & Factory* 62:92-4 F '58

See also

Area measurement
Calipers
Calorimeters and calorimetry
Coal measurement
Electric measurements
Frequency measurement
Gages
Gas measurement
Length measurement
Magnetic measurements
Optical measurements
Photometry
Pressure measurement
Radio measurements
Standards of length
Stream measurement
Thickness measurement
Time measurement
Transistors—Measurement uses
Vacuum tubes—Measurement uses
Volume
Weighing

X rays—Measurement uses

also subdivision Measurement under special subjects, e.g.

Beta rays
Cotton fibers
Gamma rays
Gearing
Neutrons
Petroleum
Radiation
Screw threads
Tanks
Ultraviolet rays
Wool

MEASUREMENT, Electric. See Electric measurements

MEASURING instruments

Dial indicators simplify inspection problems. A. H. Emery. *Il diags Tool Eng* 39:111-13 N '57

Erector set method of fabricating master tubes. *Il Mach* 64:140-1 F '58

Industrial know-how handbook; precision measuring tools. *Il Mill & Factory* 62: MW26-7 My '58

Instrumentation on a plain grinder mates parts to ± 20 millionths. *Il diags Am Mach* 102:126-7 Ap 7 '58

V-block with tilted-V design. K. Voll and J. R. Hansen. *Il Mach* 64:152-3 Mr '58

See also

Calipers
Comparators
Dilatometers
Electric instruments
Gages
Goniometers
Meters
Micrometers
Planimeters
Pressure gages
Rule (instrument)
Sine bars
Slide rule
Spherometers
Thickness measurement
Timing devices
Vibration—Measurement

Exhibitions

Interkama spotlights German control: International congress and exhibition of measuring instruments and automation, Dusseldorf, Nov. 2-10. *Il Control Eng* 5:25-6-4 Ja '58

International congress and exhibition of measuring technique and automation. Dusseldorf, Nov. 2-10. *Il I S A J* 5:69 Ja '58

MEASURING instruments, Electric

Industrial electrical measuring instruments; review of progress. F. R. Axworthy. bibliog *Il diags Inst E E Proc* 105 pt B:404-13 S '58
Scientific electrical measuring instruments; a review of progress. F. C. Widdis. bibliog *diags Inst E E Proc* 105 pt B:415-23 S '58
Torque measuring system has digital output. *Il diags Elec Manuf* 61:148-9 Mr '58

See also

Gages, Electric

Standards

American standard specifications for automatic null-balancing electrical measuring instruments. *Instruments & Automation* 31: 836-7 My '58

MEASURING instruments, Optical

Apparatus for measuring wall thicknesses of hollow glass vessels. V. Bird. *Il diags Glass Ind* 39:430 Ag '58

How to recalibrate optical tooling devices. R. Le Grand. *Il diags Am Mach* 102:108-12 F '58

Making precision measurements with optical tools. J. C. Moody and J. M. Bunch. *Il diags Tool Eng* 40:83-91 F '58

Measuring scratches accurately, reduces rejects on aircraft tubing. B. Siebel and E. R. Miller. *Il diags Tool Eng* 41:55-7 Ag '58

Metalworking, 1962; optical tools. M. M. Martin. *diags Am Mach* 101:144 N 13 '57

Microscope fixture checks lead in one revolution; reference book sheet. A. J. Vellinger. *Il diags Am Mach* 102:163-4 Ap 21 '58

Optical dividing head controls grinding operation to 0.0001 inch. E. C. Varnum. *Il Mach* 65:140 S '58

Optical gearing eliminates effects of friction and backlash in a system for precise measurement of shaft rotation. *Il diags Machine Desigr* 30:98 Je 26 '58

Optical system positions tooling accurately. *Il diags Tool Eng* 40:93 My '58

Optical tooling; short cut to accurate alignment. W. Czygan. *Il diags Iron Age* 180: 63-5 O 31 '57

Optical units check alignment of precision grinders; Mattison machine works. G. Peterson. *Il Iron Age* 182:67-9 JI 3 '58

Reading a rotary table to one second of arc. *Il diags Mach* 64:139-42 Ja '58

Scale gages to hundred-thousandths. *Il diags Product Eng* 29:67 Ag 18 '58

Turret punch press controlled by optical locator. *Il Mach* 64:139 Ag '58

Unit checks scratch depth. W. Umphrey. *Il Iron Age* 181:32-3 Je 12 '58

Width meter for narrow hot-rolled strip. C. Burns and J. W. Stevens. *Il plans diags Iron & Steel Inst J* 189:60-5 My '58

See also

Collimators
Interferometers
Stroboscopic instruments

Manufacture

Alignment telescope barrels require precision machining. A. Blanken. *Il diags Mach* 64:128-31 F '58

MEAT

Biochemistry of myoglobin; production and identification of a green pigment formed during irradiation of meat extracts, J. B. Fox, Jr. and others, *bibliog J Agri & Food Chem* 6:692-6 S '58

Simultaneous determination of total count and fluorescent pseudomonads in fresh meat and poultry, J. H. Silliker and others, *bibliog Food Tech* 12:265-7 My '58

Swelling effect of polyphosphates on meat; abstract, J. R. Bendall, *Chem & Ind* p379; Discussion, 379-80 Mr 29 '58

See also

Beef
Cooling of meat
Ham
Packing houses

Analysis

Determination of allethrin residues in milk and meats, D. B. McClellan and J. B. Moore, *J Agri & Food Chem* 6:463-5 Je '58

Determination of micro quantities of methyl mercaptan in gamma-irradiated meat, R. A. Sliwinski and D. M. Doty, *bibliog J Agri & Food Chem* 6:444 Ja '58

Determination of water-holding capacity of fresh meats, E. Wierbicki and F. E. Deatherage, *bibliog J Agri & Food Chem* 6:387-92 My '58

Bacteriology

Factors affecting quality of prepackaged meat; microbiological studies; effect of package characteristics and of atmospheric pressure in package upon bacteria flora of meat, F. E. Halleck and others, *bibliog Food Tech* 12:301-6 Je '58

Color

Effects of package type, irradiation, and treatment with aureomycin on redness of vacuum-packaged beef cuts, R. W. Dean and C. O. Ball, *J Agri & Food Chem* 6:468-71 Ja '58

Factors affecting quality of prepackaged meat, J. A. Rikert and others, *bibliog Food Tech* 12:17-23, 65-77, 159-63 Ja-Mr '58

Prepackaging

Better packaging at meat saving; Midwest packers, *il Food Eng* 30:78-9 F '58

Cellophane wrapper for meats, *Franklin Inst J* 265:358-9 Ap '58

Factors affecting quality of prepackaged meat, J. A. Rikert and others, *bibliog Food Tech* 12:17-23, 65-77, 159-63, 197-203, 301-6 Ja-Mr, My-Je '58

Gives frozen meats more appeal; L. B. Darling co, *il Food Eng* 30:81 Ag '58

Meat-wrap problems targeted, J. V. Ziemba, *il Food Eng* 29:80-2 D '57

Preservation

Cure that cures instability; meat-treating formulation's silica gel approved by MIB, *il Food Eng* 30:114 Ap '58

Importance of pH value in meat microbiology; abstract, H. Ingram, *Chem & Ind* p88 Ja 25 '58

Protection of cooked meats with phosphates, M. J. Tims and B. M. Watts, *bibliog Food Tech* 12:240-3 My '58

Shrinkage

Shrinkage of organoleptic characteristics of beef aged in controlled environments, R. B. Sleeth and others, *bibliog Food Tech* 12:86-90 F '58

Storage

Characteristics of heat-resistant clostridium welchii in carcass meat; abstract, E. C. Hobbs, *Chem & Ind* p83-9 Ja 25 '58

Tenderness

Comparison of an objective and subjective measurement of beef tenderness, A. H. Bockian and others, *bibliog Food Tech* 12:433-5 S '58

Effectiveness of commercial papain in meat tenderization, S. Weiner and others, *bibliog Food Tech* 12:248-52 My '58

Quick tenderizing poses challenge to packers; enzyme-treated low-cost beef, J. V. Ziemba, *il Food Eng* 30:120-1+ Ap '58

Shrinkage and organoleptic characteristics of beef aged in controlled environments, R. B. Sleeth and others, *bibliog Food Tech* 12:86-90 F '58

MEAT, Dried

Dehydrated cooked meat products, R. M. Ballantyne and others, *bibliog il Food Tech* 12:398-402 Ag '58

MEAT, Frozen

Dip-wrap for frozen meat cuts; new plastic coating that permits product visibility, *il Food Eng* 30:81-2 F '58

Gives frozen meats more appeal; L. B. Darling co, *il Food Eng* 30:81 Ag '58

See also

Poultry, Frozen

MECHANICAL analogies. See Hydraulics—Mechanical analogies; Vacuum tubes—Mechanical analogies

MECHANICAL contractors association of America

Annual meeting, 69th, Los Angeles, Heating-Piping 30:72-4 Jl '58

MECHANICAL draft

Cooling towers, E. E. Goitein, *bibliog il diags Mech Eng* 80:74-8 My '58; Abstract, *Power Eng* 62:62 Mr '58

MECHANICAL drawing

See also

Drafting room practice
Projection, Axonometric

MECHANICAL engineering

ASME technical digest; substance in brief of papers presented at ASME meetings, M. Zanfardino, ed. Published in monthly numbers of Mechanical engineering
Designing equipment for reliability, R. B. Wilson, *Mech Eng* 79:1142-4 D '57
Open days at Mechanical engineering research laboratory, *il diag Engineer* 205:885-8, 922-5 Je 13-20 '58

Progress in railway mechanical engineering, 1956-1957, *il diag Mech Eng* 80:82-91 Mr '58

U.S. national congress of applied mechanics, 3d, Providence, June 11-14; abstracts of papers, *J Ap Mech* 25:165-77 Je '58

See also

Aeronautic engineering
American society of mechanical engineers
Boilers
Electric engineering
Fuel
Horsepower
Lubrication and lubricants
Machine shop practice
Machine tools
Machinery—Design
Mechanical handling
Mechanical movements
Mechanics
Motor trucks
Packing
Power transmission
Pumping
Steam engineering
Steam plants

Bibliography

1957 ASME annual meeting papers available list, *Mech Eng* 80:119-23 Ja '58
Reviews of books and notes on books received in Engineering societies library. Published in monthly numbers of Mechanical engineering

Study and teaching

American system of education and training of mechanical engineers, H. S. Arms, *bibliog Inst Mech Eng Proc* 171 no 6:215-19; Discussion, 231-43 '57

Developing creativity in engineering, D. G. Taylor and R. C. Jordan, *Mech Eng* 80:74-5 F '58

Methods of teaching mechanical engineering subjects at British universities, A. F. Burstall, *bibliog Inst Mech Eng Proc* 171 no 12:463-8 '57

Report on practical training, *Engineer* 205:590 Ap 18 '58

Report on practical training, *Engineering* 185:492 Ap 18 '58

Research and higher education, R. G. Folsom, *il Mech Engr* 80:34-7 Jl '58

Tables, calculations, etc.

Coefficient method for determining reactions and bending moments in beams of two and three equal spans; data sheet, R. H. Peng, *diags Machine Design* 30:129-33 Jl 10 '58

Mechanism efficiency nomograms, R. H. Macmillan, *Engineering* 185:378 Mr 21 '58

Resistance to rolling and sliding, A. C. Dunk and A. S. Hall, Jr, *il diags A S M E Trans* 80:915-19; Discussion, 919-20 My '58

Tables and equations simplify design of conical-disc springs; data sheet, E. T. Fortin, *diags Machine Design* 30:139-45, cover S 4 '58

Theory of shaft whirling, E. Downham, *bibliog il diags Engineer* 204:513-22, 552-5, 588-91, 624-9, 660-5 O 11-N 8 '57

MECHANICAL engineering—Tables, calculations, etc.—*Continued*
 This method simplifies input-output analysis of mechanisms; principle of virtual work. J. O. Predale. *diag Product Eng* 29:90-4 Mr 17 '58
 Torques on a satellite vehicle from internal moving parts. R. E. Roberson. *diags J Ap Mech* 25:196-200, 287-8 Je '58
 Work capacities of energy storage systems on basis of unit weight and unit volume. L. V. Kline and others. *A S M E Trans* 80: 909-14 My '58
See also
 Vibration—Measurement
MECHANICAL engineers
 Characteristics of the creative engineer. G. J. Spencer. *Mech Eng* 80:78-80 F '58
See also
 Automobile engineers
MECHANICAL engineers, American society of.
See American society of mechanical engineers
MECHANICAL engineers, Institution of. *See* Institution of mechanical engineers
MECHANICAL equipment of buildings
 Mechanical engineering critique. W. J. McGuinness. Published in monthly numbers of *Progressive architecture*
See also
 Air conditioning equipment
 Heating equipment
 Houses—Mechanical equipment
 Plumbing
 Steam pipes
MECHANICAL fans. *See* Fans, Mechanical
MECHANICAL handling
 Adaptation still pays off; Diamond chain co. *il Steel* 141:113 D '57
 Alba's new seamless-hosiery addition has modern handling methods. *il Textile World* 108:56-7+ J1 '58
 Analyze materials handling before you buy equipment. C. H. Wolf. *Textile World* 107: 213+ D '57
 Angle-stacking, side-shifting folks save space, speed handling. E. Clark. *il Food Eng* 30:85 J1 '58
 Automatic system trims handling costs; Evinrude Motors. *il Steel* 142:98-100 Mr 31 '58
 Automatically handling parts in process; Jervis B. Webb co. J. C. Webb. *il diag Automation* 5:63-8 Ja '58
 Automotive Industries machine tool and production equipment; automation and material handling section. *il diag Automotive Ind* 113:111-14 S 1 '58
 Bearing line needs few operators; Timken roller bearing co. *il Steel* 142:80-2 Je 2 '58
 Bulk handling; Beattie carpet and rug co. *il Plant Eng* 12:107 O '58
 Bulk handling system for starch; Consolidated water power & paper co. C. Wittig and F. Kaulakis. *diag Tappi* 40:sup206A-7A D '57
 Bulk material slinger; Link belt co. Jet-slinger. *il Automation* 5:68 F '58
 Can distribution go automatic? A. Harvey. *il Iron Age* 181:77 Je 19 '58
 Design your handling system to suit the building. D. W. Pennock. *il Am Mach* 102: 118-22 Ja 13 '58
 Efficient handlers speed strip from hot mill to finish mills. *il Iron Age* 181:147-8 Je 5 '58
 13 ways to move parts in a furnace. D. Beggs. *diags Steel* 142:90-1 Je 23 '58
 Extrusion handling systems save money, time; Extruded metals div. of Detroit gasket & mfg. co. K. Darby. *il Mod Metals* 14:66-7 J1 '58
 Fully automatic reserve storage. *diags Mech Eng* 80:58 J1 '58
 Gain extra space through good handling; Excel corp. *il Iron Age* 181:106-7 F 6 '58
 G.E. applies automation to motor making. *il Mod Materials Handling* 12:86-7 Mr '58
 Gripper jaws unload panels efficiently, safely; GM's Fisher body plant. H. Chase. *il Iron Age* 180:130-1 D 12 '57
 Handling and packaging; forum on technical progress. *Steel* 142:380-2+ Ja 8 '58
 Handling connecting rods in automatic equipment; Forge plant of Oldsmobile division. H. Chase. *il Automotive Ind* 119:60-1+ Ag 15 '58
 Handling devices speed washer cabinet production. E. Benschroder. *il diags Automation* 5:41-2 J1 '58
 Handling small parts for assembly. E. G. Reader. *il diags Automation* 5:52-8 Ja '58
 Handling unit speeds blast-cleaning cycle. *il Iron Age* 180:168 N 14 '57

Here are latest machines for updating your plant; materials handling. *il Food Eng* 30: 66 O '58
 Hoppers and trucks provide efficient material handling; Auto specialties mfg. co. *il Plant Eng* 12:107 O '58
 How to handle your bulk materials. W. G. Hudson. *diags Mill & Factory* 62:104-7 Ap '58
 Industrial know-how handbook; material handling. *il diags Mill & Factory* 62:MH 3-50+ My '58
 Inflated neoprene belts invert glass jars at high speed. *il Machine Design* 29:147 N 14 '57
 Integrating packaging, handling, and shipping; Continental can co. *il Mod Materials Handling* 13:122-3 Ap '58
 Job-shop challenges materials-handling systems; Merrimack valley works, Western electric co. J. R. Mandel. *flow charts diag Mech Eng* 80:77-80 Ap '58
 Let automation give heavy jobs a lift; setup for machining railway car wheels. R. H. Eshleman. *il Iron Age* 181:104-5 Mr 30 '58
 Magnets cut conveyor costs; Metallurgical products dept., General electric co. *il Steel* 142:120 Ap 7 '58
 Making the most of plant space; materials handling ideas help fit each piece in place. H. T. Oseth. *il plan Plant Eng* 12:124-7 Mr '58
 Materials handling problems; Westinghouse 6th biennial materials handling conference, Columbus. *Automotive Ind* 117:114+ N 1 '57
 Mechanical handling expedites forging of axle shafts. H. Chase. *il Automotive Ind* 117:53 D 15 '57
 Mechanization takes hands out of manufacturing; illustrations with text. Mill & Factory 62:114-15 Mr '58
 Merry-go-round protects parts. O. Horvath. *il diag Am Mach* 102:116 Je 2 '58
 Mobile materials-handling plant in a steel works. *il Engng* 30:217-18 F 7 '58
 Modernized materials handling; Hormel & co. J. V. Ziemba. *il diag Food Eng* 30:88-92 F '58
 New products and accessories; latest news materials handling and packaging equipment. *il Published in monthly numbers of Modern materials handling*
 1958 equipment buyer's guide. *Mod Materials Handling* 13:1-44, 101-412 My '58
 Pay as you go for materials handling equipment. F. K. Priesinger. *Mod Materials Handling* 13:122-4 Mr '58
 Practical applications in brief. *il Mod Materials Handling* 13:100-1 Ja; 122-3 F; 138-41 Mr; 124-5 Ap '58
 Production nuggets; information from American machinist and other publications; developments to watch; materials handling, services. *il diag Am Mach* 102:H 1-3 Mid-S '58
 Programmer for mechanical arm. J. M. Graham. *il diag Control Eng* 5:180 S '58
 Pulsating panels keep your bulk materials moving. *il diag Power* 102:156 Ja '58
 Punch-card system speeds case handling, cuts costs; Pillsbury Mills' warehouse. *il Food Eng* 30:67-8 F '58
 Radio scores assist in materials handling at J. T. Baker Chemical. *il Chem Eng* 65:88+ Ja 27 '58
 Remote handling of radiation sources; engineering problems discussed with human engineering demands. J. W. Wissel and J. C. Lee. *il Elec Eng* 67:107-4 D '57
 Setup for handling wide sheet metal at Buick motor div. *il Automotive Ind* 117: 70-1 D 1 '57
 Solutions to special handling problems; illustrations with text. *Steel* 142:82-3 Je 30 '58
 Specialized handling equipment for chassis frame assembly at Budd co. plant. C. A. Weinert. *il diags Automotive Ind* 117:48-51 O 15 '57
 Spread out storage to cut supply bottleneck; Superior tube co. *il Iron Age* 181:130-1 My 22 '58
 Steelworks goes in for mobile plant. *il Engineering* 185:218-20 F 14 '58
 These materials handling ideas save time, save steps, make each move count; Motorola, inc. *il Plant Eng* 12:148-9 My '58
 30 ways to handle dies. H. G. Weiss. *il Mod Materials Handling* 13:96-101 Je '58
 Three-point plan simplifies scrap handling in steel strip mill. *il Plant* 18:48-9 Ag '58
 Three ways to handle scrap; Armco steel corp. *il Steel* 142:96+ Je 9 '58
 Tips on selecting material handling equipment. H. M. Palmer. *il Plant* 18:46-7 J1 '58

MECHANICAL handling—Continued

- Transfer of materials between material-handling systems. A. T. Gaudreau, *il diag Plant* 17:39-41 Ap; 45-6 My '58
- Unit loads trim cost of moving construction materials to chemical maker's new plant site; Union carbide chemicals co. *il Chem Eng* 65:64-5 My 19 '58
- Unit operations in chemical engineering; materials handling. R. W. Wesson, *bibliog* (32 ref) *il Ind & Eng Chem* 50:474-7 pt 2 Mr '58
- Unusual handling techniques from Timken; illustrations with text. *Mod Materials Handling* 13:104-7 Ap '58
- Versatile warehousing. O. S. Hagerman, Jr. *il Mod Plastics* 35:114-16 D '57
- Vertical lift automates transfer of large units; Lincoln assembly facility. *il diag Iron Age* 181:82-3 Ja 16 '58
- Warehouse capacity doubled; Pesco products div., Borg-Warner corp. *diags Steel* 142:55 My 12 '58
- We modernized to up handling efficiency; Westinghouse, Newark, N.J. H. G. Weiss. *il plans Mod Materials Handling* 13:86-91 Ag '58
- What Chrysler thinks about materials handling engineering. F. Matthews. *Mod Materials Handling* 13:91-3 Je '58
- What's new at the Materials handling show, Cleveland. *il Automotive Ind* 118:75-9 Je 1 '58
- See also*
- Assembling methods
 - Blast furnaces—Charging
 - Bottle handling
 - Car dumpers
 - Cargo handling
 - Cement handling
 - Coal handling
 - Coffee handling
 - Conveying machinery
 - Cranes, derricks, etc
 - Electric trucks, Industrial
 - Feeders, Ore
 - Gravel handling
 - Guided missile handling
 - Hoisting
 - Hoisting machinery
 - Lifting magnets
 - Lime handling
 - Loading and unloading
 - Loading machines
 - Lumber handling
 - Mail handling
 - Manipulators
 - Mine haulage
 - Monorail conveyors
 - Motor trucks, Industrial
 - Ore handling
 - Paper handling
 - Pipe handling
 - Pneumatic conveying
 - Pneumatic machinery
 - Positioning equipment
 - Sand and gravel plants
 - Sand handling
 - Scrap metal handling
 - Sheet metal handling
 - Steel handling
 - Trucks
 - Winches
 - Wood handling

Costs

- How much does it really cost to operate that yard crane? *il Mod Materials Handling* 13: 94-5 N '58

Exhibitions

- Materials handling exposition, Cleveland. *il Chem & Eng N* 36:53 Je 23 '58
- Mechanical handling exhibition, London, May 7-17. *il Engineer* 205:704-6, 742-4 My 9-16 '58; *Engineering* 185:582-3, 613-15 My 9-16 '58
- Mechanical handling exhibition, London, May 7-17. *il Mod Materials Handling* 13:63 Jl '58
- National materials handling exposition, Cleveland, June 9-12. *Am Mach* 102:81 Je 30 '58

Safety measures

- Truck-pallet system paid off; Torrington co. *il Safety Maint* 115:28-30 Mr '58

MECHANICAL models

- Centroids, vectors, and least squares. S. I. Askovitz, *bibliog diags Am J Phys* 26:164-8 Mr '58

- Kit makes precision working models. *il Tool Eng* 40:93 Mr '58

- Machine-construction kit. *il Mech Eng* 80:89 F '58

- Models of reproduction. H. Jacobson, *bibliog il diags Am Scientist* 46:255-84 S '58
- Scale models aid in designing machines. R. H. Herrmann, *il diag Foundry* 86:120+ Jl '58

MECHANICAL movements

- Alternate four-bar mechanisms. A. S. Hall, Jr. *diags Machine Design* 30:133-5 My 1 '58
- Bending normal press movement round-the-corner. F. Strasser, *diags Mach* 64:90-3 Ag '58
- Compound-motion mechanism. *diags Machine Design* 30:110 S 4 '58
- Harmonic drive principle. *diags Machine Design* 30:100 Ja 9 '58
- Ingenious mechanisms. Published in monthly numbers of Machinery
- Intermittent drive with reverse-locking feature. J. J. Decoulos, *diags Mach* 64:113 Ag '58
- Kneading motion of cam-driven fingers to produce positive pumping action. *il diags Machine Design* 29:119 N 14 '57
- Modified scotch-yoke mechanism for rotary-to-linear conversion of motion. *il diags Machine Design* 29:87 O 31 '57
- Non-linear vibrations in mechanical systems. F. R. E. Crossley, *bibliog diags Engineering* 186:212-15 Ag 15 '58
- One-half revolution, one-half pause mechanism; clutch designed to operate two machine heads used for simultaneously twisting eyelets on wires. R. T. Stewart, *diags Mach* 64:147-8 Mr '58
- Second acceleration in four-bar mechanisms as related to rototopole motion. W. J. Carter, *diags J Ap Mech* 25:293-4 Je '58
- See also*

- Cams
- Gearing
- Links and link motion
- Machinery, Kinematics of
- Reversing mechanism
- Springs (mechanism)
- Stop mechanism

MECHANICAL research

- See also*

- Engineering research

- MECHANICAL rubber goods.** *See Rubber goods, Mechanical*

- MECHANICAL stokers.** *See Stokers, Mechanical*

- MECHANICALLY operated doors.** *See Doors, Mechanically operated*

MECHANICS

- Basic mechanics of the grinding process. W. R. Backer and M. E. Merchant, *bibliog diags A S M E Trans* 80:141-6; Discussion, 146-7. Reply, 147-8 Ja '58
- Classical mechanics of the internal rotation of molecules. C. C. Lin, *bibliog diag Am J Phys* 26:319-23 My '58
- Dimensions for a unified theory of electrodynamics. L. W. Allen, *bibliog diags Elec Eng* 77:134-40 F '58; Discussion, 77: 665-7 Jl '58
- Mechanics of applying electric motors. W. R. Harris, *il diags Machine Design* 29: 109-15 N 28 '57
- Mechanics of vehicles (cont). J. J. Taborek, *bibliog il diags Machine Design* 29:136-41 N 14; 126-33 N 28; 148-53 D 12; 92-101 D 26 '57
- Unwinding a spool. G. M. Martin, *diags Am J Phys* 26:194-5 Mr '58
- See also*

- Deformation (mechanics)
- Dynamics
- Engineering
- Fluids
- Force and energy
- Friction
- Hydrodynamics
- Hydrostatics
- Inertia (mechanics)
- Liquids
- Load (mechanics)
- Mathematical physics
- Mechanical movements
- Moments of inertia
- Motion
- Pendulum
- Power transmission
- Pressure
- Statics
- Strains and stresses
- Strength of materials
- Thermodynamics
- Torsion
- Vibration

MECHANICS—Continued

Electric analogies

Circuit analysis of laterally loaded continuous beams. E. Baron. *diags* Am Soc C E Proc 83 [ST 1 no 1147]:1-32 bibliog. (p31-2) Ja '57; Discussion, Y. Nubar. 83 [ST 5 no 1382]:93-6 S '57; Reply. 84 [ST 1 no 1522]:9-10 Ja '58

Speeding solution of mechanical problems; abstract. E. L. Hixson and A. F. Wittenborn. S A E J 66:92 F '58

MECHANICS (persons)

Finding and training mine mechanics. W. C. Schott. *il* Min Cong J 43:60-2 N '57

MECHANICS, Applied

See also

Balancing of machinery

Bibliography

Book reviews. Published in quarterly numbers of Journal of applied mechanics

MECHANICS, Wave. See Wave mechanics

MECHANICS, lien

Mechanic's lien is delicate mechanism. W. H. Hillier. *Heating-Piping* 29:96 D '57

MECOM, John W.

Mecom may sell oil holdings. *Oil & Gas J* 55:78 O 23 '57

MEDALLIONS

Adhesive-mounted medallions. *il* *diag* Mod Plastics 35:158 JI '58

MEDALS

A.P.I. honors Lewis. *Oil & Gas J* 55:70 O 23 '57

ASME honors engineers; tribute to C. E. Davies, retiring secretary, biographies of recipients of the honorary membership, the awards, and medals at the 1957 annual meeting. *Mech Eng* 80:88-96 Ja '58
Bingham medal address. C. M. Zener. *Phys Today* 11:22-3 F '58

C. A. B. Halvorson awarded I.E.S. gold medal. *Illum Eng* 53:sup7A-8A Ag '58

Carl A. Winkler, CIE medalist for 1958. *Chem & Eng N* 36:100 Je 16 '58

Carl E. Reistle, Jr. receives Lucas gold medal, major AIME award. *Pet Eng* 30:B 109 Ja '58

Emmerich, 1958 chemical industry medalist. *Chem & Eng N* 36:152 O 6 '58

Flett gets AIC gold medal. *Chem & Eng N* 36:106 Ap 21 '58

Franklin institute medal to Patrick. *Rubber World* 138:755 Ag '58

Fred J. Emmerich chemical industry medalist. *Chem & Ind p* 1025 Ag 16 '58

Howard Cooney medal and Standards medal; recipients. *Mag of Stand* 28:352-3 D '57

John F. Thompson and J. Roy Gordon awarded A.I.M.E. medals. *Can Min & Met Bul* 51:18 Ja '58

Medal day proceedings at the Franklin Institute. *Franklin Inst J* 264:481-501 D '57

Medal of the Society of dyers and colourists; list of recipients. *il* Soc Dyers & Col J 74:4-5 Ja '58

1958 TAPPI medal presentation and acceptance. *Tappi* 41:sup84A+ Mr '58

1958 TAPPI medal to W. H. Swanson. *Tappi* 40:sup 113A-14A D '57

Presentation of J. W. Buchta as the Oersted medalist for 1957. W. C. Michels. *Am J Phys* 26:350-1 S '58

Professor Carl Winkler; Chemical Institute of Canada gold medalist. *Can Chem Process* 42:47-84 My '58

Professor of chemical engineering at LSU receives the Louisiana engineering society's technological accomplishment medal. *Chem Eng* 65:180-1 My 5 '58

Professor Tuve will receive Anderson medal. *Heating-Piping* 29:152 D '57

Worshipful company of dyers research medal; list of recipients. *il* Soc Dyers & Col J 74:5-7 Ja '58

See also

Acheson medal

Edison medal

Fritz, John, medal

Garvan medal

Gibbs, Willard, medal

Goodyear medal

Herty medal

Lammie, Benjamin Garver, medal

Messel medal

Nichols medal

Olney medal

Perkin medal

Priestley medal

Rewards, prizes, etc.

Roebeling medal

Schoellkopf medal

Vermilye medal

MEDICAL buildings

Medical buildings; building types study. *Arch Rec* 123:196-222 Mr '58

Medical office building designed with flexible suites for rent. *il* plan *Arch Rec* 123:346 Mr '58

See also

Clinics

MEDICAL centers

How we planned the power facilities of UCLA medical center. K. M. Brady. *il* *Power Eng* 62:88-90 Ap '58

MEDICAL colleges

Report calls for expansion of medical school facilities. E. Mickel. *Arch Rec* 124:52+ S '58

MEDICAL consultants. See Consultants

MEDICAL economics

25 years of research in medical economics. M. C. Klem. *Am J Pub Health* 48:995-1002 bibliog (p999-1002) Ag '58

MEDICAL education

See also

Hygiene. Industrial—Study and teaching

Public health—Study and teaching

MEDICAL exhibits

Control of emotional factors in dermatoses; scientific exhibits. H. M. Robinson, Jr. *Arch Int* 17:31-5 Ja '58

Others. A M A Archives Ind Health 17:340-4 Ap '58

Use of energy costs in regulating physical activity in chronic disease. E. E. Gordon. *bibliog* *il* A M A Archives Ind Health 18:437-41 N '57

Your ear and noise; scientific exhibits. A. Glorig and others. A M A Archives Ind Health 17:31-5 Ja '58

MEDICAL expense insurance. See Insurance, Medical expense

MEDICAL instruments and apparatus

Airflow interrupter for respiratory work. L. E. Mount. *il* *diags J Sci Instr* 35:104-5 Mr '58

Internal defibrillator with current measuring facilities. B. J. Perry and R. E. Trotman. *il* *diags Electronic Eng* 30:24-5 Ja '58; Discussion. 30:458-9 JI '58

Medical research advanced; mechanical device to interconnect the ends of a severed blood vessel. *Eng J* 41:82-3 Je '58

New design of a linearizing recording densitometer; evaluation of bone density. J. D. Nelson and others. *diag R Sci Instr* 29:316-17 Ap '58

Research and engineering progress, 1957; medical. *il* Gen Elec R 61:58 Ja '58

Transistor unit detects fetal heart sounds; Foetoscope. T. I. Humphreys. *il* *diags Electronics* 31:52-3 Ap 25 '58

See also

Radiation apparatus—Medical applications

Radiography—Apparatus

Surgical apparatus and instruments

MEDICAL jurisprudence

See also

Physicians as witnesses

MEDICAL laboratories

See also

Pharmaceutical laboratories

Public health laboratories

MEDICAL photography. See Photography, Medical

MEDICAL physics. See Physics, Medical

MEDICAL research

Look to the future. G. M. Savage. *Drug & Cosmetic Ind* 83:302-3+ S '58

Medical needs of 1970. *Sci Am* 199:86+ S '58

Needed; men, not money for medical research. *Chem & Eng N* 35:30 D 30 '57

Physics and medical research. H. D. Bruner. *Am J Phys* 26:307-10 My '58

Report calls for expansion of medical school facilities. E. Mickel. *Arch Rec* 124:52+ S '58

Sequential methods in clinical trials. P. Armitage. *bibliog* *diag Am J Pub Health* 48:1395-402 O '58

See also

Cancer research

Dental research

Medical centers

Nutrition research

Pharmaceutical research

MEDICAL service

Future role of hospitals in medical care. A. W. Snoke. *Am J Pub Health* 48:468-72 Ap '58

Home care programs, their impact on the hospital's role in medical care. P. Rogatz and C. M. Crocetti. *bibliog* *Am J Pub Health* 48:1125-33 S '58

Knowledge and utilization of health resources by public assistance, recipients; study made in Syracuse. I. J. Brightman and others. *Am J Pub Health* 48:188-99, 319-27 F-Mr '58

MEDICAL service—Continued

Measuring ability to pay for health and social services; editorial. *Am J Pub Health* 48:83-5 Ja '58

Social medicine at the Montefiore hospital, a practical approach to community health problems. A. A. Silver. bibliog *Am J Pub Health* 48:724-31 Je '58

See also

Dental service

Public health administration

United States—Public health service

Costs

Committee on the costs of medical care, 25 years of progress. I. S. Falk and others. bibliog *Am J Pub Health* 48:979-1002 Ag '58

Group and prepayment plans

Comparison of prematurity and perinatal mortality in a general population and in the population of a prepaid group practice, medical care plan. S. Shapiro and others. *Am J Pub Health* 48:170-37 R '58

Cooperative prepaid health plan in industry. W. J. Honan. *A M A Archives Ind Health* 18:151-4 Ag '58

Group payment since the committee on the costs of medical care. L. S. Reed. *Am J Pub Health* 48:990-3 Ag '58

Medical relations with unions, management, and government; planning for medical care of nonoccupational conditions. J. F. McCahan. *A M A Archives Ind Health* 18:145-7 Ag '58

Problem in voluntary insurance; some answers from the Windsor experience. B. J. Darsky and others. *Am J Pub Health* 48:971-8 Ag '58

Europe

Medical care in Europe. K. Evang. *Am J Pub Health* 48:427-33 Ap '58

Latin America

Development of medical care services in Latin America. A. L. Bravo. *Am J Pub Health* 48:434-47 bibliog(p445-7) Ap '58

Malaya

Medical care in two areas of southeast Asia; Malaya and Singapore. I. S. Falk. *Am J Pub Health* 48:448-53 Ap '58

Singapore

Medical care in two areas of southeast Asia; Malaya and Singapore. I. S. Falk. *Am J Pub Health* 48:448-53 Ap '58

MEDICAL service, Industrial

Administrative problems in nuclear energy. T. L. Shipman. *A M A Archives Ind Health* 18:106-9 Ag '58

Businessmen look at employee health services; editorial. *Am J Pub Health* 48:229-30 F '58

Cardiac emergencies. S. E. Chapin. *Ind Med* 27:278-80 Je '58

Conservation of scientific manpower. C. E. Lewis. *Ind Med* 27:221-5 My '58

Consulting otologist's role in the industrial noise problem. M. S. Fox. *A M A Archives Ind Health* 16:464-8 D '57

Cooperative industrial health services; managerial attitudes. *Ind Med* 26:573 D '57

Cooperative prepaid health plan in industry. W. J. Honan. *A M A Archives Ind Health* 18:151-4 Ag '58

Dermatology in industrial medicine. J. V. Klauder; E. D. Osborne. *Ind Med* 27:147-9 Mr '58

Detection of uterine cancer in industry. B. McLean and others. *A M A Archives Ind Health* 18:261-7 S '58

Electrocardiographic survey of hotel employees in New York city. O. La Rotonda and F. P. Guidotti. bibliog *Ind Med* 27:18-20 Ja '58

Employees' food services facilities; a medical department advisory and supervisory function. R. C. Conant. bibliog *Ind Med* 26:487-91 N '57

Firms consider worker needs; company health programs. *Chem & Eng N* 35:35 D '57

From management's viewpoint. A. D. R. Fraser. *Ind Med* 27:138 Mr '58

Guiding principles for an occupational health program in a hospital employee group; editorial. *Ind Med* 27:219-20 Ap '58

How to plan your medical department. J. S. McCahan. *Ind plans Mill & Factory* 62:113-16 F '58

Lake Logan conference on occupational health, 4th. Canton, N.C. May 2-4. *Ind Med* 27:364-8 Jl '58

Major medical plans. *Ind Med* 27:78 F '58

Medical department in a small industrial plant. J. M. Krich. *Ind Med* 27:70-4 F '58

Medical department layout and design. W. J. Fulton. flow chart *Ind plans* diags *Ind Med* 27:11-14, 85-104, 123-38, 179-98, 333-48 Ja-Apr, Jl '58

Medical programs for the small plant. M. C. Klem and M. F. McKiever. *Ind Safety Maint* 116:34-54 Ag '58

Medical relations with unions, management, and government; planning for medical care of nonoccupational conditions. J. F. McCahan. *A M A Archives Ind Health* 18:145-7 Ag '58

Medical relationship with union, management and government. J. H. Holzbog. *A M A Archives Ind Health* 18:142-4 Ag '58

Mutual goals of public health and occupational medicine. L. B. Burney. *A M A Archives Ind Health* 17:571-6 Je '58

National industrial health conference, 16th. Atlantic City, April 19-25; program. *Ind Med* 27:116-17 F '58

New sociomedical concepts involving industry; panel discussion. *A M A Archives Ind Health* 17:408-27 My '58

Occupational medicine and modern-day drugs. A. H. Holland, Jr. *A M A Archives Ind Health* 17:593-6 Je '58

Organization of an effective safety program; role of the medical department. C. U. Denehl. *Ind Med* 27:145-6 Mr '58; Same. *Ind Safety Maint* 115:41-2 Mr '58

Physicians of distinction. *Ind Med* 26:523-4 N '57

Postgraduate day in occupational medicine. *Ind Med* 27:483-5 S '58

Practical significance to industry of recent developments in tuberculosis management. E. T. Blomquist. *A M A Archives Ind Health* 17:597-601 Je '58

Role of the psychologist in industry. L. T. Robertson. *A M A Archives Ind Health* 18:110-12 Ag '58

Safety in the chemical industry; medical aspects of safety in the chemical industry. A. J. Amr. *Chem & Ind* 6570-2 My 17 '58

Scope, objectives, and functions of occupational health programs. *Ind Med* 27:209-11 Ap '58

Segunda reunion de medicina del trabajo. Coral Gables, Aug. 18-22. *Ind Med* 27:508-9 O '58

Teamwork approach to the noise problem. P. J. Whitaker. *A M A Archives Ind Health* 16:459-63 D '57

Today's industrial physician. *Ind Med* 27:252 My '58

Uses of oxygen in industrial medicine. E. A. Irvin. *Ind Med* 27:506-7 O '58

Value of medium sized and small plant health programs to management. A. D. R. Fraser. *Ind Med* 27:321-4 Jl '58

Western occupational health conference, 1st. Los Angeles, Oct. 4-6. *Ind Med* 27:50-4 Ja '58

Who practices industrial medicine? results of a survey in Oklahoma. J. S. Felton. *Ind Med* 26:525-35 D '57

Your good health at Esso; a health-education booklet from Esso standard oil co. L. G. Wade. *Ind Med* 27:443-7 S '58

See also

Dental service, Industrial

Hygiene, Industrial

Physical examinations

Psychiatry, Industrial

Railroads—Medical service

Ramazzini society

Trade unions—Health service

Legal aspects

Injury litigation among railway employees. I. Kaplan. *Ind Med* 27:433-16 Ag '58

Study and teaching

Education for the practice of occupational medicine. V. W. Lippard. *A M A Archives Ind Health* 18:89-94 Ag '58

New techniques in teaching occupational medicine. J. S. Felton. *Ind Med* 17:577-86 Je '58

Training in occupational health at the University of Pittsburgh. *Ind Med* 27:253-4 My '58

Training in occupational medicine; report of the committee on education and training. *Ind Med* 27:205-8 Ap '58

MEDICAL service, Industrial—Continued

Denmark

Developments and recent trends in industrial medicine in Denmark. M. Iverson. *Ind Med* 27:529-30 O '58

Poland

Occupational medicine in Poland. F. F. Sekuracki. *Ind Med* 27:469-71 S '58

MEDICAL service, State

Dependents' medical care program. P. I. Robinson. *Am J Pub Health* 47:1552-5 D '57

MEDICAL social workers. See Social workers, Medical

MEDICAL statistics

See also

Mortality—Statistics

MEDICAL students

Outbreak of influenza-like disease in the Chinese army medical college in 1941. C. P. Li. *bibliog Am J Pub Health* 48:760-4 Je '58

Physics and the medical student. P. A. Stewart. *Am J Phys* 26:304-6 My '58

MEDICAL technicians

Auxiliary personnel in medical practice. J. L. Caughey, jr. *Am J Pub Health* 48:1049-53 Ag '58

MEDICAL testimony. See Physicians as witnesses

MEDICINALS. See Drugs

MEDICINE

Henry Sigerist and international medicine. M. J. Roemer. *Am J Pub Health* 48:425-7 Ap '58

See also

American medical association

Medical service

Pharmacopoeias

Veterinary medicine

Group practice

Developments in group medical practice. C. R. Rorem. *Am J Pub Health* 48:983-6 Ag '58

History

Sequel to Bernardino Ramazzini's Of the disease of the bearers of corps. A. Meiklejohn. *Ind Med* 27:150-2 Mr '58

Study and teaching

Medical needs of 1970. *Sci Am* 199:86+ S '58

MEDICINE, Military

Atomic impact on military medicine; symposium. *bibliog A M A Archives Ind Health* 18:185-207 S '58

MEDICINE, Naval

Changing pattern of submarine medicine. H. J. Alvis. *bibliog A M A Archives Ind Health* 18:195-9 S '58

Sources of ionizing radiation hazards in naval military medicine. J. A. Brinson. *A M A Archives Ind Health* 18:186-9 S '58

Submarine medicine on Nautilus and Seawolf. J. H. Ebersole. *A M A Archives Ind Health* 18:200-7 S '58

MEDICINE, Preventive

Industry's role in community health; abstract. H. W. Ferguson. *Ind Med* 27:284 Je '58

Preventive medicine aspects of flight feeding. A. A. Taylor and B. Finkelstein. *bibliog Am J Pub Health* 48:604-9 My '58

Preventive medicine in naval aviation training. P. B. Phillips and J. T. Bair. *A M A Archives Ind Health* 17:55-7 Ja '58

MEDICINE, Veterinary. See Veterinary medicine

MEDICINES, Proprietary

See also

Proprietary association

MEDITERRANEAN region

See also

Geology—Mediterranean region

MEEHANITE

How to machine meehanite; reference book sheet. *diags Am Mach* 102:131+ F 10 '58

Ross-Meehan completes modern metallurgical laboratory. *Ind Foundry* 86:172+ O '58

MEERWEIN reaction

Kinetics of the Sandmeyer and Meerwein reactions. S. C. Dickerman and others. *bibliog Am Chem Soc J* 80:1904-11 Ap 20 '58

Meerwein arylation of anthracene, 9-phenylanthracene and 9-anthracic acid. S. C. Dickerman and others. *Chem & Ind* p360 Mr 22 '58

Meerwein reactions on isolated olefinic bonds; free radical addition reactions on vinylsilanes. R. A. Benkeser and others. *bibliog Am Chem Soc J* 79:6253-6 D 5 '57

MEGARGEL, Harold J.

Millman who loves to sell; *Scranton lace co. J. Campbell. por Mod Textiles Mag* 39:51-2+ Mr '58

MELAMINE

Melamine makes a drink mixer. *Il Mod Plastics* 35:98-100 F '58

Properties of materials; melamines. *Materials in Design Eng* 43:150-1 Mid-O '58

MELATONIN

Isolation of melatonin, the pineal gland factor that lightens melanocytes. A. B. Lerner and others. *bibliog Am Chem Soc J* 80:2587 My 20 '58

MELIA azadirachta

Investigations of the trunk bark of melia azadirachta Linn. P. Sengupta and others. *bibliog Chem & Ind* p861-2 J1 5 '58

MELLON institute of industrial research. See Pittsburgh university. Mellon institute of industrial research

MELTING

Differential thermal analysis; melting curves of oils and fats. J. Hannevijk and A. J. Haighton. *bibliog Am Oil Chem Soc J* 35:457-61 S '58

Fusion-cast high explosives. W. O. Williamson. *bibliog Il diags Research* 11:387-93 O '58

Peltier heat at the interface between a metal and its melt. J. M. Bardeen and B. S. Chandrasekhar. *J Am Phys* 29:1372-3 S '58

Preparation of large-area $p-n$ junctions in silicon by surface melting. D. Billig and D. B. Gasson. *Il diags J Ap Phys* 28:1242-5 N '57

Simple fusion method for determination of placiolase feldspar from thin section. R. Gradwell. *Il Am Mineralogist* 43:368-70 Mr '58

MELTING points

Apparatus for determination of the Wiley melting point. R. A. Marmor and R. L. Fern. *diag Am Oil Chem Soc J* 35:109-10 Mr '58

Comparisons of materials; melting points of metals and ceramics. *Materials in Design Eng* 43:11 Mid-O '58

Factors determining the oxygen content of liquid silicon at its melting point. W. Kaiser and J. Breslin. *bibliog J Ap Phys* 29:1292-4 S '58

Further studies with 2,4,7-trinitrofluorenone as a reagent for microprobe fluorescence analysis. D. E. Laskowski and W. C. McCrone. *Anal Chem* 30:542-4 Ap '58

Melting point and spectral emissivity of uranium dioxide. T. C. Ehler and J. L. Margrave. *Am Cer Soc J* 41:330 Ag 1 '58

Melting range of rubber chemicals. *Il A S T M Bul* p92-6 J1 '58

New design of melting point apparatus. H. J. Barber and others. *Il diags Chem & Ind* p 153-5 F 8 '58

See also

Eutectics

MEMBRANE filter. See Filters and filtration (bacteriology)

MEMBRANES

Electrodialysis using ion-exchange membranes. S. M. Partridge and A. M. Peers. *bibliog Diags J Ap Chem* 8:49-67 Ja '58

Ion fractionation by permselective membranes; factors affecting relative transfer of glycine and chloride ions. A. T. Di Egidio and E. N. Lightfoot. *bibliog diags Ind & Eng Chem* 50:691-6 Ap '58

Membrane processes; ion exchange. A. G. Winger. *flow sheet Il diags Chem Eng Prog* 53:606-12 D '57

Permeability valves. C. E. Rogers and others. *diags Ind & Eng Chem* 49:1933-6 N '57

Permselective membrane electrodes; analytical applications. J. S. Parsons. *bibliog diag Anal Chem* 30:1262-5 J1 '58

Scaling problems in electrodialysis using permselective membranes. B. A. Cooke. *bibliog Chem & Ind* p555-6 My 10 '58

Silver peroxide, zinc alkaline cells; polymeric membrane separators. H. H. Bieber and others. *bibliog Il Ind & Eng Chem* 50:1273-8 S '58

Take a look at permeation: membrane permeation process for difficult-to-separate liquid mixtures. *diag Chem & Eng N* 36:58-9 Mr 31 '58

Use of membranes for the fractionation of high polymers. J. H. S. Green and others. *Chem & Ind* p862-3 J1 5 '58

Voltammetric membrane electrodes; basic theory and characteristics of thallous and cadmium reduction. R. C. Bowers and A. M. Wilson. *Am Chem Soc J* 80:2968-72 Je 20 '58

MEMORIAL plaques. See Plaques

MEMORIALS

- Revised scheme, revived hope, for Saarinen's
St Louis arch. E. Saarinen. *il Arch Rec*
122:11 N '57
Saarinen's St Louis arch project finally ap-
proved. *il Arch Forum* 108:14+ My '58
See also

Rushmore, Mount
War memorials

MEMORY

How is your memory? Water & Sewage
Works 105:274 J1 '58

MEMORY devices. See Magnetic memory (cal-
culating machines)

MEMPHIS

Architecture, and architects, spark urban re-
newal project in Memphis. *il Arch Rec* 124:
36 J1 '58

MENDENHALL, Walter Curran

Memorial M. M. Leighton. *por Am Assn*
Pet Geologists *Bul* 42:682-90 bibliog(p689-
90) Mr '58

MENINGITIS

Epidemiological studies of aseptic meningitis
caused by Coxsackie virus B5. T. D. Y.
Chin and others. bibliog *Am J Pub Health*
48:1193-200 S '58

MENSURATION

See also
Metric system

MENTAL diseases

Does the public health laboratory have a
role in mental illness? L. Buchbinder and
A. R. Ferguson. *Am J Pub Health* 48:473-
83 bibliog(p481-3) Ap '58

Drug therapy of mental disease. A. Marrazzi.
diags A M A Archives Ind Health 17:398-
402 My '58

Social class and mental illness; a community
study. A. B. Hollingshead and F. C. Red-
lich. Review, by E. W. White. *Sci Am*
199:155-64 N '58

See also
Schizophrenia

MENTAL hygiene

Health department research in community
mental health. J. C. Gidewell and H. R.
Domke. bibliog *Am J Pub Health* 48:362-8
Mr '58

Mental health in the environment of the met-
ropolitan area of the future. J. D. Porter-
field. *Am J Pub Health* 48:489-94 Ap '58

Programs and activities of the National insti-
tute of mental health relevant to children
and child care. R. H. Felix. *Am J Pub*
Health 48:133-8 F '58

Removing some roadblocks to mental health
research; editorial. *Am J Pub Health* 47:
1569-70 D '57

Study and teaching

Interpersonal relations institute in mental
health education; method and evaluation.
H. M. Forstenzer and others. bibliog *Am J*
Pub Health 48:837-43 J1 '58

Social maladjustment study unit; an experi-
ment in community mental health educa-
tion. J. M. A. Weiss and others. bibliog
Am J Pub Health 47:1513-19 D '57

MENTAL hygiene, Industrial

See also
Psychiatry, Industrial

MENTALLY retarded

Seasonal variation in the births of the men-
tally deficient. H. Knobloch and B.
Pasamanick. bibliog *Am J Pub Health*
48:1201-8 S '58

MEPERIDINE

New analogues of pethidine with analgesic
activity. abstract. E. S. Stern. *Chem & Ind*
p613 My 24 '58

MERCAPTANS

Aryl mercaptan output may zoom. *il Chem*
Eng 65:88+ Mr 10 '58

Cleavage of C-S bond during oxidation of
thiol. E. R. Cole. *Chem & Ind p* 1511 N 16
'57

Deodorizing mercaptans; abstract. M. B.
Neuworth. *Chem & Eng N* 36:55 S 15 '58

Dualayer gasoline process to remove mer-
captans. B. F. Greek and others. bibliog
flow sheet *il diag Ind & Eng Chem* 49:1938-
44 D '57

Electrolytic mercaptan; American develop-
ment corp. flow diag *Pet Refiner* 37:302
S '58

Evaluation of new mercaptan type chemical
peptizers. M. B. Neuworth. *Rubber Age*
83:79-82 Ap '58

Kinetics of the oxidation of a mercaptan
to the corresponding disulfide by aqueous
hydrogen peroxide. I. Pascal and D. S.
Tarbell. bibliog *Am Chem Soc J* 79:6015-
20 N 20 '57

Mixed-valence copper complex with thiol
compounds. I. M. Klotz and others. bibli-
log *diag Am Chem Soc J* 80:2920-3 Je 20
'58

More aryl mercaptans possible. *Chem &*
Eng N 35:66 D 9 '57

Organic disulfides and related substances;
oxidation of thiols to disulfides with lead
tetracetate. L. Field and J. E. Lawson.
bibliog *Am Chem Soc J* 80:833-41 F 20 '58

Preparation of thiolmethacrylate esters; a
study of the reaction of sodium mercaptides
with methacryl chloride. G. Sumrell and
others. bibliog *Am Chem Soc J* 80:2509-13
My 20 '58

Solitizer process; Shell development co. flow
diag *Pet Refiner* 37:308 S '58

Stereospecific reactions of nucleophilic agents
with acetylenes and vinyl-type halides; the
mechanism of the base-catalyzed reaction
of trichloroethylene with thiols. W. E. Truce
and R. Kassinger. bibliog *Am Chem Soc J*
80:1916-19 Ap 20 '58

Thiol esters of long-chain acids and long-
chain alkylthiols. R. Schain and others. bib-
liog *Am Oil Chem Soc J* 35:192-4 My '58

See also

Isobutyl mercaptan

Analysis

Gas odorants analyzed by gas chromatog-
raphy. C. F. Spencer and others. bibliog
Anal Chem 30:1473-4 S '58

MERCAPTIDES. See Mercaptans

MERCAPTOACETAMIDE

Hydrolysis reactions of thioacetamide in
aqueous solutions. E. A. Butler and others.
bibliog *diags Anal Chem* 30:1379-83 Ag '58

Precipitation of cadmium sulfide from acid
solutions by thioacetamide. D. F. Bower-
sox and E. H. Swift. *Anal Chem* 30:1288-
91 J1 '58

MERCAPTOACETATES

Amine-thioglycolate-ammonia system for cold
permanent waving. R. Hellengotter and R.
Komarony. bibliog *Am Perfumer & Aro-*
matics 71:31-2 My '58

Fate of thioglycolic acid in wool durably
creased with thioglycolate. P. H. Springell.
bibliog *Textile Res J* 28:874-8 O '58

Look sharp! feel sharp! be sharp! creases
and pleats in woolen clothing stay sharp
when material is treated with ammonium
thioglycolate. *il Ind & Eng Chem* 50:sup
33A-4A S '58

Stabilities and absorption spectra of com-
plexes of some divalent metal ions of the
first transition series with the thioglycolate
ion. D. L. Leussing. bibliog *Am Chem*
Soc J 80:4180-3 Ag 20 '58

MERCAPTOACETIC acid

Reaction of mercaptoacetic acid with methyl
linoleate and linoleic acid. S. P. Fore and
others. bibliog *Am Oil Chem Soc J* 35:225-30
My '58

MERCAPTOBENZOLIC acid

Thiosalicylic acid sensitization; abstract.
E. Gaul. *Drug & Cosmetic Ind* 83:366 S '58

MERCAPTO compounds

Ion exchange studies of transguanylation re-
actions; rearrangement of S,2-amino ethyl-
isothiourea to 2-mercaptoethylguanidine and
2-aminothiazoline. J. K. Khym and others.
bibliog *Am Chem Soc J* 79:5663-6 N 5 '57

Mechanism of accelerator action; reaction of
mercaptobenzothiazole with sulfur. B. A.
Dogadkin and I. Tutorskii. bibliog *Rubber*
Chem & Tech 31:343-7 Ap '58

Mechanism of mill breakdown and vulcani-
zation in the presence of 2-mercaptoben-
zothiazole. B. A. Dogadkin and others. bib-
liog *Rubber Chem & Tech* 31:348-52 Ap '58

Reactions of N-mercaptomethylpolyhexa-
methylenedipamide disulfide. C. Earland
and D. J. Raven. bibliog *Am Chem Soc J*
80:3430-2 J1 5 '58

Sulfur compounds as antioxidants: analogs of
beta-alkylmercaptoketones. E. B. Thompson
and others. bibliog *Ind & Eng Chem* 50:
797-8 My '58

Synthesis of aminoalkylisothiourenium salts
and their conversion to mercaptoalkyl-
guanidines and thiazolines. D. G. Doherty
and others. bibliog *Am Chem Soc J* 79:
5667-71 N 5 '57

Synthesis of DL-2-mercaptohistidine- α -C¹⁴ and
DL-ergothioneine- α -C¹⁴. D. E. Sunko and
G. Wolf. bibliog *Am Chem Soc J* 80:4405-6
Ar 20 '58

Thiation of nucleosides; synthesis of 2-amino-
6-mercapto-9- β -D-ribofuranosylpurine (thio
guanosine) and related purine nucleosides.
J. J. Fox and others. bibliog *Am Chem*
Soc J 80:1669-75 Ap 5 '58

MERCAPTO compounds—Continued

Vulcanization of elastomers; the vulcanization of natural rubber with sulfur in the presence of mercaptobenzoethiazole. O. Lorenz and E. Bente. *bibliog Rubber Chem & Tech* 31:117-31, 548-58 Ja, J1 '58

Analysis

Spectrophotometric assay for reaction of *N*-ethylmaleimide with sulphydryl groups. E. Roberts and S. Rouser. *bibliog Anal Chem* 80:1291-2 J1 '58

Spectrophotometric assay for sulphydryl groups using *N*-ethylmaleimide. N. M. Alexander. *bibliog Anal Chem* 80:1292-4 J1 '58

MERCAPTO group

Decrease in sulphydryl titer of serum albumin. R. B. Simpson and H. A. Saroff. *bibliog Am Chem Soc J* 80:2129-31 My 5 '58

Reactivity of sulphydryl and disulfide in proteins; oxidation with ferricyanide of sulphydryl in native and denatured bovine serum albumin. I. M. Kolthoff and A. Anastasi. *bibliog Am Chem Soc J* 80:4248-50 Ae 20 '58

Reactivity of sulphydryl and disulfide in proteins; reactive disulfide as related to viscosity and optical rotation in denatured bovine serum albumin. I. M. Kolthoff and others. *bibliog Am Chem Soc J* 80:3235-40 J1 5 '58

MERCAPTOPROPIONIC acid

Chelating properties of β -mercaptopropionic acid. Q. Fernando and H. Freiser. *bibliog Am Chem Soc J* 80:4928-31 S 20 '58

MERCERIZING

Bleaching and mercerizing cotton-rayon X8080 cloth. T. R. Scott, Jr. *bibliog Mod Textiles Mag* 39:75-9+ Je '58

Comparative mercerization of yarns made from Pima S-1, Peruvian Pima B-B, and Egyptian Karnak cottons. A. L. Murphy and C. F. Goldthwait. *Textile Res J* 28:267-9 Mr '58

Improved light and weather resistance of cotton resulting from mercerization. C. F. Goldthwait and H. M. Robinson. *bibliog Textile Res J* 28:120-6 F '58

Mechanical properties of cotton fibers and their response to mercerization. L. Rebenfeld. *bibliog Textile Res J* 28:462-6 Je '58

Novel mercerizing technique to establish true length of cotton yarn. C. F. Goldthwait and A. L. Murphy. *bibliog Textile Res J* 28:15-21 Ja '58

Reactivity of cellulose. A. R. Urquhart. *bibliog (34 titles) Textile Res J* 28:159-69 F '58

What makes good mercerizing? R. W. Pinault. *Textile World* 108:69+ My '58

MERCHANDISING

Formula for growth; sell less to food more; Tasty baking. T. C. Taylor. *il Food Eng* 30:64-6 F '58

Impact of packaging on modern merchandizing. C. J. Reith. *Tappi 40:sup40A+N* '57

Merchandising muscle makes more sales! L. J. Walters. *il Paint Oil & Chem R* 121:8-10 S 18 '58

Multi-pack units move into high gear; food products. *il Food Eng* 30:76-7 F '58

Paint men comment favorably on merchandising series. *Paint Oil & Chem R* 121:10-11 J1 24 '58

See also

Chain stores

Coupons

Electric apparatus and appliances, Domestic

—Merchandising

Gas appliances—Merchandising

Gas industry—Merchandising

Rental plans (merchandising)

Supermarkets

MERCHANT marine**United States**

American owned fleets; tabulation. *Marine Eng/Log (Yearbook no)* 63:219+ My 31 '58

Nation honors its merchant marine. *il Marine Eng/Log* 63:66-7+ J1 '58

U.S. merchant marine and national defense. W. C. Ford. *Am Soc Naval Eng J* 70:127-32 F '58

U.S. merchant marine and obsolescence. E. B. Henry. *Am Soc Naval Eng J* 70:354-8 My '58; Discussion. 70:432-4 Ag '58

MERCK, George W.

Obituary. *por Chem & Eng N* 35:103 N 25 '57

MERCURY

Chelometric titrations with potentiometric end point detection; mercury as pH indicator electrode. C. N. Reilley and R. W. Schmid. *bibliog Anal Chem* 30:947-53 My '58

Components of charge and potential in the non-diffuse region of the electrical double layer; potassium iodide solutions in contact with mercury at 25°. D. C. Grahame. *bibliog Am Chem Soc J* 80:4201-10 Ag 20 '58

Coulometric titrations with mercury(I and II); determination of cyanide. E. P. Przybylowicz and L. B. Rogers. *bibliog Anal Chem* 30:63-9 Ja '58

Coulometric titrations with mercury(I and II); determination of sulfide. E. P. Przybylowicz and L. B. Rogers. *bibliog Anal Chem* 30:1064-9 Je '58

Development and operation of a 10kw homopolar generator with mercury brushes. D. A. Watt. *bibliog il diags Inst E E Proc* 105 pt A:233-40 Je '58

Effect of mercury on a metal high-vacuum valve. E. H. McFarland and others. *R Sci Instr* 29:529-30 Je '58

Heat of formation of titanium tribromide by the mercury reduction of titanium tetrabromide. E. H. Hall and J. M. Blocher, Jr. *bibliog diag Electrochem Soc J* 105:40-4 Ja '58

Heat-transfer rates to cross-flowing mercury in a staggered tube bank. C. L. Rickard and others. *bibliog diags A S M E Trans* 80:646-52 Ap '58

Hollow-cathode glow discharge in mercury vapor. K. G. Hernqvist. *bibliog il diags RCA R* 19:35-48 Mr '58

Mercury, 1957. J. W. Pennington. *Eng & Min J* 159:140-1 F '58

Radioisotopes measure mercury inventory in electrolytic chlorine plant. *il Chem Eng* 65:64 S 8 '58

Study of the effectiveness of a copper foil trap for mercury vapor in vacuum. R. H. McFarland and D. G. McDonald. *R Sci Instr* 29:530-1 Je '58

Valve for the grease-free manipulation of mercury. G. A. Bottomley. *diags J Sci Instr* 34:368-70 S '57; Discussion. J. A. Frost. 35:268-9 J1 '58

Analysis

Determination of mercury in organic compounds; a micro and semimicro method. C. Southworth and others. *Anal Chem* 30:1152-3 Je '58

Isotopes

Modern alchemy; mercury from gold. *Ind & Eng Chem* 49:supA+N '67

MERCURY acetates

Unsaturated amines; steric requirements of mercuric acetate oxidation of tertiary amines. N. J. Leonard and D. F. Morrow. *bibliog Am Chem Soc J* 80:371-5 Ja 20 '58

MERCURY arc rectifiers. See Electric rectifiers**MERCURY compounds**

Diuretics; organomercurials. C. W. Whitehead and J. J. Traverso. *bibliog Am Chem Soc J* 80:2178-85 My 5 '58

Proton resonance spectra and structures of mercury(II)-in addition compounds. F. A. Cotton and J. R. Leto. *bibliog Am Chem Soc J* 80:4823-6 S 20 '58

MERCURY cyanides

Polarographic study of mercuric cyanide and the stability of cyanomercurate ions. L. Newman and others. *bibliog Am Chem Soc J* 80:1814-19 Ap 20 '58

MERCURY in the body

Localization of mercury in the kidneys after subcutaneous administration. A. Bergstrand and others. *il diag A M A Archives Ind Health* 17:253-6 Mr '58

MERCURY mines and mining**Oregon**

Bretz mine gets large-scale new reactivation. *diag Eng & Min J* 159:144+ Mr '58

MERCURY oxides

Fluorination of DDT with hydrogen fluoride and mercuric oxide. S. Cohen and others. *bibliog Am Chem Soc J* 79:5979-81 N 20 '57

MERCURY poisoning

Organic mercury in environmental exposure, excretion, and prevention of intoxication in its manufacture. B. D. Dinman and others. *bibliog A M A Archives Ind Health* 18:248-60 S '58

Outbreak of mercury poisoning in Ohio. D. Benning. *bibliog il Ind Med* 27:354-63 J1 '58

MERCURY sulfide

Tracer studies on the mechanism of combustion of carbon, sulfur and mercuric sulfide. J. H. Wang and E. B. Fleischer. *Am Chem Soc J* 80:3874-5 Ag 5 '58

MERCURY vapor electric lamps. See Electric lamps, Mercury vapor

MERGERS. See Business consolidations

MESA. See Transistors

MESITYLENE

Hydrogen transfer; reaction of 1,3-dimethyl-4-ethylbenzene and ethylmesitylene with methylcyclohexene; transalkylation reaction of diarylethanes. H. Pines and J. T. Arrigo. *biblog Am Chem Soc J* 80:4369-78 Ag 20 '58

MESONS

Recent advances in physics; catalysis of nuclear reactions by μ mesons. D. Park. *biblog Am J Phys* 26:213-15 Ap '58

Stable multichannel positive pion detector. W. Imhof and others. *biblog diags R Sci Instr* 29:476-9 Je '58

MESSEL medal

Clarence D. Howe 1958 Messel metallist.

Chem & Ind p 1024 Ag 16 '58

Messel medal to Clarence D. Howe. Chem & Ind N 36:154 Ct 16 '58

Rt. Hon. C. D. Howe, 1958 Messel metallist.

Chem & Ind p350-1 Mr 22 '58

METABOLISM

Atherosclerosis breakthrough; gas chromatography advances lead to quick separation of key fatty acids from complex lipids. Chem & Eng N 36:48 F 3 '58

Bovine metabolism of organophosphate insecticides; subacute feeding studies with O,O-dimethyl 1-carbomethoxy-1-propen-2-yl phosphate. J. E. Casida and others. *biblog J Agri & Food Chem* 6:653-62 S '58

Bovine metabolism of organophosphorus insecticides; metabolic fate of O,O-dimethyl O-(2,4,6-trichlorophenyl) phosphorothioate in rats and a cow. F. W. Plapp and J. E. Casida. *biblog J Agri & Food Chem* 6:662-7 S '58

Carotene utilization and cholesterol metabolism as influenced by added choline and vitamin B₁₂ to diets containing yeast or a synthetic vitamin mixture. H. L. Mayfield and R. R. Roehm. *J Nutrition* 64:571-86 *biblog* (p585-6) Ap '58

Human utilization of dehydroascorbic acid. J. H. Sabry and others. *biblog J Nutrition* 64:457-66 Mr '58

Influence of carbohydrate on the utilization of rations containing soybean alpha protein. U. D. Register and E. W. Peterson. *biblog J Nutrition* 64:483-91 Mr '58

Metabolic effects of molybdenum toxicity in the rat. C. F. Mills and others. *J Nutrition* 65:123-42 *biblog* (p 140-2) Mr '58

Metabolic studies of mongoloids. S. N. Gershoff and others. *biblog Am J Clinical Nutrition* 6:526-30 S '58

Metabolism of pteroylglutamic acid and liver nucleic acid levels in certain vitamin deficiencies. S. Halsey and K. Guggenheim. *biblog J Nutrition* 65:77-87 My '58

Metabolism of serum albumin in man during brief starvation. N. S. Gimbel and C. Riegel. *biblog Am J Clinical Nutrition* 6:142-5 Mr '58

Metabolism of triglycerides containing *cis* and *trans* octadecenoic fatty acids. P. R. Allen and others. *biblog Am Oil Chem Soc J* 35:203-5 My '58

Origin and metabolism of marine fatty acids; the effect of diet on the depot fats of mullig cephalus (the common mullet). P. B. Kelly and others. *biblog Am Oil Chem Soc J* 35:189-92 My '58

Protein metabolism in chronic infantile malnutrition (kwashiorkor). J. Cravioto. *biblog Am J Clinical Nutrition* 6:495-503 S '58

Role of antibiotics in nutrition and metabolism. P. György. *biblog Am J Clinical Nutrition* 6:466-71 S '58

Role of choline and methionine antagonists in metabolism. I. C. Wells. *Am J Clinical Nutrition* 6:254-60 *biblog* (p259-60); Discussion. 260-2 My '58

Stepwise weight reduction in obese young men; nitrogen, calcium and phosphorus balances. C. M. Young and others. *biblog J Nutrition* 64:203-16 F '58

Thiamine metabolism; the metabolism of thiazole-2-C¹⁴-thiamine in rat. J. M. Iacono and B. C. Johnson. *diags Am Chem Soc J* 79:6321-4 D '57

Why we store fat. S. R. Dickman. *diags Am Scientist* 46:285-93 S '58

See also
Lipotropic substances
Plants—Metabolism
Sugar metabolism

METAL chlorides. See Chlorides

METAL cladding. See Metals, Clad

METAL cleaning

Abrasive cleaning saves us \$40,000 a year;

Towmotor corp. *il Steel* 143:66-7 J1 7 '58

Abrasive wet blasting for cleaning and finishing metals. A. R. Burman. *il diags Plating* 45:45-8 Ja '58

Acid cleaners for quick finish job. *Ind Finishing* 34:114-15 Je '58

Blast cleaner setup cuts handling costs. *il Iron Age* 180:146-7 N 7 '57

Burn-off cleaning and paint baking in one radiant oven. H. Swink. *il Ind Finishing* 34:62-3 Ag '58

Cleaning and finishing; forum on technical progress. *Steel* 142:354-6+ Ja 6 '58

Cleaning and preparation of metals for electroplating; abstract. H. B. Linford. *il Plating* 45:345-6 Ap '58

De-rusting, de-scaling pistol; chisels, needles, compressed air do safe job. *il Plant Eng* 12:113 O '58

Electro-Chemical automatic ultrasonic cleaning plant. *il Automobile Eng* 48:104 Mr '58

Finishing pointers; strike cleaning. J. B. Mohler. *Metal Finishing* 56:69 Mr '58

Get parts cleaner by ultrasonics. N. G. Branson. *il Materials in Design Eng* 47:118-21 F '58

Handling unit speeds blast-cleaning cycle. *il Iron Age* 180:168 N 14 '57

Here's a better way to prepare metal for enameling. *il Cer Ind* 70:94-5 Je '58

How to maintain blast cleaning machines. L. M. Johns. *il diag Mill & Factory* 63:37-8 Ag '58

Metal cleaning with acid media; abstract. A. Pollack. *Metal Finishing* 56:75-6 Ja '58

Metal cleaning with alkaline cleaners; abstract. H. Rogner. *Metal Finishing* 56:76 Ja '58

Metalworking, 1962. W. L. McCracken; H. L. Gray. *Am Mach* 101:148-9 N 18 '57

1958 production preview; cleaning and finishing. *il Am Mach* 102:217-22 Ja 27 '58

Prevention of rust; cleaning, painting. *Ind Finishing* 34:107-11 Je '58

Spray cleaning, pickling and phosphating. A. J. Steiger. *diags Metal Finishing* 56:48-51 Mr '58

Stripped parts are ready for replating; rejected auto bumpers. *il Steel* 142:112-13 F 3 '58

Ultrasonic cleaning. *Ind Finishing* 34:83+ J1 '58

Ultrasonic cleaning. *il Metallurgia* 57:148 Mr '58

Ultrasonic metal cleaning. *Electronic Eng* 30:199 Ap '58

Ultrasonics in metal cleaning processes; abstract. K. Tesser. *Metal Finishing* 56:75 Ja '58

Vapour blast cleaning of components. *il Engineer* 205:783 My 23 '58

See also
Degreasing
Grit blasting
Polishing materials
Shot blasting

also subdivision Cleaning under special subjects, e.g.
Castings
Copper
Germanium
Molybdenum
Nickel
Steel
Titanium

METAL cleaning, Electrolytic
Alkaline electrolytic de-scaling of ferrous metals and alloys. *Wire & Wire Prod* 33:533+ Mr '58

Chemical and electrolytic removal of plated coatings; abstract. M. Hellscher. *Metal Finishing* 56:78 S '58

Electrolytic cleaning; abstract. P. Westphal. *Metal Finishing* 56:74-5 Ja '58

See also
Polishing, Electrolytic

METAL coating
Beefing up aluminum parts. H. S. Ingram. *il Steel* 143:100 Ag 18 '58

Corrosion and oxidation resistant coatings for metals for operation at temperatures from 1,000 deg. F. to 2,400 deg. F.; abstract. J. V. Long. *Aircraft Eng* 30:237 Ag '58

Electrically conductive chromate surface conversion coatings. R. Stricklen. *il Elec Manuf* 61:106-10 F '58

Experiences with metallizing digesters at Green bay paper & pulp co. L. C. Smith. *Tappi* 41:sup211A-12A Je '58

Industrial know-how handbook; metallizing. *il Mill & Factory* 62:MW33 My '58

METAL coating—Continued

Introduction to vacuum metallizing, M. A. Self and J. Scharnberg, *il Metal Finishing* 56:54-7 Ag '58

Metal spraying pistol, *il diags Engineer* 206:302-3 Ag 22 '58

Metallic coatings for corrosion prevention: file facts, C. L. Faust and W. H. Safranek, *Materials in Design Eng* 47:147+ F '58

Metallizing: a reclamation tool, *il Diesel Power* 35:48-50 N '57

Metallizing and its application in aircraft gas-turbine components, D. E. Hacker, *il diags Welding J* 37:231-6 Mr '58

Metallizing of flat surfaces; reference book sheet, *diags Am Mach* 102:143+ Mr 10 '58

Metallizing superheater tubes, E. Wicklund, *il Power Eng* 62:103 Ap '58

Moisture, monster of metallizing, meets end in trap! J. A. Selsmeyer and H. M. Farrow, *il Mod Plastics* 35:109+ J1 '58

New materials that the design engineer should know about; coatings and finishes, *Mech Eng* 79:731-2 Ag '57; Same, *Am Soc Naval Eng J* 70:154-8 F '58

New stop-off coating requirements, C. L. Ponz, *Ind Finishing* 34:44-5 Ja '58

Practical metallizing of technical ceramics, R. C. Steffy, *diag Metal Finishing* 55:56-61 N '57

Properties of materials; clad and precoated metals, *Materials in Design Eng* 48:272-7 Mid-O '58

Properties of materials; sprayed metal coatings, *Materials in Design Eng* 48:265 Mid-O '58

Protecting metals at high temperatures; metallic coatings, A. F. Hofstatter, *il Materials in Design Eng* 47:116-19 Ap '58

Science for the coatings technologist, E. S. Beck, *il diags Metal Finishing* 56:52-5+ Ap; 89-92 My; 53-5+ Je; 56-9 J1; 64-6+ S; 56-60 O '58

Sprayed metal coatings; types, properties and uses; tables; file facts, *Materials in Design Eng* 47:133 Je '58

Uses broaden for vacuum metallizing, *il Iron Age* 181:99 Mr 27 '58

Vacuum coatings go industrial, P. J. Clough, *il Product Eng* 28:67-9 D 23 '57

Vacuum metallizing; metal and plastic products, C. Matilo, Jr, *il Ind Finishing* 34:62-4 Mr '58

Vacuum metallizing vs. electroplating; abstract, *Metal Finishing* 55:84 N '57

What's new in vacuum metallizing? *il Mill & Factory* 62:110-12 Ap '58

Which coating at high temperature? G. D. Oxx, Jr, *il Product Eng* 29:61-3 Ja 20 '58

See also

Alloys, Hard facing

Aluminum coating

Cadmium coating

Electroplating

Galvanizing

Gold coating

Metals, Laminated

Molybdenum coating

Tin coating

Zinc coating

Zirconium coating

Atmosphere control

Metal spraying in inert atmospheres, R. E. Monroe and others, *il diags Welding J* 37:114-19 F '58

Safety measures

Fume control for metal coating ovens, *il diags Safety Maint* 114:51-2+ D '57

METAL coloring**See also**

Aluminum—Coloring

Patina

Steel, Stainless—Coloring

METAL compounds

Adenine-metal complexes, T. R. Harkins and H. Freiser, *bibliog Am Chem Soc J* 80:1132-5 Mr 5 '58

Factors controlling position of alkylation of alkali metal salts of phenols, benzyl and allyl halides, D. Y. Curtin and others, *bibliog Am Chem Soc J* 80:1391-7 Mr 20 '58

Hydrolytic tendencies of metal chelate compounds; effect of metal ion, R. C. Courtney and others, *bibliog Am Chem Soc J* 80:2121-8 My 5 '58

Preparation and metal-complexing properties of 2-salicylideneimino-4,6-diamino-1,3,5-triazine, Q. Fernando and H. Freiser, *Chem & Ind p* 1230-1 S 20 '58

Some metal complexes of glycine peptides, histidine and related substances, N. C. Li and others, *bibliog Am Chem Soc J* 79:5859-63 N 20 '57

Synthesis of ammonium fluorometallates in methanol, H. M. Haendler and others, *bibliog Am Chem Soc J* 80:2662-4 Je 5 '58

Trialkylsiloxy-derivatives of transition metals, D. C. Bradley and L. M. Thomas, *bibliog Chem & Ind p* 17 Ja 4 '58

Vinyl derivatives of the metals; preparation properties and some reactions of trivinyl compounds of group V elements, L. Maler and others, *bibliog Am Chem Soc J* 80:719:5884-9 N 20 '57

See also

Organometallic compounds

Analysis

Gamma absorptiometer for solutions of heavy metal salts, D. H. Thurnau, *bibliog il diags Anal Chem* 29:1772-4 D '57

Spectra

Infrared absorption spectra of inorganic coordination complexes; infrared studies of glycino-metal complexes, A. J. Saraceno and others, *bibliog Am Chem Soc J* 80:5018:21 O 5 '58

Infrared spectra of metallic complexes; the infrared spectra of nitro and nitrito complexes, K. Nakamoto and others, *bibliog Am Chem Soc J* 80:4817-23 S 20 '58

METAL corrosion. See Corrosion and anti-corrosives

METAL curtain walls. See Sheet metal work, Architectural

METAL cutting

Are these tomorrow's machining speeds? *il diags Steel* 142:138-40 Ap 14 '58

Barriers to faster cutting; report at the ASTE show highlights what we need to work at tomorrow's machining speeds, *Steel* 142:100 My 5 '58

Beryllium machining characteristics, D. R. Walker, *bibliog il Mech Eng* 80:57-62 Ag '58

Big push due on cutting research, E. J. Egan, Jr, *Iron Age* 181:31 F 6 '58

Boost your machining speeds, *il diags Steel* 142:84-5 Mv 5 '58

Can you machine missile hardware? E. J. Egan, Jr, *il Iron Age* 180:121-4, cover N 7 '58

Changes necessitated by higher cutting speeds, N. Zlatin, *Tool Eng* 40:91 Je '58

Chatter of lathe tools under orthogonal cutting conditions, S. A. Tobias and W. Fishwick, *diags A S M E Trans* 80:1079-87; Discussion, 1087-8 J1 '58

Cutting metal-cutting costs, R. T. Hook, *il Tool Eng* 40:89-92 My '58

Cutting of metal plates with high explosive charges, W. E. Drummond, *il diags J Ad Mech* 25:184-8 Je '58

Decasting vs machining, H. K. Barton, *diags Product Eng* 28:D 10-13 Mid-O '57

Effect of tool-chip contact area in metal machining, H. Takeyama and E. Usui, *bibliog diags A S M E Trans* 80:1089-93; Discussion, B. N. Colding, 1093-5; Reply, 1095-6 J1 '58

Electron-beam machining for ultra-hard metals, E. C. Bishop, *Elec Manuf* 62:9-10 J1 '58

Experimental measurement of metal-cutting temperature distributions, G. S. Reichenbach, *bibliog il diags A S M E Trans* 80:626-36; Discussion, 536-40 Ap '58

Hot machining's new chance, *Steel* 142:84 Ja 13 '58

How to get more for your metalworking dollar; machining nonferrous metals, *il diags Iron Age* 181:113-28 Ap 24 '58

How to machine beryllium, D. R. Walker and J. Gubas, *il Am Mach* 102:129-31 Ap 21 '58

How to machine meehanite; reference book sheet, *diags Am Mach* 102:131+ F 10 '58

Machining; forum on technical progress, *Steel* 142:320-14 Ja 6 '58

Machining the supermetals: Ryan aeronautical co, *il Mill & Factory* 63:115 S '58

Machining titanium; reference sheet, G. W. Bauer, *Tool Eng* 40:121-3 My '58

Manufacturers study tool control to standardize machining practice, *diag Tool Eng* 41:116 J1 '58

Mechanics of machining; abstracts of papers, *Engineering* 185:542-3 Ap 25 '58

Metallography solves a tough machining problem, A. J. Bell, *il Iron Age* 181:96-8 F 20 '58

New developments in high velocity machining, W. B. Kennedy, *il diags Tool Eng* 41:73-5 J1 '58

METAL cutting—Continued

- New job for hot machining. Steel 143:129 JI 14 '58
- Odd-shaped shells trimmed with sliding-knife cutting action. *il* diag Machine Design 30: 118-19 Je 26 '58
- Orthogonal cutting of a work-hardening material; theoretical and experimental investigation. D. G. Christopherson and others. *il* diags Engineering 186:113-15 JI 25 '58
- Producibility aspects of advanced aircraft. A. H. Petersen *il* Tool Eng 40:207-8 F '58
- Production nuggets; information from American machinist and other publications; developments to watch; machining. *il* diags Am Mach 102:B-1 Mid '58
- Production research in metal cutting. M. E. Merchant. bibliog *il* Mech Eng 79:1137-41 D '57
- Quest for optimum machining; Cone automatic machine co. co-operative machining project. *il* Steel 142:115 Je 16 '58
- Research to aid operators of multiple-spindle bar units; Cooperative machining project. *il* Iron Age 181:113-16 Je 19 '58
- Seventeen-company program seeks optimum machining rates. *il* diags Am Mach 102:83-6 Je 2 '58
- Slice and electrogrid honeycomb for B-52 panels. W. G. Koehler. *il* diags Am Mach 102:93-5 Je 16 '58
- Some factors influencing the area-load characteristics for semismooth contiguous surfaces under static loading. F. F. Ling. bibliog diags A S M E Trans 80:1113-20 JI '58
- Subzero temperatures facilitate production processes. R. A. Wason. *il* Tool Eng 40:107-15 F '58
- Temperature distribution at tool-chip and tool-work interface in metal cutting. B. T. Chao and K. J. Trigger. bibliog diags A S M E Trans 80:311-18; Discussion. 318-20 F '58
- Theory of regenerative machine tool chatter. S. A. Tobias and W. Fishwick. diags Engineer 205:199-203, 238-9 F 7-14 '58
- Tips on shaping high-strength materials; abstract. D. M. Stubbs. S A E J 66:129-30 F '58
- Tool-work-thermocouple compensating circuit. K. J. Trigger and others. diags A S M E Trans 80:302-6 F '58
- Tough alloys call for tougher machining. J. H. Kaufman and E. F. Allred. *il* Am Mach 102:132-6 Ap 21 '58
- Tough alloys; Ryan boosts efficiency in machining them. J. N. Willits. *il* Mach 64: 146-9 JI '58
- Tough alloys stump the experts. E. J. Egan, Jr. Iron Age 180:41 D 26 '57
- Ultrasonic machining. *il* Machine Design 29: 162 N 14 '57
- Vacuum cleaner removes slugs. M. Howe and L. F. Dunphy. *il* Am Mach 102:79 Ag 25 '58
- See also*
- Aluminum cutting
 - Broaching
 - Cutting machines
 - Cutting off machines
 - Cutting tools
 - Cutting tools, Carbide
 - Cutting tools, Ceramic
 - Drilling and boring (metal working, etc.)
 - Electric cutting
 - Electrochemical cutting
 - Gear cutting
 - Grooving
 - Lubrication and lubricants (cutting and grinding)
 - Machine tools
 - Milling
 - Milling cutters
 - Oxyacetylene cutting
 - Oxygen cutting
 - Saws, Metal working
 - Screw machines
 - Shears (machines)
 - Steel cutting
 - Taps
 - Thread cutting
 - Trappening
 - Tube cutting
- Tables, calculations, etc.**
- Calculating economic cutting speeds. F. J. Gallagher. *il* Tool Eng 40:38-102 Ja '58
- Facing at constant cutting speed saves time. M. Kronenberg. *il* diags Tool Eng 39:93-6 D '57
- Formulas for tools that face past center; reference sheet. A. M. Johnson. Tool Eng 39:121-2 D '57

- New approach to some relationships in the theory of metal cutting. M. Kronenberg. diags Tool Eng 40:39-38 Ap '58
- Shear-zone temperature in metal cutting and its effects on shear-flow stress. D. Kececioglu. bibliog diag A S M E Trans 80:541-6 Ap '58
- METAL detection.** *See* Metals—Detection
- METAL drawing**
- Aluminum cans deep-drawn in one stroke. *il* Product Eng 28:28 N 4 '57
- Control of earing in aluminum and its alloys. R. T. Thorley and G. E. G. Tucker. bibliog *il* diag Inst Metals J 86:353-61 Ap '58
- Drawability of titanium defined. Steel 141:179 D 9 '57
- Drawing limit without pad; reference book sheet. B. K. H. Bao. Am Mach 102:271 Ja 27 '58
- How to remedy defects in drawn shells. F. Strasser. diags Iron Age 180:125-7 N 21 '57
- Improved methods for deep drawing. Metal Prog 74:84-6 Ag '58
- Mechanical descaling and drawing of mild steel rod. L. Marsden. diags Wire & Wire Prod 33:298-302+ Mr '58
- New drawing process eliminates heat treating for strong parts. E. S. Nachman and E. B. Moore. J Metals 10:281-4 Ap '58
- New tube-drawing ideas boost mill capacity; Wolverine tube div., Calumet & Hecla, Inc. R. H. Eshelman. *il* plan Iron Age 181:75-7 My 15 '58
- Tool steel bows to deep drawing. F. M. Unterweiser. *il* diags Iron Age 182:83-5 S 18 '58
- Yield-tension control improves draw forming. R. Humiston. *il* diag Control Eng 5:129 F '58
- See also*
- Lubrication and lubricants (metal drawing)
 - Wire drawing
- METAL exposition, National.** *See* National metal exposition
- METAL fibers**
- Metal fibers extend life and uses of plastic tooling. *il* Iron Age 181:100-1 Ja 30 '58
- Metal fillers in complex shapes produced by fiber-metallurgy. Machine Design 29:22+ D 12 '57
- Progress report on the development of metal fiber paper. H. F. Arledter. bibliog *il* Tappi 41:189-92 Ap '58
- Testing**
- Quantitative method for the determination of fiber texture. B. D. Cullity and A. Freda. bibliog diags J Ap Phys 29:25-30 Ja '58
- METAL finishing**
- Cellulose-base finishes fused onto metal parts. *il* Materials in Design Eng 47:200+ Ap '58
- Chemical milling. C. H. Lundquist. *il* diags Product Eng 29:50-3 F 3 '58
- Chemical milling aids electronics industry. Ind Lab 9:23 Ap '58
- Chemical milling broadens magnesium-thorium alloy use in missiles. *il* Mod Metals 14:62+ Ag '58
- Chemical milling light metals. F. H. Reed. *il* Light Metal Age 16:23-7 Ap '58
- Chemical milling provides many advantages. D. G. Mitton. S A E J 66:82-3 Mr '58
- Chemical milling; where and how. J. Sullivan; K. Clark. *il* diags Am Mach 102:122-7 Mr 24 '58
- Chemicals do milling. diag Noise Control 4: 53 Ja '58
- Chem-milling handles tough job; U.S. chemical milling corp. *il* Steel 141:14 D 2 '57
- Chem-milling safer. Steel 142:86 Je 30 '58
- Cleaning and finishing; forum on technical progress. Steel 142:354-6+ Ja 6 '58
- Contour-finishing missile noses to two micro-inches. R. Le Grand. *il* diags Am Mach 102:101-3 My 5 '58
- Deburring with ultrasound. *il* Steel 142:102-3 Ap 7 '58
- Design for chemical milling. J. Sullivan. *il* diag Mod Metals 14:54+ Ap '58
- Dip tank doubles in color; organic finishes. *il* Plant Eng 12:104 My '58
- Finish consultant tells about his experience. R. Syer. Ind Finishing 34:55-8 JI '58
- Finish rejects caused by forming of metal. G. Moore. Ind Finishing 34:98-9 Ag '58
- Finishing pointers (cont.). J. B. Mohler. Metal Finishing 56:70 F; 69 Mr; 58+ Ap; 88 My; 65 Je; 65 JI; 63 Ag '58
- Finishing steel office furniture. E. Fritz. *il* Ind Finishing 34:24-6+ Ag '58
- Firm chemical mills nine-step part. Iron Age 180:160 N 7 '57

METAL finishing—Continued

- Got a tough milling job? try chemicals, H. L. Lewis, *il Mill & Factory* 63:111-12 J1 '58
- Highly durable metal finish is painted on in one coat, Machine Design 30:30 Ag 21 '58
- Industrial know-how handbook: chemical milling, *il Mill & Factory* 62:MW21 My '58
- Institute of metal finishing annual conference, Torquay, April 15-19; with abstracts of papers, Metal Finishing 56:66-71 Je '58
- Lathes trim finishing costs; rotogravure cylinders for the printing industry, J. Schaefer, *il Steel* 142:88-7 My 12 '58
- Let's cut finishing costs, L. H. Vorce, *il Plating* 45:50-1 Ja '58
- Mechanical finishing of metal surfaces; abstract, W. C. Geissman, *il Plating* 45:348 Ap '58
- Metal caskets, P. C. Bardin, *il Ind Finishing* Ag '58
- Metalworking, 1962; finishing, H. V. Pilaaten, *Am Mach* 101:149-50 N 18 '57
- New Wrinkle finishes such as vinyl types, etc., *il Finishing* 34:108-9 J1 '58
- 1958 production preview: cleaning and finishing, *il Am Mach* 102:217-22 Ja 27 '58
- Parts of various shapes carried by flat, grooved rubber belts; design of a new surface-finishing machine; illustrations with text, Machine Design 30:114-15 Ja 9 '58
- Power brush finishing of automatic transmissions, *il Automotive Ind* 118:32-3+ Mr 1 '58
- Production nuggets; information from American machinist and other publications; developments to watch; assembly, heat treat, finishing, *il Am Mach* 102:F 1-9 Mid-S '58
- Recent developments; new methods, materials and equipment for the metal finishing industries. Published in monthly numbers of Metal finishing
- Roll planishing improves weld-joint efficiency and quality, E. L. Meredith and B. R. Russell, *il diags Welding J* 36:113-17 F '57; Abstract, Metal Prog 73:148+ Je '58
- Shop problems. Published in monthly numbers of Metal finishing
- Simple devices for removing burrs, C. Andrews, *diags Mach* 64:154 Mr '58
- Solving machining problems with chemical milling, A. Colton, *il diags Tool Eng* 40:119-24 Ja '58
- Technical Developments of 1957, N. Hall, Metal Finishing 56:40-9 bibliog(354 ref, p47-9) Ja '58
- Vibrating barrel finishing, *il Mech Eng* 80:97 Mr '58
- Vibration speeds finishing; Lorco vibrator, *il Steel* 142:110 Je 9 '58
- Vulcan stove co.; some metal finishing processes, *il Chem & Ind* p802-3 Je 23 '58
- Water-thinned paints; how they compare for metal products, W. Brenner, *il Materials in Design Eng* 47:100-3 My '58
- Western Electric's modern metal finishing plant, A. W. Cagle and E. J. St. Amand, *il diags Metal Finishing* 56:48-52 Ag '58

See also

Abrasive belts
Aluminum—Finishing
Grinding
Grit blasting
Honing
Lacquer and lacquering
Lapping
Magnesium—Finishing
Polishing
Polishing, Electrolytic
Shot blasting
Shot peening
Steel—Finishing
Steel cutting
Tumbling barrels
Zinc—Finishing

Bibliography

- Books. Published in monthly numbers of Plating
- Mechanical finishing of metal surfaces, *Plating* 45:380-4 Ap '58
- New books. Published in monthly numbers of Metal finishing

Patents

- Patent abstracts. Published in monthly numbers of Plating
- Patents. Published in monthly numbers of Metal finishing

METAL finishing suppliers association, Inc.
M.F.S.A. and its predecessor, the International fellowship club, A. P. Munning, Metal Finishing 56:77-80 My '58

METAL foils

Foil coil design factors, T. Wroblewski, *il diags Elec Manuf* 61:83-5+ Ap '58

See also

Aluminum foil
Copper foil
Gold leaf
Tantalum foil
Tin foil

Welding

- Foil strips are key to butt-seam welding, *diags Mach* 65:127 O '58
- Welding machine uses foil strip, *diags Machine Design* 30:6 De 26 '58

METAL furniture. See Furniture, Metal

METAL hydrides. See Hydrides

METAL polishes. See Polishing materials

METAL powders

- Abrasive solves finishing problem, G. C. Madigan, *il Steel* 142:98-9 Je 30 '58
- Bigger powdered bearings by joining components with silver solder, *il Steel* 141:72 D 23 '57
- Bright prospects for future growth keynote Powder metallurgy show and meeting, Philadelphia, Automotive Ind 118:60+ My 15 '58
- Cold-rolled strip from metal powder, Engineering 185:472 Ap 11 '58
- Compacts have even density; metal powder part by proportional pressing, *il Steel* 141:116+ D 16 '57
- Complex powder metal parts call for higher density, S. Bradbury, 3d, *il diags Iron Age* 181:124-5 Je 5 '58
- Convertible rolling mill compacts powders into sheet and strip, *il Iron & Steel Eng* 35:17-2 Mr '58
- Develop new metals process; Steelmet, F. R. Hensel, *il Ind Lab* 9:90-1 My '58
- Electrodeposition of metal powders, G. Gabrielson, bibliog *diags Ind Chem* 34:529-32 O '58
- Electrolytic production of straight and alloyed metal powders, I. Ljungberg, bibliog *Iron & Steel Inst J* 189:303-6 Ag '58
- Expand research and development activities in new powder metal lab; F. J. Stokes corp, *il Ind Lab* 9:39 Ja '58
- Field-widens for powdered metal, Product Eng 29:12 My 13 '58
- Forms and shapes of materials; metal powder parts, Materials in Design Eng 48:316-17 Mid-O '58
- Frontiers of powder metallurgy in USSR, C. G. Goetz, Automotive Ind 119:69+ J1 15 '58
- Getting more from metal powders, *il Metal Prog* 74:101-4 J1 '58
- High density boosts strength; Mallory's Steelmet process uses special powders, *il Chem & Eng N* 36:45-6 Ja 13 '58
- High-density metal powder parts, Materials in Design Eng 47:169 Ap '58
- High-strength powdered metal parts; abstract, R. L. Pettibone, Metal Prog 73:204+ Je '58
- How to give powdered metals strength, *il Steel* 141:110-11+ N 25 '57
- Ignition of firedamp by stationary metal particles and frictional sparks, F. P. Bowden and R. D. Lewis, bibliog *il Engineering* 186:241-3 Ag 22 '58
- Magnetic determination of shape distribution of single domain powders, C. E. Johnson, Jr. and W. F. Brown, Jr, *J Ap Phys* 29:313-14 Mr '58
- Metal powder compacting presses provide more uniform part density, *il Am Mach* 101:125 D 30 '57
- Metal-powder rolling; mill developed by Stanat manufacturing co, *il Mech Eng* 80:100 Mr '58
- Metals' dangers listed, *il Chem & Eng N* 36:64-5 F 24 '58
- Metalworking, 1962; powder metallurgy, R. Talmage, *Am Mach* 101:138 N 18 '57
- Mill does many jobs; Stanat mfg. co. mill has compacted powders, *il Steel* 142:96 Mr 31 '58
- Mill makes sheet from metal powder, *il Tool Eng* 40:235-6 Ap '58
- Porous castings made airtight with non-ferrous metal powders, *diags Materials in Design Eng* 47:170-1 Ap '58
- Powder lancing cleans way for new radiation lab, *il Welding J* 37:237-8 Mr '58
- Powder metal press gets uniform density in odd shapes, *il Iron Age* 180:56-7 D 26 '57
- Powder metal shanks reduce chatter, C. G. Erickson, *il Tool Eng* 40:107-9 Mr '58
- Powder metallurgy, I. Jenkins, Metallurgia 56:271-5 D '57

METAL powders—Continued

- Powder metallurgy in the USSR. C. G. Goetzel. *J Metals* 10:180-1 Mr '58; Abstract. *Mech Eng* 80:91 My '58
- Powder metallurgy of refractory metals. A. Blainey. *il diags Metal Prog* 74:95-6+ S '58
- Powder-metallurgy process developed by P. R. Mallory & co. *il Mech Eng* 80:88 F '58
- Powder metallurgy scores impressive gains. A. W. Shearer. *il diag Automotive Ind* 118: 54-6+ Ap 15 '58
- Powder parts add sell to tools; Porter-Cable machine co. *il Steel* 142:114+ My 26 '58
- Powder parts made without a press; slip casting. *il Steel* 142:162-3 My 19 '58
- Powdered metal parts gain. *il Steel* 142:73-4 F 3 '58
- Powdered metals improve hoists. *il Steel* 143: 83-9 S 20 '58
- Preparation of powder specimens from active and toxic metals for use in conventional X-ray diffraction studies. A. Moore and others. *diags J Sci Instr* 35:301-3 Ag '58
- Recent developments in powder metallurgy. L. Jenkins. *Iron & Steel Inst J* 189:15-18 My '58
- Report on powder metallurgy in the U.S.S.R. H. H. Hausner. *Metal Prog* 73:105-8+ Ja '58
- Routine apparatus for determining the surface area of metal powders. P. Hersch. *bibliog diags Inst Metals J* 86:509-11 JI '58
- Sealed units aid processing of powdered products. *il Iron Age* 182:88-9 Ag 14 '58
- Sintered ferrous compacts have high density; P. R. Mallory & co. *il Mach* 65:138-9 S '58
- Solid metallic Debye-Scherrer powder specimens. E. G. Beles. *diag R Sci Instr* 28: 1096-7 D '57
- Strip-from-powder makes gains. *Iron Age* 181:42 Ja 16 '58
- Topological geometry, key to metal structures? abstract. F. N. Rhines. *Am Mach* 102:103 Je 16 '58
- What to consider in choosing powder metallurgy. K. H. Roll. *il Materials in Design Eng* 47:106-9 Ap '58
- See also*
- Aluminum, Powdered
- Cermets
- Copper, Powdered
- Iron, Powdered
- Lead, Powdered
- Maxmetite, Powdered
- Steel, Powdered
- Thorium, Powdered
- Titanium, Powdered
- Uranium, Powdered

Testing

- Method of assessing the die-filling characteristics of powder. J. Oakley. *diags Inst Metals J* 87:26-8 '58-59

METAL protection

- Ceramic coatings raise heat resistance of super-alloys. P. A. Huppert. *Iron Age* 180: 157-9 N 14 '57
- Coatings boost metals into high heat ranges. J. V. Long. *il Ind Lab* 9:137-44 S '58
- Coatings for underwater surfaces in fresh water exposures. S. M. Gleaser. *il Corrosion* 14:41-50 Ag '58
- Exit solvents; powdered vinyl resins team up with a new coating process to put a finish on metal parts. *il Chem & Eng N* 36:44 Ag 18 '58
- Fluidized polymer deposition: air-activated plastic powder bed as a means of applying protective coatings and as a general plastic fabrication technique. R. L. Checkel. *bibliog il diag Mod Plastics* 36:125-6+ O '58
- Friction under control; Progress treatment. *Engineering* 184:597 N 3 '57
- Glass coatings; a good way to protect metals. C. E. Bullock and F. Nelson. *il Materials in Design Eng* 47:106-9 Mr '58
- Heat transfer through coated metal surfaces. R. P. Lee. *diags Corrosion* 14:41-2 Ap '58
- Hood withstands corrosive gases. *Iron Age* 180:181-2 N 14 '57
- Is adhesion the missing link? B. G. Brand. *Ind Lab* 9:10-11 Ja '58
- Metallic coatings for corrosion prevention; file facts. C. L. Faust and W. M. Safranek. *Materials in Design Eng* 47:147+ F '58
- Metalworking, 1962; chemical treatment. H. C. Irvin. *Am Mach* 101:150 N 18 '57
- New coatings from seeds; vinyl ethers of unsaturated fatty alcohols; abstract. H. M. Teeter. *il Chem & Eng N* 36:73 Ap 28 '58
- Organic finishes over metal surfaces. M. Perez. *il Plating* 45:239-44 Mr '58

- Our metal roof problem; condensation, noise. *Ind Finishing* 34:101-2 Je '58
- Polyurethane coatings show big promise for chemical industry use. *Chem Eng Prog* 54: 144-6 S '58
- Priming paints for light alloys. J. G. Rigg and E. W. Skerrey. *il Inst Metals J* 86: 421-4 My '58
- Protecting metals at high temperatures. A. F. Hofstatter. *il Materials in Design Eng* 47:115-19 Ap '58
- Protective coatings. *il Chem & Ind* p583-5 My 17 '58
- Protective coatings limit corrosion. R. V. Jelinek. *bibliog Chem Eng* 65:163-8 O 20 '58
- Sacrificial metals as a base for organic coatings. K. Tator. *il Ind & Eng Chem* 50:sup/1A-5A Ag '58
- Select the right coatings and sealers for power services. B. W. Schultz. *il Power* 102:101-3 My '58
- Surface protection treatments for special metals to prevent high temperature oxidation; abstract. H. Bueckle. *Metal Finishing* 56:77 F '58
- Thin films of polytetrafluoroethylene resin as lubricants and preservative coatings for metals. V. G. Fitzsimmons and W. A. Zisman. *bibliog il Ind & Eng Chem* 50:781-4 My '58
- Which coating at high temperature? G. D. Oxx, Jr. *il Product Eng* 29:61-3 Ja 20 '58

See also

- Alloys, Hard facing
- Aluminum coating
- Chromium plating
- Chromizing
- Corrosion and anti-corrosives
- Electroplating
- Enamel and enameling
- Galvanizing
- Glass—Joining to metal
- Metal coating
- Paint, Protective
- Phosphate coating
- Plastics—Joining to metal
- Titanium plating
- Zinc coating
- also* subdivision Protection under special subjects, e.g.
- Aluminum
- Copper
- Magnesium
- Molybdenum
- Steel
- Titanium
- Uranium
- Zinc

Cathodic protection

- Cathodic protection; its effect on shipbottom coatings. W. J. Francis and others. *bibliog il diags Am Soc Naval Eng J* 70:401-21 Ag '58
- Cathodic protection may boost corrosion! could be harmful to exchanger tubes. C. Breckon. *il Pet Refiner* 37:189-90 Mr '58
- Cathodic protection of iron in the temperature range 25 C-92 C. G. R. Hoey and M. Cohen. *bibliog Corrosion* 14:54-6 Ap '58
- Cathodic protection of lead cable sheath in the presence of alkali from deicing salts. W. H. Bruckner and W. W. Lichtenberger. *il diags Corrosion* 14:19-24 Ap '58
- Current-voltage relationship of galvanic anode arrays in cathodic protection. L. J. Waldron and M. H. Peterson. *il Corrosion* 14:47-50; Discussion. A. J. deBethune. 50-1; Reply. 51-2 Je '58
- Mag-anode windjammer; brigantine Yankee. *il Marine Eng/Log* 63:65 F '58
- Mounting external casing failures; cathodic protection proving helpful in limiting damage. *Corrosion* 14:71-2 My '58
- Platinum anode aids corrosion control for small, steel-hulled boats. *il Iron Age* 182: 47 S 18 '58
- Service performance of cast magnesium alloy anodes. G. L. Christie. *il diags Corrosion* 14:51-4 JI '58
- Study of the compatibility of floating-type inhibitors and cathodic protection. E. R. Streed. *bibliog il diag Corrosion* 14:50-4 Mr '58
- Use of magnesium for the external cathodic protection of marine vessels. C. F. Schrieber. *il diags Corrosion* 14:26-30 Mr '58
- Zinc as a cathodic inhibitor. H. B. Jonassen. *bibliog Corrosion* 14:39-40 Ag '58
- See also*
- Gas pipes—Cathodic protection
- Pipe lines—Cathodic protection
- Piping—Cathodic protection
- Steel—Cathodic protection

METAL protection—Continued**Testing**

Electrified particle inspection method locates defects in non-metallic coatings. *il diags Corrosion* 14:107-8 Ag '58

METAL spinning

Form thick titanium spheres by hot spinning. *il Iron Age* 180:142-3 D 5 '57
Forms and shapes of materials; spinings. *Materials in Design Eng* 48:139 Mid-O '58
Hot spinning titanium nets production economy. *il Tool Eng* 40:181-2 Ja '58
Tips on spinning stainless parts. *il diags Iron Age* 181:101-3 Ap 3 '58

METAL trade

Future of uncommon metals. R. W. Hale. *Chem & Eng N* 36:27-8 My 5 '58
Industry takes a look at 1958. *Eng & Min J* 159:109-11 F '58
Metal supplies; more than enough at last. C. H. Chilton. *Chem Eng* 65:78-+ Je 30 '58
1957 metal production, consumption and prices. *Materials in Design Eng* 46:241-+ N '57
U.S. industries hurt by imports; need immediate help. T. E. Veltfort. *Heating-Piping* 29:82-5 D '57

See also

Aluminum industry and trade
Copper industry and trade
Iron industry and trade
Lead industry and trade
Magnesium industry and trade
Metal workers
Metal working industries
Metals—Prices
Metals, Non-ferrous
Nickel industry and trade
Steel industry and trade
Tin industry and trade
Zinc industry and trade

Statistics

Percentage distribution, by countries and geographic areas, of world production of selected critical metals and minerals in 1956; tables. *Eng & Min J* 159:22-5 Mid-Je '58

METAL waste

Chips flushed from parts in seconds. *il diags Am Mach* 102:141 My 5 '58
New chip disposal system pays off at Dana plant. H. L. Becker. *il Automotive Ind* 118:20-7 Mr 1 '58
Savings in handling shavings; Well equipment manufacturing corp. *il Plant Eng* 12:109-10 Je '58
System prevents waste buildup in central coolant supply. A. B. Myler. *il Iron Age* 182:56-7 Jl 31 '58

See also

Aluminum waste
Metallurgical plants—Waste
Scrap metal
Slag
Steel waste
Tailings

METAL whisksers. See Crystals**METAL work**

Bellwether with wings; 26 new areas of development in fabrication, materials and processes by the aircraft industry. E. J. Tangerman. *il Product Eng* 29:52-7 Jl 7 '58
Better ways to fabricate high-temperature materials; Metallurgical society national meeting; abstracts of symposium papers. *il Metal Prog* 73:97-101 My '58
Conference on technology of engineering manufacture. March 25-27; with abstracts of papers. *Engineer* 205:534-5, 532-5 Ap 11-13 '58
Design digest issue; fabrication and production processes. *il diags Product Eng* 29: D 1-30 Mid-S '58
Design digest issue; fabrication processes and production. *il diags Product Eng* 28: D 1-44 Mid-O '57
Explorer spotlights roll flowing. *il diags Am Mach* 102:106-10 Mr 24 '58
Forming; forum on technical progress. *Steel* 142:346-8+ Ja 6 '58
Forms and shapes of materials, diags *Materials in Design Eng* 48:293-323 Mid-O '58
Forum on technical progress. *Steel* 142:209-12+ Ja 6 '58
Lesson in fabricating nuclear parts. *il diags Metal Prog* 74:68-74+ Ag '58
Machinery's data sheet index; Feb. 1954 to Dec. 1957, inclusive. *Mach* 64:209-10 Ja '58

Production nuggets; information from American machinist and other publications; developments to watch; pressworking, molding, casting. *il diags Am Mach* 102:D 1-5 Mid-S '58

Research facilities for polishing, shearing, and threading know-how; Hill acme co. *il Mach* 64:174 F '58

Rotary extrusion reduces costs and saves material; also called cold power spinning, or power roll-forming method; Aircraft engine div. Ford motor co. J. Genis and W. Mallindine. *il diags Mach* 64:115-21 Ap '58

Seek new methods to work columbium. *il Iron Age* 180:148-9 N 21 '57

16 ways to align sheets and plates with one screw; illustrated instructions. F. Strasser. *Product Eng* 28:94-5 O 28 '57

Soviet methods with materials. *il diags Engineering* 134:616 N 15 '57

Warm heading tackles tough metals. *il Steel* 143:114-16 Jl 21 '58

Where is Russia headed in metalworking? C. G. Goetzl. *il Iron Age* 182:57-9 Ag 28 '58

See also

Aluminum work
Brazing
Cans, Aluminum—Manufacture
Copperwork
Dies
Electroplating
Extrusion process
Flanges
Forging
Foundry practice
Heat treatment
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Sheet metal work
Shot peening
Solder and soldering
Stamping
Steel work
Titanium work
Tool engineering
Tubes, Steel—Manufacture
Turning
Welding
Wire

Bibliography

American Machinist special reports, bibliography, 1948-1958. *Am Mach* 102:B 100+ Mid-S '58
Application and equipment; new literature. Published in monthly numbers of Metal progress
Books. Published in monthly numbers of Journal of metals

METAL work, Architectural**See also**

Aluminum, Structural
Sheet metal work, Architectural

METAL work, Artistic**See also**

Ironwork, Artistic

METAL workers

Check your fringe costs. *Steel* 142:62-3 My 5 '58
Labor outlook; three way squeeze will stiffen demands. *Am Mach* 101:110-11 D 30 '57
See also
Foundries—Employees

Mexico

Mexico's silversmiths turn inherent skills to toolmaking. *il Am Mach* 102:90-1 Ag 11 '58

METAL working industries

Let's leap to recovery with bold action on depreciation. *il Steel* 142:56-9 Ap 28 '58
Look at metalworking's space markets. *il Steel* 142:60-1 Ap 28 '58
Market for shapes grows. *il Steel* 141:259-60 O 28 '57
Metalworking, 1962; where metalworking will be five years from now and a forecast of changes in production methods. *diags Am Mach* 101:121-52 N 18 '57 (reprints 50c)
Metalworking to spend \$3.7 billion on new plant and equipment in 1958. *Am Mach* 101:178-80 N 18 '57

METAL working industries—Continued
 1959 production planbook and buyers' guide issue, *il* diags Am Mach 102:1-34+, *mach* A-K Mid-S '58
 1956 strikes in '57. Steel 142:61 My 5 '58
 What's ahead in capital spending? 852 metalworking firms report plans. Am Mach 101:170-3 N 4 '57

Directories

Names in the nuggets; listed in alphabetical order, various trade and company names which appear in nuggets sections. Am Mach 102:30-3 Mid-S '58

Finance

Upturn in capital spending may come early in '59. Am Mach 102:119-20 Ap 21 '58

Statistics

1959 year of upturn in metalworking. Am Mach 102:5-16 Mid-S '58
 Where metalworking is heading, 1950-1960. Am Mach 102:113-24 Mr 10 '58 (reprints 30c)

Canada

69 per cent of Canadian production equipment over ten years old, census finds. Am Mach 102:74-5 JI 28 '58

Japan

New Japanese hard chromium plant. Y. Hirasawa and M. Rubenstein. *il* Metal Finishing 56:55-7 F '58

Mexico

Czech machine tool sales soar in Mexico. Am Mach 102:91 Ag 11 '58

Puerto Rico

Puerto Rico; what's down there for US metalworking? R. N. Sheets. *il* Am Mach 102:284-6+ Ja 27 '58

Russia

Automation boosts, cuts Russian costs. Product Eng 29:21 Ap 7 '58

Report on powder metallurgy in the U.S.S.R. H. H. Hausner. Metal Prog 73:105-8+ Ja '58

Russia revisited; research and development sparks Soviet drive for metalworking supremacy. E. J. Tangerman. *il* Am Mach 102:91-3 JI 14 '58

Soviet methods with materials. *il* diags Engineering 184:616 N 15 '57

Sweden

Swedes make modern bearings. A. E. Olsson. *il* Metal Prog 74:91-3 Ax '58

Western states

Watch the West coast. *il* Steel 142:54-5 My 5 '58

METAL working machinery

Automotive Industries machine tool and production equipment; forming and processing equipment sections. *il* diag Automotive Ind 119:98-108 S 1 '58

Deckel precision boring, grinding and measuring machine. *il* Engineering 185:742 Je 13 '58

Five hydraulic circuits for three-job machine. *il* diags Product Eng 23:76 Je 23 '58

How to automate production equipment. R. Le Grand. *il* diags Am Mach 102:145-66 Ap 21: 73-5 Je 30: 81-3 JI 28: 102-4 S 22 '58

Industrial know-how handbook: metalworking. *il* diags Mill & Factory 62:MW3-56+ My '58

Machines, equipment, materials, parts: 1958 production preview. *il* diags Am Mach 102:105-264 Ja 27 '58

Michikan Tool introduces new equipment developments. *il* Mach 64:184-6 Je '58

Motch & Merryweather special machines. *il* Mach 65:186-7 S '58

Piercing hard metals; Disintegrator. *il* Engineering 185:580 My 9 '58

Special turret-type machines speed job-lot production of heavy steel parts, reduce equipment costs; road building equipment. *il* diag Am Mach 102:144-5 Mr 24 '58 (to be cont)

Tricks with high-speed power quills. B. C. Brosheer. *il* Am Mach 102:81-3 Ag 25 '58

Yield-tension monitor. S. Cummings. *il* Automotive Ind 117:112+ N 1 '57

See also

Cutting off machines
 Forging machinery
 Foundry machinery
 Lathes
 Machine tools
 Presses
 Saws, Metal working
 Sheet metal working machinery
 Stamping
 Straightening machines
 Stretching machines

Maintenance and repair

How to maintain blast cleaning machines. L. M. Johns. *il* diag Mill & Factory 63:87-8 Ag '58

Trouble-shooting on metalworking. diags Mill & Factory 62:MW51-6 My '58

METAL working plants

American Can opens coil stock plant in Hammond, Ind. *il* Iron & Steel Eng 35:142-3 JI '58

Beryllium expands; Brush beryllium co. Steel 141:110 D 2 '57

Europe's first beryllium plant; Imperial chemical industries, ltd. Chem & Ind p 1171 S 6 '58

Ford's self-contained Rawsonville plant. J. Geschelein. *il* Automotive Ind 118:52-6+ Je 1 '58

Handy & Harman opens new California metal plying. Eng 43:76-7 Je '58

New beryllium plant; Imperial chemical industries Metals div. Metallurgia 58:118 S '58

Tecalemit ltd. *il* Chem & Ind p812-13 Je 28 '58

Tennessee bids for metalworking. Am Mach 101:114-15 D 30 '57

Works for heavy welded fabrications. *il* Engineer 204:609 O 25 '57

See also

Aluminum works
 Bolts and nuts—Manufacture
 Brass works
 Rolling mills
 Steel works

Costs

How to make money by metal selection. L. E. Gibbs and L. G. Simon. Am Mach 100:138-9 O 8 '56; Abstract. diags Product Eng 28:E20 Mid-O '57

Electric equipment

Greater flexibility for wire drawing. M. A. Nye and R. C. Suttle. *il* diags Iron & Steel Eng 34:98-106; Discussion. 106-9 D '57

Employees

See Metal workers

Equipment

Application and equipment; new products. Published in monthly numbers of Metal progress

Automatic production lines for tapered roller bearings. *il* Engineer 204:678-80 N 8 '57

Automatic production of tapered roller bearings. *il* Engineering 184:664-6 N 22 '57

Automation isn't always best; A. O. Smith's auto frame plant. J. R. Parker. Iron Age 181:94-4+ Je 5 '58

Expanded activities at Chevrolet's Livonia plant; making of complete air spring assemblies. J. Geschelein. *il* Automotive Ind 118:48-52 Je 15 '58

Extrusion cuts time from 3 1/4 to 1.5 minutes at Raytheon. A. Ashburn. *il* diags Am Mach 102:33-5 JI 14 '58

4500 ton hot plate press installation; Darlington works of Whessoe, ltd. *il* Engineer 205:171-3 Jw 31 '58

Gage carts cut setup time; wooden racks, mounted on casters, hold the gaging elements for different parts. *il* Steel 142:102-3 Ap 28 '58

Heat treating of roller bearings is geared to automatic production; Timken Bucyrus, Ohio, plant. L. H. Everitt and O. E. Cullen. *il* diags Metal Prog 73:67-73 Je '58

How Auto-Lite produces 1958 bumpers. C. Starzman. *il* Mach 64:174-9 D '57

Improved arc welding methods at Allison div. of GM. H. Chase. *il* Automotive Ind 117:72-3+ N 1 '57

Industrial know-how handbook: metalworking. *il* diags Mill & Factory 62:MW3-56+ My '58

Light metal fabricator reports profitable plastic tooling uses. *il* Light Metal Age 15:26+ O '57

METAL working plants—Equipment—Cont.
Machines, equipment, materials, parts; 1958
production preview. *Il* *diags* *Am Mach* 102:
105-264 *Ja* 27 '58

Modern painting setup at Penco Metal Products. A. G. Kling. *Il* *plan* *Ind Finishing* 34:
20-2+ *My* '58

National metal show. Chicago, Nov. 4-8. *Il*
Automotive Ind 117:75-9+ *N* 1 '57

Nest for the big bird, Atlas ICBM. *Il* *Plant*
Eng 12:134-6 *My* '58

New body plant at Vauxhall. D. Scott. *Il*
plans *Automotive Ind* 118:62-7 *Ap* 15 '58

New mill ups tube production; Chase brass
& copper co. *Il* *diag* *Steel* 141:214-15 *N* 18
'57

1959 buyers' guide. *Am Mach* 102:K 1-152
Mid-S '58

Preview of equipment to be seen at the tool
engineers' show. *Il* *Mach* 64:158-89 *My* '58

Recent developments; materials, processes,
equipment. Published in monthly numbers
of *Metallurgia*

Recent developments; new methods, materials
and equipment for the metal finishing in-
dustries. Published in monthly numbers of
Metal finishing

Secrecy wraps taken off Timken automatic
plant. C. A. Weinert. flow chart *Il* *Auto-*
motive Ind 117:48-53+ *O* 1; 60-2+ *O* 15
'57

Specialized handling equipment for chassis
frame assembly at Budd co. plant. C. A.
Weinert. *Il* *diags* *Automotive Ind* 117:48-
51 *O* 15 '57

Steel wire production; Darwins' new King-
field works. *Il* *Metallurgia* 58:37-8 *Jl* '58

Take a look at this bearing production; Tim-
ken's automatic bearing factory. C. J.
Vlahos. *Il* *plan* *Mill & Factory* 61:82-6 *N*
'57

Technical literature, suppliers' literature,
books, reports. Published in monthly num-
bers of *Materials in design engineering*

Timken railroad-bearing plant. *Il* *Mech Eng*
80:74-5 *Ag* '58

Western Electric's modern metal finishing
plant. A. W. Telle and E. J. St. Amant.
Il *diag* *Metal Finishing* 56:48-52 *Ag* '58

Wolverine spends to save. *Il* *Steel* 142:38 *Ja*
13 '58

See also

Aluminum works—Equipment
Machine tools

Experimental plants

Pilot runs up your odds. *Il* *diag* *Steel* 141:102-5
D 16 '57

Layout

New layout saves \$28.60 per unit; Pioneer
Industries inc. L. F. Kohl. *diags* *Steel* 143:
64-5 *Jl* 28 '58

Maintenance and repair

See also

Aluminum works—Maintenance and repair

Management

How to get more for your metalworking
dollar; machining nonferrous metals. *Il*
diags *Iron Age* 181:113-28 *Ap* 24 '58

How to plan for lower costs; survey report to
management. *Iron Age* 180:97-104 *D* 12 '57

Production nuggets; information from Ameri-
can machinist and other publications; de-
velopments to watch; management and per-
sonnel. *Am Mach* 102:A 1-9 *Mid-S* '58

Small plant beats recession; Steel Indus-
tries, inc. T. W. Black. *Il* *Tool Eng* 41:92-5
Ag '58

See also

Rolling mills—Management

Steel works—Management

Quality control

Quality control of tube products reduces
waste; Venesta Ltd. *Il* *Engineering* 186:414
S 26 '58

System ups valve quality; Cooper alloy corp.
Il *Steel* 143:114-15 *Ar* 18 '58

Waste

Grinding sludge disposed of in one-way burlap
bags. S. Murzyn. *diags* *Am Mach* 102:124 *Ap*
7 '58

How to treat pickle liquors in a small plant;
crystallization-regeneration unit at Vulcan
rivet & bolt corp. E. W. Lang. flow diag
Metal Prog 73:93-6 *My* '58

pH controls rinse for bright dip unit; Leeds &
Northrup co. *Il* *Steel* 141:203+ *D* 9 '57

Pickle liquor disposal made practical; A. O.
Smith corp.; byproduct for land fill. *Il*
diag *Steel* 143:76-7 *Jl* 28 '58

Toxicity studies of metal-finishing wastes.
W. D. Sheets. *Sewage & Ind Wastes* 29:1380-
4 *D* '57

Treatment of oil wastes from machining
plants. M. F. Madarsz. flow diag *Il* *Lub*
Eng 14:145-7+ *Ap* '58

Bibliography

Review of the literature of 1957 on sewage,
waste treatment, and water pollution;
sewage and acid wastes. *Sewage & Ind*
Wastes 30:729-30 *Je* '58

METAL working saws. *See* *Saws, Metal work-*
ing

METALATION

Metalation and addition reactions of allyl-
benzene and propenylbenzene with butyl-
lithium and lithium amide. H. F. Herbrand-
son and D. S. Mooney. *bibliog* *Am Chem*
Soc J 79:5809-14 *N* 5 '57

Metalation of phenolic and phenol ether sys-
tems. L. Santucci and H. Gilman. *bibliog* *Am Chem Soc J* 80:4537-9 *S* 5 '58

Metalation of phenoxazine and some of its
derivatives. H. Gilman and I. O. Moore.
bibliog *Am Chem Soc J* 80:2195-7 *My* 5 '58

Rearrangements of aryl sulfones; the metal-
ation and rearrangement of mesityl phenyl
sulfone. W. E. Truce and others. *bibliog*
Am Chem Soc J 80:3625-9 *Jl* 20 '58

METALLIC films. *See* *Films, Metallic*

METALLIC targets. *See* *Targets, Metallic*

METALLIC yarn. *See* *Yarn*

METALLIZING. *See* *Metal coating*

METALLOGRAPHIC specimens

Method of analyzing wire coatings on copper
using standard metallographic practices.
D. Myers, jr. *Il* *Wire & Wire Prod* 33:641-
2+ *Je* '58

New record-keeping system for metallographic
laboratories; simple numbering method.
J. R. Drier. *Metal Prog* 72:89-91 *D* '57

Preparation of tin and alloys for micro-
examination. B. L. Eyre. *bibliog* *Il* *diags*
Metallurgia 58:95-106 *Ag* '58

Removal of inclusions for analysis by an
ultra-sonic technique. G. L. Kehl and
others. *Il* *diag* *Metallurgia* 55:151-4 *Mr* '57;

Abstract. *Metal Prog* 73:202+ *My* '58

Mounting

Cold setting plastic now used for metal-
lographic mounting. N. J. Gendron. *Il* *Ind*
Lab 9:26-7 *Je* '58

METALLOGRAPHY

AIIME metallurgical society. Institute of met-
als division annual meeting, Feb. 16-20; ab-
stracts of papers. *J Metals* 10:92-104 *F* '58

Asperity distributions of metallic surfaces.
F. F. Link. *bibliog* *Il* *diags* *J Ad Phys* 29:
1168-74 *Ag* '58

Current trends in metal science and future
developments in aluminum metallurgy. G. J.
Mills. *bibliog* *Light Metal Age* 16:11-14 *Ap*
'58

Dislocation etch pit formation in lithium
fluoride. J. J. Gilman and others. *bibliog* *Il*
diags *J Ad Phys* 29:747-54 *My* '58

Elastic-plastic analysis of scabbing in ma-
terials. S. Kumar and N. Davids. *bibliog*
diags *Franklin Inst J* 265:371-83 *My* '58

Imperfections in nearly perfect crystals.
M. A. Jaswon. *bibliog* *diags* *Research*
11:108-13 *Mr* '58

Items of metallurgical interest at recent in-
strument exhibitions. *Il* *Metallurgia* 56:
258+ *N* '57

Martensite phase change in metals. M. A.
Jaswon. *bibliog* *Il* *diags* *Research* 11:315-23
23 *Ag* '58

Metallographic application of X-ray scanning
microanalysis. D. A. Melford and P. Dun-
cumb. *Il* *Metallurgia* 57:159-61 *Mr* '58

Metallography solves a tough machining prob-
lem. A. J. Bell. *Il* *Iron Age* 181:96-8 *F* 20
'58

Metallographic aspects of nuclear power en-
gineering. J. C. Wright. *bibliog* *diags* *Engi-*
neer 205:613-15, 658-60, 686-9, 725-8 *Ap* 25-
My 16 '58

Microstructure and chipless forming; ab-
stract. H. Wiegand. *Tool Eng* 40:315 *Ap* '58

Modern metallography; 2d World metallurgical
congress meeting arranged by U.S. Atomic
energy commission's internal group on
metallography. *Metal Prog* 73:70-3 *Mr* '58

New nickel-boron phase diagram for brazing-
alloy development. G. S. Hoppin. 3d. *Il*
Welding J 36:sup528-30 *D* '57

Preparation of arc-melted uranium carbides.
E. J. Gray and others. *Il* *diag* *Metal Prog*
74:65-70, cover *Jl* '58

METALLOGRAPHY—Continued

- Preparation of fine wires for metallographic examination. G. L. Davis. *diags J Sci Instr* 35:149 Ap '58
- Properties of materials at high rates of strain. K. N. Leibovic. *bibliog il diags Metallurgia* 56:239-41 N '57
- Rapid X-ray determination of a complete pole figure. J. B. Newkirk and L. Bruce. *il diags J Ap Phys* 29:151-7 F '58
- Recent European advances in optical metallography. R. Mitsche. *il diags Metal Prog* 73:97-101 Ja '58
- Redetermination of the aluminum-gallium equilibrium diagram. J. W. H. Clare. *il Inst Metals J* 36:431-2 My '58
- Some results of an electron microscopical study of the metallographic structure of two alloys for permanent magnets (Ticonal G and Ticonal X). J. J. de Jong and others. *bibliog il J Ap Phys* 29:297-8 Mr '58
- Standardisation of photographic exposures in metallographic microscopy. L. E. Samuels and others. *il Metallurgia* 57:207-12 Ap '58
- Thermally precipitated phases and their distribution in an aluminum-silicon-cadmium alloy. R. E. Marburger and A. W. Schluchter. *il J Ap Phys* 29:184-8 F '58

See also

- Crystals—Dislocations
- Etching (metals)
- Metallographic specimens
- Metals—X ray inspection
- also* subdivision Metallography under special subjects, e.g.
- Aluminum
- Brass
- Copper
- Germanium
- Indium
- Iron
- Lead
- Nickel
- Silicon
- Steel
- Tantalum
- Tin
- Uranium
- Zinc

METALLURGICAL analysis

- Ethylendiamine tetra-acetic acid and allied compounds in metallurgical analysis. E. G. Brown. *bibliog Metallurgia* 58:149-59 S '58

- Investigations on colorimetric methods of metallurgical analysis. G. V. L. N. Murty. *bibliog Metallurgia* 58:52-4 Jl '58
- See also* subdivision Analysis under special subjects, e.g.

- Copper
- Ferrosilicon
- Metals
- Silicon
- Slag
- Steel
- Steel alloys
- Titanium alloys
- Tungsten

METALLURGICAL apparatus*See also*

- Classifiers
- Crushing machinery
- Furnaces, Metallurgical
- Tube mills

METALLURGICAL education

- Recent statistics on metallurgical education. M. B. Bever. *Metal Prog* 72:101-6 N '57

METALLURGICAL laboratories

- Expand research and development activities in new powder metal lab; F. J. Stokes corp. *il Ind Lab* 9:39 Ja '58
- IRSID opens pilot-plant laboratories. *plan Metal Prog* 74:123-4 Ag '58
- New Caterpillar laboratory among most modern of its type. *il Foundry* 85:158- D '57
- What you need for a minimum metallurgical laboratory. J. R. Driear. *plan Foundry* 86: 83 Mr '58

See also

- Foundry laboratories

Equipment

- Use of infra-red heating for the drying of ores and test products at the Mines branch laboratories. R. A. Elliott. *il Can Min & Met Bul* 51:111-13 F '58

Records

- New record-keeping system for metallographic laboratories; simple numbering method. J. R. Driear. *Metal Prog* 72:89-91 D '57

METALLURGICAL literature

- Forecast of an information center; A.S.M.'s research project at Western reserve university. M. R. Hyslop. *Metal Prog* 74:108-10 Jl '58
- What's in the literature? F. T. Sisco. *il Metal Prog* 72:122-4 O '57; *Abstract. Eng J* 41:80-1 Ja '58

METALLURGICAL patents

- Patent reviews. M. Nord. Published in monthly numbers of Iron and steel engineer

- What's new in U.S. patents. O. S. North. Published in monthly numbers of Engineering and mining journal

METALLURGICAL plants

- E&MJ surveys mine, mill, smelter and refinery developments in 1957. *Eng & Min J* 159:170-2+ F '58

- E&MJ's flowsheet design book. *Eng & Min J* 158:145-60 D '57

- Homesake-New Mexico starts milling. *il diags Eng & Min J* 159:150 Ja '58

- Inventory of new plants and facilities; metals. *Chem Eng* 64:153-4 Mid-N '57

- Jones & Laughlin installs sintering plant at Otis works. *il Iron & Steel Eng* 35:174+ Mr '58

- New plant spotlights tantalum-columbium; Pansteel metallurgical corp. *il Chem Eng Prog* 54:83+ Ap '58

- Pima, a three-part story; milling. R. E. Thurmond and others. *flow sheets il Min Eng* 10: 459-62 Ap '58

- Sinter-plant assessment trials at John Sumners and sons. Shotton. H. Bates and others. *diags Iron & Steel Inst J* 188:46-54 Ja '58

- Virginia heavy minerals plant opens; Metal & thermit corp. *il diags Eng & Min J* 159: 94-5 Ja '58

See also

- Aluminum works
- Blast furnaces
- Metallurgical laboratories
- Steel works

By-products*See also*

- Slag

Employees*See* Metal workers**Equipment**

- Applications of the DSM screen. P. L. Stav-
Cong J 44:48-51 Jl '58

- Better cycloning in sand-slime separation; Uranium reduction co. mill. R. L. Curf-
man. *il diags Min Eng* 10:768-9 Jl '58

- Dawn's new uranium mill achieves high ex-
traction. D. Hargrove. *flow sheets il Eng & Min J* 159:90-7+ Mr '58

- Four iron ore agglomerating techniques; Lurgi combined technique. K. J. E. Meyer
and H. Rausch. *diag Min Eng* 10:359-60
Mr '58

- Hot-metal pre-treating tower. J. M. Gaines
and D. C. Hilty. *diag J Metals* 10:452-5
Jl '58

- How Empresa minera de Catavi concentrates
tin ores. O. Davila-Michel. *flow sheets il
diags Eng & Min J* 158:100-6+ N '57

- New process, new plant; high grade iron
from Inco's concentrates. *il Min Eng* 10:
864-6 Ag '58

- Production of wrought titanium; I.C.I.
facilities. *il Metallurgia* 58:25-8 Jl '58

- Re-grind practice at Canadian exploration
limited. H. A. Steane. *flow sheets Can Min
& Met Bul* 51:215-18 Ap '58

- Rotobelt filter; new tool in minerals beneficia-
tion. C. F. Cornell and others. *il diags Min
Eng* 10:Trans 253-7 F '58

See also

- Concentrators
- Smelting works—Equipment

Fuel

- Present and potential uses for coal in the
Canadian metallurgical industry. J. H.
Walsh and others. *flow sheet diags Can
Min & Met Bul* 51:81-8 bibliog(82 ref, p87-8
F '58

Power

- Power plant for titanium production; cyclone
fired boiler. *il diags Metallurgia* 56:290-2
D '57

Safety measures

- Bunker Hill designs a gas detector. G. C.
Popoff. *il diags Eng & Min J* 159:112-15 Ap
'58

METALLURGICAL plants—Continued

Waste

Effects of uranium ore refinery wastes on receiving waters. E. C. Tsioglou and others. *Biblog maps Sewage & Ind Wastes* 30:1012-27 Ag '58

METALLURGICAL research

Are metallurgists prepared for 19XX? 15th annual William Park Woodside lecture. R. F. Thomson. *il diag Metal Prog* 73:99-106 Mr '58

Argonne builds center for plutonium research. *Ind Lab* 9:39 Ag '58

Flow and fracture. E. R. Parker. *Metal Prog* 72:65-9 N '57

How atomic energy aids the metallurgist. A. A. Kucher. *S A E J* 66:115+ Ja '58

How theory can help make more sinter. E. W. Voice and L. Wild. *biblog diag J Metals* 10:105-10 F '58

Metallurgical designing for strength. C. Zener. *il diag Westinghouse Eng* 16:146-51 S '56; Same cond. *Product Eng* 28:B2-5 Mid-O '57

Metallurgy in industry, a look ahead. H. S. Turner. *Metal Prog* 73:109-11+ Mr '58

Metals research spearheads American smelting and refining co.'s growth. *il Ind Lab* 9:80-1 F '58

New directions in government-sponsored research. J. J. Harwood. *J Metals* 10:354-5 My '58

Nuclear radiation and radioisotopes in metallurgy; abstract. M. T. Simnad. *J Metals* 10:329 My '58

Research and engineering progress, 1957; chemical and metallurgical. *il Gen Elec R* 61:55-6 Ja '58

Science and people. J. Hunter. *Metal Prog* 72:74-6 D '57

Study of slag-metal mixing efficiency by models. C. E. A. Shanahan and F. Cooke. *biblog diag J Ap Chem* 7:645-54 D '57

Vacuum metallurgical research gives industry a glimpse into the future. R. C. Bertossa. *biblog il diag Welding J* 36:sup483-9 N '57

See also

Corrosion research

Foundry research

Metallurgical laboratories

Plating research

Steel research

Titanium research

Russia

High-temperature centrifuge for creep, rupture, and bend tests. I. I. Kornilov. *biblog diag J Metals* 10:187-9 Mr '58

Metallurgical research in the USSR. J. H. Hollomon and W. R. Hibbard, Jr. *J Metals* 10:176-8 Mr '58; *Abstract. Product Eng* 29:28 Mr '58

Soviet titanium research and production. J. P. Nielsen. *J Metals* 10:25-6 Ja '58

U.S. scientists describe Soviet metallurgy program. J. H. Hollomon and W. R. Hibbard, Jr. *Machine Design* 30:6+ Mr 20 '58

METALLURGICAL society. See American institute of mining, metallurgical and petroleum engineers—Metallurgical society

METALLURGISTS

Many metallurgists still needed! *Metal Prog* 74:80A-80D S '58

Salaries

Salaries of metallurgists. W. Morrison. *Metal Prog* 73:93-6 F '58

METALLURGY

AIME metallurgical society. Institute of metals division annual meeting, Feb. 16-20; abstracts of papers. *J Metals* 10:92-104 F '58

Atomic-age metal extraction. L. W. Coffer. *biblog(34titles) flow sheets diag Chem Eng* 65:107-22 Ja 27 '58 (reprints 50c)

Can modern metallurgical methods revitalize the Meadow Lake area? A. L. Wisker. *map Eng & Min J* 159:104-5 My '58

Deposition of metals other than those of the titanium group by the hot filament technique. E. A. J. Shelton. *biblog il Metallurgia* 56:283-9 T '57

Electrons and ions; keys to mineral processing. J. W. Franklin. *diag Eng & Min J* 159:85-100 Ap '58

Explosive metallurgy. H. P. Tardif and W. H. Erickson. *biblog il diag Can Min & Met Bul* 51:352-9 Je '58

Fifty years of metallurgical science. A. G. Quarrell. *biblog il diag Inst Metals J* 86:475-84 J1 '58

High-pressure metallurgy; key to new alloys? P. M. Unterweiser. *Iron Age* 181:96-7 Ja 30 '58

Influence of physical metallurgy and mechanical processing of the basis metal on electroplating; abstract. M. H. Jones. *Plating* 45:346 Ap '58

Inventory of new processes and technology; metals. *Chem Eng* 65:130-1 My 5 '58

Magnetometallurgy; applications and techniques. A. Arrott. *biblog J Ap Phys* 29:508-12 Mr '58

Materials and metallurgy; forum on technical progress. *Steel* 142:268-70+ Ja 6 '58

Metallurgy. C. A. Keyser; F. C. Frary. *il Ind & Eng Chem* 50:sup42A-6A+ F '58

Metallurgy and fuels. L. M. Wyatt. *Engineering* 185:648-9 My 23 '58

Metallurgy of experimental boiling water reactor. K. F. Smith. *il diag Metal Prog* 72:79-83 N '57

Metallurgy of the unusual. W. J. Kroll. *Chem & Ind* p26-9 Ja 11 '58

Minerals beneficiation in 1957; annual review. W. B. Stephenson, ed. *il diag Min Eng* 10:244-52 F '58

Non-ferrous metallurgy, 1908-1958. *Engineering* 185:628 My 16 '58

Processing solutions and results; guides to your mineral problem. flow sheets diag. *Eng & Min J* 159:65-96 Mid-Je '58

Progress of metallurgy in Europe. H. Sutton. *Metal Prog* 73:102-4 Ja '58

Thermodynamics in pyrometallurgy. J. W. Evans. *biblog(27 ref) Research* 11:12-18 Ja '58

See also

Aluminum metallurgy

Beryllium metallurgy

Elast furnaces

Calcination

Canadian institute of mining and metallurgy

Cobalt metallurgy

Copper metallurgy

Electrodeposition of metals

Electrometallurgy

Flotation process

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Hydrometallurgy

Iron metallurgy

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Tailings

Tantalum metallurgy

Tempering

Tin metallurgy

Titanium metallurgy

Uranium metallurgy

Zinc metallurgy

Zirconium metallurgy

Bibliography

Current literature. Published in monthly numbers of *Metallurgia*

Metallurgy in nuclear engineering; survey of the literature in 1957. J. Burkett. *biblog Metallurgia* 58:32-6, 64-6 J1-Ag '58

Technical literature, suppliers' literature, books, reports. Published in monthly numbers of *Materials in design engineering*

Study and teaching

Metallurgical education in the USSR. J. Chipman and N. J. Grant. *il J Metals* 10:169-73 Mr '58

Non-ferrous metallurgical training in Russia. D. Swan. *J Metals* 10:173 Mr '58

Quantity and quality in Russian metallurgical education. W. R. Hibbard, Jr. *il J Metals* 10:174 Mr '58

Recent statistics on metallurgical education. W. O. Philbrook. *Metal Prog* 74:113-14 S '58

Zone refining

Annealing twins in zone-refined lead and lead-silver alloys. G. F. Bolling and W. C. Winegard. *biblog il diag Inst Metals J* 86:492-6 J1 '58

Crystal growing made easier by new method: Bell telephone laboratories. *il Ind Lab* 9:61 Je '58

METALLURGY—Zone refining—*Continued*

- Heat treatment of silicon using zone heating techniques. H. C. Theuerer and others. *diags Electrochem Soc J* 104:721-3 D '57
- High vacuum melting technique uses electron bombardment. *Elec Eng* 77:660-1 JI '58
- Melted layer crystal growth and its application to germanium. F. H. Horn. *il diag Electrochem Soc J* 105:393-5 JI '58
- Prepare ultra-pure niobium. *Ind Lab* 9:34 F '58
- Refining thermally unstable compounds; floating zone method; abstract. J. M. Whelan. *il Chem Eng Prog* 54:210+ M '58; Same. *Franklin Inst J* 266:20-1 JI '58
- Space age materials. E. C. Bishop. *il diags Tool Eng* 41:151-4 Ag '58
- Technique developed for preparation of niobium; cage zone melting. C. Zener. *il Elec Eng* 77:114 JI '58
- Use big tubes as furnaces; two experimental methods; electronic bombardment; field floating. J. M. Dick. *il diag Electronics* 31: 22-3 Ja 10 '58
- Zone melting and crystal pulling experiments with AlSiB. W. P. Allred and others. *il diag Electrochem Soc J* 105:93-6 F '58
- Zone melting opens new horizons in metallurgy. *il diags Metal Prog* 73:97-102 Ap '58
- Zone purification; abstract. H. S. Goering. *Metal Prog* 73:178+ F '58
- Zone purification of silicon. E. A. Taft and F. H. Horn. *il diags Electrochem Soc J* 105:81-3 F '58
- Zone refining of impure copper; abstract. E. D. Tolmie and D. A. Robins. *Metal Prog* 73:158+ My '58

Russia

- American-Soviet metallurgical exchange; Impressions which American metallurgists gained of Soviet technical education, research, and industrial development. *il J Metals* 10:165-83 F '58
- Report on Russian technology. J. H. Holloman and others. *Gen Elec R* 6:110-12 Mr '58
- Russians ahead in missile metallurgy? interview with D. Von Ludwig. *Product Eng* 28:115 N 11 '57

METALS

- Adhesive for metals; abstract. A. E. Williams. *Metal Prog* 74:154+ Ag '58
- AIIME metallurgical society. Institute of metals division annual meeting. Feb. 16-20; abstracts of papers. *J Metals* 10:92-104 F '58
- Are metallurgists prepared for 19XX? 15th annual William Park Woodside lecture. R. F. Thomson. *il diag Metal Prog* 73:99-106 Mr '58
- Behavior of metals other than uranium in liquid-liquid extraction processes. C. J. Lewis and E. H. Crabtree. *diag Min Cong J* 44:65-7 Ja '58
- Bonding materials for making contacts to p-type silicon. D. R. Mason and J. C. Sarrac. *bibliog il diag Electrochem Soc J* 105:594-8 O '58
- Charge transfer upon contact between metals and insulators. D. O. Van Ostenburg and D. J. Montgomery. *bibliog diags Textile Res J* 28:22-31 Ja '58
- Chelometric titrations of metal ions with potentiometric end point detection; (ethyl-enedinitrilo)tetraacetic acid. C. N. Reilley and others. *bibliog diags Anal Chem* 30:953-7 My '58
- Combustion of metals in oxygen. A. V. Grosse and J. E. Conway. *bibliog (35 ref) il diag Ind & Eng Chem* 50:663-72 Ap '58
- Condensed review of some recently developed materials arranged alphabetically by trade names, properties, applications; with names and addresses of manufacturers. *Mach* 65: 131-41 O '58
- Corrosion resistant materials; metals and alloys. L. F. Spencer. *bibliog Metal Finishing* 55:62-8 N '57
- Design digest issue: metals and alloys. *diags Product Eng* 28:B 1-58 Mid-O '57
- Design digest issue: metals and alloys. *Product Eng* 29:B 1-36 Mid-S '58
- Diffusion bonding below 1000° F; techniques and systems used to obtain joints between beryllium copper and Monel; fabrication of throat blocks for hypersonic wind tunnels. J. T. Niemann and others. *bibliog il diags Welding J* 37:sup337-42 Ag '58
- Diffusion in metals; annual review. P. Shewmon. *bibliog Ind & Eng Chem* 50:492-5 pt 2 Mr '58
- Distribution of certain metals in the atmosphere of some American cities. E. C. Tabor and W. V. Warren. *bibliog A M A Archives Ind Health* 17:145-51 F '58

- Domain wall motion in metals. R. W. DeBlois. *bibliog il diags J Ap Phys* 29: 459-67 Mr '58
- Effect of electronic mean free path on spin-wave resonance in ferromagnetic metals. G. T. Rado. *J Ap Phys* 29:330-2 Mr '58
- Emissivities of metallic surfaces at 76°K. M. M. Fulk and M. M. Reynolds. *bibliog diags J Ap Phys* 28:1464-7 D '57
- Evaluation of interface energies in metallic systems. J. W. Taylor. *bibliog Inst Metals J* 86:456-63 Je '58
- Future metals under pressure. *Chem & Eng N* 36:60 JI 7 '58
- How relay application factors affect selection of contact materials. Z. R. Smith. *il diags Machine Design* 30:129-33 Mr 6 '58
- Kinetics of low temperature metal-catalysed hydrocarbon oxidation. C. E. H. Bawn and D. P. Moran. *bibliog Inst Pet J* 44:290-5 S '58
- Material rating based upon true stress-strain properties. J. Marin and M. G. Sharn. *bibliog diag Welding J* 37:sup375-8 Ag '58
- Materials and metallurgy; forum on technical progress. *Steel* 142:268-70+ Ja 6 '58
- Materials for gears. N. E. Woldman. *il Materials in Design Eng* 46:149-64 N '57
- Materials of construction for chemical engineering; less common metals. E. M. Sherwood. *Ind & Eng Chem* 50:1455-9 *bibliog (p 1458-9) pt 2 S '58*
- Materials selector; 1957-58 reference issue. *Materials in Design Eng* 46:1-430 Mid-S '57; Correction. *47:151 F '58*
- Materials selector; 1958-59 reference issue. *Materials in Design Eng* 48:1-78 Mid-O '58
- Metal-halogen interchange reactions with sodium-*n*-amyl. A. G. Lidstone and I. A. Morris. *bibliog Chem & Ind* p560-1 My 10 '58
- Metal problems considered at A.S.T.M. meeting. *Metal Prog* 74:118-19 Ag '58
- Metal selection puts plus in profits; with 1957 metal selector. *il Steel* 141:162-78 O 23 '57
- New materials that the design engineer should know about; metallic materials. *bibliog Mech Eng* 79:720-4 Ag '57; Same. *Am Soc Naval Eng J* 70:144-8 F '58
- New metals face the future. C. M. Brown and R. W. Fountain. *J Metals* 10:330-4 My '58
- Oxidation of metals; annual review. W. W. Smeltzer and L. H. Everett. *Ind & Eng Chem* 50:496-502 *bibliog (p501-2) pt 2 Mr '58*
- Peltier heat at the interface between a metal and its melt. J. M. Bardeen and S. Chandrasekhar. *J Ap Phys* 29:1372-3 S '58
- Preview of space age metals. *il Steel* 142: 86-7 My 5 '58
- Production nuggets; information from American machinist and other publications; developments to watch; materials components. *il Am Mach* 102:G 1-5 Mid-S '58
- Properties of materials at high rates of strain. K. N. Leibovic. *bibliog il diags Metallurgia* 56:239-41 N '57
- Rectangular strength and stiffness in bending of structural metals; tables. *Product Eng* 28:F6 Mid-O '57
- Relative hardness of metals; reference book sheet. H. L. Campbell. *Am Mach* 101:131 D 2 '57
- Second look at hot salts; solubility of metals in their fused salts. *il Chem & Eng N* 36:34 Mr 24 '58
- Stability of metal-tetraethylenepentamine complexes. C. N. Reilley and J. H. Holloway. *bibliog Am Chem Soc J* 80:2917-19 Je 20 '58
- Stereochemistry of elimination reactions involving halohydrin derivatives and metals. H. O. House and R. S. Ro. *bibliog Am Chem Soc J* 80:182-7 Ja 5 '58
- Study of slag-metal mixing efficiency by models. C. E. A. Shanahan and F. Cooke. *bibliog diags J Ap Chem* 7:645-54 D '57
- Survey of available literature on the rapid combustion of metals in air; metal pyrotechnics; abstract. S. Haffner. *Metal Prog* 73:172+ F '58
- Uncommon engineering metals. J. P. Denby and L. F. Kendall, jr. *Metal Prog* 73:136+ Je '58; Abstract. *Machine Design* 30:150 My 29 '58
- Using contact resistance to measure adsorption of gases on metals. P. Kisliuk. *bibliog diags Bell System Tech J* 37:925-49 JI '58
- Vacuum evaporator for radioactive and toxic metals. M. C. Inman and D. Quigley. *diags J Sci Instr* 35:226-7 Je '58

METALS—Continued

Watch out for compression loads. L. A. Yerkovich. *il diag Product Eng* 28:72-5 D 9 '57
 Willing and able; exotic metals seek employment. A. R. Gardner. *il diag Product Eng* 29:66-70 Mr 17 '58

See also

Alloys
 Aluminum
 Antimony
 Bearing metals
 Bismuth
 Brass
 Bronze
 Cadmium
 Cast Iron
 Chromium
 Cobalt
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 Corrosion and anti-corrosives
 Deformation (mechanics)
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 Electrometallurgy
 Electrons—Emission from metals
 Etching (metals)
 Fatigue in metals
 Films, Metallic
 Gallium
 Germanium
 Glass—Joining to metal
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 Hardness
 Heat treatment
 Iridium
 Intermetallic compounds
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 Lithium
 Manganese
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 Metallography
 Mineralogy
 Mines and mineral resources
 Molybdenum
 Nickel
 Osmium
 Palladium
 Photography on metals
 Pickling (metals)
 Plastics—Joining to metal
 Platinum
 Precious metals
 Printing on metal
 Rare earth metals
 Rhodium
 Ruthenium
 Sheet metal
 Silver
 Soap, Metallic
 Sodium
 Solder and soldering
 Steel
 Strength of materials
 Tantalum
 Thorium
 Tin
 Titanium
 Tungsten
 Uranium
 Vanadium
 Welding
 White metals
 Zinc
 Zirconium

Aging

Morphological and phase changes during quench-aging of ferrite containing carbon and nitrogen; abstract. G. Lagerberg and B. S. Lement. *Metal Prog* 72:204+ N '57

Analysis

Analyze for these metals; automatic Spectro-Lecteur. *il Eng & Min J* 158:122 N '57
 Complexometric titration of copper and other metals in mixture; 1-(2-pyridylazo)-2-naphthol (dye) as indicator. K. L. Cheng. *Anal Chem* 30:243-5 F '58
 Determination of very small amounts of carbon in metals. R. E. Fryxell. *bibliog diag Anal Chem* 30:273-5 F '58
 Rapid titrimetric analysis of white metals. L. J. Ottendorfer. *Metallurgia* 57:105-6 F '58
See also
 Copper—Analysis
 Metallurgical analysis

Bibliography

Technical literature, suppliers' literature, books, reports. Published in monthly numbers of *Materials in design engineering*

Cleaning

See Metal cleaning

Corrosion

See Corrosion and anti-corrosives

Defects

Finish rejects caused by forming of metal. G. Moore. *Ind Finishng* 34:98-9 Ag '58
 Method for evaluating materials used in penetrant flaw detection. R. W. Miller. *il diags Welding J* 37:30-3 Ja '58

Detection

Locating metal embedded in concrete. W. M. Jaillite. *il Am Concrete Inst J* 29:706-7 F '58
 Magnetic gage locates encased metal parts. P. Seward. *il diags Electronics* 31:65-7 Ag 15 '58
 Transistor locator finds metal fast. E. Bohr. *il diags Radio-Electronics* 29:62-3+ Mr '58

Erosion

See Erosion of metals

Exhibitions

See also

National metal exposition

Expansion

See Expansion (heat)

Failure

Comparisons of metals; stress-rupture strength of metals. *Materials in Design Eng* 48:21 Mid-O '58
 Elastic-plastic analysis of scabbing in materials. S. Kumar and N. Davids. *bibliog diags Franklin Inst J* 265:371-83 My '58
 Investigation of metallurgical and mechanical effects in the development of hot tearing; abstract. H. F. Bishop and others. *Metal Prog* 73:158+ Mr '58
 Tensile fracture of ductile metals; abstract. H. H. Bleakney. *Metal Prog* 73:180+ Ap '58
 Watch out for stress corrosion in metals. E. H. Phelps. *il diag Product Eng* 29:56-8 Ag 4 '58
See also
 Fatigue in metals
 Steel—Failure

Gas content

Control of porosity in high-nickel-alloy welds. G. R. Pease and others. *bibliog il Welding J* 37:sup354-60 Ag '58
 What causes porosity in welds? *Am Mach* 102:99 My 5 '58

Heat resisting

See Alloys, Heat resisting

Hydrogen content

Concentration of hydrogen in nickel under hydrogen ion bombardment. J. Morrison and J. J. Lander. *diag Electrochem Soc J* 105:145-8 Mr '58
See also
 Uranium—Hydrogen content

Hydrogen effect

Reaction of hydrogen with preoxidized Zircaloy-2 at 300° to 400°C. E. A. Gulbransen and K. F. Andrew. *bibliog il Electrochem Soc J* 104:709-12 D '57
See also
 Zirconium—Hydrogen effect

Marking

See Marking

Oxygen content

Save time in oxygen analysis; oxygen in metals determined by new Leco technique. *Chem & Eng N* 36:76 F 24 '58

Polishing

See Polishing; Polishing, Electrolytic; Polishing materials

Prices

Metal prices; annual averages, 1897-1957; weekly averages, 1957; charts and tables. *Eng & Min J* 159:105-8 F '58

Protection

Coating beats wear; electroplated metallic coating that forms a matrix for finely divided particles of carbides and oxides. *il Chem & Eng N* 36:45-6 Je 30 '58

METALS—Continued

Radiation effect

Comparisons of materials; effect of radiation on metals. Materials in Design Eng 48:22-3 Mid-O '58

Effects of radiation environment on structural metals. A. Boltax. bibliog diags Elec Manuf 61:125-33+ Je '58
 Reactor irradiation techniques. B. S. Hickman. Engineer 208:918-20 Je 20 '58

Scabbing

See Metals—Failure

Scaling

Boundary-layer correction in supersonic nozzle scaling. A. Kogan. J Aeronautical Sci 25:64 Ja '58

Local cell action during the scaling of metals. C. Iischer-Gensch and C. Wagner. bibliog diag Electrochem Soc J 105:198-200 Ap '58

Scratches

Unit checks scratch depth. W. Umphrey. II Iron Age 181:92-3 Je 12 '58

Shrinkage

See Shrinkage of metals

Temperature effect

Buckling at high temperature. N. J. Hoff. bibliog(47 titles) II diags Roy Aeronautical Soc J 61:756-74 N '57

Effect of hydrostatic pressure and temperature on the magnetic properties of a nickel-zinc ferrite. C. Q. Adams and C. M. Davis, Jr. J Ap Phys 29:372-3 Mr '58

Effect of specimen geometry on Charpy low-blow transition temperature. G. M. Orner and C. E. Hartbowen. bibliog II Welding J 36:sup521-7 D '57

Equipment and procedures for rapid heating and testing. diags Metal Prog 72:97-100 N '57

Hardness and other physical properties of metals in relation to temperature. E. R. Petty. bibliog Metallurgia 56:231-6 N '57

High-temperature centrifuge for creep, rupture, and bend tests. I. I. Kornilov. bibliog diag J Metals 10:187-9 Mr '58

High temperature oxidation of high purity nickel between 750° and 1050°C. E. A. Gulbransen and K. F. Andrew. bibliog Electrochem Soc J 104:451-4 Jl '57; Discussion. S. Mrowec and T. Werber. 105:363; Reply. 363-4 Je '58

Metals testing at high and low temperatures: a survey of mechanical and physical testing facilities in the United States. A S T M Bul 550-1 Jl '58

Nature of electrical resistivity of the ferromagnetic metals at low temperatures. E. Kondorsky and others. bibliog J Ap Phys 29:243-6 Mr '58

New test facility simulates flight through the thermal barrier. Automotive Ind 117:148+ O 15 '57

Oxidation of an aluminum-three per cent magnesium alloy in the temperature range 200°-500°C. W. W. Smeltzer. bibliog II Electrochem Soc J 105:67-71 F '58

Properties of metals under rapid heating conditions. E. Z. Stowell. J Aeronautical Sci 24:922-3 D '57

Strain gage detects changes in metals. II Materials in Design Eng 46:206+ N '57

Superconductivity explained. J. Bardeen. Chem & Eng N 35:30 D 23 '57

Thermal stresses in design. S. S. Manson. bibliog II diags Machine Design 30:114-20 Je 12; 99-103 Je 26; 100-7 Ag 7; 110-13 Ag 21; 126-3 S 4 '58 (to be cont)

Titanium at temperature. H. R. Ogden. Product Eng 29:B2-4 Mid-S '58

Upper temperature limit of stability of G.P. zones in ternary aluminum-zinc-magnesium alloys. J. J. Polmear. bibliog diags Inst Metals J 87:24-5 '58-59

See also

Creep of metals
 Expansion (heat)

Testing

Advances in inspection techniques as aids to process control in non-ferrous metals production; symposium. Engineering 185:675-6 My 2 '58

Inspection and testing; forum on technical progress. Steel 142:304-6+ Ja 6 '58

Measuring local strain under static load; rapid replica technique. II diag Engineering 185:726-7 Je 6 '58

Nondestructive testing. S. Elonka. II diags

Power 102:115-37 Mr '58

Penetrant methods of inspection. R. Schnurmann. II Research 11:254-7 Jl '58

Some common stress-raisers in engineering parts; abstract. G. A. Cottell. Metal Prog 74:153+ S '58

Space age test program; Martin co. II Steel 143:134-6 Jl 14 '58

Theory of extremal values applied in tests. M. L. Godfrey. Ind Lab 9:9-12 Jl '58 (to be cont)

Wear resistance; is melting point the key? H. A. Unckel. bibliog diags Iron Age 181:97-100 Mr 20 '58

See also

Corrosion research
 Electron testing of metals
 Hardness—Testing
 Magnetic testing

Textile uses

See also

Aluminum—Textile uses

Wear

Answers found to 1000F wear and galling problems; abstract. C. H. Cannon. S A E J 66:86 Ag '58

Atoms—important in heavy machinery manufacture; Caterpillar tractor co. wear tests. II Pit & Quarry 51:111+ Ag '58

Contact of metallic bodies; effect of tangential force. J. S. Courtney-Pratt and E. E. Eisner. bibliog Engineering 185:182-3 F 7 '58

Guest editors sift London conference papers on lubrication and wear. E. Rabinowicz; H. A. Hartung. Product Eng 28:82-3 N 25 '57

Lubrication and wear. Engineer 204:555 O 18 '57

Metallurgy makes the difference. F. G. Seifing. II Diesel Power 35:35-9 N '57

Method for studying the behavior of cutting fluids in wear of tool materials. L. V. Colwell. II diags A S M E Trans 80:1054-8 Jl '58

New coefficients predict wear of metal parts. E. Rabinowicz. Product Eng 29:71-3 Je 23 '58

New way to select wear-resistant materials. J. W. R. Driear. II Iron Age 180:121-4 N 21 '57

Piston ring wear. J. H. Deterding and J. R. B. Calow. diags Automobile Eng 48:378-81 O '58

Wear of metals. F. T. Barwell. bibliog diags Am Soc Naval Eng J 70:519-26 Ag '58

Wear resistance; is melting point the key? H. A. Unckel. bibliog diags Iron Age 181:97-100 Mr 20 '58

See also

Cylinders (engines, etc.)—Wear

X ray inspection

After-sales brains trust; non-destructive testing shown to Viscount operators. II Engineering 185:782-3 Je 20 '58

Autoradiography traces additives in metals. R. H. Herrmann. II Foundry 86:121+ Ja '58

Dendritic segregation of manganese in steel ingots. R. G. Ward. bibliog II Iron & Steel Inst J 188:337-42 Ap '58

Fluoroscopy. W. R. Hampe. II Metal Prog 74:130+ Jl '58

High-temperature X-ray study on high-speed steel. H. J. Goldschmidt. bibliog II Iron & Steel Inst J 186:68-85 My '57; Discussion. 188:153-4 F '58

Investigation of the structural conditions in steel bearing-balls. I. Berz and others. II Engineering 185:151-3 Ja 31 '58

Nondestructive testing; X-ray is old standby; it finds flaws, leaves a record. S. Elonka. II diags Power 102:16-17 Mr '58

Union Carbide lab solves problems with X-rays. V. W. Palen. II Ind Lab 9:40-2 Ja '58

X-ray speed inspection of raw stock. V. W. Palen. II Am Mach 102:100-1 F 24 '58

X-ray unit penetrates 20-in. castings fast. II Iron Age 180:150 N 7 '57

X-rays will measure blind dimensions accurately. II diags Iron Age 181:78-80 My 15 '58

See also

Welding—X ray inspection

METALS, Cellular

More data on foamed metals. Product Eng 28:17 N 18 '57

METALS, Clad

Properties of materials; clad and precoated metals. Materials in Design Eng 48:272-7 Mid-O '58

METALS, Clad—Continued

System for gaging plating thickness; abstract. R. G. Myers and D. L. Waldeich. *Elec Eng* 77:815 S '58
 Vacuum metallurgy. R. C. Bertossa. *il diag Mech Eng* 79:1039-41 N '57; Discussion. 80:120-1 Ap '58

See also

Aluminum, Clad
 Copper, Aluminum clad
 Steel, Clad
 Steel, Lead clad
 Steel, Stainless clad

METALS, Cold treatment of

Subzero temperatures facilitate production processes. R. A. Wason. *il Tool Eng* 40:107-15 F '58

See also

Aluminum, Cold treatment of
 Steel, Cold treatment of

METALS, Cold working of

Bend it cold, bend it smart. *il Mill & Factory* 62:94-6 Mr '58

Changes in thermoelectric power of silver and gold with cold work at liquid nitrogen temperature. E. W. Kammer. *J Ap Phys* 29:1122 J '58

Cold extrusion of unalloyed titanium. A. M. Sabroff and others. *il diags A S M E Trans* 80:124-31 Ja '58; Same cond. *Product Eng* 23:D2-5 Mid-O '57; Discussion. A S M E Trans 80:131-2 Ja '58

Cold working of metals at Ford. D. J. Davis. *il diags Metal Prog* 73:132-4 Ap '58

Design considerations for cold extrusion of titanium. A. M. Sabroff and others. *il diags Tool Eng* 41:34-30 J '58

Dislocation mobility and release of cold work in cadmium. R. Kamei and E. A. Attia. *J Ap Phys* 28:1365 N '57

How cold hobbing shapes intricate parts; Raytheon mfg. co. A. Phillips. *il Iron Age* 181:91-3 S '58

How to save money by cold heading parts. *il Wire & Wire Prod* 33:307 Mr '58

Magnetic anisotropy induced by magnetic annealing and by cold working of NiFe crystal. S. Chikazumi. *il diags J Ap Phys* 29:346-50 Mr '58

Recovery of electrical resistivity of Cu, Au, and Ni following cold work at 4°K. C. J. Meechan and A. Sosin. *il diags J Ap Phys* 29:738-9 Ap '58

X-ray study of cold work in molybdenum. J. Despujols and B. El. Warren. *J Ap Phys* 29:195-7 F '58

See also

Steel, Cold working of

METALS, Creep of. See Creep of metals**METALS, Effect of cold on. See Metals—Temperature effect****METALS, Effect of temperature on. See Metals—Temperature effect****METALS, Foamed. See Metals, Cellular****METALS, Heat resisting. See Alloys, Heat resisting****METALS, Laminated**

Fine future seen for plastisol-coated metal sheets. *il Mod Plastics* 36:96-8+ S '58

METALS, Liquid. See Mercury; Metals, Molten**METALS, Molten**

Atomic review; fluid state. *diag(p333) Engineering* 185:332 Mr 14 '58

Design of a liquid metal heated bayonet tube steam generator. F. Boni. *bibliog diags Am Soc Naval Eng* J 70:231-43 My '58

Fundamentals of liquid metal corrosion; abstract. W. D. Manly. *Metal Prog* 73:132-4 Mr '58

Heat transfer in liquid metals. P. S. Lykoudis and Y. S. Touloukian. *bibliog(28 titles) diag A S M E Trans* 80:653-63; Discussion. 663-6 Ap '58

Heat transfer to fluids with low Prandtl numbers for flow across plates and cylinders of various cross section. R. J. Grosh and R. D. Cess. *bibliog diags A S M E Trans* 80:677-76 Ap '58

Heat transmission in fluids with low Prandtl numbers for flow through tube banks. R. D. Cess and R. J. Grosh. *bibliog diags A S M E Trans* 80:677-82 Ap '58

Pressure measurement in molten metals. R. J. Ingham and R. C. DuBois. *il diags I S A J* 5:47-9 Je '58

Problems in reactor coolants; abstract. E. E. Hoffman. *Metal Prog* 72:196-4 D '57

Pumps for molten metals and salts. *il Engineering* 184:522 O 25 '57

Some aspects of liquid metals; abstract. L. H. J. Harper. *Metal Prog* 73:180-2 F '58

What's in symposium series volume 53; abstracts. *Chem Eng Prog* 53:458, 555, 612 S, N-D '57

See also

Aluminum, Molten
 Bismuth, Molten
 Iron, Molten
 Sodium, Molten

Fire hazards

What to do about metal fires. *il Iron Age* 180:128-9 N 21 '57

METALS, Non-ferrous

Advances in inspection techniques as aids to process control in non-ferrous metals production; symposium. *Engineering* 185:575-6 My 2 '58

Characteristics of potential-time curves for painted non-ferrous metals. J. H. Greenblatt. *bibliog J Ap Chem* 8:229-32 Ap '58

Corrosion of metals in tropical environments; five non-ferrous metals and a structural steel. E. W. Ferguson and others. *il Corrosion* 14:33-41 F '58

Diversification, key to growth of Aanconda; nonferrous products. M. H. Gidel. *il Min Cong J* 44:22-6+ My '58

Extrusion markets grow; with table. *il Steel* 142:183-4 Ap 21 '58

Fifty years of nonferrous metallurgy. F. C. Frary. *il Ind & Eng Chem* 50:sup45A-6A+ F '58

How to get more for your metalworking dollar; machining nonferrous metals. *il diags Iron Age* 181:118-23 Ap 24 '58

Industrial know-how handbook; non-ferrous metals and their alloys. *Mill & Factory* 62:MW36-7 My '58

Metallurgy of the unusual. W. J. Kroll. *Chem & Ind* p26-9 Ja 11 '58

Metals research spearhead American smelting and refining co.'s growth. *il Ind Lab* 9:80-1 F '58

Nonferrous metal production; forum on technical progress. *Steel* 142:238-40+ Ja 6 '58

Non-ferrous metallurgy, 1908-1958. *Engineering* 185:626 My 16 '58

Nonferrous metals slide on. *Chem & Eng N* 36:25 F 3 '58

Nonferrous role in "birds". *il Steel* 142:96-7 Ap 14 '58

Planning the melting department of a non-ferrous foundry. *il diag Foundry* 85:160-1+ N '57

Properties of materials; nonferrous metals. *Materials in Design Eng* 48:83-123 Mid-O '58

Scrap control in nonferrous foundries. M. G. Dietl. *Foundry* 85:106-9 N '57

Why and where to use centrifugal castings; nonferrous castings. J. L. Evershart. *il Materials in Design Eng* 48:93-5 S '58

See also

Aluminum

Brass

Furnaces, Non-ferrous melting

Magnesium

Standards

Guide to materials standards and specifications; nonferrous metals. S. P. Kaldanovsky. *Materials in Design Eng* 47:110-13 My '58

METALS, Porous

Porous bronze tank vent is safer, costs less; award of merit in Materials in design engineering competition. *il diags Materials in Design Eng* 47:137-8 Ap '58

Porous metal filter media solve tough operating problems. J. Kovacs. *il Materials in Design Eng* 47:126-8 Ja '58

METALS, Powdered. See Metal powders**METALS, Precious. See Precious metals****METALS, Tarnishing of. See Tarnishing of Metals****METAMORPHIC rocks. See Rocks, Crystalline and metamorphic****METAMORPHISM**

Deuteric alteration of some aplite-pegmatites of the Boulder batholith, Montana, and its possible significance to ore deposition. G. J. Neuberger. *bibliog Econ Geol* 53:287-99 My '58

Geology and metamorphism of the Nairne pyritic formation, a sedimentary sulfide deposit in South Australia. B. J. Skinner. *bibliog il maps diag Econ Geol* 53:546-62 Ar '58

Scheelite in feldspathized granodiorite at the Victory mine, Gabbs, Nev. F. L. Humphrey and M. Wyatt. *il maps diags Econ Geol* 53:38-64 Ja '58

See also

Rocks, Crystalline and metamorphic

METAMORPHOSIS (insects). See Insects

METASTABILITY

Absorption spectra and decay kinetics of the metastable states of chlorophyll A and B. H. Linschitz and K. Sarkanen, *bibliog diag Am Chem Soc J* 80:4826-32 S 20 '58

Formation of metastable aluminas at high temperatures. M. Plummer, *bibliog il diag J Ap Chem* 8:35-44 Ja '58

METATHIAZANONES

Central nervous system depressants: the preparation of some 2-aryl-4-metathiazanones. A. R. Surrey and others, *Am Chem Soc J* 80:3469-71 JI '58

METEORITE craters

Fossil meteorite craters. C. S. Beals, *il diag Sci Am* 199:32-9 *bibliog*(p 126) JI '58

METEORITES

Whence earth? chemical assays of meteorites give clues to earth's age. *Ind & Eng Chem* 50:sup26A+ Je '58

METEOROLOGICAL balloons. See Balloons, Meteorological

METEOROLOGICAL instruments

Esoo seeks a new weather yardstick. *il Oil & Gas J* 56:90-1 F 24 '58

Laminated bits to gather satellite weather information. *il Elec Eng* 77:196 F '58

See also

Altimeters
Anemometers
Barometers
Hygrometers
Radio meteorographs

METEOROLOGICAL research

Canadian armament research and development establishment I.G.Y. upper air research program. R. F. Chinnick, *bibliog il (cover) diag Engr J* 41:61-7 A '58

International geophysical year: meteorology. D. C. Rose, *il Eng J* 41:43-9 Ag '58

World-wide observations gather data in co-operative IGY program. *il Elec Eng* 76:1107-9 D '57

See also

Radio meteorographs

METEOROLOGICAL stations, Portable

Grasshopper transmits weather automatically. *il Elec Eng* 77:857-8 S '58

Weather stations are air dropped; transmitter called the Grasshopper. *il Electronics* 31:96 A '58

METEOROLOGY

Meteorological method for profile surveying. L. V. Toralballo, *diag Am Soc C E Proc* 83 [SU 2 no 1447]:1-16 N '57

Northeastern floods of 1955; meteorology of the floods. C. S. Gilman and K. R. Peterson, *maps diag Am Soc C E Proc* 84 [HY 3 no 1661]:1-37 Je '58

See also

Calculating machines—Meteorological uses
Climate
Clouds
Floods
Magnetic storms
Magnetism, Terrestrial
Radar—Meteorological use
Rain and rainfall
Sunspots
Thunderstorms
Weather
Weather control
Weather forecasting
Winds

METEOROLOGY, Aeronautic

Clear-air turbulence over the United States. L. H. Clem, *maps Aeronautical Eng R* 16: 63-8 N '57

See also

Radio meteorographs

METEORS

Amateur scientist; how a Kansas amateur group counts meteors by reflection of radio waves. W. S. Houston, *diag Sci Am* 199: 108-10+ JI '58

Analysis of oblique path meteor-propagation data from the communications viewpoint. W. R. Vincent and others, *bibliog il diag Inst Radio Eng Proc* 45:1701-7 D '57; Same cond. *Electronic Ind & Tele-Tech* 16:52-5+ O '57

Antenna array for studies in meteor and radio astronomy at 13 meters. P. B. Gallagher, *il Inst Radio Eng Proc* 46:89-92 Ja '58

Bandwidth considerations in a JANET system. L. L. Campbell and C. O. Hines, *Inst Radio Eng Proc* 45:1658-60 D '57

Cameras record flight of satellites and meteors: Super Schmidt meteor camera and the IGY satellite tracking camera. *il Ind Lab* 9:68-9 Je '58

Canadian JANET system; single channel radio teletype link. G. W. L. Davis and others, *il diag Inst Radio Eng Proc* 45: 1666-78 D '57

Communications via meteor bursts. G. F. Montgomery, *il Radio-Electronics* 29:88-90 JI '58

Directional characteristics of meteor propagation derived from radar measurements. V. R. Eshleman and R. F. Miodnosky, *bibliog diag Inst Radio Eng Proc* 45:1716-23 D '57

Experimental facsimile communication utilizing intermittent meteor ionization. W. H. Bliss and others, *il Inst Radio Eng Proc* 45:1734-5 D '57

Influence of meteor-radiant distributions in meteor-scatter communication. M. L. Meeks and J. C. James, *bibliog diag Inst Radio Eng Proc* 45:1724-33 D '57

International geophysical year; meteor studies. D. C. Rose, *il (p59) Engr J* 41:60 A '58

Investigation of storage capacity required for a meteor-burst communications system. R. A. Rach, *Inst Radio Eng Proc* 45:1707-9 D '57

Magnetic core event counter for earth satellite memory; recording micrometeorite bombardment. D. H. Schaefer, *il diag Elec Eng* 77:52-6 Ja '58

Meteor-burst system for extended range vhf communications. W. R. Vincent and others, *il diag Inst Radio Eng Proc* 45:1693-700 D '57; Same cond. *Electronic Ind & Tele-Tech* 16:84-8+ N '57

Meteor bursts provide communications path. E. M. Sifford and W. R. Vincent, *il diag Electronics* 31:42-5 A '58

Meteor ping from Sputnik II. C. R. Graf, *diag Q S T* 42:47 Mr '58

Meteoric hazards to space flight; abstract. N. H. Langton, *Engineering* 185:164 F 7 '58

Meteorites; metallurgy from outer space. P. M. Unterweiser, *il Iron Age* 180:131-3 D 5 '57

Meteors relay vhf signals; experimental facsimile system. *map Electronics* 31:32 Ja 10 '58

Observatory for the study of meteors near Ottawa. F. R. Park, *il Engr J* 41:68-70 A '58

Principles of JANET, a meteor-burst communication system. P. A. Forsyth and others, *bibliog (33 titles) il map diag Inst Radio Eng Proc* 45:1642-57 D '57

Problems in the physics of meteors. E. J. Opik, *bibliog*(28 ref) *il Am J Phys* 26:70-9 F '58

Radar echoes from overdense meteor trails under conditions of severe diffusion. G. S. Hawkins and D. F. Winter, *diag Inst Radio Eng Proc* 45:1290-1 S '57

Signals bounced from meteor trails. *Elec Eng* 77:114-15 Ja '58; Same abr. *Franklin Inst J* 265:76-7 Ja '58

Solar cycle influence on the lower ionosphere and on vhf forward scatter. C. Ellyett and H. Leighton, *bibliog Inst Radio Eng Proc* 46:1711-16 O '58

Some airborne measurements of vhf reflections from meteor trails. J. P. Casey and J. A. Holladay, *Inst Radio Eng Proc* 45: 1735-6 D '57

Storage capacity in burst-type communication systems. L. L. Campbell, *Inst Radio Eng Proc* 45:1661-6 D '57; Discussion. W. A. Helbig, 46:1649-50 S '58

Transmission error function for meteor-burst communication. G. F. Montgomery, *Inst Radio Eng Proc* 46:1423-4 JI '58

Utility of meteor bursts for intermittent radio communication. G. F. Montgomery and G. R. Sugar, *bibliog diag Inst Radio Eng Proc* 45:1684-93 D '57

Vhf radio range increased 2 1/2 times; Stanford research institute engineers are bouncing signals off meteor trails. *il diag Pet Eng* 29:D46+ D '57

Wavelength dependence of the information capacity of meteor-burst propagation. V. R. Eshleman, *bibliog Inst Radio Eng Proc* 45:1710-14 D '57

METERS

Here's the way to proper meter calibration.
M. A. Levy. Oil & Gas J 56:107-9 Je 30 '58

See also
Accelerometers
Automobile parking meters
Elastometers
Electric meters
Flow meters
Frequency meters
Gas meters
Liquid meters
Orifice meters
Steam meters
Tachometers
Viscosimeters
Water meters

Cleaning

Quick cleaning with ultrasonics saves meters.
Il Power Eng 62:81 Ja '58

Testing

Testing the oil industry's meters. M. L. Barrett, jr. Il diags Mech Eng 80:61-6 My '58

METHACRYLATES

Correlation between dilatometric and viscoelastic data on a series of poly- η -alkyl methacrylates. H. Fujita and S. Kishi. moto. bibliog J Colloid Sci 13:418-28 O '58
Crosslinking efficiencies in the methyl methacrylate-ethylene dimethacrylate and ethyl methacrylate-ethylene dimethacrylate systems; degradative analysis by electron irradiation. A. R. Shultz. bibliog Am Chem Soc J 80:1354-60 Ap 20 '58
Crystalline polymers of methyl methacrylate. T. G. Fox and others. Il Am Chem Soc J 80:1768-9 Ap 5 '58
Diaphragm behavior of plastic disks. A. G. H. Dietz and P. J. McGarry. bibliog diag Mod Plastics 36:135-6+ S '58
Dielectric dispersion in methacrylate polymers and its correlation with mechanical properties. J. D. Ferry and S. Strella. bibliog J Colloid Sci 13:459-71 O '58
Dynamic mechanical properties of poly- α -octyl methacrylate. W. Dannhauser and others. bibliog J Colloid Sci 13:103-13 Ap '58
Fracture phenomena and molecular weight in polymethyl methacrylate. S. B. Newmann and I. Wolcott. bibliog Il diags J Ap Phys 29:49-52 Ja '58
Mastication; separation and structural investigation of natural rubber-polymethyl methacrylate interpolymers formed by mastication. D. J. Angier and W. F. Watson. bibliog Rubber Chem & Tech 31:58-72 Ja '58
Oxidation of unsaturated compounds; the oxidation of methacrylic esters. F. R. Mayo and A. A. Miller. Am Chem Soc J 80:2493-6 My 20 '58
Ozonolytic degradation of interpolymers of natural rubber with methyl methacrylate and styrene. D. Barnard. bibliog Rubber Chem & Tech 31:82-5 Ja '58
(+)-Poly(1:3-dimethylbutyl methacrylate); the contribution of the main chain to the rotatory power. C. L. Arous and D. W. West. Chem & Ind p230-1 F 22 '58
Preparation of thiolmethacrylate esters; a study of the reaction of sodium mercaptides with methacrylyl chloride. G. Sumrell and others. bibliog Am Chem Soc J 80:2509-13 My 20 '58
Structure of crystalline poly-(methyl methacrylate). J. D. Stroupe and R. E. Hughes. diag Am Chem Soc J 80:2341-2 My 5 '58
Studies of graft copolymers; methyl methacrylate and acrylamide on polybutadiene; evaluation as elastomeric materials. N. Nikolov and L. A. McLeod. bibliog Rubber Age 83:987-92 S '58
Unsaturated polyester resins containing methyl methacrylate monomer. A. L. Smith and J. R. Lowry. bibliog Il Mod Plastics 35:134+ Mr '58

METHANE

Laminar burning velocities of methane-oxygen-diluent gas mixtures. S. A. Weil and others. bibliog Ind & Eng Chem 50:1101-4 J '58
Studies on sludge digestion and methane fermentation. K. L. Schulze and B. Naga Raju. bibliog diag Sewage & Ind Wastes 30:28-45, 164-84 Ja-F '58
Synthesis gas from methane. W. Weinrich. Il Pet Eng 29:C62 N '57
See also
Diazomethane
Fire damp

Manufacture

Hydrogenator converts heavy oil to fuel gas. diags Chem Engr 65:64+ Ag 25 '58

Spectra

Infrared emission spectrum of methane at 3.3 microns. E. K. Plyler and L. R. Elaine. J Res Nat Bur Stand 59:317-18 N '57

METHANE, Liquid

Detonation of liquid oxygen-liquid methane solutions. A. V. Grosse and others. Am Chem Soc J 79:6341-2 D 5 '57

Transportation

FPC gets Constock plan to ship gas abroad. Oil & Gas J 56:112 Ap 7 '58
Louisiana gas may move to Europe. maps Oil & Gas J 56:52 Mr 31 '58
Methane nears tanker shipment. Chem & Eng N 35:25 N 4 '57

METHANESULFONATE

Preparation and properties of surface-active N-acylamino-methanesulfonates. R. A. Falk and others. bibliog Am Oil Chem Soc J 35:171-6 Ap '58

METHANETHIOL

Analysis

Determination of micro quantities of methyl mercaptan in gamma-irradiated meat. R. A. Silwinski and D. M. Doty. bibliog J Agri & Food Chem 6:41-4 Ja '58

Manufacture

Methyl mercaptan. flow diag Pet Refiner 36:265 N '57

METHANOL

Affinity of nitrogen dioxide oxycelluloses and periodate oxycelluloses for methanol. T. P. Nevell. Chem & Ind p389-90 Mr 29 '58
Partition separation of carcenoids by silica-methanol columns. A. E. Purcell. bibliog Anal Chem 30:1049-51 Je '58
Radical and molecular yields in the γ -irradiation of liquid methanol. G. E. Adams and J. H. Baxendale. bibliog Am Chem Soc J 80:4215-19 Ag 20 '58
Rates of solvolysis of substituted phenyldimethylcarbinyl chlorides in methyl, ethyl and isopropyl alcohols; influence of the solvent on the value of the electrophilic substituent constant. Y. Okamoto and others. bibliog Am Chem Soc J 80:4972-6 S 20 '58
Reaction of iodine in methanol with decaborane and tetraborane. A. E. Messner. Anal Chem 30:547-8 Ap '58
Reactions of carbohydrates with nitrogenous substances; the Amadori rearrangement in methanol. L. Rosen and others. bibliog Am Chem Soc J 80:4697-702 S 5 '58
Retardation of exchange processes by molecular association; methyl alcohol. P. L. Corio and others. Am Chem Soc J 80:3163-4 Je 20 '58
Synthesis of ammonium fluorometallates in methanol. H. M. Haendler and others. bibliog Am Chem Soc J 80:2662-4 Je 5 '58
Thermodynamics in methanol synthesis. W. J. Thomas and S. Portalski. bibliog Ind & Eng Chem 50:967-70 Je '58

Manufacture

First U.S. Inventa methanol plant fills open slot at integrated chemical complex. C. S. Cronan. Il diag Chem Eng 65:62-4 F 24 '58
Methanol and formaldehyde production; Inventa process. Manuf Chem 29:63 F '58
Methanol; Chemical construction corp. flow diag Pet Refiner 36:260 N '57
Methanol; Commercial solvents corp. flow diag Pet Refiner 36:259 N '57
Methanol; Foster Wheeler corp. flow diag Pet Refiner 36:261 N '57
Methanol (Uhde); Arthur G. McKee & co. flow diag Pet Refiner 36:262 N '57

METHANOLYSIS

Mechanism of methanolysis of triphenylmethyl chloride in benzene solution. C. G. Swain and E. E. Pegues. bibliog Am Chem Soc J 80:812-19 F 20 '58

METHEMOGLOBIN

Kinetic and equilibrium measurements of the regeneration of acid-denatured horse ferrihemoglobin. J. Steinhardt and others. bibliog Am Chem Soc J 80:4634-44 S 5 '58

METHIONINE

Nitrogen balances of women maintained on various levels of methionine and cystine. M. S. Reynolds and others. bibliog J Nutrition 64:99-111 Ja '58

METHIONINE—Continued

- Reflections upon some lipotropic facts and fantasies. C. C. Lucas. *Am J Clinical Nutrition* 6:504-12 bibliog(p510-12) S '58
- Response of rats to diets high in methionine and related compounds. F. Cohen and others. *J Nutrition* 64:555-69 bibliog(p567-9) Ap '58
- Role of choline and methionine antagonists in metabolism. I. C. Wells. *Am J Clinical Nutrition* 6:254-60 bibliog(p259-60); Discussion. 260-2 My '58
- S-adenosylmethionine and ergosterol synthesis. L. W. Parks. *bibliog Am Chem Soc J* 80:2023-4 Ap 20 '58
- Some effects of DL-methionine and glycocyamine on growth and nitrogen retention in rats. H. Baron. *J Nutrition* 64:229-39 bibliog(28 titles, p237-9) F '58
- METHOXYCHLOR**
- Sesoxane as a synergist for methoxychlor. H. E. Fairchild. *Soap & Chem Spec* 34: 82+ Ja '58

Analysis

- Residues in milk from dairy cattle treated with methoxychlor for fly control. K. Heilrich and others. *J Agri & Food Chem* 6: 281-3 Ap '58

METHOXY compounds

- Configurations of the 3-methoxycyclohexene oxides; a novel application of proton magnetic resonance spectroscopy to the determination of structure and configuration. R. U. Lemieux and others. *bibliog Am Chem Soc J* 80:2237-42 My 5 '58
- Hydrogen bromide cleavage of hindered 2-methoxyacetophenones. W. J. Horton and J. T. Spence. *bibliog Am Chem Soc J* 80: 2453-6 My 20 '58
- Relative rates of bromination of some hydroxy, methoxy and methylio-substituted polymethylbenzenes; partial inhibition of resonance effects. G. Illuminati. *bibliog Am Chem Soc J* 80:4945-8 S 20 '58
- Synthesis of *m*-methoxynaphthylamines as precursors for chromogenic substrates. D. H. Rosenblatt and others. *bibliog Am Chem Soc J* 80:3463-5 My 20 '58

METHOXYPHthalates

- Hydrolysis of diethyl methoxyphthalates. C. A. Burkhard and R. E. Burnett. *bibliog Am Chem Soc J* 80:341-3 Ja 20 '58

METHYL acetamide

- Solvents having high dielectric constants; conductimetric behavior of some alkaline earth salts in *N*-methylacetamide at 40°. L. R. Dawson and others. *bibliog Am Chem Soc J* 80:4233-5 Ag 20 '58

METHYL alcohol. See Methanol**METHYLAMINE**

- Intramolecular reactions of secondary carbamidine nitrosamides. E. H. White and C. A. Audermarsh. *Am Chem Soc J* 80:2597-8 My 20 '58
- Molecular weight measurements in liquid ammonia; the molecular weights of the methylamine-boranes, the diammoniate of diborane, ammonia-boron trifluoride and other substances. R. W. Parry and others. *bibliog Am Chem Soc J* 80:24-7 Ja 5 '58

Manufacture

- Methylamines; Nitto chemical industry co. flow diag *Pet Refiner* 36:263 N '57
- New methylamines plant uses high pressure; Terre Haute facilities of commercial solvents. flow sheet *Chem Eng Prog* 54:78 S '58
- Now a new methylamines plant for Commercial solvents corp. flow diag *Int Pet Refiner* 37:373-4+ S '58

METHYL benzenes. See Toluene**METHYL benzopyrene**

- Synthesis of 5,8-dimethyl-3,4-benzopyrene, 5, 10-dimethyl-3,4-benzopyrene and 5,8,10-trimethyl-3,4-benzopyrene. J. L. Adelfang and G. H. Daub. *bibliog Am Chem Soc J* 80:1405-9 Mr 20 '58
- Synthesis of 1-methyl-3,4-benzopyrene and 1,8-dimethyl-3,4-benzopyrene. W. C. Doyle, Jr. and G. H. Daub. *bibliog Am Chem Soc J* 80:5252-5 O 5 '58

METHYL benzylideneglucoside

- Periodate oxidation of methyl 4:6-O-benzylidene- α -D-glucoside. R. D. Guthrie and J. Honeyman. *bibliog Chem & Ind* p388-9 Mr 29 '58

METHYL bromoacetate

- Telomerization of ethylene with methyl bromoacetate. W. A. Skinner and others. *bibliog Am Chem Soc J* 79:5790-2 N 5 '57

METHYL butane

- C14 hot atom chemistry of *n*-pentane and isopentane. C. F. MacKay and W. F. Libby. *bibliog Am Chem Soc J* 79:6366-9 D 20 '57
- First pentane isomerization unit. L. E. Dean and others. flow sheet *Oil & Gas J* 56: 54-6 S 29 '58

METHYL butanol. See Amyl alcohol**METHYL cellulose**

- Film lining for high-capacity dry cells. N. C. Cahoon and M. P. Korver. *bibliog Electrochem Soc J* 105:293-5 Je '58

See also**Carboxymethyl cellulose**

- METHYL cinnamate**
- Investigations on lignins and lignification; the biosynthesis of methyl *p*-methoxycinnamate from specifically labeled D-glucose by *lentinus lepidus*. H. Shimazono and others. *bibliog Am Chem Soc J* 80:1992-4 Ap 20 '58

METHYL compounds

- Reaction of hydroxylamine and its *N*-methyl derivatives with diborane. D. H. Campbell and others. *Am Chem Soc J* 80:1549-52 Ap 5 '58

See also**Methyl group**

- METHYL cyclobutyl ketone**
- Thermal decomposition of methyl cyclobutyl ketone. L. G. Daignault and W. D. Walters. *bibliog Am Chem Soc J* 80:541-5 F 5 '58

METHYL cyclohexene

- Gas-liquid partition chromatography of mixtures of the three isomeric methylcyclohexenes and methylcyclohexane. E. Gil-Av and others. *Chem & Ind* p 1483-4 N 9 '57
- Hydrogen transfer; reaction of 1,3-dimethyl-4-ethylbenzene and ethylmesitylene with methylcyclohexene; transalkylation reaction of diarylathanes. H. Pines and J. T. Wright. *bibliog Am Chem Soc J* 80:4369-78 Ar 20 '58

METHYL cyclopentane

- dl*-3-Methylcyclopentane-1,2-dicarboxylic acids and the configurations of the nepetic acids. R. B. Bates and others. *bibliog Am Chem Soc J* 80:3413-20 J1 5 '58
- Mass spectra of methylcyclopentane and methyl-*CH*-cyclopentane. D. P. Stevenson. *bibliog Am Chem Soc J* 80:1671-3 Ap 5 '58

METHYL decalin

- Sterol models; 4a-methyl-*cis*- and -*trans*-decahydronaphthalenes and their 4a-methyl-*da* analogs. M. Idelson and E. I. Becker. *bibliog Am Chem Soc J* 80:908-15 F 20 '58
- Syntheses in the terpene series; synthesis of 10-methyl-1-decalone; the stereochemical stibesity relationship in the 9-methyldecalin series. F. Sondheimer and D. Rosenthal. *bibliog Am Chem Soc J* 80:3995-4001 Ar 5 '58

- METHYL difarnesyl-naphthoquinone. See Vitamins—Vitamin K₂**

METHYL ethers

- Base-catalyzed isomerization of 5,8-dihydro-1-naphthol and its methyl ether. J. F. Eastham and D. R. Larkin. *bibliog Am Chem Soc J* 80:2387-93 Je 5 '58
- Gas-liquid partition chromatography of mixtures of aryl methyl ethers. W. Carruthers and others. *Chem & Ind* p331 Mr 15 '58

METHYL fucose

- Occurrence of 2-O-methyl-L-fucose as a constituent of plum leaf polysaccharides. J. D. Anderson and others. *bibliog Chem & Ind* p 1453 N 2 '57

METHYL glucose

- Two new glucose monoacetates, apparently 6-O-acetyl- α - and 8-O-glucose acetyl- α -anomers of the metabolism of glucose, acetylglucose and 6-O-methylglucose. R. E. Reeves and others. *bibliog Am Chem Soc J* 79:6041-3 N 20 '57

METHYL group

- Addition of methyl radical to *cis* and *trans* isomers. A. R. Bader and others. *bibliog Am Chem Soc J* 79:5621-5 N 5 '57
- Addition of silyllithium compounds containing methyl and phenyl groups to benzophenone in tetrahydrofuran. H. Gilman and G. D. Lichtenwalter. *bibliog Am Chem Soc J* 80:607-8 F 5 '58
- Biosynthesis of methyl groups of choline from formaldehyde by liver preparations. R. Venkataraman and D. M. Greenberg. *Am Chem Soc J* 80:2025 Ap 20 '58
- Contribution to the anthrasteroid problem; the location of the aromatic C-methyl group and the position of the conjugated double bond. A. W. Burgstahler. *bibliog Am Chem Soc J* 79:6047-50 N 20 '57

METHYL group—Continued

- Effect of methyl substitution on the periodate oxidation of *cis*- and *trans*-cyclopentadiol-1,2. V. C. Bulgrin and G. Dahlgren, jr. *bibliog Am Chem Soc J* 80:3883-7 Ar 5 '58
- Higher potency; activity of analgesics is increased by substituting cinnamyl for methyl group. *Chem & Eng N* 36:50 Ap 21 '58
- Methyl affinities of dienes. A. Rajbenbach and M. Szwarc. *Am Chem Soc J* 79:6343-4 D 5 '57
- Origin of the methyl groups in morphine, codeine and thebaine. A. R. Battersby and B. J. T. Harper. *bibliog Chem & Ind* p365 Mr 22 '58
- Reactions of CD₃ radicals with the butenes. J. R. McNesby and A. S. Gordon. *Am Chem Soc J* 79:5902-6 N 20 '57
- Reactions of free radicals with aromatics; involvement of ring hydrogens in the reaction of methyl radicals with alkylbenzenes. S. H. Wilen and E. L. Eljel. *bibliog Am Chem Soc J* 80:3309-14 J1 5 '58
- Reactions of hindered α -substituted acids; the effect of a β -methyl group on the acid-catalyzed rearrangement. W. R. Vaughan and A. C. Schoenthaler. *bibliog Am Chem Soc J* 79:5777-80 N 5 '57
- Relative activation energies of removal of primary, secondary and tertiary hydrogen atoms by methyl radicals. F. O. Rice and T. A. Vanderslice. *bibliog Am Chem Soc J* 80:291-3 Ja 20 '58
- Vapor-phase free radical displacement reaction, the reaction of methyl radicals with *trans*-methyl propenyl ketone. J. N. Pitts, jr. and others. *bibliog Am Chem Soc J* 79:6370-2 D 20 '57
- METHYL heptenone**
Synthesis and acid-catalyzed cyclization of α -methylheptenone. J. Meinwald and J. A. Yankelov, jr. *bibliog Am Chem Soc J* 80:5266-70 O 5 '58
- METHYL hydrazine**
Reactions of methylhydrazine and unsymmetrical dimethylhydrazine with esters and anhydrides of carboxylic acids; the application of paper chromatography to problems in synthetic organic chemistry. R. L. Hinman and D. Fulton. *bibliog Am Chem Soc J* 80:1895-900 Ap 20 '58
- METHYL isobutyl ketone**
Try methyl isobutyl ketone in your wax de-icing unit. J. G. Warnecke and P. S. Backlund. *bibliog diags Pet Refiner* 37:189-92 Ap '58
- METHYL isothiurea**
Comparison of the reactions of some amines with nitrosoguanidine, cyanamide and S-methylisothiurea hydrochlorides. J. P. Horwitz and C. C. Rilla. *bibliog Am Chem Soc J* 80:431-7 Ja 20 '58
- METHYL inoleate**
Reaction of mercaptoacetic acid with methyl inoleate and inoleic acid. S. P. Fore and others. *bibliog Am Oil Chem Soc J* 35:225-30 My '58
- METHYL magnesium iodide**
Asymmetric induction studies with optically active biphenyls; the reactions of phenylglyoxylates of the phenyldihydrothebaine series with methylmagnesium iodide. J. A. Berson and M. A. Greenbaum. *bibliog Am Chem Soc J* 80:445-51 Ja 20 '58
- Synthesis and complete resolution of 2-hydroxy-1,1'-binaphthyl and the reaction of its phenylglyoxylate with methylmagnesium iodide. J. A. Berson and M. A. Greenbaum. *bibliog Am Chem Soc J* 80:653-6 F 5 '58
- METHYL mercaptan**. See Methanethiol
- METHYL mercury iodide**
Acid cleavage of methylmercuric iodide. M. M. Kreevoy. *bibliog Am Chem Soc J* 79:5927-30 N 20 '57
- METHYL methacrylate**. See Methacrylates
- METHYL naphthalene**
Separation of xylenes, cymenes, methyl-naphthalenes and other isomers by clathration with inorganic complexes. W. D. Schaeffer and others. *Am Chem Soc J* 79:5870-6 N 20 '57
- Steric strains in methyl-naphthalenes. J. Packer and others. *Am Chem Soc J* 80:905-7 F 20 '58
- METHYL nicotinamide**
Sites of reduction and base-catalyzed hydrogen-exchange in N-methylnicotinamide iodide. H. E. Dubb and others. *bibliog Am Chem Soc J* 80:1767-8 Ap 5 '58

METHYL nonane

- Studies on the mechanism of the Wurtz reaction; the configurations of 2-bromo-octane, 3-methylnonane and 7,8-dimethyl-tetradecane. E. LeGoff and others. *bibliog Am Chem Soc J* 80:622-5 F 5 '58
- METHYL oleate**
Hydroxylation of methyl oleate; a new, direct method. J. G. Wallace and others. *bibliog Am Oil Chem Soc J* 35:205-7 My '58
- METHYL parathion**
Organophosphates on stream; Monsanto starts up new parathion, methyl parathion unit. *Ch Chem & Eng N* 36:26 Ja 27 '58
- METHYL pentanone**
Spectra of solutions of cobalt(III) thiocyanate complexes in 4-methyl-2-pentanone. C. H. Brubaker, jr. and C. E. Johnson. *bibliog Am Chem Soc J* 80:5037-40 O 5 '58
- METHYL propanethiol**. See Isobutyl mercaptan
- METHYL propenyl ketone**
Free radical displacement processes; reactions of CH₃ and CD₃ radicals with crotonaldehyde and with methyl propenyl ketone. J. N. Pitts, jr. and others. *bibliog Am Chem Soc J* 80:66-70 Ja 5 '58
- Vapor-phase photochemistry of *trans*-methyl propenyl ketone. R. S. Tolberg and J. N. Pitts, jr. *bibliog Am Chem Soc J* 80:1304-9 Mr 20 '58
- METHYL propyl ketone**. See Pentanone
- METHYL pyrazine**
Tertiary carbinols of the piperazine series; products derived from the nucleophilic condensations of 2-methylpyrazine and 1-methyl-4-phenylacetylpyrazine. H. E. Zausg and others. *Am Chem Soc J* 80:2773-4 Je 5 '58
- METHYL rhannopyranoside**
Structure of the dialdehyde formed by periodate oxidation of methyl α -L-rhamnopyranoside. I. J. Goldstein and others. *bibliog Am Chem Soc J* 80:939-41 F 20 '58
- METHYL stearate**
Autoxidation of methyl elaeostearate. R. N. Faulkner. *bibliog J Ap Chem* 8:448-53 J1 '58
- METHYL styrene**
Dimers of ring substituted α -methylstyrenes. J. C. Petropoulos and J. J. Fisher. *bibliog Am Chem Soc J* 80:1938-41 Ap 20 '58
- Heat resistant thermoplastic has good electrical properties. *It Materials in Design Eng* 47:159-60-F '58
- Oxidation of unsaturated compounds; the effect of oxygen pressure on the oxidation of α -methylstyrene. F. R. Mayo and A. A. Miller. *bibliog Am Chem Soc J* 80:2480-93 My 20 '58
- Reaction of α -methylstyrene catalyzed by sodium. M. Kolobieliski and H. Pines. *bibliog Am Chem Soc J* 79:5820-5 N 5 '57
- METHYL sulfide**
Dimethyl sulfide production from kraft pulp mill black liquor. W. G. Meyer and J. G. Coma. *flow diag Chem Eng Prog* 54:178+ My '58
- METHYL sulfonyl arabinose**
Preparation of crystalline 2-O-methylsulfonyl-D-arabinose and some of its derivatives. H. B. Wood, jr. and H. G. Fletcher, jr. *bibliog Am Chem Soc J* 80:5242-6 O 5 '58
- METHYL vinyl pyridine**
2-Methyl-5-vinylpyridine in polyester resin formulations. C. E. Wheelock. *bibliog diags Ind & Eng Chem* 49:1929-30 N '57
- Manufacture**
Methyl vinyl pyridine. *flow diag Pet Refiner* 36:266 N '57
- METHYLATION**
Methylation of alcohols with diazomethane. M. C. Caserio and others. *Am Chem Soc J* 80:2584-5 My 20 '58
- Reduction of the products of periodate oxidation of carbohydrates; methylation studies on the monaldehyde formed by catalytic reduction of p'-methoxy-D-hydroxymethylglycolic aldehyde. I. J. Goldstein and F. Smith. *bibliog Am Chem Soc J* 80:4681-2 S 5 '58
- Synthesis and reactions of ring A methylated saturated steroids. V. Mazur and F. Schneider. *bibliog Am Chem Soc J* 80:5220-9 O 5 '58
- METHYLENE**
Macro rings; the synthesis and properties of six new paracyclophanes carrying one methylene in one of the bridges. D. J. Cram and M. F. Antar. *bibliog Am Chem Soc J* 80:3103-9 Je 20 '58

METHYLENE—Continued

Methylene derivatives as intermediates in polar reactions; isopropoxyfluoromethylene. J. Hine and K. Tanabe. *bibliog Am Chem Soc J* 80:3002-7 Je 20 '58

Polymethylene via ethylene; abstract. J. J. Smith. *il Chem & Eng N* 36:46 Ap 28 '58

Reactions of methylene; addition to carbon monoxide. T. B. Wilson and G. B. Kistiakowsky. *bibliog Am Chem Soc J* 80:2934-9 Je 20 '58

Reactions of methylene; ethylene, propane, cyclopropane and *n*-butane. H. M. Frey and G. B. Kistiakowsky. *bibliog Am Chem Soc J* 79:6373-9 J 20 '57

Reactions of methylene; ketene and carbon dioxide. G. B. Kistiakowsky and K. Sauer. *bibliog Am Chem Soc J* 80:1066-71 Mr 6 '58

Reactivity of methylene. H. M. Frey. *Am Chem Soc J* 80:5005-6 S 20 '58

METHYLENE blue

Study of the physical state of methylene blue (C.I. basic blue 9) in dyed films and its relation to light fading rates. D. S. E. Campbell and C. H. Giles. *bibliog Soc Dyers & Col J* 74:164-8 Mr '58

METHYLENE compounds

Methylene derivatives as intermediates in polar reactions; the basic hydrolysis of bromochlorodimethane. J. Hine and F. P. Prosser. *bibliog Am Chem Soc J* 80:4282-5 Ag 20 '58

Quinone imides; the addition of heterocyclic active methylene compounds to *p*-benzoquinone dimides. R. Adams and others. *Am Chem Soc J* 80:3291-3 J 15 '58

METHYLENECYCLOHEXANE

Gas-liquid partition chromatography of mixtures of the three isomeric methylcyclohexenes and methylenecyclohexane. E. Gil-Av and others. *Chem & Ind p* 1483-4 N 9 '57

METHYLENE group

Mechanism of carbonyl-methylene condensations. S. Patai and others. *Chem & Ind p* 1671-2 D 28 '57

METHYLENE malonitrile

Vinylidene cyanide. J. C. Westfahl. *bibliog Am Chem Soc J* 80:371-7 F 20 '58

METHYLENIMINE

Addition of silylmetallic compounds to the azo and azomethine linkage. D. Wittenberg and others. *bibliog Am Chem Soc J* 80:4532-4 S 5 '58

Derivatives of fluorene; stereoisomerism and polymorphism of *N*-aryl azomethines. M. E. Taylor and T. L. Fletcher. *bibliog Am Chem Soc J* 80:2246-9 My 5 '58

METHYLOL compounds

Fabrics treated with dimethylol ethylene urea; abstract. H. C. Walter and others. *Am Dyestuff Rep* 46:979 D 16 '57

Trimethylolpropane goes large scale. *il Chem & Eng N* 35:120-1 D 30 '57

METHYLOL group

Esterification of methylolated rosin. J. C. Minor and R. V. Lawrence. *bibliog il Ind & Eng Chem* 50:1127-30 Ar '58

METRIC system

Conversions in English and metric systems. H. A. Magnus. *Product Eng* 28:A30-1 Mid-O '57

Interchangeability in the inch and metric systems. *Engineer* 206:494 S 26 '58

METROPOLITAN districts

Critic's America; abstract. H. Casson. *Arch Forum* 108:150 F '58

Environmental health aspects of future metropolitan area complexes. M. D. Hollis. *Am J Pub Health* 48:484-8 Ap '58

Mental health in the environment of the metropolitan area of the future. J. D. Porterfield. *Am J Pub Health* 48:489-94 Ap '58

See also

New York (city)—Metropolitan district

Sanitary districts

Seattle—Metropolitan district

Water districts

Winnipeg, Manitoba—Metropolitan district

MEVALDIC acid. See Dihydroxymethyl glutaraldehydic acid

MEVALONIC acid. See Dihydroxymethyl valeric acid

MEXICO

See also subdivision Mexico under special subjects, e.g.

Chemical engineering

Chemical industries

Electric industries

Gas. Natural

Geology

Metal workers

Metal working industries

Mines and mineral resources

Petroleum

Petroleum industry and trade

Public health

Steel industry and trade

Steel works

Industries and resources

Mexico chemical surprise. J. Sperling. *il map Chem & Eng N* 36:54-9 Ag 4 '58

MEXICO (city)

Aspects of the sinking of Mexico city and proposed countermeasures. A. Loehnerberg. *bibliog il diags Am Water Works Assn J* 50:432-40 Mr '58

Architecture

Earthquake resistant construction. J. H. Thornley and P. Albin, jr. *il diags Civil Eng* 27:801-5 N '57

Streets

Mexico City expressway; viaducto Miguel Aleman. *il Eng N* 159:58 N 21 '57

MEXICO university

Mexico's mammoth campus; portfolio of photographs. *Arch Forum* 108:108-13 Mr '58

MEYER, William Gustave

Meet the champ commuter. M. L. Stone. *pers Tool Eng* 40:134-6 My '58

MEYER, Wilson and George and company

Wilson & Geo. Meyer, a distributor of important raw materials for agriculture and industry. *J Agri & Food Chem* 6:74-5 Ja '58

MICA

Chrome mica-clay. Temple mountain. Utah. P. F. Kerr and P. K. Hamilton. *il diags Am Mineralogist* 43:34-47 *bibliog* (p46-7) Ja '58

Mica mat insulation. *Franklin Inst J* 264:430-1 N '57

Mica. 1957. M. L. Skow. *Eng & Min J* 159:161-2 F '58

Mica window assembly for use at elevated bake-out temperatures. A. R. Strand. *diags R Sci Instr* 23:533 Je '58

Polymorphism of micas in the Mineral Bluff and Epworth quadrangles, Georgia. V. J. Hurst. *bibliog maps Geol Soc Bul* 68:1581-3 N '57

Properties of materials. Materials in Design. *Eng* 48:230 Mid-O '58

See also

Biotite

Muscovite

Tariff—United States—Mica

MICARTA

Micarta saves as covering on aluminum leads. S. Cambias, jr. *il Elec World* 148:84 D 9 '57

MICE

Effect of air contaminants on reproduction and offspring survival in mice. P. Kotin and M. Thomas. *bibliog A M A Archives Ind Health* 16:411-13 N '57

Effect of restricted food intake on the life span of genetically obese mice. P. W. Lane and M. M. Dickie. *J Nutrition* 64:549-54 Ap '58

MICELLES

Electron microscope study of certain dispersions of detergents in oil. J. B. Peri. *il Am Oil Chem Soc J* 35:37-41 Ja '58

Factors controlling micelle formation in surfactant solutions. J. C. Harris. *diags Soap & Chem Spec* 34:50-3+ Je; 47-9+ J 1 '58

Interaction of some naphthalene derivatives with a cationic soap below the critical micelle concentration. T. Nash. *bibliog diags J Colloid Sci* 13:134-9 Ap '58

Micellar dispersion of α -monoglycerides in benzene and chlorobenzene. P. Debye and W. Frins. *bibliog J Colloid Sci* 13:86-98 F '58

Shape of soap micelles and other polyions as obtained from anisotropy of electrical conductivity. K. G. Götz and K. Heckmann. *bibliog diags J Colloid Sci* 13:266-72 Je '58

Size of the intermicellar spaces and capillaries in jute fibers as revealed by X-ray analysis. S. K. Chowdhury. *bibliog il Textile Res J* 27:935-9 D '57

Solubilization, a micellar phenomenon. J. C. Harris. *bibliog diags Am Oil Chem Soc J* 35:428-35 Ag '58

MICHAELSON, Stanley D.

Society of mining engineers president in 1958. *pers Min Eng* 10:382, cover Mr '58

MICHIGAN

See also

- Gas, Natural—Michigan, Supply to
also subdivision Michigan under special
subjects, e.g.
Architecture, Domestic
Copper mines and mining
Gas, Natural
Geology
Iron mines and mining
Petroleum
Petroleum industry and trade
Roads
Salt mines and mining

MICHIGAN, Lake

- Lake Michigan dune development. J. S. Olson. bibliog diags J Geol 66:254-63, pl 1, 345-51, pl 1-3, 473-83, pl 1 My-S '58
Replacing dwindling well supply with water from Lake Michigan. R. A. Taylor, II plan Water Works Eng 111:218-19+ Mr '58

MICHIGAN chemical corporation

- Career opportunities. II Chem & Eng N 36:44 pt 2 Ja 27 '58

MICHIGAN CITY, Indiana

Water supply

- Development of master plans to meet future water needs. H. J. Draves. Am Water Works Assn J 50:206-10 F '58

MICHIGAN consolidated gas company

- Michigan Consolidated asks \$17 million. charges Panhandle with improper sales. Gas Age 121:34 Mr 6 '58

MICROANALYSIS

- Analysis for industry. J. Körbl. bibliog Ind Chem 34:507-10, 563-6 S-O '58
Application of spot tests in the examination synthetic fibers. F. Feigl and others. bibliog Textile Res J 28:592-4 O '58
Automatic titration of micro amounts of chloride by convection amperometry. A. L. Juliard. bibliog diag Anal Chem 30:136-40 Ja '58
Combustion microanalysis of volatile liquids. J. M. Corliss. diag Anal Chem 29:1902 D '57
Determination of fluorine in quantitative organic microanalysis. T. S. Ma. bibliog Anal Chem 30:1557-60 S '58
Determination of mercury in organic compounds; a micro and semimicro method. B. C. Southworth and others. Anal Chem 30:1152-3 Je '58
Determination of microgram quantities of potassium by X-ray emission spectrography of ion exchange membranes. P. D. Zemaný and others. bibliog Anal Chem 30:299-300 F '58
Determination of phosphorus in organic compounds; rapid micro and semimicro method. K. D. Fleischer and others. Anal Chem 30:152-4 Ja '58
Further studies with 2,4,7-trinitrofluorenone as a reagent for microscopic fluorescence analysis. D. E. Laskowski and W. C. McCrone. Anal Chem 30:542-4 Ap '58
Infrared microtechniques for identification of carbohydrates and other organic compounds. F. E. Resnik and others. bibliog diags Anal Chem 29:1874-7 D '57
Metallographic application of X-ray scanning microanalysis. D. A. Melford and P. Duncumb. II Metallurgia 57:159-61 Mr '58
Microdetermination of carbon and hydrogen by a rapid combustion procedure. G. I. Robertson and others. bibliog II diag Anal Chem 30:132-5 Ja '58
Microdetermination of carbon and hydrogen in pyrophoric and hygroscopic organic compounds. W. P. Pickhardt and others. bibliog II diag Anal Chem 30:1298-301 Ji '58
Microdetermination of deuterium by effusometry. D. A. Lee. bibliog diags Anal Chem 30:1296-8 Ji '58
Microdetermination of fluorine. J. Samachson and others. bibliog diags Anal Chem 29:1888-91 D '57
Microdetermination of silicon in plants. R. J. Volk and R. L. Weintraub. bibliog Anal Chem 30:1011-14 My '58
Microdetermination of 2,3-dichloro-1,4-naphthoquinone (Phygon) in water. J. E. Newell and others. bibliog J Agri & Food Chem 6:669-71 S '58
Microdetermination of volatile aldehydes. I. R. Hunter and E. F. Potter. bibliog diag Anal Chem 30:293-5 F '58
Microdetermination of zirconium in sulfuric acid solutions with pyrocatechol violet. J. P. Young and others. bibliog Anal Chem 30:422-5 Mr '58

Micro-Kjeldahl method for nitrogen in certain organic compounds containing nitrogen and nitrogen-oxygen linkages. A. Steyermark and others. bibliog Anal Chem 30:1561-3 S '58

Micromethods for analysis of petroleum. A. R. Javes and C. Liddell. bibliog diags Anal Chem 30:1570-5 S '58

Micro-Parr bomb assembly suitable for microdetermination of fluorine in organic compounds. A. Steyermark and F. P. Biava. bibliog diags Anal Chem 30:1579-80 S '58
Multipurpose standard for microchemical analysis. W. H. Smith. Anal Chem 30:149-50 Ja '58

New microtechniques. L. Cahn and W. J. Cadman. II diags Anal Chem 30:1580 S '58

Perspectives in quantitative organic microanalysis. J. A. Kuck. bibliog II diag Anal Chem 30:1552-6 S '58

Recording colorimeter for microchemical determinations. A. K. Solomon and D. C. Caton. diags Anal Chem 30:291-3 F '58

Review of fundamental developments in analysis; inorganic microchemistry. P. W. West. Anal Chem 30:748-59 bibliog (p754-9) pt 2 Ap '58

Review of fundamental developments in analysis; organic microchemistry. T. S. Ma. Anal Chem 30:760-5 bibliog (p764-5) pt 2 Ap '58

Sources of error in microdetermination of arsenic. H. S. Satterlee. bibliog (23 titles) diag A M A Archives Ind Health 17:218-29 Mr '58

Specific detection of nitrogen through pyrolytic oxidation in organic spot test. bibliog Anal Chem 30:148-50 Je '58

Tetraphenylborate spot test for detection of amines and their salts. F. E. Crane, Jr. bibliog Anal Chem 30:1426-9 Ag '58

Ultramicro method for molecular weight determination. G. O. Guerrant. bibliog II Anal Chem 30:143-9 Ja '58

X-ray absorption microanalysis with fine-focus tubes. J. V. P. Long. bibliog diags J Sci Instr 35:323-9 S '58

See also

Trace analysis

MICROBIOLOGICAL assays. See Biological assay

MICROCHEMISTRY

See also

Microanalysis

Apparatus

Apparatus for spectrophotitation of submilligram samples. H. E. Boaz and J. W. Forbes. II Anal Chem 30:456 Mr '58

MICRODENSITOMETERS. See Densitometers

MICRODIFFUSION. See Diffusion

MICROFILM records

Aperture cards file microfilm; illustrations with text. Electronic Ind & Tele-Tech 16: 39 N '57

Computer reads microfilm. flow diag II Electronic Ind & Tele-Tech 16:83+ N '57

Convert engineering drawings to microfilm mounted in punched cards. II Ind Lab 9:40 Ag '58

Filmed records save space, time, and heartaches; Rockwell manufacturing co. of Pittsburgh and Heald machine co. II Am Mach 101:110-13 D 16 '57

Microfilm report system streamlines troubleshooting; U.S. navy. Bureau of aeronautics. II Ind Phot 7:69 F '58

Microrecording and its uses in research. H. W. Ballou. II Ind Phot 7:41+ Ap '58

Micro-texts and micro-recording; symposium. Engineering 185:155 Ja 31 '58

New trends in making prints from microfilm. W. R. Hawken. II Ind Phot 7:36-74 Ap '58

Printer duplicates microfilm files. II diag Product Eng 28:34 N 11 '57

Rx for ailing record keeping system; Pharmaceuticals, Inc. M. Charles. II Ind Phot 7:77 My '58

Selection of a microrecording program. C. M. Lewis and W. H. Offenhauser, Jr. II Ind Phot 7:31-3+ Ap '58

Setting up a filmsort system. R. W. Batchelder and K. Adams. II Ind Phot 7:42 Ap '58

What's in the future. El. P. Taubes. II Ind Phot 7:34-6+ Ap '58

MICROFILMS

Armed forces to mechanize storage of drawings. II Product Eng 29:19-20 Mr 17 '58

Flood-soaked film record reclaimed; microfilm rolls of bank records removed from flooded buildings. II Ind Phot 7:83 Ja '58

MICROFILMS—Continued

- Microfilm copied in ten seconds; 3M brand microfilm reader-printer. *Il Ind Lab* 9:95 My '58
- Microfilming. D. B. Elsendrath, Jr. *Ind Phot* 7:45+ Ap '58
- Microfilming at work. *Il Ind Phot* 7:99 JI; 57 Ag '58
- Microphotographic X-ray copying. P. H. Covert. *Il Ind Phot* 7:38-9 Ap '58
- 105mm program helps solve distribution problem; Corps of engineers design drawings. J. Hughes. *Il Ind Phot* 7:103 Mr '58
- Pointers on microfilming engineering drawings. B. Stanton. *Ind Phot* 7:46+ Ap '58

See also

- National microfilm association
- MICROFLUOROSCOPE.** See Fluoroscope
- MICROHARDNESS** tester. See Hardness—Testing

- MICROLOCK** system. See Satellites, Artificial—Tracking

- MICROMANOMETER.** See Manometers

MICROMETERS

- Micrometers change cut and strip setup; Beckman instruments. *Il Electronics* 31:113-14 Ag 15 '58
- Sensitive micrometer for measuring small displacements. J. Norbury and D. Shewring. *diags J Sci Instr* 35:217-20 Je '58

- MICRONAIRE.** See Textile testing machines

MICROORGANISMS

- Algae and other organisms in waters of the Chesapeake area. C. M. Palmer. *Amn Water Works Assn J* 50:938-50 bibliog(p949-50) JI '58
- Fundamentals of geochemistry; microorganisms play big role in the origin of oil and coal. B. Nagy. *Oil & Gas J* 56:146-8+ Ag 11 '58
- Laboratory testing of biostatic agents recommended for use in the pulp and paper industry. J. H. Conkey. *Tappi* 41:sup 140A-2A JI '58
- Microbiological transformations; the microbiological aromatization of steroids. R. M. Dodson and R. D. Muir. *bibliog Am Chem Soc J* 80:5004-5 S 20 '58
- Studies in valine biosynthesis; α -acetylactate formation in microorganisms. K. F. Lewis and S. Weinhouse. *bibliog Am Chem Soc J* 80:4913-15 S 20 '58
- Toxicity of arsenical compounds to microorganisms. R. A. Zabel and F. W. O'Neil. *bibliog Tappi* 40:911-14 N '57

See also

- Bacteria
- Plankton
- Soil microorganisms
- Viruses

MICROPHONES

- Capacitor microphone as a radiation detector. M. L. Harbold and J. L. Bohn. *diags R Sci Instr* 29:220-32 Mr '58
- Designing a transistor mike booster. J. K. Birch. *Il diag Electronic Ind* 17:supO 6-7+ F '58
- Intracardiac catheter microphone. W. Welkowitz and M. Traite. *diag R Sci Instr* 29:238-40 Mr '58
- Modern miniature mike uses old-time principles; abstract. H. F. Olson. *Il Machine Design* 30:10 JI 24 '58
- Shure model 330 Unitron and model 430 Commando microphones. *Il Audio* 42:46-7+ Ja '58
- 6BE6 preamplifier for both hi- and lo-Z microphones. F. L. Mason. *diag Q S T* 42:52-3 Ja '58
- Using the dynamic microphone. W. F. Soules. *Q S T* 42:30 Ja '58
- Wireless microphone uses f-m modulation. G. F. Montgomery. *Il diags Electronics* 31:54-5 Ja 3 '58; Discussion. 31:184+ Ap 11 '58

See also

- Hydrophone
- MICROPHOTOGRAPHY**

See also

- Microfilm records
- Photomicrography

- MICROPHOTOMETERS.** See Photometers

- MICROPHOTOMETRY.** See Photometry

MICROSCOPE and microscopy

- Assessing surface finish; new interference microscope. *Il diags Metallurgia* 56:310-12 D '57
- Automatic camera microscope. *Il Engineer* 206:74 JI 11 '58
- Chemical microscopy; metal chloride-quinoline compounds. J. M. Mutchler and H. B. Bradley. *diag Il Anal Chem* 30:1371-4 Ar '58

- Comparator-microscope designed as multiple-purpose projector. *Il diags Machine Design* 29:91 D 26 '57

- Correction due to aperture in transmission interference microscopes. E. Ingelstam and L. P. Johansson. *bibliog Il diags J Sci Instr* 35:15-17 Ja '58

- Depth perception improves inspection. *Il Am Mach* 101:119 N 4 '57

- Device for precisely controlling an iris diaphragm; designed for use on an ore-microscope. P. A. Sabine and others. *diags Am Mineralogist* 43:784-5 JI '58

- Examining the dispersal of carbon black in rubber. I. Drogin. *bibliog Il Rubber Age* 83:463-71 Je '58

- How a microscope helps build a better pump. I. McNeil. *diag Ap Hydraulics* 11:84+ My '58

- Identification of unknown synthetic fibers. S. C. Smith. *bibliog Am Dyestuff Rep* 47:141-2+ Mr 10 '58

- Microscopic studies on the structure and composition of keratin fibers. J. Menkart and A. B. Coe. *bibliog(31 ref) Il pl Textile Res J* 28:218-28 Mr '58

- Microscopical study of a multilayer nylon body armor panel after impact; ballistic tests. G. Susich and others. *bibliog Il Textile Res J* 28:361-77 My '58

- Microscopy in the examination of Diesel fuels. F. G. Rowe and H. F. Nicolaysen. *Il diag Pet Eng* 29:C45-6+ D '57

- Microsectional studies of coated book paper. R. L. Gaiser. *Il Tappi* 41:sup 138A-6A Ja '58

- Microstructure of crazed plastics. S. B. Newman and L. Wolock. *Il Plastics World* 16:6-7 Je '58

- Modifications to a travelling microscope used for measuring X-ray powder photographs. W. E. Armstrong and R. J. Davis. *Il J Sci Instr* 35:59-61 F '58

- Precision microscope for large nuclear plates. I. Kalberg and others. *Il diags R Sci Instr* 29:697-8 Ag '58

- Review of fundamental developments in analysis; chemical microscopy. C. Mareah and others. *Anal Chem* 30:829-38 bibliog(p835-8) pt 2 Ap '58

- Three-D toolmaker's microscope measures without contact. W. P. Christoph. *Il diags Am Mach* 102:116-13 F 10 '58

- Zeiss automatic camera microscope. *Il Engineering* 185:805 Je 27 '58

See also

- Electron microscope
- Metallography
- Microtomes
- Photomicrography
- Stains and staining (microscopy)
- X ray microscope

Technique

See also

- Electron microscope—Replica technique

Ultraviolet microscope

- Flying-spot microscope. P. O. Montgomery and W. A. Bonner. *Il diag Sci Am* 198:38-43 My '58
- Improved ultraviolet microbeam apparatus. R. B. Uretz and R. P. Perry. *bibliog Il diags R Sci Instr* 28:861-6 N '57

MICROSCOPIC slides

- Electric oven cuts glass drying time by 90 per cent. T. W. Scully. *Il Elec World* 148:94 D 9 '57

MICROSOMES

- Microsome. P. C. Zamecnik. *Il diags Sci Am* 198:118-20+ Mr '58

MICROTOMES

- Sectioning of hard keratinous substances. F. Happey and J. H. Keighley. *diag J Sci Instr* 35:116 Mr '58

- MICROWAVE** communication. See Radio communication—Short wave

- MICROWAVE** interferometers. See Interferometers

- MICROWAVE** receivers. See Radio receiving apparatus—Short wave

- MICROWAVE** spectrum. See Spectrum, Microwave

MIDDLE EAST

See also

- Petroleum industry and trade—Middle East

MIDDLE WEST

See also

- Chemical industries—Middle western states
- Gas. Natural—Middle western states, Supply to
- Geology—Middle western states
- Irrigation—Middle western states
- Mineral industries—Middle western states

MIDLAND, Texas

See also

Building—Midland, Texas

MIDWEST gas association

Annual meeting, 53d, Colorado Springs, March 24-26, Gas Age 121:28+ Ap 17 '58

MIDWEST irradiation centerNew facility offers radiation for rent. *Ind Lab* 9:34-5 Ap '58**MIG welding.** See Electric welding, Arc—Inert gas shielding**MIGRATION of birds.** See Birds—Migration**MILAN**

Architecture

Modern tower in old Milan. *G. M. Kallman*, *Il plans diag Arch Forum* 108:108-11 F '58**MILDEW**Identification and estimation of phenolic fungicides in mildewproof materials. *C. L. Hilton*, *bibliog Textile Res J* 28:263-6 Mr '58**MILITARY aeronautics.** See Aeronautics, Military**MILITARY airplanes.** See Airplanes, Military**MILITARY art and science**Military operations research. *F. E. O'Meara*, *Aeronautical Eng R* 16:56-8 D '57War games point future equipment design; US army combat development experimentation center (CDEC). *Il Product Eng* 29:14-15 Je 30 '58

See also

Aeronautics, Military

Gunnery

Radio communication, Military

MILITARY aviators. See Air pilots, Military**MILITARY buildings**Ax hits military construction. *Eng N* 161:24 J1 31 '58BOQ with a view proposed for San Diego by the navy. *Il Arch Rec* 123:366 My '58Campus-type navy BO separates living and messing areas. *Il Arch Rec* 123:278 Ja '58Goatskins and ox-carts on big job; U.S. army engineer corps is supervising armored-division cantonment for the Pakistani army. *Il Eng N* 160:71-2 Je 12 '58Military building outlook. *H. B. Zackrisson*, *Jr. Arch Rec* 123:292+ Ja '58National defence and defence construction. *Il Eng J* 41:123-8 Ap '58New kind of concept for BOQ approved by air force. *Il Arch Rec* 123:362 My '58

See also

Air bases, Military—Buildings

Heating and ventilationCentral heat control for huge army base; Fort Ord, Calif. *Il Eng N* 160:37-8 Mr 13 '58Design of high-temperature water systems for military installations. *C. A. Carter and B. L. Sturdevant*, *diags Heating-Piping* 30:109-14 F '58How and why this heating plant went modern; U.S. naval ammunition depot at Portsmouth, Va. *D. L. Gusler*, *Il Power Eng* 62:68-71 F '58**MILITARY communication.** See Communication, Military**MILITARY engineering**

See also

Fortification

Radio apparatus—Military use

MILITARY fabricsDeterioration of neoprene-coated nylon fabrics; minimum neoprene thickness necessary to protect nylon from weather. *sunlight*. *C. M. Brown*, *Rubber Age* 84:91-8 O '58**MILITARY geology.** See Geology, Military**MILITARY housing projects.** See Housing projects, Military**MILITARY medicine.** See Medicine, Military**MILITARY mines.** See Mines, Military**MILITARY motor trucks.** See Motor trucks, Military**MILITARY motor vehicles.** See Motor vehicles, Military**MILITARY sea transportation service.** See United States—Military sea transportation service**MILITARY tanks.** See Tanks, Military**MILITARY telephone**Coordinate data sets for military use; transmission of radar data over ordinary telephone circuits. *W. Koehn*, *Il diags Bell Lab Rec* 36:166-70 My '58Frequency-converting telephone carrier repeater for military use. *G. Goltsois and others*, *Il diags Com & Electronics* p432-6 S '58New developments in military switching. *A. C. Gilmore and others*, *Il diags Bell System Tech J* 37:375-400 Mr '58Transformers for military communications systems. *H. B. Vaiden and L. J. Steinbach, Jr.* *Il Bell Lab Rec* 36:299-302 Ag '58**MILITARY tractors.** See Tractors, Military**MILK**Another use for oil-free air; agitation of milk in truck tanks. *Il Comp Air Mag* 63:30-1 F '58Calculi and kidney calcification from feeding milk diets to rats and hamsters. *P. Sambhavaphol and others*, *bibliog Il Am J Clinical Nutrition* 6:159-63 Mr '58Electrophoresis and ultracentrifuge studies of milk proteins. *H. Klostergaard and R. A. Pasternak*, *bibliog diags Am Chem Soc J* 79:5671-5 N 5 '57Endrin content of milk and body tissues of dairy cows receiving endrin dally in their diet. *U. Kiigemagi and others*, *bibliog J Agri & Food Chem* 6:518-21 J1 '58Growth and reproduction of rats on diets of evaporated milks and a vegetable fat milk product. *L. F. Ney*, *bibliog J Agri & Food Chem* 6:223-7 Mr '58

See also

Whey

AnalysisDetermination of allethrin residues in milk and meats. *D. B. McClellan and J. E. Moore*, *J Agri & Food Chem* 6:433-5 Je '58Determination of manganese in milk. *W. B. Healy*, *J Agri & Food Chem* 6:606-8 Ag '58Residues in milk from dairy cattle treated with methoxychlor for fly control. *K. Helrich and others*, *J Agri & Food Chem* 6:281-3 Ap '58**Chemistry**Review of organic chemical effects of heat on milk. *S. Patton*, *bibliog J Agri & Food Chem* 6:132-5 F '58**Pasteurization**Air controls aid milk pasteurization. *Il Comp Air Mag* 63:21 Mr '58**Sterilization**Unit improves high-heat sterilizing; Uperizer. *F. Lang*, *Il diag Food Eng* 30:32-3 Ja '58**Testing**Speeds milk adulteration tests. *Il Food Eng* 29:101 N '57**Transportation**

See also

Milk tanks

MILK, ConcentratedWhither fresh milk concentrates? *J. V. Ziemia*, *Food Eng* 30:46-7 J1 '58**MILK, Dried**Makes instantly soluble milk powder. *diag Food Eng* 30:95 Ag '58Tailor-made milk protein solids are versatile product improvers. *J. V. Ziemia*, *Il Food Eng* 30:78-9 J1 '58**MILK, Evaporated**Growth and reproduction of rats on diets of evaporated milks and a vegetable fat milk product. *L. F. Ney*, *bibliog J Agri & Food Chem* 6:223-7 Mr '58**MILK containers**Implications of new developments in food and milk processing; packaging, storing, and vending. *W. D. Tiedeman*, *Am J Pub Health* 48:854-60 J1 '58Test method for adhesion of paraffin wax to milk carton stock. *R. H. Salvesen and M. K. Eosefow*, *Il Tappi* 41:sup 174A-7A Mr '58**MILK plants****Equipment**Air controls aid milk pasteurization. *Il Comp Air Mag* 63:21 Mr '58Food process operations demand maze of piping. *R. M. Lazar*, *Il Heating-Piping* 30:105-9, cover Mr '58**MILK supply****Laws and regulations**Milk hygiene in Great Britain. *H. Burrow*, *Am J Pub Health* 48:454-7 Ap '58**MILK tanks**Roll-up tube saves 20 per cent on liquid-hauling cost; Mayflower milk co. *Il Food Eng* 30:125 Ap '58**MILKY way**Radio sources and the Milky way at 440 mc. *N. G. Roman and B. S. Yapple*, *bibliog Il diag Inst Radio Eng Proc* 45:199-204 Ja '58

MILLER, Coleman
Sketch, por Westinghouse Eng 18:107 J1 '58

MILLING
Curvature produced by grinding or milling using a tilted spindle, M. Barash, diags Mach 65:173-4 S '58
Eaton saves 70 per cent with combined broaching, milling, G. H. De Groat, il diags Am Mach 102:102-3 Je 16 '58
Milling jet-engine blades eighteen seconds per piece, C. O. Herb, il diags Mach 64:121-5 Mr '58
Milling practice today, A. O. Schmidt and J. E. Roubik, diags Tool Eng 40:113-16 Je '58
Research produces milling suggestions for titanium industry, il Tool Eng 39:152-3 N '57
Transient interface temperatures in plain peripheral milling, D. E. McFeron and B. T. Chao, bibliog il diags A S M E Trans 80:321-9 F '58

MILLING cutters
Cut costs with hob ground end mills, H. L. Lewis, il Mill & Factory 63:101 Ag '58
Indicator-on-temple, training produces form-slab milling cutter, R. Kennard, il Am Mach 102:126 S 8 '58
Interlocking fly-cutters mill overlapping spots; Avco manufacturing co. N. W. Cote, il Am Mach 101:109 D 16 '57
Milling cutters cut maintenance, il Mach 64:132-5 My '58
New machine whips contouring job; Lake shore industries, inc, il Steel 142:90-1 My 12 '58

See also
Boring bars Sharpening

Tool and cutter grinder sharpens heavy milling cutter assemblies, il Am Mach 102:149 My 5 '58

MILLING machines
Asquith girder end facing machine, il Engineer 206:426 S 12 '58
Automatic-cycle milling machines, il Automobile Eng 48:204-5 My '58
Colonial-Romulus hydraulically driven tracer-controlled contour- and profile-milling machine, il Mach 64:188-9 Ja '58
Copy milling methods, il diags Brit Plastics 31:116-20 Mr '58
Difficult part produced with novel milling machine setup, S. C. Harden, diags Am Mach 101:92 D 30 '57
Direct-drive motor designed for stepless wide speed range, il diags Elec Manuf 61:96-9 My '58
Donau automatic rack miller, il Automobile Eng 48:137-8 Ap '58
Ekstrom, Carlson & co. three-dimensional profile- and contour-milling machine with newly developed variable-speed drive, il diags Mach 64:172-4 Mr '58
Ekstrom, Carlson no. 210 profile and contour miller features infinitely adjustable spindle speeds, il Am Mach 102:150 F 10 '58
Famco introduces one- and two-hp vertical milling machines, il Am Mach 101:183 N 4 '57
Giant miller floats in oil, il diags Product Eng 29:61 J1 '7 '58
High-speed metal removal; Routing, ltd, il Engineer 206:65-6 J1 11 '58
High-speed milling machines work nonferrous metals, il Am Mach 101:184 N 4 '57
Huge billet-scalping machine built for aluminum industry, il Mach 64:200-1 My '58
Jet blades cut from solid, Steel 141:188 N 18 '57
Kaukauna floor type horizontal boring, drilling, and milling machine with three control systems, il Mach 64:215-16 D '57
Large horizontal milling and boring machine, il Engineer 204:791-2 N 29 '57
Large milling and boring machine constructed by the Aktiengesellschaft Schiess, of Düsseldorf, il Mech Eng 80:98-9 F '58
Maintenance men buy miller from planer, Iron Age 180:148-9 N 7 '57
Metalworking, 1962; milling, A. O. Schmidt, Am Mach 101:131 N 18 '57
Midgley and Sutcliffe vertical milling machine, il Engineer 205:671 My 2 '58
Mill has record capacity; duplex milling machine, il Steel 143:98 Ag 25 '58
Miller makes heavy spring, M. W. Loveland, diags Am Mach 101:126 D 2 '57
Miller takes double scalp, il Product Eng 29:88 Ap 28 '58
Modern tools through conversion, il Tool Eng 40:157 My '58

Morey combination milling machines, il Mach 64:164-5 Je '58
Morton floor and planer type horizontal boring and milling machines, il Mach 64:174 Mr '58
1958 production preview; milling, il Am Mach 102:124-8 Ja 27 '58
Pivoted motor-and-head mounting offers sensitive up-and-down adjustment, il Machine Design 30:123 My 15 '58
Planer changed to profile cutter; National supply co, il diags Ap Hydraulics 11:88 J1 '58
Pratt & Whitney Keller automatic with special tilting head, il Mach 64:160-1 Je '58
Precision production; DeVlieg Spiramatic Jig-mil; illustrations with text, Engineer 205:132 Ja 24 '58
Profile millers 33 feet long go to work on the Martin SeaMaster, il Am Mach 101:154 D 13 '57
Scalper mills both billet sides at once, il Iron Age 181:122-4 Mr 13 '58
Sliding load braked by opposed hydraulic clutches, il diags Machine Design 30:146-7 S 8 '58
Snider special machines for processing intake manifolds, il Mach 65:117-8 O '58
Special milling machine for main bearing locks at Caterpillar, il Automotive Ind 118:35 Mr 1 '58
Special motor speeds contour milling operation, il Tool Eng 41:62 Ag '58
Special tooling converts conventional machine for contour milling, il diags Tool Eng 41:60-1 J1 '58
Spindle drive for milling machine; Dominion bridge co. L. Braun, il diags Ap Hydraulics 11:66 J1 '58
Studer template milling machine, il Mach 64:180-1 Mr '58
Sundstrand milling machine line offers simple and duplex designs, il Am Mach 102:157 Ja 13 '58
Sundstrand vertical miller takes heavy cuts on large workpieces, il Am Mach 102:107 Je 30 '58
Three-dimensional contour miller chamfers jet-engine blade roots, il diags Am Mach 102:128 Ap 7 '58
Tracer-controlled, four-axis miller profile maps warped surfaces, il Am Mach 102:151 My 13 '58
Valve design prevents creep; Ingersoll milling machine, M. H. Benston, il diags Ap Hydraulics 11:91 J1 '58
Variable-angle head contours Douglas airframe members, R. R. Parker, il diags Mach 64:180-3 J1 '58
Very heavy milling and boring; machines made by William Asquith, limited, il Machinery 184:808 D 27 '57

See also
Gear cutting machines

Control

Applying the IBM 704 to milling-machine programming; with cost data, J. Albert and others, flow diag il diags Control Eng 5:101-6 Je '58
Automatic tape control slashes milling bottle-necks, il Iron Age 181:103-5 Ap 17 '58
Cincinnati milling machine with tracing control, il Mach 65:178 O '58
Contouring control from numerical data, J. W. Wilson, il diags Tool Eng 40:94-8 Ap '58
Electrohydraulic drive improves contour milling accuracy, il diags Tool Eng 40:97-8 Mr '58
Fairley Aviation electronically controlled milling machine for aircraft components, il Engineer 205:696-7 My 9 '58
Flip-flops and diode gates translate punched-tape program; Bendix numerical control system, G. H. McDaniel and R. C. Sims, il diags Elec Manuf 61:84-92 F '58
Kearney & Trecker offers three standard millers with numerical control, il Am Mach 101:120 D 30 '57
Magnetic tape control applied to small milling machine, il Automation 5:9-10 My '58
Morey offers numerically-controlled profile and contour-milling machine, il Am Mach 102:142 Mr 24 '58
Numerical control cuts cost 48 per cent; Lockheed aircraft corp, il Steel 142:66-7 Je 2 '58
Numerical miller pays dividends; Lockheed aircraft co, E. J. Egan, jr, il Iron Age 181:85 F 27 '58
Numerical tool control pushed, il Electronics 31:20-1 Mr 7 '58
Numerically controlled machine now available for small-lot job shop operations, il Mach 64:163 Je '58

MILLING machines—Control—Continued

- Numerically-controlled skin millers machine airframe skins and structures. *il Am Mach* 102:152 F 10 '58
- Punched tape programs multispindle mill. *il diag Tool Eng* 40:94 Mr '58
- Simplified circuitry for remote controls; abstracts. E. K. Wagner. *diags Control Eng* 5:115 J1 '58; *Elec Manuf* 62:67 J1 '58
- Tape-controlled miller saves on short runs. *il Iron Age* 181:84-5 My 1 '58
- Top-switch programmer for automatic milling machines; abstract. F. Zankl. *il Elec Manuf* 62:68 J1 '58
- Topp industries, inc.; continuous-path contour milling system. *il diags Control Eng* 5:108-10 F '58
- Visual check for taped machine programs. R. A. Bennett. *il diags Control Eng* 5:72-3 Ag '58
- Wide-range spindle drive. *il Product Eng* 29:113 Mr 31 '58

Fixtures

- Fixture for milling elongated slots. W. E. Meyer. *diags Tool Eng* 39:73 D '57
- Milling clamp with rubber release. F. C. Elmo. *diags Mach* 64:200 D '57
- Straddle milling fixture. M. Surma. *diags Tool Eng* 40:82 Mr '58
- Versatile loading fixture automates small-lot production. *il Automation* 5:53-4 J1 '58

MILLIVOLTMETER. See Voltmeters**MILLS, Ball.** See Ball mills**MILLS, Tube.** See Tube mills**MINE accidents**

- Electronics cuts mine accident rate; abstract. E. A. Berry. *Safety Maint* 115:29 Ap '58
- Human failure, sleeping giant; Minnesota's open-pit mining accidents; M. A. Hanna co.'s safety performance. G. A. Borgeson. *il Min Cong J* 44:29-32 Mr '58
- Progress in health and safety in the mining industry, 1957. M. J. Ankeny. *il Min Cong J* 44:46-50 F '58
- Unsafe practices hit by Bureau of mines. J. A. Johnson. *Safety Maint* 115:50 Ap '58

See also

- Coal mines and mining—Accidents and explosions
- Mine fires
- Mine rescue work

MINE accounting**See also****Depletion****MINE air**

- Ice warms, cools mine ventilation air; International nickel co.'s Frood-Stobie mine. *il diag Heating-Piping* 30:132-3 Je '58

- Use these suggestions for dry compressed air. A. N. Gustafson. *il diag Eng & Min J* 158:96-7 D '57

See also**Mine ventilation****MINE buildings****See also****Headframes****MINE cars**

- Hydraulic retarder smooths car feed. *il diag Coal Age* 62:98 D '57

- Mine car replacement at Wheelwright and Price no. one mines. E. M. Pace and E. H. Roberts. *il Min Cong J* 44:75-7+ Ag '58

- More tons per man with large mine cars; Harmar coal co. J. R. Palin. *il plans Min Cong J* 43:64-7 D '57

- Rubber disks replace coil springs on mine cars designed in South Africa. *Product Eng* 29:7 Je 2 '58

- Shuttle cars from face to intermediate haulage; Itmann mine of the Pocahontas fuel co. M. M. O'Brien. *diags Min Cong J* 44:29-31 Ja '58

See also

- Loading and unloading—Mine cars
- Mine haulage

Manufacture

- How planning cuts welding time; Watt car and wheel co. *il Iron Age* 182:107 J1 10 '58

MINE construction

- Compressed air has role in mucking innovations. *il Comp Air Mag* 63:19-20 Mr '58

- El Salvador reports on Inca aid progress; Andes copper mining co. H. E. Robbins and others. *il diags Min Eng* 10:333-6 Mr '58

See also**Concrete construction in mines****Headframes****Mine shafts****MINE drainage**

- Acid drainage controls coming; Ohio Valley stream pollution. W. A. Raleigh, jr. *il Coal Age* 63:72-7 Je '58

- Coal Age mining guidebook; deep-mining guidebook. *il Coal Age* 63:86-7 Mid-J1 '58
- Conference on the acid mine-drainage problem in Ohio; Columbus, Nov. 26. *Coal Age* 63:42 Ja '58

See also**Mine water****MINE dust**

- Dust collection; abstract. R. J. Wacht. *Coal Age* 62:166 D '57

See also**Coal dust****Lungs—Dust diseases****MINE equipment**

- Engineering and mining journal mining guidebook and buying directory. *Eng & Min J* 159:3-262 Mid-Je '58

- Machine sampling from a conveyor belt. A. H. Blyth. *il diags Min Cong J* 43:59-61 N '57

- Modern equipment to cut your costs at the San Francisco show. *il diags Eng & Min J* 159:93-112+ Ag '58

- Underground metal mining progress, 1957. K. Stout. *il Min Cong J* 44:51-3 F '58

See also**Coal mines and mining—Equipment****Electricity in mining****Fans, Mine****Jigs (mining)****Mine cars****Mining machinery****Rock drills****Maintenance and repair**

- Berkeley pit maintenance area is planned for efficiency. *il plan diags Eng & Min J* 159:110-13 Mr '58

- Preventive maintenance for steady operation; International salt co. F. W. Pfau. *il Min Cong J* 44:42-5 Mr '58

- Steam cleaners aid maintenance in iron country. J. Ruona; P. Tarro. *il Eng & Min J* 159:118 My '58

MINE explosions**See also**

- Coal mines and mining—Accidents and explosions
- Mine fires
- Rock bursts

MINE fans. See Fans, Mine**MINE filling**

- Hydraulic backfilling. R. M. Stewart. *diag Min Eng* 10:476-80 Ap '58

MINE fires

- Fighting a mine fire with CO₂. F. J. Haller and F. G. Michels. *diags Min Cong J* 43:53-5 N '57

See also**Coal mines and mining—Fires and fire protection****MINE foremen**

- Foremen's forum. Published in monthly numbers of *Coal Age*
- Incentives for mine foremen. C. W. Rountree, jr. *Coal Age* 63:104-5 Ja '58

See also**Mine management****MINE gases****See also****Methane****MINE haulage**

- Dieselized jeeps go underground. *il Diesel Power* 36:32-4 J1 '58

- Haulage; American mining congress Coal division annual meeting; abstracts of papers. *Coal Age* 63:136-7 Je '58; *Min Cong J* 44:65-6 J1 '58

- How Montevocchio cut haulage costs. *il Eng & Min J* 158:105-6 D '57

- Humphrey no. seven; Christopher's new two million-ton producer of quality coal. A. E. Flowers. *il Coal Age* 63:90-1 Ap '58

- Inspection guide for deep mine equipment; haulage equipment. D. Jackson, jr. *il Coal Age* 62:66-71 D '57

- More tons per man with large mine cars; Harmar coal co. J. R. Palin. *il plans Min Cong J* 43:64-7 D '57

- Operating experience with steel cable-supported conveyors; International minerals & chemical corp. potash mine in New Mexico. E. C. Skinner. *il Min Cong J* 43:38-40+ N '57

- Ore transportation at San Manuel; flexible haulage system moves large tonnage at high speed. C. F. Cigliana. *il plans diag Min Eng* 10:573-6 My '58

MINE haulage—Continued

Safety aspects of underground transport in coal mines; abstract. A. E. Crook. *Engineering* 186:90 J1 18 '58
Self-loading hauler is efficient. C. G. Kuehn, jr. *diags Eng & Min J* 159:112 My '58

See also

Coal mining machinery—Conveyors
Electric locomotives, Mine
Locomotives, Mine
Mine cars
Mine skips
Mine transportation
Motor trucks in mining
Ore handling
Ore transportation

MINE hoisting*See also*

Mine cars
Mine haulage
MINE hoisting, Electric
Diesel-electric portable winding engine. *il Engineering* 184:617 N 15 '57
Electric mine winders; illustrations with text. *Engineer* 205:pl 7 Ja 3 '58
Electrification of three large hoists at nos. 12 and 20 collieries, Dominion coal co. J. A. Russell and others. *il diags Can Min & Met Bul* 51:360-76 Je '58
Portable emergency mine winding engines. *il Engineer* 204:632 N 3 '57
Semi-automatic hoist at Copper Queen proves safe and economical. A. E. Himebaugh. *diag Min Eng* 10:566-7 My '58

MINE inspectors institute of America

Annual meeting, 48th, Denver, June 23-25; abstracts of papers. *Coal Age* 63:114-16+ Ag '58

MINE locomotives. *See* Locomotives, Mine**MINE management**

Communications, a job for top management. R. A. Harper. *Min Cong J* 44:61-5 Ap '58
Management organization principles applied to the mining industry. F. N. Parks. *Min Eng* 10:560-2 My '58
Role of the industrial engineer in the mining industry. I. K. Hearn. *il Min Cong J* 43:52-5 D '57
Trends in purchasing. R. S. Smith. *Min Eng* 10:81 Ja '58
What can research do for management problems in mining? D. R. Weedon, jr. *il Min Cong J* 44:32-4+ Ja '58

*See also***Coal mines and mining—Management****MINE models**

Uses, design, and construction of mine models. J. A. Chamberlain. *diags Can Min & Met Bul* 51:219-22 Ap '58

MINE-mouth plants. *See* Electric plants (central stations)—Mine-mouth plants**MINE pumps**

Pressure chamber in sump starts motor. *il Coal Age* 62:96 D '57

MINE rescue work

Safety champions crowned; 17th biennial National first-aid and mine rescue contest, Louisville, Oct. 2-4. *il Coal Age* 62:122+ N '57

MINE research. *See* Mining research**MINE roof bolting**

Anchorage characteristics of roof bolts. L. A. Panek. *diag Min Cong J* 43:62-4+ N '57
How Island Creek uses thin aluminum tubing for air and water; centralized air systems for roof bolting. *il diag Coal Age* 63:110-12 Ap '58
Roof-bolt recovery; abstract. L. W. Kelly. *Coal Age* 62:85 D '57
Standards help support mine roof. G. W. Sall. *il diags Mag of Stand* 29:239-41 Ag '58

MINE roofs

Cementing coal-mine roof; epoxy resins. E. R. Maize. *il plan diags Coal Age* 63:116-17+ Ja '58
Coal Age mining guidebook; deep-mining guidebook. *il Coal Age* 63:62-71 Mid-J1 '58
Roof support with continuous mining equipment. G. C. Dyar. *il Min Cong J* 44:45-7 J1 '58

MINE shafts

Sinking and operation of circular shafts; Intermountain chemical co. W. Z. Wenneborg. *il Min Cong J* 43:63-70 D '57
Steep Rock's Hoxarth shaft. G. B. Hamilton. *map Min Cong J* 44:58-60 My '58

*See also***Headframes****Shaft sinking****MINE shops**

Lamp room goes underground; New Jersey zinc co.'s Eagle mine. Gilman, Colo. *il Min Cong J* 44:93 Je '58

MINE signals

Wire rope, with intercommunication and derail signal feature; SignalKore wire rope. J. Kertru. *il Min Cong J* 44:58 Ap '58

MINE skips

Scraper trenches at stations ease underground skip loading. A. W. T. Freaikes. *diags Eng & Min J* 159:112 J1 '58
Skip hoisting solves deep pit problem; Pima mining co. *il Eng & Min J* 159:98-9 Mr '58
TV camera monitors Jeffrey skips. *il diag Min Eng* 10:367 Ag '58

MINE surveying*See also***Dip and strike, Determination of****MINE taxation**

Income tax treatment of development and exploration. H. B. Fernald. *bibliog Min Eng* 10:91-6 Ja '58
Intelligent taxation aids Canada's mineral development. *il Min Eng* 9:1336-7 D '57
It may pay to check past percentage depletion calculations. F. H. Madison. *Eng & Min J* 159:93 J1 '58

MINE telephone

Colliery communication systems; abstract. E. J. Kimmins and B. L. Metcalf. *Engineering* 186:90 J1 18 '58

MINE timbering*See also***Mine roof bolting****MINE transportation**

Coal Age mining guidebook; deep-mining guidebook. *il plans Coal Age* 63:72-80 Mid-J1 '58

*See also***Motor trucks in mining****MINE valuation**

Economic relation of mining rate to grade of ore. H. M. Callaway. *Min Eng* 10:470-2 Ap '58

MINE ventilation

Coal Age mining guidebook; deep-mining guidebook. *il plans diags Coal Age* 63:81-4 Mid-J1 '58
Plastic ducts for mine ventilation. J. J. Daly. *il Min Cong J* 44:92-3 Ag '58

*See also***Fans, Mine****Mine air****MINE waste**

Preventing stream pollution; methods being used in surface mining operations in Ohio. L. Cook. *Min Cong J* 44:62-4 Ja '58

*See also***Coal mines and mining—Waste disposal****MINE water**

Orange Free State mines defeat salt water problem. W. H. Moyers. *il diags Eng & Min J* 159:84-7 Ja '58
Waste problem can be licked; Pennsylvania reports notable success in controlling mine acid waste. *Eng N* 160:29 My 15 '58

*See also***Mine drainage****Water supply for mines****MINERAL dressing congress, International.** *See* International mineral dressing congress**MINERAL engineering**

Mineral engineering, what does it mean? abstract. G. R. Spindler. *Min Eng* 10:669-70 Je '58

Study and teaching

ECPD accredited mineral engineering colleges. *Min Eng* 10:772 J1 '58
Mineral engineering education, its challenge and its future; panel discussion. *Min Eng* 10:669-74 Je '58

MINERAL industries

Hope for minerals. *Chem & Eng N* 36:26 My 12 '58

Industrial geology of the south west of England; abstract. A. Stuart. *Chem & Ind* p779-80 Je 28 '58

Industrial minerals, 1957. J. L. Gillson. *il Min Cong J* 44:93-103+ F '58
Industry takes a look at 1958. *Eng & Min J* 159:109-11 F '58

Other non-metals; review and forecast. B. C. Herod. *il Pit & Quarry* 50:130-4 Ja '58

Role of the general contractor; mining operation for the production of industrial minerals. J. V. Otter. *il Min Cong J* 44:32-5 J1 '58

U.S.A. '57 mineral output reaches record value; nonmetals top \$16 billion. *Pit & Quarry* 50:44 F '58

*See also***Iron industry and trade****Metal trade****Mines and mineral resources****Mining industry and finance****Petroleum industry and trade****Potash**

MINERAL industries—Continued

Finance

Economic evaluation of an industrial mineral project, J. E. Castle, *Min Eng* 10:675-7 Je '58

Statistics

Facts and figures for the chemical process industries; basic minerals, P. W. McGann and W. A. Vogely, *Chem & Eng N* 36:85-92 S 1 '58

Nebraska, New Mexico, U.S. possessions report higher mineral output in 1956; with tables, *Pit & Quarry* 50:142-4 Ja '58

Percentage distribution, by countries and geographic areas, of world production of selected critical metals and minerals in 1956; tables, *Eng & Min J* 159:22-5 Mid-Je '58

Preliminary 1957 mineral reports, *Pit & Quarry* 50:99-100+ Mr 124-7 Ap; 108+ Je; 51:79-82 Jl; 131-3 Ag '58

U.S. mineral output, consumption, reserves, 1957, *Min Eng* 10:548 My '58

Alaska

Preliminary reports on 1957 mineral output of Alaska, western states, *Pit & Quarry* 50:124-7 Ap '58

British Columbia

Industrial minerals of British Columbia, J. W. McCammon, *Can Min & Met Bul* 51: 512-14 Ag '58

Canada

Canada's mineral industry in 1957; with tables, *Can Min & Met Bul* 51:1-2 Ja '58

Provincial ministers of mines conference, 15th, St Andrews, New Brunswick, Sept. 3-5, *Can Min & Met Bul* 51:533-5 S '58

Eastern states

Preliminary 1957 nonmetals reports; thirteen eastern states, *Pit & Quarry* 51:79-82 Jl '58

Middle western states

Preliminary 1957 mineral reports on six mid-western states, *Pit & Quarry* 50:99-100+ Mr '58

Nova Scotia

Review of the mineral industry of Nova Scotia, M. G. Goudge, *Can Min & Met Bul* 51:546-7 S '58

Saskatchewan

Saskatchewan's mineral output nears \$150,000,000, 1956 and 1957, *Can Min & Met Bul* 51:15 Ja '58

Southern states

Preliminary 1957 mineral reports; South Central states, *Pit & Quarry* 51:131-3 Ag '58

Western states

Preliminary 1957 mineral reports, *Pit & Quarry* 50:124-7 Ap; 108+ Je '58

MINERAL lands

See also

Mines and mineral resources

Oil lands

Petroleum laws and regulations

MINERAL oils

Unidentified factor in alfalfa which counteracts mineral oil toxicity in the rat and mouse, B. H. Ershoff and H. J. Hernandez, *bibliog* II *J Nutrition* 65:575-88 Ag '58

MINERAL wool

Thermal insulation materials; mineral and rock wool, R. J. Pabian, *Materials in Design Eng* 47:124-5 Mr '58

Wollastonite spun into rock wool; Woolstone inc. V. C. Doctorman, *Il Rock Prod* 61: 80-1 Ag '58

Manufacture

Rigid laboratory control, full automation featured in newest American Rock Wool plant, B. C. Herod, *Il Pit & Quarry* 51:187-90 Jl '58

MINERALOGICAL analysis

Apparatus for the study of thermoluminescence from minerals, G. E. Ashby and R. C. Kelagher, *bibliog* II *diags Am Mineralogist* 43:695-706 Jl '58

Bismutoferrite, chapanmitte, and hypochlorite, C. Milton and others, *bibliog* II *Am Mineralogist* 43:656-70 Jl '58

Chemical analyses of the fluid inclusions in a group of New Mexico minerals, L. L. Ames, Jr, *Econ Geol* 53:473-80 Je '58

Chemical analysis of iridosmines and other platinum-metal minerals, A. D. Westland and F. E. Beamish, *bibliog Am Mineralogist* 43:503-16 My '58

Crystal chemistry of scawtite, D. McConnell and J. Murdoch, *Am Mineralogist* 43:495-502 My '58

Identification tables for uranium and thorium minerals, A. Volborth, *bibliog Econ Geol* 53:300-8 My '58

New low-temperature, liquid heating stage, W. W. Virgin, Jr. and C. J. Mason, *Il diags Am Mineralogist* 43:606-9 My '58

Reflecting curved-crystal X-ray spectrograph; a device for the analysis of small mineral samples, I. Adler and J. M. Axelrod, *Il diags Econ Geol* 52:694-701 S '57

Refractometer perils, D. J. Fisher, *bibliog Am Mineralogist* 43:771-80 Jl '58

Some applications of X-ray crystallography to geologic thermometry, A. J. Frueh, Jr, *bibliog diags J Geol* 66:218-23, pl 1-3 Mr '58

Structural and chemical variation in chromium chlorite, D. M. Lapham, *Il diags Am Mineralogist* 43:921-56 bibliog(p954-6) S '58

Technique for the extraction and partial chemical analysis of fluid-filled inclusions from minerals, E. Roedder, *diags Econ Geol* 53:235-69 bibliog(p287-9) My '58

Theoretical considerations on the separation of the sulphides and their crystallization, F. Barthomé, *bibliog diags Econ Geol* 52: 895-903 D '57

X-ray is key tool in Pacific Coast Borax laboratory, V. W. Palen, *Il Eng & Min J* 158:124 N '57

See also

Rocks—Analysis

MINERALOGICAL society of America

Annual meeting, 39th, Atlantic City, N.J. Nov. 4-6, proceedings, *Am Mineralogist* 43: 349-66 Mr '58

MINERALOGICAL specimens

Mounting

Improved specimen holder for the focusing-type X-ray spectrometer, M. J. Buerger and G. C. Kennedy, *Am Mineralogist* 43: 756-7 Jl '58

MINERALOGY

Chart showing the sphere of influence of atoms and ions in minerals, J. H. Remick, *Am Mineralogist* 43:166-8 Ja '58

Glaucconite pellets; their mineral nature and applications to stratigraphic interpretations, J. F. Burs, *Il map diags Am Assn Pet Geologists Bul* 42:310-27 bibliog(65 titles, p325-7) F '58

Mineral heterogeneity in glauconite pellets, J. F. Burs, *bibliog Il Am Mineralogist* 43: 481-97 My '58

Mineralogy, petrography, and radioactivity of representative samples of Chattanooga shale, T. F. Bates and E. O. Strahl, *bibliog Geol Soc Bul* 68:1305-13, pl 1 O '57

Muscovite, biotite, and quartz fabric reorientation, C. B. Crampton, *bibliog diags J Geol* 66:28-34 Ja '58

Optics of the eschporite-childrenite series, H. Winchell, *Am Mineralogist* 43:765-8 Jl '58

Structure and properties of natural and synthetic minerals conference; abstracts of papers, *Am Mineralogist* 43:174-5 Ja '58

See also

Coal

Crystallography

Etching (minerals)

Metals

Mica

Ore deposits

Rocks

Bibliography

Book reviews, Published in bi-monthly numbers of American mineralogist

MINERALS

Don't overlook rarer minerals, N. C. Rockwood, *Rock Prod* 61:18+ F '58

Electrostatic separation of minerals, M. B. Donald, *bibliog diags Research* 11:19-25 Ja '58

Identification of minerals associated with asbestos by X-ray diffraction patterns, M. S. Badollet and J. P. McGourty, *Il Can Min & Met Bul* 51:335-40 Je '58

Industrial minerals, 1957, J. L. Gillson, *Il Min Cong J* 44:93-103+ F '58

Industrial minerals used in California's iron and steel industry, K. W. Mote, *bibliog map diags Min Eng* 10:765-7 Jl '58

Magnetic susceptibilities of minerals in the Frantz isodynamic magnetic separator, S. Rosenblum, *Am Mineralogist* 43:170-3 Ja '58

Mineral placement of the constituents in five types of basic brick, N. B. Dodge, *bibliog Il Am Cer Soc Bul* 37:139-43 Mr '58

MINERALS—Continued

Paragenesis of accessory minerals. W. W. Moorhouse, diags. *Econ Geol* 51:248-62 bibliog(p261-2) My '56; Discussion, L. J. G. Schermerhorn, 53:216-18 Mr '58

Properties of materials; mineral fibers. Materials in Design Eng 48:237 Mid-O '58

Relation of magnetic susceptibility to mineral composition. E. M. Spokes and D. R. Mitchell, bibliog. diags *Min Eng* 10:Trans 373-9 Mr '58; Discussion, 10:Trans 489 Ap '58

Significance of minerals in waste-water. R. Stone and J. C. Merrell, jr. *Sewage & Ind Wastes* 30:928-36 Jl '58; Correction, 30:1173 S '58

Structural scheme for sulfide minerals. E. Hellner, diags *J Geol* 66:503-25 bibliog(p524-5) S '58

Structure and properties of natural and synthetic minerals conference, State College, Pa. July 5-8. *Am Cer Soc Bul* 37:102-3 F 15 '58

See also

Anatite
Asbestos
Bentonite
Beryl
Bikitaite
Bismutoferrite
Chapmanite
Childrenite
Chondrodite
Diamonds
Etching (minerals)
Euxenite
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Garnet
Glauconite
Gorceixite
Holmquistite
Iridosmine
Kyanite
Magnetite
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Mineralogy
Mines and mineral resources
Olivine
Pegmatites
Phlogopite
Phosphate rock
Quartz
Roscherite
Scawtite
Serpentine
Sphalerite
Spinel
Talc
Thorite
Tobermorite
Uranothorite
Vermiculite
Zircon

Age

See Geological time; Rocks—Age

Nomenclature

New mineral names. Published in bi-monthly numbers of American mineralogist

Patents

New U.S. patents. O. S. North. Published in monthly numbers of Rock products

Price supports

Price props asked for minerals. *Chem & Eng N* 36:32 My 12 '58

MINERALS in the body

Dietary mineral interrelations as a cause of soft tissue calcification in guinea pigs. L. A. Maynard and others. *Bibliog il J Nutrition* 84:85-97 Ja '58

Nutritional adaptation to low dietary intakes of calories, proteins, vitamins, and minerals in the tropics. C. L. Pathak. *Am J Clinical Nutrition* 6:151-8 bibliog(38 titles, p 157-8) Mr '58

Study of the effect of deoxypryridoxine or isoniazid upon mineral retention and liver enzyme activities of pyridoxine-deficient male rats. E. W. Hartsook and others. *Bibliog J Nutrition* 65:547-59 Ag '58

MINERS

Effect of fixed work on incentive rates. D. A. Sloan. *Can Min & Met Bul* 51:210-14 Ap '58

See also

Coal miners
Mine rescue work
Mining towns
United mine workers of America

Diseases and hygiene

Silicosis in Japan; history and tradition. M. Suzuki. *bibliog Ind Med* 27:172-4 Ap '58

Sporotrichosis as an occupational disease; editorial. *Ind Med* 27:167-8 Mr '58

See also

Coal miners—Diseases and hygiene

MINES, Bureau of. **See United States—Mines, Bureau of**

MINES, Military

Land mine exploding device. *Franklin Inst J* 265:278-9 Mr '58

MINES and mineral resources

E&MJ surveys mine, mill, smelter and refinery developments in 1957. *Eng & Min J* 159:170-24 F '58

ILO Tripartite technical meeting on mines other than coal mines. Geneva, Nov. 25-Dec. 7. *Min Cong J* 44:45 Ap '58

Mining; annual review. flow sheet il diags *Min Eng* 10:188-234 F '58

New mining company and industrial minerals. C. W. Sweetwood. *il Min Cong J* 44:42-5 Je '58

Role of the chemical company; importance of mining as a major source of the raw materials. O. A. Power. *il Min Cong J* 44:36-7 Jl '58

See also

Clay mines and mining
Coal
Coal mines and mining
Copper mines and mining
Geochemistry
Gold mines and mining
Iron mines and mining
Metals
Mining engineering
Mining industry and finance
Mining machinery
Oil shales
Ore deposits
Ore sampling
Petroleum supply
Precious metals
Quarries and quarrying
Shale
Slate
Sulfur mines and mining
Uranium mines and mining

Abandoned mines

Low-cost, high-quality storage cavern; dehumidified limestone cavern. *il plan Eng N* 160:37-8 Ap 3 '58

Modern engineering turns abandoned mine into a profit; Appalachian sulphides icon. S. J. Nemeth and N. J. Myers. *il Min Eng* 10:82-3 Ja '58

Africa, Southwest

Paragenetic relationships of germanite and renierite from Tsumeb, South West Africa. C. B. Sclar and B. H. Geier. *bibliog il Econ Geol* 52:612-31 S '57

Angola

Heavy metal concentration in streams in North Angola. D. J. Atkinson. *bibliog maps Econ Geol* 52:652-67 S '57

Arizona

Occurrence of molybdenian stolzite in Arizona. J. N. Faick and F. A. Hildebrand. *bibliog Am Mineralogist* 43:156-9 Ja '58

Pima, a three-part story; geology, open pit, milling. R. E. Thurmond and others. flow sheets. *il plan diag Min Eng* 10:453-62 Ap '58

Australia

Geology and metamorphism of the Nairne pyritic formation, a sedimentary sulfide deposit in South Australia. B. J. Skinner. *bibliog il maps diag Econ Geol* 53:546-62 Ag '58

Huntite from Tea Tree gully, South Australia. B. J. Skinner. *Am Mineralogist* 43:159-62 Ja '58

Lime around the world; research is imperative in Australia. V. J. Azbe. *il map Rock Prod* 61:94-1 Jl '58

Searching for minerals in Australia. *Engineer* 205:220 F 7 '58

White chlorite from Cobargo, N.S.W. F. C. Loughnan and G. T. See. *bibliog Am Mineralogist* 43:671-6 Jl '58

Brazil

Beryllium content of roscherite from the sapucaia pegmatite mine, Minas Gerais, Brazil, and from other localities. M. L. Lindberg. *il diags Am Mineralogist* 43:824-38 S '58

MINES and mineral resources—*Continued*

California

Can modern metallurgical methods revitalize the Meadow Lake area? A. L. Wisker. map Eng & Min J 159:104-5 My '58
Nonfibrous ulexite from the Kramer district, California. R. D. Allen and H. Almond. Am Mineralogist 43:69-70 Ja '58
U.S. Borax & Chemical opens new mine and refinery. il Am Cer Soc Bul 37:37 Ja 15 '58
U.S. Borax dedicates first open pit borax mine. il Glass Ind 38:698 D '57

Canada

Intelligent taxation aids Canada's mineral development. il Min Eng 9:1336-7 D '57
Mineral resources. flow diag il Eng J 41:51-64 Ap '58

Caribbean region

Caribbean, mining's newest province. flow sheets il maps diags Eng & Min J 158:75-105 S '57; Correction. 158:83 D '57

China

Tungsten mineralization in Hong Kong and the New Territories. S. G. Davis. bibliog il diags Econ Geol 53:481-8 Je '58
Wild Wa's. F. Searls. Jr. il maps Eng & Min J 159:95-102 J '58

Colorado

Early carnotite mining in Colorado. K. C. Nicholson. il Eng & Min J 159:100-1 Je '58
Mineralogy of an yttrium-bearing pegmatite body near Lake George, Park county, Colo. J. J. Glass and others. Am Mineralogist 43:991-4 S '58
Sherwoodite, a mixed vanadium(IV)-vanadium(V) mineral from the Colorado plateau. M. E. Thompson and others. diag Am Mineralogist 43:749-55 J '58
Simplexite, a new quadrivalent vanadium mineral from the Colorado plateau. M. E. Thompson and others. il map diag Am Mineralogist 43:16-24 Ja '58

Egypt

Comparison of some wolframite deposits in Egypt and France. S. Tosson. Econ Geol 52:972-4 D '57

Finland

Complex form of natural nepheline from Iivaara, Finland. T. G. Sahama. Am Mineralogist 43:165-6 Ja '58

Florida

Major welding manufacturer recovers rutile in Florida. plan diags Eng & Min J 158:98-9 D '57

France

Comparison of some wolframite deposits in Egypt and France. S. Tosson. Econ Geol 52:972-4 D '57

Greenland

Sulphides in the Skaergaard intrusion, east Greenland. L. R. Wager and others. il diags Econ Geol 52:855-95 bibliog (37 titles, p893-5) D '57

Idaho

Chlorine-rich biotite from Lemhi county, Idaho. D. E. Lee. bibliog Am Mineralogist 43:107-11 Ja '58

Illinois

Fluorspar mining in Hardin county, Ill. plans diags Min Eng 10:65-7 Ja '58

India

Odara pegmatite. C. V. Paulose. il map diag Econ Geol 52:702-8 S '57

Indiana

Crandallite (pseudowavellite) from Gardner mine ridge, Lawrence county, Ind. S. S. Greenberg and W. T. Elbert. bibliog Am Mineralogist 43:983-5 S '58

Ireland

Mining development in Ireland. M. A. Hogan. Engineering 184:488-9 O 18 '57

Labrador

Sixty thousand square miles of potential resources. Newfoundland and Labrador. J. C. Lyons. il maps Can Min & Met Bul 51:114-19 F '58

Maine

Beryllium content of roscherite from the aspucua pegmatite mine, Minas Gerais, Brazil, and from other localities. M. L. Lindberg. il diags Am Mineralogist 43:824-38 S '58

Manitoba

Lithium and beryllium pegmatites of south-eastern Manitoba. J. R. Davies. bibliog map diags Can Min & Met Bul 51:420-6 J '58

Mexico

Mineralized cretaceous horizons in north-eastern Mexico. P. Sanchez-Mejorada. bibliog map diags Min Eng 10:Trans 108-11 Ja '58

Minnesota

Significance of geochemical distribution trends in soil. D. H. Yardley. bibliog maps diag Min Eng 10:Trans 781-6 J '58
Titaniferous sedimentary rocks in the Cuyuna district, central Minnesota. R. G. Schmidt. bibliog il maps Econ Geol 53:708-21 S '58

Montana

Diversification, key to growth of Anaconda; nonferrous products. M. H. Gidel. il Min Cong J 44:22-6+ My '58
Uranium deposits in western North Dakota and eastern Montana. D. Towse. bibliog maps diags Econ Geol 52:904-13 D '57

Nevada

Scheelite in feldspathized granodiorite at the Victory mine. Gabbs, Nev. F. L. Humphrey and M. Wyatt. il maps diags Econ Geol 53:38-64 Ja '58

New Brunswick

Geology of the Brunswick Mining and Smelting orebodies, Gloucester county, N.B. E. R. Lea and C. Rancourt. bibliog il maps plans diags Can Min & Met Bul 51:167-77 Mr '58

History of mining exploration, Bathurst-Newcastle district. New Brunswick. G. S. Mackenzie. bibliog map Can Min & Met Bul 51:156-61 Mr '58

Role of geophysics in exploration in New Brunswick. S. H. Ward. diags Can Min & Met Bul 51:162-6 Mr '58

Structure of the Caribou sulphide body of the Anaconda co. (Canada), Bathurst district, N.B. C. G. Cheriton. map diags Can Min & Met Bul 51:178-9 Mr '58

New Mexico

Chemical analyses of the fluid inclusions in a group of New Mexico minerals. L. L. Ames, Jr. bibliog map diags Econ Geol 53:473-80 Je '58

Santafeite, a new hydrated vanadate from New Mexico. J. Sun and R. H. Weber. bibliog il Am Mineralogist 43:677-87 J '58

New Zealand

Tapiolite, with special reference to tapiolite from southern Westland, New Zealand. bibliog Am Mineralogist 43:112-19 Ja '58

Newfoundland

Sixty thousand square miles of potential resources. Newfoundland and Labrador. J. C. Lyons. il maps Can Min & Met Bul 51:114-19 F '58

North Carolina

Family team develops new mill, mine; Lawson-United feldspar & minerals co. B. C. Herod. flow diag il Pit & Quarry 51:112-17 Ar '58

Kings Mountain lithium mining operations; Foote mineral co. N. O. Johnson. il Min Cong J 44:52-6 Ja '58

Relation of phosphorites to ground water in Beaufort county, N.C. P. M. Brown. bibliog il maps diags Econ Geol 53:85-101 Ja '58

Resources and utilization of North Carolina pyrophyllite. J. L. Stuckey. bibliog il Min Eng 10:Trans 97-9 Ja '58

North Dakota

Uranium deposits in western North Dakota and eastern Montana. D. Towse. bibliog maps diags Econ Geol 52:904-13 D '57

Nova Scotia

Mining society of Nova Scotia 71st annual meeting Ingonish Beach, July 3-5. Can Min & Met Bul 51:457-64 Ar '58

Supergene copper-uranium deposits in northern Nova Scotia. J. J. Brunner. bibliog il map diags Econ Geol 53:309-24 My '58

Peru

Anhydrite complex of the Morococha district, Peru. R. H. Nagell. bibliog il maps diags Econ Geol 52:632-44 S '57

MINES and mineral resources—Continued

Quebec (province)

Asbestos from Black lake. *il Chem & Eng N* 36:22-4 O 27 '58

Sahara desert

Treasure-trove in the Sahara. *map Engineer-treasure* 184:770-2 D 20 '57

South Africa

Reinforced concrete headgears in South Africa. *il Engineer* 204:723-4 N 15 '57

South Dakota

Alteration of sandstone as a guide to uranium deposits and their origin, northern Black Hills. R. C. Vickers. *maps diags Econ Geol* 53:599-611 S '57

Sweden

Andradite-spessartite garnet from Pajsberg, Sweden. D. E. Lee. *bibliog Am Mineralogist* 43:208-15 Mr '58
Galenite in pyrometasomatic deposits. P. Geijer. *bibliog Econ Geol* 53:210-14 Mr '58

Texas

Texas miners boost talc output. P. T. Flawn. *il map Eng & Min J* 159:104-5 Ja '58

United States

See also

United States—Mines, Bureau of

Utah

Chrome mica-clay, Temple mountain, Utah. F. F. Kerr and P. K. Hamilton. *il diags Am Mineralogist* 43:34-47 *bibliog*(p46-7) Ja '58

Virginia

Chromian muscovite from Baker mountain, Virginia. R. V. Dietrich. *bibliog Am Mineralogist* 43:162-5 Ja '58
Minerals of the cassiterite-bearing veins at Irish Creek, Va. and their paragenetic relations. J. J. Glass and others. *bibliog il maps Econ Geol* 53:65-84 Ja '58

Washington (state)

Nickel-gold ore of the Mackinaw mine, Snohomish county, Wash. C. Milton and D. J. Milton. *bibliog il diags Econ Geol* 53:426-47 Je '58
Remote-controlled shuttle conveyor serves five discharge points; Pen oreille mines & metals co. *diags Eng & Min J* 159:99 Ja '58

Western states

Colorado mining association 61st national western mining conference, Denver, Feb. 6-8. *Eng & Min J* 159:87-94 Mr '58

Yukon

Mineral possibilities of Yukon territory. A. E. Aho. *bibliog map Can Min & Met Bul* 51:479-88 Ag '58

MINIATURE cars. See Automobiles—Small size
MINIATURE products. See Products, Miniature
MINIATURIZATION. See Products, Miniature

MINIMUM wage

Conditions for tire industry minimum wage; October hearings set by Secretary Mitchell. *Rubber World* 139:94 O '58
U.S. Department of labor announces soap industry minimum wage. J. P. Mitchell. *Soap & Chem Spec* 34:43-44 Ag '58

MINING congress, American. See American mining congress

MINING costs

Economic relation of mining rate to grade of ore. H. M. Callaway. *Min Eng* 10:470-2 Ap '58

Economy of larger shovels. E. F. Hanson. *il Min Cong J* 44:60-3 Je '58

See also

Coal mines and mining—Costs

MINING electro-mechanical maintenance association

Annual meeting, 5th, Unlontown, Pa. Sept. 28. *Coal Age* 62:118-20 N '57

MINING engineering

Annual Rocky Mountain minerals conference, 4th, Denver, Oct. 30-Nov. 1. *Min Eng* 10:116-17 Ja '58

Automation in the mineral industries. J. McCaslin. *il diags Min Eng* 10:337-41 Mr '58
Engineered blending of uranium ores; with cost data. E. T. Wood. *Min Eng* 10:776-9 J1 '58

Engineering and mining journal mining guidebook and buying directory. *Eng & Min J* 159:3-262 Mid-Je '58

Industrial engineering; what can it do? E. B. Leisenring, jr. *il Min Cong J* 43:74-7 N '57
Modern engineering turns abandoned mine into a profit; Appalachian sulphides inc. S. J. Nemeth and N. J. Myers. *il Min Eng* 10:82-3 Ja '58

Planning deep mining at Homestake. A. H. Shoemaker. *il Min Eng* 10:Trans 686-9 Je '58

Provincial ministers of mines conference, 15th, St Andrews, New Brunswick, Sept. 3-5. *Can Min & Met Bul* 51:533-5 S '58

Role of the general contractor; mining operation for the production of industrial minerals. J. V. Otter. *il Min Cong J* 44:32-5 J1 '58

Southeastern states mining conference, Tampa, Fla. *Min Eng* 9:1380-1 D '57

See also

Canadian institute of mining and metallurgy

Coal mines and mining

Hydraulic mining

Mine construction

Mine drainage

Mine haulage

Mine shafts

Mining machinery

Mining methods

Ore sampling

Prospecting

Rock drills

Water supply for mines

Power

See also

Coal mines and mining—Power

Electricity in mining

Safety measures

High safety and health standards for mining; abstracts of two papers. J. Westfield; M. P. Romney. *Safety Maint* 115:32+ Ap '58

Human failure, sleeping giant; Minnesota's open-pit mining accidents; M. A. Hanna co.'s safety performance. G. A. Borgeson. *il Min Cong J* 44:29-32 My '58

Incentive awards for good safety records; Asbestos corp. J. M. Smith. *il Min Cong J* 44:75-8 Je '58

John T. Ryan trophies; report of the Institute committee covering mine safety awards for 1957. *Can Min & Met Bul* 51:196-7 Ap '58

Planning to avoid rockbursts. R. G. K. Morrison. *diag Min Cong J* 44:42-4 J1 '58

Progress in health and safety in the mining industry, 1957. M. J. Ankeny. *il Min Cong J* 44:46-50 F '58

Standards help support mine roof. G. W. Sarr. *il diags Max of Stand* 29:239-41 Ag '58

See also

Coal mines and mining—Safety measures

Electricity in mining—Safety measures

Mine rescue work

Study and teaching

Comparison of U.S. and European engineering schools. L. J. Parkinson. *il Min Eng* 10:76-80 Ja '58

Water problem

See Mine water

MINING engineers

See also

American institute of mining, metallurgical and petroleum engineers—Society of mining engineers

Northwest mining association

MINING geology

Geology of the Brunswick Mining and Smelting orebodies, Gloucester county, N.B. E. R. Lea and C. Rancourt. *bibliog il maps plans diags Can Min & Met Bul* 51:167-77 Mr '58

Geology of the Mt Lyell mines, Tasmania. M. L. Wade and M. Solomon. *bibliog maps diags Econ Geol* 53:367-416 Je '58

Manganese ores from the Kuruman district, Cape province, South Africa. J. J. Frankel. *bibliog il maps diag Econ Geol* 53:577-97 Ag '58

Metal mining geology; annual review. E. H. Wisser, ed. *bibliog*(31 ref) *il Min Eng* 10:239-43 F '58

Mineralized cretaceous horizons in north-eastern Mexico. P. Sanchez-Mejorada. *bibliog map diags Min Eng* 10:Trans 108-11 Ja '58

Mining geology in 1957. P. J. Shenon. *il Min Cong J* 44:60-3 F '58

MINING geology—Continued

- Mining photogeology, T. W. Mitcham, il map
Min Cong J 43:66-7+ N '57
- Ore genesis, the source bed concept; discussion, C. J. Sullivan, Econ Geol 53:493-4 Je '58
- Organization for exploration; geology department in a small mining company, J. P. Pollock, il Min Cong J 44:43-6 My '58
- Pima, a three-part story; geology, R. E. Thurmond and others, plan Min Eng 10:457 Ap '58
- Structural control of contact metasomatic deposits in the Peruvian cordillera, A. J. Terrones L. bibliog il maps diags Min Eng 10:Trans 365-72 Mr '58
- Structure of the Caribou sulphide body of the Anaconda co. (Canada), Bathurst district, N.B., C. G. Cheriton, map diags Can Min & Met Bul 51:178-9 Mr '58
- Uranium-bearing auriferous reefs at Jacobina, Brazil, J. D. Bateman, bibliog maps diag Econ Geol 53:417-25 Je '58

MINING industry and finance

- Program for the mining industry: ideas, opportunities, incentives, R. M. Foose, Min Eng 10:342-5 Mr '58

See also

- Metal trade
Mine taxation
Mine valuation
Mining costs

MINING law

See also

- Mine taxation
Petroleum laws and regulations

MINING machinery

- Continuous mining machine, il Engineer 206: 230 Ag 8 '58
- Cylinder replaces chain on mucker, N. Meltzen, diags Eng & Min J 159:96-8 Ja '58
- Deepening of the Page inclined shaft with a Cryderman shaft mucker; Page mine, American smelting and refining co. T. M. Tower and C. J. Ward, il diags Min Cong J 44:41-3+ Ja '58

See also

- Coal mining machinery
Electricity in mining
Mine haulage
Rock drills
Shoveling machines

Maintenance and repair

- Mining machinery; abstract, W. G. Kegel, Coal Age 62:119-20 N '57

MINING methods

- Coal mining methods applied to hard rock operations; Intermountain chemical co. trona mine, R. F. Love, il Min Cong J 44:77-80 Apr '58
- Early carnotite mining in Colorado, K. C. Nicholson, il Eng & Min J 159:100-1 Je '58
- Going underground for a pure white silica; Clayton silica co., E. Meschter, il Rock Prod 61:78-81+ Je '58
- Jet piercing, the miner's rocket, L. E. Antonides, il diags Eng & Min J 159:103-7 Jl '58
- Mining; annual review, flow sheet il diags Min Eng 10:188-234 F '58
- Mining methods used in huge Ripple Rock blast, Eng & Min J 159:158+ My '58
- Mining practice, 1957, L. E. Antonides, Eng & Min J 159:178+ F '58
- Underground metal mining progress, 1957, K. Stout, il Min Cong J 44:51-3 F '58

See also

- Coal mines and mining—Methods
Hydraulic mining

Stripping operations

- Advances in open pit mining, 1957, H. J. Leach, il Min Cong J 44:31-3 F '58
- At Berkeley pit, blasting is an art, J. B. Hutt, il diags Eng & Min J 158:107-10 D '57
- Economy of larger shovels, E. F. Hanson, il Min Cong J 44:50-3 Je '58
- Estimating data for open pit haulage trucks; Kennecott copper corp., H. A. Wilmeth, Min Eng 10:577-80 My '58
- Grants and Ambrosia Lake areas, T. O. Evans, il Min Cong J 43:42-4+ D '57
- Here's how we do it; ammonium nitrate for use in blasting at the Utah Copper pit of Kennecott copper corp., L. E. Snow, il diag Min Cong J 44:62-4 Jl '58
- How scientific exploration found Pima mine; Pima mining co., J. B. Hutt, flow sheet il map Eng & Min J 159:100-6 Mr '58
- How the Bingham pit makes a dropout, V. S. Barlow, diags Eng & Min J 159:92-3 Je '58

- How to mine and mill bentonite, D. S. Turner, flow sheets Eng & Min J 159:108-10 Jl '53

- Human failure, sleeping giant; Minnesota's open-pit mining accidents, M. A. Hanna co.'s safety performance, G. A. Borgeson, il Min Cong J 44:29-32 My '58
- Kings Mountain lithium mining operations; Foote mineral co., N. O. Johnson, il Min Cong J 44:52-6 Ja '58
- Open pit conveyors at Steep rock iron mines, E. J. Mulligan, il map Min Cong J 44:24-8 Ja '58
- Open-pit mining by the Iron ore co. of Canada at Knob Lake, Quebec, V. Gregoire, flow sheet il map Can Min & Met Bul 51:505-11 Ak '58
- Pima, a three-part story; geology, open pit, milling, R. E. Thurmond and others, flow sheets il plan diag Min Eng 10:453-62 Ap '58
- Pit operation using power shovels and trucks; clay pit, L. C. Gresham, jr., Am Cer Soc Bul 37:197-8 Ap '58
- Pit operations at the Marmorator mine, Hastings county, Ontario, C. A. Lorenson and J. S. K. McChesney, il Can Min & Met Bul 51:577-9 S '58
- Portable cables for surface mining, S. Bunish, il Coal Age 63:140-1+ F '58
- Skip hoisting solves deep pit problem; Pima mining co., il Eng & Min J 159:98-9 Mr '58
- U.S. Borax has integrated a complex industrial plant, il Eng & Min J 159:101-3 Ap '58

See also

- Coal mines and mining—Stripping operations

MINING research

- Annual symposium on mining research, Rolla, Mo. Nov. 14-15; with abstracts of papers, Eng & Min J 159:106-8+ Ja '58
- How St. Joe uses mining research, J. J. Reed and others, bibliog diags Eng & Min J 159: 85-7 My '58
- U.S. Bureau of mines investigations and research on bumps, E. Thomas, Min Eng 10:Trans 878-9 Ag '58
- What can research do for management problems in mining? D. R. Weedon, jr., il Min Cong J 44:32-4+ Ja '58

See also

- United States—Mines, Bureau of

MINING towns

- Canada's booming uranium metropolis; Elliot Lake, Ontario, il Eng N 160:56+ Ja 16 '58

MIN-K. See Heat resisting materials**MINNESOTA**

See also

- Architecture, Domestic—Minnesota
Electric industries—Minnesota
Geology—Minnesota
Mines and mineral resources—Minnesota
Roads—Minnesota

MIocene period. See Geology, Stratigraphic —Miocene**MIRRORS**

- Carbon arc image furnaces; optical systems, M. R. Null and W. W. Lozier, bibliog il diags R. Sci Instr 29:163-70 F '58
- Cold mirrors for protection heat control, il diags SMPTE J 67:175-7 Mr '58
- Done with mirrors; focus rays from carbon arc into beam as hot as 7000 F., il Mill & Factory 61:11 N '57
- It's all done with mirrors; simultaneous front and back view photography, J. J. Barton, il Ind Phot 7:24-5 F '58
- Make blind corners safe with mirrors, il Pet Refiner 37:162 Ag '58
- Method of making silver mirrors on glass; patent, Glass Ind 39:236+ Ap '58
- Method of producing mirrors; patent, Glass Ind 39:159 Mr '58

See also

- Silvering
Telescope—Mirrors

MISSILES, Guided. See Guided missiles**MISSISSIPPI**

See also

- Petroleum—Mississippi
Water laws and regulations—Mississippi

MISSISSIPPI river

Delta

- Oceanography of Mississippi delta sedimentary environments, P. C. Scruton, maps diags Am Assn Pet Geologists Bul 40:2864-82 bibliog 12950-2 D '56; Discussion, C. C. Bates, 42:894-5 Ap '58

Flood control projects

- Dewatering excavation, low sill structure, Old River, La., C. I. Mansur and R. I. Kaufman, plans diag, il Sec C E Proc & ISM 1 no 15361:1-32 F '58

MISSISSIPPI river—Flood control projects—*Continued*

Drainage in the Mississippi River valley. L. W. Herndon. map plan Am Soc C E Proc 83 [IR 2 no 1363]:1-11 S '57; Discussion. 84 [IR 3 no 1784]:11-15; Reply. 15-16 S '58

MISSISSIPPI valley

Drainage in the Mississippi River valley. L. W. Herndon. map plan Am Soc C E Proc 83 [IR 2 no 1363]:1-11 S '57; Discussion. 84 [IR 3 no 1784]:11-15; Reply. 15-16 S '58

MISSISSIPPI valley association

Annual meeting, 39th, St Louis, Feb. 10-11. Marine Eng/Log 63:78-9 Ap '58

MISSISSIPPIAN period. See Geology, Stratigraphic—Mississippian**MISSOURI***See also*

Lead mines and mining—Missouri

Public utilities—Missouri

MISSOURI river

Effects of Missouri River Basin control on water quality; panel discussion. map Am Water Works Assn J 50:135-7 S '58

Men and machines beat a river; Osage dam and the Missouri river. J. R. Carr. II Eng N 161:21-3, cover Ag 14 '58

Monitoring of stream water quality; introduction. H. O. Hartung. Am Water Works Assn J 50:121-13 S '58

Water quality. G. J. Hopkins and J. K. Neel. bibliog Am Soc C E Proc 84 [ISA 1 no 1542]:1-10 F '58

MISSOURI valley electric association

Engineering conference, Kansas City, Mo. April 16-18. Elec World 149:92+ My 19 '58

MIXERS

Automatic soap batching. II Soap & Chem Spec 34:139-40 Je '58

Conveyor kneads as it pushes. II diag Product Eng 29:77 Je 23 '58

Design details of Socony eductor mixers for mixing liquids in fixed-roof tanks. R. B. Meny and R. B. Velykhs. diags Oil & Gas J 55:88-92 O 28 '57; Same cond. Pet Eng 29:C31+ D '57

How liquid-solids blender improves body preparation; United Clay Mines pilot plant. II Cer Ind 70:78-9 Mr '58

Inventory of new equipment and accessories; feeders and mixers. II Chem Eng 64:249-50+ Mid-N '57

Miniature intensive mixer gives color dispersions. M. S. Sheftel and G. E. Berlyn. II diag Mod Plastics 35:140+ Je '58

Mixer degasses potting resin. II Electronics 31:126+ S 12 '58

Mixer gets its papers; new turbine mixer from Sweden. Chem & Eng N 35:56+ N 18 '57

Mixing machines. II Manuf Chem 29:188-93 My '58

Soap plant observer; mixing and blending of detergents and household chemical specialties. J. W. McCutcheon. Soap & Chem Spec 34:161+ O '58

Unit-rotor mixer for rubbers and plastics. W. F. Watson and D. Wilson. II diag Rubber Chem & Tech 31:667-72 J1 '58

See also

Concrete mixers

Food mixers

Paint mixers

Rubber mixers

Stirrers

Manufacture

Mig and Tig used to weld dynamite mixers. II Welding Eng 43:37 J1 '58

MIXING

Automatic batching control gives precise formula repetition; Phillips chemical co. II Plant Eng 12:128-9 Je '58

Blend dry, pulverized materials accurately; aeration system developed by Fuller co. Iron Age 180:162+ N 21 '57

Correction factor for axial mixing in packed beds. N. Epstein. bibliog Can J Chem Eng 36:210-12 O '58

Design and operation of a complete mixing activated sludge system. R. E. McKinley and others. diags Sewage & Ind Wastes 30:287-95 Mr '58

Electrolytic method for transient mixing measurements. M. P. Norin. II diag Franklin Inst J 266:229-32 S '58

Fluid mixing in tankcars. R. L. Bates. diags Chem Eng 65:136+ Ag 25 '58

How much mixing occurs in a pipe? O. Levenspiel. diags Pet Refiner 37:191-4 Mr '58

Incompressible mixing of a shear flow with fluid at rest. L. G. Napolitano. bibliog diags J Aero/Space Sci 25:444-50 J1 '58

Longitudinal mixing of fluids flowing in circular pipes. O. Levenspiel. bibliog diag Ind & Eng Chem 50:343-6 Mr '58

Mechanical treatment of emulsified products. G. Kempson-Jones. II Am Perfumer & Aromatics 11:88-92 Je '58

Mixing and blending. D. F. Riley. bibliog II diags Manuf Chem 29:184-7 My '58

Mixing in laminar-flow systems. W. D. Mohr and others. diags Ind & Eng Chem 49:1855-6 N '57

Mixing of high viscosity Newtonian and non-Newtonian fluids. R. E. Lee and others. bibliog diags Ind & Eng Chem 49:1849-54 N '57

Mixing of solids; chi square as a criterion. J. B. Gayle and others. bibliog diags Ind & Eng Chem 50:1279-82 S '58

Mixing studies on a perforated distillation plate. A. I. Johnson and J. Marangozis. bibliog diags Can J Chem Eng 36:161-8 Ag '58

Mutual solubility of polymers; physicochemical properties of stocks prepared from a mixture of polymers. N. F. Komskey and G. L. Slonimskii. bibliog Rubber Chem & Tech 31:49-57 Ja '58

Nonrecrystallizing for turbulence mixers. J. G. Lowenstein. Chem Eng 65:141-2 Ap 7 '58

Pneumatic weigh cells improve automatic weighing and blending. W. E. Milligan. diags Automation 5:94-6 Mr '58

Simple statistics beats blend problem. L. E. Lorraine. Chem Eng 65:166 Ap 21 '58

Theory of mixing in the single-screw extruder. W. D. Mohr and others. II diags Ind & Eng Chem 49:1857-62 N '57

Unit operations in chemical engineering. J. H. Rushton. bibliog (39 ref) II Ind & Eng Chem 60:478-80 pt 2 Mr '58

See also

Agitation

Homogenization

Mixers

Stirrers

MIXING, Heat of

Mutual solubility of polymers; heats of mixing of polymers. G. V. Struminskii and G. L. Slonimskii. bibliog Rubber Chem & Tech 31:250-6 Ap '58

MIXTURES

Analytical separation of the methyl esters of the C₈-C₂₀ straight-chain fatty acids and the detection of odd-carbon-number acids in commercial mixtures of fatty acids by gas chromatography. M. A. Khan and B. T. Whitam. bibliog J Ap Chem 8:549-52 S '58

Diffusive separation of gas mixtures in flow fields. V. C. Liu. bibliog J Ap Phys 29:1188-9 Ag '58

Distillation of binary and ternary mixtures. A. K. Qureshi and W. Smith. bibliog flow diag Inst Pet J 44:137-46 My '58

Enthalpy and entropy data for hydrocarbon mixtures. M. Hobson and J. H. Weber. bibliog Chem Eng 64:272-4 D '57

Low-temperature explosions of mixtures of potassium perchlorate with some combustible substances. J. Grodzinski. bibliog J Ap Chem 8:523-8 Ag '58

Predict mixture heat of vaporization. W. R. Gambill. Chem Eng 65:137-40 F 10 '58

Prediction of the explosive behavior of mixtures containing hydrogen peroxide. E. S. Shanley and J. R. Perrin. diags Jet Propulsion 28:382-5 Je '58

Reactions in silica-alumina mixtures. R. R. West and T. J. Gray. bibliog (29 ref) Am Cer Soc J 41:132-6 Ap 1 '58

See also

Hydrocarbons—Separation processes

Analysis

Identification of mixtures of waters from chemical water analyses. J. C. McKinnell. bibliog diags J Pet Tech 10:79-82 S '58

Refractometer for continuous process-stream analysis. L. G. Glasser and D. J. Troy. bibliog II diags Ind & Eng Chem 50:1149-52 Ag '58

Test for nonionic in soap mixtures. Soap & Chem Spec 34:147 Je '58

Use of mixed stationary liquids in gas-liquid chromatography. W. H. McFadden. bibliog Anal Chem 30:479-81 Ap '58

MIXTURES, Inflammable. See Inflammable mixtures

MNEMONICS

Mnemonic device for relativistic particle kinematics. F. S. Crawford, jr. Am J Phys 26:376-7 S '58

MOBILE, Alabama**Streets**

200,000 foot curb and gutter job. *Il Roads & Strs* 100:69 N '57

MOBILE aerial tower. See Towers, Portable

MOBILE asphalt plants. See Asphalt plants, Portable

MOBILE electric generators. See Electric generators, Portable

MOBILE substations. See Electric substations, Portable

MOBILEHOMES. See Automobile trailers

MOBILITY, Electronic. See Electronics—Mobility

MODEL home exhibits. See Gas industry—Model home exhibits

MODEL houses. See Houses, Model

MODELS

Cardboard model selects conveyor. *P. C. Nov.* *Il diags Am Mach* 102:106-7 Ap 7 '58

Model steals show at safety conference; shows safe construction practices. *Il Eng N* 160:21-2 My 3 '58

Model studies of flue design. *Il diags Air Cond Heat & Ven* 55:74-6 Je '58

Models pretest designs for gas flow. *Il Iron Age* 131:116 Mr 13 '58

Paperboard models aid weldment design. *J. C. Horth.* *Il diags Machine Design* 30:132-4 F 6 '58

Three-dimensional model simplifies compound-angle setups. *O. Skild.* *Il diags Mach* 64:143-6 Ja '58

Turbulence characteristics of the hydraulic jump using an air-flow model. *H. Rouse and others.* *bibliog Il diags Am Soc C E Proc* 84 [HY 1 no 1528]:1-30 F '58; *Discussion.* 84 [HY 3 no 1690]:55-6 Je; [HY 6 no 1856]:45-58 N '58

Use of paraffin wax as a model material to simulate the plastic deformation of metals. *C. Bodsworth and others.* *bibliog Il diags Iron & Steel Inst J* 185:375-83; 185:321-31 Mr '57, Ap '58

See also

Airplane models

Airplanes—Model testing

Architectural models

Chemical models

Gas turbines, Aircraft—Model testing

Geological models

Hydraulic models

Mathematical models

Mechanical models

Mine models

Radio antennas—Model testing

Structural engineering—Model testing

also subdivision Models under special subjects, e.g.

Airships

Atoms

Automobiles

Bridges, Suspension

Crystallography

Dust collectors

Electric precipitators

Electric substations

Electronic circuits

Engines

Flues

Glass tanks

Machinery

Molecules

Nuclear reactors

Petroleum refineries

Water pipes

MODELS, Layout

Building from models will save time. *Il Oil & Gas J* 56:64 Mr 3 '58

Designing in 3-D, models for plant and piping design. *E. Holmes.* *Il Manuf Chem* 29:370-3 S '58

Hydraulic scale models. *J. Allen.* *Il Research* 11:67-75 F '58

Piping system models aid design communication. *G. F. Hammond.* *Il diag Heating-Piping* 60:69-71 Ji '58

Scale model layout copying. *L. H. Will.* *Il plans Plant Eng* 12:86-8 Ag '58

Sohio's new Toledo refinery; models were used as design tools. *Il Oil & Gas J* 56:107-8 Je '58

Use of models in design and construction. *A. E. Michel.* *Il Chem Eng Prog* 54:86-8 Mr '58

MODELS, Plastic

Acrylic model valve solves filling problem. *Il Mod Plastics* 36:182 O '58

Chrysler checks its cars with plastics; use of all-plastics model. *Il Mod Plastics* 35:198 F '58

Flow visualization techniques applied to combustion problems through transparent models, in which water takes the place of air. *E. F. Winter.* *Il diags Roy Aeronautical Soc J* 62:268-76 Ap '58

High speed photoelasticity. *D. A. Senior.* *bibliog Il diags Engineering* 186:248-54 Ag 22 '58

Miniature boom; demand for architectural models. *J. Jacobs.* *Il Arch Forum* 108:106-114 My '58

Model studies save money in designing of flues. *Il Elec Eng* 77:465-7 My '58

Model studies save money in flue gas duct design. *Il Power Eng* 62:84 Mr '58

New method to lock-in elastic effects for experimental stress analysis. *J. W. Dally and others.* *bibliog Il diags J Ap Mech* 25:189-95 Je '58

Photoelasticity; fast solution to practical design problems; abstracts of two ASME annual meeting papers. *Product Eng* 28:103-5 D 9 '57

Plastic models improve dust collector results. *Il diags Combustion* 29:41-5 Je '58

Small skeletons for mass markets. *Il Mod Plastics* 36:100-1+ S '58

MOHR circle diagram

Mohr's circle provides a rapid method for finding states of stress; data sheet. *E. W. Suppliger.* *diags Machine Design* 29:113 D 26 '57

MOISTURE

Effect of cosmetic ingredients and preparations on moisture loss from the skin. *D. H. Powers and C. Fox.* *Il Drug & Cosmetic Ind* 82:32-3+, 233-4+ Ja-F '58

Foamed polyethylene coaxial cables; effects of moisture penetration on cellular dielectrics. *C. C. Camillo and G. R. Karlson.* *diags Wire & Wire Prod* 33:649-53+ Je '58

Measurement of surface moisture. *P. J. Sereda.* *bibliog diag A S T M Bul* p53-5 F '58

Moisture-content gage. *Il Mech Eng* 79:1050-1 N '57

Moisture shorts out electric circuits. *diags Aviation Age* 28:138 Mr '58

Studies on the sorption of moisture by polymers; the cellulose-cellulose acetate system. *D. K. Beever and L. Valentine.* *J Ap Chem* 8:103-7 F '58

See also

Cotton fabrics—Moisture absorption

Dampness in buildings

Evaporation

Humidity

Hygrometers

Package goods—Protection

Refrigeration and refrigerating machinery—Moisture problem

Soil moisture

Water vapor

also subdivision Moisture content under special subjects, e.g.

Air

Building materials

Carbon black

Compressed air

Concrete

Cotton yarn

Food, Frozen

Gases

Paper

Paper board

Textile fibers

Wood pulp

MOISTURE detectors

How dry is this warp? instrument indicates moisture content of yarn from slasher. *Il Textile Ind* 122:117-19 Ap '58

Magnetic resonance determines moisture. *T. F. Conway and E. J. Smith.* *Il diags Electronics* 31:51-3 F 28 '58

Nuclear magnetic resonance analyzer, new tool for moisture analysis. *H. Rubin.* *Il diags I S A J* 5:64-8 Ja '58

MOISTURE of soil. See Soil moisture**MOLASSES**

Isolation of laminaribiose from hydrol. *A. Sato and others.* *bibliog Chem & Ind* p877 Ji 12 '58

Molasses; vanishing raw material. *Chem & Eng N* 35:34 N 25 '57

MOLDED products

Acrylonitrile-butadiene-styrene grass catcher. *Il Mod Plastics* 36:105 S '58

Acrylonitrile-butadiene-styrene joins the artillery; injection molded shell cases for 105-mm. howitzers. *Il Mod Plastics* 35:96-7 F '58

Bachner award for outstanding achievement in molded and formed plastics. *J. Bachner.* *Plastics World* 16:5 Ji '58

MOLDED products—Continued

Beautiful backs; portable tv sets. *il* Mod Plastics 35:125 Je '58

Deep draw vacuum forming; air cushion control. *il* diags Machine Design 30:32 Ja '58

Design of thin-wall plastic parts. B. Nathanson. *il* diags Machine Design 30:171-4 F 20 '58

Designing for compression and transfer moldings. J. E. Johnston. *il* diags Materials in Design Eng 46:126-31 N '57

Designing for injection molded plastics. J. R. Kent. *il* Materials in Design Eng 46:106-11 D '57

Engineering applications of rigid foamed plastics. A. Gilmour and C. E. Flindt. *il* Engineer 205:204-7 F 7 '58

Exploring fabrication techniques. L. J. Zukor. *il* diag Plastics Tech 4:656-7, 734-5, 836-7 JI-S '58

Extrusion and vacuum forming of high density polythene sheet. Brit Plastics 31: 352 Ag '58

Fabricating the structural components of the all-plastic House of the future. C. G. Cullen. *il* Plastics Tech 4:921-7 O '58

For boat or car; major components of compass are molded of butyrate and acrylic. *il* Mod Plastics 35:117 D '57

Forms and shapes of materials; plastic parts. Materials in Design Eng 48:311-13 Mid-O '58

Housewares. *il* Mod Plastics 35:75-94 JI '58

Indestructible bus seats. *il* Mod Plastics 35: 94-6 Ap '58

Injection moulded shop-fitting drawer. *il* Brit Plastics 31:301 JI '58

Injection-moulded vacuum jug. *il* Brit Plastics 31:327 Ag '58

Intricate plastic moldings; terminal boards for electric heaters in the new Lockheed electra turboprop airliner. *il* Plastics Tech 4:358, cover Ap '58

Le's sell thermosets; editorial. P. E. Fina. *il* Plastics Tech 4:137 F '58

Materials for the injection moulding of telephones. *il* Brit Plastics 31:256-7 Je '58

Metal inserts for plastic molding. F. Strasser. *il* diags Product Eng 29:104-5 Ap 28 '58

Molded bath scale platform; Counselor Classic scale. *il* Mod Plastics 35:103 Mr '58

New chair concept; reinforced plastics molding method produces one-piece back and seat unit that is flexible. *il* Mod Plastics 36:88 O '58

New copolymer dinnerware. *il* Mod Plastics 35:126-74- Je '58

New design for curtain rail assembly. *il* Brit Plastics 31:333 Ag '58

New filter plates; plastic displaces metal. *il* Chem Eng 65:68+ Je 30 '58

Photocopier swings to plastics. *il* Mod Plastics 36:108-94 S '58

Plastics applications. Published in monthly numbers of Plastics technology

Plastics make portable washer possible. *il* Mod Plastics 35:105-74 My '58

Plastics packings increase efficiency of cooling towers; receives citation in Materials in design engineering competition. *il* diags Materials in Design Eng 47:147-8 Ap '58

Plastics products. Published in monthly numbers of Modern plastics

Prepreg, epoxy molding cut weight and cost of aircraft structure; receives citation in Materials in design engineering competition. *il* Materials in Design Eng 47:149 Ap '58

Properties and applications of modified styrene plastics. B. Nathanson. *il* diags Machine Design 29:163-6 N 14 '57

Recommended design tolerances for plastics moldings; file facts. Materials in Design Eng 47:141 Mr 139 My '58

Setting-up Plastics section; Leeds & Northrup co.; illustrations with text. Electronic Ind 17:90 Ja '58

Shock troops of the industry; Bachner award. J. Bachner. Plastics Tech 4:653 JI '58

Strong case for plastics; housings of two new film viewers. *il* Mod Plastics 35:100-1 Ap '58

Thermoformed junior DeSoto; miniature plastic-bodied model. *il* Mod Plastics 35:108-9 My '58

Transformer transformed by premix; Westinghouse electric co. *il* Mod Plastics 35:97 Ap '58

Twelve phenolic moldings in contactor unit. *il* Brit Plastics 31:97 Mr '58

Vacuum-molded epoxy cast-resin applications. H. R. Lucas. *il* Elec Manuf 61:98-100 Ap '58

Vinyl shoes, for sheep and dogs. *il* Mod Plastics 35:168 Ag '58

What's in store; plastics products for the kitchen. C. Craig. *il* Brit Plastics 31:88-96 Mr '58

What's with polypropylene? a new family of thermoplastics has been created by a new approach to the production of polymeric structures. M. Ottolenghi and C. Crespi. *il* Mod Plastics 35:89-92 Mr '58

Where to use rubber phenolic moldings. H. J. Thomas. *il* Materials in Design Eng 46:120-3 D '57

Why low molecular-weight polyethylene? K. F. Koch and J. Peck. *il* Mod Plastics 35: 109-12 D '57

Why not wood-flour-filled urea? *il* Mod Plastics 35:115-17 My '58

See also

Molds (for plastics)
Plastics
Resinous products

Manufacture

Automatic blow-loading of inserts. *il* diags Mod Plastics 35:137-94 D '57

Compression and transfer molding. J. B. Lidstone and M. W. Oberle, eds. Plastics Tech 4:53, 245-6, 459 Ja, Mr, My '58

Deep-draw vacuum forming; air cushion control process. *il* diags(cover) Plastics Tech 4:44 Ja '58

How to thermoform plastic sheet. E. F. Bachner, Jr. and J. P. Wright. *il* diags Am Mach 101:105-20, cover JI 29 '57; Excerpts. Product Eng 29:D4-6 Mid-S '58

New technique for deep draw vacuum forming polyethylene. *il* diags Plastics World 16:30-1 Ja '58

New techniques in moulding high density polythene. D. A. Jones. diags Brit Plastics 31:132-44 Ap '58

Operation dust-free; reinforced plastics are produced in new pressurized plant; Douglas Aircraft, Torrance, Calif. *il* Mod Plastics 35:102-3 F '58

Plant planned for automatic molding. L. A. Umschnieder. *il* diag Mod Plastics 35:120-4+ Je '58

Vinyltoluene for polyester premix putties. R. F. Helmreich. *il* Mod Plastics 35:168+ Je '58

See also

Molding machines (for plastics)

Testing

Radiography of polythene. D. C. Shotton. *il* diags Brit Plastics 31:249-53+ Je '58

MOLDED products, Mechanical

Best results with phenolic molded parts. D. M. Buchanan. *il* diags Product Eng 29: 44-6 S 1 '58

New nylon from France. J. Fouque. *il* Product Eng 28:76-9 D 23 '57

Pencil sharpeners turn to plastics. *il* Mod Plastics 35:111-13+ Je '58

Phenolic for complex detail; dictation machines. *il* Mod Plastics 35:80-1 JI '58

See also

Bearings, Plastic
Gearing, Plastic

MOLDING

Advances in continuous vacuum-forming processes. M. J. Kalahar. *il* Plastics Tech 4: 335-8 Ap '58

Bladder molding forms smooth plastic laminates. J. A. Bagley and F. M. Partridge. *il* diags Am Mach 102:102-3 Ap 7 '58

Deep-draw vacuum forming. *il* diags Mech Eng 80:98-9 Mr '58

Drink mixer uses new molding method. *il* Materials in Design Eng 48:170+ Ag '58

Dry-coloring methods for injection molding of polyethylene. J. N. Scott and others. *il* diags Plastics Tech 4:552-5 Je '58

Formmolding acrylic sheet. diags Mod Plastics 35:137+ F '58

How and why to use glass-reinforced injection molding compounds. R. Bradt. *il* Mod Plastics 35:100-2+ Mr '58

How to slush mold polyethylene. *il* Mod Plastics 35:112-14 My '58

Injection molding and extrusion of Moplen. A. Bosoni. Plastics Tech 4:556-9 Je '58

Molding dry-colored polyethylene. C. L. Weir. *il* diags Mod Plastics 35:97-9+ JI '58

Molding linear polyethylene. A. Spaak and C. L. Weir. bibliog *il* Mod Plastics 35: 122+ Ap '58

Molding method to cut parts cost. *il* Product Eng 29:17 F 24 '58

Molding shrinkage and related effects in a fixed-cavity compression mold. W. R. McGlone and L. B. Keller. bibliog *il* diags Mod Plastics 35:125-6+ F; 117-20+ Mr '58

MOLDING—Continued

- Moulding to engineering tolerances. *il* *diags* Brit Plastics 31:66-9 F '58
- New epoxy-glass molding compound. H. J. Doyle and G. F. Molby. *il* Materials in Design Eng 47:106-9 My '58
- New high-speed molding process cuts cost of rubber parts. R. L. Halstead. *il* Product Eng 29:68-70 Je 23 '58
- New method for deep draw vacuum forming. *il* *diags* Brit Plastics 31:20-1 Ja '58
- New molding technique nets high economy. *il* Tool Eng 40:236-7 Ap '58
- New techniques for molding linear polyethylene. D. A. Jones. *plan* *diags* Plastics Tech 4:547-51 Je '58
- Rapid-cycle moulding in the U.S.A. C. E. Tibbs. *il* Brit Plastics 31:423-5 O '58
- Report on S.P.E. Retec on hot-runner and runnerless molding. *Mod* Plastics 35:151 D '57
- Rubber parts; costs down; automated molding process; Ohio rubber co. *il* Steel 142:59 Je 30 '58
- Slush moulding of polythene. *il* Brit Plastics 31:287 Je '58
- Transfer molding encapsulates tube leads. *il* Electronics 31:63 Ja 31 '58
- Valve gating injection molding. *il* Plastics Tech 4:152 F '58
- What the designer should know about production; plastic materials and processing. F. Ljylvynen. *il* *diags* Mach 65:168-72 S '58
- See also*
- Extrusion process (plastics)
- Nylon—Molding

Costs

- Dollar value of automated thermoset molding. *il* *Mod* Plastics 35:86-9+ Ag '58

MOLDING machines

- Contour squeeze molding; Taccone Diaform molding machine. *il* *diag* Engineering 186: 30-1 Jl 4 '58
- Mechanized molding line produces gray iron brake drums. R. H. Herrmann. *il* Foundry 86:90-3 Jl '58
- Suppliers discuss developments in resins and molding equipment for shell molding. Foundry 86:86-9 Ap '58

Control

- Static controls automate molding. *il* *diag* Automation 5:75-7 Mr '58

MOLDING machines (for plastics)

- Automatic equipment for molding phenolic parts. E. H. Kalmbacher. *il* Plastics World 16:28 Mr '58
- Boosts production, lowers reject rate; thermistor-type temperature controllers on rotary compression presses. *il* Plastics Tech 4:562-3 Je '58
- Device feeds compression molder. *il* *diag* Automation 5:59 Je '58
- Horizontal and hydraulic injection molding machine; O. Florin, Ltd. *il* Brit Plastics 31: 215 My '58
- Hydraulic press mfg. co. 32/42-ounce injection molding machine. *il* Plastics World 16:36 Ja '58
- Machines for thermoplastics. *Mod* Plastics 35: 143 Ja '58
- Molding dry-colored polyethylene. C. L. Weir. *il* *diags* *Mod* Plastics 35:97-9+ Jl '58
- New design of high capacity injection molding machine; H. Windser, Ltd. *il* *diag* Brit Plastics 31:41-3 Ja '58
- New 60 oz injection moulding machine; Projectile & engineering co. *il* *diag* Brit Plastics 31:360-2 Ag '58
- Properties required of thermosets for automatic molding. F. J. Donohue. *Mod* Plastics 35:104+ Jl '58
- Redesigned press molds plastic. *il* Product Eng 29:82 My 12 '58
- Shortcomings in the post thermofforming industry. G. Kozrzewa. Plastics Tech 4:732-3 Ag '58
- Six to eight ounce plastics injection molding machine. *il* Automotive Ind 117:82 O 15 '57
- Three-stage vacuum former has double platen mold station. *il* Plastics World 16:45 Mr '58
- Valve gating of injection molds. A. Spaak and G. Kelly. *il* *diags* *Mod* Plastics 36: 117-20+ S '58
- Vertical bench injection molding machine; S. E. Seymour and co., Ltd. *il* Brit Plastics 31:216 My '58
- What a plastics engineer should look for when planning to buy an injection molding machine. G. B. Thayer. Plastics Tech 4:439-46 My '58

Control

- Large resistance changes in thermistors make brush-and-ring connectors practical; remote temperature sensing problems in rotary molding presses. *il* Machine Design 30:124 S 4 '58

MOLDING machines (for rubber)

- Ohio Rubber's automatic molding process. *il* *diag* Rubber World 138:580-1 Jl '58
- Rotating rubber molder can form 200,000 parts daily. *il* Plastics World 16:9 Jl '58

MOLDS (botany)

- ODM becomes interested in rubber mold; NSS gets five-year research contract. Rubber World 137:733 F '58

See also
Eremothecium

- Fungi
- Mildew

MOLDS (for casting)

- Automated molding and pouring; installation at the George Fischer Ltd. malleable iron foundry in Switzerland. *il* Foundry 86:70-6 Je '58
- Automatic mold production; foundry of Pontiac motor div., General motors corp. *il* plan Automation 5:38-41 Ag '58
- CO₂ process useful in producing experimental castings; producing experimental rigid fuze bores at Frankford arsenal. R. L. Fehr and R. C. Harris. *il* Foundry 86:80-2 Mr '58
- Forsterite offers advantages as shell mold material. W. H. Owen. *il* Foundry 86:134+ F '58
- Investment caster uses vacuum; Austenal Inc. Mirocast div. *il* Steel 141:96-8 N 25 '57
- Mold for making repair part uses CO₂ process draw-backs. H. M. Griffoul. *diags* Foundry 86:124 Mr '58
- Mold-metal interface reactions. H. F. Taylor and J. Navarro. *bibliog* *il* *diags* Foundry 85:76-80 D '57
- Mold polishing. A. W. Logozzo. *il* Plating 45:628-30 Je '58
- Multi-cavity molds produced in lathe. F. C. Aston. *diags* Am Mach 102:105 Je 30 '58
- Pneumatic mold pusher speeds casting handling. H. Green. *il* *diag* Ap Hydraulics 11:80 F '58
- Propeller casting speeded by new process; CO₂ process for quick hardening of mold sand. *il* Marine Eng/Log 83:70-1 My '58
- Sodium-silicate bonded shell molds. P. J. Ahearn and G. I. Gartner. *il* *diag* Foundry 86:98-101 F '58
- See also*

- Cores
- Sand, Foundry
- Steel Inkots—Molds

Ceramic molds

- Investment casters push ceramic shell use. *il* Oberhall. *il* Foundry 86:68-70 O '58
- Shaw process foundry provides economies for tool shop; Permanent mold die co. R. H. Herrmann. *il* Foundry 86:114-16 S '58
- Shaw process lowers plastics tooling costs. I. Lubalin. *il* Plastics World 16:8-8 Ja '58

Graphite molds

- Progress in titanium casting. J. V. E. Hansen and P. J. Clough. *il* Machine Design 30:28-30 Ap 17 '58

Permanent molds

- Casts aluminum knobs onto steel shanks in a Oberhall. *il* Foundry 86:103 Je '58
- Mechanical properties of permanent molded no. 13 alloy. D. Peckner. *il* *diags* Foundry 86:86-7 S '58
- Mechanical properties of permanent molded 355 alloy castings. D. Peckner. *il* Foundry 86:80-1 Je '58
- Permanent mold casting of aluminum at the Maytag co. C. B. Curtis. *il* Foundry 86:98-102 Ja '58
- Permanent mold casting of zirconium-thorium alloy; Gaines co. F. Gaines. *il* Foundry 86:136+ S '58
- Thin permanent-mold castings; abstract. A. M. Petrichenko. Metal Prog 73:198-9 Ja '58

Plaster molds

- Designing vacuum plaster-mold castings. W. G. Wilkins. *il* Machine Design 29:106-8 N 28 '57

MOLDS (for glass)

- Overmyer Iron Clinic. 8th. Winchester, Ind. June 6. Cer Ind 71:62-3 Jl '58
- Overmyer Iron clinic, 8th. Winchester, Ind. June 6; abstracts of papers. Glass Ind 39: 380-1+ Jl '58

MOLDS (for plastics)

- Boat mold for mass-production, F. M. Coleman, *il Mod Plastics* 35:121-2 Ag '58
- Effective mold design; with detailed drawings, C. F. Pearl, *diags Mod Plastics* 35:111-15 Ap '58
- Epoxide/glass moulds for low-pressure laminates, *il Brit Plastics* 31:149-51 Ap '58
- Mold design for high-density polyethylene, L. Spack, *bibliog il diags Plastics Tech* 4:537-41, 560 Je '58
- Mold design technology for polyethylene, R. W. VanSickle, *bibliog il diags Plastics Tech* 4:35-40 Ja '58
- Mold temperature control; why and how, R. W. Clark, *il diags Mod Plastics* 35:144-4 D '57
- Moldmaking and tooling, E. J. Csaszar, ed., *Plastics Tech* 4:61, 247-4, 458, 655-4, 833 Ja, Mr, My, Ji, S '58
- Vacuum-forming with epoxy resin molds, *il Plastics Tech* 4:829-30 S '58

MOLDS (for rubber)

- Automated molds mass-produce precision rubber parts, *il Iron Age* 181:121 Je 19 '58

MOLE drainage machine. See Drainage machinery

MOLECULAR association

- Phosphine oxides; intra- and intermolecular association, C. D. Miller and others, *bibliog diag Am Chem Soc J* 80:1562-5 Ap 5 '58
- Retardation of exchange processes by molecular association; methyl alcohol, P. L. Corio and others, *Am Chem Soc J* 80:3163-4 Je 20 '58

MOLECULAR compounds

- Asymmetric catalysis by inclusion compounds, F. Cramer and W. Dietsche, *bibliog Chem & Ind* p892-3 Ji 12 '58
- Clathrate compounds of Werner complexes with *p*-disubstituted benzene derivatives, F. V. Williams, *Am Chem Soc J* 79:5876-7 N 20 '57
- Clathrates cage isomers, W. D. Schaeffer, *Chem & Eng N* 36:43-4 Ja 13 '58
- Cyanocarbon chemistry; spectroscopic studies of the molecular complexes of tetracyanoethylene, R. E. Merrifield and W. D. Phillips, *bibliog Am Chem Soc J* 80:2778-82 Je 5 '58
- Energy transfer in molecular complexes of *sym*-trinitrobenzene with polyanes; general considerations, S. P. McGlynn and J. D. Boggus, *bibliog Am Chem Soc J* 80:5096-101 O 5 '58
- Molecular complexes and their spectra; the molecular complex between iodine and triethylamine, S. Nagakura, *bibliog Am Chem Soc J* 80:520-4 F 5 '58
- Molecular complexes of hindered biphenyl derivatives, C. E. Castro and others, *bibliog Am Chem Soc J* 80:2322-6 My 5 '58
- Molecular interactions at high densities, L. Jansen, *bibliog Ind & Eng Chem* 49:2034 D '57
- Separation of molecular mixtures using crystal sieves; abstract and discussion, R. M. Barrer, *Chem & Ind* p252 Mr 1 '58; Same, *Manuf Chem* 29:102-4 Mr '58
- Separation of xylenes, cymenes, methylnaphthalenes and other isomers by clathration with inorganic complexes, W. D. Schaeffer and others, *Am Chem Soc J* 79:5870-6 N 20 '57
- Structure of some aquated dicyanooxamine-nickel(II) clathrates, R. S. Praxo and others, *bibliog Am Chem Soc J* 80:2667-70 J= 5 '58

MOLECULAR distillation. See Distillation

MOLECULAR filter. See Filters and filtration (bacteriology)

MOLECULAR rearrangements

- Acid-catalyzed rearrangement of *exo*-dis-norbornene glycol, J. G. Traynham, *Chem & Ind* p 142 Ag 30 '58
- Allylic rearrangements; the reaction of α,α -dimethylallyl chloride and γ,γ -dimethylallyl chloride with thiourea and substituted thioureas, J. M. Rule and others, *Am Chem Soc J* 79:6529-30 D 20 '57
- Allylic rearrangements; the reaction of thionyl chloride with steroid allylic alcohols, R. E. Ireland and others, *bibliog Am Chem Soc J* 80:4604-6 S 5 '58
- Anthrasteroid rearrangement; the preparation of an analog of progesterone, W. R. Nes and others, *bibliog Am Chem Soc J* 80:5230-2 O 5 '58
- Azulene; a study of the Beckmann rearrangement of 1,3-diacetylazulene dioxime and 1,3-diacetylazulene dioxime diacetate, A. G. Anderson, Jr. and others, *bibliog Am Chem Soc J* 79:6511-16 D 20 '57

Base-catalyzed rearrangement of epoxides.

- A. C. Cope and others, *bibliog Am Chem Soc J* 80:2844-9 Je 5 '58
- Carbon-14 tracer study of the acid-catalyzed rearrangement of 3,3-dimethyl-2-butanone-1- C^{14} , T. S. Rothrock and A. Fry, *bibliog Am Chem Soc J* 80:4349-54 Ag 20 '58
- Carbon isotope effect in the pinacol-pinacolone rearrangement; a reinvestigation, V. F. Raaes and C. J. Collins, *Am Chem Soc J* 80:4432-3 Ag 20 '58
- D-homo rearrangement of cortical steroids; interrelationship of D-homo derivatives in the 11-oxygenated pregnane series, N. L. Wendler and D. Taub, *Am Chem Soc J* 80:3402-5 Ji 5 '58
- Dienol-benzene rearrangement; some chemistry of 1,4-androstadiene-3,17-dione, M. J. Gentles and others, *Am Chem Soc J* 80:3702-5 Ji 20 '58
- Extensions of the Wessely-Moser rearrangement, D. M. X. Donnelly and others, *bibliog Chem & Ind* p892 Ji 12 '58
- Free radical addition reactions involving possible rearrangement, J. Weinstock and S. N. Lewis, *bibliog Am Chem Soc J* 79:6243-7 D 5 '57
- Homogeneous Wolff rearrangement, P. Yates and J. Fugger, *bibliog Chem & Ind* p 1511 N 16 '57
- Intramolecular rearrangement of 4-benzoyloxy-cyclohexanone, R. L. Clarke and W. T. Hunter, *Am Chem Soc J* 80:5304-6 O 5 '58
- Ion exchange studies of transamination reactions; rearrangement of S,2-aminoethyl isothiourea to 2-mercaptoethylguanidine and 2-aminothiazoline, J. K. Khym and others, *bibliog Am Chem Soc J* 79:5663-6 N 5 '57
- Kinetic study of the ortho-Claisen rearrangement, H. L. Goering and R. R. Jacobson, *bibliog diag Am Chem Soc J* 80:3277-85 Ji 5 '58
- Kinetics of displacement reactions at the sulfur atom; stereochemistry, A. Fane and A. Illiceto, *Am Chem Soc J* 80:3478-9 Ji 5 '58
- Kinetics of the *o*-semidine rearrangement of *p*-hydrazotoluene and of the accompanying disproportionation and reduction reactions, R. B. Carlin and G. S. Wish, *bibliog Am Chem Soc J* 80:4023-33 Ag 5 '58
- Mechanism of the benzylic acid rearrangement, J. Hine and H. W. Haworth, *bibliog Am Chem Soc J* 80:2274-5 My 5 '58
- Molecular rearrangements; additional evidence for the mechanism of the aldehyde-ketone rearrangement, L. W. Kendrick, Jr. and others, *bibliog Am Chem Soc J* 80:4057-65 Ag 5 '58
- Molecular rearrangements; the deamination of 1,1-diphenyl-2-amino-1-propanol, B. M. Benjamin and others, *bibliog Am Chem Soc J* 79:6160-4 D 5 '57
- Molecular rearrangements; the *o*-tolyl/phenyl migration ratios in the pinacol rearrangement and in the deamination reaction, V. F. Raaes and C. J. Collins, *bibliog Am Chem Soc J* 80:1409-15 Mr 20 '58
- Neophyl-type azo compounds; their decomposition and rearrangement of the neophyl-type free radical, C. G. Overberger and H. Gainer, *bibliog Am Chem Soc J* 80:4561-5 S 5 '58
- Novel rearrangement of two γ -benzoyloxy-cycloalkanes, P. Yates and C. D. Anderson, *bibliog Am Chem Soc J* 80:1264-5 Mr 5 '58
- Observation of rearrangement during hydrogenolysis; a new method of preparing bridgehead carboxylic acids, H. Kwart and G. Null, *bibliog Am Chem Soc J* 80:248-9 Ja 5 '58
- ortho*-Claisen rearrangement; the effect of substituents on the rearrangement of allyl *p*-X-phenyl ethers, W. N. White and others, *bibliog Am Chem Soc J* 80:3271-7 Ji 5 '58
- Oxygen function rearrangement in benzophenacolone, A. Fry and others, *bibliog Am Chem Soc J* 80:4743-4 S 5 '58
- Reactions of carbohydrates with nitrogenous substances; the Amadori rearrangement in methanol, L. Rosen and others, *bibliog Am Chem Soc J* 80:4697-702 S 5 '58
- Reactions of hindered α -substituted acids; the effect of a β -methyl group on the acid-catalyzed rearrangement, W. R. Vaughan and A. C. Schoenthaler, *bibliog Am Chem Soc J* 79:5777-80 N 5 '57
- Reactions of methiodides of certain *exo*-methylenecyclohexadienamines with sodium amide; relation to *ortho* substitution rearrangement, C. R. Hauser and D. N. Van Eenam, *Am Chem Soc J* 79:6280-3 D 5 '57

MOLECULAR rearrangements—Continued

- Rearrangement accompanying the addition of fluorine to 1,1-diphenylethylene. J. Bernstein and M. R. Borden. *bibliog Chem & Ind* p441-2 Ap 12 '58
- Rearrangement of α -hydroxyprolinone. A. Queen. *Chem & Ind* p 196 F 15 '58
- Rearrangement of α,β -epoxy ketones; the α -ethylbenzalacetophenone oxide system. H. O. House and D. J. Reif. *bibliog Am Chem Soc* J 79:6491-5 D 20 '57
- Rearrangement of bromofenone by base: the structure of γ -phenolene acid and the synthesis of dihydro- α -phenolene acid. D. S. Tarbell and F. C. Loveless. *bibliog Am Chem Soc* J 80:1963-7 Ap 20 '58
- Rearrangement of cyclohexene oxides with magnesium bromide etherate. S. M. Naqvi and others. *bibliog Am Chem Soc* J 79:6283-6 D 5 '57
- Rearrangement of isouquinoline-N-oxides; observations with N-hydroxyisocarbostyrlis and other substituted derivatives. M. M. Robison and B. L. Robison. *bibliog Am Chem Soc* J 80:3443-9 J 15 '58
- Rearrangement of N-bromosuccinimide to 8-bromopropionyl isocyanate. H. W. Johnson, Jr. and D. E. Bubltz. *bibliog Am Chem Soc* J 80:3150-2 Je 20 '58
- Rearrangements and oxidations of tricarbo-cyclic diterpenes. E. Wenkert and B. G. Jackson. *bibliog Am Chem Soc* J 80:211-17 Ja 5 '58
- Rearrangements of α -halogenated ethers; 2,2,3,3-tetrachloro- p -dioxane. R. K. Summerbell and D. R. Berger. *bibliog Am Chem Soc* J 79:6504-6 D 20 '57
- Rearrangements of aryl sulfones; the metalation and rearrangement of mesityl phenyl sulfone. W. B. Truce and others. *bibliog Am Chem Soc* J 80:3625-9 J 120 '58
- Study of the Wallach rearrangement and related reactions. M. M. Shemyakin and others. *bibliog Chem & Ind* p755-6 Je 21 '58
- Synthesis and rearrangement of some benzo-borbornenes. J. Meinwald and G. A. Wiley. *bibliog Am Chem Soc* J 80:3667-71 J 120 '58
- Thermal and acid induced aromatizations of an *exo*-methylene-cyclohexadienamine with alcohols; relation to *ortho* substitution rearrangement. C. R. Hauser and D. N. Van Eenam. *bibliog Am Chem Soc* J 79:6277-9 D 5 '57
- Thermal rearrangement of ergosterol peroxide. W. Bergmann and M. E. Meyers. *bibliog Chem & Ind* p655-6 My 31 '58
- Thermal rearrangement of triarylmethyl azides. W. H. Saunders, Jr. and J. C. Ware. *bibliog Am Chem Soc* J 80:3328-32 J 15 '58

MOLECULAR sieves. See Absorbents

MOLECULAR volume

- Hyperconjugation correlation and calculation of molar volumes of alkenes. C. W. Beck and L. Y. Beck. *bibliog Ind & Eng Chem* 50:1801-2 S '58
- Solubility, entropy and partial molar volumes in solutions of gases in non-polar solvents. J. B. Jolley and J. H. Hildebrand. *bibliog Am Chem Soc* J 80:1050-4 Mr 5 '58

MOLECULAR weights

- Automatic cryoscopic determination of molecular weights. E. L. Simons. *bibliog diag Anal Chem* 30:379-82 My '58
- Determinations of molecular weight of lignin degradation products by three methods. S. K. Gross and others. *bibliog diags Anal Chem* 30:518-21 Ap '58
- Determining molecular weights of thermoplastic materials; the Brabender Plastograph. W. T. Blake. *Plastics Tech* 4:909-12+ O '58
- Fracture phenomena and molecular weight in polymethyl methacrylate. S. E. Newman and I. Wolock. *bibliog li diag J Ap Phys* 29:49-52 Ja '58
- High molecular weight poly- α -L-glutamic acid: preparation and optical rotation changes. M. Idelson and B. E. Blout. *bibliog Am Chem Soc* J 80:4631-4 S 5 '58
- Mastication of rubber; viscosity and molecular weight relationships for natural rubber after cold mastication. D. J. Angier and others. *bibliog Rubber Chem & Tech* 31:73-81 Ja '58
- Molecular weight distribution by stress relaxation. A. V. Tobolsky and others. *J Colloid Sci* 13:196-7 Ap '58
- Molecular weight measurements in liquid ammonia; the molecular weights of the methylamine-boranes, the diammoniate of diborane, ammonia-boron trifluoride and other substances. R. W. Parry and others. *bibliog Am Chem Soc* J 80:24-7 Ja 5 '58

- Molecular weight of the phosphotungstic acids by light scattering. M. Kerker and others. *bibliog diags Am Chem Soc* J 80:1539-42 Ap 5 '58
- Molecular weight of two seed hair celluloses. T. E. Timell. *bibliog Textile Res J* 28:270-1 Mr '58
- Molecular weights and dimensions of some high-density human serum lipoproteins. E. N. Hazelwood. *bibliog Am Chem Soc* J 80:2152-6 My 5 '58
- Molecular weights found through use of gamma rays. Aero/Space Eng 17:27 My '58
- Molecular weights from studies of sedimentation and diffusion in three-component systems. R. L. Baldwin. *bibliog Am Chem Soc* J 80:496-7 Ja 20 '58
- Molecular weights of native celluloses; abstract. T. E. Timell. *Paper Ind* 40:252 J 1 '58
- Relationship between viscosity and molecular weight of ethyl cellulose. W. R. Moore and A. M. Brown. *bibliog J Ap Chem* 8:363-7 Je '58
- Ultramicromethod for molecular weight determination. G. O. Guerrant. *bibliog li Anal Chem* 30:143-9 Ja '58
- Viscosity-molecular weight relationships for cellulose acetate. W. R. Moore and B. M. Tidswell. *bibliog J Ap Chem* 8:232-7 Ap '58

MOLECULES

- Analysis of a multipole state separator and focus for polarizable molecules. F. O. Vonbun. *bibliog diags J Ap Phys* 29:632-6 Ap '58
- Application of the mass spectrometer to the study of the upper energy states of molecules. J. D. Morrison. *diags J Ap Phys* 28:1409-13 D '57
- Basic behavior of molecules and ions in acetic anhydride. C. A. Streuli. *bibliog Anal Chem* 30:997-1000 My '58
- Configuration interaction in the hydrogen fluoride molecule. A. M. Karo and C. Allen. *bibliog Am Chem Soc* J 80:4496-9 S 5 '58
- Construction and testing of a universal light scattering apparatus for the investigation of macromolecules in solution. W. J. Hughes and P. Johnson. *bibliog diags J Sci Instr* 36:157-9 My '58
- Dielectric dispersion in symmetric top molecules. J. E. Boggs. *bibliog Am Chem Soc* J 80:4235-8 Ag 20 '58
- Effect of binding of ions and other small molecules on protein structure; two electrophoretically distinguishable types of interaction of bovine serum albumin with acidic media. J. R. Cann. *bibliog Am Chem Soc* J 80:4263-4 Ag 20 '58
- Electric properties of macromolecules; a study of electric polarization in polyelectrolyte solutions by means of electric birefringence. C. T. O'Konski and A. J. Haltner. *bibliog diags Am Chem Soc* J 79:5634-9 N 5 '57
- How far out? light scattering gives more definite idea of range of molecular forces. *Chem & Eng N* 36:37-8 Ag 4 '58
- Mass spectrometer for the study of ion-molecule collision processes. G. F. Wells and C. E. Melton. *bibliog diag R Sci Instr* 28:1065-9 D '57
- Molecular physics in chemical engineering; symposium. *bibliog li diags Ind & Eng Chem* 50:1021-40 J 1 '58
- Molecular structure as a basis for adhesion; ultracentrifugal measurement of the adhesion of epoxy polymers. J. Alter and W. Soller. *bibliog diags Ind & Eng Chem* 50:922-7 Je '58
- Mutual solubility of polymers; the effect of the packing density of polymer molecules on their mutual solubility. G. L. Slonimskii and G. V. Struminskii. *Rubber Chem & Tech* 31:257-61 Ap '58
- Production of beams of polarized protons by the action of protons derived from polarized hydrogen molecules. R. L. Garwin. *diag R Sci Instr* 29:374-6 My '58
- Reactions of free radicals in solution; destruction of polymeric molecules by free radicals. S. E. Bresler and others. *bibliog Rubber Chem & Tech* 31:278-85 Ap '58
- Semiempirical potential energy functions; generalization for ionic molecules and the inclusion of London forces. A. A. Frost and J. H. Woodson. *bibliog Am Chem Soc* J 80:2615-18 Je 5 '58
- Simple model for calculating magnetic shielding of nuclei in molecules. K. Ito. *bibliog diags Am Chem Soc* J 80:3502-5 J 120 '58

MOLECULES—Continued

- Universal molecule of living matter. M. D. Kamen. *diags Sci Am* 199:77-8† Ag '58
See also
 Chemical chains
 Coordination (chemistry)
 Molecular weights
 Polymers

Models

- Adhesion using molecular models; adhesion of polyethylene and poly(vinyl chloride) to metals. D. Taylor, Jr. and J. E. Rutzler, Jr. *bibliog il diags Ind & Eng Chem* 50: 928-34 Je '58; *Abstract, Chem & Eng N* 36:43 Je 2 '58
 Model solves hemoglobin riddle; abstract. J. H. Wang. *diag Chem & Eng N* 36:51 S 15 '58
 Polyvinyl chloride makes versatile models. J. C. Godfrey. *il Chem & Eng N* 36:62 Mr 10 '58
 Thermal diffusion in liquids; measurements and a molecular model. S. Whitaker and R. L. Pigford. *bibliog diags Ind & Eng Chem* 50:1026-32 J1 '58

Rotation

- Classical mechanics of the internal rotation of molecules. C. C. Lin. *bibliog diag Am J Phys* 26:319-23 My '58

Shape

- Influence of molecular shape on the tensile strength of vulcanizates. A. S. Novikov and others. *Rubber Chem & Tech* 31:27-9 Ja '58
 Microwave absorption and molecular structure in liquids. E. W. Ramolla and others. *bibliog Am Chem Soc J* 80:1057-66 Mr 6 '58

Size

- Comparison between the dimensions of some macromolecules determined by electron microscopy and by physical chemical methods. C. E. Hall and J. Doty. *il Am Chem Soc J* 80:269-74 Mr 20 '58
 Molecular dimensions and interactions of long-chain polyphosphates in sodium bromide solutions. U. P. Strauss and P. L. Wine- man. *bibliog Am Chem Soc J* 80:2366-71 My 20 '58

Vibration

- Effect of molecular vibration on recovery temperature in plane Couette flow. H. T. Yang. *J Aeronautical Sci* 24:911-12 D '57

MOLES awards. *See* Rewards, prizes, etc.

MOLLIER charts

- Applied hydrocarbon thermodynamics; improved Mollier charts. W. C. Edmister. *bibliog Pet Refiner* 37:195-208 Je '58

MOLLUSKS

- Sea worms; ancient problem solved by novel ocean-going barge. *Tappl* 40:sup 144A-5A D '57

See also

Limpets

MOLTEN iron. *See* Iron, Molten

MOLTEN metals. *See* Metals, Molten

MOLTEN salts. *See* Salts, Molten

MOLTEN silicon. *See* Silicon, Molten

MOLYBDENA. *See* Molybdenum

MOLYBDENUM

- Determination of the solubilities of beryllium and molybdenum in liquid bismuth. G. W. Horsley and J. T. Maskrey. *diag Inst Metals J* 86:401-2 Ap '58

- Metallic heating element materials for high temperature furnaces. R. Kleffer and F. Benesovsky. *bibliog il diags Metallurgia* 58:118-24 S '58

- Molybdenum is here to stay. J. L. McCloud. *il Metal Prog* 74:75-8 Ag '58

- Molybdenum. 1957. J. Z. Briggs. *il Min Cong J* 44:130-4 F '58

- Molybdenum. 1957. W. McInnis. *Eng & Min J* 159:154 F '58

- Niobium, a prospect for aviation gas turbines; abstracts. W. S. Hazelton. *il S A E J* 66: 67-9 My '58; *Machine Design* 30:150-† My 15 '58; *Am Mach* 102:277 Ja '58; *Discussion*. R. I. Jaffee. *S A E J* 66:69 My '58

- Oxidation of molybdenum. E. S. Jones and others. *bibliog(29 ref) il diag Corrosion* 14: 20-6 Ja '58

- Promoted molybdena-alumina catalysts in ethylene polymerization. E. Field and M. Feller. *Ind & Eng Chem* 49:1383-4 N '57

- Properties of materials; columbium, tantalum, tungsten and molybdenum. Materials in Design *Eng* 48:93 Mid-O '58

- Reforming studies with molybdena-alumina catalyst. J. L. Wilson and M. J. Den Herder. *bibliog Ind & Eng Chem* 50:305-8 Mr '58

- Tempering of low-alloy creep-resistant steels containing chromium, molybdenum, and vanadium. E. Smith and J. Nutting. *bibliog il Iron & Steel Inst J* 187:314-29 D '57
 Thermionic emission from barium activated molybdenum. E. S. Rittner and R. H. Ahlert. *J Ap Phys* 29:61-3 Ja '58
 X-ray study of cold work in molybdenum. J. Despujols and B. E. Warren. *J Ap Phys* 29:195-7 F '58

Analysis

- Colorimetric determination of molybdenum in the presence of tungsten; modified mercaptosuccinate method. D. A. Otterson and J. W. Graab. *Anal Chem* 30:1282-4 J1 '58
 Spectrophotometric determination of molybdenum as the quercetin complex in an alpha-benzoinoxime-chloroform-ethyl alcohol medium. G. Goldstein and others. *bibliog Anal Chem* 30:539-42 Ap '58

Cleaning

- New method to clean moly. *il Steel* 141:158 N 18 '57
 Practical method for removing oxides from molybdenum. *il Automotive Ind* 117:53-† D 1 '57

Physiological effect

- Metabolic effects of molybdenum toxicity in the rat. C. F. Mills and others. *J Nutrition* 65:129-42 *bibliog(140-2)* My '58

Protection

- Chromizing makes molybdenum usable above 2000 F. *il Materials in Design Eng* 47:157 F '58
 Moly gets boost: two vapor deposition processes. *Steel* 142:96 Je 30 '58
 Moly gets 2300-F coating. *il Product Eng* 29: 21 Ja 13 '58
 Protecting molybdenum at high temperatures. J. J. Harwood. *bibliog il Materials & Methods* 44:84-9 D '56; *Abstract, Metal Prog* 73:194 Mr '58
 Protection of molybdenum from oxidation at elevated temperatures. D. E. Couch and others. *bibliog il Electrochem Soc J* 105: 450-6 Ag '58
 Use of nickel-aluminum alloy coatings for the protection of molybdenum from oxidation. D. E. Couch and others. *Electrochem Soc J* 105:485-6 Ag '58

Spectra

- Description and analysis of the second spectrum of molybdenum. Mo II. C. C. Kiehl. *bibliog J Res Nat Bur Stand* 60:375-422 Ap '58

Welding

- Inert-gas-shielded consumable-electrode welding of molybdenum. N. E. Wear and others. *bibliog il Welding J* 37:sup 117-24 Mr '58

MOLYBDENUM alloys

- Electrodeposition of iron-molybdenum alloys. L. O. Case and A. Krohn. *bibliog il diags Electrochem Soc J* 105:1512-20 S '58

- Influence of prolonged service at elevated temperatures and pressures on high-temperature strength of chromium-molybdenum alloy tubing; abstracts. J. F. Ewing. *Pet Eng* 30:C 10-† Je '58; *Pet Refiner* 37:190 Mr '58

- Magnetic fluctuations in molybdenum permalloy. J. J. Brophy. *bibliog J Ap Phys* 29: 483-4 Mr '58

- Molybdenum-base alloys; abstract. A. J. Herzog. *Tool Eng* 40:212-13 F '58

- Molybdenum for aircraft applications; abstract. R. T. Begley. *Tool Eng* 39:212-13 N '57

- Molybdenum is here to stay. J. L. McCloud. *il Metal Prog* 74:75-8 Ag '58

- Orientation study of ultra-thin molybdenum permalloy tape. P. K. Koh. *bibliog diags J Ap Phys* 29:636-57 Ad '58

MOLYBDENUM coating

- New molybdenum deposition processes described. H. W. Schultze. *Plating* 45:759 J1 '58

- 200 times the punch life with metallized moly; illustrations with text. *Am Mach* 101:77 D 30 '57

MOLYBDENUM compounds

- Spectrophotometric study of some molybdenum thiocyanate complexes. D. D. Perrin. *bibliog Am Chem Soc J* 80:3540-7 J1 20 '58

MOLYBDENUM disulfide. *See* Molybdenum sulfides

MOLYBDENUM in the body

Metabolic effects of molybdenum toxicity in the rat. C. F. Mills and others. *J Nutrition* 65:129-42 bibliog(p 140-2) My '58

MOLYBDENUM plating

Coating technique gets a boost: electrophoretic deposition of molybdenum. *Chem & Eng N* 35:48 D 2 '57

MOLYBDENUM silicides

How to select resistance heating alloy. R. J. Fabian. *Materials in Design Eng* 47:107-8 F '58

Molybdenum disilicide for high temperature sliding. G. W. Rowe. *Engineer* 206:487 S 26 '58

MOLYBDENUM steel

Effect of tantalum and niobium on the tempering of certain vanadium and molybdenum steels. A. K. Seal and R. W. K. Honeycombe. *bibliog 4p* *Iron & Steel Inst J* 188:343-50 Ap '58

Properties of materials: carbon-molybdenum steels. *Materials in Design Eng* 48:44 Mid-O '58

MOLYBDENUM sulfides

Case for molybdenum disulfide: seven case histories of savings at International harvester co. H. Simon. *Steel* 141:68-9 D 30 '57

Engine lubrication: tests on a compound based on molybdenum disulphide. *Automobile Eng* 48:19-20 Ja '58

Factors influencing wear and friction of solid film lubricants. R. E. Crump. *Product Eng* 28:C24-7 Mid-O '57

Lubrication with molybdenum disulphide formed from the gas phase. F. P. Bowden and G. W. Rowe. *bibliog Engineer* 204:667 N 8 '57; Same cond. *Eng J* 41:80 Ja '58

Molybdenum disulfide and related solid lubricants. B. C. Stupp. *bibliog il diag Lub Eng* 14:159-63 Ap '58

MoS₂ cuts die maintenance. *Am Mach* 102:79 J1 28 '58

Molybdenum disulfide does it! *Power Eng* 62:60-2 Mr '58

MOLYBDENUM tubes. See Tubes, Molybdenum**MOLYBDIC acids**

Complex formation between molybdic acid and silicic acid in the presence of polyhydroxy compounds. E. Richardson. *bibliog Research* 11:163-4 Ap '58

MOLYBDOPHOSPHATE. See Phosphomolybdates**MOMENTS of inertia**

Chart eases moment-of-inertia calculations: reference book sheet. W. G. Flannelly. *diags Product Eng* 29:35-7 F 17 '58

Moment distribution factors for tapered beams. J. M. Gere. *diags Civil Eng* 28:597-8 Ag '58

Moments in beams by the method of partial moments. H. P. Evers. *diags Am Soc C E Proc* 84 [ST 2 no 1567]:1-34 Mr '58; Discussion. 84 [ST 4 no 1721]:23-5 J1; [ST 5 no 1787]:65-6 S '58

Natural frequencies of nonuniform beams on multiple elastic supports. R. A. Di Taranto. *diags J Ap Mech* 26:57-63 Mr '58

MONASTRAL reds. See Red**MONAZITE**

Earthy monazite at Magnet Cove, Ark. H. J. Rose, Jr. and others. *Am Mineralogist* 43:995-7 S '58

Processing monazite; abstract. J. Barghusen. *diag Chem & Eng N* 36:61 Ap 21 '58

Separation of monazite rare earths by solvent extraction. J. Bochinski and others. *bibliog diag Ind & Eng Chem* 50:157-60 F '58

Analysis

Dithizone method for determination of lead in monazite. R. A. Powell and C. A. Kinser. *bibliog Anal Chem* 30:1139-41 Je '58

MONEL metal

Diffusion bonding below 1000°F; techniques and systems used to obtain joints between beryllium copper and Monel; fabrication of throat blocks for hypersonic wind tunnels. J. T. Niemann and others. *bibliog il diags Welding J* 37:sup337-42 Ag '58

Monel crates shave repair costs; Transue & Williams forging co. *Steel* 143:132 J1 14 '58

Monel netting cuts insulation maintenance costs; Southern kraft div. of International paper co. *the Paper Ind* 40:91 My '58

Netting holds insulation; lives in salt air. chemicals and likes it; Monel netting used at Reynolds metals co.'s Sherwin alumina plant. *the Plant Eng* 12:120 O '58

MONEY

Predict automated wallet within 50 to 75 years. G. M. Hunt and P. E. Lannan. *Machine Design* 30:34-5 My 29 '58

See also

Gold as money
Silver as money

France

French crisis. *Chem & Eng N* 35:31-2 N 11 '57

MONEY changing machines

Fool-proof bill changer handles dollar bills. W. A. Patzer. *Automation* 6:12 F '58

MONGOLISM

Metabolic studies of mongoloids. S. N. Gershoff and others. *bibliog Am J Clinical Nutrition* 6:536-30 S '58

MONILE. See Flooring, Plastic**MONKEYS**

Ulcers in executive monkeys. J. V. Brady. *il Sci Am* 199:95-8-0 O '58

MONOCHROMATORS

Grating vacuum monochromator for the spectral range 1000-6500 Å. T. J. M. Sluyters and E. de Haas. *bibliog il diags R Sci Instr* 29:597-600 J1 '58

Point-focusing two-crystal X-ray monochromator for X-ray diffraction. T. C. Furnas, Jr. *bibliog il diags R Sci Instr* 28:1042-8 D '57

MONOETHANOLAMINE. See Ethanolamine**MONOGLYCERIDES.** See Glycerides**MONOMOLECULAR films.** See Films**MONOPOLIES**

Federal grand jury in Milwaukee indicts natural gas companies on monopoly. *Gas Age* 121:32 My 15 '58

RCA on the receiving end of indictment. *Product Eng* 29:23 Mr 17 '58

MONORAIL conveyors

For a new automatic monorail system. *il diag Mod Materials Handling* 13:93-9 J1 '58

Industrial know-how handbook; overhead carriers. *il diags Mill & Factory* 62:MH22-3 My '58

Overhead conveyor lines for handling latex toys. *il Rubber Age* 33:935-6 S '58

Overhead conveyors feed assembly benches; Minneapolis-Honeywell regulator co. J. V. Jensen. *il diags Am Mach* 101:94-6 D 30 '57

Overhead trolley conveyor solves knotty production problem; storing welding jigs and fixtures at the Rapids-standard co. *il Plant* 17:32 Mr '58

Transferring racks automatically between conveyor and plating machine. R. L. Everstine. *il diags Automation* 5:61-3 J1 '58

Trolley conveyor handles rod at Atlantic Steel. *il Iron & Steel Eng* 35:154 Mr '58

Unique monorail system doubles bakery production: Rainbo bread co. R. Latimer. *il Food Eng* 30:76-7 J1 '58

MONORAIL transportation system. See Railroads, Suspended**MONOSODIUM glutamate.** See Sodium glutamate**MONTAGE**

Spectrum of human emotions captured in one photo; advertising montage illustration used by Pfizer laboratories div., Chas. Pfizer & co. D. Conrad. *il Ind Phot* 7:18-19+ Ag '58

MONTANA

See also subdivision Montana under special subjects, e.g.

Copper mines and mining

Geology

Mines and mineral resources

Petroleum

Petroleum industry and trade

Public health

Roads

MONTMORILLONITE

Adsorption and retention of an organic material by montmorillonite in the presence of water. G. W. Brindley and M. Rustom. *bibliog Am Mineralogist* 43:627-40 J1 '58

Effects and geologic significance of potassium fixation by expandable clay minerals derived from muscovite, biotite, chlorite, and volcanic material. C. E. Weaver. *Am Mineralogist* 43:839-61 *bibliog*(p859-61) S '58

Factors effecting maximum hydrothermal stability in montmorillonites. L. L. Ames and L. B. Sand. *bibliog Am Mineralogist* 43:641-8 J1 '58

Flocculation of sodium montmorillonite by electrolytes. A. Kahn. *bibliog J Colloid Sci* 13:51-60 F '58

MONTREAL

Huge urban development. *il Eng J* 41:98 My '58

Montreal to have large office building center. *Civil Eng* 28:384 My '58

See also

Gas, Natural—Montreal, Supply to

Place Ville Marie

Unveil master plan for Place Ville Marie. *J. C. Smith. il Arch Rec* 122:36 N '57

MONUMENTS

Row house vernacular and high style monument; travel notes from a sabbatical tour around the world. *W. W. Wurster. il Arch Rec* 124:141-50 Ag '58

See also

Memorials

Washington monument

MOON

Balloon-launched vehicle may be first on the moon. *K. R. Stehling. il diags Aviation Age* 28:32-5 Mr '58

Data unit aims radar at moon. *Electronics* 31:184-49 25 '58

Lunar probe paths for approaching the moon. *G. V. E. Thompson. bibliog diags Engineering* 186:294-5 S 5 '58

Lunar radio echoes. *J. H. Trexler. bibliog il Inst Radio Eng Proc* 46:286-92 Ja '58

Lunar thermal radiation at 35 km. *J. E. Gibson. bibliog il diags Inst Radio Eng Proc* 46:280-6 Ja '58

Moon as reflector. *Wireless World* 64:350-1 JI '58

Moon can serve as short wave reflector. *Electronic Ind* 17:7 JI '58

Moon computer uses breadboard servos in field. *A. S. Goodrich. il plan diag Control Eng* 5:133+ F '58

Moon looks promising as manned space station. *K. R. Stehling. il diags Aviation Age* 29:22-3+ My '58

Moon photos hoped for; lunar probe test vehicle. *Electronics* 31:22 Ag 22 '58

Moon push underway. *Electronics* 31:26 Ap 18 '58

Moon refueling for interplanetary vehicles. *K. R. Stehling. il diags Aviation Age* 30:22-3 Ag '58

Moon's supply of atmosphere and water. *C. A. Ritchie. Am Soc Naval Eng J* 70:435-7 Ag '58

No U on moon. *Chem & Eng N* 36:55 F 17 '58

Radar echoes from the moon at a wavelength of 10 cm. *B. S. Yapiee and others. bibliog il diag Inst Radio Eng Proc* 46:293-7 Ja '58

Telephony via the moon. *Franklin Inst J* 266:153-4 Ag '58

Thor gets moon position task in months. *B. A. Schriever. Electronics* 31:12+ Je 6 '58

Tracking system for moon radar; abstract. *O. A. Guzmann. Franklin Inst J* 265:524-5 Je '58

MOONBEAM. See Satellites. Artificial—Tracking

MOONLIGHTING. See Employment

MOORE, L. P.

Newly appointed president of Cyanamid of Canada. *por Can Chem Process* 42:36+ JI '58

MOORING of ships. See Anchorage

MORLEN. See Polypropylene

MORINITE

Morinite from the Black Hills. *D. J. Fisher and J. J. Runner. bibliog il Am Mineralogist* 43:585-94 My '58

MOROCCO

See also

Petroleum industry and trade—Morocco

MORPHINE

Biogenesis of morphine. *A. R. Battersby and E. J. T. Harper. bibliog Chem & Ind* p364 Mr 22 '58

Biogenesis of morphine. *E. Leete. bibliog Chem & Ind* p377-8 Ag 2 '58

Origin of the methyl groups in morphine, codeine and thebaine. *A. R. Battersby and E. J. T. Harper. bibliog Chem & Ind* p365 Mr 22 '58

See also

Desoxydihydromorphine

MORPHOLINE

Interaction of certain Grignard reagents with nitriles containing an α -morpholinyl substituent. *H. R. Henze and others. bibliog Am Chem Soc J* 79:6230-3 D 5 '57

Preparation and infrared spectra of morpholides of ricinoleic acid and some of its derivatives. *H. P. Dupuy and others. bibliog Am Oil Chem Soc J* 35:99-102 F '58

MORRIS, Albert Ferd

Memorial. *W. E. Scott. por Am Assn Pet Geologists Bul* 42:915-17 Ap '58

MORTALITY

Effect of antifoaming compounds on mortality and pulmonary edema. *C. L. Punte and E. J. Owens. bibliog Ind Med* 27:13-15 JI '58

Mortality, morbidity and retirement. *J. S. Tyhurst and others. bibliog Am J Pub Health* 47:1434-44 N '57

Mortality of men and women. *A. Scheinfeld. Sci Am* 198:22-7 F '58

Smoking habits and mortality among workers in cigarette factories. *H. B. Haag and H. R. Hamner. bibliog Ind Med* 26:559-62 D '57

See also

Children—Mortality

Statistics

Comparison of coronary artery disease (arteriosclerotic heart disease) deaths in health areas of Manhattan, New York city. *A. P. Kent and others. Am J Pub Health* 48:200-7 F '58

Increase of tuberculosis mortality in elderly men from 1940 to 1950. *M. A. Monk and M. Terris. bibliog Am J Pub Health* 48:1020-30 Ag '58

Inquiry into diagnostic evidence supporting medical certifications of death. *I. M. Moriyama and others. bibliog Am J Pub Health* 48:1276-87 O '58

Morbidity and mortality from economic poisons in the United States. *B. E. Conley. diags A M A Archives Ind Health* 18:126-33 Ag '58

Problems in the medical certification of causes of death. *bibliog Am J Pub Health* 48:71-80 Ja '58

See also

Infant mortality—Statistics

MORTAR

Lost opportunity in mortar cements; pozzolans. *N. C. Rockwood. Rock Prod* 61:17+ Ap '58

Testing

Investigation and testing of 32 high-grade mortars for fireclay brick. *G. R. Eusner and J. R. Bachman. bibliog il diag Am Cer Soc Bul* 37:12-21 Ja 15 '58

Variation of mortar and concrete properties with temperature. *J. C. Saemann and G. W. Washa. il Am Concrete Inst J* 29:385-95 N '57

MORTGAGE insurance. See Insurance, Mortgage

MORTON chemical company

Morton bets on chemicals. *Chem & Eng N* 36:30 Ja 20 '58

MOSANDER, Carl Gustav

C. G. Mosander, Auer von Welsbach and the rare earth elements. *J. H. S. Green. bibliog Research* 11:376-80 O '58

Two pioneers in rare earth chemistry. *M. Schofield. Ind Chem* 34:420-2 Ag '58

MOSCOW

Moscow today. *il Product Eng* 29:5-8+ JI 14 '58

Academy of sciences

How Moscow designs; Academy of sciences tops all techniques. *Product Eng* 29:38 JI 14 '58

Industrial exhibition

How Moscow designs; for the newest equipment, the industrial exhibition. *il Product Eng* 29:30-2+ JI 14 '58

Polytechnical museum

How Moscow designs; what Soviet industry and people can buy. *il Product Eng* 29:26-7 JI 14 '58

MOSCOW university

Describe physics faculty. *R. E. Stockwell. il Ind Lab* 9:37-9 JI '58

How Moscow designs; Moscow university is the USSR's largest. *il Product Eng* 29:40+ JI 14 '58

MOSES, Howard E.

Obituary. *por Water & Sewage Works* 105:27 Ja '58

Obituary. *Sewage & Ind Wastes* 29:1376 D '57

MOSQUITOES**Extermination**

Progress toward malaria eradication in the Americas with special reference to Mexico. *D. J. Pletsch. Am J Pub Health* 48:713-16 Je '58

Using a backhoe for mosquito control. *il Pub Works* 88:110 N '57

MOSES

Oakmoss, P. Muller. Drug & Cosmetic Ind 32:32 Ja '58

MOTELS

Florida's parasol motel. II plan Arch Forum 108:114-17 My '58
Motor hotels; building types study. II plans diags Arch Rec 123:203-30, cover Ap '58
Noise control techniques for motels. W. J. Cavanaugh and N. Doelling. plan diags Arch Rec 123:231-4 Ap '58
Progressive Architecture interior design data; motel, Lafayette, Ind. II Prog Arch 39:138-9 Ja '58

Air conditioning

Luxury motel hosts its guests all-electrically. M. I. Stalheim. II Elec World 148:126 D 16 '57
Motel air conditioning. F. J. Walsh. diags Arch Rec 123:235-8+ Ap '58
Natural gas absorption system selected for new motel. II Heating-Piping 30:121 Je '58

Heating and ventilation

Low pressure steam zone system meets varied heating demands in small apartments. motels. P. S. Amber and G. H. Amber. II Heating-Piping 30:102-4 Ji '58

MOTH-PROOFING preparations

Moth control public relations program under way. II Soap & Chem Spec 34:131-3+ My '58
Mothproofing for blends of wool and man-made fibers; abstract. D. J. Ott. Textile Ind 122:74 Ja '58
Mothproofing of wool with dieldrin. M. Lipson and J. R. McPhee. bibliog Textile Res J 28:679-86 Ag '58

Testing

Reaction of formaldehyde with wool and its effect on digestion by insects. J. R. McPhee. bibliog Textile Res J 28:303-14 Ap '58

MOTION

Classical laws of motion. L. Elsenbud. bibliog Am J Phys 26:144-59 Mr '58
Motion in art and photography. II Mod Phot 22:56-7 S '58
Motion of a buoyant body. R. A. Collacott. II Engineering 185:760-1 Je 13 '58
See also
Kinematics
Machinery, Kinematics of
Mechanics
Precession
Rotation
Velocity
Vibration
Vortex motion
Wave motion, Theory of

MOTION, Equation of. See Equation of motion**MOTION, picture and television engineers. Society of. See Society of motion picture and television engineers****MOTION pictures. See Moving pictures****MOTION study**

Measuring the components of work performance. II Research 11:361-2 S '58
Photo demonstration clinches the argument; tracer lights and time exposures show motion savings made possible for housewives by pre-cooked foods. M. Badler. II Ind Phot 7:24 Ap '58
Time and motion studies in the paper industry. E. Christensen. Tappi 41:sup 192A-3A Ag '58

MOTIVATION research

Engineer comes into his own; why people do what they do. A. R. Morrow. II Product Eng 29:39-92 Mr '58
Motivation research. Engineering 184:558 N 1 '57
Motivation research; what's in it for you? A. R. Gardner. Product Eng 29:38-9 Ja 13 '58

MOTOR boat engines. Outboard

American MARC's Diesel outboard. II Diesel Power 36:36 Mr '58
Future performance goals set for outboard engines; abstract. L. E. Haas. S A E J 66:107-8 My '58
New engines and accessories at the National motor boat show. II Automotive Ind 118:60-2+ F 15 '58
Reinforced epoxy spray masks for two-tone painting of shrouds for out-board motors. C. B. Martin. II Plastics Tech 4:41-3+ Ja '58
V-type engine goes boating. II Machine Design 29:32-3 N 28 '57

Fuel

Outboard engine fuel economy. H. Grant. diags S A E J 65:62-3 N '57

Lubrication

Lubrication of outboard motors. W. C. Conover. Lub Eng 14:340-2+ Ag '58

Manufacture

Automatic system trims handling costs; Evinrude Motors. II Steel 142:98-100 Mr 31 '58
Efficient parts handling in new outboard motor plant; Evinrude motors. II Automotive Ind 118:66-8+ Je 1 '58
Shell-molded crankshafts require less stock removal. J. R. Vinette. II Mach 64:146-8 F '58

Specifications

1958 outboard motors specifications; tables. Automotive Ind 118:218-19 Mr 15 '58

MOTOR boats

Fast patrol boat H.M.S. Brave Borderer. diag Engineer 205:129 Ja 24 '58
High-speed passenger launch; PL4 Maracaibo. II Engineering 185:120-1 Ji 25 '58
Recent small craft; passenger launch for Lake Maracaibo and two river tugs. II Engineer 206:221-2 Ag 8 '58
Small-boat fleet for '58. S. R. Griffith. II Machine Design 30:26-7 F 6 '58
Station wagon outboard has electrically retractable top; illustrations with text. Machine Design 30:162 F 20 '58

Exhibitions

Engines at 4th National motor boat show, London. II Engineer 205:86-8 Ja 17 '58
National boat show, London, Jan. 1-11. II diag Brit Plastics 31:70-1 F '58
Plastics boats; National motor boat show points to a doubling of the use of reinforced plastics. II Plastics World 16:6-9 F '58

MOTOR boats, Plastic

Plastics boats; National motor boat show points to a doubling of the use of reinforced plastics. II Plastics World 16:6-9 F '58

MOTOR bus drivers

Pre-employment X-ray survey of the lumbosacral spine in bus drivers. L. Reiner. bibliog Ind Med 27:15-17 Ja '58

See also

Motor bus lines—Employees**MOTOR bus engines****Maintenance and repair**

Preventive maintenance is cheaper than repair; Lewiston-Auburn transit co. II Diesel Power 36:24-5 My '58

MOTOR bus lines**Employees**

Bus workers in their later lives. Ind Med 26:516-17 N '57

See also

Motor bus drivers**Safety measures**

Color and highway safety; new fleet painting plans based on color perception. diags Safety Maint 115:23+ My '58

Supervisory control

Data logging, locates lost buses; London transport authority. II Control Eng 5:125 Je '58
Electronic aid to bus running control. II diags Engineer 205:95-6 Ja 17 '58
Electronic system for bus running control. II diags Electronic Eng 30:78-9 F '58
Keeping track of buses. II diags Engineering 185:58-9 Ja 10 '58

London

Central London without buses, permanently? G. Wilkins. Engineering 185:644 My 23 '58

MOTOR buses

Articulated coach. II Engineer 206:112 Ji 18 '58
Commercial vehicles; illustrations with text. Engineer 205:pl 13 Ja 10 '58
Design details of Mack's new intercity bus. II Automotive Ind 117:94+ N 15 '57
European vehicle developments; illustrations with text. Automotive Ind 117:64-5 O 15 '57
German commercial vehicles. II diags Automobile Eng 43:44-54 F '58
Moscow's bus built like ours. II plan diags Product Eng 29:48 Ag 4 '58

MOTOR buses—Continued.

Passenger vehicle development. *Il Engineer* 204:611 O 25 '57
 Routemasters for coach service. *Il Engineer-*
ing 184:574 N 1 '57

Axles

Axle lubrication; castor oil for bus rear
 axles improves fuel consumption. *Auto-*
mobile Eng 48:340 S '58

Bodies

Body mounting. *Il diag*s Automobile *Eng* 48:
 86-95 Mr '58

Double deck

Experimental double-deck coach. *Automobile*
Eng 47:462 N '57
 Pitch and roll measurements on a double-
 deck bus. *Engineering* 185:564-5 My 2 '58

Electric equipment

New automotive generator system features
 high output, oil-cooling, transistor control.
Il Diesel Power 36:30 My '58

Hydraulic equipment

Unsatisfactory for buses, is the answer from
 one field test of a complete hydraulic
 control system; abstract. T. H. Thomas.
diag S A E J 66:38-9 Ag '58

Lubrication

Axle lubrication; castor oil for bus rear axles
 improves fuel consumption. *Automobile Eng*
 48:340 S '58

Materials

Motor coach and aluminum. L. C. Rowe. *Il*
Corrosion 14:17-18 Ap '58

Riding qualities

Pitch and roll measurements on a double-
 deck bus. *Engineering* 185:564-5 My 2 '58

Seats

Indestructible bus seats. *Il Mod* *Plastics* 35:
 94-6 Ap '58

Specifications

City and intercity integral buses, 1958; speci-
 fications; tables. *Automotive Ind* 118:154-5
 Mr 15 '58

Springs and suspension

Air suspension on the Continent; commercial
 vehicles. *Il diag*s *Automobile Eng* 47:512-23;
 48:2-11 D '57-Ja '58
 Leyland bus has independent front suspension
 with bonded rubber springing. *Il Auto-*
mobile Ind 118:61 Ap 15 '58

MOTOR cars (railroad)

Circuit calculations for rectifier locomotives
 and motor-coaches. T. E. Calverley and
 D. G. Taylor. bibliog *diag*s *Inst E E Proc*
 104 pt A:355-67; Discussion. 368-73; Reply
 373-5 O '57

French locomotive experiences; Paris/Havre
 Autorail. E. H. Livesay. *Il plans diag*s
Engineer 206:284-6 Ag 22 '58

Lightweight Diesel railcar. *Il Mech Eng* 80:99
 Je '58

Lightweight railbus for British railways. *Il*
Engineer 205:294 F 21 '58

Multi-purpose Diesel railcars. *Il plans Engi-*
neer 205:137-3 Ja 24 '58

Rail-bus for light traffic. *Il Engineering* 185:
 316 Mr 7 '58

Rail buses enter service. *Il Engineering* 186:
 350 S 12 '58

Railbuses on British railways. *Il Engineer*
 206:294-5 Ag 22 '58

Railcar engine test bed. *Il Engineer* 204:718
 N 15 '57

Railcars with power to haul; Ulster's new
 passenger and freight service. *Il diag*s *Engi-*
neering 185:72-4 Ja 17 '58

Testing railcar engines. *Il diag Engineering*
 184:652-4 N 22 '57

Diesel-electric

Western railroad's rail Diesel cars top million
 miles with 100 per cent availability. *Il Diesel*
Power 36:16 Mr '58

Maintenance and repair

Super service station speeds train turnaround.
Il Diesel Power 36:32 Jl '58

Storage battery

Battery-operated train tested in Scotland.
Product Eng 29:21 Ag 11 '58

Battery railcars for branch line; Aberdeen-
 Ballater branch of British railways. *Il En-*
gineering 185:627 My 16 '58

Electric battery railcar. *Engineer* 205:511-12
 Ap 4 '58

MOTOR cycles

Engine tranquillized by torsion bars. *Il diag*s
Product Eng 29:62 Jl 7 '58

Motor-cycle innovation; Ariel motors, ltd.
Il Engineer 206:144-5 Jl 25 '58

Pressed steel motor cycle. *Il Engineering*
 186:164 Ag 8 '58

MOTOR ships

Big boost for geared-Diesel drive. *Il diag*
Marine Eng/Log 63:76 M '58

Coastwise shipping; illustrations with text.
Engineer 205:pl 6 Ja 10 '58

Electric couplings on modern LST's. J. A.
 Wasmund. *Il diag Marine Eng/Log* 63:72-4
 My '58

Fuel processed at sea in seaway-lakes bulk
 carriers. *Machine Design* 30:6 Jl 10 '58

Motor trawler Boston Vanguard. *Il Engineer-*
ing 184:663 N 22 '57

My Sumter, first all aluminum tug. C. W.
 Leveau. *Il Marine Eng/Log* 63:73-5 Jl '58

New York city's new fireboats. T. E. Baker.
Il plans diag Marine Eng/Log 63:59-62+,
 cover Jl '58

Passenger liner for North Sea service. *Il*
Engineer 206:186 Ag 1 '58

Something new in dry bulk carriers; MV
 Alexander T. Wood. *Il Marine Eng/Log*
 63:62-3 F '58

Triple-screw, 4800-hp towboat. *Il Marine*
Eng/Log 63:77+ My '58

MOTOR truck brakes. See Brakes, Motor truck

MOTOR truck drivers

See also

Drivers as salesmen

MOTOR truck driving

Lateral placements of trucks on two-lane
 highways and four-lane divided highways.

A. Taragin. *Pub Roads* 30:71-5 Ag '58

Truck drivers; winterize your driving. K.
 Dougherty. *Il Concrete* 55:32-3 N '57

MOTOR truck engines

Cummin's latest; model HF-6-B. *Il Diesel*
Power 36:26 Ja '58

Cummins' NH-195 built for central and east-
 ern hauling operations. *Il Diesel Power*
 36:24 S '58

Diesels are superior engines for trucks. C. J.
 Wilhite. S A E J 66:63 Mr '58

Heavy vehicle Diesel engine. *Il Engineering*
 186:134 Ag 1 '58

Mechanics of vehicles; performance predic-
 tion. J. J. Talrok. *Bibliog Machine Design*
 29:92-101 D 26 '57

1958 Chevrolet trucks. *Il diag Automotive*
Ind 117:54-6 O 15 '57

Tractor Diesel tops million miles, still in top
 shape. *Il Diesel Power* 35:45 D '57

Trends in 1958 truck design. W. G. Patton.
Il S A E J 66:93-6 Jl '58

Control

Case of the PM governors. *Il Diesel Power*
 36:34-6 Mr '58

Details of the Holley road speed governor.
Il diag Automotive Ind 117:57+ O 15 '57

Cooling

Intercooling and turbocharging. *Il diag Auto-*
mobile Eng 48:150-3 Ap '58

Fans

Hydraulic fan cools truck engine. *Il Auto-*
mobile Ind 118:51 Je 1 '58

Fuel feeding

Cummins controls overfueling. *Il Diesel Power*
 36:20 My '58

Lubrication

Fleets save dollars with multigrade oils; with
 cost data. L. J. Test and R. E. Greeger.
 S A E J 66:81 Ja '58

Manifolds

LeMaire transfer machine designed to process
 three different manifold castings. *Il Mach*
 64:180-2 F '58

Mufflers

Engine exhaust system noise control. D. G.
 Thomas. *Product Eng* 29:H 14-17 Mid-S
 '58

Noise

Engine exhaust system noise control. D.
 G. Thomas. *Product Eng* 29:H 14-17 Mid-S
 '58

Starting

Air starting motors reduce electrical main-
 tenance. *Il Comp Air Mag* 63:34-5 Ja '58

Superchargers

Intercooling and turbocharging. *Il diag Auto-*
mobile Eng 48:150-3 Ap '58

MOTOR truck tires. See Tires, Motor truck

MOTOR trucks

- Commercial vehicles; illustrations with text. Engineer 205:pl 13 Ja 10 '58
- European vehicle developments; illustrations with text. Automotive Ind 117:64-5 O 15 '57
- Fodens heavy dumper. II Engineer 205:185 Ja 31 '58
- Ford's heavy-duty trucks with all-new big engines. II diags Automotive Ind 118:58-9+ Ja 15 '58
- German commercial vehicles. II diags Automobile Eng 48:44-54 F '58
- Goes into four-wheel drive automatically. II diag Product Eng 29:34 Mr 17 '58
- Heavy-duty dumper. II Automobile Eng 48: 98-9 Mr '58
- Improve fifth wheel; establishes rolling connection between a truck tractor and trailer. II Product Eng 29:21-2 S 1 '58
- Latest Albion trucks have low-stressed axle shafts and double reduction gearings. II Automotive Ind 119:67 S 15 '58
- LeTourneau-Vestinghouse's new 32 ton rear dump truck; illustrations with text. R. H. Russ. S A E J 66:87-9 Ag '58
- Light commercial vehicles; Dagenham Ford vehicle. Engineer 204:647 N 1 '57
- Maintenance vehicle for Mackinac bridge. II Safety Maint 115:52-3 F '58
- New Dodge trucks with increased gvw and gcw ratings. II Automotive Ind 117:63+ N 1 '57
- New model added to GMC truck line. II Automotive Ind 117:51+ N 15 '57
- New series of Ford vans. II Engineering 184: 574 N 1 '57
- New York Trap Rock reduces operating costs through haulage revisions. II Pit & Quarry 50:96+ My '58
- 1958 Chevrolet trucks. II diag Automotive Ind 117:54-6 O 15 '57
- Operators probe truck builders; questions and answers. G. H. Maxwell. S A E J 66:83-4 Je '58
- Re-designed good vehicles; Chieftain and Claymore. diag Engineer 206:188 Ag 1 '58
- Refuse collection by packer-type vehicles; economics and practices. II Pub Works 89: 106-7+ Ja '58
- Studebaker's expanded truck line. II Automotive Ind 117:108 N 1 '57
- Three new E.R.S. vehicles. Automobile Eng 48:345 S '58
- Trojan senior. II diags Automobile Eng 47: 444-5 N '57
- Truck goes in any direction; Tucker sno-cat corp. II diag Product Eng 29:72-3 Ja 6 '58
- Truck must fit job for operating profit; abstract. G. U. Brumbaugh. S A E J 66:115-16 Ap '58
- Trucks; the stylish stouts. II Machine Design 30:22-4 F 20 '58
- Two engines mounted transversely drive common output shaft. II diags Machine Design 30:122-3 S 4 '58
- Two special lime vehicles for Imperial chemical industries, Ltd. J. Grindrod. II Pit & Quarry 50:157-8 My '58

See also

- Fire apparatus, Motor
Motor truck driving
Radio telephone on motor trucks
Tank trucks
Tractors
Trailers

Air conditioning

- Dairy trucks get air-conditioned parking lot; trucks connected to a 40-hp central air compressor. W. L. Streich. II Elec World 149:74 F 10 '58

Axles

- British-type three-axle truck by Mercedes-Benz. II Engineering 185:772 Je 20 '58
- Mack modernizes facilities for cab and axle shaft production. II diag Automotive Ind 119:60-1 JI 15 '58

Bodies

- Body mounting. II diags Automobile Eng 48:86-95 Mr '58
- Demountable truck bodies. II Engineer 204: 376 D 13 '57
- New body plant at Vauxhall. D. Scott. II plans Automotive Ind 118:62-7 Ap 15 '58
- Standard sizes of shipping containers for cargo interchange; vana-liners, demountable truck bodies can be used on flat cars, highway trucks or trailers. H. H. Hall. II diags Mech Eng 80:46-50 Ja '58

Brakes

See Brakes, Motor truck

Cabs

- Current truck cab trends to continue; abstract. T. Ornas. S A E J 66:130+ F '58
- Mack modernizes facilities for cab and axle shaft production. II diag Automotive Ind 119:60-1 JI 15 '58
- Six design changes for the truck driver's office; abstract. J. Gaussoin. S A E J 66:49 My '58
- Truck cabs need further improvement; abstract. R. A. McFarland and R. G. Domey. II S A E J 66:62-3 My '58

Chassis

- New truck chassis meets challenge for more cube; abstract. W. E. Petersen. II S A E J 66:121 JI '58

Cleaning

- Truck cleaning time halved by Aquablast. II Concrete 66:41 Ap '58

Cold weather operation

- Fleets save dollars with multigrade oils; with cost data. L. J. Test and R. E. Greeger. S A E J 66:81 Ja '58

Design

- Coming changes in truck design. P. J. Monaghan. II Iron Age 180:130+ N 14 '57
- Trends in 1958 truck design. W. G. Patton. II diags S A E J 66:89-104 JI '58
- Truck and tyre evolution. II Engineer 206: 426 S 12 '58
- Truck sprouts power take-offs; illustrations with text. Product Eng 29:64-5 Ag 18 '58
- See also
Motor trucks—Chassis

Electric equipment

- Longer life for truck electrical units; abstract. H. L. Hartzell. S A E J 66:49-50 Ag '58
- New automotive generator system features high output, oil-cooling, transistor control. II Diesel Power 30:30 My '58
- Trucks switch to ac-dc system. Product Eng 29:23 JI 7 '58

Frames

- Efficient frame production lines at A. O. Smith. II Automotive Ind 119:66-8 JI 15 '58

Gearing

- Armour study gives new hypoid lube data; abstract. D. L. Powell and H. R. Barton. S A E J 66:124+ Ap '58
- David Brown 567A gearbox. II plan diags Automobile Eng 48:288-94 Ag '58

Hydraulic equipment

- Burtonwood hydraulic tail-lift for the loading and unloading of vehicles. II diags Automobile Eng 47:525-8 D '57

Leasing

- Truck and car leasing. II Paint Oil & Chem R 120:6-8 N 28 '57

Maintenance and repair

- Automotive and mobile equipment meetings; A.G.A. distribution, production, transmission conferences. Gas Age 121:24-5+ Je 12 '58
- More wear and tear. J. E. Johnson. Engineer 206:131-3 JI 25 '58

Manufacture

- Annealing motor vehicle forgings. II Metallurgia 56:243-4 N '57

Materials

- Heavy duty dump truck built of aluminum extrusions and plate. II Mod Metals 14:30 F '58

Painting and finishing

- Painting trucks; Dart truck co. II Ind Finishing 34:34+ My '58

Performance

- Predictions for truck ability ok'ed. A. F. Stamm. S A E J 66:42-4 F '58

Retarders

- Power absorption devices; retarders reduce amount of energy absorbed by friction brakes. diags Product Eng 28:E 13-15 Mid-O '57
- Retarder systems for heavy vehicles in Europe. R. Braunschweig. II diags Automotive Ind 118:70-2+ F 15 '58

MOTOR trucks—Continued**Riding qualities**

Eight points to check for improving truck ride. R. N. Janeway. *diags S A E J* 66:66-72 *Je '58*

Safety measures

Color and highway safety; new fleet painting plans based on color perception. *diags Safety Maint* 115:23+ *My '58*

Specifications

1958 truck specifications; tables. *Automotive Ind* 118:146-53 *Mr 15 '58*

Springs and suspensions

Air springs; panel discussion. *Rubber World* 138:111 *Ap '58*

Air suspension for semi-trailers. *II diags Automobile Eng* 48:139-41 *Ap '58*

Air suspension on the Continent; commercial vehicles. *II diags Automobile Eng* 47:512-23; 48:2-11 *D '57-Je '58*

Composite springing. *II diags Automobile Eng* 48:154-8 *Ap '58*

General Tire launches new air spring. C. O. Slemmons. *diags S A E J* 66:54-6 *F '58*

More load, less weight is air suspension's gift to commercial vehicle designers. D. J. LaBelle. *S A E J* 65:25-7 *N '57*

Taxation

Tax exclusions of truck-mixer components. *Concrete* 66:37 *JI '58*

Testing

Vehicle dynamometer for fuel and lubricating oil research. H. J. Eatwell and others. *II diags Automobile Eng* 48:297-302 *Ag '58*

Transmission

Brown heavy vehicle gearbox. *diag Engineer* 205:514 *Ap '58*

Full specs needed in ordering transmissions. *diag Roads & Sts* 101:69 *Ap '58*

Get the right transmission for replacement, for new or repowered applications. L. Butler. *II diag Diesel Power* 35:44-5 *N '67*

International harvester co. Select-o-Matic truck transmission. R. E. McAfee. *diags S A E J* 66:56-3 *JI '58*

RoadRanger transmission line expanded and improved. *II Diesel Power* 36:30 *Ag '58*

Torque-converter transporter. *II Engineer* 206:26 *JI '58*

Trends in 1958 truck design. W. G. Patton. *II diag S A E J* 66:96-100 *JI '58*

Transportation

Roll-on/roll-off British style; Transport ferry service. J. Kerr. *II Marine Eng/Log* 63:76-7 *JI '58*

MOTOR trucks, Industrial

Boom loading; Fowler loader, a boom-type attachment for lift trucks. *II Mech Eng* 80:99-100 *Mr '58*

Carriers slash yard handling costs; Halliburton oil well cementing co. *II Mod Materials Handling* 13:129 *S '58*

Fork lift spots block. *II Concrete* 66:26-7 *O '58*

Fork trucks cut beam handling costs; Pre-cast Industries, Inc. *II Concrete* 66:28-9 *S '58*

Handling aluminum ingots by the carload; Kawneer co. *II Mod Metals* 14:52+ *Je '58*

Heavy loads handled easily; National-U.S. radiator corp. *II Steel* 143:92 *S 22 '68*

How to shop for used lift trucks. R. F. Moody. *II Textile Ind* 122:112-16 *S '58*

Industrial fork truck stability; abstract. O. S. Carliss. *diags Engineering* 184:819 *D 27 '57*

Industrial know-how handbook; gas powered trucks. *II Mill & Factory* 62:MH6 *My '58*

Industrial trucks play key role in automotive and aircraft plants. A. W. Shearer. *II Automotive Ind* 118:43-50 *Je 1 '58*

Movers of materials; equipment types for yard handling of palletized loads. A. T. Gaudreau. *II Plant Eng* 12:122+ *Ag '58*

New Hyster models finish its cushion tire line. *II Concrete* 66:44-5 *Mr '58*

1958 equipment buyer's guide; powered floor equipment. *II Mod Materials Handling* 13:101-41 *My '58*

1958 equipment buyer's guide; yard and outdoor equipment. *II Mod Materials Handling* 13:217-40 *My '58*

1958 production preview; plant service equipment. *II Am Mach* 102:234-8 *Ja 27 '58*

No mast on this lift truck. *II diags Product Eng* 29:67 *My 26 '58*

Power unit swivels, reverses drive; Hyster industrial freight carriers and tractors. *II diags Product Eng* 23:62-3 *O 28 '57*

Re-designing vehicles to speed materials handling. *II Engineering* 186:222 *Ag 15 '58*

Road transport equipment. *II Engineer* 206:184 *Ag 1 '58*

Straddle carrier development. *II Engineer* 206:146 *JI 25 '58*

Take the easy step to 2000-psi hydraulics; get greater lifting speeds on lift trucks. *II Ap Hydraulics* 11:104 *Ap '58*

Trends in appearance design; illustrations and drawings with text. *Product Eng* 29:34-5 *Ag 11 '58*

Trends in appearance design; Hyster trucks. *II diag Product Eng* 29:36-7 *Ja 13 '58*

Tricks with trucks; illustrations with text. *Mill & Factory* 61:99 *N '57*

Truck of special design used in roll changing. *II Iron & Steel Eng* 35:173 *F '58*

Two problems, one answer; two-way radio. T. McRae. *II Plant Eng* 12:97+ *S '58*

Two tested material handling procedures. *II Gas Age* 121:14-15 *My 15 '58*

Unique fork truck carries, tilts, and flat-stacks large cartons. R. G. Zilly. *II Mod Materials Handling* 13:98-9, cover *Ja '58*

See also

Tractors, Industrial

Fuel

LP-gas for industrial trucks; special report. *II Mod Materials Handling* 13:103-12 *Je '58*

Maintenance and repair

Getting the most out of your hydraulic system. G. M. McKeown. *II diags Mod Materials Handling* 13:102-6 *Ja '58*

Manufacture

Abrasive blast cleans weldments; Hyster co. *II Steel* 141:78 *D 23 '57*

Iron-powder electrodes cut welding time on fork-truck frames. R. Zeh. *II Welding J* 36:1099-100 *N '57*

Rating

Point-rating steers truck buying. Sears, Roebuck and co. W. D. Warner. *II Mod Materials Handling* 13:100-2 *O '58*

Safety measures

Exhaust purifier puts freeze on fumes from cold-storage truck. *II Safety Maint* 115:59-60 *My '58*

How to maintain explosion-proof trucks. W. Busse. *II diags Safety Maint* 116:20-2+ *My '58*

Oxy-muffler; a catalytic exhaust purifier for application to engines operated in buildings. *Automobile Eng* 48:392 *O '58*

Trucks aid safety, safety aids trucks; illustrations with text. *Safety Maint* 114:20-1 *O '57*

Why Underwriters' Laboratories approval for industrial trucks? C. A. Richmond. *Mod Materials Handling* 13:118-19 *S '58*

Standards

Can you afford that special? variations from manufacturer's standards make costs soar. *Mod Materials Handling* 13:101-3 *S '58*

Transmission

Getting the most out of your hydraulic system. G. M. McKeown. *II diags Mod Materials Handling* 13:102-6 *Ja '58*

Supercharged hydraulic oil system eliminates surging. *Franklin Inst J* 266:20 *JI '58*

MOTOR trucks, Military

If it could only cook; fork-lift truck unveiled by the U. S. army quartermaster corps. *II Mill & Factory* 61:144+ *N '57*

Specifications

Military cargo vehicle specifications; tables. *Automotive Ind* 118:161 *Mr 15 '58*

MOTOR trucks and roads

Lateral placements of trucks on two-lane highways and four-lane divided highways. A. Taragin. *Pub Roads* 30:71-5 *Ag '58*

See also

Road traffic

MOTOR trucks in construction work

Unique batch hauling service; Indiana toll road. *II Roads & Sts* 100:66-8 *N '57*

Walk-in truck bodies serve as mobile workshops. *II Elec Constr & Maint* 57:97-8+ *Ag '58*

MOTOR trucks in freight service

Highway freight, *Eng J* 41:82-4 Ap '58
 Hub operation, scheduling problem, J. S. Minas and L. G. Mitten, *diags Op Res* 6: 329-45 My '58

See also

Trailers—Transportation

MOTOR trucks in mining

Advances in off-highway truck design, G. N. Carlson, *il Min Cong J* 43:34-7+ D '57
 Pit operation using power shovels and trucks; clay pit, L. C. Gresham, *jr Am Cer Soc Bul* 37:197-8 Ap 15 '58

Costs

Estimating data for open pit haulage trucks; Kennecott copper corp. H. A. Wilmeth, *Min Eng* 10:577-80 My '58

MOTOR trucks in repair service

Auger-derrick cuts digger mileage, *il Elec World* 149:63 Mr 31 '58
 California regulations for red lights on utility vehicles, S. K. Martin, *Am Water Works Assn J* 50:495-6 Ap '58
 Equipped small crews effective; with cost data, G. W. Peak, *il Elec World* 149:67+ My 12 '58
 Gas-engine battery charger boosts line truck mileage, L. F. Rohan, *il Elec World* 149: 84 F 17 '58
 Ladder trucks substitute for poles, J. C. Barker, *il Elec World* 149:56 Mr 31 '58
 Mobile unit aids regulator service, H. Steuer, *il diags Elec World* 150:65 J1 28 '58
 Snow-mud tires cut operating costs, J. L. Peck, *Elec World* 148:69 D 30 '57
 Special lighting maintenance tools; Fluorescent service corp., Tampa, Fla. *il diag Elec Constr & Maint* 57:88-92+ S '58

MOTOR trucks in the petroleum industry

New heavy-duty trucks, *il Oil & Gas J* 56:195 Mr 3 '58

MOTOR vehicles

Combining two types of power in a single vehicle, D. A. Jones, *diag Engineering* 184: 596-7 N 8 '57
 Dieselized jeeps go underground, *il Diesel Power* 36:32-4 J1 '58
 Engine needed; engineered power package bought; illustrations with text, *Product Eng* 28:70-1 D 23 '57
 Folding jeep carries four, *il Product Eng* 29:64 Ap 14 '58
 Ford describes flying car; toboggan-bottomed car that rides a thin film of air, *il Product Eng* 29:23 Ap 21 '58
 LeTourneau comeback; mass-produced electric wheel for giant jobs, *il Product Eng* 29:16 J= 30 '58
 Mechanics of vehicles (cont), J. J. Taborek, bibliog *il diags Machine Design* 29:136-41 N 14; 126-33 N 25; 148-53 D 12; 12-101 D 26 '57
 New Ford vehicle rides on air; Glidair, H. R. Neal, *il Iron Age* 181:68+ Ap 3 '58
 Russia's motor vehicle industry; latest engines and motor vehicles, D. Scott, *il Automotive Ind* 118:90-5 Ja 1 '58

See also

Automobiles
 Electric vehicles
 Motor buses
 Motor trucks
 Road traffic
 Taxicabs
 Tractors

Clutches

Air-powered de-clutch takes work out of gear shifting, *il Diesel Power* 35:39 D '57

Equipment

What's new at the design engineering show, *il diag Automotive Ind* 118:74-9 Ap 1 '58

Inspection

One out of five vehicles unsafe, *Safety Maint* 114:48 N '57

Ten-plus examination for road vehicles, *il diags Engineering* 185:370-1 Mr 21 '58

Law

State legal maximum limits of motor vehicle sizes and weights compared with AASHTO standards; tables, *Pub Roads* 29:256-7 D '57

Safety measures

Safety regulations for industrial vehicles in California, V. L. White, *il diag Am Water Works Assn J* 50:497-501 Ap '58

Specifications

Heavy-duty and off-highway trucks specifications; tables, *Automotive Ind* 118:276-85 Mr 15 '68

Taxation

State highway-user taxes paid in 1954 and 1955 on vehicles of various type and weight groups, E. Samson, *Pub Roads* 29:279-88 F '58

Track layer types

Submerged arc does fast job of rebuilding; Caterpillar D-8 track, *il Iron Age* 181:132 Je 5 '58

Transmission

Details of the Spicer Synchro-Master transmission, *il Automotive Ind* 118:63 F 15 '58
 Why not higher pressures for mobile hydraulics? W. R. Master, *il diag Product Eng* 28:60-1 O 28 '57

MOTOR vehicles, Amphibious

Strange buggies conquer mud; David buggies, *il Oil & Gas J* 56:55 Ag 25 '58

MOTOR vehicles, Military

Army studies switch to aluminum for unitized jeep bodies, *Product Eng* 28:87 O 28 '57
 Assembling the army's M-274 weapons carrier, *il Automotive Ind* 118:24-5 Mr 1 '58
 Automatic land navigator new for army's tanks, trucks, *il diags Machine Design* 29:6 O 31 '57

Getting missiles off the ground; special mobile vehicles that carry, service, fuel, erect and launch the missile, D. T. Sigley, *il S A E J* 68:59 Mr '58

Harrier folding car for airborne forces, G. Wilkins, *il Engineering* 185:18 Ja 3 '58

Magnesium will cut army vehicle weight two-thirds, *il Mod Metals* 14:80 F '58

This mechanical mule is lightweight, but muscular; M-274, 4 x 4, ½ ton, weapons carrier, *il diags Product Eng* 29:42-3 S 29 '58

Titanium wins new acclaim in tough ordnance trials, J. P. Stefanich, *il Iron Age* 182: 90-1 S 13 '58

See also

Tanks, Military

Transportation

USNS Comet; vehicle-carro ship, designated as a roll-on/off carrier, built for the Military sea transportation service, F. Paylik and D. Mylrea, *il plans diags Marine Eng/Los* 63:61-9 Mr '58

MOTORS, Electric. See Electric motors**MOUNT ALLISON university**

Mount Allison university, *il Eng J* 41:93 J1 '58

MOUNT Rushmore national memorial. See Rushmore, Mount**MOUNT UNION, Pennsylvania****Water supply**

Chain of interlocked reservoirs bolsters borough's water supply, M. H. Diven, *il map Water Works Eng* 111:36-9 Ja '58

MOUNTAIN railroads

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Railroads, Cable

MOUNTAIN roads

Contractor and traffic took turns on freeway job in the High Sierras, *il diag Roads & Sits* 101:47-52 My '58

Deep snow, bad slides, one of West's toughest snow fighting jobs, F. Wells, *il Roads & Sits* 100:93-4 D '57

New methods for determining capacity of rural roads in mountainous terrain, O. K. Normann and others, *il Pub Roads* 30:25-37+ Je '58

Shelf road; small outfit had to do it, H. K. Glidden, *il diag Roads & Sits* 101:63-6+ F '58

MOUNTAINS

Diffraction by smooth cylindrical mountains, H. E. J. Neugebauer and M. P. Bachynski, bibliog *diags Inst Radio Eng Proc* 46: 1619-27 S '58

Mountains named for scientists, *il Phys Today* 11:39, cover F '58

See also

Elk mountains
 Geology, Structural

MOUNTING of machinery. See Machinery—Mounting**MOUTH**

See also

Saliva

MOVING boundary system

Series solutions of the Dole equations and their implications for electrophoretic analysis, J. C. Nichol and L. J. Gosting, bibliog *diags Am Chem Soc J* 80:2601-9 Je 5 '58

MOVING boundary system—Continued

Weak electrolyte moving boundary systems analogous to the electrophoresis of two proteins. J. C. Nichol and others. *bibliog* *Am Chem Soc J* 60:2610-15 *Je* 5 '58

MOVING objects, Photography of. See *Photography of moving objects*

MOVING of pipe lines. See *Pipe lines—Moving*

MOVING of structures

Cooley gravel co. relocated in \$7,000 plant moving job. *il Pit & Quarry* 60:32 *F* '58
Huge hanger moves over to start new life. *il Eng N* 160:62-4 *Mr* 6 '58

See also

Derricks, Oil well—Moving

MOVING picture cameras

Analytical evaluation of the lenticular-plate cinemicrograph and the image dissection process. C. M. Huggins. *bibliog* *diags SMPTE J* 67:523-6 *Ag* '58

Cine-theopite control system used on guided missile ranges. R. J. Garvey. *il diags Electronic Eng* 30:128-34 *Mr* '58
Diode counter calibrates missile testing camera. S. E. Dorsey. *il diags Electronics* 31:93-5 *F* 14 '58

8mm Revere Eye-Matic features automatic exposure plus turret. *il Mod Phot* 22:84 *Ap* '58

Frame-rate checker for motion-picture cameras. C. Owlett. *il diags Electronics* 31:88-9 *S* 12 '58

Light energizes control in self-setting camera. J. P. Bagby and M. W. LaRue, Jr. *il diags Elec Manuf* 61:101-3+ *Ja* '58

New Bolex offers flexible exposure control for 8mm. M. A. Matzkin. *il Mod Phot* 22:88-9+ *Ja* '58

Prestressed spring drives camera aid. *il diag Product Eng* 29:60 *J* 7 '58

Progress committee report for 1957; cameras. *il SMPTE J* 67:300-1 *My* '58

Time-lapse cinematography; Armstrong cork company's Research and development center. J. H. Widmyer. *il Ind Phot* 7:26-7+ *F* '58

Cold weather operation

Ultra-cold weather photography. R. R. Conger. *il SMPTE J* 67:35-7 *Ja* '58

Control

Automatic-exposure control for a high-resolution camera; Roti Mark II telescope system. G. Economou and others. *il diags SMPTE J* 67:249-51; *Discussion*. 252-5 *Ap* '58
Computers direct movies. *diag Electronics* 31:49 *Ap* 4 '58

Direct-drive automatic iris control for 8mm camera. M. W. LaRue, Jr. and others. *il diags SMPTE J* 67:600-4 *S* '58

MOVING picture films

Causes and prevention of static markings on motion-picture film. W. I. Klsner. *il SMPTE J* 67:513-17 *Ag* '58

8mm goes professional. *il Ind Phot* 7:42 *Mr* '58
Film in television. R. J. Ross. *SMPTE J* 67:874-8 *Je* '58

Progress committee report for 1957; new films; film processing techniques and equipment. *il SMPTE J* 67:296-300 *My* '58

Prolonging the life of motion-picture release prints. E. C. Johnson. *il SMPTE J* 67:590-2 *S* '58

Cleaning

Machine for cleaning motion-picture film. J. R. Turner and others. *il diag SMPTE J* 67:480-5 *J* 1 '58

Practical film cleaning for safety and effectiveness. D. W. Fassett and others. *bibliog* *diags SMPTE J* 67:572-89 *S* '58

Protection

Method of protecting film and lengthening its serviceable life; process called Permafilm. P. N. Robins. *il SMPTE J* 66:772-4 *D* '57

Reels

Eight mm motion-picture projection reels; American standard. *diag SMPTE J* 67:537 *Ag* '58 (reprints 25c)

Repair

Saving films with magic mylar. G. W. Butler. *il Ind Phot* 7:68-9 *J* 1 '58

Standards

Dimensions for 16mm motion-picture film, 1R-2994; American standard. *diag SMPTE J* 67:538 *Ag* '58 (reprints 25c)

Dimensions for 16mm motion-picture film, 2R-2994; American standard. *diags SMPTE J* 67:539 *Ag* '58 (reprints 25c)

Dimensions for 35mm motion-picture film, perforated 32mm, 2R-2994; American standard. *diags SMPTE J* 67:410 *Je* '58 (reprints 25c)

Monochrome television film standards. K. B. Benson and J. R. Whittaker. *il diag SMPTE J* 67:1-5 *Ja* '58
100-mil magnetic coating on 16mm film, perforated one edge; American standard. *diag SMPTE J* 67:409 *Je* '58 (reprints 25c)

Storage

Hints on storing raw acetate movie film. *Ind Phot* 7:60+ *Ap* '58

Testing

Surveillance of cinematograph record film during storage. G. L. Hutchison and others. *bibliog* *il diags J Ap Chem* 8:24-34 *Ja* '58

MOVING picture films in education
Chemistry film shooting starts. *il Chem & Eng N* 36:120 *Mr* 3 '58

MOVING picture industry
Progress committee report for 1957; progress in other countries. *il maps diags SMPTE J* 67:312-39 *My* '58

See also

Society of motion picture and television engineers

Australia

Progress committee report for 1957; Australia. *il SMPTE J* 67:313-14 *My* '58

Canada

Progress committee report for 1957; Canada. *SMPTE J* 67:314 *My* '58

China

Progress committee report for 1957; Chinese peoples republic. *il SMPTE J* 67:315-16 *My* '58

Far East

Progress committee report for 1957; Far East. *SMPTE J* 67:317 *My* '58

Germany

Progress committee report for 1957; Germany (West German Republic). *il SMPTE J* 67:318-20 *My* '58

Great Britain

Progress committee report for 1957; Great Britain. *il SMPTE J* 67:320-4 *My* '58

Italy

Progress committee report for 1957; Italy. *il map SMPTE J* 67:324-8 *My* '58

Japan

Progress committee report for 1957; Japan. *il map diag SMPTE J* 67:328-34 *My* '58

Russia

Progress committee report for 1957; U.S.S.R. *il SMPTE J* 67:336-8 *My* '58

Sweden

Progress committee report for 1957; Sweden. *il diag SMPTE J* 67:335-6 *My* '58

MOVING picture laboratories

Modern all-purpose laboratory. R. W. Payne and others. *il plan SMPTE J* 66:738-41 *D* '57

Selecting a motion picture service lab. N. Keehn. *il Ind Phot* 7:38-9 *Mr* '58

Equipment

Automatic printer light selector for Bell & Howell models D and J printers. L. Wargo and others. *il diags SMPTE J* 67:78-80 *F* '58

Electromechanical light valve for motion-picture printers. F. P. Herrnfeld. *il diags SMPTE J* 67:27-8 *Ja* '58

Film pulldown mechanism based on a design by Samuel B. Grimsen. F. T. O'Grady. *diags SMPTE J* 67:335-8 *Je* '58

Instantaneous electronic color-film analyzer based on color-television. B. D. Loughlin and others. *il diags SMPTE J* 67:17-26 *Ja* '58

Large-capacity printer loop trees; Capital film laboratories. R. N. Jenkins and others. *il SMPTE J* 66:769-71 *D* '57

Machine for cleaning motion-picture film. J. R. Turner and others. *il diag SMPTE J* 67:480-5 *J* 1 '58

New Canadian film center; National film board of Canada new headquarters. G. G. Graham. *il plans diag SMPTE J* 66:725-45 *D* '57

MOVING picture laboratories—Equipment—

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- Newly designed optical printer, V. W. Palen. *il* diags SMPTE J 67:98-102 F '58
- Progress committee report for 1957; film processing techniques and equipment. *il* SMPTE J 67:296-300 My '58
- Silver-recovery apparatus for operation at high current densities, N. J. Cedrone, biblog *il* diags SMPTE J 67:172-4 Mr '58
- Two versatile laboratory coating machines based on designs by Samuel B. Grimson, K. Weiss and F. T. O'Grady. *il* diags SMPTE J 66:689-91 N '57
- Use of a motion-picture printer as a sensitometer, R. O. Gale and J. J. Graham. *il* diags SMPTE J 67:84-6 F '58

MOVING picture machines

- Automatic cuing of television film projectors, B. F. Melchionni. *il* diags SMPTE J 67:92-4 F '58
- Heat reflecting filters in carbon-arc projection systems, R. Elscher and M. Floke. *il* diags SMPTE J 67:502-4 JI '58
- Look at the motion-picture projector as an integral optical-mechanical system, H. E. Rosenberger. *il* diags SMPTE J 67:378-84 Je '58
- Progress committee report for 1957; projectors. *il* SMPTE J 67:291, 301-3 My '58
- Projector threads itself. *il* diags Product Eng 29:67 Ap 14 '58
- Recording lip-synchronized sound using a 16mm magnetic-optical sound projector, L. T. Askren and R. J. Dwyer. *il* SMPTE J 67:32-4 Ja '58
- Siemens dual-strip 16/16 projector with synchronous motor; abstract, H. Kronenberger. *il* SMPTE J 67:486 JI '58
- Transistorized magnetic and photoelectric input circuits for motion picture projectors, S. F. Bushman. *il* diags Audio Eng Soc J 64:9 Ja '58

Cooling

- Cold mirrors for projector heat control. *il* diags SMPTE J 67:175-7 Mr '58

Light sources

- Brighter cinema projection; 450-X projector of the British Thomson-Houston co. uses a Mazda XE/D xenon lamp. *il* Engineering 184:680 N 29 '57
- Electric lamp uses built-in reflector and focused beam. *il* Elec Manuf 61:150 Mr '58
- New lamp means revolution in design of projectors. *il* Mod Phot 22:90 Ap '58
- 16mm sound film projection with 2kw xenon lamp. *il* Engineer 204:675 N 8 '57
- Xenon-arc projection lamp, W. B. Reese. *il* diags SMPTE J 67:392-6 Je '58
- Xenon high-pressure lamps in motion-picture theaters, H. J. Jeffers. biblog *il* diags SMPTE J 67:389-92 Je '58

Standards

- Eight mm motion-picture projection reels; American standard. *il* diags SMPTE J 67:537 Ar '58 (reprints 25c)
- Focal lengths and markings of 35mm motion-picture projection lenses; American standard. SMPTE J 67:409 Je '58 (reprints 25c)
- Projector aperture for 35mm, anamorphic, 2.35:1 prints with squeeze ratio of 2:1; American standard. SMPTE J 65:776 D '57 (reprints 25c)

MOVING picture photography

- "Bespoke overcoat" what makes a great movie? M. S. Dworkin. *il* Mod Phot 22:90-1 F '58
- Movie camera captures storm-tossed birth of man-made island. *il* diags Ind Phot 7:26-7 Ja '58
- Movie clinic; technicians on techniques. Published in monthly numbers of Industrial photography
- Movie maker, M. A. Matzkin. Published in monthly numbers of Modern photography
- New film technique; Todd-AO system. *il* Engineer 205:782-3 My 23 '58
- New filming and projection technique; Todd-AO at London's Dominion theatre. *il* Engineering 185:548-9 My 2 '58
- Optics of the lenticular color-film process, R. Kingslake. biblog diags SMPTE J 67:8-13 Ja '58
- Superimposed titles on black-and-white and color films by a photo-resist method, W. I. Kinsner and J. J. Murray. *il* SMPTE J 66:692-3 N '57

See also

Moving pictures, Amateur

Apparatus and supplies

- Pick the right equipment for movie close-ups. *Mod Phot* 22:96 Ar '58
- Three basic levels of equipment. C. G. Einhaus. *il* Ind Phot 7:28-9 F Mr '58

Bibliography

- Books reviewed. Published in monthly numbers of Journal of the Society of motion picture and television engineers

Developing and developers

- Portable completely automatic film developer. *il* Elec Eng 77:373 Ar '58
- Rapid film processor. *il* Mech Eng 80:66 Ja '58

Exposure

- Automatic-exposure control for a high-resolution camera; Roti Mark II telescope system, G. Economou and others. *il* diags SMPTE J 67:249-51; Discussion. 252-5 Ap '58
- Color exposure for high-speed photography of some self-luminous events, K. H. Lohse. *il* diags SMPTE J 67:567-71 S '58
- Devices for making sensitometric exposures on embossed kinescope recording film, E. M. Crane and C. H. Evans. *il* diags SMPTE J 67:116 Je '58
- Dissatisfied with your color film results? try exposure control and correction filters. M. A. Matzkin. *Mod Phot* 22:100 S '58
- Light energizes control in self-setting camera, J. P. Bagby and M. W. LaRue, jr. *il* diags Elec Manuf 61:101-3 Ja '58
- Split frame not so hidden persuader; to contrast old v. new side by side. *il* Ind Phot 7:20-1 Ar '58

Focusing

- Modern's movie close-up chart. *Mod Phot* 22:80-1 Ar '58

High speed

- Analytical evaluation of the lenticular-plate cinemicrograph and the image-dissection process, C. M. Huggins. biblog diags SMPTE J 67:523-6 Ar '58
- Color exposure for high-speed photography of some self-luminous events, K. H. Lohse. *il* diags SMPTE J 67:567-71 S '58
- High-speed camera picks computer brain, H. Waterman. *il* Ind Phot 7:62-3 F '58
- High-speed cinematography; its applications in biological, psychological and medical research, A. R. Michaelis. *il* diags Research 11:356-75 JI '58
- High-speed motion-picture cameras for analyzing and designing high-speed mechanisms, D. Colasanto. *il* diags Machine Design 30:118-22 Ja 23 '58
- High speed motion pictures examine vibrations, J. Hughes. *il* Ind Phot 7:22-3 F Ar '58
- High speed photoelasticity, D. A. Senior. biblog *il* diags Engineering 186:248-54 Ar 22 '58
- High-speed photography; a tool for the engineer, D. P. C. Thackeray. biblog *il* diags Engineering 185:214-17 F 14 '58
- Method of flash synchronization for high-speed cinematography, J. D. Lewis and G. T. Peck. *il* diags J Sci Instr 35:338-40 S '58
- Photographic instrumentation for collision injury research, D. M. Severy. *il* diags SMPTE J 67:69-77 F '58
- Photographic research aids engine design development; American Bosch Arma corp. C. E. Cordoner. *il* Ind Phot 7:24-5 Ja '58
- Time-magnification study of a rattlesnake strike, S. G. Dunton and H. M. Lester. *il* diags SMPTE J 67:65-8 F '58

See also

Photography of projectiles

Industrial applications

- 8mm goes professional. *il* Ind Phot 7:42 Mr '58
- High-speed motion picture cameras for analyzing and designing high-speed mechanisms, D. Colasanto. *il* diags Machine Design 30:118-22 Ja 23 '58
- Motion pictures of metal fatigue automatically record details; abstract. *Metal Prog* 73:183 JI '58
- Photographic work sampling, a new cost-control technique; Appleton woolen mills, R. L. Barlament. *il* Textile World 108:52-3 S '58
- See inside gear parts. *il* Electronics 30:43 D 10 '57

See also

Moving pictures in industry

MOVING picture photography—Continued

Medical applications

- High-speed cinematography; its applications in biological, psychological and medical research. A. R. Michaelis. *Il diags Research* 11:266-75 J1 '58
- Portraits of miracles: American cyanamid co. surgical cinematography. N. Lewis. *Il Ind Phot* 7:24-7 J1 '58
- X-rays come alive; fluoroscopic motion pictures; device using electron optics to intensify image brightness. *Il diag Product Eng* 28:87 D 9 '57

Printing processes

- Automatic printer light selector for Bell & Howell models D and J printers. L. Wargo and others. *Il diags SMPTE J* 67:78-80 F '58
- Color timing method and calculator for subtractive motion-picture printers. G. T. Keene. *Il diags SMPTE J* 67:404-8 Je '58
- Electromechanical light valve for motion-picture printers. F. P. Herrfeld. *Il diags SMPTE J* 67:27-8 Ja '58
- Film pulldown mechanism based on a design by Samuel B. Grimson. F. T. O'Grady. *diags SMPTE J* 67:385-8 Je '58
- Glass filters for color printing. R. L. White and R. C. Lovick. *diags SMPTE J* 67:29-31 Ja '58
- Instantaneous electronic color-film analyzer based on color-television. B. D. Loughlin and others. *Il diags SMPTE J* 67:17-26 Ja '58
- Laboratory practices on films for television. *SMPTE J* 67:6-7 Ja '58
- Large-capacity printer loop trees; Capital film laboratories. R. N. Jenkins and others. *Il SMPTE J* 66:769-71 D '57
- Means of preventing the formation of Newton's rings during contact printing of motion-picture film. C. E. Osborne. *Il SMPTE J* 67:169-71 Mr '58
- New color timer for motion-picture films; determination of the correct printing exposures. J. W. Stafford and H. L. Baumbach. *Il diag SMPTE J* 67:81-3 F '58
- Newly designed optical printer. V. W. Palen. *Il diags SMPTE J* 67:98-102 F '58
- Picture and sound apertures for continuous contact printers for 35mm release prints with photographic sound records; American standard. *diag SMPTE J* 67:412 Je '58 (reprints 25c)
- Progress committee report for 1957; film processing techniques and equipment. *Il SMPTE J* 67:296-300 My '58
- Scene-change cueing for printing 16mm motion-picture film; American standard. *diags SMPTE J* 67:411 Je '58 (reprints 25c)

Scientific applications

- Cameras pave way for F-101 Voodoo speed records. *Il Elec Eng* 77:566 Je '58
- Continuous recording of waveforms on photographic film. V. B. Hulme. *diags Electronic Eng* 30:10-14 Ja '58
- Digital and pictorial photographic electronic recorder. R. G. McPherson and I. A. Sonderby. *Il diags Com & Electronics* p.194-6 My '58; Same. *Elec Eng* 77:616-19 J1 '58
- High-speed cinematography; its applications in biological, psychological and medical research. A. R. Michaelis. *Il diags Research* 11:266-75 J1 '58
- Magnavox develops film data recorder and reader. *Il diag Ind Lab* 9:53-5 O '58
- Time-magnification study of a rattlesnake strike. S. C. Dunton and H. M. Lester. *Il diag SMPTE J* 67:65-8 F '58

Standards

- Picture and sound apertures for continuous contact printers for 35mm release prints with photographic sound records; American standard. *diag SMPTE J* 67:412 Je '58 (reprints 25c)
- Scene-change cueing for printing 16mm motion-picture film; American standard. *diags SMPTE J* 67:411 Je '58 (reprints 25c)

MOVING picture photography, Time-lapse. See Photography, Time-lapse

MOVING picture projection

See also

MOVING picture theaters—Projection rooms

MOVING picture projectors. See Moving picture machines

MOVING picture screens

Averaging screen-illumination readings. A. J. Hill. *diags SMPTE J* 67:144-8 Mr '58

MOVING picture sound recording

Photographic duplication of variable-area sound recordings. J. F. Finkle. *SMPTE J* 67:618-20 Ag '58Progress committee report for 1957; photo and magnetic sound recording. *Il SMPTE J* 67:293-5 My '58Sound recording facilities in Canada's newest film studio. N. F. Bounsall. *Il SMPTE J* 66:735-7 D '57Technical notes and reminiscences on the presentation of Tykocner's sound picture contributions. J. E. Aiken. *Il SMPTE J* 67:521-3 Ag '58

See also

Moving picture theaters—Sound equipment

Foreign language synchronization

Methods of translating used in bilingual films. M. G. Kosarin. *SMPTE J* 67:139-40 Mr '58

Magnetic recording

Amateur sound film equipment. H. Thiele. *Il diags Audio* 42:24-6, 74 Ja '58Erasing magnetic film for noise-free splices. C. Shipman and C. Hittle. *Il SMPTE J* 66:687-8 N '57Four magnetic sound records on 35mm film; American standard. *diag SMPTE J* 67:411 Je '58 (reprints 25c)Infrared transparency of magnetic tracks. G. Lewin. *SMPTE J* 66:517-22, 760-3 S, D '57; Discussion. 67:255-6 Ap '58Low budget sound editing and recording. R. L. Krauss. *Ind Phot* 7:52+ My; 50+ Je '58100-ml magnetic coating on 16mm film, perforated one edge; American standard. *diag SMPTE J* 67:409 Je '58 (reprints 25c)Recording lip-synchronized sound using a 16mm magnetic optical sound projector. L. T. Askren and R. J. Dwyer. *Il SMPTE J* 67:32-4 Ja '58Sprocketape magnetic sound recording system. C. E. Beachell. *Il diag SMPTE J* 66:742-5 F '57Studio-type and a portable-type system for synchronizing 1/4-inch magnetic tape with perforated motion-picture film. E. P. Kennedy. *diags SMPTE J* 67:95-7 F '58Synchro-sound; practical lip sync for 8mm movies. *Il Mod Phot* 22:86+ Ap '58Transistorized magnetic and photoelectric input circuits for motion picture projectors. S. F. Bushman. *Il diags Audio Eng Soc J* 6:4-9 Ja '58

Standards

Four magnetic sound records on 35mm film; American standard. *diag SMPTE J* 67:411 Je '58 (reprints 25c)Photographic sound record on 35mm prints; revision of American standard. *diags SMPTE J* 66:694 N '57 (reprints 25c)Picture-sound separation in 16mm magnetic sound projectors; American standard. *diag SMPTE J* 67:412 Je '58 (reprints 25c)

Stereophonic recording

Progress committee report for 1957; stereophonic sound in motion pictures. *Il SMPTE J* 67:295-6 My '58

MOVING picture studios

Acoustic considerations in the Film board studios. R. W. Curtis. *Il plan SMPTE J* 66:731-4 D '57Design and construction of a motion-picture production sound stage. J. A. Larsen. *Il SMPTE J* 67:260-3 Ap '58

Equipment

New Canadian film center; National film board of Canada new headquarters. G. G. Graham. *Il plans diag SMPTE J* 66:725-45 D '57Sound recording facilities in Canada's newest film studio. N. F. Bounsall. *Il SMPTE J* 66:735-7 D '57

Lighting

Design improvements in high-wattage tungsten filament lamps for motion-picture and television studios. L. G. Leighton and A. Makulec. *Il SMPTE J* 67:530-3 Ag '58Progress committee report for 1957; motion-picture and tv lighting. *Il diags SMPTE J* 67:304-6 My '58Recommended practice for reporting photometric performance of incandescent filament lighting units used in theatre and television production. *diags SMPTE J* 67:606-10 S '58

MOVING picture theaters

Equipment

Great Britain's National film theatre. R. F. Scott. *Il plans diag SMPTE J* 67:527-30 Ag '58

MOVING picture theaters—Continued

Lighting

Recommended practice for reporting photometric performance of incandescent filament lighting units used in theatre and television production. diags SMPTE J 67: 606-10 S '58

Projection rooms

New film technique; Todd-AO system. il Engineer 205:182-3 My 23 '58

New filming and projection technique; Todd-AO at London's Dominion theatre. il Engineering 185:548-9 My 2 '58

Tips on planning a better projection room. L. J. Lang. plan diags Ind Phot 7:46+ Mr '58

Sound equipment

Simple electronic switch for magnetic sound system. P. Cremaschi. diags Audio 42:26+ F '58

MOVING picture theaters. Open air

First bilingual drive-in theater in the world in Rome. il SMPTE J 67:210 Mr '58

Progress committee report for 1957; theaters, drive-ins. SMPTE J 67:291-2 My '58

Sound equipment

Induction pickups and the drive-in movie. A. Nadell. il diag Radio-Electronics 29:34-5 Mr '58

MOVING pictures

Order; Driver scores. D. Jackson. il Mod Phot 22:38+ Mr '58

See also

Cinemascope

Television broadcasting—Moving pictures

Animated cartoons

Animation in company industrial films. D. McCormick. Ind Phot 7:52-3+ F; 76+ M '58

Setting up an in-plant animation dept. J. Oxberry. il Ind Phot 7:72-5 JI; 46-8 Ag '58

Documentary films

Low-cost film documentary; Hycon mfg. co. il Ind Phot 7:22-3+ F '58

Foreign versions

See also

Moving picture sound recording—Foreign language synchronization

Television broadcasting—Moving pictures—Foreign versions

Standards

How standards help the motion picture industry; panel discussion. Mag of Stand 28: 370-1 D '57

Keeping the movies up to standard. B. Nemec. il Mag of Stand 29:42-6 F '58

Titles

Are your film titles dull? give them more pep by using color transparencies. M. A. Matzkin. il Mod Phot 22:98+ F '58

Superimposed titles on black-and-white and color films by a photo-resist method. W. I. Kisner and J. J. Murray. il SMPTE J 66: 692-3 N '57

MOVING pictures. Amateur

Family movie camera. M. A. Matzkin. il diags Mod Phot 22:92-6+ Mr; 82-3+ Ap; 94-5+ My; 86-7 Je; 80-1+ JI; 78-9+ Ag; 90-1+ S; 108-9+ O '58

MOVING pictures. Colored

Color exposure for high-speed photography of some self-luminous events. K. H. Lohse. il diags SMPTE J 67:567-71 S '58

Color timing method and calculator for subtractive motion-picture printers. G. T. Keene. il diags SMPTE J 67:404-8 Je '58

Instantaneous electronic color-film analyzer based on color-television. B. D. Loughlin and others. il diags SMPTE J 67:17-26 Ja '58

MOVING pictures. Industrial. See Moving pictures in industry

MOVING pictures in advertising

Allis-Chalmers film program reaches audience of 7,000,000; dual sales promotion-public relations effort. J. Hughes. il Ind Phot 7:18-19+ Ap '58

MOVING pictures in education

High school chemistry on film. Chem & Eng N 35:83 N 18 '57

New films tailor made; MCA's aid-to-education program offers films specially designed for the classroom. Chem & Eng N 36:101 S 22 '58

Progress committee report for 1957; educational motion pictures and television. bibliog SMPTE J 67:339-40 My '58

Students like filmed chemistry; color and sound movies substitute for lab sessions in general chemistry at Akron university. il Chem & Eng N 36:96 S 22 '58

MOVING pictures in industry

Answers to your audio-visuals questions. H. J. Highland. il Ind Phot 7:17-19+ JI '58

Industrial films. il Plant Eng 12:210 Ja '58

Low-cost film documentary; Hycon mfg. co. il Ind Phot 7:22-3+ F '58

Motion pictures as a public relations tool; Standard oil co. (Ohio). E. W. Plumb. Ind Phot 7:37 Mr '58

Promotional films for the rubber industry on a low-cost do-it-yourself budget. il Rubber Age 83:836-7 Ag '58

Setting up a motion picture department. K. L. Morton. il Ind Phot 7:26-7+ Mr '58

Setting up an in-plant animation dept. J. Oxberry. il Ind Phot 7:72-5 JI; 46-8 Ag '58

Split frame, not so hidden persuader; to contrast old v. new side by side. il Ind Phot 7:20-1+ Ag '58

Three basic levels of equipment. C. G. Einhaus. il Ind Phot 7:28-9+ Mr '58

Tips on planning a better projection room. L. J. Lang. plan diags Ind Phot 7:46+ Mr '58

Uses of films. Engineering 184:619 N 15 '57

Where to get pipeline movies; list. R. E. Kling. Pet Eng 30:D26 My '58

Bibliography

Movie films for ceramists. Am Cer Soc Bul 37: 244-5 My 15 '58

Costs

Keeping track of movie costs. J. I. Carr. il Ind Phot 7:30-1 Mr '58

MOVING pictures in safety education

Disney film on home safety. il Safety Maint 114:24 D '57

Eye safety film. il Safety Maint 116:13+ Ag '58

Safety on film. Safety Maint 115:47 Ja; 116:39 S; 59 N '58

MOVING platforms

Design problems solved in moving sidewalks. il Elec Manuf 61:150+ Mr '58

Motel's moving walkway will span city street; pedestrian bridge. il Eng N 160:26 My 22 '58

Moving sidewalks in Dallas. Rubber World 187:433 D '57

MOWERS, Lawn. See Lawn mowers

MOWING

Mowing the Nation's biggest lawn; shoulders and median strip of the Garden State parkway. il Pub Works 39:112-14 Ag '58

MUCILAGE

Structure of tukhmalanga (salvia aegyptia) mucilage; nature of sugars present and the structure of the aldobiouronic acid. A. K. Chatterjee and S. Mukherjee. bibliog Am Chem Soc J 80:2538-40 My 20 '58

MUCUS

Structure and constitution of a mucus. H. Kwart and V. E. Shashoua. bibliog Am Chem Soc J 80:2230-6 My 5 '58

MUD fluids. See Petroleum—Mud fluids

MUDGE, William Alvin

Prominent American metallurgist. M. Weiss. por Metal Prog 74:86-7 JI '58

MUFFLERS. See Automobile engines—Mufflers; Motor truck engines—Mufflers

MULLET

Origin and metabolism of marine fatty acids; the effect of diet on the depot fats of mullet cephalus (the common mullet). P. B. Kelly and others. bibliog Am Oil Chem Soc J 35:189-92 My '58

MULLITE

Bonded mullite and zircon refractories for the glass industry. R. W. Knauf and others. il Am Cer Soc Bul 36:412-15 N 15 '57; Same cond. Glass Ind 39:161-2 Mr '58

Reactions in silica-alumina mixtures. R. West and T. J. Gray. bibliog (29 ref) Am Cer Soc J 41:132-6 Ap 1 '58

Subsolidus relations between mullite and iron oxide. W. E. Brownell. bibliog Am Cer Soc J 41:226-30 Je 1 '58

MULTIPLE purpose rooms. See Rooms, Multiple purpose

MULTIPLEX broadcasting. See Radio broadcasting—Multiplex system

MULTIPLICATION

Analog multiplier based on the Hall effect. L. Löfgren. bibliog il diags J Ap Phys 29:158-66 F '58

MULTIPLICATION—Continued

Improved technique for fast multiplication on serial digital computers. M. Shimshoni. *Electronic Eng* 30:504-5 Ag '58
Short-cut multiplication and division in automatic binary digital computers. M. Lehman. *bibliog Inst E E Proc* 105 pt B:496-504 S '58

MULTIPLIER tubes. See Photoelectric cells—Multiplier tubes

MULTIVIBRATORS

Extend output with regulated flip flop. R. W. Hofheimer. *diag Electronics* 30:182+ D 1 '57
50-kc transistor-multivibrator frequency standard. R. E. Berge. *il diag Q S T* 42:13 J1 '58
Method for sharpening the output waveform of junction transistor multivibrator circuits. A. E. Jackets. *il diags Electronic Eng* 30:371-4 Je '58; Discussion. 30:615 O '58
Monostable multivibrator and stabilized monostable multivibrator. C. F. Kezer and M. H. Aronson. *diags Instruments & Automation* 30:2273-4 D '57
Monovibrator has fast recovery time. A. I. Aronson and C. F. Chong. *il diags Electronics* 30:158-9 D 1 '57
Multivibrator circuits. M. R. Nicholls. *diags Electronic Eng* 30:459 J1 '58
Multivibrators with wide mark-to-space ratio. K. C. Johnson. *diags Electronic Eng* 30:614 O '58
Schmitt multivibrator: reliable design procedure and uses of the circuit. G. L. Swaffield. *diags Wireless World* 64:344-8 J1 '58
Taming the horizontal oscillator: multivibrator type. W. E. Lemons. *diags Radio-Electronics* 29:94-5 Ag '58
Three-phase three-valve multivibrator. W. F. Lovering. *diags Electronic Eng* 30:94-5 F '58
Transistor monostable multivibrators for pulse generation. J. J. Suran. *il diags Inst Radio Eng Proc* 46:1260-71 Je '58

MUNICIPAL accounting

See also
Waterworks—Accounting

MUNICIPAL bonds

Determination and preparation of rate increases and bond issues; joint discussion. G. G. Skelton; C. E. Williams. *Am Water Works Assn J* 50:919-24 J1 '58
How to keep your credit rating high and assure low bond interest rates. D. M. Ellinwood and R. C. Riehle. *il Water Works Eng* 111:328-31 Ap '58
Market for tax-exempt bonds. H. L. Severnson. *Pub Works* 89:86-7 Ag '58
\$614 million in bonds okayed by voters; with table. *Eng N* 159:29-30 N 14 '57
When selling water works bonds put your best foot forward. J. H. Mitchell. *il Water Works Eng* 111:356-8+ Ap '58

MUNICIPAL buildings

Kurayoshi City Hall. *il Arch Rec* 124:132-4 J1 '58
Panoramic curved City Hall designed as an eye-catcher; San Jose, Calif. *il Eng N* 159:30-1 N 28 '57

Three-in-one structure for city services; Caen, France combines water tower, government offices and municipal market. *il diag Eng N* 160:93-4 My 15 '58
Tokyo metropolitan City Hall. *il Arch Rec* 124:135 J1 '58
Tokyo's controversial City Hall. *il diag Arch Forum* 109:205-7 S '58

See also
Municipal centers

MUNICIPAL centers

Award citation; Civic center for Norfolk, Va. *il diag Prog Arch* 39:118-19 Ja '58

Air conditioning

Gas at work in Los Angeles; nine-building county civic center to be year 'round conditioned. J. Joseph. *il Gas Age* 120:11-14+ N 28 '57

MUNICIPAL contracts. See Contracts, Municipal

MUNICIPAL departments

Power shovels for city utility work. *il Pub Works* 89:160 Ap '58

MUNICIPAL electric plants. See Electric plants, Municipal

MUNICIPAL employees

How a city gets valuable ideas from its employees. F. Hirsch. *il Pub Works* 89:108-10 Mr '58

See also
Firemen

MUNICIPAL engineering

See also

Grade crossing elimination
Public works
Refuse disposal
Sanitary engineering
Sewage disposal
Sewer design
Sewerage
Water purification
Water supply engineering

MUNICIPAL finance

See also

Automobile parking—Finance
Waterworks—Finance

MUNICIPAL government

Cities without voices; abstract. J. F. Kenkirk. *Arch Forum* 109:181 S '58
Every city should have an economy survey. C. A. Crosser. *Pub Works* 89:102+ J1 '58

Water departments

MUNICIPAL housing projects. See Housing projects, Municipal

MUNICIPAL improvement

Administration housing bill focuses on urban renewal. *Arch Rec* 123:372+ Ap '58
Architecture, and architects, spark urban renewal project in Memphis. *il Arch Rec* 124:36 J1 '58

Big project ahead; developers named for St Louis renewal job. *Eng N* 160:107 Ja 23 '58
Big urban renewal project is approved by Chicago's conservation board. *il Arch Forum* 108:9+ Ap '58

Bowing to progress; old Philadelphia area, a redevelopment target. *Eng N* 160:43 Je 5 '58
Businessmen's redevelopment. A. Van Buskirk. *Arch Forum* 109:181 S '58
Can civic beauty be legislated? *il Arch Forum* 108:92-3+ Ag '58

Chicago moves to revamp its core. *il Eng N* 161:23-4 S 4 '58

Civil defense can help to awaken civic interest. E. S. Brandt. *il Pub Works* 89:158+ F '58

Eight projects completed, 18 underway in HHFA's Demonstration grant program. *Arch Rec* 124:40+ Ag '58

\$500 billion of housing; abstract. J. H. Scheuer. *Arch Forum* 108:147-8 F '58
Money for renewal; abstract. P. H. Martin. *Arch Forum* 108:171 My '58

National association of housing and redevelopment officials 3d annual urban renewal workshop, East Lansing, Mich. *Arch Forum* 108:44+ Ap '58

New face for a large area in downtown St Louis; St Louis Plaza project for the Urban redevelopment corp. *il diags Arch Rec* 124:188-9 J1 '58

New Haven; test for downtown renewal. *il map diag Arch Forum* 109:78-81+ J1 '58
New heart for Baltimore. J. Jacobs. *il map plans Arch Forum* 108:88-92 Je '58

New York maps anti-slum strategy. *Eng N* 161:25 Ag 7 '58

President proposes five-year urban renewal plan, with federal share of cost gradually shrinking. *Arch Forum* 108:7-8 F '58

Redevelopment today. *il Arch Forum* 108:108-13 Ap '58

Rehabilitation; key to faster action. *Eng N* 160:21-2 My 1 '58

Renewal and growth; influence on U.S. economic growth; abstract. M. C. McFarland. *Arch Forum* 108:161-2 '58

Sound housing policy now. *Arch Forum* 108:105-7+ Mr '58

Thinking big; Baltimore tags its entire downtown area of 1,150 acres for urban renewal. O. H. Winston. *Eng N* 160:42 F '58

What is a city? editorial. *Arch Forum* 109:63+ J1 '58

See also
City planning

Water fronts

MUNICIPAL markets. See Markets, Municipal

MUNICIPAL ordinances

Defining a nuisance for a model ordinance. *Pub Works* 89:146+ F '58

MUNICIPAL swimming pools. See Swimming pools, Municipal

MUNITION factories

Employees

Dermatitis; a report on the five-and-one-half-year experience of an ammunition plant. A. L. Knight. *bibliog il A M A Archives Ind Health* 18:155-67 Ag '58

Fundamental question of dermatitis at Lone star ordnance plant. N. B. Daniel. *Ind Med* 27:421-2 Ag '58

MUNITIONS

Manufacture

See also

Guns (ordnance)—Manufacture
Shells (projectiles)—Manufacture

MUNSELL, Albert Henry

Sketch, E. S. Barr. *por Am J Phys* 26:111-13 F '58

MURAL painting and decoration

Appel; Dutch muralist, S. Burrey. *il diags Arch Rec* 123:147-60 Ja '58Colorful ceramic murals depict water treatment. *il Pub Works* 89:111 Ja '58

MURALS, Photographic. See Photographic murals

MURALS, Plastic. See Plastic murals

MUSCLE

Contraction of muscle, H. E. Huxley. *il diags Sci Am* 199:66-72+ N '58Device for measuring isotonic or isometric contractions of heart muscle, W. J. Whalen and O. Weddell. *diags R Sci Instr* 29:144-5 F '58Evidence for an intermediate in the hydrolysis of ATP by muscle proteins, H. M. Levy and D. E. Koshland, Jr. *bibliog Am Chem Soc J* 80:3164-5 Je 20 '58New adenosine dinucleotide isolated from muscle extracts, W. H. Mosley and R. Caputto. *Am Chem Soc J* 80:4746-7 S 5 '58Portable apparatus for recording the rate of clearance of radioactive sodium from human calf muscle, L. Molyneux and others. *diags J Sci Instr* 35:259-61 JI '58

MUSCLES, Artificial

Artificial muscle for paralyzed hands developed. *Elec Eng* 77:475 My '58

MUSCOVITE

Chromian muscovite from Baker mountain, Virginia, R. V. Dietrich. *bibliog Am Mineralogist* 43:162-5 Ja '58Effects and geologic significance of potassium fixation by expandable clay minerals derived from muscovite, biotite, chlorite, and volcanic material, C. E. Weaver. *Am Mineralogist* 43:839-61 *bibliog*(p859-61) S '58Muscovite, biotite and quartz fabric reorientation, C. B. Crampton. *bibliog diags J Geol* 66:28-34 Ja '58Rate of thermal dehydration of muscovite, J. B. Holt and others. *bibliog Am Cer Soc J* 41:242-6 JI 1 '58

MUSEUMS

Architecture salutes the American cowboy; National cowboy hall of fame and museum, Oklahoma City. *il Arch Rec* 122:10-11 D '57University of Arkansas Fine arts center. *il Arch Rec* 123:196 F '58

See also

New York (city)—Galleries and museums
Smithsonian institution

Lighting

Artist looks at gallery lighting. E. Warner. *Illum Eng* 53:446-50 Ag '58

MUSHROOMS

Morel mushrooms, out of the woods into the plant; pure-culture grown mushrooms. *il Chem & Eng N* 36:38-9 My 19 '58

MUSIC

See also

Jazz music
Singing
Tunes

MUSICAL instruments

See also

Piano

MUSICAL instruments, Electric

Vibrato circuits for electrical musical instruments, A. Douglas. *bibliog diags Electronic Eng* 30:26-30 Ja '58

MUSICAL instruments, Electronic

Percussion circuits for electronic musical instruments, A. Douglas. *diags Electronic Eng* 30:420-3 JI '58

MUSICAL toys. See Toys

MUSK

Chemistry and use of polyalkylindan musk odorants, A. Post. *bibliog Am Perfumer & Aromatics* 71:46-9 Mr '58

MUSKEGS. See Peat bogs

MUSSELS

Thermal and osmotic countermeasures against some typical marine fouling organisms, D. L. Fox and E. F. Corcoran. *Corrosion* 14:31-2 Mr '58

MUSTARD

Demeton residues in collards, lettuce, and mustard, C. H. Van Middelburg and R. E. Waites. *bibliog J Agri & Food Chem* 6:594-7 Ag '58

Analysis

Field sampling and analysis of micro quantities of sesquimustard in presence of mustard, A. Koblitz. *bibliog Anal Chem* 30:430-2 Mr '58

MUTAROTATION. See Optical rotation

MUTASE

Studies of the phosphoglyceric acid mutase reaction with radioactive substrates, L. P. Pizer. *Am Chem Soc J* 80:4431-2 Ag 20 '58

MUTATION (biology)

Transduction in bacteria, N. D. Zinder. *il diags Sci Am* 199:38-43 N '58

MUTUAL inductance. See Inductance

MYCOBACTERIUM

Significance of atypical mycobacteria in disease; abstract, E. Wolinsky. *Am J Pub Health* 48:788 Je '58

MYLAR

Effects of electron irradiation on the electrical properties of Mylar, E. L. Brancato and J. G. Allard. *bibliog il diags Power Apparatus & Systems* p 1539-45 F '58Gas-tight plastic storage units, handy-plus, C. A. Eaves. *il diags Food Eng* 29:121-2 N '57Improved Mylar film makes all-weather swimming pool possible; receives citation in Materials in design engineering competition. *il Materials in Design Eng* 47:158 Ap '58New tensilized polyester film for magnetic tape, J. E. Dean. *Franklin Inst J* 265:434-5 My '58Plastic bubble inflates for use as storage shed. *il Eng N* 160:70 My 22 '58Plastic rope for cable pulling; rope stranded from Mylar; R. C. electric co. of Redwood City, Calif. *il Elec Constr & Maint* 57:112-2 S '58Saving films with magic Mylar, G. W. Butler. *il Ind Prog* 7:68-9 JI '58Some mechanical properties of Mylar and Dacron polyester strands at low temperature, R. P. Reed and R. P. Mikesell. *diags R Sci Instr* 29:734-6 Ag '58Woven Mylar. *il Mod Plastics* 35:222 D '57

MYOCARDIAL infarction. See Heart—Diseases

MYOGLOBIN

Biochemistry of myoglobin; production and identification of a green pigment formed during irradiation of meat extracts, J. B. Fox, Jr. and others. *bibliog J Agri & Food Chem* 6:692-6 S '58

MYOINOSITOL. See Inositol

MYOSIN

Some physical and chemical properties of the ribonucleic acid contaminant of rabbit muscle myosin preparations, E. Mihalyi and others. *bibliog diags Am Chem Soc J* 79:6387-93 D 20 '57

MYROTHECIUM

Occurrence of myrothecium on field cotton. A. N. J. Heyn. *bibliog il Textile Res J* 28:444-5 My '58

N

NACA. See United States—National advisory committee for aeronautics

NATO. See North Atlantic treaty organization

N-OLEOYL sarcosine. See Corrosion and anti-corrosives

NAILING machines

Control

Rotary stepping switches simplify selective feeding control; automatic nail driving machine. *il diags Automation* 5:89-91 Mr '58

NAILS

Antidote for nail pops. *il diags Prog Arch* 39:139 My '58

NAME plates

In-plant plating proves economical; Norgren-Stemac, Inc. W. E. Stevens. *il Plating* 45:636-8 Je '58Self-adhesive nameplates. *il Automobile Eng* 48:149 Ap '58U.S. machines going patriotic; red, white, and blue nameplate goes to work. E. J. Egan, Jr. *il Iron Age* 181:93 Mr 13 '58

NAPHTHA

Corrosion experience in catalytic reformers with naphtha pretreaters, E. E. Backenstorf and R. W. Manus. *bibliog flow diag il Oil & Gas J* 56:131-5 My 19 '58; Abstract. *Pet Refiner* 37:182 My '58

NAPHTHA—Continued

- Fluid hydroforming; Esso research and engineering co. flow diag Pet Refiner 37:228-9 S '58
- Houdriforming; Houdry process corp. Pet Refiner 37:219 S '58
- Isomate; Standard oil co. (Indiana). flow diag Pet Refiner 37:262 S '58
- Iso-Plus Houdriforming; Houdry process corp. flow diag Pet Refiner 37:224-5 S '58
- Platforming; Universal oil products co. Pet Refiner 37:220 S '58
- Powerforming; Esso research and engineering co. Pet Refiner 37:221 S '58
- Refining benzoates and naphthas. flow diag Engineer 204:762 N 22 '57
- SBK catalytic reforming; M. W. Kellogg co. Pet Refiner 37:222 S '58
- Ultraforming; Standard oil co. (Indiana). diag Pet Refiner 37:223 S '58

Analysis

- Determining disulfides in petroleum naphtha; modification of the acetic acid-zinc reflux method. J. H. Karchner and M. T. Walker. bibliog diags Anal Chem 30:85-90 Ja '58
- Determining sulfur compounds in petroleum naphtha; the Humble scheme. J. H. Karchner. bibliog diags Anal Chem 30:80-5 Ja '58

NAPHTHACENE

- Polarographic estimation of tetracene. A. M. Wild. Chem & Ind p 1543 N 23 '57

NAPHTHALENE

- Electrical effects in the biphenyl and naphthalene systems; the influence of alkyl groups attached to silicon on desilylation reactions. R. A. Benkeser and others. bibliog Am Chem Soc J 80:2283-7 My 5 '58
- Electronic transmission through condensed ring systems; the evaluation of *epi* and *cata* sigma constants from dissociation and methoxydechlorination data on substituted 1-aza-4-chloronaphthalenes. E. Baciocchi and others. bibliog Am Chem Soc J 80:2270-3 My 5 '58
- Electronic transmission through condensed-ring systems; the kinetics of methoxydechlorination of some 6- and 7-substituted 1-aza-4-chloronaphthalenes. G. Illuminati and G. Marino. bibliog Am Chem Soc J 80:1421-4 Mr 20 '58
- Friedel-Crafts condensation of *trans*-2-hydroxycyclohexanecarboxylic acid lactone with aromatic hydrocarbons; benzene and naphthalene. D. D. Phillips and D. N. Chatterjee. bibliog Am Chem Soc J 80:1360-6 Mr 20 '58
- Furnace for the growth of naphthalene and anthracene crystals. F. R. Lipsett. diag R Sci Instr 29:423-4 My '58
- Hydrocracking an aromatic extract to naphthalene and 100-octane gasoline. A. K. Roebuck and B. L. Evering. bibliog Ind & Eng Chem 50:1135-8 Ag '58
- Interaction of some naphthalene derivatives with a cationic soap below the critical micelle concentration. T. Nash. bibliog diags J Colloid Sci 13:134-9 Ap '58
- Microwave absorption and molecular structure in liquids; relaxation times, viscosities and molecular shapes of substituted pyridines, quinolines and naphthalenes. R. W. Rampolla and C. P. Smyth. bibliog Am Chem Soc J 80:1057-61 Mr 5 '58
- No problem for phthalic makers; plenty of coal tar naphthalene to meet expected demand. Chem & Eng N 36:24 My 19 '58
- Quantitative treatment of substituent effects in the naphthalene system. F. E. Wells and E. R. Ward. bibliog Chem & Ind p528-9 My 3 '58
- Scrubber ends coker's naphthalene woes; U.S. steel corp. diags Chem Eng 65:68- My 19 '58

See also

Bromonaphthalene

Analysis

- Determination of naphthalene in gas; the solubility of picric acid in water and the dissociation of naphthalene picrate. A. B. Densham and L. A. Ravald. bibliog J Ap Chem 3:257-70 Ap '58
- Determination of naphthalene in town gas by the picrate method. R. A. Mott and I. Moulson. bibliog J Ap Chem 7:546-62 O '57

Manufacture

- Manufacture of naphthalene of crystallizing point 78°. T. G. Woolhouse. bibliog J Ap Chem 7:573-83 N '57

NAPHTHALENDIOL

- Bromination of 2:7-dihydroxynaphthalene. R. G. Cooke and others. bibliog Chem & Ind p 1623-4 D 14 '57

NAPHTHENES**Analysis**

- Refractivity intercept-density chart for the determination of total naphthenes in gasoline. S. Groenings. bibliog A S T M Bul p64-7 Ja '58
- NAPHTHENIC acids**
Chemical constitution of the higher naphthenic acids. J. Knotnerus. bibliog Inst Pet J 43:307-12 N '57
- NAPHTHOL**
Determination of traces of uranium with 1-(2-pyridylazo)-2-naphthol. K. L. Cheng. bibliog Anal Chem 30:1027-30 Je '58

Analysis

- Fluorometric determination of 1- and 2-naphthol in mixtures. D. M. Hercules and L. B. Rogers. bibliog Anal Chem 30:96-9 Ja '58

NAPHTHOLS

- Recent developments in the application of azoic dyes. M. Hüchel. bibliog Soc Dyers & Col J 74:640-7 S '58

NAPHTHYLAMINE

- Synthesis of *m*-methoxynaphthylamines as precursors for chromogenic substrates. D. H. Rosenblatt and others. bibliog Am Chem Soc J 80:2463-5 My 20 '58

NAPHTHYLPHTHALAMIC acid**Analysis**

- Extension of the residue methods for 1,2-dihydro-3,6-pyridazinedione (maleic hydrazide) and *N*-1-naphthylphthalamic acid (Alanap). J. R. Lane and others. bibliog J Agri & Food Chem 6:871-4 S '58

NAPPING of textiles

- Carolina naps flannel at 33 yds. per min. II Textile World 108:93 S '58
- How nappers work and how to work them. R. C. Franklin. diags Textile World 108:73-9 S '58

NARCOTICS

- Analytical chemists fight evils of narcotics trade. II Anal Chem 30:sup 19A-22A+ Ag '58

See also

Barbiturates

NARINGIN

- Enzymic hydrolysis of naringin in grapefruit. S. V. Ting. bibliog J Agri & Food Chem 6:546-9 JI '58

NASHUA, New Hampshire**Water supply**

- Pennichuck water works. D. C. Calderwood. II map Water & Sewage Works 105:355-60 S '58

NASSAU county, New York**See also**

- Water supply—Nassau county, New York
- NATIONAL advisory committee for aeronautics. See United States—National advisory committee for aeronautics

NATIONAL aeronautics and space administration. See United States—National aeronautics and space administration

NATIONAL agricultural limestone institute. Annual meeting, 13th, Washington, Jan. 21-23. Pit & Quarry 50:109+ Mr '58; Rock Prod 61:108+ Ap '58

Board of directors midyear meeting, Chicago, June 9-10. Pit & Quarry 51:128-9 Ag '58

NATIONAL aluminate corporation. Career opportunities. II Chem & Eng N 36:45 pt 2 Ja 27 '58

NATIONAL association of corrosion engineers. Annual meeting and exhibition, 14th, San Francisco, March 16-21; list of exhibitors. Corrosion 14:81-2+ F '58

Annual meeting, 14th, San Francisco. Corrosion 14:82-6+ My '58

NATIONAL association of finishers of textile fabrics. Annual meeting, 44th, New York. Am Dyestuff Rep 47:99 F 10 '58

NATIONAL association of home builders. Annual meeting and exposition, Chicago. Mod Metals 14:60+ Mr '58

Annual meeting, 14th, Chicago, Jan. 20-23. Eng N 160:23 Ja 30 '58; Arch Rec 123:21+ Mr '58

Hardboard house going up; NAHB plans new test homes. Eng N 161:26 Ag 7 '58

Industry honors top builder and eleven New freedom gas kitchens and laundries; convention, Chicago, Jan. 19-24. Am Gas Assn Mo 40:2-5 F '58

NATIONAL association of hosiery manufacturers. Annual meeting, 54th, Roanoke, Textile Ind 122:181+ Je '58

- NATIONAL association of housing and re-development officials**
Annual meeting, St. Louis. Arch Forum 107: 6-7 D '57
- NATIONAL association of lighting maintenance contractors**
Annual meeting, 5th, Cleveland, April 28-30. Elec Constr & Maint 57:205-8 Je '58
- NATIONAL association of power engineers**
Annual meeting, 76th, Atlantic City, June 2-7. Power Eng 62:67 Ag '58
- NATIONAL association of railroad and utilities commissioners**
Annual meeting, Memphis. Elec World 148: 73-4 N 18 '57
- NATIONAL association of real estate boards**
Annual meeting, 50th, Chicago. Arch Forum 107:7-4 D '57
- NATIONAL bituminous concrete association**
Annual meeting, 3d, Las Vegas, Feb. 3-6. Roads & Sps 101:165-6+ Mr '58; Pit & Quarry 50:173-9 My '58
- NATIONAL bureau of standards. See United States—Standards. National bureau of**
- NATIONAL carbon company**
National carbon co.; carbon's part in the work-a-day world. Il Chem & Ind p 1058-9 Ag 16 '58
- NATIONAL coal association**
Annual meeting, 41st, Chicago, June 4-5. Coal Age 63:104-6+ Jl '58
- NATIONAL concrete masonry association**
Annual meeting, 38th, Chicago, Feb. 17-20; with abstracts of papers. Concrete 66:32-8 Ap '58
- NATIONAL conference of electric and gas utility accountants**
Conference, Houston, April 14-16. Am Gas Assn Mo 40:26-8 My '58
- NATIONAL conference on standards**
Conference, 9th, New York, Nov. 18-20. Mag of Stand 29:274-5 S '68
- NATIONAL congress of chemistry**
Congress, 8th, Turin, May 24-31; program. Chem & Ind p50 Ja 11 '58
- NATIONAL construction industry conference**
Conference, 3rd, Chicago, Eng N 159:23 D 19 '57; Civil Eng 28:147 F '58
- NATIONAL crushed limestone institute, inc.**
Annual meeting, 3d, Washington, Jan. 24. Rock Prod 61:112+ Ap '58
Annual meeting, 3d, Washington, Jan. 24; with abstracts of papers. Pit & Quarry 50: 120-2 Ap '58
Board meeting, Chicago, June 9-10. Pit & Quarry 51:127+ Ag '58
- NATIONAL crushed stone association**
Annual meeting, Chicago, Feb. 17-19. Rock Prod 61:105-6+ Ap '58
Annual meeting, 41st, Chicago, Feb. 17-19; Manufacturers division exhibits and list of exhibitors. Pit & Quarry 50:257-60 Ja '58
Annual meeting, 41st, Chicago, Feb. 17-19; with abstracts of papers. Pit & Quarry 50: 94-6+ Ap '58
Annual meeting, 41st, Chicago, Feb. 17-19; program, list of exhibitors, floor plan. Rock Prod 61:113+ J '58
- NATIONAL dairy products corporation**
National Dairy's R gear to changing times! A. V. Gemmill. Food Eng 30:37-9 Ag '58
- NATIONAL distillers products corporation**
Map for growth; ambitious program for chemical diversification. Il Chem & Eng N 36:32-5 Ja 13 '58
- NATIONAL district heating association**
Annual meeting, 49th, French Lick, June 2-5; abstracts of papers. Air Cond Heat & Ven 55:79-81 Jl '58
Annual meeting, 49th, French Lick. Heating-Piping 30:100-2 Ag '58
- NATIONAL electrical code**
Air conditioning wiring and the National electrical code. W. J. Novak. Il diaks Elec Constr & Maint 57:65-77 Ap '58
Code tables. Elec Constr & Maint 57:9-13 Mid-S '58
Questions on the code. Published in monthly numbers of Electrical construction and maintenance
Review of explosion-proof and permissible electrical equipment. G. M. Kintz and F. F. Browne. Gas Age 121:18-19+ Mr 20 '58
- NATIONAL electrical manufacturers association**
Annual meeting, Atlantic City. Elec World 148:80-1 N 25 '57
Meet NEMA's president: interview with Joseph L. Singleton. Elec World 150:58 Jl 21 '58
- NATIONAL foundry association**
Annual meeting, 59th, New York, Nov. 7-8. Foundry 86:172+ Ja '58
- NATIONAL industrial sand association**
Annual meeting, 23d, Hot Springs, Va. May 13-16. Pit & Quarry 51:76-8+ Jl '58; Rock Prod 61:113-14+ Ag '58
Semi-annual meeting, White Sulphur Springs, Oct. 15-18; with abstracts of papers. Rock Prod 60:93-4+ D '57
- NATIONAL industrial service association**
Annual meeting, 25th, New Orleans, May 11-14. Elec Constr & Maint 57:195-6+ Je '58
- NATIONAL institute of agricultural engineering**
Research and development work. Il Engineer 208:128-7 Jl 26 '58
- NATIONAL institute of ceramic engineers**
Membership roster. Am Cer Soc Bul 37:sup 131+ O 15 '58
- NATIONAL labor relations board**
Drillers not eligible to join a union NLRB 7:158. Oil & Gas J 56:112 D 30 '57; 56:81 Ja 6 '58
Employees object, don't want union; Morse brothers decision by the National labor relations board. Concrete 66:28-9 D '57
- NATIONAL lead company**
Career opportunities. Il Chem & Eng N 36:46 pt 2 Ja 27 '58
- NATIONAL lime association**
Annual meeting, Austin, Tex. Oct. 17-19; with abstracts of papers. Rock Prod 60: 83+ D '57
Annual meeting, 56th, Point Clear, Ala. May 12-14. Rock Prod 61:120+ Jl '58
Annual meeting, 56th, Point Clear, Ala. May 12-14; with abstracts of papers. Pit & Quarry 51:86-91 Jl '58
- NATIONAL machine tool builders association**
Annual meeting, 56th, French Lick, Oct. 23-26. Am Mach 101:174-5 N 4 '57; Mach 64: 194-5 D '57
Spring meeting, 56th, Chicago, April 23-25; abstracts of papers. Mach 64:154-5 Je '58
- NATIONAL metal congress**
Congress and exposition, 39th, Chicago, Nov. 4-8. Il Engineer 205:17-19 Ja 10 '58
Congress, Chicago; abstracts of papers. Steel 141:133-4+ N 4 '57
Congress, 39th, and World metallurgical congress, 2d, Chicago, Nov. 2-8. Automotive Ind 117:65+ N 15 '57
Congress, 39th, and World metallurgical congress, 2d, Chicago, Nov. 2-8; program. Iron Age 180:252-3+ O 24 '57; Metal Prog 72:66-90 O '57; Steel 141:195+ O 28 '57
- NATIONAL metal exposition**
Exposition, Chicago, Nov. 4-8; list of exhibitors, floor plan. Am Mach 101:205-10 O 21 '57; Iron Age 180:272-8 O 24 '57; Metal Prog 72:91-8 O '57; Steel 141:223-4+ O 28 '57
Metals show jumpacks Chicago. Il Am Mach 101:181-4 N 18 '57; Steel 141:61 N 11 '57
National metal congress and exposition, 39th, Chicago, Nov. 4-8. Engineer 205:76-7, 113-15, 151-3, 189-91 Ja 10-31 '58
- NATIONAL microfilm association**
Annual meeting, 7th, New Orleans. Ind Phot 7:71 Je '58
- NATIONAL paint, varnish and lacquer association**
Meeting, Washington, Nov. 4-6. Paint Oil & Chem R 120:10-13 N 28 '57
- NATIONAL park service. See United States—National park service**
- NATIONAL parks and reserves**
Visitor center, Dinosaur national monument. Il plan dig Arch Rec 124:168-71 S '58
- NATIONAL petroleum chemicals corporation**
Career opportunities. Il Chem & Eng N 36:61 pt 2 Ja 27 '58
- NATIONAL petroleum council**
Fred Seaton appoints 1958 National petroleum council. Pet Eng 30:ES-9 Ja '58
NPC air is clearing. Oil & Gas J 56:69 Ag 11 '58
NPC future in doubt. Oil & Gas J 56:51 Ag 4 '58
NPC plan changed. F. A. Seaton. Oil & Gas J 56:105 S 1 '58
- NATIONAL reactor testing station. See Atomic energy commission (United States)—National reactor testing station**
- NATIONAL ready mixed concrete association**
Annual meeting, Chicago, Feb. 10-14. Concrete 66:26-30 Ap '58; Rock Prod 61:82+ Ap '58
Annual meeting, Chicago, Feb. 10-14; program, floor plan, list of exhibitors. Pit & Quarry 50:170-1+ Ja '58; Concrete 66:24+ Ja '58
Annual meeting, 28th, Chicago, Feb. 10-14; with abstracts of papers. Pit & Quarry 50: 70-2+ Ap '58

- NATIONAL research council of Canada**
Applied research. *Il Can Chem Process* 41: 98-100+ D '57
National research council of Canada; a city of engineering research on Ottawa's outskirts. *Il Chem & Ind* p 1043-5 Ag 16 '58
- NATIONAL rural electric cooperative association**
Annual meeting, Dallas. *Elec World* 149:68-70 F 24 '58
Job ahead for REA; NRECA role expands. *Elec World* 149:57+ Je 9 '58
- NATIONAL safety council**
Congress, 45th, Chicago, Oct. 21-25. Safety Maint 114:28-32+ D '57; 115:26-32+ Ja '58
- NATIONAL sand and gravel association**
Annual meeting, Chicago, Feb. 10-13. *Rock Prod* 61:82+ Ap '58
Annual meeting, 42d, Chicago, Feb. 10-13; program, floor plan, list of exhibitors. *Pit & Quarry* 50:170-1+ Ja '58; *Rock Prod* 61:98-9+, 104+ Ja '58
Annual meeting, 42d, Chicago, Feb. 10-14; with abstracts of papers. *Pit & Quarry* 50:170-2+ Ap '58
E. Phil Gemmer, 1958 president. *Rock Prod* 61:48 Ap '58
NSGA directors review progress. *Rock Prod* 60:130+ N '57
- NATIONAL science foundation**
Higher budget; more polymer study. *Rubber World* 137:733-4 F '58
House cuts budget. *Chem & Eng N* 36:40 Ap 7 '58
NSF awards two grants for research reactors. A. T. Waterman. *Elec Eng* 77:253-4 Mr '58
NSF focuses research. *Chem & Eng N* 36:52 Ap 21 '58
National science foundation; its role in electrical engineering research. G. M. Nordby and R. N. Falman. *Elec Eng* 77:782-5 S '58
National science foundation; it's suddenly popular; editorial. P. Anderson. *Product Eng* 29:47+ Mr 3 '58
NSF makes 316 grants totaling \$5.5 million; with table. *Chem & Eng N* 36:47-8 Ja 20 '58
NSF promotes basic research in civil engineering. G. M. Nordby and R. N. Falman. *Il Civil Eng* 28:260-3 Ap '58
NSF ready to take the lead for all federal science literature services. *Chem & Eng N* 36:37 J1 7 '58
NSF to support in-service institutes. *Elec Eng* 77:249-50 Mr '58
Soviet translations rushed. *Il Electronics* 31:15-16 Ja 24 '58
- NATIONAL slag association**
Annual meeting, 5th, Chicago, Feb. 11-12. *Pit & Quarry* 50:144-6 Ap '58
- NATIONAL society of professional engineers**
Annual meeting, 24th, St Louis, June 11-14. *Elec Eng* 77:530 Je '58; *Eng N* 160:27 Je 19 '58
Functional plan; report clarifying AIEE plan. W. J. Barrett. *Elec Eng* 77:119-21 F '58; Same. *Mech Eng* 80:57-9 F '58
Unity of the engineering profession. W. J. Barrett. *Power Ind* 74:15-16 Ja '58
- NATIONAL supply company**
National supply co. to be merged with Armco steel corp. *Oil & Gas J* 55:107 D 30 '57
- NATIONAL tool and die manufacturers association**
Annual meeting, Washington. *Am Mach* 102: 104 My 19 '58
- NATIONAL trust for historic preservation**
Annual meeting, 11th, Swampscott, Mass. *Arch Rec* 122:16 D '57
- NATSYN**. See Rubber, Artificial
- NATURAL gas**. See Gas, Natural
- NATURAL gas association of America, Independent**. See Independent natural gas association of America
- NATURAL resources**
How far should federal spending go; aiding natural resource development. *Elec World* 148:84 N 25 '57
Science and human want. L. B. Clapp. *bib-log Am Scientist* 46:176-90 Je '58
- Tomorrow's engineering problems. C. C. Furnas. *Am Soc CE Proc* 83 [BD 2 no 1491]: 1-9 D '57
See also
Coal
Forests and forestry
Fuel
Gas, Natural
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Soil conservation
Water supply
- NATURAL steam**. See Steam, Natural
- NAVAL air service**. See United States—Air service, Navy
- NAVAL architects and marine engineers, Society of**. See Society of naval architects and marine engineers
- NAVAL architecture**
Hydroconic design; will this development improve tugs? G. E. Knight, Jr. *Il Marine Eng/Log* 63:84-6 Mr '58
Some aspects of naval architecture in the eighteenth century; discussion. *Engineer* 206:165-6 Ag 1 '58
Some of the engineering aspects of air blast. R. S. Burpo, Jr. *diags Am Soc Naval Eng J* 70:516-17 Ag '58
See also
Cable laying and supply ships
Fire boats
Fishing boats
Freight ships
Marine engineering
Masts and rigging
Motor ships
Shipbuilding
Tank ships
- Designs and plans
Designed to cut cargo-handling costs. J. L. Goldman. *plan diags Marine Eng/Log* 63:43-7 Ja '58
Efficient proceeding of taking down the lines drawing from the ship herself. B. A. Djodjo. *Il diags Am Soc Naval Eng J* 70:359-66 My '58
Passenger quarters for S.S. President Washington. *Il plans Arch Rec* 124:178-80 S '58
Progress in naval architecture; a review of the principles of ship resistance, strength, performance and vibration. J. F. C. Conn. *Il plans diags Engineering* 186:351-3, 386-8 S 12-19 '58
USNS Comet; vehicle-cargo ship, designated as a roll-on/off carrier, built for the Military sea transportation service. F. Pavlik and D. Mylrea. *Il plans diags Marine Eng/Log* 63:61-9 Mr '58
USNS Eitanin, a prototype ship for MSTs; ice-strengthened cargo vessels. *Il plans Marine Eng/Log* 63:49-57 F '58
Working team for off-shore drilling; Howard S. Cole, Jr. drilling tender. *Il plans diag Marine Eng/Log* 63:60-3 Ja '58
- Study and teaching
Training of engineer officers and naval constructors in the Royal navy. L. G. Aylen; S. J. Palmer. *biblog diags Am Soc Naval Eng J* 70:61-76 F '58
- NAVAL art and science**
See also
Shipbuilding
- NAVAL bases**
Power
How the navy engineers its utilities conservation program. J. G. Dillon. *Il Power Eng* 62:65-8+ J1 '58
- NAVAL education**
Naval tactical trainer. *Il diags Engineer* 205: 813-19 My 30 '58
- NAVAL engineers, American society of**. See American society of naval engineers
- NAVAL medicine**. See Medicine, Naval
- NAVAL officers**
Training
Training for hardship; naval curriculum contains the pioneering spirit; Iceland expedition. M. K. Matthews. *Il map Engineering* 184:706-7 D 6 '57
- NAVAL radiological defense laboratory**. See United States—Naval radiological defense laboratory
- NAVAL research laboratory**. See United States—Naval research laboratory
- NAVAL stores**
Naval stores and tall oil industries. E. O. Barnes and M. L. Taylor. *biblog Tappi* 41: sup 16A+ Ag '58

NAVAL warfare

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Submarine warfare

NAVIC-STOKES equations of motion. See Equation of motion

NAVIGATIONGuiding nuclear subs; Sperry's ship's inertia navigation system. *Il Electronics* 31:28 Mr 7 '58Gyros for inertial navigation. *Il Engineering* 185:691 My 30 '58Navigating across the Pole; problems in guiding submarines. *Engineering* 186:238 Ag 22 '58Subs use Navaho's guidance; inertial guidance navigates Nautilus and Skate under polar ice. *Il Electronics* 31:8 Ag 29 '58

See also

Direction finding apparatus

Radar aids to navigation

Radio aids to navigation

Safety at sea

NAVIGATION, Aerial. See Air navigation

NEANDERTHAL raceNeanderthal man. J. E. Weckler, bibliog maps *diags Sci Am* 197:89-94+ D '57**NEAR EAST**

See also

Petroleum industry and trade—Near East

NEARHOOD, Clinton ElsworthMemorial. E. C. Parker, por Am Assn Pet Geologists *Bul* 42:228-9 Ja '58**NEBRASKA**

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subdivision Nebraska under special subjects, e.g.

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NEEDLE bearings. See Bearings, Needle

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NEGLIGENCE

See also

Damages

Employers liability

NEGROES

Housing

New ruling on discrimination covers FHA and VA housing. *Arch Rec* 124:326+ Ag '58New York city council passes anti-bias housing bill. *Arch Forum* 108:18-9 Ja '58

Segregation

See also

Negroes—Housing

NELSON, GeorgeGeorge Nelson office, a comprehensive design organization, *il plans diags Arch Rec* 122:127-42 D '57**NELSON, Otto**Building's two-star general. R. Bourne, por *Arch Forum* 108:118-19+ Je '58**NEMATODES**Root parasites beware! audio-visual helps farmers; slide kits in Shell chemical co. war against nematode menace. M. M. Badler, *Il Ind Phot* 7:30+ Ar '58**NEODYMIUM**Thermodynamic properties of neodymium hydroxide Nd(OH)₃ in acid, neutral and alkaline solutions at 25°; the hydrolysis of the neodymium and praseodymium ions, Nd³⁺, Pr³⁺. R. S. Tobias and A. B. Garrett, bibliog *Am Chem Soc J* 80:3532-7 J1 20 '58**NEODYMIUM hydroxide**Thermodynamic properties of neodymium hydroxide Nd(OH)₃ in acid, neutral and alkaline solutions at 25°; the hydrolysis of the neodymium and praseodymium ions, Nd³⁺, Pr³⁺. R. S. Tobias and A. B. Garrett, bibliog *Am Chem Soc J* 80:3532-7 J1 20 '58**NEON**Neon pulser for the computer laboratory. R. L. Ives, *diags Electronic Ind* 17:98-100 Ap '58

NEON lamps. See Electric lamps, Neon

NEOPENTYL groupNeopentyl group analogs; the preparation and some cleavage reactions of trimethylsilylmethyl-substituted tin compounds. D. Seyferth, bibliog *Am Chem Soc J* 79:5881-4 N 20 '57Neopentyl group analogs; tris-(trimethylsilylmethyl) compounds of phosphorus, arsenic, antimony and bismuth and their derivatives. D. Seyferth, *Am Chem Soc J* 80:1336-7 Mr 20 '58**NEOPRENE**Bonding agent can make or break floor repair job; tests conducted by the Haller testing laboratories, *diags Plant* 17:58 Mr '58Continuous curing of neoprene extrusions. M. A. Schoenbeck, *Il diag Rubber Age* 83:88-92 Ap '58Deterioration of neoprene-coated nylon fabrics; minimum neoprene thickness necessary to protect nylon from weather, sunlight. C. M. Brown, *Rubber Age* 84:91-8 O '58Du Pont lcm continuous curing of neoprene extrusions. *Il diag Rubber, World* 138:81-4 Ap '58DuPont reveals details on liquid curing medium neoprene cure. *Rubber Age* 83:125 Ap '58Extrusion of fast curing neoprene wire and cable compounds. O. L. Simmons and C. E. McCormack, *Il diag Wire & Wire Prod* 33:539-42 My '58Inflated neoprene belts invert glass jars at high speed. *Il Machine Design* 29:147 N 14 '57Neoprene as an ingredient of steel; clothing protects workers in Lukens steel co. *Il Safety Maint* 115:13 Ja '58Neoprene cure continuous in liquid bath. *Chem Eng Prog* 54:144+ Ap '58Neoprene's silver jubilee. *Il Rubber World* 137:588 Ja '58New neoprene thread. *Rubber World* 137:738 F '58Role of small quantities of neoprene in paper. D. Graham, *Tappi* 41:231-6 My '58Use of neoprene as a vehicle for sealants. N. L. Catton, *Il Rubber Age* 83:996-9 S '58

Testing

Flame resistance of neoprene. D. C. Thompson and others, bibliog *Il diag Rubber Age* 83:319-25 Ag '58**NEOTIGOGENIN**Conversion of tomatidine and solasodine into neotigogenin and diosgenin and into a common constituent, 5α-22, 25-epoxyfurostan-3β-ol. Y. Sato and others, bibliog *Am Chem Soc J* 79:6089-90 N 20 '57**NETALACONE. See Lactones****NEPETIC acid**dl-3-methylcyclopentane-1,2-dicarboxylic acids and the configurations of the nepetic acids. R. B. Bates and others, bibliog *Am Chem Soc J* 80:3413-20 J1 5 '58**NEPHELINE**Complex form of natural nepheline from Ilvaara, Finland. T. G. Sahara, *Am Mineralogist* 43:165-6 Ja '58**NEPHELINE syenite**Nepheline syenite; a modern product from a modern plant. W. E. Trauffer, flow sheets *il plan Pit & Quarry* 50:76-8+ Ja '58Use of nepheline syenite in electrical porcelain bodies. L. E. Oberschmidt, Jr. *Am Cer Soc Bul* 36:464-5 D 15 '57Use of nepheline syenite tailings in sewer-pipe bodies. R. C. Wilson and C. J. Koenig, bibliog *Am Cer Soc J* 41:33-9 Ja 1 '58Vitrifiable silicate tooling for high-temperature plastics. J. D. Stillman, *diags Tool Eng* 40:104-6 Ap '58**NEPHROSIS. See Kidneys—Diseases****NEPOTOMETER. See Textile testing machines****NEPTUNIUM**Kinetics of the neptunium(III)-neptunium(V) reaction in perchlorate solution. J. C. Hindman and others, bibliog *Am Chem Soc J* 80:1312-14 Ap 20 '58Quantitative spectrometry of aqueous neptunium ions at elevated temperatures and pressures. W. C. Waggener, *Am Chem Soc J* 80:3167-8 Je 20 '58

Isotopes

Radiochemical determination of neptunium-239 and plutonium-239 in homogeneous reactor fuel and blanket solutions. F. L. Moore, *Anal Chem* 30:1368-9 Ag '58**NERNST equation**Nernst-controlled currents in hanging-drop polarography. W. H. Eisenmuth, bibliog *Am Chem Soc J* 79:6356-60 D 20 '57**NERNST heat theorem. See Thermodynamics****NERVE gases. See Gases, Asphyxiating and poisonous**

NERVES

Electronic integrator with immediate digital output: testing synchronous activity of nerve fibers within a bundle. E. L. Hisey and E. R. Perl. *bibliog il diags R Sci Instr* 29:355-9 My '58

Blocking

Regional block anesthesia for surgery of the fingers and thumb. P. J. Burnham. *il diags Ind Med* 27:67-9 F '58

Variation of ganglionic blocking and neuromuscular-blocking activity in homologous series; abstract. R. B. Barlow. *Chem & Ind* p614 My 24 '58

NERVOUS system

Central nervous system depressants; the preparation of some 2-aryl-4-metathiazanones. A. R. Surrey and others. *Am Chem Soc J* 80:3469-71 J1 '58

Computer and the brain. J. von Neumann. Review, by S. Ulam. *Sci Am* 198:127-8+ Je '58

Neurotoxicity of some selected hydrocarbons. D. W. Furnas and C. H. Hine. *bibliog A M A Archives Ind Health* 18:9-15 J1 '58

Surgery

Neurosurgical and neurological aspects of industrial trauma. P. J. Huber. *Ind Med* 27:177-8 Ap '58

NET fabrics, Plastic

Extruded plastics mesh. *il Brit Plastics* 31:31 Ja '58

NETHERLANDS*See also*

Chemical engineering—Netherlands
Chemical industries—Netherlands
Roads—Netherlands

NETWORK analyzers. See Electric distribution
—Network analyzers

NEU, Oscar F.

Obituary. J. B. McCullough. *por SMPTE J* 66:792-3 D '57

NEURAMINIC acid

Composition and enzymatic synthesis of N-acetylneuraminic acid (sialic acid). D. G. Comb and S. Roseman. *bibliog Am Chem Soc J* 80:497-9 Ja 20 '58

Hexosamine moiety of N-acetylneuraminic acid (sialic acid). S. Roseman and D. G. Comb. *Am Chem Soc J* 80:3166-7 Je 20 '58

NEUTRALIZATION

Neutralisation of acid-treated wool by solutions of sodium carbonate. R. P. Harker. *bibliog Soc Dyers & Col J* 73:554-60 D '57

NEUTRONS

Liquid scintillators for free neutrino detection. A. R. Ronzio and others. *R Sci Instr* 29:146-7 F '58

NEUTRONS

Absolute determination of monoenergetic neutron flux in the energy range 1 to 30 mev; counter telescope system. S. J. Bame, Jr. and others. *bibliog diags R Sci Instr* 28:997-1006 D '57

Advances in the standard proportional counter method of fast neutron dosimetry. E. B. Wagner and G. S. Hurst. *il diags R Sci Instr* 29:153-8 F '58

Beam-scanned rotating heavy-ice target for high loads. J. H. Spaa. *bibliog diag J Sci Instr* 35:176-8 My '58

Better electronics for neutron-gamma analysis. H. W. Lefevre and J. T. Russell. *il diags Nucleonics* 16:56-7 Je '58

Birefringence in neutron-irradiated boron glass. C. Mylonas and others. *il J Ap Phys* 29:364-5 My '58

Combination ion chamber-proportional counter dosimeter for measuring gamma-ray contamination of neutron fields. M. Slater and others. *bibliog diag R Sci Instr* 29:601-5 J1 '58

Conservation of parity law tested on free neutrons. V. L. Telegdi and others. *Franklin Inst J* 264:442 D '57

Dislocations, point-defect clusters, and cavities in neutron irradiated LiF crystals. J. J. Gilman and W. G. Johnston. *bibliog il J Ap Phys* 29:877-88 Je '58

Dosimeter for high-energy neutrons. P. S. Baranov and others. *bibliog il diag R Sci Instr* 28:1029-32 D '57

Easy computation of adjoint fluxes. B. Wolfe. *Nucleonics* 16:121 Mr '58

Effect of high intensity radiation on electronic parts and materials. C. P. Lascano and A. L. Long. *diags Elec Manuf* 62:119-21+ S '58

Effect of neutron irradiation on the mechanical properties of copper and nickel. M. J. Makin. *bibliog Inst Metals J* 86:449-55 Je '58

Effects of neutron irradiation on germanium and silicon. G. C. Messenger and J. P. Spratt. *bibliog diags Inst Radio Eng Proc* 46:1038-44 Je '58

Effects of short duration neutron radiation on semiconductor devices. W. V. Behrens and J. M. Shaul. *bibliog Inst Radio Eng Proc* 46:601-5 Mr '58

Evaluation of porosity derivation from neutron logs. R. H. Widmeyer and G. M. Wood. *diags J Pet Tech* 10:57-60 My '58

Fission-product yields from ^{235}U and ^{239}Pu ; with graphs and tables; data sheet. S. Katcoff. *Nucleonics* 16:78-85 Ap '58

Gas-recoil fast neutron spectrometer. R. E. Benenson and M. B. Shurman. *bibliog diags R Sci Instr* 29:1-9 Ja '58

Low-rate neutron dosimeter. I. L. Karp. *diag R Sci Instr* 28:902-4 N '57

Low-temperature thermal conductivity in neutron irradiated vitreous silica. A. F. Cohen. *bibliog J Ap Phys* 29:591-3 Mr '58

Magnetic susceptibility of neutron-irradiated quartz. D. K. Stevens and others. *J Ap Phys* 29:66-8 Ja '58

Measurement of monoenergetic neutron yields with a simplified telescope. S. J. Bame, Jr. and others. *diag R Sci Instr* 29:652-3 J1 '58

Neutron activation, an ultrasensitive analytical tool. H. Cember. *diag A M A Archives Ind Health* 17:527-32 My '58

Neutron detection via slow phosphor decay; abstract. R. E. Owen. *il Nucleonics* 16:54 Jm '58

Neutron detectors for operation at 400°C. S. G. Kaufmann and L. E. Pahis. *il diag Nucleonics* 16:90-4 Mr '58

Neutron gassing for waveguide plating. *Nucleonics* 16:134 Ag '58

Neutron generation from straight pinches produced in deuterium gas. R. E. Dunway and J. A. Phillips. *bibliog il diags J Ap Phys* 29:137-43 Ag '58

Neutron irradiation effects in borosilicate glass and their detection by ultrasonic attenuation and velocity measurements. R. Truell and others. *J Ap Phys* 29:225-6 F '58

Neutron multiplication in small spheres of fissionable material. P. J. Bendt and R. E. Peterson. *bibliog diag J Ap Phys* 29:1271-7 S '58

Neutron penetration in infinite media; calculation by semi-asymptotic methods. S. S. Holland, Jr. *bibliog J Ap Phys* 29:827-33 My '58

Neutron production at high energies. W. E. Crandall and G. P. Millburn. *bibliog diag J Ap Phys* 29:698-704 Ap '58

Neutrons call the tune. *diags Engineering* 185:142-3 Ja 31 '58

Plastic phosphor matrix for fast-neutron detection. E. Brown and E. B. Hooper, Jr. *bibliog Nucleonics* 16:96-4 Ap '58

Porosity determinations from neutron logs. A. A. Brown and E. Bowers. *Pet Eng* 80: B30-4 My '58

Pulsed cyclotron method for 2-25 mev neutron spectroscopy. J. E. Draper. *bibliog diags R Sci Instr* 29:137-42 F '58

Radiation effects from (α, γ) reactions in boron glass and energy of the reacting neutrons. C. Mylonas and R. Truell. *il diags J Ap Phys* 29:1262-60 Ag '58

Radioactive neutron decay flouts parity conservation law. *Elec Eng* 77:110 Ja '58

Reactor spectra by pulse method. M. J. Poole. *Nucleonics* 16:106 Je '58

Research in neutron decay advanced. G. R. Ringo. *Elec Eng* 77:656-7 J1 '58

Response of a liquid scintillator to fast neutrons and γ radiation. J. E. Hardy. *diags R Sci Instr* 29:705-9 Ag '58

Study of order in annealed and irradiated alpha brass by lattice parameter measurements. R. Feder and others. *bibliog J Ap Phys* 29:984-8 Je '58

Absorption

Measurements of the effective resonance integral in uranium and oxide in different geometries. E. Hellstrand. *bibliog (25 ref) diags J Ap Phys* 28:1493-502 D '57

Thermal neutron absorption cross section of xenon-124. J. M. Tobin and J. H. Sako. *bibliog J Ap Phys* 29:1373 S '58

Beams

Cockcroft-Waltons, good neutron producers. *il diags Nucleonics* 16:106+ Ja '58

NEUTRONS—Continued

Capture

Gamma-dose enhancement from neutron capture in Cd. D. E. Kline and F. J. Remick. bibliog *il* diag *Nucleonics* 16:97-101 Mr '58
New capture gamma ray measurements; abstract. R. W. Kenney and J. T. Mattingly. *Nucleonics* 16:85 Ja '58

Diffraction

See also

Crystallography—Neutron diffraction studies

Measurement

Neutron, gamma measurements for in-pile power monitoring. A. C. Lapsley. bibliog diags *Nucleonics* 16:106+ F '58

Scattering

Fast neutron attenuation in graphite. V. P. Duggal and S. M. Puri. bibliog *J Ap Phys* 29:675-9 Ap '58
Heavy moderator approximations in neutron transport theory. H. Amster. *J Ap Phys* 29: 623-7 Ap '58
How channeling between chunks raises neutrons transmission through boral. W. R. Burrus. bibliog *Nucleonics* 16:91-4 Ja '58

Spectra

Measuring reactor spectra with thresholds and resonances. J. B. Trice. diags *Nucleonics* 16:81-3 Jl '58
Miniature fission chamber for neutron-spectrum measurements. J. B. Trice. diag *Nucleonics* 16:84+ Jl '58

Tables, calculations, etc.

Thermal-neutron data for the elements; data sheet. M. V. Davis and D. T. Hauser. bibliog *Nucleonics* 16:87-9 Mr '58

NEVADA

See also subdivision Nevada under special subject, e.g.

Copper mines and mining
Gas, Natural
Geology
Mines and mineral resources
Petroleum
Petroleum industry and trade

NEW BEDFORD, Massachusetts

Sanitary affairs

Refuse collection. J. W. Carreau. Pub Works 89:169-70 Mr '58

NEW BRUNSWICK

See also subdivision New Brunswick under special subjects, e.g.

Geology
Hydroelectric plants
Mines and mineral resources
Petroleum industry and trade

NEW BRUNSWICK university

Increase in engineering enrolment. *il* Eng *J* 41:93-4 Ag '58

NEW employees. See Employment management

—New employees

NEW ENGLAND

See also

Floods—New England
Gas, Natural—New England, Supply to
Gas industry—New England
Water supply—New England

NEW ENGLAND compact commission. See New England interstate water pollution control commission

NEW ENGLAND gas association

Annual meeting, Boston. Gas 34:118-19 My '58

Annual meeting, Boston, March 20-21. Gas Age 121:45-6 Ap 17 '58

NEW ENGLAND interstate water pollution control commission

Clean waters for New England; New England compact commission can report good progress. J. C. Knox. maps Water & Sewage Works 105:375-9 S '58

NEW ENGLAND-NEW YORK interagency committee

Seven-state natural resources survey showed New England area has 50-year water supply. Water Works Eng 111:842-6+ S '58

NEW HAVEN, Connecticut

New Haven; test for downtown renewal. *il* map diag Arch Forum 109:78-81+ Jl '58

Streets

Safe movement plans are discussed for emergency vehicles. R. C. Lee. plans Traffic Q 12:80-9 Ja '58

Water Supply

Additional water supply; New Haven water co. E. W. Whitlock and R. D. Mitchell. *il* map Pub Works 88:97-101 O '58
New dam and tunnel project completes nine-phase system; New Haven water co. J. A. Novaro. *il* map Water Works Eng 111:840-1+, cover S '58

NEW JERSEY

See also

Port of New York authority
also subdivision New Jersey under special subjects, e.g.

Bridges
Geology
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Roads
Water supply

Sanitary affairs

New Jersey uses smoke index. Chem & Eng N 36:30+ Je 16 '58

New York, New Jersey get together. *il* Chem & Eng N 36:26-7 F 10 '58

State and interstate standards for industrial wastes. R. S. Shaw and E. R. Segesser. Sewage & Ind Wastes 30:909-12 Jl '58

NEW MEXICO

See also subdivision New Mexico under special subjects, e.g.

Coal mines and mining
Copper mines and mining
Gas, Natural
Geology
Mines and mineral resources
Petroleum
Petroleum industry and trade
Petroleum laws and regulations
Petroleum pipe lines
Potash
Roads
Uranium mines and mining
Water, Underground
Water laws and regulations

NEW ORLEANS

Architecture

The new New Orleans. R. Cantwell. *il* map Arch Forum 107:96-104+ D '57

Bridges

Greater New Orleans bridge completed. O. F. Sorgenfrei. *il* map Civil Eng 28:432-6 Je '58

NEW products. See Products, New

NEW ROCHELLE, New York

Sewerage

Treatment plant operational experiences. J. M. Brown. Sewage & Ind Wastes 30:829-34 Je '58

NEW YORK (city)

See also subdivision New York (city) under special subjects, e.g.

Building
Gas, Natural
Housing
Housing laws
Real estate business

Architecture

Two notable new office buildings for Manhattan. *il* plans diag Arch Forum 108:91-9 Ja '58

Galleries and museums

Ed Stone to design Manhattan art gallery. *il* Arch Forum 109:11+ Jl '58

Guggenheim museum in progress. *il* plans diags Arch Rec 128:185-90 My '58

Solomon R. Guggenheim memorial. F. L. Wright. plans Arch Rec 128:182-4 My '58

Spiral art museum is built like a work of art; Solomon R. Guggenheim museum in New York city. *il* plans diags Eng N 159: 42-5 D 5 '57

Harbor

Bigger channels needed for fast-growing tanker business. map Oil & Gas *J* 55:68 N 25 '57

Know-how spurs Brooklyn waterfront project. *il* plan diags Eng N 160:42-6 Mr 13 '58

See also

Port of New York authority

Health, Department of

Research by local health departments; problems, methods, results. G. James. bibliog Am *J* Pub Health 48:363-61 Mr '58

Hospitals

Social medicine at the Montefiore hospital, a practical approach to community health problems. G. A. Silver. bibliog Am *J* Pub Health 48:724-31 Je '58

NEW YORK (city)—Continued

Lincoln Square

Court clears Lincoln Square obstacle. Arch Forum 108:9+ F '58
 Lincoln Center, a new kind of institution. R. A. Miller. plans diag Arch Forum 109: 74-7+ Ag '58
 Lincoln Square clears one legal hurdle, hits another. Arch Forum 109:9+ J1 '58

Metropolitan district

Gas for Gotham. W. W. Clark; J. F. Ebdon. il maps Gas 34:55-64, 123-39 My '58

Railroads

Skyscraper sprouts through railroad terminal tracks; Union Carbide's 60 story headquarters. D. Byrne. il diags Eng N 161: 34-6 J1 10 '58

Sanitary affairs

New York, New Jersey get together. il Chem & Eng N 36:26-7 F 10 '58

Subways

First year's operating experience with new control equipment on 100 subway cars. G. W. Weber. il diag Applications & Ind p34-7 Mr '58
 Load transfer is key to subway job; BMT subway division, tunnel at the DeKalb ave. station in Brooklyn. il map diags Eng N 159:38+ D 19 '57

Tunnels

Offsite prestressing solves tunnel approach problems; Manhattan approach to Lincoln tunnel. F. C. Lowy il diags Civil Eng 28: 242-5 Ap '58

United engineering center

Architects show sketch of new United engineering center. il Min Eng 9:1317 D '57
 Engineering center fund campaign under full-steam. Chem Eng Prog 54:98 Ag '58
 Engineering center gifts mount. Civil Eng 28:529-30 J1 '58
 Engineering comes of age; Building fund grows. il Mech Eng 80:110-11 O '58
 Fund raising for Center makes progress. il Civil Eng 28:442-3 Je '58
 Fund raising for United engineering center starts. Civil Eng 28:43-4 Ja '58
 Greater New York business campaign for United engineering center under way. il Elec Eng 77:633-4 J1 '58
 Nationwide support for the United engineering center. il diag Mech Eng 80:100-1 S '58
 New engineering center. il Oil & Gas J 55:68 D 2 '57
 New United engineering center. W. F. Thompson. Mech Eng 80:117-18 Ja '58
 New United engineering center to be erected on United Nations plaza. il Elec Eng 76: 1090-1 D '57
 New United engineering center under way. W. J. Barrett. il Civil Eng 27:880-1 D '57
 Participation of Society of petroleum engineers in new United engineering center. J. B. Alford. il J Pet Tech 10:29-30 J1 '58
 Plans readied for engineering center. il Chem & Eng N 35:96 D 2 '57
 Progress of fund campaigns reported for new United engineering center. Min Eng 10: 754+ J1 '58
 Progress report. United engineering center. il Min Eng 10:449-50 Ap '58
 Proper home for the engineers of America. H. Hoover. Civil Eng 28:1-2 Ja '58
 United engineering center, a challenge to the profession. il Civil Eng 28:272 Ap '58
 United engineering center; action on building fund. il Mech Eng 79:1179-80 D '57
 United engineering center, symbol of service. B. R. Needles. Civil Eng 28:241 Ap '58

Water supply

Sewage treatment on public water supply watersheds. B. C. Nesin; J. Pue. Sewage & Ind Wastes 29:1207-14 N '57

Worlds fair, 1939-1940

World's fair flashback. il Product Eng 28:17-18 D 16 '57

NEW YORK (state)

See also subdivision New York (state) under special subjects, e.g.
 Architecture, Domestic
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 Housing

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Iron ores
 Petroleum industry and trade
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 Sewerage

NEW YORK coffee and sugar exchange

Coffee and sugar exchange. L. Sloane. il Prog Arch 39:154-3 Je '58

NEW YORK state ceramic association

Annual meeting, 24th. Alfred. N.Y., Oct. 11-12. Cer Ind 69:99-103+ D '57

NEW YORK thruway. See Roads—New York (state)

NEW YORK university

Hall of fame

See Hall of fame for great Americans

NEW ZEALAND

See also subdivision New Zealand under special subjects, e.g.
 Architecture
 Chemical engineering
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NEWARK, New Jersey

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 Airports—Newark, New Jersey

Harbor

Facelifting Port Newark to keep pace with competition. il Eng N 159:38-40+ N 28 '57

NEWFOUNDLAND

See also
 Mines and mineral resources—Newfoundland

NEWSPAPER offices

Air conditioning

Boilers, compressors go top side in newest newspaper plant. il Heating-Piping 30:84-6 F '58
 Newspaper plant, Chicago, Ill. il diags Prog Arch 39:128-9 Mr '58
 Upside-down air conditioning for Chicago newspaper offices; Chicago Sun-times building. il Arch Rec 123:262+ Ap '58

Equipment

System counts press runs; Detroit News printing plant. il Electronics 31:18 F 14 '58

Fires and fire protection

Sprinklers save the headlines of the Pittsburgh post-gazette. il Safety Maint 115: 47 Mr '58

NEWSPAPERS

Newspapers of the future. W. Dwight. Tappi 41:sup50A- My '58
 See also
 Club newspapers

Color printing

See Color in newspapers

Printing

Indiana weekly newspaper adopts web offset process. R. D. Walker. il Inland Ptr 141: 86-8 My '58

Science news

Science gets the nod; newspapers are primary source of technical news, magazines the most complete. Chem & Eng N 36:26 Ag 25 '58
 Science news challenges crime, sports, comics. Machine Design 30:15 S 4 '58

NEWSPRINT paper

Bauer cleaner operation on a newsprint. T. C. Smyth and E. C. Meckfessel. flow diag il Tappi 41:sup 129A-31A Ja '58
 New Fabricas de papel Tuxtepec pulp and paper mill. Tappi 41:sup89A-90A J1 '58
 Newspapers of the future. W. Dwight. Tappi 41:sup50A+ My '58
 Newsprint earnings down 21.7 per cent from '56 levels; earnings during 1957. Paper Ind 40:178 Je '58
 Newsprint production in North America, 1957. Tappi 41:sup 119A-20A Mr '58
 Newsprint production; newspaper consumption a cooperative partnership. C. F. Honeywell. Tappi 41:sup54A+ My '58

NEWTONS rings. See Interference (light)

NIACIN. See Nicotinic acid

NIAGARA falls

Floodlighting Niagara falls; abstract. W. A. Dalrymple and C. A. Albini. il Illum Eng 53:503-4 S '58
 Floodlights for the falling waters of Niagara. T. G. Proctor and H. F. Stephenson. il map Engineering 185:230-3 F 21 '58

Niagara river

Water intakes in the Niagara river and Lake Ontario. R. H. N. Murray. *Am Soc C E Proc* 84 [SA 2 no 1607]:1-11 Ap '58

Power utilization

Changes proposed for Niagara. map Eng N 160:23 Ja 9 '58

Niagara licensed; FPC insists upon covered conduits all the way. Eng N 160:26 F 6 '58

Niagara; more compromise, costs and delay? Elec World 149:49 Ja 13 '58

Nichols, W. H.

Obituary. *Product Eng* 28:166+ D 9 '57

Nichols medal

Nichols medalist; Herbert C. Brown. *Chem & Eng N* 36:114 O 20 '58

Nickel

Chemisorption of nitrogen on nickel catalysts. R. J. Kokes and F. H. Emmett. *biblog Am Chem Soc J* 80:2082-6 My '58

Coming; hard, flexible nickel electroforms. *Product Eng* 29:24 Mr 24 '58

Complexes of pyridinealazine with iron(II) and nickel(II). W. J. Stratton and D. H. Busch. *diags Am Chem Soc J* 80:3191-5 Jl 5 '58

Concentration of hydrogen in nickel under hydrogen ion bombardment. J. Morrison and J. Lander. *diag Electrochem Soc J* 105:145-8 Mr '58

Control of porosity in high-nickel-alloy welds. G. R. Pease and others. *biblog II Welding J* 37:sup354-60 Ag '58

Creep of annealed nickel, copper, and two nickel-copper alloys. W. D. Jenkins and C. R. Johnson. *biblog J Res Nat Bur Stand* 60:173-91 Mr '58

Crystallites and twinning in cold-rolled nickel. A. P. Young. *II J Ap Phys* 29:1127 Jl '58

Determination of residual stresses in titanium carbide-base cements by high-temperature X-ray diffraction. H. W. Newkirk, Jr. and H. H. Sisler. *biblog diags Am Cer Soc J* 41:93-103 Mr 1 '58

Diffusion of tungsten in nickel and reaction at interface with SrO. H. W. Allison and G. E. Moore. *biblog II diags J Ap Phys* 29:842-8 My '58

Effect of neutron irradiation on the mechanical properties of copper and nickel. M. J. Makin. *biblog Inst Metals J* 36:449-55 Je '58

Electroforms feature new type of nickel; Micrograin nickel. *II Iron Age* 181:92 My 1 '58

Filler metals for joining. O. T. Barnett. *II Welding Eng* 43:66-8 Mr '58

High temperature oxidation of high purity nickel between 760° and 1050°C. E. A. Gulbransen and K. F. Andrews. *biblog Electrochem Soc J* 104:451-4 Jl '57; Discussion, S. Mrowec and T. Werber. 105:363; Reply. 363-4 Je '58

Hydrogen overpotential on electrodeposited Ni in NaOH solutions. I. A. Ammar, S. A. Awad. *biblog Electrochem Soc J* 104:686-90 N '57

Influence of doping on diffusion rate of impurities in cathode nickel. H. Mizuno. *J Ap Phys* 29:1265-6 Ag '58

Influence of nickel on intergranular corrosion of 18 per cent chromium steels; abstracts. J. R. Upp and others. *Metal Prog* 72:142 N '57; *Steel* 141:134 N 4 '57

Interaction of 2-methyl-2-amino-3-butanone oxime with nickel(II) and copper(II) ions. R. K. Murmann. *biblog Am Chem Soc J* 80:4174-80 Ar 20 '58

Kinetics of the exchange of nickel ethylenediaminetetraacetate ion with nickelous ion. C. M. Cook, Jr. and F. A. Long. *biblog Am Chem Soc J* 80:33-7 Ja 5 '58

Lifetime and nickel precipitation in silicon. W. J. Shatkes and H. A. R. Wegener. *II J Ap Phys* 29:866 My '58

Materials of construction for chemical engineering; nickel, including high-nickel alloys. A. J. Marron and others. *II Ind & Eng Chem* 50:1460-9 *biblog* (p 1468-9) pt 2 S '58

Mechanism of chemisorption; hydrogen on nickel at elevated pressures. L. Vaska and P. W. Selwood. *diags Am Chem Soc J* 80:1331-5 Mr 20 '58

Mechanism of chemisorption; nitrogen on nickel. P. W. Selwood. *biblog Am Chem Soc J* 80:4193-201 Ag 20 '58

Method for measuring magnetostriiction corrected for initial domain distribution and its application to nickel and iron. H. E. Stauss. *biblog J Ap Phys* 29:182-4 F '58

Nickel, copper and some of their alloys as catalysts for the hydrogenation of carbon dioxide. L. E. Cretchy, Jr. and W. W. Russell. *biblog Am Chem Soc J* 80:767-73 F 20 '58

Properties of materials; nickel and its alloys. *Materials in Design Eng* 48:110-13 Mid-O '58

Recovery of gold, silver and nickel from alkaline cyanide solutions by means of weak-base ion-exchange resins. J. Aveston and others. *J Ap Chem* 8:77-86 F '58

Simultaneous distillation of ammonia and separation of copper from nickel-bearing solutions. V. N. Mackiw and others. *biblog flow diags II diag Chem Eng Prog* 54:79-85 Mr '58

Study of the molded nickel cathode. C. P. Hadley and others. *diags Electrochem Soc J* 105:395-8 Jl '58

Temperature dependence of the absorption of ultrasound in a nickel single crystal from 77° to 650°K. F. G. West. *biblog J Ap Phys* 29:430-2 Mr '58

Vanadium, nickel, and porphyrins in thermal geochemistry of petroleum. G. W. Hodgson and B. L. Baker. *biblog Am Assn Pet Geologists Bul* 41:2413-26 N '57

Analysis

Absorptiometric determination of traces of chromium in nickel and vanadium, of vanadium in chromium, and of nickel in chromium and vanadium. J. T. McAlone and G. F. Reynolds. *biblog Metallurgia* 57:52-6 Je '58

Apparatus and technique for multiple tests by the confined-spot method of colorimetric analysis; application to field estimation of nickel and copper. J. H. McCarthy, Jr. and R. E. Stevens. *biblog II diags Anal Chem* 30:535-8 Ap '58

Determination of traces of boron in nickel. C. L. Luke. *diags Anal Chem* 30:1405-6 Ag '58

Finishing pointers; use of a nickel plating bath as an analytical standard. J. B. Mohler. *Metal Finishing* 56:3 Mr '58

New analysis for nickel cathodes. *II Bell Lab Rec* 36:146-7 Ap '58

Photometric determination of chromium in electronic nickel. C. L. Luke. *Anal Chem* 30:359-61 Mr '58

Quinoxaline-2,3-dithiol as a colorimetric reagent; determination of nickel in ammoniacal solutions. D. A. Skoog and others. *Anal Chem* 30:365-8 Mr '58

Separation by paper chromatography and spectrophotometric determination of trace amounts of cobalt, nickel, copper, and zinc. W. J. Frierson and others. *biblog II Anal Chem* 30:468-71 Ap '58

Cleaning

Application of the ion bombardment cleaning method to titanium, germanium, silicon, and nickel as determined by low-energy electron diffraction. E. E. Farnsworth and others. *biblog diags J Ap Phys* 29:1150-61 Ag '58

Corrosion

Corrosion and metal transport in fused sodium hydroxide; formation of composite scales on Inconel. G. P. Smith and others. *biblog II Corrosion* 14:65-70 Ja '58

Metallography

Sintering of high-purity nickel oxide. Y. Iida. *biblog II diag Am Cer Soc J* 41:397-406 O 1 '58

Raney nickel

Studies in organic sulfur compounds; the scope of the Raney nickel desulfurization cycle. heminickelates (1,3-oxathiolanes and 1,3-oxathianes) C. Djerassi and others. *biblog Am Chem Soc J* 80:4723-32 S 5 '58

Nickel alloys

Alloy lengthsens fixture life; Hastelloy X. *II Steel* 142:107 Je 23 '58

Alloy unit takes special welds. *II Iron Age* 180:186-7 N 14 '57

Control of porosity in high-nickel-alloy welds. G. R. Pease and others. *biblog II Welding J* 37:sup354-60 Ag '58

Corrosion and metal transport in fused sodium hydroxide; formation of composite scales on Inconel. G. P. Smith and others. *biblog II Corrosion* 14:65-70 Ja '58

Creep of annealed nickel, copper, and two nickel-copper alloys. W. D. Jenkins and C. R. Johnson. *biblog J Res Nat Bur Stand* 60:173-91 Mr '58

Cupro-nickel welded with aluminum bronze. V. Aharovich. *Welding J* 37:220-4 Mr '58

Cupro-nickels offer corrosion resistance and hot strength. J. L. Everhart. *biblog II Materials in Design Eng* 47:114-20 My '58

Effect of oxide recrystallization on the oxidation kinetics of a 62-38 copper-nickel alloy; abstracts. J. A. Sartell and others. *Metal Prog* 72:173+ D '57

NICKEL alloys—Continued

- Filler metals for joining. O. T. Barnett. *Il Welding Eng* 43:66-8 Mr '58
- Flux reversal in thin films of 82 per cent Ni. 18 per cent Fe. C. D. Olson and A. V. Pohn. *bibliog il diags J Ap Phys* 29: 274-82 Mr '58
- High-temperature effects on nickel-copper tensile properties. *Elec Manuf* 61:9-10 Ap '58
- High temperatures spur use of nickel-base alloys. T. E. Kihlgren. *Aviation Eng* 28:30-5 F: 130-44 Mr '58
- How to select a resistance heating alloy. R. J. Fabian. *il Materials in Design Eng* 47:104-8 F '58
- Illumi: materials data sheet: file facts. *Materials in Design Eng* 47:147 Ja '58
- Inconel welding wire joins dissimilar metals. *il Materials in Design Eng* 47:141-2 Je '58
- Martensite transformations of the beta phase in copper-aluminum-nickel alloys. D. Hull and R. D. Garwood. *bibliog il diags Inst Metals J* 86:486-92 '58
- Materials of construction for chemical engineering; nickel, including high-nickel alloys. A. J. Marron and others. *il Ind & Eng Chem* 50:1460-9 *bibliog* (p 1468-9) pt 2 S '58
- Mechanical properties of nickel alloys at low temperatures; tables. *Product Eng* 28:B9 Mid-O '57
- New nickel-boron phase diagram for brazing-alloy development. G. S. Hoppin. *3d. il Welding J* 36:sup528-30 D '57
- New super alloy bids for hot jobs; Rene 41. F. K. Iverson and M. A. Pohlman. *Product Eng* 29:76-7 J 21 '58
- New trays cut heat-treat cost; Inconel nickel-chromium alloy. *il Iron Age* 181:105 F 6 '58
- Nickel-copper alloy roof promises long, maintenance-free life. R. M. Chapman. *il Arch Rec* 123:256 Mr '58
- Nickel joins dissimilar metals; nickel alloy electrodes. *il Steel* 143:118 J 14 '58
- Properties of materials; nickel and its alloys. *Materials in Design Eng* 48:110-13 Mid-O '58
- Protective value of tin-nickel alloy deposits on steel. F. A. Lowenheim and others. *bibliog il Electrochem Soc J* 105:338-46 Je '58
- Spot welding of Inconel X in thickness range of 0.032 to 0.188 in. J. Harris and others. *il diags Welding J* 37:570-8 Je '58
- Structure of nickel-zinc plated alloys; abstract. R. Raub and F. Elser. *Metal Finishing* 56:110-11 My '58
- Unusual magnetic behavior of disordered NiMn. J. S. Kouvel and others. *bibliog J Ap Phys* 29:518-19 Mr '58
- Use of nickel-aluminum alloy coatings for the protection of molybdenum from oxidation. D. E. Coch and others. *Electrochem Soc J* 105:485-6 Ag '58
- Vacuum cast nickel alloy vs. best cobalt alloy. J. J. Eisenhauer and J. Preston. *il Materials in Design Eng* 47:116-17 F '58
- See also*
- Alnico
- Iron alloys—Chromium nickel alloys
- Iron alloys—Nickel alloys
- Monel metal
- NICKEL carbonyl**
- Fluorocarbon-phosphorus-nickel carbonyls. A. B. Burg and W. Mahler. *Am Chem Soc J* 80:2334 My '58
- Iron and nickel by carbonyl treatment. R. M. Lewis and others. *flow sheet diags J Metals* 10:419-24 Je '58
- Nickel plating using nickel carbonyl. *Engineering* 185:401 Mr 28 '58
- Synthesis of propionic anhydride and propionic acid. R. E. Brooks and others. *bibliog diag Ind & Eng Chem* 49:2004-7 D '57
- Physiological effect**
- Nickel poisoning; chronic exposure of rats to nickel carbonyl; a report after one year of observation. F. W. Sunderman and others. *bibliog il A M A Archives Ind Health* 16: 480-5 D '57
- NICKEL chloride**
- Reaction of tetrasulfurtrinitride with nickel chloride. T. S. Piper. *Am Chem Soc J* 80:30-2 Ja 5 '58
- NICKEL chromium molybdenum steel**
- Impact properties of high-purity nickel-chromium-molybdenum steels. J. M. Capus and G. Mayer. *Iron & Steel Inst J* 189:255 J1 '58
- Pack carburizing and annealing of 4½ per cent Ni-Cr-Mo case hardening steel. C. Dawes. *il Metallurgia* 58:3-9 J1; 69-75 Ag '58
- Properties of materials. *Materials in Design Eng* 48:45, 47 Mid-O '58

NICKEL compounds

- Chelate compounds of nickel (II) with picolinic acid. R. W. Green. *bibliog Am Chem Soc J* 79:5608-11 N 5 '57
- Complexes of pyridinaldazine with iron(II) and nickel(II). W. J. Stratton and D. H. Busch. *bibliog Am Chem Soc J* 80:1286-9 Mr 20 '58
- Intermolecular metal-metal bonds and absorption spectra of some nickel(II) and palladium(II) complexes of *vic*-dioximes. C. V. Banks and D. W. Barnum. *bibliog Am Chem Soc J* 80:4767-72 S 20 '58
- Intermolecular metal-metal bonds and solubility of some nickel and palladium complexes of *vic*-dioximes. C. V. Banks and D. W. Barnum. *bibliog Am Chem Soc J* 80:3579-82 J1 20 '58
- Structure of some aquated dicyanoammine-nickel(II) clathrates. R. S. Drago and others. *bibliog Am Chem Soc J* 80:2667-70 Je 5 '58
- Studies in coordination chemistry; a paramagnetic form of bis-(N-methylsalicylaldimine)-nickel(II) complex. I. Sacconi and others. *bibliog Am Chem Soc J* 80:3583-4 J1 20 '58
- NICKEL ferrates**
- Ferromagnetic resonance in polycrystalline nickel ferrite aluminate. E. Schlömann and J. R. Zeender. *bibliog J Ap Phys* 29:341-3 Mr '58
- Grain growth in nickel ferrites. P. Levesque and others. *il Am Cer Soc J* 41:300-3 Ag 1 '58
- Magnetic anisotropy induced by magnetic annealing and by cold working of NiFe crystal. S. Chikazumi. *il diags J Ap Phys* 29: 346-50 Mr '58
- NICKEL in the body**
- Nickel poisoning; the metabolism of nickel under normal conditions and after exposure to nickel carbonyl. R. E. Tedeschi and F. W. Sunderman. *bibliog diag A M A Archives Ind Health* 16:486-8 D '57
- NICKEL industry and trade**
- Forecast of nickel production to 1980 based on projection of mean trend. F. C. Fearing. *Eng & Min J* 159:106-3 Ap '58
- Nickel; a key year, 1957. L. M. Williams. *il map diag Min Cong J* 44:125-6+ F '58
- Nickel industry in 1957. *Ind Chem* 34:65 F '58
- Nickel, 1957. H. W. Davis. *Eng & Min J* 159:150-1 F '58
- Nickel on upswing. *Chem & Eng N* 35:82+ N 4 '57
- Nickel shortage over; with table. *Chem. & Eng N* 36:32 J1 7 '58
- NICKEL lining**
- Nickel-lined barge moves glycerin by water. *il Oil & Gas J* 55:71 N 25 '57
- NICKEL metallurgy**
- Iron and nickel by carbonyl treatment. R. M. Lewis and others. *flow sheet diags J Metals* 10:419-24 Je '58
- Electrometallurgy**
- Direct electrorefining of nickel matte. L. S. Renzoni and others. *bibliog flow sheets J Metals* 10:414-18 Je '58
- New process for the electro-refining of nickel. *Metallurgia* 57:174 Ap '58
- New process for the electrorefining of nickel. R. D. Parker. *Franklin Inst J* 265:433 My '58
- Process refines nickel. *il Chem & Eng N* 36: 60 Ap 21 '58
- Sulfide anode cancels sinter and smelt; electrolysis wins bigger job in new nickel refining process. *il diag Chem Eng* 65:60-2 Ap 7 '58
- NICKEL mines and mining**
- Cuba**
- Moabay, Port Nickel project. F. Wilson. *il map diag Min Eng* 10:563-5, cover My '58
- Manitoba**
- Inco expands in Canada. *il map Steel* 141:124 O 28 '57
- Inco reveals Thompson-Moak targets. *il Eng & Min J* 158:72 N '57
- Manitoba pushes ahead on new major nickel source. H. Nielsen. *il map Min Eng* 9:1321-3 D '57
- NICKEL ores**
- Nickel-gold ore of the Mackinaw mine, Snohomish county, Wash. C. Milton and D. J. Milton. *bibliog il diags Econ Geol* 53:426-47 Je '58

NICKEL oxides

Heat contents above 298.15°K. of oxides of cobalt and nickel. E. G. King and A. U. Christensen, Jr. *bibliog Am Chem Soc J* 80: 1800-1 *Am* 20 '58

Sintering of high-purity nickel oxide. Y. Iida. *bibliog il diag Am Cer Soc J* 41:397-406 O 1 '58

NICKEL phosphides

Dinickel phosphide as a heterogeneous catalyst for the vapor phase reduction of nitrobenzene with hydrogen to aniline and water. N. P. Sweeney and others. *bibliog Am Chem Soc J* 80:799-800 F 20 '58

NICKEL plating

Alkaline nickel plating. E. B. Saubestre. *bibliog Plating* 45:479-85 My '58
Choice of nickel plating baths; abstract. *Metal Finishing* 56:82 Mr '58

Cleaning and preparation of metals prior to electroplating; effect of oxide films. H. B. Linford and others. *bibliog il diag Plating* 45:349-53, 728-33 Ap, JI '58

Corrosion studies with nickel-chromium plate; influence of the porosity pattern and thickness of the chromium plate. H. Brown and others. *bibliog il diag Plating* 45:144-50 F '58

Developments in decorative plating; abstract. C. H. Sample. *Tool Eng* 41:221-2 S '58

Dull nickel undercoat best for chrome plating; abstract. C. H. Sample. *S A E J* 66:90 F '58

Electroless nickel gives hard surface to magnesium. *il Materials in Design Eng* 48:126 A '58

Electroless plating. *Steel* 142:77 Je 2 '58

Electroless process plates nickel on magnesium. *Mod Metals* 14:76 Je '58

Electroplating research at the International nickel co research laboratories. *il Plating* 45:360-5 Ap '58

Factors affecting residual stress in electro-deposited metals. J. B. Kushner. *Metal Finishing* 56:82-7 My '58

Finishing pointers; use of a nickel plating bath as an analytical standard. J. B. Mohler. *Metal Finishing* 56:88 My '58

Leveling nickel. D. G. Foulke. *il diag Metal Finishing* 54:52-6 O '56; Abstract. *Metal Prog* 73:202-4 Mr '58

Limitations of plated nickel in jet engine design; abstract. R. W. Moeller and W. A. Snell. *Metal Prog* 73:182-4 Ja '58

Magnesium plate is electroless. *Electronics* 31:18 Je 27 '58

Micrograin nickel; Metachemical processes. *Int. H. D. Hughes. Chem & Eng N* 36:37 Mr 24 '58

Multilayer nickel coatings. *il Metal Prog* 73: 95-6 Je '58

New chemical process plates resistant nickel; Niphos process. *il Chem Eng* 65:172-4 Ja 13 '58

Nickel plating using nickel carbonyl. *Engineering* 185:401 Mr 28 '58

Nickel takes on magnesium; Dow electroless nickel-plating process. *il Chem & Eng N* 36:64 JI 21 '58

Plating without electricity improves corrosion resistance. *Tool Eng* 41:109 S '58

Properties of materials; nickel electroplates. *Materials in Design Eng* 48:262-3 Mid-O '58

Protection of molybdenum from oxidation at elevated temperatures. D. E. Couch and others. *bibliog il Electrochem Soc J* 105: 450-6 Ag '58

Research on microthrowing power and leveling of plating baths. E. Raub. *bibliog il diag Plating* 45:486-92 My '58

Stress-free nickel plating. *il Metal Prog* 73: 90-2 Ap '58

Thermal shock resistant nickel plating on copper. L. Missel. *il Metal Finishing* 56:49-51 S '58

NICKEL poisoning

Nickel poisoning. F. W. Sunderman and others. *bibliog il diag A M A Archives Ind Health* 16:480-8 D '57

NICKEL silver

Properties of materials; nickel silvers. *Materials in Design Eng* 48:101 Mid-O '58

NICKEL steel

Dependability of nickel steels. *Product Eng* 29:D 11 Mid-S '58

Properties of materials. *Materials in Design Eng* 48:43 Mid-O '58

See also Chromium nickel steel

NICKEL sulfides

Sulfide anode cancels sinter and smelt; electrolysis wins bigger job in new nickel refining process. *il diag Chem Eng* 65:60-2 Ap 7 '58

NICKEL tubes. See Tubes, Nickel

NICOTIANA. See Tobacco

NICOTINE

Biogenesis of nicotine; new precursors of the pyrrolidine ring. E. Leete. *bibliog Am Chem Soc J* 80:2162-4 My 5 '58

Metabolites of nicotine and a synthesis of nor nicotine. H. McKennis, Jr. and others. *bibliog Am Chem Soc J* 80:1634-6 Ap 5 '58

Pathway of nicotine biogenesis. R. F. Dawson and others. *bibliog Chem & Ind p* 100 Ja 25 '58

γ -(3-Pyridyl)- γ -methylaminobutyric acid as a urinary metabolite of nicotine. H. McKennis, Jr. and others. *bibliog Am Chem Soc J* 79:6342-3 D 5 '57

NICOTINIC acid

Niacin-tryptophan relationships in man and niacin requirement. G. A. Goldsmith. *Am J Clinical Nutrition* 6:479-86 *bibliog*(p485-6) S '58

Nutritional study of instant coffee powder. L. J. Tepliy. *bibliog Food Tech* 12:485-6 S '58

Tryptophan-niacin relationships in pregnancy. A. W. Wertz and others. *J Nutrition* 64: 339-53 *bibliog*(p352-3) Mr '58

NICROTUNG. See Alloys, Heat resisting**NIGERIA**

See also Petroleum—Nigeria
Petroleum industry and trade—Nigeria

NIGHT clubs

Lighting
Lighting a night club entrance; lighting data sheet. G. H. Malze. *il Illum Eng* 52:597 N '57

NIKE Hercules. See Guided missiles**NILE river**

Power utilization
Basic step towards full utilization of the river Nile; high Aswan dam. M. A. Selim. *il map plan diag Civil Eng* 28:591-5 Ag '58

NIMOCAST. See Alloys, Heat resisting**NIOBium**

Columbium primer. C. T. Sims. *bibliog il J Metals* 10:340-5 My '58

Columbium; still on trial. *il Steel* 142:62-3 Ap 21 '58

Columbium studied for hot applications. *Materials in Design Eng* 47:164-4 Ja '58

Columbium-tantalum. 1957. W. R. Barton. *Eng & Min J* 159:140 F '58

Columbium vs niobium; discussion. *J Metals* 10:325 My '58

Determination of titanium in presence of niobium by differential spectrophotometry. R. A. G. de Carvalho. *bibliog Anal Chem* 30: 1124-7 Je '58

Effect of tantalum and niobium on the tempering of certain vanadium and molybdenum steels. A. K. Seal and R. W. K. Honeycombe. *bibliog, 4pls Iron & Steel Inst J* 183:343-50 Ap '58

Element 41; historical priority or international unity? A S T M Bul p72 Ja '58

Equilibrium in the niobium-hydrogen system. W. M. Albrecht and others. *bibliog il diag Electrochem Soc J* 105:219-23 Ap '58

Growing interest in niobium metal. *Chem Eng* 65:174-4 Ja 13 '58

Microtopography of oxide films on niobium. J. V. Cathcart and others. *bibliog il Electrochem Soc J* 105:442-6 Ag '58

More tantalum and niobium on way; Fansteel metallurgical corp. *il Chem & Eng N* 36: 24-5 Mr 10 '58

New engineering metals. J. P. Denny and L. F. Kendall, Jr. *Mech Eng* 80:67-71 Ag '58

New plant spotlights tantalum-columbium; Fansteel metallurgical corp. *il Chem Eng Prog* 54:88-4 Ap '58

Niobium, a prospect for aviation gas turbines; abstracts. W. S. Hazelton. *il S A E J* 66:67-9 My '58; *Machine Design* 30:150-4 My 15 '58; *Am Mach* 102:277 Ja 27 '58; Discussion. R. I. Jaffee. *S A E J* 66:69 My '58

Niobium; abstract. F. G. Cox. *Metal Prog* 73:178-4 Ja '58

Niobium goes jet age. *Chem & Eng N* 35:29 N 13 '57

Oxidation of niobium between 375°C and 700°C. E. A. Guibransen and K. F. Andrew. *bibliog il Electrochem Soc J* 105:4-9 Ja '58

Properties of materials; columbium, tantalum, tungsten and molybdenum. *Materials in Design Eng* 48:93 Mid-O '58

NIOBIUM—Continued

Refractory metals; tungsten, tantalum, columbium, and rhenium. J. W. Pugh. bibliog J Metals 10:335-9 My '58
Seek new methods to work columbium. *Il* Iron Age 180:148-9 N 21 '57

Technique developed for preparation of niobium; cage zone melting. C. Zener. *Il* Elec Eng 77:114 Ja '58

Three firms develop pure columbium metal. *Il* Materials in Design Eng 46:132+ D '57

Analysis

Determination of oxygen in niobium. W. R. Hansen and M. W. Mallett. *Anal Chem* 29:1363-9 D '57

Determination of tantalum in niobium. M. L. Theodore. bibliog *Anal Chem* 30:465-7 Ap '58

Investigation of a method for the combined determination of niobium and tantalum in steel. *Iron & Steel Inst J* 137:341-3 D '57

Separation and spectrophotometric determination of microgram amounts of niobium. G. R. Waterbury and C. E. Bricker. *Anal Chem* 30:1007-9 My '58

NIOBIUM alloys

Columbium-base alloys for high temperature use. *Materials in Design Eng* 47:144+ Je '58

Tantalum-columbium alloy system; abstract. D. E. Williams and W. H. Pechin. *Metal Prog* 72:172+ D '57

NIOBIUM compounds

Niobium and tantalum 8-quinolinolates. H. A. Szymanski and J. H. Archibald. bibliog *Am Chem Soc J* 80:1811-12 Ap 20 '58

NIOBIUM metallurgy

Extraction of tantalum and columbium. D. F. Taylor. *diags Chem Eng Prog* 54:47-50 Ap '58

Hydrometallurgy of refractory Canadian uranium and columbium minerals. A. D. Pittuck and others. bibliog flow sheets *Can Min & Met Bul* 51:228-33 Ap '58

Prepare ultra-pure niobium. *Ind Lab* 9:34 F '58

Separation of niobium and tantalum by liquid extraction. E. L. Koerner, jr. and others. bibliog flow diag *Il Chem Eng Prog* 54:63-70 S '58

NIOBIUM nitrides

Heats of formation of niobium dioxide, niobium subnitride and tantalum subnitride. A. D. Mah. bibliog *Am Chem Soc J* 80:3372-4 Ag 5 '58

NIOBIUM oxides

Heats of formation of niobium dioxide, niobium subnitride and tantalum subnitride. A. D. Mah. bibliog *Am Chem Soc J* 80:3372-4 Ag 5 '58

Low temperature heat capacities and entropies at 298.15°K. of some oxides of gallium, germanium, molybdenum and niobium. E. G. King. bibliog *Am Chem Soc J* 80:1799-800 Ap 20 '58

Reactions of the group VB pentoxides with alkali oxides and carbonates; heterogeneous equilibria in the system Na₂O or Na₂CO₃-Nb₂O₅. A. Reisman and others. bibliog *Am Chem Soc J* 80:37-42 Ja 5 '58

NIPHOS process. See Nickel plating

NITRAMINES

Alkaline degradation of some polymethylenetrinitramines. R. Reed, jr. bibliog *Am Chem Soc J* 80:439-44 Ja 20 '58

Methylenedinitramine (Medina); crystallographic data. J. Krc, jr. *Il* diags *Anal Chem* 30:1301-2 Jl '58

NITRATES

Acid-base reactions in fused salts; the dichromate-nitrate reaction. F. R. Duke and M. L. Iverson. *Am Chem Soc J* 80:5061-3 O 5 '58

See also

Aluminum nitrate
Ammonium nitrate
Calcium nitrate
Magnesium nitrate
Silver nitrate
Sodium nitrate
Uranyl nitrate

Analysis

Colorimetric determination of nitrates. J. M. Pappenhagen. bibliog *Anal Chem* 30:282-4 F '58

New procedure for rapid determination of nitrate and a study of the preparation of the phenolsulphonic acid reagent. K. R. Middleton. bibliog J *Ap Chem* 8:505-9 Ag '58
New, simple field test for nitrates. R. S. Robertson and B. J. Wachter. *Il* *Power* 102:105-7 Jl '58

Simple colorimetric method for the determination of nitrates in forage crops. M. P. Morris and A. González-Más. bibliog J *Agri & Food Chem* 6:456-7 Je '58

Study of methods for the determination of nitrates. A. E. Greenberg and others. bibliog *Am Water Works Assn J* 50:321-6 Je '58

Ultraviolet spectrophotometric determination of nitrate; application to analysis of alkaline earth carbonates. R. E. Pasian and others. *Anal Chem* 29:1795-7 D '57

Volumetric determination of nitrate ion; simultaneous determination of nitrite. O. R. Gottlieb and M. T. Magalhães. bibliog *Anal Chem* 30:995-7 My '58

Spectra

Infrared spectra of anhydrous transition metal nitrates. C. C. Addison and B. M. Gatehouse. *Chem & Ind* p464-5 Ap 19 '58

NITRATION

BF₃·Na₂O₄ complex as a nitrating agent. G. B. Bachman and C. M. Vogt. bibliog *Am Chem Soc J* 80:2987-91 Je 20 '58

Chemical engineering unit processes. W. R. Tomlinson, jr. *Ind & Eng Chem* 50:1380-5 bibliog(p 1382-5) pt 2 S '58

Kinetics of ethylene glycol nitration. J. Roth and others. bibliog *Ind & Eng Chem* 50:1293-8 S '58

Mechanism of the nitration of furans; conversion of the nitration intermediate derived from furfural into 5-nitro-2-furfural diacetate. J. G. Michels and K. J. Hayes. bibliog *Am Chem Soc J* 80:1114-16 Mr 5 '58

Nitration of propane in a fused salt reactor. D. C. Coldiron and others. bibliog *diags Ind & Eng Chem* 50:991-2 Jl '58

Nitration of wood and related substances with gaseous dinitrogen pentoxide. W. E. Elias and L. D. Hayward. bibliog *Tappi* 41:246-50 My '58

Nitrosation and nitration of amines and alcohols with nitrogen tetroxide. E. H. White and W. R. Feldman. *Am Chem Soc J* 79:532-3 N 5 '57

Studies on the nitration of eucalyptus rostrata and pinus halepensis. M. Lewin and J. A. Epstein. bibliog *Tappi* 41:240-5 My '58

NITRIC acid

Continuous dissolution of copper by nitric acid. R. L. Johnson and others. bibliog *Ind & Eng Chem* 50:1194 Ag '58

Corrosion resistance of five stainless alloys in nitric acid containing chloride. I. I. Tingley. *Il* *diags Corrosion* 14:31-2 Je '58

Effect of inhibitors in fuming nitric acid on corrosion and oxidation. T. B. Yee. *Corrosion* 14:42-4 F '58

Effect of NO, HNO₂, and HNO₃ on corrosion of stainless steel by H₂SO₄. W. P. McKinnell, jr. and others. bibliog *diags Corrosion* 14:27-30 Ja '58

Effects of additives on ignition delay of the system, white fuming nitric acid-turpentine. A. Makovsky and A. Salmon. bibliog *diags J Ap Chem* 8:670-2 O '58

Inhibition of titanium in fuming nitric acid. J. B. Rittenhouse and C. A. Papp. *Corrosion* 14:41-2 Je '58

Makes acid handling safe; automatic liquid level control. *Il* *Steel* 142:115 Ap 23 '58

Mechanism of inhibiting effect of hydrofluoric acid in fuming nitric acid on liquid phase corrosion of aluminum and steel alloys. D. M. Mason and J. B. Rittenhouse. *Corrosion* 14:59-61 Jl '58

Nitric acid via radiation lies ahead; abstract. P. Harteck and S. Dondes. *Chem & Eng N* 36:62+ S 22 '58

Nitric-hydrofluoric acid evaluation test for type 316L stainless steel. D. Warren. bibliog *Il* *diags A S T M Bul* p45-56 My '58

Reaction of germanium with nitric acid solutions. M. C. Cretella and H. C. Gatos. bibliog *diags Electrochem Soc J* 105:487-96 S '58

Reaction of nitric acid with formaldehyde and with formic acid and its application to the removal of nitric acid from mixtures. T. V. Healy. bibliog *diags J Ap Chem* 8:553-61 S '58

Thermal decomposition of liquid nitric acid. H. F. Cordes and others. bibliog *Am Chem Soc J* 80:4802-8 S 20 '58

Analysis

Rapid estimation of hydrofluoric acid in red fuming nitric acid. B. B. Baker. *Anal Chem* 30:1085-6 Je '58

NITRIC acid—Continued

Manufacture

- Big savings in efficiency rise; instrumentation needs for sulphuric and nitric acid, ammonia, and ammonium nitrate. G. Hall. *Can Chem Process* 42:107-8 S '58
- Maggie concentrates nitric; Hercules Powder nitric acid concentrating process. *Ind diag Chem & Eng N* 36:40-1 Je 9 '58
- New method of making nitric acid; abstract. J. Chassinole. *Ind Chem* 34:571 O '58
- Nitric plant optimizes at medium pressure; Montecatini ammonia-oxidation process. flow sheet. *Ind Chem Eng* 65:56-4 My 5 '58
- Novel reoxidation scores nitric acid gains. C. S. Cronan. *Ind diag Chem Eng* 65:58-4 JI 28 '58
- They burn ammonia; Atlas Powder's nitric acid plant. *Ind Power* 74:14-15 Ag '58

Physiological effect

- Acute toxicity of red fuming nitric acid-hydrofluoric acid vapor mixture. E. A. Pfitzer and others. *biolog A M A Archives Ind Health* 18:218-21 S '58

NITRIC oxide. See Nitrogen oxides

NITRIDES

- Effect of nitrides in silicon iron on the determination of oxygen by chlorination and the possible direct determination of aluminum nitride. F. J. Armon and H. L. Bennett. *biolog Iron & Steel Inst J* 188:132-7 F '58

- Reaction of tetrasulfurtetranitride with nickel chloride. T. S. Piper. *Am Chem Soc J* 80:30-2 Ja 5 '58

- Synthesis of cyclic trimeric and cyclic tetrameric diphenylphosphinic nitride. C. P. Haber and others. *biolog Am Chem Soc J* 80:2116-17 My 5 '58

See also

- Iron carbonitrides
Iron nitrides
Niobium nitrides
Tantalum nitrides

NITRIDING process. See Case hardening—Nitriding process

NITRIFICATION

- Oxygen demand measurement errors in pure organic compounds; nitrification studies. P. E. Gaffney and H. Heukelekian. *biolog Sewage & Ind Wastes* 30:503-10 Ap '58

NITRILE rubber. See Rubber, Artificial

NITRILES

- By-products from the alkaline cleavage of 3-cyclohexen-1-carbonitrile to pimelic acid. J. W. Lynn and L. W. Newton. *Chem & Ind* p 159-60 F 3 '58

- High pressure-high temperature reactions; the trimerization of aromatic nitriles. I. S. Bensiesdorf. *biolog Am Chem Soc J* 80:1442-4 Mr 20 '58

- Identification of cyanoacetic acid as a metabolite of 8-aminopropionitrile (BAPN) and other nitriles. S. H. Lipton and others. *Am Chem Soc J* 80:2022-3 Ap 20 '58

- Infrared absorption by the C≡N bond in addition compounds of nitriles with some inorganic halides. H. J. Coerver and C. Curran. *biolog Am Chem Soc J* 80:3522-3 JI 20 '58

- Interaction of certain Grignard reagents with nitriles containing an α-morpholinyl substituent. H. R. Henze and others. *biolog Am Chem Soc J* 79:6230-3 D 5 '57

- Triphosphonitrilic hexahydrazide. R. J. A. Otto and L. F. Audieth. *Am Chem Soc J* 80:3575 JI 20 '58

See also

- Acetonitrile
Acrylonitrile
Aminonicotinonitrile
Malononitrile
Succinonitrile
Triphenylacetoneitrile
Triphenylpropionitrile

Analysis

- Determination of simple aliphatic nitriles by reaction with alkaline hydrogen peroxide. D. H. Whitehurst and J. B. Johnson. *Anal Chem* 30:1332-3 Ag '58

- Two tests for detecting nitriles and amides. S. Trofimenko and J. W. Sease. *biolog Anal Chem* 30:1432-4 Ag '58

NITRILOTRIACETIC acid

- Redox behavior of cobalt chelates of nitriilotriacetic acid. K. L. Cheng. *biolog Anal Chem* 30:1035-9 Je '58

NITRITES

- Nitrite inhibition of corrosion; some practical cases. T. P. Hoar. *biolog Corrosion* 14:63-4 F '58

See also

Sodium nitrite

Analysis

- Spectrophotometric determination of nitrite and thiourea. K. Hutchinson and D. F. Boltz. *biolog Anal Chem* 30:54-5 Ja '58
- Volumetric determination of nitrate ion; simultaneous determination of nitrite. O. R. Gottlieb and M. T. Magalhães. *biolog Anal Chem* 30:395-7 My '58

NITRO compounds

- Dry cells containing various aromatic nitro compounds as cathode materials. C. K. Morehouse and R. Glicksman. *Electrochem Soc J* 105:306-11 Je '58

- Investigation of the electrochemical properties of organic compounds; aromatic nitro compounds. R. Glicksman and C. K. Morehouse. *biolog Electrochem Soc J* 105:299-306 Je '58

- New nitro compounds; polynitro chemistry; abstract. M. B. Frankel. *Chem & Eng N* 36:47-8 Ap 28 '58

- Nitrocoumarans. C. D. Hurd and R. Dowbenko. *biolog Am Chem Soc J* 80:4711-14 S 5 '58

- Steric conformations of nitro- and nitroso-bis-piperazines. M. V. George and G. F. Wright. *biolog Am Chem Soc J* 80:1200-4 Mr 5 '58

- Synthesis of 4-nitro-, 5-nitro-, 6-nitro- and 7-nitroindole. S. M. Parmerter and others. *biolog Am Chem Soc J* 80:4621-2 S 5 '58

- Threshold and toxic limits of some amino and nitro compounds. I. Pacséri and others. *biolog A M A Archives Ind Health* 18:1-8 JI '58

Analysis

- Colorimetric determination of organic nitro compounds used as vasodilators. F. J. Bandelm and R. E. Pankratz. *biolog Anal Chem* 30:1435-7 Ag '58

- Determination of aromatic nitro compounds. W. B. Koniecki and A. L. Linch. *biolog Anal Chem* 30:1134-7 Je '58

Spectra

- Infrared spectra of metallic complexes; the infrared spectra of nitro and nitrito complexes. K. Nakamoto and others. *biolog Am Chem Soc J* 80:4817-23 S 20 '58

NITRO group

- Novel ring closure involving a nitro group; preparation of phenanthridine-5-oxide. C. W. Muth and others. *biolog Am Chem Soc J* 79:6500-4 D 20 '57

NITROANILINE

- Intramolecular hydrogen bonding in o-nitroanilines. L. K. Dyal and others. *Chem & Ind* p262-3, 1206 Mr 1, S 13 '58

NITROBENZENE

- Aniline from nitrobenzene. flow diag. *Pet Refiner* 36:221 N 57

- Anodic reductions; reduction of nitrobenzene, nitrosobenzene, azoxybenzene and azobenzene. J. Y. Yang and others. *biolog Am Chem Soc J* 80:4300-3 Ag 20 '58

- Aromatic substitution by a highly selective radical, triphenylmethyl; a case of a free radical reaction in which nitrobenzene is essentially unreactive. R. A. Benkeser and W. Schroeder. *biolog Am Chem Soc J* 80:3314-22 JI 5 '58

- Dinickel phosphide as a heterogeneous catalyst for the vapor phase reduction of nitrobenzene with hydrogen to aniline and water. N. P. Sweeney and others. *biolog Am Chem Soc J* 80:799-800 F 20 '58

- Kinetics of the Friedel-Crafts sulfonylation of aromatics with aluminum chloride as catalyst and nitrobenzene as solvent. F. R. Jensen and H. C. Brown. *biolog Am Chem Soc J* 80:4033-41 Ag 5 '58

- Reactions of the p-nitrobenzenediazonium and diazotate ions with acid and base. E. S. Lewis and H. Suhr. *biolog Am Chem Soc J* 80:1367-71 Mr 20 '58

Analysis

- Determination of mononitrothiophene and dinitrothiophene in nitrobenzene. W. Leibmann and J. T. Woods. *Anal Chem* 29:1845-6 D '57

NITROBENZENE sulfonate

Stereochemistry of the primary carbon; acetolysis of optically active 1-butyl-1-*d* *p*-nitrobenzenesulfonate. A. Streitwieser, Jr. and W. D. Schaeffer. *bibliog Am Chem Soc J* 73:623-8 D 5 '57

NITROCELLULOSE

Controlled thermal decomposition of cellulose nitrate. M. L. Wolfrom and others. *bibliog Am Chem Soc J* 80:946-50 F 20 '58

Controlled thermal decomposition of cellulose nitrate; C¹⁴-tracer experiments. F. Shafizadeh and M. L. Wolfrom. *bibliog Am Chem Soc J* 80:1675-7 Ag 5 '58

Rapid determination of the intrinsic viscosity of cellulose nitrate. P. F. Davison. *bibliog Tappi* 40:975-7 D '57

NITROCYANAMIDE

Some salts of nitrocyuanamide and their efficiency as primary explosives. S. R. Harris. *bibliog Am Chem Soc J* 80:2302-5 My 5 '58

NITROETHANOL

Condensation of 2-nitroethanol with the α -aldopentoses. J. C. Sowden and D. R. Strobach. *bibliog Am Chem Soc J* 80:2532-3 My 20 '58

NITROFURALDEHYDE semicarbazone**Analysis**

Microdetermination of the medicaments furazolidone and nitrofurazone. H. F. Beckman. *J Agri & Food Chem* 6:130-2 F '58

NITROFURANS

Nitrofurans and pharmaceuticals; Smith Kline and French laboratories' Tonbridge factory. *il Manuf Chem* 29:229-32 Je '58

NITROGEN

Aeration of fly wastes; nitrogen supplementation and sludge oxidation. L. Jasiewicz and N. Porges. *bibliog Sewage & Ind Wastes* 30:555-61 Ap '58

Biochemistry of nitrogen in the synthesis of activated sludge. M. Symons and R. E. McKinney. *diags Sewage & Ind Wastes* 30:874-90 J1 '58

Canning quality of Elberta peaches as affected by nitrogen fertilization. G. H. Carter and others. *bibliog Food Tech* 12:174-9 Ap '58

Chemisorption of nitrogen on nickel catalysts. R. J. Kokes and P. H. Emmett. *bibliog Am Chem Soc J* 80:2082-6 My 5 '58

Dilution of cryogenic liquid rocket propellants during pressurized transfer; conditions affecting the dilution of liquid oxygen with nitrogen and ways of preventing it. S. Greenfield. *il diags Aircraft Eng* 30:210-12 J1 '58

Effect of nitrogen rate and clipping frequency upon lignin content and digestibility of coastal Bermuda grass. F. E. Knox and others. *bibliog J Agri & Food Chem* 6:217-19 Mr '58

Effect of the interaction of tantalum with oxygen, nitrogen, and hydrogen. R. Bakish. *bibliog il Electrochem Soc J* 105:574-7 O '58

Effects of gamma radiation on cotton; some of the properties of purified cotton irradiated in oxygen and nitrogen atmospheres. F. A. Blouin and J. C. Arthur, Jr. *bibliog (43 ref) Textile Res J* 28:198-204 Mr '58

Electron recombination coefficient measurements in nitrogen at low pressures. A. C. Faure and others. *diag J Ap Phys* 29:928-30 Je '58

Factors affecting loss of nitrogen and fermenting power of rehydrated active dry yeast. R. K. Sant and W. H. Peterson. *bibliog Food Tech* 12:359-62 J1 '58

Factors affecting quality of prepackaged meats; color studies; effects of nitrogen and carbon dioxide under different pressures upon color of product. J. A. Rikert and others. *Food Tech* 12:17-23 Ja '58

Inert gas boosts oil's ability; lubricating missiles and space vehicles. *il Chem & Eng N* 36:34-5 O 13 '58

Mechanism of chemisorption; nitrogen on nickel. P. W. Selwood. *bibliog Am Chem Soc J* 80:4198-201 Ag 20 '58

Morphological and phase changes during quench-aging of ferrite containing carbon and nitrogen; abstract. G. Lagerberg and B. S. Lement. *Metal Prog* 72:204-1 N '57

Nitrogen aerosols. F. A. Mina. *il Drug & Cosmetic Ind* 82:321-1 Mr '58

Nitrogen analogs of ketenes. C. L. Stevens and M. E. Munk. *bibliog Am Chem Soc J* 80:4065-71 Ag 5 '58

Nitrogen and agriculture; S.C.I. Agriculture group meeting, London; abstracts and discussion of papers. *Chem & Ind* p750-4 Je 21 '58

Nitrogen characteristics; tables. *Aviation Age* 80:64 S '58

Nitrogen-containing surfactants. P. L. Du Brow. *Soap & Chem Spec* 34:45-7-1 Ag '58

Nitrogen content of Nebraska sewage sludges. W. F. Kapp, Jr. *bibliog Sewage & Ind Wastes* 30:102-4 Ag '58

Nitrogen keeps emergency water line in cold storage. *map Water Works Eng* 111:793 Ag '58

Nitrogen keeps line corrosion-free. *il Oil & Gas J* 56:10-1 J1 21 '58

Nitrogen market improves. *Chem & Eng N* 36:52 J1 23 '58

Nitrogen's future; further growth. R. P. Westerhoff. *il J Agri & Food Chem* 6:578-80 Ag '58

Nuclear magnetic resonance spectra; nitrogen inversion rates of N-substituted aziridines (ethylenimines). A. T. Bottini and J. D. Roberts. *bibliog Am Chem Soc J* 80:5203-8 O 5 '58

Permeability of plastics films to refrigerant 12 and nitrogen. H. M. Parmelee. *bibliog il Refrig Eng* 66:35-40-1 F '58

Physical adsorption, adsorbed monolayers of argon and nitrogen on boron nitride and on a graded series of partially graphitized carbon blacks. S. Ross and W. W. Fultz. *bibliog J Colloid Sci* 13:397-406 Ag '58

Pilot-plant development of the alkali-cooking process for cottonseed meats; quantitative effect of cooking variables on solubility of meal nitrogen. W. H. King and others. *bibliog Am Oil Chem Soc J* 35:46-9 Ja '58

Presence of N₂ and N₂ in the mass spectra of molecular nitrogen. G. Junk and H. J. Svec. *Am Chem Soc J* 80:2908-9 Je 5 '58

Removal of small amounts of nitrogen from molten iron. W. P. Rees. *Iron & Steel Inst J* 138:351 Ap '58

Some factors affecting the surface area of hydrated portland cement as determined by water-vapor and nitrogen adsorption. L. A. Tomes and others. *bibliog (37 ref) diags J Res Nat Bur Stand* 59:357-64 D '57

Thermal conductivity of nitrogen at high temperatures and pressures. F. Johannin and B. Godard. *bibliog il diag Ind & Eng Chem* 49:2040-1 D '57

Transannular nitrogen-carbonyl interaction in cyclic aminoketones and optical rotatory dispersion. N. J. Leonard and others. *bibliog Am Chem Soc J* 80:4858-62 S 20 '58

Viscosity of five gases; a re-evaluation. J. Kestin and H. E. Wang. *bibliog A S M E Trans* 80:11-17 Ja '58

X-ray powder diffraction patterns of phosphorus compounds with nitrogen. A. H. Herzog and M. L. Nielsen. *bibliog Anal Chem* 30:1490-6 S '58

See also

Petroleum refining—Nitrogen removal

Analysis

Detection of urea, melamine, isocyanate, and urethan resins; rapid group test for nitrogen, silicon, phosphorus, and titanium in coating materials. M. E. Swann and G. G. Esposito. *bibliog Anal Chem* 30:107-9 Ja '58

Determination of carbon, hydrogen, and nitrogen in organoboron compounds. P. Arthur and others. *bibliog diags Anal Chem* 29:1852-4 D '57

Determination of total protein in cerebrospinal fluid by an ultramicro-Kjeldahl nitrogen procedure. W. W. Tourtellotte and others. *bibliog diag Anal Chem* 30:1563-6 S '58

Determination of trace quantities of nitrogen in petroleum fractions. O. I. Milner and others. *bibliog Anal Chem* 30:1528-30 S '58

Determination of water vapor in hydrogen; thermal conductivity measurement of hydrogen liberated from calcium hydride. H. W. Linde and L. B. Rogers. *bibliog Anal Chem* 30:1250-2 J1 '58

Kjeldahl determination of nitrogen; extension to nitro- and nitrogen-nitrogen single-bond compounds. W. E. Dickinson. *Anal Chem* 30:992-4 My '58

Micro-Kjeldahl method for nitrogen in certain organic compounds containing nitrogen-nitrogen and nitrogen-oxygen linkages. A. Steyermark and others. *bibliog Anal Chem* 30:1561-2 S '58

Rapid method for determination of urea in nitrogen solutions. J. A. Smith and others. *bibliog J Agri & Food Chem* 6:587-8 Ag '58

Semimicro-Kjeldahl procedure for pyridinium halide and oxalyhalide salts. V. B. Fish and P. R. Collier. *bibliog Anal Chem* 30:151-2 Ja '58

Specific detection of nitrogen through pyrolytic oxidation in organic spot test analysis. F. Feigl and J. R. Amaral. *bibliog Anal Chem* 30:1148-50 Je '58

NITROGEN—Continued

Industrial applications

Nitrogen and other inert gases as propellant in pressurized packaging; abstract. S. Prussin. *Soap & Chem Spec* 34:51 J1 '58

Nitrogen in pressure packaging. C. Haas. *il Soap & Chem Spec* 34:107-24. My '58

Washington conducts inert gas injection tests at Brandywine storage formation. *il Gas Age* 122:22-3 S 18 '58

See also

Case hardening—Nitriding process

Manufacture

New England gets gas plant; Airco puts oxygen-nitrogen-argon plant on stream. *il Chem & Eng N* 36:22-3 Je 30 '58

NITROGEN, Liquid

Combined liquid nitrogen cryostat, furnace and liquid helium bath. M. J. Stubbs and M. W. Thompson. *diag J Sci Instr* 35:68-9 F '58

Liquid nitrogen pump and vaporizer. G. A. Bleyle, Jr. and others. *il diags Ind & Eng Chem* 49:1955-8 D '57

NITROGEN compounds

Fluorocarbon nitrogen compounds; some reactions of bis-(trifluoromethyl)-amine, $(CF_3)_2NH$. J. A. Young and others. *bibliog Am Chem Soc J* 80:3604-6 J1 20 '58

Fluorocarbon nitrogen compounds; the synthesis and properties of perfluorodimethylglycine, $(CF_3)_2NCF_2COOH$. J. A. Young and R. D. Dresdner. *bibliog Am Chem Soc J* 80:1889-92 Ap 20 '58

Kjeldahl determination of nitrogen; extension to nitro and nitrogen-nitrogen single-bond compounds. W. E. Dickinson. *Anal Chem* 30:992-4 My '58

Reduction products obtained from nitrogen compounds under the action of Raney nickel and hydrazine hydrate. S. Hornsby and W. L. Peacock. *Chem & Ind* p858-9 J1 5 '58

tert-butyl hypochlorite for detection of nitrogenous compounds on chromatograms. D. E. Schwartz and M. J. Pallansch. *Anal Chem* 30:219-21 F '58

Theoretical study of nitrogen heterocyclics; molecular diagrams and carcinogenic activities of some mono- and dibenzocarbazoles. J. I. Fernández-Alonso and others. *bibliog Am Chem Soc J* 79:5839-44 N 20 '57

See also

Azoxy compounds

Nitration

Nitriles

Urea

Analysis

Determination of acids and basic nitrogen compounds in petroleum products. I. Kuklin. *bibliog il Anal Chem* 30:1114-17 Je '58

NITROGEN fixation

Radiation fixes nitrogen; abstract. A. R. Jones. *Chem & Eng N* 36:46 My 5 '58

NITROGEN in the body

Amino acid requirements of adults. M. S. Reynolds. *bibliog Am J Clinical Nutrition* 6:439-42 J1 '58

Availability to man of amino acids from foods. H. Linkswiler and others. *bibliog J Nutrition* 65:441-68 J1 '58

Dietary nitrogen requirements of the cat. S. A. Miller and J. B. Allison. *bibliog J Nutrition* 64:493-501 Mr '58

Influence of varied cellulose and nitrogen levels upon ration digestibility and nitrogen balance of lambs fed semipurified rations. W. C. Ellis and W. H. Pfander. *J Nutrition* 65:235-50 *bibliog*(p248-50) Je '58

Loss of calcium, phosphorus, iron, and nitrogen in hair from the scalp of women. F. A. Johnston and others. *bibliog Am J Clinical Nutrition* 6:136-41 Mr '58

Nitrogen balances of women maintained on various levels of methionine and cystine. M. S. Reynolds and others. *bibliog J Nutrition* 64:99-111 Ja '58

Some effects of *D,L*-methionine and glycocyamine on growth and nitrogen retention in rats. H. Baron. *J Nutrition* 64:229-33 *bibliog*(28 titles, p237-9) F '58

Study of the nutritive value of proteins from different sources in the feeding of African children. E. M. DeMayer and H. Vanderborcht. *bibliog J Nutrition* 65:335-52 J1 '58

NITROGEN mustards

Polarographic study of cytotoxic nitrogen mustards. R. Mantsavinos and J. E. Christian. *bibliog Anal Chem* 30:1071-3 Je '58

NITROGEN oxides

Affinity of nitrogen dioxide oxycelluloses and periodate oxycelluloses for methanol. T. P. Neveil. *Chem & Ind* p889-90 Mr 29 '58

$BF_3 \cdot N_2O_4$ complex as a nitrating agent. G. B. Bachman and C. M. Vogt. *bibliog Am Chem Soc J* 80:2987-91 Je 20 '58

Control of oxides of nitrogen in automobile exhaust gases. R. W. Bishop and G. J. Nebel. *bibliog A M A Archives Ind Health* 17:511-18 My '58

Dinitrogen pentoxide-olefin reaction. T. E. Stevens and W. D. Emmons. *bibliog Am Chem Soc J* 79:6008-14 N 20 '57

Effect of NO , HNO_2 , and HNO_3 on corrosion of stainless steel by H_2SO_4 . W. P. McKinnell, Jr. and others. *bibliog diags Corrosion* 14:27-30 Ja '58

Explosive oxidation by dinitrogen tetroxide in the presence of indium. C. C. Addison and others. *Chem & Ind p* 1004-5 Ag 9 '58

Nitration of wood and related substances with gaseous dinitrogen pentoxide. W. E. Elias and L. D. Hayward. *bibliog Tappi* 41:246-50 My '58

NaO on wheels; portable nitrogen oxide generator. *Chem & Eng N* 36:26 Ap 14 '58

Nitrogen tetroxide characteristics; with tables and charts. *Aviation Age* 30:63-4 S '58

Oxidation of *tert*-butylcyclohexane to dibasic acids with nitrogen dioxide. W. H. Clingman, Jr. and F. T. Wadsworth. *bibliog diags Ind & Eng Chem* 50:777-80 My '58

Reaction of camphene and dinitrogen tetroxide. T. E. Stevens. *bibliog Chem & Ind p* 1646-7 N 23 '57

Reaction of dinitrogen tetroxide and iodine with olefins and acetylenes. T. E. Stevens and W. D. Emmons. *bibliog Am Chem Soc J* 80:338-41 Ja 20 '58

Reaction of nitric oxide with activated carbon and hydrogen. G. Bedjai and others. *bibliog Ind & Eng Chem* 50:1165-8 Ag '58

Reduction of oxides of nitrogen in vent gases. H. R. L. Streight. *bibliog diags Can J Chem* Eng 36:3-11 F '58

Shock waves in chemical kinetics; the decomposition of N_2O_4 at high temperatures. G. Schoit and N. Davidson. *bibliog il Am Chem Soc J* 80:1841-53 Ap 20 '58

Stereochemistry of addition of dinitrogen tetroxide to *cis*- and *trans*-stilbenes. J. J. Gardikes and others. *bibliog Chem & Ind* p632-3 My 24 '58

Analysis

Continuous sampling and ultramicrodetermination of nitrogen dioxide in air. M. B. Jacobs and S. Hochheiser. *bibliog diag Anal Chem* 30:426-8 M '58

Determination of nitrogen dioxide by gas-solid chromatography. S. A. Greene and H. Pust. *Anal Chem* 30:1039-40 Je '58

Physiological effect

Production of toxic gas (nitrogen oxides) in silage making. W. H. Peterson and others. *bibliog J Agri & Food Chem* 6:121-6 F '58

NITROGLYCERIN

Effect of particle size on the velocity of detonation of simple nitroglycerine/salt mixtures. J. E. Dolan. *bibliog J Ap Chem* 8:471-7 Ag '58

Manufacture

Observing dangerous processes by television; remote control of nitro-glycerine production. *il Engineering* 185:101 Ja 24 '58

NITROKETONES. See Ketones

NITROMETHANE

Blast cause sought; nitromethane suspected in rail freight explosion. *il Chem & Eng N* 36:28 Je 16 '58

Condensation of nitromethane with *D*-erythrose, *D*-arabinose, *D*-mannose and *D*-glyceraldehyde. The orientation of addition of disubstituted diazo compounds to nitro-olefins. W. E. Parham and others. *bibliog Am Chem Soc J* 80:588-90 F 5 '58

NITROOLEFINS

Evaluation of conjugated nitro-olefins as eye irritants in air pollution. K. E. Lampe and others. *Ind Med* 27:375-7 Ag '58

Reaction of diazo compounds with nitro-olefins; the orientation of addition of disubstituted diazo compounds to nitro-olefins. W. E. Parham and others. *bibliog Am Chem Soc J* 80:588-90 F 5 '58

NITROPARAFFINS

Acylation of salts of secondary nitroparaffins. E. H. White and W. J. Considine. *bibliog Am Chem Soc J* 80:626-30 F 5 '58

NITROPARAFFINS—Continued

- Application of a theory of irreversible polarographic waves to the reduction of nitroalkanes in non-aqueous solvents. A. F. Fündels, Jr. and T. De Vries. *Am Chem Soc J* 80:797-8 F 20 '58
- Nitroparaffins, the late bloomers, 1940. *Ind & Eng Chem* 50:sup28A Je '58

Manufacture

- Nitroparaffins, flow diag Pet Refiner 36:267 N '57

NITROPHENYL acetate

- Coordination complexes and catalytic properties of proteins and related substances; effect of cupric and zinc ions on the hydrolysis of *p*-nitrophenyl acetate by imidazole. W. L. Koltun and others. *bibliog Am Chem Soc J* 80:4188-94 Ar 20 '58

- Imidazole catalysis; the reaction of general bases with *p*-nitrophenyl acetate in aqueous solution. T. C. Bruce and R. Lapinski. *bibliog Am Chem Soc J* 80:2265-7 My 5 '58

NITROPROPIONATE

- Sodium β -formyl- β -keto- α -nitropropionate from the reaction of mucochloric acid with sodium nitrite. F. E. Fanta and others. *bibliog Am Chem Soc J* 80:4577-9 S 5 '58

NITROSAMINES

- Novel reductions of *N*-nitrosodibenzylamines, a new reaction. C. G. Overberger and others. *bibliog Am Chem Soc J* 80:3009-12 Je 20 '58

Spectra

- Nuclear magnetic resonance and infrared study of hindered rotation in nitrosamines. C. E. Looney and others. *bibliog Am Chem Soc J* 79:6136-42 D 5 '57

NITROSION

- Nitrosation and nitration of amines and alcohols with nitrogen tetroxide. E. H. White and W. R. Feldman. *Am Chem Soc J* 79:5832-3 N 5 '57

NITROSOBENZENE

- Anodic reductions; reduction of nitrobenzene nitrosobenzene, azoxybenzene and azobenzene. J. Y. Yang and others. *bibliog Am Chem Soc J* 80:4300-3 Ar 20 '58

- Kinetics of the condensation of anilines with nitrosobenzenes to form azobenzenes. Y. Ogata and Y. Takagi. *bibliog Am Chem Soc J* 80:3591-5 J1 20 '58

NITROSO compounds

- Steric conformations of nitro- and nitrosobis-piperazines. M. V. George and G. F. Wright. *bibliog Am Chem Soc J* 80:1200-4 Mr 5 '58

- Synthesis of nitrosoalkane dimers. W. D. Emmons. *bibliog Am Chem Soc J* 79:6522-4 D 20 '57

NITROSODIBENZYLAMINE. See Nitrosamines**NITROSOGUANIDINE**

- Comparison of the reactions of some amines with nitrosoguanidine, cyanamide and *S*-methylisothiourea hydrochlorides. J. P. Horwitz and C. C. Rila. *bibliog Am Chem Soc J* 80:431-7 Ja 20 '58

NITROSYL azide

- Preparation and properties of nitrosyl azide. H. W. Lucien. *bibliog Am Chem Soc J* 80:4458-60 S 5 '58

NITROTHIOPHENE**Analysis**

- Determination of mononitrothiophene and dinitrothiophene in nitrobenzene. W. Leibmann and J. T. Woods. *Anal Chem* 29:1845-6 D '57

NITROTOLUENE

- Study of *meta* orientation in the nitration of toluene by isotope dilution analysis. R. M. Roberts and others. *bibliog Am Chem Soc J* 80:4285-7 Ar 20 '58

NITROUS acid

- Deamination of 2-amino-3-phenylbutane-1- C^{14} with nitrous acid. W. A. Bonner and D. D. Tanner. *Am Chem Soc J* 80:1447-51 Mr 20 '58

- Determination of iodide by oxidation with nitrous acid. J. K. Johannesson. *bibliog Anal Chem* 30:1535-6 S '58

- Effect of NO, HNO₂ and HNO₃ on corrosion of stainless steel by H₂SO₄. W. P. McKinnell, Jr. and others. *bibliog diags Corrosion* 14:27-30 Ja '58

- Organic-chemical contribution to the inorganic chemistry of nitrous acid; abstract. C. Ingold. *Chem & Ind* p466 Ap 19 '58

- Reaction kinetics by the matrix isolation method; diffusion in argon; *cis-trans* isomerization of nitrous acid. G. C. Pimentel. *diags Am Chem Soc J* 80:62-4 Ja 5 '58
- Reactions of phenylpropene derivatives with nitrous acid. C. Zioudrou and J. S. Fruton. *bibliog Am Chem Soc J* 79:5951-3 N 20 '57

NIVOLA, Costantino

- Sand sculptor Tino Nivola. R. Bourne. *por Arch Forum* 109:104-5+ J1 '58

NOBEL prizes

- Daniel Bovet, Nobel laureate in medicine and physiology. *Chem & Eng N* 35:120 N 4 '57

- Nobel prizes. *Sci Am* 197:59-60 D '57

- Nobel prizes to Todd, Lee, and Yang. *Chem & Eng N* 35:114 N 11 '57

- Sir Alexander Todd, F.R.S.; Nobel laureate. *Chem & Ind* p 1646 D 21 '57

- NOBELIUM.** See Chemical elements—Atomic no. 102

- NOBLE gases.** See Gases, Rare

- NOBLE metals.** See Precious metals

- NODULAR iron.** See Cast iron

NOISE

- Automobile wash racks can control noise. D. P. Love. *il Noise Control* 4:47-9+ Ja '58

- Consulting otologist's role in the industrial noise problem. M. S. Fox. *A M A Archives Ind Health* 16:464-8 D '57

- Correction chart for background noise. L. S. Goodfriend. *Noise Control* 4:56 My '58

- Correlation functions and noise patterns in control analysis. H. Thal-Larsen. *diags A S M E Trans* 80:479-85; Discussion. 485-8; Reply. 488-9 F '58

- Eliminating noise at gas meter stations. R. C. Lusk. *il diags Instruments & Automation* 31:661-3 Ap '58

- Fluctuations of random noise power. D. Slepian. *bibliog diag Bell System Tech J* 37:163-84 Ja '58

- French can't stand noise. *Noise Control* 4:50+ J '58

- Give your noise problems the acoustical treatment. L. F. Yerges. *il diags Safety Maint* 116:28-31 J1 '58

- How to reduce noise in foundry cleaning rooms. W. L. Lea. *Foundry* 86:152+ J1 '58

- Identification and diagnosis of noise problems with reference to product noise quieting. G. J. Sanders. *diags Noise Control* 4:15-21+ Mr '58

- Industrial hygienist's part in the solution of the industrial noise problem. W. F. Scholtz. *A M A Archives Ind Health* 16:469-74 D '57

- Insurance and noise. J. F. Morrison. *Noise Control* 4:31-3+ J1 '58

- Is there a suitable industrial test of susceptibility to noise-induced hearing loss? A. Summerfield and others. *bibliog Noise Control* 4:40-6+ Ja '58

- Japanese cities begin anti-noise programs. *Noise Control* 4:49 J1 '58

- Measurement of power spectra from the point of view of communications engineering. R. B. Blackman and J. W. Tukey. *diags Bell System Tech J* 37:185-282 bibliog(52 titles. p251-2). 485-569 Ja-Mr '58

- Noise abatement awards. *Safety Maint* 114:31 N '57

- Noise abatement in pipeline operations. S. Lascoe. *Pet Eng* 30:D4-5+ J1 '58

- Noise analysis with the modified sound level indicator. D. M. A. Mercer. *il Noise Control* 4:44-6+ My '58

- Noise and electron temperatures of some cold cathode argon discharge. E. W. Collings. *bibliog J Ap Phys* 29:1215-19 Ar '58

- Noise control techniques for motels. W. J. Cavanaugh and N. Doelling. *plan diags Arch Rec* 123:251-4 Ap '58

- Noise in the community. L. S. Goodfriend. *il maps Noise Control* 4:22-3+ Mr '58

- Noise in the modern home. E. E. Mikeska. *Noise Control* 4:38-41+ My '58

- Noise reduction concepts in practice; panel discussion. *bibliog diags Noise Control* 4:51-66+ Mr '58

- Noise transmission in piping systems. L. Blendenmann. *Air Cond Heat & Ven* 55:98-9+ Mr '58

- Nonstationary velocity estimation. T. M. Burford. *Bell System Tech J* 37:1009-21 J1 '58

- Practical examples of industrial noise control. R. L. Young. *il Noise Control* 4:11-14 Mr '58

- Properties of friction materials; experiments on variables affecting noise. P. R. Basford and S. E. Twiss. *bibliog diag A S M E Trans* 80:402-6 F '58

NOISE—Continued

- Status of research activities of the subcommittee on noise in industry. A. Glorig. A M A Archives Ind Health 16:449-53 D '57
- Subjective effects of frequency modulation distortion. P. W. Kilpsch. Audio Eng Soc J 6:143 Ap '58
- Teamwork approach to the noise problem. P. J. Whitaker. A M A Archives Ind Health 16:459-63 D '57
- Techniques for measuring and evaluating noise. J. J. Hamrick. II Audio Eng Soc J 6:19-25 J '58
- Tracing distortion in stereophonic disc recordings. M. S. Corrington and T. Murakami. diags RCA R 19:216-31 Je '58
- Transco's Narrows meter and regulator station noise problem. plan Pet Eng 30:D 12 J '58
- Transmission loss and noise reduction. E. E. Mikeska. bibliog diags Noise Control 4:37-41 Mr '58
- What to do about the noise problem at pressure reducing stations. R. M. Watson. diags Pet Eng 30:D 8-11 J '58
- Zeros of Gaussian noise. G. M. White. bibliog diags J Ap Phys 29:722-9 Ap '58

See also

- Far—Protection
- Radio communication—Interference
- Radio communication—Interference elimination
- Soundproofing

also subdivision Noise under special subjects, e.g.

- Air conditioning equipment
- Airplanes
- Airplanes, Jet propelled
- Airplanes, Military
- Amplifiers
- Amplifiers, Vacuum tube
- Automobiles
- Boiler plants
- Cooling towers
- Crystal diodes
- Electric fans, Ventilating
- Electric machinery
- Electric motors, Induction
- Electric resistors
- Electric transformers
- Fans, Mechanical
- Frequency changers
- Gas burners
- Gas turbines, Aircraft
- Guided missiles
- Internal combustion engines
- Machinery
- Magnetic tape
- Motor truck engines
- Oscillators
- Paper making machinery
- Petroleum—Pumping, Electric
- Petroleum—Well drilling
- Printing offices
- Pumps, Centrifugal
- Radar receiving apparatus
- Radio receiving apparatus
- Refrigeration and refrigerating machinery
- Rubber cutting
- Semiconductors
- Telephone
- Transistors
- Vacuum tubes

NOISE generators. See Sound—Apparatus

NOMOGRAPHS

- Alignment chart for loads on ditch conduits. L. E. Livingston, Jr. diags Water & Sewage Works 105:114-15 Mr '58
- Antenna null nomograph; reference sheet. B. Lindeman. Electronics 31:102 Ap 11 '58
- Attenuation of γ -rays from an infinite plane; data sheet. M. G. Chasanov and M. Shatzkes. Nucleonics 16:63 Je '58
- Calculate fractional powers by chart. B. Liss. Chem Eng 65:118 Je 30 '58
- Calculate secondary bus faults with nomograph; engineering reference sheet. H. C. Van Horn. Elec World 150:60-1 JI 28 '58
- Calculating noise in electrical resistors. A. E. Maine. Electronic Ind 17:70 Mr '58
- Chart finds precoat filter cake time. S. Tolin. Chem Eng 65:150 Mr 24 '58
- Chart reveals tank's vapor formation rate. S. D. George. Pet Refiner 37:362 S. Water & Sewage Works 105:R301-2 S 15 '58
- Circular nomograph for percent change. G. L. Schwendiman. diags Electronics 31:102-3 Ja 3 '58
- Concentration of impurities in water. D. S. Davis. Water & Sewage Works 105:R334 S 15 '58
- Contact ratio for involute gears; reference book sheet. E. A. Niemann. Product Eng 29:81 Je 9 '58
- Controlling scale formation in water treatment. M. R. Beychok. Power Ind 74:25-7 Ag '58
- Critical frequency, refractive index, and cone of escape in the ionosphere; nomograms. R. Bracewell and C. V. Stabileford. Inst Radio Eng Prod 46:198-9 Ja '58
- Designing stability into transistor circuits; chart and nomographs; reference sheet. S. Schenkerman. Electronics 31:122-4 F 14 '58
- Determination of kw rating of electric heaters to maintain storage tank temperatures; nomograph. Pet Eng 30:C35 JI '58
- Determine yarn tensions with these nomograms. F. Fournie. II Textile World 107:104-5-7 D '57
- Determining oscillatory accelerations. J. F. Sodaro. Product Eng 28:F 14 Mid-O '57
- Determining vhf line-of-sight; nomograph. G. Mather. Electronic Ind 17:supO 2 Je '58
- Elements of field processing; change in enthalpy; using nomographic methods. J. M. Campbell. Oil & Gas 55:164-4 Ap 21 '58
- Equivalent R-Z chart; reference sheet. H. E. Goldstine. Electronics 29:170, 172 Je '56; Same. Product Eng 28:1 18-19 Mid-O '57
- Estimating oxygen cutting time; engineering data sheet. Welding Eng 43:57 F '58
- Filter element nomographs. E. Davidson. diags Electronic Ind 17:supO 4-7 Je '58
- Find heater kw rating to heat storage tank; engineering reference sheet. Elec World 150:68 Ag 25 '58
- Find heater kw to maintain tank temperature; nomograph; engineering reference sheet. Elec World 150:73 S 3 '58
- Find tank costs by nomogram. D. S. Davis. Pet Refiner 37:200 Ap '58
- Find viscosity index by nomograph. D. S. Davis. Pet Refiner 37:330 S '58
- Find voltage rise provided by capacitors; engineering reference sheet. D. E. Haasch. Elec World 149:138 Ja 27 '58
- Flow conversion chart; converting units of volume flow. M. H. Green. Pet Refiner 37:232 Mr '58
- G loading of rotating bodies. C. P. Nachod. Product Eng 28:F30 Mid-O '57
- Gamma-ray attenuation with buildup in water; nomogram; data sheet. D. G. Chappell. Nucleonics 16:80 JI '58
- Gas flow rate; nomograph. W. J. Bailey. Power Ind 74:27 Its '58
- Graphical computations for wire drawing machine characteristics; nomograms. W. J. Owens, Jr. and C. C. Smith, Jr. diags Wire & Wire Prod 33:525-32 My '58
- Graphical solution of the oxygen-sag equation. T. A. Wastler and N. D. Wastler. biblog Sewage & Ind Waste 30:116-8 S '58
- Ground rules for determining or comparing bearing capacity ratings; with nomograph. L. Filderer. bibliog diags Machine Design 29:133-42 D 12 '57
- Here's a nomographic method of predicting reservoir performance. L. Dye. bibliog diags Oil & Gas J 55:178-80-1 N 11 '57
- Here's chart for fast figuring of air-dryer performance. R. R. Haugh. Food Eng 30:106-7 My '58
- How to construct network diagrams. W. J. Worley. Machine Design 30:163-70 F 20 '58
- How to convert free air volumes to compressed air equivalents; nomograph; data sheet. J. F. Waters. Heating-Piping 30:131-2 Ap '58
- How to determine stock requirements for tubing. Rubber Age 82:102 Mr '58
- How to determine tank capacities; data sheet. W. Hammer. Heating-Piping 30:143-4 Mr '58
- How to find pressure drop, select best pipe size for compressed air piping; data sheet. J. F. Waters. Heating-Piping 30:105-6 F '58
- How to find the length of a roll; nomograph. diags Rubber Age 82:470 O '57
- How to space supports for steel pipe; data sheet. G. Metry. Heating-Piping 30:197-8 Je '58
- Infrared range; nomograph. M. E. Seymour. Aviation Age 28:69 Ja '58
- Jamming nomograph; reference sheet. G. Minty. Electronics 31:83-4 Je 20 '58
- Magnetic drum and tape design nomograph. I. L. Resnick. Electronic Ind 16:63 D '57
- Make a nomograph to find condensate film temperature. F. Rodriguez and J. C. Smith. Chem Eng 65:150-1 Mr 10 '58
- Measuring loads of solid flat steel parts. G. C. Field. Metal Finishing 56:70-1 Mr '58
- Mechanism efficiency nomograms. R. H. Macmillan. Engineering 185:378 Mr 21 '58
- Microwave reflector gain chart. Electronic Ind 17:supO 1 Je '58

NOMOGRAPHS—Continued

- Missile battery performance; nomographs for silver-cadmium and silver-zinc batteries. F. J. Moretti. *Aviation Age* 30:82 S 58
- Multicoupler nomograph for tv antenna networks; reference sheet. A. Paolantonio. *diags Electronics* 31:86 My 23 '58
- New type of nomogram; aqueous ammonium sulfate solutions. A. M. P. Tans. *bibliog Ind & Eng Chem* 50:871-2 Je '58
- Nomogram for air-gap design. A. C. Sim. *diag Electronic & Radio Eng* 35:250-1 J1 '58
- Nomogram for punch length; reference book sheet. R. Gruenberg. *Am Mach* 102:93+ J1 28 '58
- Nomogram for second order systems. L. R. Axelrod. *bibliog Instruments & Automation* 30:2274-5; 31:462 D '57, Mr '58
- Nomogram for tower packing height. L. T. Fan. *Pet Refiner* 37:340 S '58
- Nomograph for intermediate stiffener spacing. A. S. Milgram. *Civil Eng* 28:268 Ap '58
- Nomograph for relating values of force-speed-torque-horsepower. L. Fiderer. *Product Eng* 28:1323 Mid-O '57
- Nomograph for turbulence mixers. J. G. Lowenstein. *Chem Eng* 65:141-2 Ap 7 '58
- Nomograph gives settling velocity. M. Ithoden. *Chem Eng* 65:180 Mr 10 '58
- Nomograph gives steam condensed by air. Y. P. Varshni. *Chem Eng* 65:130 Je 2 '58
- Nomograph gives torque for one to 50 hp. 100 to 5000 rpm; reference book sheet. S. W. Kaye. *Product Eng* 29:83 Je 9 '58
- Nomograph solves super-elevation equation. L. C. Allen. *Civil Eng* 27:377 D '57
- Nomograph speeds decline curve analysis. R. Harrell. *Pet Eng* 30:1336-7 Ja '58
- Nomograph to determine resistance of wire; engineering reference sheet. F. Strasser. *Elec World* 149:62 Je 2 '58
- Nomographic charts aid in design of zeolite water softening units. R. Ellissen and R. A. Cassell. *Water Works Eng* 111:40-4 Ja '58
- Oxygen dissolved in water. D. S. Davis. *Water & Sewage Works* 105:287 J1 '58
- Parabolic antenna system characteristics for simple performance calculation; nomographs. R. P. H. Yang. *Aviation Age* 28:64-5 Ja '58
- Path attenuation nomograph. N. Kashiwabar. *Electronics* 31:394+ Je 6 '58
- PI network nomograph. R. W. Johnson. *Electronics* 31:108+ S 12 '58
- Plunger lift method of oil production; constructing nomographs to simplify calculations. C. M. Beeson and others. *Pet Eng* 30:1368+ J1 '58
- Plunger lift method of oil production; how to use nomographs to estimate performance. C. M. Beeson and others. *Pet Eng* 30:1558-4 Ag '58
- Power factor related with corrective capacitor. L. B. Stein, Jr. *Elec World* 150:54 Ag 11 '58
- Pressure drop through pipe fittings. D. S. Davis. *Power Ind* 74:23 Ag '58
- Pressure drops for steam through valves and fittings. D. S. Davis. *Power Ind* 74:20 O '58
- Pressure drops for water through valves. D. S. Davis. *Power Ind* 74:31 O '58
- Pressure-loss conversion chart for pumping fluids. *Pet Eng* 30:1312 Ag '58
- Pressure losses in water meters. D. S. Davis. *Water & Sewage Works* 105:236 J1 '58
- Quick way to determine how much yarn is on a package; nomogram. *Textile Ind* 122:136-7 S '58
- Radar power nomograph. J. E. Allen. *diag Electronics* 31:72 J1 4 '58
- Radar system planning; reference sheet. C. W. Young. *Electronics* 31:120-1 F 14 '58
- Radio-frequency communication systems parameters; nomograph. B. J. Hittner and R. E. Hanson. *Aviation Age* 28:66-8 Ja '58
- Radio system calculator; reference sheet. J. J. Logan. *Electronics* 31:89-90 S 26 '58
- Radius of curvature of parabolic curve; nomogram. R. Gruenberg. *diag Product Eng* 28: F28-9 Mid-O '57
- Rapid conversion of hybrid parameters; reference sheet. S. Sherr. *Electronics* 31:75-6 Mr 28 '58
- Selecting motors for fans and centrifugal pumps; nomogram. C. G. Veinott. *Product Eng* 28:H8-9 Mid-O '57
- Short cuts for d-c magnet coil designs; nomograms. R. R. Taggs. *Elec Manuf* 61:119-22 Ja '58
- Shrink-fit nomograph for steel and cast-iron rings of equal length; reference book sheet. S. Ruppert. *diags Product Eng* 29:36+ Ap 14 '58
- Signal-strength chart; reference sheet. A. W. Emmons. *Electronics* 31:90 Je 6 '58
- Sizing hoppers; nomograph. R. W. Ruppert. *diag Power Ind* 74:41 Ja '58
- Solubility of oxygen in water. D. S. Davis. *Water & Sewage Works* 105:R385 S 15 '58
- Solution of Hazen and Williams formula for large capacity lines; nomograph. *Pet Eng* 30:151b F '58
- Solving the secant formula for structural steel columns. A. Gordon. *Civil Eng* 28:439-40 Je '58
- Speed chart for water and sewage works. W. F. Schaphorst. *Water & Sewage Works* 105:R393 S 15 '58
- Steam required for bleaching; nomograph. D. S. Davis. *Paper Ind* 39:783 D '57
- Swirl-line nomograph; reference sheet. T. P. Frugh. *diag Electronics* 31:72 Ap 25 '58; Same. *Product Eng* 29:119 Mid-S '58
- Telemetry progress; radio-frequency link for space with today's hardware; with nomographs. H. Scharia-Nielsen. *Aviation Age* 30:144-5 Ag '58
- Three nomographs simplify syrup calculations. M. A. Joslyn and A. S. Levens. *bibliog Food Eng* 30:108-10 S '58
- This chart simplifies your job of steam trap selection. W. G. Steinmiller. *Plant Eng* 12:128-9+ S 108-9 O '58
- Transistor cut-off nomograph; reference sheet. H. E. Schauwecker. *Electronics* 31:88 My 9 '58
- Use nomograph to find tank capacity. M. H. Green. *Pet Refiner* 37:174 F '58
- Viscosity of steam; nomograph. D. S. Davis. *Power Ind* 74:23 S '58
- Worm-efficiency charts; reference book sheet. O. Saarl. *Am Mach* 109:163, 165 N 19 '58; Same. *Product Eng* 28:E 16-17 Mid-O '57

NONADIENE

Acetylene-allene isomerization of nonadiene-1,4. W. J. Gensler and J. Casella, Jr. *bibliog Am Chem Soc J* 80:1276-50 Mr 20 '58

NON-EUCLIDEAN geometry. See Geometry

NON-FERROUS foundry society

Annual meeting, 15th, Cleveland, May 18-22. *Foundry* 86:114+ J1 '58

Management and operating conference, St Louis, Sept. 25; abstracts of papers. *Foundry* 86:198 N '57

NON-FERROUS metals. See Metals, Non-Ferrous

NONLINEAR equations. See Equations, Non-linear

NON-METALLIC bearings. See Bearings, Non-metallic

NONWOVEN fabrics. See Textile fabrics—Bonded web

NOODLES

Analysis

Determination of choline in egg products, flour, and noodles. H. Salwin and others. *bibliog J Agri & Food Chem* 6:475-3 Je '58

NORADRENALIN. See Arterenol

NORBORNADIENE. See Bicycloheptadiene

NORBORNANE. See Norcamphane

NORBORNENE. See Bicycloheptene

NORCAMPHANE

Rearrangement of Diels-Alder adducts; the rearrangement of 2-endo-bromonorbornane-2-endo-carboxamide. W. R. Boehme. *bibliog Am Chem Soc J* 80:4740-1 S 5 '58

NORCHOLESTENONE

A-nor- Δ^5 -cholesten-2-one. T. L. Jacobs and N. Takahashi. *bibliog Am Chem Soc J* 80:4865-8 S 20 '58

NORHYDROCORTISONE

Preparation and reactions of 11-substituted 1,3,5,10-estratrienes; synthesis of 19-norhydrocortisone. E. J. Magerlein and J. A. Hogg. *bibliog Am Chem Soc J* 80:2226-9 My 5 '58

NORLEUCINE

6-Diazo-5-oxo-L-norleucine, a new tumor-inhibitory substance; preparation of L-, D- and DL-forms. H. A. DeWald and A. M. Moore. *bibliog Am Chem Soc J* 80:3341-5 Ag 5 '58

NORMANDY invasion. See World war, 1939-1945—Campaigns and battles

NORNICOTINE

Metabolites of nicotine and a synthesis of nornicotine. H. McKenna, Jr. and others. *bibliog Am Chem Soc J* 80:1624-6 Ap 5 '58

NORPSEUDOEPHEDRINE

Biogenesis of *d*-norpseudo ephedrine in *catha edulis*. E. Leete. *Chem & Ind* p 1088-9 Ag 16 '58

NORTH AMERICA

See also

Geology—North America
Petroleum—North America
Rivers—North America

NORTH AMERICAN aviation, inc.

Company profile; NAA changes with the industry. R. M. Loebelson. *Aviation Age* 30:16-17+ J1 '58

NORTH Atlantic treaty organization

NATO gets scatter link. *Electronics* 31:24 S 5 '58

NATO; sharing electronics? *Electronics* 30:20-1 D 20 '57

NATO tackles patents. *Electronics* 31:50 Mr 7 '58

NATO viewpoints on share-the-scientific-wealth plan. *Product Eng* 28:111-12 N 25 '57

Scientific crisis in NATO states. *Chem & Eng N* 35:84+ N 11 '57

NORTH CAROLINA

See also subdivision North Carolina under

special subjects, e.g.
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NORTH DAKOTA

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Mines and mineral resources—North Dakota
Petroleum—North Dakota
Petroleum industry and trade—North Dakota

NORTH PALM BEACH, Florida**Sanitary affairs**

Water and sewerage for a new residential development. C. E. Wright. *Pub Works* 89:87-9 Ja '58

NORTHEAST

See also

Water supply—Northeastern states

NORTHERN IRELAND

See also

Geology—Northern Ireland

NORTHWEST

See also

Gas, Natural—Northwestern states, Supply to
Hydroelectric plants—Northwestern states

Industries and resources

Impact of natural gas on the economy of the Pacific Northwest. C. A. Trexel, jr. *Chem Eng Prog* 53:sup 130-2+ N '57

NORTHWEST electric light and power association

Engineering and operation section annual meeting, Yakima, Wash. *Elec World* 149:58+ Je 2 '58

NORTHWEST mining association

Annual meeting, Spokane, Dec. 6-7. *Eng & Min J* 159:100-3+ Ja '58

NORTHWEST TERRITORIES, Canada

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Petroleum—Northwest Territories, Canada

NORTRICYCLOLENE. See Tricycloheptane**NORWAY**

See also

Chemical engineering—Norway
Geology—Norway

NOSE cones. See Guided missiles—Nose cones; Rockets—Nose cones**NOTCHED bar testing**

Comparison of notched bar tests. A. W. Johnston. *Engineering* 136:107 J1 25 '58; Same. *Metallurgia* 58:129 S '58

Crack initiation and propagation in the V-notch Charpy impact specimen. C. E. Hartbower. *Il diags Welding J* 36:sup494-502 N '57

Ductility and energy relations in Charpy tests of structural steels. J. H. Gross and E. D. Stout. *Bibliog Welding J* 37:sup 151-5; Discussion. *sup* 156-8; Reply. *sup* 158-9 Ap '58

Effect of specimen geometry on Charpy low-blow transition temperature. G. M. Orner and C. E. Harbower. *Bibliog Il Welding J* 36:sup521-7 D '57

Improved notch toughness of experimental semikilled steels over one inch in thickness. R. W. Vanderbeck. *Bibliog diag Welding J* 37:sup 10-20 Ja '58

NOVA SCOTIA

See also subdivision Nova Scotia under special subjects, e.g.

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NOVACULITE

Revision of Caballos novaculite in Marathon region, Texas. W. B. N. Berry and H. M. Nielsen. *Bibliog map Am Assn Pet Geol* 42:2254-9 S '58

NOVOBIOTICIN. See Antibiotics**NOVOLAC resins. See Phenol condensation products****NOZZLES**

Boundary-layer correction in supersonic nozzle scaling. A. Kogan. *J Aeronautical Sci* 25:64 Ja '58

Design of air flow test chambers; preferred numbers system for the determination of calibrated nozzle diameters. E. A. Merz. *diag Refrig Eng* 66:49-50+ Ja '58

Discharge coefficient of an elementary steam nozzle. D. J. Ryley and H. Barrow. *Bibliog diags Engineer* 206:338-40 Ag 29 '58

Drilled studs make nozzles; bottle-washing machine. W. Nikola. *Il diags Am Mach* 102:140 Mr 10 '58

Effect of nozzle size on pouring rates and slab surface of rimming steels; abstract. A. T. Peters. *Metal Prog* 74:160 Ag '58

Effect of shock waves on the isentropic efficiency of convergent-divergent nozzles. B. W. Martin and P. J. Bayley. *diags Roy Aeronautical Soc J* 63:377-82 My '58

Efficiency of supersonic nozzles for rockets and some unusual designs. R. P. Fraser and others. *Bibliog Il diags Inst Mech Eng Proc* 171 no 16:553-59, pl 1-4; Discussion. 570-6; Reply. 577-80 '57

Empirical equations for the thrust generated by an ideal supersonic nozzle. P. N. Rowe. *Roy Aeronautical Soc J* 61:830-1 D '57

Erosion in turbojet fuel nozzles; Battelle memorial institute, radiochemical techniques. H. R. Hazard and others. *Il diags Mech Eng* 80:58-60 O '58

Exhaust nozzle contour for optimum thrust. G. V. R. Rao. *Bibliog diags Jet Propulsion* 28:377-82 Je '58

Exhaust nozzles for supersonic aircraft. H. Pearson. *Il diags Roy Aeronautical Soc J* 62:658-62 S '58

Experiments on chemical kinetics in a supersonic nozzle. P. P. Wegener and others. *Bibliog J Aeronautical Sci* 25:205-6 Mr '58

Fast spray droplet measurement promotes nozzle research. S. E. Farnham. *Il diags Ind Lab* 9:57-8+ O '58

Investigation of the end-wall boundary layer of a turbine-nozzle cascade. J. R. Turner. *Il diags A S M E Trans* 79:1801-5; Discussion. 1805-6 N '57

Locate tower nozzles quickly by using these charts and tables. B. D. Wookey. *diags Pet Refiner* 37:143-52 J1 '58

Measurement of flame speeds by a nozzle burner method. C. Halpern. *Bibliog Il diags J Res Nat Bur Stand* 60:535-46 Je '58

Nozzle changes pay off; success of the steel pouring operation depends on quality of these fireclay parts; abstracts of papers. *Steel* 142:144-4 Ap 21 '58

Optimization of nozzle area ratio for rockets operating in a vacuum. M. Goldsmith. *Jet Propulsion* 28:170-2 Mr '58

Pneumatic jet nozzle control. J. M. Stephenson. *diags Aircraft Eng* 30:44-5 F '58

Problems in measuring steam flow at 1250 psia and 950 F with nozzles and orifices. J. W. Murdoch and J. Goldsberry. *Bibliog Il diags A S M E Trans* 80:975-8 J1 '58

Reinforced opening design simplified. R. Chuse. *diag Pet Refiner* 37:146 F '58

Screw positions nozzles for shot peening. *Il diag Product Eng* 29:63 J1 7 '58

Spreading of supersonic jets from axially symmetric nozzles. C. J. Wang and J. B. Peterson. *diag Jet Propulsion* 28:321-8 My '58

Where stainless is lighter than aluminum; anti-ice nozzles for F-100 fighter planes. J. E. Reister and E. Rohrbeg. *Il diag Am Mach* 102:132-3 Mr 10 '58

NUCLEAR congress

Congress, Chicago, March 17-21; program and list of exhibitors. *Chem Eng Prog* 54:187-90+ F '58; *Nucleonics* 16:77-9+ F '58

Congress, 4th, Chicago. *Eng N* 160:23 Mr 27 '58

NUCLEAR congress—Continued

- Congress, 4th, Chicago, March 17-21; abstracts of papers. *Combustion* 29:56-9 Ap '58; *J Metals* 10:327-9 My '58
 1958 Nuclear congress preprints and proceedings. *Chem Eng Prog* 54:237-9 My '58; Same. *Mech Eng* 80:113-16 My '58
 Nuclear engineering and science conference, Chicago, March 17-21; tentative program. *Mech Eng* 80:128-31 Mr '58
 Nuclear engineering and science conference, 4th, Chicago, March 17-21. *Engineer* 206: 635-7, 675-7, 713-15, 751-3, 789-91 Ap 25-May 23 '58
 Nuclear engineering and science conference, 4th, Chicago, March 17-21. *Mech Eng* 80: 124-6 My '58

NUCLEAR emulsions. See **Photographic emulsions****NUCLEAR engineering**

- Allis-Chalmers and RCA form new engineering group to build Stellarator for thermonuclear research. *R. S. Stevenson and others. Franklin Inst J* 265:277-8 Mr '58
 American reports on chemical engineering in nuclear technology. *F. Roberts. Ind Chem* 34:253+ My '58
 Fusion and fission in the United Kingdom. *bibliog II Eng J* 41:90-1 Mr '58
 Nuclear engineering notes. *Nucleonics* 16:85 Ja; 102+ Mr; 104 Ap; 102-3 My; 89 Je; 99 Jl; 114 Ag; 104 O; 158 N '58
 Research and engineering progress, 1957; nucleonics. *II Gen Elec R* 61:30-6 Ja '58
 Standardization in the nuclear industry. *H. H. Hausner. II Mag of Stand* 29:225-31 Ag '58
 Thermonuclear enterprises; panel discussion. *Nucleonics* 16:122-3 My '58
 Trends in power generation; lessons for nuclear engineers. *H. E. Roberts. map Nucleonics* 16:76-9 Jl '58

Bibliography

- Metallurgy in nuclear engineering;** survey of the literature in 1957. *J. Burkett. bibliog Metallurgia* 58:32-6, 54-6 Jl-Ag '58
 1958 nuclear congress preprints and proceedings. *Chem Eng Prog* 54:237-9 My '58; Same. *Mech Eng* 80:113-15 My '58

Study and teaching

- Atomic theory training aims at chain reaction spread of know-how; two-year basic training course at Consolidated Edison co. of New York. *II Elec World* 150:38-9 Jl '58
 Department of nuclear engineering announced at MIT. *Elec Eng* 77:558 Je '58
 Design and uses of a light-water-moderated subcritical assembly. *B. W. McDaniel and T. A. Elliott. bibliog II diags Am J Phys* 26:163-74 Mr '58
 Educational framework of an industrial society; demands of the Atomic energy programme. *A. H. Gillieson. Research* 11:137-40 Ap '58
 Fundamental training in nuclear power; postgraduate course at Imperial college. *J. M. Kay. II Engineering* 185:394+ Mr 28 '58
 Nuclear engineering educational package has subcritical reactor. *II Ind & Eng Chem* 50: sup 122A F '58
 Nuclear engineering in a package; Nuclear-Chicago complete laboratory and course for teaching nuclear engineering. *II Chem & Eng N* 36:108 Ja 6 '58
 Nuclear reactor project at the University of Akron. *Elec Eng* 77:328 Ap '58
 Training for nuclear power work; Harwell reactor school. *Eng J* 41:104 S '58
 TRIGA trains, produces isotopes. *II diag Chem & Eng N* 36:76-7 My 5 '58

Tables, calculations, etc.

- Application of digital computers to nuclear-reactor design. *J. Howlett. bibliog Inst E E Proc* 105 pt B:331-6; Discussion. 365-9 Jl '58
 Easy computation of adjoint fluxes. *B. Wolfe. Nucleonics* 16:121 Mr '58
 Gamma-ray attenuation with buildup in water; nomogram; data sheet. *D. G. Chappell. Nucleonics* 16:80 Jl '58
 Perturbation theory techniques help in predicting reactivity at high burnup. *B. Wolfe. Nucleonics* 16:116-21 Mr '58
 Simplified P_3 approximation method for calculating thermal utilization. *E. M. Page and R. L. Murray. diag Nucleonics* 16:114-15 Mr '58

NUCLEAR engineering and science conference. See **Nuclear congress****NUCLEAR engineers****Training**

- Nuclear power plant training simulator for use at Calder Hall. *I. Wilson and L. A. J. Lawrence. II diags Brit Inst Radio Eng J* 18:85-93 F '58
 Realistic nuclear trainer; simulation of boiling-water experimental reactor. *F. X. McPartland. II Control Eng* 5:338+ S '58

NUCLEAR magnetic resonance. See **Magnetic resonance****NUCLEAR physics**

- Cross sections; Geneva 1958. *Nucleonics* 16:107+ S '58
 Introduction to reactor physics. *A. A. Markson. diags Instruments & Automation* 31: 616-23 Ap '58
 Nuclear orientation and nuclear cooling; first Fritz London address. *N. Kurtl. bibliog (28 ref) diags Phys Today* 11:19-26 Mr '58
 Physics in reactor design. *G. W. K. Ford. diags Engineering* 184:723-6, 756-9, 784-7, 814-18 D 6-27 '57
 Precision microscope for large nuclear plates. *L. Kaulberg and others. II diags R Sci Instr* 29:297-8 Ag '58
 Recent advances in physics. *D. Park. bibliog (91 ref) diags Am J Phys* 26:210-34 Ap '58
 Some elements of physics for the pressurized-water reactor. *II Westinghouse Eng* 18:37 Mr '58
 Theoretical physics. *A. Ashmore. Engineering* 185:649-50 My 23 '58

See also**Atomic nuclei**
Nucleonics**Bibliography**

- Books.** Published in monthly numbers of **Nucleonics**

Experiments

- Basic experiment in radiological physics. *A. A. Bartlett. bibliog Am J Phys* 26:281-6 My '58
 Measurement of e/m by the Hoag method. *Soemrit and others. diags Am J Phys* 26: 316-18 My '58

Study and teaching

- Nuclear training center to be set up in Puerto Rico. *Elec Eng* 76:1100 D '57

Tables, calculations, etc.

- Mnemonic device for relativistic particle kinematics. *F. S. Crawford, Jr. Am J Phys* 26:376-7 S '58

Terminology

- Roentgen, the rep, and the rem. *Electronic & Radio Eng* 35:252-4 Jl '58
 When is a barn not a barn? *L. Bollinger. Elec Eng* 77:657-8 Jl '58

NUCLEAR plate camera. See **Cameras****NUCLEAR power.** See **Atomic power****NUCLEAR power plants.** See **Atomic power plants****NUCLEAR radiation.** See **Radioactivity****NUCLEAR reactions**

- Conference on photonuclear reactions, 6th. Washington, April 30-May 1. *Phys Today* 11:18-20 S '58
 Discovery of fission. *O. Hahn. II diags Sci Am* 198:76-83+ F '58
 Fusion and fission in the United Kingdom. *bibliog II Eng J* 41:90-1 Mr '58
 Gas target and nuclear plate camera. *D. L. Booth and others. II diag J Sci Instr* 35:24-6 Ja '58
 Making labeled compounds; chemical effects of nuclear transformations. *J. E. Evans and others. bibliog (42 ref) diag Ind & Eng Chem* 50:192-5 F '58
 Neutron production at high energies. *W. E. Crandall and G. P. Milburn. bibliog diag J Ap Phys* 29:698-704 Ap '58
 Neutrons call the tune. *diags Engineering* 185:142-3 Ja 31 '58
 Pioneer fusion's frontiers. *II Chem Eng* 65: 70 F 24 '58
 Radionuclides arranged by gamma-ray energy; data sheet. *G. W. Smith and D. R. Farnelo. Nucleonics* 16:80-1 F '58
 Recent advances in physics; catalysis of nuclear reactions by μ mesons. *D. Park. bibliog Am J Phys* 26:213-15 Ap '58
 Stability studies with longitudinal magnetic field on a straight pinched discharge. *L. C. Burkhardt and others. bibliog II J Ap Phys* 29:964-7 Je '58

NUCLEAR reactions—*Continued*

- Summer meeting on nuclear reactions, Mali Losinj, Yugoslavia, July 12-29; abstracts of papers, *Phys Today* 11:17-18 F '58 and L. Velocity filter for nuclear spectroscopy; crossed magnetic and electric fields, L. H. T. Rietjens and others, *diags R Sci Instr* 29:768-9 S '58
- Wave vector technique for the analysis of direct interactions, G. E. Owen and L. Madansky, *bibliog diags Am J Phys* 26: 260-6 Ap '58
- See also
- Neutrons—Capture
Wigner force
also subdivision Nuclear reactions under special subjects, e.g.
- Cadmium
Deuterium
Hydrogen
Iodine
Phosphorus
Platinum
Plutonium
Radium
Thorium
Uranium
Xenon
- Fusion
- ABC's of thermonuclear fusion energy, H. Taylor and A. V. Tobolsky, *il Am Scientist* 46:191-203 Je '58
- Are we on the road to fusion power? *il Power* 102:31 Ap '58
- AEC nears first fusion goal, A. E. Ruark and others, *Elec World* 149:54 My 12 '58
- AEC reveals fusion plans, *diags Electronics* 31:8 Je 6 '58
- Breakthrough in H-power, *il Electronics* 31: 46-7 F 7 '58
- Catalysed fusion reactor, A. Ashmore, *diag Engineering* 185:430-1 Ap 4 '58
- Cold fusion of hydrogen nuclei, K. Strauch and others, *Franklin Inst J* 265:276-7 Mr '58
- Controlled fusion reactions, *il Chem & Ind* p 124-5 p 1 '58
- Controlled thermonuclear energy; major breakthrough or mirage? *il Chem Eng Prog* 54:170-1 F '58
- Controlled thermonuclear fusion; its meaning to the radio and electronic engineer, E. W. Herold, *bibliog diags RCA R* 19: 162-86 Je '58; Abstracts, *Electronics* 31:14-1 Mr 28 '58; *Franklin Inst J* 265:522-3 Je '58
- Controlled thermonuclear fusion; promise of the future, G. Warfield, *diags RCA R* 19: 137-61 Je '58
- Controlled thermonuclear power; recent results of research on high-temperature plasmas, *il diags Wireless World* 64:111-14 Mr '58
- Controlled thermonuclear processes, *il Engineer* 205:160-4 Ja 31 '58
- Controlled thermonuclear progress in the United States and Britain, *il diags Power Eng* 62:44-7 Ap '58
- Controlled thermonuclear reactions, *Metal Prog* 73:107 Mr '58
- Controlled thermonuclear reactions, A. A. Ware, *bibliog il Engineering* 184:610-13 N 15 '57
- Controlled thermo-nuclear research, J. Cockcroft, *Brit Inst Radio Eng J* 18:398-400 J1 '58
- First steps in fusion, *il plan Engineering* 185:108-10 Ja 24 '58
- Four routes to thermonuclear reaction, *diags Machine Design* 30:30-1 Je 26 '58
- Fusion boosts electronics role, M. Benedict, *Electronics* 31:14-1 F 28 '58
- Fusion fracas, the heat's on, *il Chem & Eng N* 35:19-20 D 23 '57
- Fusion; Geneva 1958, *il diags Nucleonics* 16:66-71+ S '58
- Fusion power, A. Gibson, *Engineering* 185: 649 My 23 '58
- Fusion power, R. F. Post, *il diags Sci Am* 197: 73-84 D '57
- Fusion power progress, *Sci Am* 198:50-1 Mr '58
- Fusion power still a long way off, *il Chem & Eng N* 36:23-4 F 3 '58
- Fusion research, *Sci Am* 198:45-6 Je '58
- Fusion research at Geneva; U.S.A. thermonuclear experiments exhibited, *il diags Electronic Eng* 30:593-603 O '58
- Fusion tests mark a big stride toward future's power supply, *il Elec World* 149: 56-7 F 3 '58
- Fusion; the Russian picture; Geneva conference, *il Nucleonics* 16:23-4 S '58
- Fusion; where do we stand? Geneva conference, *Nucleonics* 16:22 S '58
- Hydromagnetic shocks used in nuclear fusion engine, C. F. Johnson, *bibliog diags Aviation Age* 80:30-6 Ak; 118-20-1 S '58
- Microwaves aid fusion research; abstract, M. A. Heald, *Nucleonics* 16:111 J1 '58
- New routes to fusion power? *diags Chem & Eng N* 36:34-5 My 19 '58
- Princeton's stellarator; abstract, L. Spitzer, *Nucleonics* 16:122-3 My '58
- Problems of mastering thermonuclear power, H. Hurwitz, jr., *il diags Gen Elec R* 61:18-23 J1 '58
- Production of thermo-nuclear energy, *il Research* 11:114-16 Mr '58
- Russian scientist describes thermonuclear techniques; abstract, I. Kurchatov, *Machine Design* 30:36-1 Ap 17 '58; *Aero/Space Eng* 17:21 J1 '58
- Stellarator, L. Spitzer, jr., *il diags Sci Am* 199:28-35 O '58
- Strange device; Zeta, *diags Engineering* 186:168-9 Ag 8 '58
- Thermonuclear apparatus on a smaller scale, *il diag Engineering* 185:184-6 F 7 '58
- Thermonuclear enterprises; panel discussion, *Nucleonics* 16:122-3 My '58
- Thermonuclear research, T. E. Allibone, *bibliog diags Engineer* 206:369-71 S 5 '58
- United States and Britain reveal fusion advances with detailed descriptions of pinch-effect devices, *bibliog il Nucleonics* 16:90-3-1 F '58
- U.S. and British controlled-fusion research; abstracts of papers, *Elec Eng* 77:374-5 Ap '58
- What is ZETA and fusion reaction? *il diag Power Ind* 74:18 Ap '58
- Why the confusion on fusion? *Product Eng* 23:12 Ap 7 '58
- Will elusive fusion power become commercially feasible before our supply of fossil fuels is exhausted; abstract, J. F. Black, *S A E J* 66:59 Ag '58
- Zeta opens up new paths in power engineering, *il diags Am Soc Naval Eng J* 70:480-4 Ag '58
- Zeta opens up new paths in power engineering, *il diags Engineering* 185:134-6 Ja 31 '58
- ZETA; releasing thermonuclear energy, *il diag Electronic & Radio Eng* 35:112-13 Mr '58
- ZETA sets the pace in fusion studies, J. Tunstall and D. Barlow, *il Control Eng* 5:35-6-1 Mr '58
- ZETA, the zero energy thermonuclear assembly, *il diags Electronic Eng* 30:108-20 Mr '58
- NUCLEAR reactors
- A.W.R.E. research reactors, *Engineer* 206: 309-10 Ag 22 '58
- Argonne reactor gives 1,250-kw dividend, *Elec World* 149:47 Ja 13 '58
- AEC's industrial-heat program, J. F. Kaufmann and D. H. Stewart, jr., *Nucleonics* 16:85 F 3 '58
- Atomic energy; illustrations with text, *Engineer* 205:p1 12 Ja 10 '58
- Atomic energy in 1957, *il Engineer* 205:5-7 Ja 3 '58
- Atomic energy problems mount, *il Iron Age* 180:86 N 7 '57
- APDA's fast-breeder reactor vessel for the Enrico Fermi atomic power plant, *il Combustion* 29:53-4 My '58
- Australia's first nuclear reactor; Lucas Heights research establishment, *il Chem & Ind* p522-3 My 3 '58
- Australia's first reactor, *il diag Engineering* 185:558-9 My 2 '58; *Excerpt, Eng J* 41:85 J1 '58
- BR 2 nuclear reactor is constructed in Belgium, *Elec Eng* 77:655 J1 '58
- Bigger and better swimming-pool reactors, F. N. Garay, *Nucleonics* 16:99-101 F '58
- Boiling water reactors, *Engineer* 206:497-8 S 26 '58
- Building for research reactor at Munich technical university, *diag Engineer* 204:915 D 20 '57
- Canada's first subcritical atomic reactor for educational purposes, *Elec Eng* 77:99 Ja '58
- Carolina to get reactor, *Chem & Eng N* 36:25 Ap 21 '58
- Clean-machined graphite for Chalk River, E. J. Kleber, *il diag Am Mach* 102:100-1 Je 2 '58
- Core installed in Shippingport, *Elec Eng* 76: 1112-13 D '57
- Creech tests for materials on gas-cooled reactors, *diag Engineer* 204:759-60 N 22 '57; Same, *il Metallurgia* 56:313-14 D '57
- Cryostat for reactor irradiation, C. C. Sarntain and H. P. Yockey, *bibliog flow diag diags R Sci Instr* 29:118-21 F '58

NUCLEAR reactors—Continued

- Custom production of radiol isotopes; Triga. Elec Eng 76:1113 D '57
- Design and use of a light-water-moderated subcritical assembly. B. W. McDaniel and T. A. Elliott, bibliog 11 diags Am J Phys 26:168-74 Mr '58
- Dounreay, Britain's fast reactor project. 11 diags Power Eng 61:58-62 N '57
- Dounreay first commercial fast-breeder, diags Can Chem Process 41:70-2 N '57
- Dual-purpose production reactors. 11 Nucleonics 16:105-74 My '58
- Eight reactor types, a thermodynamic comparison. S. Baron, diags Nucleonics 16:64-7 Je '58
- Engineering developments; reactors; illustrations with text. Elec Eng 77:4-5 Ja '58
- Engineering test reactor, a status report. R. L. Doan. 11 Nucleonics 16:102-5 Ja '58
- Engineering test reactor-AEC's newest test reactor. 11 diags Power Eng 61:106-10 D '57
- Experimental breeder reactor-1 starts up with Mark III core. Nucleonics 16:122 F '58
- Fast and various. 11 diags Engineering 184:826-7 D '57
- Fast-breeder power reactors; where does U.S. program stand? L. J. Koch. 11 Nucleonics 16:68-73 Mr '58
- First private nuclear reactor produces commercial atomic power. 11 diags Eng & Min J 158:111-12 D '57
- Future engineering development of the gas-cooled nuclear reactor. J. M. Kay, 11 diags Iron & Steel Inst J 183:3-8 Ja '58; Same cond. Engineer 204:526-7 O 11 '57
- Geneva preview: U.S. exhibits reactor with unique fuel-moderator; TRIGA. 11 Nucleonics 16:116 Ar '58
- Geneva reviews reactor progress. 11 Nucleonics 16:25-8 S '58
- Heat reactor prospects abroad. R. Liljeblad. 11 diags Nucleonics 16:70-1 F '58
- Huge fabrication job poses design problems. 11 Chem Eng 63:56+ Je 2 '58
- Industrial progress in nuclear field during 1957. 11 A S T M Bul p21-4 F '58
- Instrumentation for a boiling water reactor. L. Kornblith, Jr. Elec Eng 77:696-8 Ar '58
- Instrumentation for nuclear reactors. 11 Research 11:362-3 S '58
- Introduction to reactor physics. A. A. Markson, diags Instruments & Automation 31:616-23 Ap '58
- Inventory of new processes and technology; nuclear materials and technology. Chem Eng 65:135-7 My 5 '58
- Is cobalt harmful in stainless steel? J. R. Lane. Metal Prog 72:36-7 D '57
- Leeds & Northrup co. builds reactor simulator for exhibition. 11 Elec World 150:56 Ar 11 '58
- Low-cost heat reactor. E. L. Heller and D. O. Hubbard. 11 Nucleonics 16:63 F '58
- Low manganese steels for nuclear applications. H. F. Beeghly, bibliog 11 J Metals 8:Trans 1664-70 D '56; Abstract. Metal Prog 73:178+ Mr '58
- Low-power research reactors. 11 Elec Eng 77:108 Ja '58
- Market for heat reactors. K. M. Mayer. Nucleonics 16:66-7 F '58
- Metallurgy of experimental boiling water reactor. K. F. Smith. 11 diags Metal Prog 72:79-83 N '57
- More efficient nuclear plants for Britain. R. M. Fishenden. Power Eng 62:56+ O '58
- NSF awards two grants for research reactors. A. T. Waterman. Elec Eng 77:253-4 Mr '58
- Neptune experimental reactor; illustrations with text. Engineer 205:729 My 16 '58
- New developments in ceramics; nuclear uses. J. H. Koenig. 11 Materials in Design Eng 47:134-6 My '58
- New reactor spurs nuclear research. Iron Age 180:149-50 N 21 '57
- New reactors go up in England and Belgium. 11 Chem & Eng N 36:60 Ji 14 '58
- Nuclear gas turbines. L. H. Roddis, Jr. Mech Eng 80:60-1 Ji '58
- Nuclear heat for paper mills? G. Perazich. Nucleonics 16:63 F '58
- Nuclear power developments in the Netherlands. Engineer 205:187-8 Ja 31 '58
- Nuclear process heat reactors, problems large, rewards great. B. W. Gamson, bibliog flow diag diag Chem Eng Prog 54:74-8 F '58
- Nuclear propulsion; prospects for ships, aircraft, and on land. J. Edwards, bibliog 11 diags Engineering 186:304-12 S '58
- Nuclear reactor dynamic analysis. R. Parr and D. V. Wordsworth, diag Engineer 206:46-7, 89-91 Ji 11-18 '58
- Nuclear reactor for distilling sea-water. I. Vlietehuk and N. Arad, bibliog diag Engineering 185:523-30 My 16 '58
- Nuclear reactor project at the University of Akron. Elec Eng 77:328 Ap '58
- Nuclear rockets; rocket-reactor design. M. M. Levoy and J. J. Newgard, diags Nucleonics 16:66-8 Ji '58
- Operating a research reactor; Ford nuclear reactor, University of Michigan. J. L. Shapiro and H. J. Gomberg. 11 diags Mech Eng 80:68-71 O '58
- Outlook for industrial heat reactors. E. L. Heller and others. 11 Nucleonics 16:62-4 F '58
- Perturbation theory techniques help in predicting reactivity at high burnup. B. Wolfe. Nucleonics 16:118-21 Mr '58
- Political snag looms on gas-cooled reactor proposals. Elec World 150:51 S 29 '58
- Power breeding as a national objective; editorial. A. M. Weinberg. Nucleonics 16:75-6 Ar '58
- Powerful atomic test reactor completed at Idaho Falls. 11 Civil Eng 77:830 N '57
- Pressure drop for parallel flow through rod bundles. B. W. Le Tournau and others. bibliog 11 A S M E Trans 79:1751-6; Discussion. diags 1756-7; Reply. 1757-8 N '57
- Pressurized water reactor primary system; the reactor. 11 diags Westinghouse Eng 18:39-43 Mr '58
- Pressurized water reactor; Shippingport plant. 11 diags Nucleonics 16:insert Ap '58
- Pressurized water reactor to operate conventionally; Shippingport nuclear power plant. diags Elec World 149:56-8+ Mr 10 '58
- Pressurized water reactor; with table of nuclear fuel cycle costs. E. D. Reeves. S A E J 66:45-9 My '58
- Reactor concepts. diags Power Eng 62:39-42 My '58
- Reactor flux. diags Engineering 184:730-1 D 6 '57
- Reactors for the sea. T. W. F. Brown, diags Engineering 184:444-6, 569-71 O 4, N 1 '57
- Removing radioactive cartridges lodged inside reactors. 11 Engineer 205:983 Je 27 '58
- Research and engineering progress. 1957; nucleonics. 11 Gen Elec R 61:30-6 Ja '58
- Research reactor to be installed for campus training; University of Arizona; abstract. T. L. Martin, Jr. Elec Eng 77:569 Je '58
- Research reactors. Nucleonics 16:139-43 S '58
- Role of nuclear energy in water conversion processes; abstract. W. R. Hainsworth and others. Chem Eng Prog 54:87-8 F '58
- Safeguards aspects of reactor vessel design. D. R. Miller and W. E. Cooper, bibliog Welding J 37:sun2-6 Ja '58; Same. 11 Am Soc Naval Eng 70:367-73 My '58
- Shippingport reactor shutdown features; PEA systems operation meeting, Pittsburgh, Feb. 6-7. Elec World 149:74 Mr 24 '58
- Small sodium-cooled reactor dedicated in California. 11 Civil Eng 28:62 Ja '58
- Sodium reactor experiment. 11 Mech Eng 80:61-2 Ja '58
- Sodium reactor experiment begins operating on West coast. 11 Ind Lab 9:48-9 F '58
- Sodium reactor experiment formally placed in operation. 11 diags Power Eng 62:42-5 F '58
- Some considerations in the design of steam generators for pressurized water reactor systems. I. Granet, bibliog Am Soc Naval Eng J 70:471-9 Ar '58
- Some elements of physics for the pressurized-water reactor. 11 Westinghouse Eng 18:37 Ar '58
- Some properties of uranium-low titanium alloys; abstract. D. J. Murphy. Metal Prog 72:151-2 N '57
- Temperature-zoned reactor. F. H. Clark and C. N. Klahr, flow diag Nucleonics 16:114-17 My '58; Discussion. G. B. Melese. 16:129 Ar '58
- Transient free convection from a vertical flat plate. R. Siegel, bibliog S M E Trans 80:347-57; Discussion. 358-9 F '58
- University of Frankfurt nuclear research reactor. Elec Eng 77:254 Mr '58
- Upping experimental boiling water reactor's power. J. A. DeShong, Jr. bibliog diag Nucleonics 16:68-72 Je '58
- Use ceramics in power reactors. C. El. Curtis. diags Cer Ind 71:76-9 Ji '58
- Void-induced power distortion in boiling-water reactors. J. W. Weil. Nucleonics 16:90+ Je '58
- Water-channel peaking factors. R. W. Deutsch. diags Nucleonics 16:95-9 Je '58

NUCLEAR reactors—Continued

What is a nuclear reactor? D. A. Carrison and C. O. Smith, flow diag II diags Am Soc Nava, Eng J 70:311-25 My '58
What to consider when designing piping for nuclear processes, W. R. Dunbar and others, II Heating-Piping 30:107-9 Ag '58

See also

Airplanes, Atomic powered
Atomic power plants
Automobiles, Atomic powered
Locomotives, Atomic powered
Rockets, Atomic powered
Ship propulsion, Atomic

Bearings

Design and operation of ball bearings for use in pressurized-water reactor systems, P. R. Eklund, II diags Lub Eng 14:153-8+ Ap '58

Control

Auctioneer controls atomic reactor coolant temperature; abstract, H. A. Powers, diags Control Eng 5:117+ JI '58

Control of nuclear reactors, R. J. Cox and J. Walker, bibliog Inst E E Proc 103 pt B:577-89 S '56; Discussion, 103 pt B:607-16; 105 pt B:119-20 S '56, Mr '57

Control valves for homogeneous reactors, A. M. Billings, diags I S A J 5:54-7 Je '58

Design of graphite moderators, diags Engineering 184:636-8 N 15 '57

Instrumentation of a pressurized water reactor atomic power plant; Shippingport atomic power plant, S. Baron and T. L. R. Williamson, II plan diags I S A J 5:46-51 J '58

Instrumentation system for prototype atomic submarine, II Elec Eng 77:765-7 Ag '58

Instruments of Pennsylvania advanced reactor slurry-test loop, E. A. Goldsmith and W. W. Wentzel, flow diag II I S A J 5:50-3 Je '58

Load control for the Shippingport nuclear power station, H. A. Van Wassen, Power Apparatus & Systems p 1504-6 F '58

New alloy for reactor control, Chem & Eng N 36:56 Ja 6 '58

Nuclear reactor core instrumentation, Franklin Inst J 265:435 My '58

Power reactor control, C. C. Scott, diags Instruments & Automation 31:636-7 Ap '58

Power reactor control; special report, bibliog II diags Nucleonics 16:81-92 My '58

Reactor control, II. N. Brey, jr, bibliog flow diag II diags Instruments & Automation 31:630-5 Ap '58

Reactor control by spectral shift, M. C. Edlund and G. K. Rhode, Mech Eng 79: 1153 D '57

Reactor instrumentation; Southeastern simulation council, Gainesville, Fla. May 24; panel discussion, Instruments & Automation 30:2085-7 N '57

Reactor plant control, II diags Westinghouse Eng 18:50-3 Mr '58

Shippingport reactor, diags Instruments & Automation 31:633 Ab '58

Solenoid valves for nuclear power, A. W. Churchill, II Power Eng 62:47-8 F '58

Water in moderation for nuclear reactors, II Engineering 186:44-5 JI 11 '58

Control rods

Ag-In-Cd could replace Hf for pressurized water reactor control rods, I. Cohen and others, bibliog II Nucleonics 16:122-7 Ag '58
Boron steel for control rods thermal shields, N. Balal, II Nucleonics 16:100-1 Ja '58

Power reactor control; control rod drives; illustrations and drawings with text, W. J. Kann and J. M. Harrer, Nucleonics 16:84-5 My '58

Power reactor control; control rod materials, D. N. Dunning and W. E. Ray, bibliog II Nucleonics 16:88-92 My '58

Power reactor control; fluid poison control of boiling water reactors; substitute for control rods, J. A. Thie, bibliog Nucleonics 16:82-3 My '58

Radioactive decontamination process enables rebuilding of worn parts; Fairchild camera and instrument corp, II Ind Lab 9:12-13 Je '58

Cooling

Atomic recovery for space-heating at Hanford, S. L. Nelson, II diag Heating-Piping 30:161-3 Je '58

Auctioneer controls atomic reactor coolant temperature; abstract, H. A. Powers, diags Control Eng 5:117+ JI '58

British drop liquid-cooled reactor systems, Product Eng 29:21 Ag 18 '58

British reactor of the future achieving high temperatures in a gas-cooled system, diags Engineering 186:336-9 S 12 '58

Conditioning of D₂O in heavy water power reactors, G. M. Allison, II Can J Chem Eng 36:217-20 O '58

Dependence of thermal stresses in cylindrical reactor fuel elements upon the method of cooling, K. R. Moschke, Bibliog A S M E Trans 80:985-90 JI '58

Design of six boilers for gas-cooled nuclear-power reactors, P. S. Otten, diags Power 102:80-3 F '58

Fluid cooler sends 12,000 gpm to research reactor, II diag Power Eng 62:81-2 JI '58

Gas cooled kw. look good, Chem & Eng N 36:23 My 5 '58

Gas-cooled power reactors, Nucleonics 16: 104+ My '58

Gas-cooled reactor for the South of Scotland electricity board, P. J. Grant, diags Nucleonics 16:103-13 My '58

Gas-cooled reactors still U.K. favorite, J. Cockcroft, Nucleonics 16:102-3 My '58; Abstract, Elec World 143:52 Ap 14 '58

How tubes compare for nuclear reactor boilers, P. S. Otten, II Power 102:80-3+ Ja '58

Nuclear reactor needs purest of water, II Eng N 160:31-2 My 1 '58

Pressurized water reactor primary system; the coolant loop, II diags Westinghouse Eng 18:44-7 Mr '58

Problems in reactor coolants; abstract, E. E. Hoffman, Metal Prog 72:196+ D '57

Radioactive water poses new problems, C. T. Dickert and others, II Power 102:88-90 S '58

Radioactive and pyrolytic decomposition of organic reactor coolants; abstracts, D. R. de Halas, Chem Eng Prog 54:92-3 F '58; Engineering 186:141 Ag 1 '58

Sodium, terphenyl, water, vie for role as reactor coolant; process flow sheet, C. H. Chilton, II Chem Eng 65:90-3 Je 30 '58

Some aspects of the use of an organic coolant in a heavy-water-moderated power reactor; abstract, M. J. McNelly, diag Engineering 186:140-1 Ag 1 '58

Spiral fuel element for gas-cooled reactors, R. C. Dahlberg and T. C. Evans, diags Nucleonics 16:106-8 Ap '58

Temperature transients in gas-cooled thermal nuclear reactors, J. H. Bowen and E. F. O. Masters, diags Inst E E Proc 105 pt B:337-48; Discussion, 365-3 J '58

Thermodynamics of gas-cooled reactors, G. B. Melese, Nucleonics 16:72-6 F '58

U.S. designs gas-cooled reactors, diag Nucleonics 16:118 Ag '58

Vibration of rods induced by water in parallel flow, D. Sargrent and others, Engineering A S M E Trans 80:991-1001; Discussion, 1001-2; Reply, 1002-3 JI '58

Corrosion

Radioactive water poses new problems, C. T. Dickert and others, II Power 102:88-90 S '58

Design

Application of digital computers to nuclear-reactor design, J. Howlett, Inst E E Proc 105 pt B:331-6 JI '58; Excerpts, Engineer 205:243-5 F 14 '58; Discussion, Inst E E Proc 105 pt B:365-9 JI '58

Atomic review; lattice, II diags Engineering 185:301-3 Mr 7 '58

Cheaper atom power? two new design approaches, one for control the other for coolant, Chem & Eng N 36:54+ O 20 '58

Electrolytic method for transient mixing measurements; engineering design of reactor vessel, M. F. Norlin, II diag Franklin Inst J 265:229-32 '58

Engineering the reactor plant; Shippingport plant, II Nucleonics 16:57-9 Ap '58

Future development of nuclear power, J. Cockcroft, Engineer 205:435-6 Mr 21 '58

General considerations for reactors and related plant types, J. F. Stolz, bibliog II plans, diag Am Soc E E Proc 84:1ST 5 no 17631:1-15 S '58

New reactor concepts; Geneva 1958, plan diags Nucleonics 16:78-82 S '58

Physics in reactor design, G. W. K. Ford, diags Engineering 184:723-6, 756-9, 784-7, 814-18 D 6-27 '57

Reactor core design; Shippingport plant, II Nucleonics 16:62-8 Ap '58

Reactor physics; Geneva 1958, Nucleonics 16:94-7 S '58

Reactor projects; Geneva 1958, II Nucleonics 16:72-7+ S '58

NUCLEAR reactors—Design—Continued

- Reactors on the line; Oak Ridge research reactor, *il* diag. *Nucleonics* 16:insert Ag '58
 Reactors on the line; Vallecitos boiling water reactor, *flow* diag. *il* diag. *Nucleonics* 16:insert R '58
 Test loop for determining burnout heat flux. W. Millich and E. C. King, *diag* *Nucleonics* 16:108-9 Ap '58
 TRIGA trains, produces isotopes, *il* diag. *Chem & Eng N* 36:76-7 My '58
 Wigner effects; factors in the design of graphite moderators for nuclear reactors. P. J. Grant, *Engineering* 185:120-1 Ja 24 '58

Electric analogies

- Electrical analog solves reactor design problems. S. Nagao, *diag. Nucleonics* 16:88-90 Ja '58

Failure

- Accident at Windscale, *diag* *Power Eng* 62:45-7 F '58
 Critical-assembly booby traps. H. C. Paxton, *il* diag. *Nucleonics* 16:80-1 Mr '58
 Final Fleck report on Windscale; problems of Wigner energy. *Engineer* 206:47-50 Jl '58
 Fire in a nuclear reactor; British experimental reactor at Windscale. *Sci Am* 198:46+ F '58
 Instruments caused British reactor incident. *Elec World* 148:83 N 25 '57
 Public reaction is critical after Britain's radiation incident. *Elec World* 148:46+ O 28 '57
 Thermonuclear link seen in Britain's accident. *Elec World* 148:53 N 11 '57
 White paper on Windscale. *Engineer* 204:709 N 15 '57
 Windscale incident. T. Bishop. *Metal Prog* 73:114-15 Ja '58
 Windscale inquiry, *diag. Engineering* 184:635-6 N 15 '57
 Windscale pile accident. *il* *Chem & Ind* p 1512-13 N 16 '57

Fires and fire protection

- NFPA to vote on first nuclear reactor fire code and changes in other codes at Chicago. *Chem & Eng N* 36:80 Ap 28 '58

Fuel

- Aqueous corrosion of uranium fuel-element cores containing 0 to 20 weight percent zirconium. D. R. Grieser and E. M. Simons, *il* diag. *Corrosion* 14:27-32 J '58
 Armour dust-fueled reactor. *Mech Eng* 80:59 Jl '58
 Atomic fuel made in filter-tip size. *il* *Iron Age* 181:79 Je '58
 Atomic review; fluid state, *diag* (p333) *Engineering* 185:332 Mr '58
 Atomic review; material question. *il* *diag* *Engineering* 185:494-5 Ap 18 '58
 Blending versus re-enrichment. D. Kallman and J. E. Brennan. *Nucleonics* 16:101 Jl '58
 Continually scour air in new atom fuel plant. *il* *Heating-Piping* 29:146-8 N '57
 Controlled potential coulometric determination of uranium and copper in homogeneous reactor fuels. L. G. Farrar and others. *bibliog* *Anal Chem* 30:1511-14 S '58
 Core is installed in Shippingport atomic electric generating station. *il* *Iron & Steel Eng* 34:165 N '57
 Cue for atom-fuel processing by industry? J. A. King, *il* *Chem Eng* 65:62+ O 6 '58
 Dependence of thermal stresses in cylindrical reactor fuel elements upon the method of cooling. K. R. Merckx, *bibliog* *A S M E Trans* 80:985-90 Jl '58
 Engineering design of Oak Ridge fluoride volatility pilot plant. R. P. Milford, *bibliog* *il* *diag* *Ind & Eng Chem* 50:187-91 F '58
 Fuel costs in batch- and continuous-processed homogeneous reactors. P. R. Kasten and R. E. Aven, *bibliog* *Ind & Eng Chem* 50:171-7 F '58
 Fuel cycles; Geneva 1958. *Nucleonics* 16:104-6 S '58
 Fuel for the world's reactors; report on U.S. fuel technology. *bibliog* *il* *diag* *Nucleonics* 16:77-104 Ag '58
 Fuel handling for the pressurized water reactor plant, *il* *Westinghouse Eng* 18:54-6 Mr '58
 Fuel reprocessing series. J. A. Lieberman, *bibliog* *diag* *Nucleonics* 16:82-9 F '58
 Gaseous-fuel reactor. S. Baron, *bibliog* *flow* *diag* *Nucleonics* 16:123+ Ag '58

- How UO_2 fuel cores are extruded. D. R. Stenquist and R. J. Ancietti, *il* *Cer Ind* 71:102-3 O '58
 Laundering reactor fuel; liquid fused-salt fuel systems get reprocessed by ionic reactions in melt; abstract. W. R. Grimes, *Chem & Eng N* 36:52-3 Jl 7 '58
 Materials testing reactor tries out 20 per cent-enriched U. *Nucleonics* 16:114 Ag '58
 Metallurgy and fuels. L. M. Wyatt, *Engineering* 185:648-9 Mr 23 '58
 Metallurgy in nuclear engineering; survey of the literature in 1957; metallurgy of reactor fuels. J. Burkett, *bibliog* *Metallurgia* 58:64-6 Ag '58
 NH_4F , versatile reagent for zirconium fuels. A. T. McCord and D. R. Spink, *il* *Nucleonics* 16:94+ F '58
 Nuclear fuels; Geneva 1958, *il* *diag* *Nucleonics* 16:98-103 S '58
 Nuclear reactor feed-materials plant; Davison chemical co. *il* *Chem Eng Prog* 54:142 Ap '58
 Packaged nuclear fuel reprocessing plants proposed. *Chem Eng Prog* 54:122-4 Ja '58
 Plutonium fuels power reactor. *Chem & Eng N* 36:28 S 1 '58
 Plutonium recycle test reactor. R. M. Fryar, *il* *Nucleonics* 16:62-3 Ja '58
 Preparation of arc-melted uranium carbides. R. J. Gray and others, *il* *diag* *Metal Prog* 74:65-70, cover Jl '58
 Pricing enriched uranium. H. L. Hollister and A. J. Burington, *flow* *diag* *Nucleonics* 16:54-7 Ja '58
 Reactor core design; Shippingport plant. *il* *Nucleonics* 16:62-8 Ap '58
 Research findings speed nuclear progress. D. W. Lillie, *il* *Gen* *Elec R* 61:43-5 Jl '58
 Safety of magnesium canning for CO_2 -cooled reactors. M. Salesse, *il* *diag* *Nucleonics* 16:123-4 F '58
 Shortcut to uranium fuels; process flowsheet. C. H. Chilton, *il* *Chem Eng* 65:138-41 O 20 '58
 Simplified P_2 approximation method for calculating thermal utilization. E. M. Page and R. L. Murray, *diag* *Nucleonics* 16:114-15 Mr '58
 Six methods produce cores for tubular fuel elements. T. F. Nagev, *il* *diag* *S A E J* 66:34-7 Mr '58
 Sizing up uncertainties in nuclear fuel costs; symposium. *Nucleonics* 16:50-3 Ja '58
 Some procedures for the evaluation of reactor fuels and sheathing materials at Chalk River. R. F. S. Robertson, *bibliog* *il* *diag* *Can J Chem Eng* 36:213-16 O '58
 Spiral fuel element for gas-cooled reactors. R. C. Dahlberg and T. C. Evans, *diag* *Nucleonics* 16:106-8 Ap '58
 Thorium-uranium bodies and irradiation studies. C. L. Hoenig and others, *bibliog* *il* *Am Cer Soc J* 41:117-23 Ap 1 '58
 Time and temperature dependence of thermal stresses in cylindrical reactor fuel elements. K. R. Merckx, *bibliog* *A S M E Trans* 80:505-9 F '58
 Two ceramic sections in new atomic fuels center. *il* *Cer Ind* 71:98+ Ag '58

History

- Nuclear chain reaction; when the first atomic pile went critical. S. K. Allison and others. *Metal Prog* 72:65-70 D '57

Instability

- Boiling-water-reactor instability. J. A. Thie, *bibliog* *Nucleonics* 16:102+ Mr '58
 Xenon spatial oscillations. D. Randall and D. S. St John, *Nucleonics* 16:82-6+ Mr '58

Lubrication

- A-power lubricants cost ten per cent more. *Elec World* 148:100 N 25 '57

Manufacture

- Atomic reactors get top-grade welds. *il* *Steel* 141:92-3 N 25 '57
 Jig borer with built-in gaging device aids nuclear reactor production. *il* *Tool Eng* 40:151-2 Mr '58
 Lesson in fabricating nuclear parts. *il* *diag* *Metal Prog* 74:68-74 Ag '58
 Lubrication problems in fabrication of nuclear reactor metals. P. Lowenstein, *diag* *Lub Eng* 14:262-5 Je '58
 Pratt & Whitney jig borer built to solve nuclear reactor production problem. *il* *Mach* 64:183-4 Mr '58

NUCLEAR reactors—Manufacture—Continued.

Solve countless problems to build giant reactor vessel. *Il* diag Iron Age 182:84-6 JI 17 '58
 Welding aids nuclear power for civilian use. W. A. Heath, *Il* Welding Eng 43:34-5 Mr '58

Materials

Atomic age challenge to steel. E. A. Livingstone, *J Metals* 10:111-13 F '58
 Atomic review; physical aids. *Il* Engineering 185:396-7 Mr 28 '58
 High temperature materials progress. *Il* Nucleonics 16:114 Ag '58
 Inert-gas tungsten-arc welding of titanium for nuclear and chemical industries. G. M. Adamson and W. J. Leonard, *Il* diag Welding J 37:673-82 JI '58
 Materials; Geneva 1958. Nucleonics 16:108-10+ S '58
 Materials miscellany. *Il* diag Engineering 184:792-5 D 20 '57
 Metallurgical aspects of nuclear power engineering. J. C. Wright, bibliog diag Engineer 205:613-15, 658-60, 696-9, 726-8 Ap 25-May 16 '58
 Moderator is polyethylene. *Il* diag Mod Plastics 35:90-1 JI '58
 Power reactor control; control rod materials. D. N. Dunning and W. E. Ray, bibliog *Il* Nucleonics 16:88-92 My '58
 Reactor irradiation techniques. B. S. Hickman, Engineer 205:918-20 Je 20 '58
 Research findings speed nuclear progress. D. W. Lillie, *Il* Gen Elec R 61:53-5 JI '58
 Some procedures for the evaluation of reactor fuels and sheathing materials at Chalk River. R. F. S. Robertson, bibliog *Il* diag Can J Chem Eng 36:213-16 O '58
 Steel castings for radioactive service. G. Sorkin, *Il* Foundry 86:71-3 O '58
 To cut nuclear power costs. Argonne's alloy X-8001. *Il* Mod Metals 14:36-7 Ag '58
 What price reactor materials? with cost data. M. F. Judkins, Nucleonics 16:96-8 Ja '58
 Zircaloy vs stainless; a cost comparison. M. Benedict, Nucleonics 16:104 Ap '58

Model testing

Simulating nuclear blast effects. J. R. Bohannon, Jr. and W. E. Baker, *Il* Nucleonics 16:74-7; Discussion. 78; Reply. 79 Mr '58

Models

Nuclear power plant training simulator for use at Calder Hall. I. Wilson and L. A. J. Lawrence, *Il* diag Brit Inst Radio Eng J 13:85-93 F '58
 Realistic nuclear trainer: simulation of boiling-water experimental reactor. F. X. McPartland, *Il* Control Eng 5:338+ S '58

Performance

Reactor spectra by pulse method. M. J. Roole, Nucleonics 16:106 Je '58

Protection

Consumable weld insert for thick pressure vessel wall. Franklin Inst J 266:76-7 JI '58
 60,000 kw atomic power plant operating; Shippingport pwr unit incorporates multiple safeguards. Corrosion 14:31-2+ Ap '57
 Spherical containment shell of the Dresden station. L. P. Zick and others, *Il* diag Am Soc C E Proc 84 [PO 2 no 1601]:1-26 Ap '58
 Structural properties of magnetite concrete; engineering test reactor biological shield. J. M. Raphael, bibliog *Il* diag Am Soc C E Proc 84 [ST 1 no 1511]:1-26 Ja '58
 Thermal considerations in the design of concrete shields. H. S. Davis, bibliog diag Am Soc C E Proc 84 [ST 5 no 1756]:1-25 S '58

Safety measures

Air locks in nuclear domes. *Il* Elec Eng 77:860 S '58
 Analogue computers and their use in nuclear reactor safety studies. I. Wilson and R. Potter, diag Brit Inst Radio Eng J 18:95-100 F '58
 Boron steel for control rods and thermal shields. N. Balai, *Il* Nucleonics 16:100-1 Ja '58
 Costly necessity; nuclear reactor shields. A. W. Kramer, Power Eng 62:41-4 S '58
 Hazards evaluation of the Yankee reactor. C. K. Beck, Nucleonics 16:112-14 Mr '58
 How AEC licensing is evolving in today's experimental stage. H. L. Price, Elec World 149:74-5 Ap 28 '58

How transistor circuits protect atomic reactors. E. J. Wade and D. S. Davidson, *Il* diag Electronics 31:73-6 JI 18 '58
 Instrumentation system for prototype atomic submarine. *Il* Elec Eng 77:166-7 Ag '58
 Monitors for nuclear reactor fission products. J. Kohl, bibliog *Il* diag I S A J 5:43-6 Je '58
 Neutron gamma measurements for in-pile power monitoring. A. C. Lapsley, bibliog diag Nucleonics 16:106+ F '58
 Power reactor control; special safety devices. N. E. Huston and N. C. Miller, Nucleonics 16:86-7 My '58
 Radiation barriers in a reactor plant. B. J. Garrick, diag Civil Eng 28:661-3 S '58
 Reactor research is virtually safety program. H. G. Hembree and J. J. Davenport, *Il* Elec World 150:68-70 S '58
 Reactor safety fuse. Franklin Inst J 266:253 S '58
 Research reactor shuts off automatically; KEWBE. Franklin Inst J 266:149-5 Ag '58
 Safety aspects of nuclear power reactors. *Il* diag Power Eng 62:50-4 O '58
 Television for removing radioactive cartridges. Electronic Eng 30:585 O '58
 Tv searches inside reactor. *Il* Electronics 31:15+ S 12 '58
 Wigner energy release for BEPO. Nucleonics 16:99 JI '58

Testing

Engineering test reactor in Idaho. flow diag *Il* diag Engineer 204:917-19, 948-51 D 20-27 '57
 Measurements at 750 F; breeder reactors. Electronics 31:40 Mr 21 '58
 Measuring reactor spectra with thresholds and resonances. J. B. Trice, diag Nucleonics 16:91-3 JI '58
 Miniature fission chamber for neutron-spectrum measurements. J. B. Trice, diag Nucleonics 16:84+ JI '58
 Nuclear rockets; Los Alamos' Project Rover. R. E. Schreiber, *Il* diag Nucleonics 16:70-2 JI '58
 Oxide on catcher foils spoils power measurements. J. N. Renaker and others, Nucleonics 16:127 F '58
 Scintillation-counter analysis of experimental boiling water reactor radioactivity. S. J. Goslovich and others, Nucleonics 16:94+ My '58
 Testing aircraft nuclear power plants. A. R. Crocker, *Il* Aeronautical Eng R 16:30-5 D '57
 Ultrasonic pulses detect reactor-shug flaws. J. D. Ross and R. W. Leep, *Il* diag Electronics 31:59-61 Je 20 '58
 Xenon-poisoning computer. J. J. Paul and J. R. G. Cox, *Il* diag Nucleonics 16:97-101 My '58

Transportation

Shipping reactor vessel; mighty moving problem. *Il* map Civil Eng 28:558 JI '58

Waste

Asphalt lining of radiochemical waste storage basins. C. D. Watson and others, bibliog flow sheet *Il* Ind & Eng Chem 50:sup87A-91A Ag '58
 AEC proposes to process spent fuels. Chem Eng Prog 53:sup90+ D '57
 Army package power reactor water treatment and waste disposal. A. L. Medin, *Il* diag Ind & Eng Chem 50:989-90 JI '58
 Atomic review; by-products and waste products. Engineering 186:108-9 JI 25 '58
 Batch processing for kilocurie production of barium-140. A. L. Ayers and B. M. Legler, flow sheets *Il* diag Chem Eng Prog 54:83-6 F '58
 Cue for atom-fuel processing by industry? J. A. King, *Il* Chem Eng 65:62+ O 6 '58
 Disposal of fission products. K. Saddington, Chem & Ind p 182-3 F 15 '58
 High radiation level hydroclone centrifuging removes homogeneous reactor fission products. W. D. Burch, bibliog flow sheet diag Chem Eng Prog 54:79-82 F '58
 Highlights of research in sanitary engineering; Union carbide nuclear co.; experimental sand filters for airborne radioactive particulates. R. E. Yoder and F. M. Empson, *Il* diag Pub Works 88:94-5 D '57
 Packaged plants for spent fuels. C. G. Manly, Chem & Eng N 35:50 N 18 '57
 Radioactive waste discharges from nuclear reactors. J. G. Terrill, *Il* bibliog Sewage & Ind Wastes 30:270-82 Mr '58. Abstract. Water & Sewage Works 104:557 D '57
 Radioactive wastes in sewage treatment. Franklin Inst J 266:150-1 Ag '58

NUCLEAR reactors—Waste—Continued

- Reactor exclusion areas; can they be eliminated? G. W. C. Tait. *bibliog Nucleonics* 16:71-3 Ja '58
- Recovery of uranium from stainless steel fuel elements. L. W. Niedrach and others. *bibliog diag Ind & Eng Chem* 50:763-6 My '58
- Symposium on nuclear energy, fuel processing; abstracts of papers. *bibliog diags Engineering* 185:204-6, 236-8 F 14-21 '58
- Treatment and disposal of fuel-reprocessing waste. J. A. Lieberman. *bibliog diags Nucleonics* 16:32-9 F '58
- Treatment of radioactive wastes using ion transfer membranes; removal of bulk electrolytes; abstract. E. A. Mason and others. *Chem Eng Prog* 54:93-4 F '58

NUCLEAR spin. See Atomic nuclei—Spin**NUCLEATION. See Condensation****NUCLEI, Atomic. See Atomic nuclei****NUCLEIC acids**

- Building blocks synthesized. *Chem & Eng N* 36:51-2 S 29 '58
- Incorporation of 5-fluorouracil into the nucleic acid of tobacco mosaic virus. M. P. Gordon and M. Stachem. *bibliog Am Chem Soc J* 80:2340-1 My '58
- Kinetic study of the ultraviolet decomposition of biochemical derivatives of nucleic acid; purines. M. J. Kland and L. A. Johnson. *bibliog Am Chem Soc J* 79:6187-92 D 5 '57
- Metabolism of pteroylglutamic acid and liver nucleic acid levels in certain vitamin deficiencies. S. Halevy and K. Guggenheim. *bibliog J Nutrition* 65:77-87 My '58
- Nucleic acids, what, where, why; abstract. E. F. Gale. *Chem & Ind* p848 J 1 '58
- Preparation of nucleic acids of malt by zone electrophoresis. G. Harris and E. Parsons. *bibliog Chem & Ind* p557-8 My '58
- Some possible biological effects of an electric field acting on nucleic acids or proteins. T. L. Hill. *bibliog Am Chem Soc J* 80:2142-7 My '58

See also

- Desoxyribonucleic acid
Ribonucleic acid

NUCLEONICS

- Review of fundamental developments in analysis. W. W. Meinke. *Anal Chem* 30: 686-728 *bibliog*(p703-28) pt 2 Ap '58

NUCLEOPHILES

- New factor affecting reactivity in bimolecular nucleophilic displacement reactions. J. F. Bunnett. *bibliog Am Chem Soc J* 79:5969-74 N 20 '57

NUCLEOPROTEINS

- Composition and properties of the thymus desoxyribonucleoprotein of Doty and Zubay. A. L. Dounce and M. O'Connell. *bibliog Am Chem Soc J* 80:2013-15 Ap 20 '58

NUCLEOSIDES

- 5-Amino-4-imidazolecarboxamide riboside from inosine; ring-opening reactions of purine nucleosides. E. Shaw. *bibliog Am Chem Soc J* 80:3899-902 Ag '58
- Interconversions of polyribonucleotides and nucleoside triphosphates. C. W. Chung and H. R. Mahler. *bibliog Am Chem Soc J* 80:3165-6 Je 20 '58
- Nucleoside polyphosphates; new and improved syntheses of uridine diphosphate glucose and flavin adenine dinucleotide using nucleoside-5' phosphoramidates. J. G. Moffatt and H. G. Khorana. *bibliog Am Chem Soc J* 80:3756-61 J 20 '58
- Nucleoside polyphosphates; the use of phosphoramidic acids in the synthesis of nucleoside-5' pyrophosphates. R. W. Chambers and H. G. Khorana. *bibliog Am Chem Soc J* 80:3749-52 J 20 '58
- Nucleosides labeled with tritium in the ribosyl group. M. F. Gordon and others. *bibliog Am Chem Soc J* 80:5161-4 O 8 '58
- Oxygen glycosides from the Hilbert-Johnson pyrimidine nucleoside synthesis. P. Newmark and I. Goodman. *bibliog Am Chem Soc J* 79:6446-50 D 20 '57
- Phosphoramidates build cells; new route to nucleoside diphosphates; abstract. R. W. Chambers. *Chem & Eng N* 36:45 Ap 21 '58
- Potential anticancer agents; model experiments for synthesis of 2'-deoxynucleosides by the 2,3-episulfide approach. L. Goodman and others. *bibliog Am Chem Soc J* 80: 1680-6 Ap 5 '58
- Potential anticancer agents; synthesis of nucleosides derived from 6-deoxy-D-allofuramose. E. J. Reist and others. *bibliog Am Chem Soc J* 80:3962-6 Ag '58

- Pyrimidine nucleosides; the synthesis of 1- β -D-lyxofuranosylthymine. J. J. Fox and others. *bibliog Am Chem Soc J* 80:5155-60 O 5 '58
- Synthesis of 1-(aminodeoxy- β -D-ribofuranosyl)-2-pyrimidinones; new 3'- and 5'-aminonucleosides. H. M. Kissman and M. J. Weiss. *bibliog Am Chem Soc J* 80:2575-83 My 20 '58
- Synthesis of 9-(3-amino-3-deoxy- β -D-xylofuranosyl)-6-dimethylaminopurine, an analog of the aminonucleoside derived from puromycin. R. E. Schaub and others. *bibliog Am Chem Soc J* 80:4692-7 S 5 '58
- Synthesis of nucleoside cyclic phosphates. A. M. Michelson. *bibliog Chem & Ind* p70-1 Ja 18 '58
- Synthesis of nucleoside-5' pyrophosphates. A. M. Michelson. *bibliog Chem & Ind* p 1669-70 D 28 '57
- Synthesis of potential anticancer agents; ribonucleosides of 2-substituted purines. H. J. Schaeffer and H. J. Thomas. *bibliog Am Chem Soc J* 40:4896-9 S 20 '58
- Thiation of nucleosides; synthesis of 2-amino-6-mercapto-9- β -D-ribofuranosylpurine (thioguanosine) and related purine nucleosides. J. J. Fox and others. *bibliog Am Chem Soc J* 80:1669-75 Ap 5 '58

See also

- Desoxyribonucleosides

NUCLEOTIDES

- Interconversions of polyribonucleotides and nucleoside triphosphates. C. W. Chung and H. R. Mahler. *bibliog Am Chem Soc J* 80: 3165-6 Je 20 '58
- Natural 3'-deoxyribomononucleotides. L. Cunningham. *bibliog Am Chem Soc J* 80:2446-9 My 20 '58
- Nucleoside polyphosphates; new and improved syntheses of uridine diphosphate glucose and flavin adenine dinucleotide using nucleoside-5' phosphoramidates. J. G. Moffatt and H. G. Khorana. *bibliog Am Chem Soc J* 80:3756-61 J 20 '58
- Nucleotides of 2-(2'-deoxy-D-ribofuranosyl)-6-methyl-*asym*-triazine-3,5(2,4)-dione (azathymidine). R. H. Hall and R. Haselkorn. *bibliog Am Chem Soc J* 80:1138-41 Mr 5 '58
- Observations of new phenomena in the fluorescence spectrum of a diphosphopyridine nucleotide-linked dehydrogenase. A. D. Winer and others. *bibliog Am Chem Soc J* 79:6571-2 D 20 '57
- Photoreduction of triphosphopyridine nucleotide by chromophores of rhodospirillum rubrum. L. P. Vernon. *bibliog Am Chem Soc J* 80: 246-7 Ja 5 '58
- Polarity of a model for reduced pyridine nucleotides. G. Cilento and others. *bibliog Am Chem Soc J* 80:4472-4 S 5 '58
- Relationship of structure to properties of diphosphopyridine nucleotide and other pyridinium compounds. M. R. Lamborg and others. *bibliog Am Chem Soc J* 79:6173-7 D 20 '57
- Simultaneous reduction of diphosphopyridine nucleotide and oxidation of reduced flavin mononucleotide by illuminated bacterial chromatophores. A. W. Frenkel. *bibliog Am Chem Soc J* 80:3479-80 J 15 '58
- Synthesis in the study of nucleotides. A. Todd. *bibliog*(32 ref) *Chem & Ind* p 170-6 F 15 '58

NUISANCES

- Defining a nuisance for a model ordinance. *Pub Works* 89:146- F '58

NULTRAX transducer. See Transducers**NUMBERING systems**

- How to pick the right number. *II diag Mill & Factors* 62:113 Ap '58
- New record-keeping system for metallographic laboratories; simple numbering method. J. R. Driear. *Metal Prog* 72:89-91 D '57

NUMBERS

- Complex numbers and four-bar linkages. R. S. Hartenberg. *bibliog diags Machine Design* 30:166-63 Mr 20 '58

NUMBERS. Theory of

- Lineal computations over a complex field. J. Schmidtmayer. *bibliog Roy Aeronautical Soc J* 62:451-5 Je '58

NUMERALS

- Automatic number identification and its application to no. one crossbar panel and step-by-step offices. D. H. Pennover. *II diags Bell System Tech J* 37:1295-318 S '58
- Automatic reading machine. *Electronic Eng* 30:106 J '58
- Device reads handwritten numerals. T. L. Dimond. *Franklin Inst J* 265:168 F '58
- Machine reads handwritten numerals. *II Elec Eng* 77:369-70 Ap '58
- Machine reads handwritten numerals. *II diags Machine Design* 30:42 Ja 23 '58

NUMERALS—Continued

Number reader speeds paper work. *il* Electronics 31:96 Ja 17 '58
 Reading handwritten characters; experimental device. *il* diags Bell Lab Rec 36:34-5 Ja '58
 Reliable character sensing system for documents prepared on conventional business devices; abstract. D. H. Shepard and others. *Inst Radio Eng Proc* 46:669 Mr '58

NUMERATION

Counting with the fingers. M. P. Varshney and others. *diags Engineering* 185:739-40, 803; 186:67-8 Je 13, 27, JI 18 '58

NUMERICAL control

ASTE surveys numerical control. *Tool Eng* 40:104 My '58
 Applications of numerical control. L. S. Peck. *diags Tool Eng* 40:115-18 My '58
 Applying the IBM 704 to milling-machine programming; with cost data. J. Albert and others. *flow diag il diags Control Eng* 5:101-6 Je '58
 Automatic factories; Digtape controlled metal-parts production line. *il* Radio-Electronics 29:8 Mr '58
 Automatic machine control in the aircraft industry. *Automobile Eng* 48:58 F '58
 Automatic machine tool for small shop; Dikmatic system. *il* Electronic Ind 17:7 JI '58
 Automatic positioning with punched tape control; Posmatic jig borer. *il* diags Elec Manuf 61:120-5+ Ap '58
 Barnesdrill four-spindle boring machine is numerically controlled. *il* Am Mach 101:165 D 16 '57
 Barriers to faster cutting; report at the ASTE show highlights what we need to work at tomorrow's machining speeds. *Steel* 142:100 My '58
 Burgmaster tape-controlled turret drilling, tapping, and boring machine. *il* Mach 65:188-9 S '58
 Card programming control of rolling mills. R. W. Holman and others. *il* diags Iron & Steel Eng 35:113-19 Je '58
 Cleereaman adds numerical control to layout drilling. *il* Am Mach 102:125-6 Je 16 '58
 Cleereaman layout drilling machine with numerical-positioning tape control. *il* Mach 64:193-4 JI '58
 Computer control of machine tools. G. M. Reynolds. *il* Mech Eng 80:59-60 Ja '58
 Computer cuts steps in flame profiling. *il* diags Iron Age 181:90-1 My 1 '58
 Computer produces aircraft parts; Digtape system; illustrations with text. *Electronic Ind* 17:106-8 Ap '58
 Contouring control from numerical data. J. W. Wilson. *il* diags Tool Eng 40:94-8 Ap '58
 Cutting tools change automatically. *il* Tool Eng 40:93 F '58
 Dikmatic automatic control for drill presses. *il* Mach 64:186 F '58
 Drilling for dollars; punched tape machine pays off in eight months; Hughes aircraft co. J. W. Moffett. *il* Plant Eng 12:94-5 O '58
 Electrical impulses provide two-dimensional contouring control. *il* diags Automation 5:57-9 JI '58
 Electronic machine line; Hughes Aircraft and Kearney and Trecker corp. *il* Electronics 31:8 Mr 28 '58
 Electropoint system runs turret drills. *il* Mach 64:122-5 Je '58
 Ex-Cell-O numerically controlled 3-D profilers machine around axis of workpiece. *il* Am Mach 102:127 S 8 '58
 Ex-Cell-O Numeri-Tool profiling machines. *il* Mach 65:172-3 D '58
 First US tape-controlled line goes into production at Hughes-El Segundo. *il* Am Mach 102:98 Mr 24 '58
 Flip-flops and diode gates translate punched-tape program; Bendix numerical control system. G. H. McDaniel and R. C. Sims. *il* diags Elec Manuf 61:84-92 F '58
 Four-spindle boring machine controlled by punched tape. *il* Mach 64:150-1 Ja '58
 Future possibilities of automatic programming; abstract. D. T. Ross. *Tool Eng* 40:208-9 My '58
 Gisholt unveils Factrol tape controls. *Am Mach* 101:177 N 4 '57
 How to buy numerical control. E. J. Egan, Jr. *il* Iron Age 182:61 Ag 14 '58
 Hughes puts digital control on the line; Digtape system. M. J. Murphy. *Control Eng* 5:21+ Ap '58
 Improve job-lot production with numerical positioning. S. C. Clark, Jr. *il* diags Automation 5:80-8 Ap '58

Introduction of numerical control at Martin. L. E. Laux. *il* Automation 5:142+ Ap '58
 Kearney & Trecker offers three standard millers with numerical control. *il* Am Mach 101:120 D 30 '57
 Line that made headlines; Hughes Aircraft tape-controlled production line. W. Wagensell. *il* plan Am Mach 102:106-9 My 5 '58
 Lucas introduces program-controlled boring, drilling, milling machines. *il* Am Mach 102:108 Je 30 '58
 Machine tool builder looks at numerical control; abstract. R. E. Cross. *Tool Eng* 39:211-12 N '57
 Magnetron beam switching tubes counting circuit controls numerically programmed index table. C. B. Smith. *il* diags Elec Manuf 61:138-42+ Mr '58
 Missiles manufactured by automated machine tool line; illustrations with text. *Elec Eng* 77:430 My '58
 Morey offers numerically-controlled profile and contour-milling machine. *il* Am Mach 102:142 Mr 24 '58
 New binary code tape control system offers more automation for small shop. *il* Steel 141:131 O 28 '57
 New tool does job of three; tape-controlled drill. E. J. Egan, Jr. *il* Iron Age 180:65 N 28 '57
 1958 production preview; automatic machine control. *il* Am Mach 102:150-2 Ja 27 '58
 Non-electronic numerical control. *il* diags Product Eng 28:34-5 D 9 '57
 New tape-controlled production line! *Product Eng* 29:28 Mr 24 '58
 Numerical control adapted to four-spindle boring machine. *il* Automation 5:9-10 F '58
 Numerical control cost too high? H. W. Mergler. *Iron Age* 181:107 My 22 '58
 Numerical control cuts cost 43 per cent; Lockheed aircraft corp. *il* Steel 142:66-7 Je 2 '58
 Numerical control gives multipurpose flexibility; abstract. A. F. Eskelin. S A E J 66:116+ Ap '58
 Numerical control grows and grows in Britain. D. Barlow. *il* Control Eng 5:29-30+ Je '58
 Numerical miller pays dividends; Lockheed aircraft co. E. J. Egan, Jr. *il* Iron Age 181:85 F 27 '58
 Numerical positioning control for small-tool machine tools. *il* diag Automation 5:46-7 Ag '58
 Numerical tool control pushed. *il* Electronics 31:20-1 Mr 7 '58
 Numerical vs tracer controls; Douglas Aircraft tries both. E. J. Egan, Jr. *il* Iron Age 180:119-20 D 19 '57
 Numerically controlled drill eliminates templates and layout time. *il* Am Mach 102:122 JI 14 '58
 Numerically-controlled jig borer selects its own tools. *il* Am Mach 102:156 Mr 10 '58
 Numerically-controlled machine now available for small-tool job shop operations. *il* Mach 64:163 Je '58
 Numerically-controlled skin millers machine airframe skins and structures. *il* Am Mach 102:152 F 10 '58
 Numeriord data-control system for machine tools. *Automobile Eng* 48:37 Ja '58
 Production-proved numerical control. H. E. Ankeney and D. H. Bingham, Jr. *il* diags Am Mach 101:145-56 N 4 '57 (reprints 30c)
 Program controllers set the pulsebeat of industry. J. D. Cooney and others. *bibliog il diags Control Eng* 5:116-82 S '58
 Punch cards lead drive to automatic mill control. G. J. McManus. *il* Iron Age 182:169-71 S 11 '58
 Punched tape, dial, and manual control combined in single system. *il* Am Mach 101:182 N 4 '57
 Punched tape programs multipindle mill. *il* diag Tool Eng 40:94 Mr '58
 Punched tape speeds code-rod drilling. P. L. Smith and H. J. Baxter. *il* Mach 65:155-6 O '58
 Punched-tape units control new type transfer line. *il* Iron Age 181:106-8 Mr 20 '58
 Revolution in the shop; numerical control takes over. *Control Eng* 5:61+ Ja '58
 Robot machines can serve you now. *flow diag il diags Mill & Factory* 63:83-6 S; 102-5 O '58
 Sees widespread use of numerical control by 1963. M. S. Curtis. *Am Mach* 102:80 Ag 25 '58
 Six areas for saving dollars through numerical control; abstract. A. F. Eskelin. S A E J 66:78-9 Ap '58

NUMERICAL control—Continued

- Some recent developments in automatic programming for numerically controlled machine tools; abstract. D. T. Ross. *diags Control Eng* 5:180+ F '58
- Strip mill uses automatic programmed control. E. H. Browning. *il diags Automation* 5:64-7 Je '58; Same cond. Westinghouse Eng 18:80-1 My '58
- Switch to numerical control can be easy; abstract. H. P. Grossimon. *S A E J* 66:76-7 Ag '58
- Taylor flexible automation to industry needs. *Product Eng* 29:20 Ja 13 '58
- Tape control system for machine tools, *il Engineer* 206:155 J1 25 '58
- Tape-controlled miller saves on short runs. *il Iron Age* 181:84-5 My 1 '58
- Tape-controlled positioner designed with cascaded servo for feedback accuracy, *il diags Machine Design* 30:114-15 F 6 '58
- Tape controlled transfer machine handles different parts simultaneously. *il diags Automation* 5:34-9 Je '58
- Tape controls aim at short runs. E. J. Egan, Jr. *il Iron Age* 180:10 O 31 '57
- Tape controls coordinate table. *Electronics* 31:34 My 16 '58
- Tape controls cut drilling cycles 30-50 per cent; Chicago's Goss printing press co. R. L. Hugin and E. J. Kweton. *il diags Am Mach* 102:93-6 S 8 '58
- Tape controls multifunction drill. *il Product Eng* 29:86 Mr 17 '58
- Tape guides jet engine boring; General Electric. *il Steel* 141:112 D 2 '57
- Tape programs assembly; two-coordinate system positions circuit boards beneath a drilling and a component-inserting head. *il diags Product Eng* 29:86 Mr 3 '58
- Tape programs board driller. *il Electronics* 31:114-15 Ag 15 '58
- Tapes control transfer line. *il Steel* 142:84-6 Mr 31 '58
- 31 numerically-controlled point-to-point positioning systems; special report. J. D. Cooney and B. K. Ledgerwood. *il diags Control Eng* 5:67-98 Ja; 99-122 F; 99-114 Mr '58 (reprints \$1.25)
- Tracer and numerical controls will share limelight in shop of future. *Am Mach* 101:142 D 2 '57
- Training program gears workers to tape control concept; abstracts. L. E. Laux. *il Iron Age* 180:130-2 N 7 '57; *Steel* 141:182+ N 18 '57; *Mech Eng* 79:1146-8 D '57; *Tool Eng* 40:207-8 Ja '58; *Automation* 5:142+ Ap '58
- Transistorized computer modules in machine tape control; Numil numerical control system. P. F. Fischer. *il diags Elec Manuf* 62:100-5 S '58
- Use of numerically controlled machine tools; abstract. M. V. Hayes. *Machine Design* 29:115-16 O 31 '57
- Visual check for taped machine programs. R. A. Bennett. *il diags Control Eng* 5:72-3 Ag '58
- What does the future hold for numerical controls? G. S. Knopf. *il diags Iron Age* 182:77-80 J1 24 '58
- NUMERICAL roots.** See **Roots, Numerical**
- NURSES and nursing, Industrial**
- Who's the boss? nursing supervision in industry. E. M. Klutas. *Ind Med* 27:541-2 O '58
- NURSES and nursing, Public health**
- Development, application, and evaluation of the Wayne county public health nursing record system, with an analysis of the statistical method used. A. G. Krause and I. R. Vaughn. *il Am J Pub Health* 48:1364-75 O '58
- Studying extra-hospital nursing needs, a preliminary report. J. E. Mickey. *Am J Pub Health* 48:880-7 J1 '58
- NURSES homes**
- Nurses' home. *il plans Prog Arch* 39:98-9 Ag '58
- NURSING bottles, Plastic.** See **Bottles, Plastic**
- NURSING homes**
- Danish nursing home planned for care and treatment of spastics. *il Arch Rec* 124:334 S '58
- NURSING schools**
- Hospital, nursing school, convent; Blackwell general hospital. School of practical nursing and convent. *il plans Prog Arch* 39:128-31 Ap '58
- NUTRITION**
- Ascorbic acid requirements of adults; 30 mg or 75 mg? E. Uhl. *bibliog Am J Clinical Nutrition* 6:146-50 Mr '58

- Foods and health are close to your heart. C. G. King. *A M A Archives Ind Health* 17:357-61 My '58
- Nutrition and a state medical society; editorial. S. O. Waife. *Am J Clinical Nutrition* 6:339-41 J1 '58
- Role of dietary fat in human nutrition. A. E. Hansen and others. *bibliog Am J Pub Health* 47:1367-80, 1520-41 N-D '57
- Role of nutritional factors in the antibody responses of the anamnestic process. A. E. Axelrod. *bibliog Am J Clinical Nutrition* 6:119-25 Mr '58
- Severe nutritional macrocytic anemia in emotionally disturbed patients. R. W. Monto and others. *il Am J Clinical Nutrition* 6:105-10 Mr '58
- Symposium on problems of human nutrition. *bibliog il Am J Clinical Nutrition* 6:459-522 S '58; Abstract. *Drug & Cosmetic Ind* 82:441+ Ap '58
- Symposium on the mode of action of lipotropic factors in nutrition. *bibliog il diags Am J Clinical Nutrition* 6:197-331 My '58
- See also
- Diet
- Digestion
- Feeding and feeding stuffs
- Fishes—Nutrition
- Plants—Nutrition

Bibliography

Abstracts of current literature. Published in bi-monthly numbers of American journal of clinical nutrition

NUTRITION problems**Africa**

- Carotene balances on boys in Ruanda where vitamin A deficiency is prevalent. O. A. Roels and others. *bibliog J Nutrition* 65:115-27 My '58

Far East

- Nutrition surveys in the Near and Far East. F. B. Berry and A. Schaefer. *il Am J Clinical Nutrition* 6:342-53 J1 '58

Middle East

- Nutrition surveys in the Near and Far East. F. B. Berry and A. Schaefer. *il Am J Clinical Nutrition* 6:342-53 J1 '58

NUTRITION research

- Animal nutrition research. *il J Agri & Food Chem* 6:340-1 My '58
- Ascorbic acid requirement of the guinea pig using growth and tissue ascorbic acid concentrations as criteria. M. Collins and C. A. Elvehjem. *bibliog J Nutrition* 64:503-11 Ap '58
- Availability to man of amino acids from foods. H. Linkswiler and others. *bibliog J Nutrition* 65:441-53 J1 '58
- Biological availability of lysine. J. D. Gupta and others. *bibliog J Nutrition* 64:259-70 F '58
- Digestibility of individual fatty acids in the rat. K. K. Carroll. *bibliog J Nutrition* 64:399-410 Mr '58
- Effect of high versus low protein eucaloric diets on the heat production of human subjects. R. W. Swift and others. *bibliog J Nutrition* 65:89-102 My '58
- Effect of nonionic emulsifiers on experimental dietary injury of the liver in rats. P. Gyögy and others. *bibliog J Agri & Food Chem* 6:139-42 F '58
- Factors affecting digestibility of fatty acids in the rat. K. K. Carroll and J. F. Richards. *J Nutrition* 64:411-24 *bibliog* (p422-4) Mr '58
- Growth and reproduction of rats on diets of evaporated milks and a vegetable fat milk product. L. F. Ney. *bibliog J Agri & Food Chem* 6:223-7 Mr '58
- Lysine supplementation of a breakfast cereal and milk combination. R. Thiessen, Jr. and G. H. Reusser, Jr. *bibliog J Agri & Food Chem* 6:368-9 My '58
- Nutritional properties of the triglycerides of saturated fatty acids of medium chain-length. H. Kaunitz and others. *bibliog Am Oil Chem Soc J* 35:10-13 Ja '58
- Nutritional studies of vegetarians; dietary levels of fiber. M. G. Hardin and others. *bibliog Am J Clinical Nutrition* 6:523-5 S '58
- Nutritional studies with glycine, aminoethanol and related compounds in the chick. R. L. Wikom and others. *J Nutrition* 64:13-31 *bibliog* (63 titles, p28-31) Ja '58
- Nutritional studies with the hyperthyroid rat. C. O. Stevens and L. M. Henderson. *bibliog J Nutrition* 64:67-83 Ja '58

NUTRITION research—*Continued*

Nutritional value of a synthetic diet sterilized by gamma rays, as measured by reproduction and life span of rats. L. R. Richardson and R. Brock. *J Nutrition* 65:353-60 J1 '58

Nutritive value of bread flour proteins as affected by practical supplementation with lactalbumin, nonfat dry milk solids, soybean proteins, wheat gluten and lysine. H. W. Howard and others. *bibliog J Nutrition* 64:151-65 Ja '58

Nutritive value of fresh and roasted, California-grown nonpareil almonds. A. P. Hall and others. *bibliog J Agri & Food Chem* 6: 377-82 My '58

Relation of saturated, medium- and long-chain triglycerides to growth, appetite, thirst and weight maintenance requirements. H. Kaunitz and others. *bibliog J Nutrition* 64: 513-24 Ap '58

Riboflavin economy of the rat. O. A. Bessey and others. *bibliog J Nutrition* 64:185-202 F '58

Short-term rat feeding studies with gamma-irradiated food products. M. S. Read and others. *bibliog J Nutrition* 65:39-51 My '58

Studies on the mechanism of action of vitamin E₂ in animal nutrition. B. C. Johnson. *il Am J Clinical Nutrition* 6:34-49 *bibliog* (56 titles, p48-9) Ja '58

Studies on the nutritive effects of selenium for chicks. M. C. Nesheim and M. L. Scott. *bibliog J Nutrition* 65:601-13 Ag '58

NUTS

See also

Almonds
Cashew nuts
Peanuts
Walnuts

NUTS and bolts. *See* Bolts and nuts**NYLON**

Air pollution control at a nylon intermediates plant. H. R. L. Streight. *bibliog map plan diag* Eng J 41:69-78; Discussion. 79 Ja '58

Bonds plastisols to nylon base. *Iron Age* 180:162 N 7 '57

Fiber bonding in nylon paper sheets; abstract. G. Prati and S. Pacetti. *Paper Ind* 39:803 D '57

Foster Grant gets nylon license to import and sell Bayer nylon six in U.S. *Chem & Eng N* 36:29 Ja 20 '58

Increased interest in nylon. *il Brit Plastics* 31:46-53 F '58

Man-made fibers: a review of synthetic textile fibers now produced in the United States. *il Plastics World* 16:12-13 Mr '58

Missiles may wear nylons. *il Chem & Eng N* 36:55 F 24 '58

No failures in nylon mooring lines of 17 shipping lines. *Marine Eng/Log* 63:106-7 F '58

Properties of materials: polyamides (nylons). *Materials in Design Enk* 48:152-3 Mid-O '58

Tomorrow's tent. *il Mod Plastics* 35:113 D '57

See also

Caprolactam
Dyes and dyeing—Nylon
Wool—Nylon mixtures

Industrial applications

Designing with nylon. W. C. Warriner and A. J. Cheney. *Product Eng* 28:C 11-15 Mid-O '57

Fluidizing process gives nylon-clad sleeve bearings. D. L. Penney and F. J. Bockhoff. *il Product Eng* 29:52-4 Mr 3 '58

Nylon for disc filters. *il Ind Chem* 34:542 O '58

Nylon parts for timing motors. *il Plastics Tech* 4:564 Je '58

Nylon parts lengthen life of ball point pen. A. E. Simon, Jr. *il diag* Materials in Design Enk 47:124-5 Ja '58

Spiral tubing: Polyperenco nylon tubing. *il Mod Plastics* 35:185 Mr '58

See also

Nylon coating

Knit goods

How Alba makes stretch panties on full-fashioned-hosiery machines. *il Textile World* 108:54-5 My '58

How to make tricot shirting: Riverside silk mills. *il Textile Ind* 122:144-5+ My '58

How to set nylon tricot by continuous steaming. F. Fourné. *diag Textile World* 108:127 F '58

Manufacture

Du Pont of Canada: Maitland works produce nylon intermediates. *il Chem & Ind* p 1054 Ar 16 '58

Molding

New nylon from France. J. Fouque. *il Product Eng* 28:76-9 D 23 '57

Nylon molding compound solves propane seal problem. *Air Cond Heat & Ven* 54:120 D '57

Small part, big savings: new nylon compound lockstop for oven drop door. Westinghouse electric ranges. *il Mod Plastics* 35:98-9 Ap '58

Sprayer body; 66 per cent lighter; paint sprayer with lightweight molded nylon body. *il Mod Plastics* 35:101 F '58

NYLON. Powdered

Additives put muscle into sintered nylon parts. L. W. Alexander. *il diag* Product Eng 29:86-7 S 15 '58

Zytel works well in heavy-duty jobs; abstract. J. D. Young. *S A E J* 66:88 F '58

NYLON coating

New process makes nylon coatings possible; fluidization process applicable to other resins. *il Iron Age* 180:160-1 N 14 '57

Nylon coating on metal by heat process. *Ind Finishing* 34:104 N '57

NYLON cords

Case for nylon tire cord. *il Textile Ind* 122: 95-7 Ag '58

Cord processing and curing of nylon tires. R. G. Patterson and others. *il Rubber World* 138:409-17 Je '58

Du Pont tire cord press conference emphasizes nylon cord advantages. *Rubber World* 138: 289-90 My '58

General Motors test program evaluating nylon cord use. *Rubber Age* 83:325 My '58

High speed tire cord machine. *Clarkson Cord Former. il Mod Textiles Mag* 39:39-40 My '58

Physical properties of rayon and nylon 66 tire cords at elevated temperature. F. R. Charles and C. Tarzi. *bibliog il diag* Textile Res J 28:797-804 S '58

Textile research institute 29th annual meeting, New York, March 13-14; abstracts of papers on the outlook for cellulose. *Textile Ind* 122:122-+ My '58

Three tire cord operations in one; *Clarkson Cord Former. il Textile Ind* 122:123-+ My '58

Tire rupture tests: nylon vs. rayon cord. *Rubber World* 138:765 Ag '58

NYLON fabrics

Car top tent; vinyl-coated nylon fabric. *il Mod Plastics* 36:184 O '58

Nylon keeps winter out at The Dalles dam. *il Elec World* 149:74-5 Mr 17 '58

Coating

Deterioration of neoprene-coated nylon fabrics: minimum neoprene thickness necessary to protect nylon from weather, sunlight. C. M. Brown. *Rubber Age* 84:91-8 O '58

They cover a lot of ground: combinations of plastics and synthetic fabrics are replacing canvas as tarpaulin and shelter material. *il Mod Plastics* 36:105-8, 207 O '58

Cotton mixtures

Tips for running cotton-nylon blends. *Textile Ind* 122:106 My '58

Heat setting

How to set nylon tricot by continuous steaming. F. Fourné. *diag Textile World* 108:127 F '58

Testing

Microscopical study of a multilayer nylon body armor panel after impact; ballistic tests. G. Susich and others. *bibliog il Textile Res J* 28:361-77 My '58

NYLON fibers

Suggestions for redrawing nylon filament. *Textile Ind* 122:151 Ap '58

Testing

Method of measuring Poisson's ratio of fibers. F. L. Frank and A. L. Ruoff. *diag Textile Res J* 28:213-17 Mr '58

NYLON finishing

See also

Nylon fabrics—Heat setting

NYLON sizing

Tips for sizing filament nylon warps. *Textile Ind* 122:114 Ag '58

NYLON spinning

Spinning nylon carpet yarns on the American worsted system. *Textile Ind* 122:119 Mr '58

NYLON tubes. *See* Tubes, Nylon

NYLON waste

New look in waste treatment; Chemstrand's development of nylon waste process. Eng N 160:56+ My 29 '58
Warning on nylon waste in rugs. Mod Textiles Mag 39:40 J1 '58

NYLON yarn

New nylon carpet textures. I. R. Needle and M. Romer. *il Mod Textiles Mag* 39:55-8 O '58
Responses to environmental changes and an equation of state for nylon yarn. B. H. Eckstein and others. *bibliog Textile Res J* 28:701-7 Ag '58

Cotton mixtures

420 nylon in your mill; here's Du Pont's advice on how to blend the new staple with cotton. *Mod Textiles Mag* 39:40 F '58

Testing

Effect of temperature on the rate of creep failure for 66 nylon. B. D. Coleman and others. *bibliog diag Textile Res J* 28:393-9 My '58
Inspect base twist nylon at the warper. *diag Textile Ind* 122:152 S '58

O

OAK RIDGE, Tennessee

Oak Ridge wants self government. *il Chem & Eng N* 36:30-1 Mr 3 '58

OAK RIDGE national laboratory

Y-12 radiation accident. *diag Power Eng* 62:54+ O '58

OAKMOSS. See Mosses**OBESITY. See Corpulence****OBSERVATORIES, Astronomical. See Astronomical observatories****OBSCOLESCENCE**

Food men damn obsolescence in off-the-record comments. *Food Eng* 30:58-9 O '58
Food-plant obsolescence is disturbingly high. *il Food Eng* 30:56-7 O '58
U.S. merchant marine and obsolescence. E. B. Perry. *Am Soc Naval Eng J* 70:354-8 My '58; Discussion. 70:432-4 Ag '58

See also

Machinery, Replacement of

OBSTETRICS**See also**

Childbirth

OCEAN

Deep sea disposal of industrial wastes. D. W. Hood and others. *bibliog il Ind & Eng Chem* 50:885-8 Je '58

Fallout may solve sea mystery; abstract. T. T. Sugihara. *Chem & Eng N* 36:46-7 Ap 21 '58

Gravity measurements in the open sea. Franklin Inst J 265:166 F '58

Oceanography of Mississippi delta sedimentary environments. P. C. Scruton, maps *diags Am Assn Pet Geologists Bul* 40:2864-952 *bibliog* (p2950-2). D '56; Discussion. C. C. Bates. 42:894-5 Ap '58

Phase-coherent back-scatter of radio waves at the surface of the sea. E. Sofaer. *bibliog il maps diags Inst E E Proc* 105 pt B: 383-94 J1 '58

Thermal effects of the ocean on permafrost. A. H. Lachenbruch. *bibliog diag Geol Soc Bul* 68:1515-29 N '57

See also

Atlantic ocean
Marine biology
Ocean temperature
Pacific ocean
Sea water
Tidal power

OCEAN bottom

Deep down mystery. *il Chem & Eng N* 36:84 Mr 24 '58

Paleotemperature analysis of core 280 and pleistocene correlations. C. Emiliani, *bibliog pl J Geol* 66:264-75 My '58

Sea bottom pressure fields produced by yawed vessels. P. M. Fitzpatrick. *diag Am Soc C E Proc* 84 [EM 1 no 1496]:1-12 Ja '58

See also

Marine deposits
Submarine geology

OCEAN currents

Analyze data on deep sea currents. *Elec Eng* 77:663-4 J1 '58

Circulation of the abyss; currents in the ocean depths are a major force in determining world climate. H. Stommel. *il diags Sci Am* 199:85-90 J1 '58

Rip-current systems. P. McKenzie. *bibliog diags J Geol* 66:103-13, pl 1-2 Mr '58
Subsurface current measured by scientists. *Elec Eng* 77:866 S '58

OCEAN temperature

Ancient temperatures. C. Emiliani. *il maps diags Sci Am* 198:54-63 F '58

OCEANOGRAPHIC research

Circulation of Atlantic studied. Franklin Inst J 266:79-80 J1 '58
International geophysical year; oceanography. D. C. Rose. *Eng J* 41:56-7 Ag '58

See also

Bathyscap

OCTADECANOL

Film protects climate's prey. *il Chem & Eng N* 36:44-5 Je 30 '58

OCTADECENOIC acid

Metabolism of triglycerides containing *cis* and *trans* octadecenoic fatty acids. R. R. Allen and others. *bibliog Am Oil Chem Soc J* 35:203-5 My '58

OCTAFINING. See Gasoline—Manufacture**OCTALONE**

Optical rotatory dispersion studies; synthesis and conformation of optically active octalones and decalones. C. Dierassi and D. Marshall. *bibliog Am Chem Soc J* 80:3986-95 Ag 5 '58

OCTANE number

Annual octane rise of .4 seen. C. J. Wolf and C. A. Cole. *Oil & Gas J* 56:102 Ap 21 '58
Figure cost of getting octanes. W. J. Service and others. *bibliog flow diag Pet Refiner* 37: 181-8 Ap '58; Same *abr. Oil & Gas J* 56:90-8 Ap 14 '58

How octane numbers have been improved. W. L. Nelson. *Oil & Gas J* 55:194 N 11 '57

New apparatus for the determination of octane numbers on small samples. D. B. Chetty. *il diags Inst Pet J* 44:255-6 Ag '58

Octane increased by fuel injection in tests. *Oil & Gas J* 56:80 Ja 20 '58

Octane numbers; laboratory and road rating methods and their practical significance. K. Arter. *il Automobile Eng* 48:338-40 S '58

Octane predictions of road numbers can be made from research and motor numbers. W. E. Morris. *S A E J* 66:34 Ap '58

Octanes pay off in miles. E. V. Murphree and others. *Oil & Gas J* 56:97-8 Ap 21 '58

Octanes up again in 1957. *Oil & Gas J* 56: 30-1 Ja 8 '58

Spend octane dollars on today's know-how. C. J. Wolf and C. A. Cole. *Chem Eng* 65:78+ O 20 '58

OCTANESULFONYL chloride

Decomposition of optically active 2-octanesulfonyl chloride. H. F. Herbrandson and others. *bibliog Am Chem Soc J* 80:3301-3 J1 5 '58

OCTAPEPTIDE. See Peptides**OCTENE**

Production of oct-2-ene and oct-3-ene by the hydrogenation of octan-1-ol and by pyrolysis of *N*-octyl diphenylboronate. E. W. Abel and others. *Chem & Ind p* 158-9 F 8 '58

ODORS

Colors, odors for fertilizers. *il J Agri & Food Chem* 6:574-6 Ag '58

Deodorization of kraft pulp mill exhausts. F. Schneider. *diags Tappi* 41:sup70A+ Ja '58

NaOCl solves odor problem. *diag Chem Eng* 64:164+ D '57

Odor of petroleum wax; TAPPI suggested method T654 sm-58. *Tappi* 41:sup 127A-8A Jw '58

Structure and odour; abstract. M. G. J. Beets. *bibliog Manuf Chem* 29:385+ S '58

Symposium on odors. *bibliog il diag A M A Archives Ind Health* 17:534-45 My '58

See also

Deodorants

Deodorization

Gas, Natural—Odorizing

Sewage disposal—Odor removal

Smell

Measurement

Current techniques of odor measurement. J. S. Nader. *bibliog il diag A M A Archives Ind Health* 17:537-41 My '58

Measurement of intensity of odour. R. G. H. Prince and J. H. Inc. *bibliog il diags J Ap Chem* 8:314-21 My '58

Meter measures odors. W. C. Hemeon. *Eng N* 161:52 Ag 28 '58

OERSTED medal. *See Medals*

OTTING, R. L.
Electrician, engineer in industry. por Elec
Eng 77:251 Mr '58

OFFICE appliances

Automation finds home in big business offices.
Machine Design 30:6 F 6 '58
Computers and numerical automation; mechanical business; abstract. A. D. Booth.
Engineering 135:584 My '58
Electronics to start revolution in office; abstract. J. E. Johnson. Franklin Inst J 265:
437-8 My '58
Integrated data processing yields six figure savings; integrating production information, clerical automation; routing with Flexo-writer tapes. Xeroxgraph duplication. H. Rodenfels. II Mill & Factory 62:120-2 Mr '58

See also

Accounting—Mechanical aids
Calculating machines
Dictating machines
Duplicating machines
Office supplies
Typewriters

Manufacture

Character building is a precise job at Victor adding machine co. H. M. Wilson. II diags Mach 64:81-4 Ag '58
Tough spray coating cuts wear, abuse; new vinyl coating. II Iron Age 181:122 Ap 3 '58

OFFICE buildings

American design to brighten Bogotá; edificio Ibero for Colombiana. II plans Arch Rec 123:
165-70 Mr '58
American president lines office building, San Francisco. II plans diags Arch Rec 124:
174-7 S '58
Cleveland's illuminating building. II plans diags Arch Rec 123:153-62 Je '58
Girders span building width; welded-frame for Union carbide Canada Ltd., Toronto. II Eng N 161:59 J1 3 '58
Grand Central site for largest office building. II Arch Forum 108:13 Je '58
Granite wharf, warehouse, office buildings, c. 1823-1872, Boston. A. L. Huxtable. II Prog Arch 39:117-18 Je '58
Inland Steel building, Chicago, Ill. II plan diags Arch Rec 123:169-78 Ap '58
Inland's steel showcase. II plans diags Arch Forum 108:38-39 Ap '58
Lloyd's new building. II Engineering 185:274-5 F 28 '58
New York city's office building boom is still robust, Astor Plaza. postponentment misinterpreted. II Arch Forum 108:11-13 Ja '58
Office towers around the Nation; illustrations with text. Arch Rec 123:12 Ja '58
Pattern with a purpose; Boston headquarters of Blue cross-blue shield. II plans Arch Forum 109:110-13 Ag '58
Reynolds Metal occupies new home. II Prog Arch 39:39 S '58
Reynolds opens \$11.5 million building. II Elec World 150:60 S 15 '58
Reynolds wraps itself a package in aluminum. II plan diags Arch Forum 109:90-7 S '58
Sales-promoting office building; Columbus and southern Ohio electric co. II Eng N 161:32-4 J1 31 '58
Steel erector comes and goes. II Eng N 160:26 Ap 3 '58
Tall heavy columns carry long spans; Crown Zellerbach headquarters. II diags Eng N 160:
37-8 My 29 '58
Two notable new office buildings for Manhattan. II plans diags Arch Forum 108:91-9 Ja '58
Warren Petroleum building; unique double skin functions well, looks good. II plans diags Arch Rec 124:161-8 Ag '58

See also

Building and loan association buildings
High buildings
Insurance company buildings
Lobbies (architecture)
Medical buildings
Printing offices

Air conditioning

Air condition new building via cellular steel floor. S. Sachs. II Heating-Piping 30:97-100 Je '58
Air conditioning modernizes 15-story office building. W. R. Erikson. II Heating-Piping 30:136-7 My '58
Air conditioning; office buildings. II plans Prog Arch 39:116-25 Mr '58
Corridor duct supplies evaporatively cooled air through office transoms in old building. diags Heating-Piping 30:99 F '58

Evaluating air conditioning costs. A. I. McFarlan. diags Plant 174:5 Mr '58
Fan-coil system completes cooling of existing office building; Mercantile exchange building, Chicago. M. F. Stearn and others. II Heating-Piping 30:76-8 J1 '58
How to select right air conditioning system for multi-story building. M. J. Wilson. diags Heating-Piping 30:103-6 Ag '58
In-floor duct system saves space, cuts cost. II plans diags Arch Rec 123:228-30 Mr '58
Largest installation of a radiant panel ceiling for heating and cooling to be designed for Kaiser Center in Oakland, Calif. Air Cond Heat & Ven 55:134-5 Je '58
Office air conditioning; floor distribution. II diags Prog Arch 39:124-7 J1 '58
Office building assigned triple role; H. H. Robertson co. II Eng N 160:26 Ja 30 '58
Rockefeller Center takes lead with 15,332 ton of cooling. II Refrig Eng 65:70-1 N '57
Unusual structural layout demands unique air conditioning design; Chase Manhattan building, New York. II Heating-Piping 30:
98-9 Ag '58
Where to put a 1000 ton air conditioning system. C. E. Clain. II Heating-Piping 29:120-3 N '57

Bibliography

Office literature; building products literature competition. Arch Rec 124:202+ J1 '58

Designs and plans

Award citation; Lytton Square office building, Palo Alto. map plan diags Prog Arch 39:98-9 Ja '58

Electric equipment

Cleveland's new 24 floor office building. H. P. Scott. II plan diags Elec Constr & Maint 57:
89-97 Je '58

Heating and ventilation

Performance of a solar heated office building. F. H. Bridgers and others. bibliog flow diags II Heating-Piping 29:165-70 N '57
Solar heating test. II Arch Forum 108:138 Ap '58

Lighting

See Office lighting

Sanitation

Is cleaning wasteful? Safety Maint 116:45 Ag '58

OFFICE buildings, Government

Automobile parking space

Parking requirements for proposed state office buildings. Pub Works 89:180-1 Je '58

Electric equipment

High-voltage lighting features low-voltage control at Virginia's new state office building. II diags Elec Constr & Maint 57:92-5 Mr '58

OFFICE buildings, Industrial

Administration building at Stanlow refinery. II Engineer 206:496-7 S 26 '58
Colorful new building, home of Badger Meter. II Water & Sewage Works 105:226 Je '58
Delicately screened factory; Stuart co. plant and office building, Pasadena. II plan Arch Forum 108:124-7 Ap '58
How a new office building provided needed manufacturing space; Fischer & Porter co. II Plant 173:0-1 F '58
IBM's new industrial campus, San Jose, Calif. II Arch Forum 108:104-7 Je '58
Progressive lighting design for this modern commercial building; Celanese corp. II Elec Constr & Maint 57:96-8 J '58
Showcase office building; H. H. Robertson co. II Mill & Factory 62:232 Mr '58
Showcase office building; H. H. Robertson co. II Prog Arch 39:143-5 Je '58

Air conditioning

Cells in steel floor become ducts for air conditioning; H. H. Robertson co.'s Ambridge plant. II Civil Eng 28:220 Mr '58
Dehumidification serves comfort air conditioning; Aluminum co. of America district office building in Atlanta. T. F. Rockwell and J. A. Sheahan. II diags Heating-Piping 30:
115-18 My '58
Modular ceiling cuts cooling load; Wakefield co. L. T. Avery. II Heating-Piping 29:140-1 N '57
Package units aid central plant; condition 190,000 sq ft offices; General Electric aircraft gas turbine division plant. C. F. Mowrey. II diags Heating-Piping 29:132-4 N '57

OFFICE buildings, Industrial—Continued**Heating and ventilation**

Design for flexibility to serve plant's heating, cooling needs; warehouse and office of the Dana Corp. E. H. Roper. *il Heating-Piping* 30:83-4 J '58

OFFICE equipment

Flexible, high strength raised floors for computers, heavy equipment. *il Arch Rec* 124:201 J '58

See also

Office supplies**OFFICE furniture**

Careful setup design improves finishes; steel office furniture. *il Iron Age* 181:124-5 F '57

Finishing steel office furniture. E. Fritz. *il Ind Finishing* 34:24-6+ Ag '58

New finishing setup for steel office furniture. H. C. Walker. *il Ind Finishing* 34:54-6 F '58

OFFICE lighting

Lighting is architecture; Seagram building. *il plans Prog Arch* 39:139-43 S '58

Lighting is architecture; 666 Fifth avenue. *il plans Prog Arch* 39:144-9 S '58

Lighting is architecture; Vasco products, inc., new headquarters building. *il plan Prog Arch* 39:150-3 S '58

Mercury lights this office. T. C. Sidlo. *il Illum Eng* 53:443-4 Ag '58

New lighting cuts errors and improves work; Evans chemetics, inc. E. F. Cole. *il Elec World* 150:84 S '58

Newbery Electric relights; West coast electrical contractor installs luminous ceiling. *il Elec Constr & Maint* 57:87 S '58

Office lighting. L. Sloane. *il Prog Arch* 39:189-95 S '58

Progressive lighting design for this modern commercial building; Celanese corp. *il Elec Constr & Maint* 57:96-8 F '58

OFFICE management

Is money going down the drain in your office? E. W. Fair. *Rock Prod* 60:104+ N '57

See also

Billing

Files and filing (documents, etc.)

Office supplies**OFFICE of construction statistics. See United States—Construction statistics, Office of****OFFICE supplies**

Is money going down the drain in your office? E. R. Fair. *Rock Prod* 60:104+ N '57

OFFICES

Four offices. *il plans diag Arch Rec* 123:189-94 Mr '58

Modular design simplifies setting-up or rearranging of prefabricated office partitions. *il Plant* 17:32-3 My '58

Organizing for productivity; engineer's surroundings; working conditions and equipment. *Machine Design* 30:32-4+ Ap 17 '58

Progressive Architecture interior design data. *il Prog Arch* 39:133-5 Ja '58

See also

Architects offices**Dentists offices****Office lighting****OFFSET printing. See Printing, Offset****OFFSHORE drilling platform. See Derricks, Oil well****OGIVE. See Curve plotting****O'GORMAN, Mervyn**

Tribute, por Roy Aeronautical Soc J 62:469-75 J '58

OHIO

Free trade zone for Ohio? *Am Mach* 102:72 Je 30 '58

See also subdivision Ohio under special subjects, e.g.

Coal mines and mining

Electric plants (central stations)

Electric utilities

Gas, Natural

Petroleum

Petroleum industry and trade

Public health

Rock products industry

Water laws and regulations

OHIO river

Clean streams compromise indicated; control salt discharge to the Ohio. *Eng N* 160:28-9 My 15 '58

Fewer locks of larger size are key to billion dollar program of modernizing Ohio River navigation. R. E. Smyser, jr. *map diag Eng N* 160:65-6+ Ap 17 '58

Lock job moves fast with water borne equipment; Markland dam on the Ohio river. *il Eng N* 160:28-9, cover Ap 24 '58

Ohio River water quality and flow. E. J. Cleary and D. A. Robertson, jr. *diag Am Water Works Assn J* 50:399-409 Mr '58; *Correction*. 50:620 My '58

Removal of Cocksackie and bacterial viruses and the native bacteria in raw Ohio River water by flocculation with aluminum sulfate and ferric chloride. S. L. Chang and others. *biblog Am J Pub Health* 48:159-69 F '58

OHMMETERS

Cap-ohm-meter. R. C. Sandison. *diag Radio-Electronics* 29:109 S '58

Safety ohmmeter; Wheatstone bridge energized by selenium photo cell. *il Electronic & Radio Eng* 35:33 Ja '58

OIL. See Oils and fats**OIL, Gas. See Gas oil****OIL, Insulating. See Insulating oil****OIL analysis**

Determination of oil in refinery effluent waters. *Anal Chem* 30:36-40 Ja '58

Report of Institute of petroleum carbon residue panel. *Inst Pet J* 43:292-6 O '57

OIL and colour chemists association

Technical exhibition, 10th, London, March 11-13. *Chem & Ind* p285-7 Mr 8 '58

OIL and gas journal (periodical)

Journal completes new headquarters. *il Oil & Gas J* 56:38-9 F 24 '58

OIL burners

Atlas Underwear conversion unit burns heavy residual oil with air atomization. C. G. Glaser. *il Plant* 18:40-1 O '58

Control

Automatic oil burning. *il plan Engineering* 185:96 Ja 17 '58

OIL burning equipment

See also

Boilers—Oil firing

OIL, chemical and atomic workers international union

Automation layoffs alarm unionists; shorter work week in standby clauses; extension of severance-pay plan. O. A. Knight. *Oil & Gas J* 55:122-3 N 11 '57

Cause for concern in CPI? *Chem & Eng N* 36:22 O 13 '58

Health plan pushed by OCAW for its members. *Oil & Gas J* 55:72 D 2 '57

More pay, fewer layoffs demanded. *Oil & Gas J* 56:63-4 Mr 3 '58

Union merger started by OCAW and Chemical Workers. O. A. Knight and W. Mitchell. *Oil & Gas J* 56:54 Ag 25 '58

OIL companies

See also

Cosden petroleum corporation

Magnolia petroleum company

Seaboard oil company

Standard oil company of Indiana

Sunray mid-continent oil company

Suntide refining company

Texas company

Accounting

Cut costs with cost accounting; Petro-Tex chemical corp. H. R. Buchter and J. F. Dunn, jr. *Pet Refiner* 37:167-71 J '58

Consolidation

Big expansion for Petrofina; takes over all major oil and gas holdings of Atlas corp. *il Oil & Gas J* 56:58 F 3 '58

New oil major born as independents Signal and Hancock merge. *Oil & Gas J* 56:52-3 S 22 '58

Costs

How to reduce costs. B. P. Hamilton, jr. *Pet Eng* 30:E 1+ Mr '58

Employees

Intercol tries new approach with personnel. *Pet Eng* 30:B62 F '58

Positive approach is better in dealings with employees; abstract. L. F. McCollum. *Oil & Gas J* 56:67 F 10 '58

Shell runs academy for its managers. J. P. O'Donnell. *Oil & Gas J* 56:70-2 F 10 '58

Texaco tells its story to key men. *Oil & Gas J* 56:102 My 19 '58

What a petroleum economist does. S. B. Jurenev. *Pet Eng* 30:E6+ Mr '58

Your good health at Esso; a health-education booklet from Esso standard oil co. L. G. Wade. *Ind Med* 27:443-7 S '58

Finance

Capital budgeting for petroleum operations.

H. N. Mead. *Pet Eng* 29:B89-90+ D '57

OIL companies—Continued

Management

- Course focuses on controls; Syracuse university executive development program. W. T. Jerome, 3d. *il Pet Eng* 30:E7 My '58
- How British American Oil uses operation research. W. J. McGuire. *Can Chem Process* 42:23+ Ag '58
- Importance of workable project planning; engineering and research and development departments. H. W. Roos. *Pet Eng* 30:E48-9 My '58
- Management's use of petroleum engineering evaluations. J. M. Houchin. *J Pet Tech* 10:11-12 J1 '58
- Operations research; aid to decision. G. C. Jacobus. *Pet Eng* 29:E 17-18+ D '57
- Secrets may be a stumbling block. *Pet Eng* 30:E3-9 My '58
- Socony plans to share in oil's growth. *Oil & Gas J* 56:65 J1 21 '58
- Top Venezuelan moves to the U.S. P. Swain. *Oil & Gas J* 56:72-4 Je 23 '58
- Use case discussion technique; Ohio university executive development program. E. T. Hellebrandt. *il Pet Eng* 30:C43 My '58
- Why Carter likes its training plan. W. A. Bachman. *Oil & Gas J* 56:70-1 Ja 6 '58

Public relations

- Motion pictures as a public relations tool; Standard oil co. (Ohio). E. W. Plumb. *Ind Phot* 7:37 Mr '58

Colombia

- Intercol tries new approach with personnel. *Pet Eng* 30:B62 F '58

OIL coolers

Manufacture

- Holes by the thousands are controlled by a single template. J. Burnham. *il Mach* 65:141-3 S '58

OIL distillation

See also

- Oil shales—Distillation

OIL engines. See Diesel engines

OIL films

- Behavior of the lubricating film and side leakage in dynamically loaded bearings. M. N. Özdas. *bibliog il diags A S M E Trans* 80:826-32 My '58
- Elastic and damping properties of oil-film journal bearings for application to unbalance vibration calculations. A. C. Hagg and G. O. Sankey. *J Ap Mech* 25:141-3 Mr '58
- Equations of state for ionized monolayers at the oil-water interface. D. A. Haydon. *bibliog J Colloid Sci* 13:159-62 Ap '58
- Maintenance of oil film bearings on European mills. S. Carson. *il diag Iron & Steel Eng* 35:30-5 Discussion. 95-6 Ap '58
- Oil resonance in bearings; influence on the whirling of vertical rotors. F. Orbeck. *Engineering* 185:343 Mr 14 '58
- Thin oil film lubrication. C. Siripongse and others. *bibliog diags Engineering* 186:146-9 Ag 1 '58

OIL filters

- Alco element provides better fuel filtration. *il Diesel Power* 36:33 F '58
- Characteristics of depth and edge type filters for hydraulic systems. H. H. Howard. *il diags Ap Hydraulics* 11:90-4 Ag '58
- Effect of additives on crankcase oil filterability. R. L. Willis and E. C. Ballard. *bibliog il diags Lub Eng* 14:58-63+ F '58
- Filter comments. *Ap Hydraulics* 11:65 Ag '58
- High pressure filter for best operation. A. J. McClelland and R. F. Griffin. *il Ap Hydraulics* 11:62 Ag '58
- Magnetic filter. J. Thoma. *il diag Ap Hydraulics* 11:80 Ag '58
- Products for fluid maintenance; oil filters and conditioners. *il Ap Hydraulics* 11:66-70 Ag '58
- Sacrifice appearance for access; suction strainer and filter for machine tools. P. E. Forster. *il diag Ap Hydraulics* 11:64 Ag '58

Terminology

- Filter glossary. *Ap Hydraulics* 11:67 Ag '58

Testing

- Performance testing demonstrates differences in fuel filters. J. Wilson and R. Young. *il Diesel Power* 36:78+ J1 '58

OIL filters, Automobile

- What the automotive industry needs in filter paper. L. A. Dow. *Tappi* 41:sup214A-16A Je 58

OIL fires

- Iran's wild well is finally quelled. *il Oil & Gas J* 56:82 Je 9 '58
- Kinley is in Iran fighting wild well. *map Oil & Gas J* 56:78 Ap 23 '58
- Old record burned up by Iran's wild well. *Oil & Gas J* 56:115 My 19 '58
- Static electricity in the petroleum industry. J. C. Howard. *bibliog diags Elec Eng* 77: 610-14 J1 '58; *Abstract. Safety Maint* 115: 56 Mr '58
- Wild well flows oil in Iran. *Oil & Gas J* 56:97 My 12 '58
- See also
- Oil tanks—Fires and fire protection
- Petroleum industry and trade—Fires and fire protection

OIL flow

- Concurrent flow of air, gas-oil, and water in a horizontal pipe. D. P. Sobocinski and L. L. Huntington. *bibliog diags A S M E Trans* 80:252-5; *Discussion*. 255-6 Ja '58
- How uphill and downhill flow effect pressure drop in two-phase pipelines through hilly country. W. E. Brigham and others. *bibliog il Oil & Gas J* 55:145-6+ N 11 '57; *Same*. *Pet Eng* 29:D39-42 N '57; *Discussion*. O. Baker. *Oil & Gas J* 55:160+ N 11 '57; *Pet Eng* 29:D42+ N '57

OIL fuel

- Ammonia from fuel oil; Canadian industries limited. *il Can Chem Process* 42:64-7 Mr '58
- Carbon-hydrogen ratio of distillate fuels. W. L. Nelson. *Oil & Gas J* 56:103 Ag 25 '58
- Technical services laboratory for oil fuels and lubricants; Mobil oil co. *il Engineer* 204: 643 N 1 '57
- Using climatic odds to estimate fuel requirements; use-per-degree-day factor. L. W. Crow. *Gas Age* 121:40-1+ F 6 '58
- Boilers—Oil firing
- Boilers, Marine—Oil firing
- Diesel engines—Fuel
- Gasoline
- Kerosine
- Petroleum refineries—Fuel

Analysis

- Electron microscope as an analytical tool. W. H. Caris. *il Pet Eng* 29:C20-2 N '57

Ash content

- Accelerated high temperature oxidation due to vanadium pentoxide. K. Sachs. *bibliog il diag Metallurgia* 57:123-37 Mr '58
- Present status of the oil ash corrosion problem. *bibliog Corrosion* 14:33-6 Ag '58

Gum formation

- Distillate fuel storage stability; how insoluble gum values vary. F. G. Schwartz and C. C. Ward. *Oil & Gas J* 55:116 D 2 '57

Manufacture

- Dualayer distillate process; Magnolia petroleum co. flow diag *Pet Refiner* 37:297 S '58
- Furfural extraction of gas oils; Texaco development corp. flow diag *Pet Refiner* 37: 273 S '58
- Instruments for heater oil production. S. F. Kapp and J. C. Rhodes. flow diag *diag Oil & Gas J* 56:100-2 Je 16 '58
- Prevention of discoloration and sludge formation in catalytic furnace oil; Clark oil & refining co. K. A. Buchanan and others. flow diag *Pet Eng* 30:C 19-22 F '58

Prices

- California prices drop for heavy crudes and fuel oil. *Oil & Gas J* 56:94 Ap 21 '58

Sulfur content

- Prevention of acid condensation in oil-fired boilers. L. K. Rendle and R. D. Wilsdon. *bibliog diags Combustion* 29:39-46, J1 '57; *Abstract. Engineering* 182:490 O 19 '56

Testing

- Accurate determination of sediment in petroleum fuels in the parts-per-million range; abstract. F. A. Buehler and others. *Pet Refiner* 37:204 My '58
- Glass effect in distillate fuel stability. J. G. Christian and others. *Ind & Eng Chem* 50:1153-6 Ag '58

OIL fuel—Continued

Vanadium content

Accelerated high temperature oxidation due to vanadium pentoxide. K. Sachs bibliog il diag Metallurgia 57:123-37, 167-73 Mr-Apr '58

OIL fuel industry

Esso seeks a new weather yardstick. il Oil & Gas J 56:90-1 F 24 '58
Need for degree-day forecasting for the petroleum industry. W. J. Sweeney. Gas Age 121:37-40 F 6 '58

See also

Petroleum industry and trade—United States
—Imports problem

Natural gas competition

Gas to keep gobbling up oil markets. Oil & Gas J 56:63-4 S 8 '58

OIL handling

See also

Oil storage

OIL heaters

Industrial space heater. il Engineer 206:463 S 19 '58

Let's take a look at separately fired space heaters. S. Elonka. il diags Power 101:116-17 N '57

Natural-draught oil burner. il Engineering 186:424 S 26 '58

OIL heating

Calculate fuel oil storage tank heat losses. K. M. Ritchie. il Pet Eng 30:C42-3 Ag '58

Determination of kw rating of electric heaters to maintain storage tank temperatures; nomograph. Pet Eng 30:C35 J1 '58

Heat coolant to hold tolerances. il Am Mach 102:88-9 J1 14 '58

Hot oil heater adds process, saves company \$20,000 annually; asphalt-coated paper; Baldwin-Hill co. D. Merrill. il Plant Eng 12: 121-2 O '58

Hot oil to produce steam; Schneider concrete products. il diag Concrete 66:34-5 F '58

New bottom-hole heat pump melts oil block. il Oil & Gas J 56:61 S 22 '58

Temperature recorder serves as heater guide. L. Resen. il diag Oil & Gas J 55:189 N 11 '57

Tables, calculations, etc.

Kilowatt-hour requirement for storage tank heat-up. Pet Eng 30:C40 Je '58

OIL industries

See also

Essential oils
Gasoline industry
Lubricating oil industry
Petroleum industry and trade

Africa

Geranium African. S. Arcander. il Drug & Cosmetic Ind 82:448-9+ Ap '58

Reunion (island)

Geranium bourbon. S. Arcander. il Drug & Cosmetic Ind 82:310-11+ Mr '58

OIL lands

Alaskan land rush expected. map Oil & Gas J 56:55 Ap 28 '58

Alaskan lands reopened. Oil & Gas J 56:60 Ag 4 '58

Disputed Louisiana lease looks hot. map Oil & Gas J 56:72-3 My 5 '58

Lease ban is delayed; hearing on oil and gas leasing on wildlife lands. Oil & Gas J 55:74-5 D 16 '57

Lease sales stopped on Louisiana-owned acreage. W. G. Helis, Jr. Oil & Gas J 56: 104 S 1 '58

Navajo leases are challenged. Oil & Gas J 55:113 D 30 '57

Navajos criticized. Oil & Gas J 56:66 Mr 31 '58

New wildlife rules get final approval despite strong oil-industry protest. Oil & Gas J 56:63 Ja 13 '58

\$100 million in oil land sale by Freeport Sulphur to Magnolia in south Louisiana. Oil & Gas J 56:67 J1 21 '58

Playing the Four Corners by the rules. C. R. Graham. map Pet Eng 30:B30+ Ja '58

Rise in unethical lease speculation. F. A. Seaton. Pet Eng 30:B 135 My '58

Tribes wants more for oil leases. Oil & Gas J 56:96 Mr 10 '58

See also

Oil reserves (United States navy)
Petroleum—Concessions
Petroleum laws and regulations

Maps

New Journal oil and gas maps of principal producing areas in the United States. Oil & Gas J 56:103-20 Mr 17 '58

Oil and gas fields of the Four Corners area: map. Pet Eng 29:supp D '57 (reprints \$1.50)

OIL leases. See Oil lands

OIL measurement

See also

Petroleum—Measurement

OIL mists

Aerosol lubrication. il diag Plant Eng 12:116-18 Mr '58

OIL pipe lines

See also

Petroleum pipe lines
Petroleum products pipe lines

OIL pipes

See also

Petroleum—Well casing
Petroleum pipe lines

OIL pumps

Jet-pump theory and performance with fluids of high viscosity. R. G. Cunningham. bibliog diags A S M E Trans 79:1807-19; Discussion. R. G. Folsom. 1819-20 N '57

See also

Petroleum pipe lines—Pumping stations
Pumps, Fuel

OIL purification

Diesel-fuel-cleaning system with a two-stage centrifuge and wash solution; U.S. navy's power plant at Subic bay. D. M. Landis and E. G. Bahret. il diag Power 102:87-9 Mr '58

Fuel processed at sea in seaway-lakes bulk carriers. Machine Design 30:6 J1 10 '58
New concept for residual oil conditioning; self-cleaning centrifuge design and a water-phase recycle system. diags Diesel Power 36:22-4 S '58

See also

Oil refining

OIL reclamation

Hoppers replace oil drums for scrap collecting; oil reclamation jumps 60 per cent; American river co. il Plant 17:80 Mr '58

Identification of reclaimed oils by statistical discrimination of infrared absorption data. A. Ungar and A. M. Trozzolo. bibliog Anal Chem 30:187-91 F '58

Reclaiming rolling fluids; Kaiser aluminum & chemical corp. il Steel 142:154 My 19 '58

See also

Lubrication and lubricants (cutting and grinding)

OIL refineries

See also

Petroleum refineries

Equipment

New tall-oil plant reflects refining know-how; Monsanto chemical co. il Chem Eng 65:58+ Ag 25 '58

OIL refining

Correlation of chromatographic absolute loss determinations with the A.O.C.S. cup refining method in soybean oil. E. Sipos. Am Oil Chem Soc J 35:233-6 My '58

Recent progress in the continuous refining of fatty oils. B. Braae. bibliog diags Chem & Ind p 1152-60 S 8 '58

Refining and bleaching of vegetable oils. E. M. James. bibliog Am Oil Chem Soc J 35:76-83 F '58

OIL reserves (United States navy)

Alaska lease ban ends. map Oil & Gas J 55:62 N 25 '57

Naval drills at Teapot Dome. E. C. Eaton. maps diags Oil & Gas J 55:178-9+ Je 23 '58
Navy to drill at Teapot Dome. Oil & Gas J 56:32 My 5 '58

OIL sand

Development and field testing of a core barrel for recovering unconsolidated oil sands. A. B. Hildebrandt and others. il diag J Pet Tech 10:51-3 Ja '58

Why those low lateral readings? M. Martin and K. S. Kunz. diags Oil & Gas J 56:88-92 F 10 '58

OIL seals

Correct practice for oil and grease seals. E. P. Stahl. diags Power Eng 61:70-2 D '57

Oil seals are important, select and install them with care. C. R. McCray. diags Plant Eng 12:119-21 Ag '58

Oil seals to provide positive lubrication on large or high-speed thrust bearings. R. A. Baudry and others. il diags A S M E Trans 80:819-24; Discussion. 824-5 My '58

OIL seals—Continued

Rotary shaft seals; the sealing mechanism of synthetic rubber seals running at atmospheric pressure. *Dr. T. Jagger, il diag Inst Mech Eng Proc 171 no 18:597-604; Discussion, 605-12; Reply, 613-16 '57*
 Take care of oil seals for longer bearing life. *E. W. Fisher, diag Iron Age 181:110-11 Mr 13 '58*

OIL seeds

Solution hold-up as a factor in oilseed extractor design. *J. D. Keane and C. T. Smith, bibliog diag Am Oil Chem Soc J 35:199-203 My '58*

OIL shales

Can shale oil compete? *il Chem & Eng N 36: 65+ JI 21 '58*
 Fundamental approach to well bore stabilization; with field application case histories and operating experience. *W. J. Weiss and others, bibliog il diag Pet Eng 30: B43+ Ap '58*
 Gas from shale. *Chem & Eng N 36:58 S 22 '58*
 Method for converting oil shale into high quality fuel gas described. *Am Gas Assn Mo 40:46 O '58*
 Oil shale foundation. *C. H. Prien, il Chem Eng Prog 54:44+ F '58*
 Shale, coal gas to supplement natural. *M. A. Elliott, Oil & Gas J 56:110-11 Ap 7 '58*
 Shale oil nears competitive level with domestic petroleum. *E. P. Miller and R. J. Cameron, il J Pet Tech 10:25-7 Ag '58*
 Shale oil plods ahead. *Chem & Eng N 36:31-2 F 17 '58*
 Streaming potential and the SP log. *M. Gondouin and C. Scala, bibliog diag J Pet Tech 10:Trans 170-9 Ag '58*
 Thailand plans shale project. *map Oil & Gas J 56:38 Je 23 '58*

See also
 Kerogen

Distillation

Aspeco pilot plant demonstrates advantages for oil shale retorting. *il diag Chem Eng Prog 54:79-81 My '58*
 Chemical engineering unit processes; pyrolysis of coal and shale. *C. H. Prien and M. Perch, bibliog il Ind & Eng Chem 50: 1401-5 pt 2 S '58*
 New claims for shale oil output. *diag Oil & Gas J 56:63 JI 14 '58*
 Shale oil competitive with petroleum. *F. L. Hartley, Oil & Gas J 56:73 F 17 '58*
 Squeezing oil from shale; Union oil co. shale demonstration plant. *W. B. Lenhart, flow diag il diag Rock Prod 61:76-9 Ap '58*

Colorado

Huge shale beds revealed in new studies. *Oil & Gas J 55:98 N 4 '57*
 Squeezing oil from shale; Union oil co. shale demonstration plant. *W. B. Lenhart, flow diag il diag Rock Prod 61:76-9 Ap '58*

OIL storage

Calculate fuel oil storage tank heat losses. *K. M. Ritchie, il Pet Eng 30:42-3 Ag '58*
 Distillate fuel storage stability (cont.). *F. G. Schwartz and C. C. Ward, Oil & Gas J 55:116 D 2; 129 D 16 '57*

See also
 Oil tanks

OIL tanks

Design details of Socony educator mixers for mixing liquids in fixed-roof tanks. *R. B. Meny and R. B. Velykis, diag Oil & Gas J 55:38-92 O 28 '57; Same cond. Pet Eng 29:C61+ D '57*
 Determination of kw rating of electric heaters to maintain storage tank temperatures; nomograph. *Pet Eng 30:C35 JI '58*
 Earthquake response of elevated tanks and vessels. *D. F. Moran and J. A. Cheney, bibliog map diag Am Soc C E Proc 84 [ST 2 no 1563]:1-14 Mr '58; Discussion, A. A. Eremin, 84 [ST 5 no 1787]:63-4 S '58*
 Floating roof performance from fixed-roof tanks in reducing evaporation losses. *K. C. Bottenberg, bibliog diag Oil & Gas J 56:100-2+ JI 21 '58*
 Microballoons: five years later. *Oil & Gas J 56:224 Ag 18 '58*
 Venezuelan storage problem solved; Hortonspheres. *il Oil & Gas J 56:87 JI 7 '58*
 What's best way to keep fuel lines and storage tanks sludge free? question with answers. *il diag Power 102:134-5 Ag '58*

See also
 Tank ships

Cleaning

Bolted clean-out doors for your tanks. *R. W. Bodley and R. C. Ulm, il diag Pet Refiner 37:213-18 Mr '58*

Cooling

Simple deflector ring cools tank shell. *T. Y. Yang, diag Pet Refiner 37:237 Mr '58*

Corrosion**Bibliography**

Corrosion of oil-industry storage tanks; with selected bibliography and abstracts of articles. *Oil & Gas J 55:153-4+ N 11 '57*

Costs

Find tank costs by nomogram. *D. S. Davis, Pet Refiner 37:200 Ap '58*

Fires and fire protection

How to control static electricity in commercial tankage. *W. M. Bustlin and others, diag Oil & Gas J 55:93-94+ D 16 '57*
 Reducing static electricity inside storage tanks by use of radioactive material. *J. J. Conradi and others, bibliog diag Oil & Gas J 55: 197-8+ N 18 '57*
 Unusual fire hazards call for unusual fire-prevention methods. *il Oil & Gas J 56:138 My 12 '58*

Foundations

Controlled settling of tank foundations on weak soils. *J. Martinson, il diag Pet Eng 29:C 16-18 N '57*

Maintenance and repair

Idea from wharf speeds tank repair. *T. Y. Yang, diag Pet Refiner 37:177-8 JI '58*
 Plastic flakes can solve tank leakage. *il Oil & Gas J 56:184 Mr 17 '58*
 Plastic repair may solve leak problems. *il Oil & Gas J 56:97-8 JI 21 '58*

Tables, calculations, etc.

Use nomograph to find tank capacity. *M. H. Green, Pet Refiner 37:174 F '58*

OIL tanks, Rubber

Esse has new way to haul oil; rubber balloons. *il Oil & Gas J 56:59 My 26 '58*
 These collapsible tanks can take it! *il Oil & Gas J 56:171 My 19 '58*

OIL testing

See also
 Insulating oils—Testing
 Lubricating oils—Testing

OIL transportation

See also
 Petroleum—Transportation
 Tank ships

OIL waste

Disposal of soluble oils. *W. Torkington, Plant 17:32-3 F '58*
 Treatment of oil wastes from machining plants. *M. F. Madarasz, flow diag il Lub Eng 14:145-7+ Ad '58*
 Treatment of water-borne wastes from steel plants; with cost data. *R. Nebolsine, diag Iron & Steel Eng 34:131-9 D '57*

OIL well derricks. See Derricks, Oil well**OIL well drilling tenders. See Tenders, Oil well drilling****OIL well drills. See Drills, Oil well****OIL wells. See Petroleum—Well drilling****OILS, Cutting. See Lubrication and lubricants (cutting and grinding)****OILS, Drying. See Drying oils****OILS, Essential. See Essential oils****OILS, Lubricating. See Lubricating oils****OILS, Mineral. See Mineral oils****OILS and fats**

Amino-hexose-reductions as antioxidants; vegetable oils. *C. D. Evans and others, bibliog Am Oil Chem Soc J 35:84-8 F '58*
 Application of near infrared spectrophotometry to the study of the autooxidation products of fats. *H. T. Slover and L. R. Dugan, jr, bibliog Am Oil Chem Soc J 35:350-5 JI '58*
 Assay of vitamin A oils. *E. Brunius, bibliog Am Oil Chem Soc J 36:sup 13-14 Ap '58*
 Brown-colored copolymers of unsaturated fats. *A. W. Venolia and A. L. Tappel, bibliog Am Oil Chem Soc J 35:135-8 Mr '58*
 Coalescence of liquid drops at oil-water interfaces. *L. E. Nielsen and others, bibliog J Colloid Sci 13:441-8 O '58*
 Cocoa butter-like fats from domestic oils. *R. O. Feuge and others, bibliog Am Oil Chem Soc J 35:194-9 Mr '58*

OILS and fats—Continued

- Composition and control of potato chip frying oils in continuing commercial use. D. Meinick and others. *bibliog Am Oil Chem Soc J* 35:271-7 Je '58
- Continuous pressure filtration pilot plant; application to vegetable oils. D. C. Bergstedt and others. *flow sheet II Ind & Eng Chem* 49:1863-70 N '57
- Cottonseed and competing vegetable oils. L. Smith and D. Hull. *Am Oil Chem Soc J* 35:14-19 Ja '58
- Development of color in fats stabilized with amino-hexose-reductones. P. M. Cooney and others. *bibliog diag Am Oil Chem Soc J* 35:167-71 Ap '58
- Dietary fat. J. Agri & Food Chem 6:425-6 Je '58
- Effect of dietary protein and fat on changes of serum cholesterol in mature birds. M. Kokatnur and others. *bibliog J Nutrition* 64:177-84 F '58
- Effect of dietary protein, fat, and choline upon the serum lipids and lipoproteins of the rat. R. E. Olson and others. *bibliog Am J Clinical Nutrition* 6:111-13 Mr '58
- Fractionation and glyceride composition of fats. C. G. Youngs and H. R. Sallans. *bibliog Am Oil Chem Soc J* 35:388-93 Ag '58
- Glyceride structure of vegetable oils by countercurrent distribution. C. R. Scholfield and H. J. Dutton. *Am Oil Chem Soc J* 35:493-6 O '58
- Grease from edible oils. *flow diag II Engineering* 186:133 Ag 1 '58
- How we make our sulfated oils and tallow; ingredients in cotton-fishing formulas. W. Frederick. *diag Textile World* 108:88-9 S '58
- Hydrogenation of fatty oils with palladium catalyst. M. Zajewski. *bibliog Am Oil Chem Soc J* 35:475-7 S '58
- Influence of heat on oxidative stability and on effectiveness of metal-inactivating agents in vegetable oils. P. M. Cooney and others. *bibliog Am Oil Chem Soc J* 35:152-6 Ap '58
- Influence of high-fat diets on growth and development of obesity in the albino rat. J. J. Barboriak and others. *bibliog J Nutrition* 64:241-9 F '58
- New coatings from seeds; vinyl ethers of unsaturated fatty alcohols; abstract. H. M. Tester. *II Chem & Eng N* 36:73 Ap 28 '58
- Oil hardening plant at Purfleet. *flow diag Engineer* 206:304 Ag 22 '58
- Problems arising in connection with the use of antioxidants in the food industry. F. D. Tollenaar and H. J. Vos. *Am Oil Chem Soc J* 35:448-55 S '58
- Recent advances in intravenous fat alimentation. J. F. Mueller. *bibliog Am J Clinical Nutrition* 6:472-8 S '58
- Recent progress in the continuous refining of fatty oils. B. Braae. *bibliog diags Chem & Ind p* 1152-60 S 6 '58
- Report of the Smalley committee, 1957-58. *Am Oil Chem Soc J* 35:270-1 Je '58
- Report on fats and oils. R. D. Willemin. *Am Oil Chem Soc J* 35:sup6-1 Ja; sup6 F; sup6 Mr; sup8-4 Ap; sup9 My; sup6 Je; sup6-7 S; sup6 O '58
- Role of dietary fat in human nutrition. A. E. Hansen and others. *bibliog Am J Pub Health* 47:1367-80. 1520-41 N-D '57
- Specific refraction of fatty oils. M. Tels and others. *bibliog Am Oil Chem Soc J* 35:163-6 Ap '58
- Thermal diffusion fractionation of industrial fat and oil derivatives. C. W. Seelbach and F. W. Quackenbush. *bibliog(37 ref) diag Ind & Eng Chem* 50:353-8 Mr '58
- Toxic effects of oil peroxides formed during fermentation. I. Horvath and others. *Chem & Ind* p916-17 J1 19 '58
- Vegetable oils, fats and waxes: fifty years of progress. R. G. Dollear. *II Ind & Eng Chem* 50:sup48A-51A Je '58
- Viscous behavior of polymerized vegetable oils. R. P. A. Sims. *Am Oil Chem Soc J* 35:257-61 Je '58
- See also
- Castor oil
 - Chaulmoogra oil
 - Drying oils
 - Essential oils
 - Fish oil
 - Grease
 - Isano oil
 - Joloba oil
 - Lipides
 - Lubricating greases
 - Lubricating oils
 - Mineral oils

Oil seeds
Oiticica oil
Palm oil
Patchouly oil
Rice oil
Safflower oil
Sesame oil
Shortening
Soybean oil
Spearmint oil
Stillingia oil
Tall oil
Tallow
Veliver oil
Wool fat

Analysis

- Determination of the peroxide value of edible fats by colorimetric iodometric procedures. P. A. T. Swoboda and C. H. Lea. *bibliog Chem & Ind p* 1090-1 Ag 16 '58
- Differential thermal analysis of fats. A. J. Haighton and others. *bibliog II diags Am Oil Chem Soc J* 35:344-7, 418-22, 457-61 J1-S '58
- Direct determination of saturated fatty acids in fats, oils, and methyl esters. D. F. Kuemmel. *diags Am Oil Chem Soc J* 35:41-5 Ja '58
- New procedure for the determination of volatile carbonylic substances in autotoxidizing edible fats. C. H. Lea and P. A. T. Swoboda. *Chem & Ind p* 974-5 Ag 2 '58
- Quantitative determination of traces of free gossypol in fats, oils, and fatty acids by paper chromatography. G. Schramm and J. H. Benedict. *bibliog Am Oil Chem Soc J* 35:371-3 J1 '58
- Weighing method for measuring the induction period of marine and other oils. H. S. Olcott and E. Einset. *bibliog Am Oil Chem Soc J* 35:161-2 Ap '58

Bibliography

- Abstracts. Published in monthly numbers of *Journal of the American oil chemists' society*
- Literature review committee: 24th annual review of the literature on fats, oils, and detergents. *Am Oil Chem Soc J* 35:208-25. 288-316 My-Je '58

Bleaching

- Bleaching of soybean oil; a spectrophotometric evaluation. M. R. Armstrong and C. E. Ireland. *bibliog Am Oil Chem Soc J* 35:425-8 Ag '58
- Factors in the decolorizing of tallow; oxidation. A. D. Rich and A. Greentree. *bibliog Am Oil Chem Soc J* 35:284-7 Je '58
- Refining and bleaching of vegetable oils. E. M. James. *bibliog Am Oil Chem Soc J* 35:76-83 F '58

Color

- Improvement of color in off-colored cottonseed oils. V. L. Frampton and others. *Am Oil Chem Soc J* 35:sup 18-4 Ag '58

Testing

- Instrument for measuring the hardness of fats and waxes. N. V. Lovegren and others. *diag Am Oil Chem Soc J* 35:327-31 J1 '58

OILSEEDS. See Oil seeds

OILWELL drilling contractors, American association of. See American association of oil-well drilling contractors

OINTMENTS

Comparative study of dermatological ointments. S. G. Clyman. *bibliog Ind Med* 27:531-2 O '58

Vioform-hydrocortisone cream in selected dermatoses with emphasis on industrial cases. B. M. James and J. A. Hunt. *bibliog Ind Med* 27:199-201 Ap '58

OITICICA oil

Detection of oiticica oil in coatings. G. G. Esposito and M. H. Swann. *Anal Chem* 29:1861-2 D '57

OKLAHOMA

See also subdivision Oklahoma under special subject, e.g.

Gas, Natural
Geology
Paleontology
Petroleum
Petroleum industry and trade
Petroleum laws and regulations
Water supply

OKLAHOMA CITY

Aerial mapping service of the US geological survey. D. Kennedy. *II Am Water Works Assn J* 50:502-6 Ap '58

- OLCOTT, David Perry**
Memorial, J. B. Eby. *por Am Assn Pet Geol-
ogists Bul* 42:2021-6 Ag '58
- OLD age**
Current concepts in geriatrics. W. B. Kountz.
Ind Med 27:537-9 O '58
Health education in senior citizens' pro-
grams. B. Kutner. *Am J Pub Health* 48:
622-6 My '58
See also
Age and employment
Retirement
- Care and hygiene**
Geriatric rehabilitation in Illinois. D. C.
Larson. *Ind Med* 27:466-8 S '58
- Housing**
Canada's housing for aged program yields
new opportunities for architects. J. C.
Smith. *il diags Arch Rec* 124:44-+ JI '58
Housing for the independent aged. J. Jacobs.
il plans Arch Forum 109:86-90 Ag '58
Housing the elderly at a profit; panel dis-
cussion. *Arch Rec* 124:28-+ JI '58
- OLD age homes**
Home for the aged; Riverview extension home
for the aged; Philadelphia. *il plan Prog*
Arch 33:132-5 Ap '58
Home for the aged, modern version; proposed
Baptist nursing home, Washington, D.C.
il plans Arch Rec 123:216-17 Mr '58
Housing for the aged; federal aid program
makes progress slowly. E. Mickel. *Arch*
Rec 123:32-+ My '58
Old hotel becomes home for the aged; Car-
mel hall, Detroit, Mich. *il plans Arch Rec*
123:218-22 Mr '58
- OLEANDRYCIN (PA-105).** *See* Antibiotics
- OLEATES**
See also
Methyl oleate
- OLEFINS**
Addition of hydrogen atoms to solid olefins
at -195°. R. Klein and M. D. Scheer. *bibliog*
Am Chem Soc J 80:1007 F 20 '58
Addition of silicon hydrides to olefinic double
bonds; the addition to non-terminal olefins
in the presence of chloroplatinic acid. J. C.
Saam and J. L. Speier. *Am Chem Soc J*
80:4104-6 Ag '58
Amine oxides; olefins from N,N-dimethyl-
methylamine and N,N-dimethylneome-
thylamine oxides. A. C. Cope and E. M.
Acton. *bibliog Am Chem Soc J* 80:355-9 Ja
20 '58
Bright future for C₂ and C₃ olefins. T. C.
Ponder. *Pet Refiner* 37:202-+ JI '58
Cyclic diacyl peroxides; the reaction of
phthaloyl peroxide with olefins. F. D.
Greene and W. W. Rees. *bibliog Am Chem*
Soc J 80:3432-7 JI '58
Diels-Alder reaction of an unconjugated
diene. E. F. Ullman. *bibliog Chem & Ind*
p 1173-4 S 6 '58
Dinitrogen pentoxide-olefin reaction. T. E.
Stevens and E. E. Simmons. *bibliog Am*
Chem Soc J 79:6008-14 N 20 '57
Displacement reaction of haloalkenes with
iodide ion; a survey of reactivity and
mechanism. S. I. Miller and P. K. Yonan.
bibliog Am Chem Soc J 79:5931-7 N 20 '57
Electron-seeking demands of dichlorocarbene
in its addition to olefins. W. V. Doering
and W. A. Henderson, jr. *bibliog Am Chem*
Soc J 80:5274-7 O 5 '58
Free radical additions of amines to olefins.
W. H. Urry and O. O. Juveland. *bibliog*
Am Chem Soc J 80:3322-8 JI 5 '58
γ-ray initiated reactions; the addition of
silicon hydrides to alkenes. A. M. El-
Abbadly and L. C. Anderson. *bibliog Am*
Chem Soc J 80:1737-9 Ap 5 '58
Heats of hydrogenation; relative stabilities
in certain exocyclic-endo-cyclic olefin pairs.
R. B. Turner and R. E. Garner. *bibliog Am*
Chem Soc J 80:1424-30 Mr 20 '58
Hyperconjugation correlation and calcula-
tion of molar volumes of alkenes. C. W.
Beck and L. V. Beck. *bibliog Ind & Eng*
Chem 50:1301-2 S '58
Intermolecular-intramolecular polymerization
of α-diolefins by metal alkyl coordination
catalysts. C. S. Marvel and J. K. Stille.
bibliog Am Chem Soc J 80:1740-4 Ap 5 '58
Isomer distribution in the oxo reaction. V. L.
Hughes and R. E. Schenbaum. *bibliog Ind*
& Eng Chem 49:1999-2003 D '57
Isotactic polymers. G. Natta. *bibliog il Chem*
& Ind p 1520-30 N 23 '57
Mechanism of addition reactions of olefins;
criteria for mechanism in mixed aqueous
solvents. H. Kwart and L. B. Weisfeld.
bibliog Am Chem Soc J 80:4670-6 S 5 '58
- Methyl affinities of dienes. A. Rajbenbach and
M. Szwarc. *Am Chem Soc J* 79:6343-4 D 5
57
- New synthesis of cyclopropanes from olefins.
H. E. Simmons and R. D. Smith. *bibliog*
Am Chem Soc J 80:5323-4 O 5 '58
Olefins; basis of petroleum chemicals. C. H.
Thomas. *Pet Refiner* 36:201-2 N '57
Polyolefin fibers; the current position. C. T.
Kennedy. *il Textile Ind* 122:107-10 Ag '58
Polyolefin plastics field; present technical
status. F. C. McGrew. *diags Mod Plastics*
35:125-6-+ Mr '58
Preparation and fluorination of addition prod-
ucts of bromotrifluoromethane and bromo-
and chloroolefins. F. Tarrant and others.
bibliog Am Chem Soc J 80:1711-13 Ap 5 '58
Preparation of dialkyl alkylphosphonates by
addition of dialkyl phosphites to olefins.
A. R. Stiles and others. *Am Chem Soc J*
80:714-16 F 5 '58
Proton resonance spectra and structures of
mercury(II)-olefin addition compounds. F.
A. Cotton and J. R. Leto. *bibliog Am Chem*
Soc J 80:4823-6 S 20 '58
Reaction of dinitrogen tetroxide and iodine
with olefins and acetylenes. T. E. Stevens
and W. D. Simmons. *bibliog Am Chem*
Soc J 80:338-41 Ja 20 '58
Reaction of olefins with oxygen and phos-
phorus. C. Walling and others. *bibliog Am*
Chem Soc J 80:4543-6 S 5 '58
Reactions of t-butyl perbenzoate and olefins;
a stereospecific reaction. M. S. Kharasch
and G. Sosnovsky. *bibliog Am Chem Soc J*
80:756 F 5 '58
Reactions of highly fluorinated organic com-
pounds; the oxidation of fluoro-olefins by
potassium permanganate in acetone. J.
Burdon and J. C. Tatlow. *bibliog J AP*
Chem 8:293-6 My '58
Some thermal reactions of perfluoroalkyl de-
rivatives of SF₆ with fluorocarbon olefins.
R. D. Dresdner and others. *bibliog Am*
Chem Soc J 80:3007-9 Je 20 '58
Synthesis of cage-like molecules by irradi-
ation of Diels-Alder adducts. R. C. Cookson
and others. *Chem & Ind* p 1003-4 Ag 9 '58
Thermal syntheses of telomers of fluorinated
olefins. M. Hauptschein and others. *bibliog*
Am Chem Soc J 80:846-53 F 20 '58
- See also*
Cycloolefins
Ethylene
Propylene
- Analysis**
Gas chromatography of olefins; determina-
tion of pentenes and hexenes in gasoline.
H. S. Knight. *bibliog Anal Chem* 30:9-15
Ja '58
Influence of olefin structure on bromine num-
ber as determined by various analytical
methods. E. H. Unger. *bibliog diag Anal*
Chem 30:375-80 Mr '58
Low voltage techniques in high molecular
weight mass spectrometry. H. E. Lumpkin.
bibliog diag Anal Chem 30:321-5 Mr '58
Mass spectrometer-type analysis for olefins
in gasoline. L. Mikkelsen and others. *bibliog*
Anal Chem 30:317-21 Mr '58
- Manufacture**
Houdry dehydrogenation for olefin produc-
tion; abstract. L. Friedman and others. *Pet*
Refiner 37:176 My '58; Same. *Pet Eng* 30:
C8-9 Je '58
New air conveyor system has liquid handling
flexibility; applying the systems approach
at Philip's Chemicals new polyolefin plant.
D. E. Perkins. *il diag Mod Materials*
Handling 13:89-93 N '58
- OLEIC acid**
Liquid-phase esterification of oleic acid and
alcohol by W. C. Ling and C. J.
Geankoplis. *bibliog Ind & Eng Chem* 50:
939-42 Je '58
Reactions of hydrogen bromide with oleic
acid and its esters; free radical addition.
E. Jungermann and P. E. Spoerri. *bibliog*
Am Oil Chem Soc J 35:393-6 Ag '58
Trans-isomerization of oleic acid and potas-
sium oleate by ionizing radiation. H. P.
Fay and others. *bibliog Am Oil Chem Soc*
J 35:1-5 Ja '58
- OLEOMARGARINE.** *See* Margarine
- N-OLEOYL sarcosine.** *See* Corrosion and anti-
corrosives
- OLIGOCENE** period. *See* Geology, Stratigraphic
- OLIGOSACCHARIDES**
Polymer-homologous series of oligosaccharide
aditols from cellulose. M. L. Wolfrom and
D. L. Fields. *bibliog Tappi* 41:204-7 My '58

OLIVINE

Calcium-bearing magnesium-iron olivines. T. G. Sahama and K. Hytönen, bibliog diags Am Mineralogist 43:862-71 S '58
Concerning olivine. H. E. Henderson. Foundry 86:174-L Ap '58
Olivine-spinel transition in fayalite. A. E. Ringwood. Geol Soc Bul 69:129 Ja '58

OLNEY medal

1957 Olney medalist address. P. J. Wood. Am Dyestuff Rep 46:1002-3 D 30 '57
P. J. Wood to be awarded 14th Olney medal. Il Am Dyestuff Rep 46:841-4 N 4 '57

OLPIN, Henry Charles

Obituary. A. Mellor and A. W. Carpenter. por Soc Dyers & Col J 74:484-5 Je '58

OMAHA, Nebraska**Water supply**

Water quality. J. F. Erdel. Am Water Works Assn J 50:1196-8 S '58

O'MALLEY, Godfrey B.

Sketch. por Can Min & Met Bul 51:218 Ap '58

ONEONTA, New York**Water supply**

Calcite in water treatment. T. M. Riddick and others. Il diag Water & Sewage Works 105:15-24; Discussion. 24 Ja '58

ONTARIO

See also subdivision Ontario under special subjects, e.g.

Chemical industries
Geology
Hydroelectric plants
Iron mines and mining
Iron ores
Roads

Industries and resources

Opening the treasure chest; northern Ontario. Il map Can Chem Process 41:30-6+ N '57

Water resources commission

Ontario water resources act. A. E. Berry. Am Water Works Assn J 50:1127-31; Discussion. C. G. R. Armstrong. map 1181-5 S '58

ONTARIO, Lake

Regulation of Lake Ontario. F. F. Snyder and R. H. Clark. maps Am Soc C E Proc 84 [HY 3 no 1660]:1-25 Je '58
Water intakes in the Niagara river and Lake Ontario. R. H. N. Murray. Am Soc C E Proc 84 [SA 2 no 1607]:1-11 Ap '58

ONTARIO agricultural college

Ontario agricultural college. Il Eng J 41:93-4 JI '58

OPACITY

See also
Enamel and enameling—Opacity
Glass—Opacity
Glazes—Opacity
Pottery—Opacity

Measurement

Simple, inexpensive method for translucency measurements. C. F. Shaw. bibliog Il Am Cer Soc Bul 37:448-51 O 15 '58

OPEN air theaters. See Theaters. Open air**OPEN and closed shop**

NRMCA and NSGA boards call for legislation to end compulsory membership in unions. Concrete 66:14+ Ap '58

OPEN hearth furnaces

All-basic openhearth. Il Metal Prog 73:85-7 Je '58

Driving rate of open-hearth furnaces. R. W. Evans. Iron & Steel Inst J 189:19-21 My '58

Improved open hearth furnace for making steel. patent. diags Iron & Steel Eng 35:22+ Je '58

Increased fuel input and basic refractories. J. H. Chesters. Iron & Steel Inst J 189:21-2 My '58

Modifications to the Fontana open hearth precipitators. E. V. Akerlow. Il diags Iron & Steel Eng 35:97-102; Discussion. 102-3 JI '58

Open-hearth plant of August Thyssen-hütte. Il Engineer 205:260 F 14 '58

Research into factors contributing to the output rate of open-hearth furnaces. J. Pearson. Iron & Steel Inst J 189:27-8 My '58

Use of oxygen in a modified tilting furnace. A. Jackson and others. Il diags Iron & Steel Inst J 190:1-29 S '58

Use of oxygen to assist combustion in the open-hearth furnaces at Consett. J. F. Allen. Iron & Steel Inst J 189:25-6 My '58

Charging

Fast scrap-charging boosts openhearth output. G. J. McManus. Il Iron Age 181:110-11 Mr 20 '58

Open hearth furnace loading apparatus; patent. diags Iron & Steel Eng 35:30+ Ag '58

Plan for long bottom life. R. M. Jordan. Steel 142:86+ F 10 '58

Control

Electrical equipment for Ajax furnace. L. H. Walton. Iron & Steel Inst J 190:25-7 S '58

Instrumentation and oxygen-control system for Ajax furnace and ancillary equipment. R. A. Kipling. Il Iron & Steel Inst J 190:15-17 S '58

Modern open hearth control. R. L. Sigl. Instruments & Automation 31:265-6 F '58

Programming open-hearth combustion. L. W. Eisenhart. Il plan diags Instruments & Automation 31:260-4 F '58

U.S. Steel puts oxygen analyzer into closed-loop combustion control. E. W. Hunziker and J. W. Bain. Il diag I S A J 5:32-6, cover My '58

Firing

Gas atomizes open-hearth fuel; Empire-Reeves steel corp. V. B. Thompson. diags Steel 142:144+ Ap 14 '58; Same abr. Power 102:123 Ag '58; Same cond. J Metals 10:273 Ap '58

New trends in firing practices for open hearths. J. E. Goodin. Iron & Steel Eng 34:158-9 D '57; Excerpts. J Metals 10:272-3 Ap '58

Lining

Bottoms for basic open hearth furnaces. S. Wortman. Il Iron & Steel Eng 34:127-33 N '57

Co-operative trials on all-basic furnace roofs. bibliog Il pl diags Iron & Steel Inst J 186:304-28 Mr '57; Discussion. 187:231-8; 189:58-9 N '57. My '58

Expansion allowance in basic open hearth port ends. L. L. Wells, jr. and T. P. Greaney. bibliog Il diag J Metals 10:277-80 Ap '58

Reactions in the open hearth affecting refractory life. H. M. Kraner. bibliog Am Cer Soc Bul 37:313-16 JI 15 '58

Maintenance and repair

Plan for long bottom life. R. M. Jordan. Steel 142:86+ F 10 '58

OPEN hearth process
Basic open-hearth steelmaking in the U.S.A. M. W. Lightner and D. L. McBride. bibliog Il diags Iron & Steel Inst J 189:205-16 JI '58

Carbon equivalent concept; abstract. K. G. Lewis and J. McCracken. Metal Prog 74:156+ JI '58

Origin and elimination of hydrogen in basic open-hearth steels. W. L. Kerlie and J. H. Richards. bibliog J Metals 9:Trans 1541-8 D '57

Reactions in the open hearth affecting refractory life. H. M. Kraner. bibliog Il Am Cer Soc Bul 37:313-16 JI 15 '58

Use of oxygen for decarburization in the open-hearth furnace. A. J. Kesterton. bibliog diags Iron & Steel Inst J 189:22-5 My '58

Will the big demand for oxygen come from openhearth? J. J. Obrzut. Il Iron Age 182:172-4 S 11 '58

See also

Open hearth furnaces
OPEN pit mining. See Mining methods—Strip-ping operations

OPEN pit mining association
Electrical division 14th annual meeting, Lexington, Ky. June 19; abstracts of papers. Coal Age 63:112-13 Ag '58

OPERA houses. See Theaters

OPERATING rooms. See Hospitals—Operating rooms

OPERATIONAL readiness inspection. See United States—Navy—Operational readiness inspection

OPERATIONS research
Application of operations research and computer techniques in airline operations; abstract. L. Rosenfeld. Aircraft Eng 30:242 Ag '58

Can you profit from operations research? R. H. Bshelman. Il Iron Age 181:71-3 Ja 16 '58

OPERATIONS research—Continued

- Heuristic problem solving; the next advance in operations research. H. A. Simon and A. Newell. *Op Res* 6:1-10 Ja '58; Discussion. R. Bellman. 6:448-9; Reply. 449-56 My '58
- How British American Oil uses operation research. W. J. McGuire. *Can Chem Process* 42:28+ Ag '58
- How work study helps in the design of chemical plants. E. H. Salisbury. *Il Manuf Chem* 29:19-203 My '58
- Industrial statistics help solve steel plant managerial problems. P. E. Green and L. L. Haines. *biblog Iron & Steel Eng* 34:118-23 O '57
- Integrated process control system at the Cummins engine co. E. L. Arnoff and others. *diags Op Res* 6:467-97 Ji '58
- Joint optimization of long-range planning and short-range programming; ceramics firm that manufactures refractory heat-resistant products. M. Verhulst. *diags Op Res* 6:560-9 Ji '58
- Military operations research. F. E. O'Meara. *Aeronautical Eng R* 16:56-8 D '57
- Operations research; aid to decision. G. C. Jacobus. *Pet Eng* 29:E 17-18+ D '57
- Operations research aids in birth of new products; abstract. K. Foreman. *S A E J* 66:108 Ag '58
- Operations research; Nekooa-Edward paper co.; abstract. D. Lichty. *Tappi 41:sup 127A-8A F '58*; Same. *Pet Eng* 30:E37 Je '58
- Operations research shows how to find the best lot size. I. Heitner. *Am Mach* 102:114-15 Ag 11 '58
- Operations research takes a look at itself. D. B. Hertz. *Product Eng* 28:36-7 D 2 '57
- Optimizing a catalytic cracking operation by the method of steepest ascents. R. W. Schrage. *diags Op Res* 6:498-515 Ji '58
- Organization and functions of an operations analysis group. H. W. Schulz. *Chem Eng Prog* 53:548-50 N '57
- Place of psychology in operations research. G. D. Creelman and R. W. Wallen. *biblog Op Res* 6:116-21 Ja '58
- Scale of operations, an empirical study. E. H. Bowman. *Op Res* 6:320-8 My '58
- Theory of games; a tool for operational research. S. Vajda. *diags Engineering* 185:369 Mr 21 '58
- Toward better crop forecasts. *Il J Agri & Food Chem* 6:573-4 Ag '58
- Trends in operational research. R. W. Bevan. *biblog Op Res* 6:441-7 My '58
- Work study and models speed chemical process design. *Engineering* 185:83 Ja 17 '58
- Yardstick for decision makers. *Pet Refiner* 36:201-3 D '57

See also

Dynamic programming
Job assignment
Linear programming
System simulation
Systems engineering
Weapons systems

Bibliography

Analysts' bookshelf. Published in bi-monthly numbers of Operations research

OPERATIONS research society of America

National meeting, 12th, Pittsburgh, Nov. 14-15; with abstracts of papers. *Op Res* 6:137-54 Ja '58

National meeting, 13th, and 6th annual meeting, Boston, May 15-17; with abstracts of papers. *Op Res* 6:594-634 Ji '58

OPHIDIASIS. See Venom

OPINION polls. See Employees—Opinion polls; Public opinion polls

OPIUM**Analysis**

Analytical chemists fight evils of narcotics trade. *Il Anal Chem* 30:sup 19A-22A+ Ag '58

OPTICAL glass. See Glass, Optical

OPTICAL instruments

Construction and testing of a universal light scattering apparatus for the investigation of macromolecules in solution. W. J. Hughes and P. Johnson. *biblog diags J Sci Instr* 35:157-9 My '58

Instrument for the measurement of the viscosity of steam and compressed water. J. Kesim and J. R. Moszynski. *biblog diags A S M E Trans* 80:1009-14 Ji '58

Line-of-action dantometer inspects spur gears to ± 1 sec of arc; Sperry gyroscope co. R. J. Ross and J. P. Wright. *Il diags Am Mach* 102:113-17 Ja 13 '58

Measurement of deviations in periodic structures. *Franklin Inst J* 265:81-2 Ja '58

Optical gaging checks one-ft error in one mile; Daco instrument co. W. W. Henninger. *Il diag Am Mach* 101:92-3 D 30 '57

Optical instrumentation for missile testing; symposium. *Il diags SMPTE J* 67:225-55 Ap '58

Optical strain tester. *Il Engineer* 204:765 N 22 '57

Photoelectric flow birefringence instrument of high sensitivity. B. H. Zimm. *diags R Sci Instr* 29:360-7 My '58

Projector adapted to grinder solves form-tool problems; illustrations and drawings with text. J. R. Sloan. *Am Mach* 101:114-15 D 16 '57

See also

Borescopes
Collimators
Densitometers
Diffraction gratings
Diffractometers
Exposure meters
Interferometers
Kerr cell
Light filters
Magnifiers
Measuring instruments, Optical
Microscope and microscopy
Monochromators
Moving picture photography—High speed
Photometers
Projection apparatus
Reading machines
Refractometers
Schlieren apparatus
Shutters, Optical
Spectrograph
Spectrometers
Spectrophotometers
Spectroradiometers
Stroboscopic instruments
Surveying instruments
Telescope

Design

Design and operational philosophy for an ultra-precision tracking mount system for a missile test range. J. A. Clemente. *diag SMPTE J* 67:242-5 Ap '58

OPTICAL measurements

Optical measurement of film growth on silicon and germanium surfaces in room air. R. C. Archer. *biblog Electrochem Soc J* 104:619-22 O '57; Discussion. 105:365-6 Je '58

Optical measurement of the trash content of ginned cotton. C. Baker and others. *Il diags Textile Res J* 28:510-16 Je '58

Optical strain-gage standard. *Il Instruments & Automation* 31:455 Mr '58

See also

Light—Velocity
Measuring instruments, Optical
OPTICAL measuring instruments. See Measuring instruments, Optical

OPTICAL methods

Devices determine lighting requirements. H. R. Blackwell. *Elec Eng* 77:654-5 Ji '58

High-pressure techniques. D. M. Warschauer and W. Paul. *biblog Il diags R Sci Instr* 29:675-9 Ag '58

Method of measuring the optical sine-wave spatial spectrum of television image display devices; kinescopes. O. H. Schade. *Il diags SMPTE J* 67:561-6 S '58

Nucleation and growth in a photosensitive glass. R. D. Maurer. *biblog Il (cover) J Ap Phys* 29:1-3 Ja '58

Optical and electron microscope examination of preselected areas. T. K. Bierlein and E. Mastel. *diag R Sci Instr* 28:960-1 N '57

Optical gearing indicates shaft angle. *Il diag Electronics* 31:96+ Je 20 '58

OPTICAL properties

Critical study of the optical and mechanical properties of glass fibers. S. Bateson. *biblog J Ap Phys* 29:13-21 Ja '58

Optical properties of several ferrimagnetic garnets. J. F. Dillon, Jr. *biblog Il J Ap Phys* 29:539-41 Mr '58

Oxides of the 3d transition metals. F. J. Morin. *biblog diags Bell System Tech J* 37:1047-84 Ji '58

Some properties of gallium arsenide-germanium mixtures. D. A. Jenny and R. Braunstein. *Il J Ap Phys* 29:596-7 Mr '58

See also

Absorption of rays
Refractive index
OPTICAL rotation
Alcohol-binding capacity and mutarotation of the so-called dialdehydes obtained by periodate oxidation of sugar glycosides. I. J. Goldstein and others. *biblog Chem & Ind* 6595-6 My 17 '58

OPTICAL rotation—Continued

- Asymmetric induction studies with optically active biphenyls; the reactions of phenylglyoxylates of the phenylidihydrothebaine series with methylmagnesium iodide. J. A. Berson and M. A. Greenbaum. *bibliog Am Chem Soc J* 80:445-51 Ja 20 '58
- A biphenyl whose optical activity is due to a three-carbon bridge across the 2,2'-positions. D. C. Ifland and H. Siegel. *bibliog Am Chem Soc J* 80:4947-50 Ap 20 '58
- Configurational correlation of optically active biphenyls with centrally asymmetric compounds; the absolute configuration of 6,6'-dinitro-2,2'-diphenic acid. P. Newman and others. *bibliog Am Chem Soc J* 80:465-73 Ja 20 '58
- Configurational intercorrelation of optically active biphenyls by thermal analysis. M. Siegel and K. Mislow. *bibliog Am Chem Soc J* 80:473-6 Ja 20 '58
- Conformation and optical rotation of restricted biphenyls; configurational correlation of biaryls by optical displacement; the absolute configuration of restricted 1,1'-binaphthyls. D. D. Pitts and others. *bibliog diags Am Chem Soc J* 80:480-6 Ja 20 '58
- Dependence of the optical rotatory power of proteins on disulfide bonds. J. E. Turner and others. *bibliog Am Chem Soc J* 80:4117-18 Ag 5 '58
- High molecular weight poly- α -L-glutamic acid; preparation and optical rotation changes. M. Idelson and E. R. Blout. *bibliog Am Chem Soc J* 80:4631-4 S 5 '58
- Macro rings; restricted rotation and transannular electronic effects in the paracyclophanes. D. J. Cram and others. *bibliog Am Chem Soc J* 80:3125-32 Je 20 '58
- Nuclear magnetic resonance and infrared study of hindered rotation in nitrosamines. C. B. Looney and others. *bibliog Am Chem Soc J* 79:6136-42 D 5 '57
- Optical rotatory dispersion studies. C. Dierassi and others. *bibliog Am Chem Soc J* 80:1216-25, 3986-95, 4001-15, 4853-7 Mr 5, Ag 5 S 20 '58
- Poly- β -benzyl aspartates; optical rotation and the sense of the helix. E. R. Blout and R. H. Karlson. *Am Chem Soc J* 80:1259-60 Mr 5 '58
- Restricted rotation in aryl amines; effect of 3-substituents on the optical stability of some N-benzenesulfonyl-N-carboxymethylmesidines. R. Adams and J. S. Dix. *Am Chem Soc J* 80:4879-81 S 5 '58
- Stereochemistry of complex inorganic compounds; the resolution of racemic substances through optically active complex inorganic compounds. S. Kirschner and others. *bibliog diags Am Chem Soc J* 79:5877-80 N 20 '57
- Synthesis of racemic, optically active and radioactive α -lipoic acids. D. S. Acker and W. J. Wayne. *bibliog Am Chem Soc J* 79:6483-7 D 20 '57
- Synthesis of the optically active tripeptides of valine. S. Shankman and Y. Schivo. *bibliog Am Chem Soc J* 80:1164-8 Mr 5 '58
- Transannular nitrogen-carbonyl interaction in cyclic aminoketones and optical rotatory dispersion. N. J. Leonard and others. *bibliog Am Chem Soc J* 80:4858-62 S 20 '58

OPTICAL society of America

Spring meeting, Washington. D.C. March 27-29. *Glass Ind* 39:269 My '58

OPTICS

- Atmospheric optics. H. C. Schepler. *Il SMPTE J* 67:225-7 Ap '58
- Progress of promises report for 1957. *Il SMPTE J* 67:292-3 My '58
- See also
- Aberration (optics)
 - Absorption of rays
 - Color
 - Diffraction
 - Electron optics
 - Fluorescence
 - Focus (optics)
 - Interference (light)
 - Lenses
 - Light
 - Measuring instruments, Optical
 - Photoelasticity
 - Photographic optics
 - Photometry
 - Polarization (light)
 - Radiation
 - Reflection (optics)
 - Refractive index
 - Resolving power (optics)
 - Spectrum analysis
 - Visibility

OPTICS, Electron. See Electron optics

OPTICS, Geometrical**Study and teaching**

Use of the optical path concept in the study of spherical surfaces. D. G. Douglas. *Am J Phys* 26:14-16 Ja '58

OPTICS, Physiological

See also

Color sense

Eye—Movements

OPTIMUM lot sizes. See Quantities (in production)

ORANGE juice

Cast stainless components protect orange juice. *Il Materials in Design Eng* 47:12-4 Ja '58

Mechanism of browning of ascorbic acid-citric acid-glycine systems. T. Laikainen and others. *bibliog diags J Agri & Food Chem* 6:135-9 F '58

ORANGE oil**Analysis**

Detection of color-add dye in cold pressed orange oil. J. W. Kesterson and others. *bibliog Il Am Perfumer & Aromatics* 72:29-31 Ag '58

ORANGES

Field persistence comparisons of residues of the insecticide, diazinon, in lemons and Valencia oranges and effects on juice flavor. F. A. Gunther and others. *bibliog J Agri & Food Chem* 6:521-3 J1 '58

Persistence of residues of 2,3-p-dioxanedithiol 8,8-bis(O,O-diethyl phosphorodithioate) as an acaricide on and in mature lemons and oranges. F. A. Gunther and others. *J Agri & Food Chem* 6:210-11 Mr '58

ORBITALS, Atomic. See Atomic orbitals

ORBITS

Apsidal motion of an IGY satellite orbit. L. Blitzer. *diags J Ap Phys* 23:1352 N '57

Ballistic trajectories and orbits. R. F. Hughes. *diags J Aeronautical Sci* 25:330-1 My '58

Criteria for orbital entry. L. G. Vargo. *Jet Propulsion* 28:54-5 Ja '58

Departure and return in interplanetary flight. K. L. Bossart. *diags Aero/Space Eng* 17:44-52 O '58

Effect of air drag on elliptic satellite orbits. R. E. Roberson. *diags Jet Propulsion* 28:90-6 F '58

Escape from a circular orbit using tangential thrust. D. J. Kenney. *diags Jet Propulsion* 28:167-9 Mr '58

New engineering regime; orbit mechanics. K. E. Gray. *Aviation Age* 29:174-8+ Je '58

Space flight; orbits. S. Herrick and R. M. L. Baker, jr. *diags Aviation Age* 28:70-1+ Mr '58

Stability of an electron beam on a slalom orbit. J. S. Cook and others. *diags J Ap Phys* 29:683-7 Mr '58

Transfer between vehicles in circular orbits. B. H. Palewonsky. *bibliog diags Jet Propulsion* 28:121-3 F '58

ORDERS

Better customer service; processing customer orders; Cone mills corp. J. R. Perrin. *Il Textile Ind* 122:116-17 F '58

Controlling costs on plant orders; seven forms keep accurate check on material and cost estimates. E. J. Detuno. *Plant Eng* 12:88-9+ J1 '58

Republic Steel puts order processing system into operation. *Il Iron & Steel Eng* 35:126+ Je '58

Republic unveils order process system. *See* 142:67 Ap '58

Republic's new order network. *Il Iron Age* 181:62-3 Ap 10 '58

Warehouse order processing; integrated data processing system. *Il plan Automation* 5:65-70 My '58

ORDINANCES, Municipal. See Municipal ordinances**ORDNANCE**

See also

United States—Armed forces—Ordnance and ordinance stores

ORDOVICIAN period. See Geology, Stratigraphic—Ordovician

ORE cars

See also

Mine cars

ORE deposits

Abundances of copper, zinc, and lead in some sulfide deposits. R. L. Stanton. *bibliog diags J Geol* 66:484-502 S '58

Classification of metalliferous provinces and deposits. C. J. Sullivan. *Il Eng & Min J* 159:26-8 Mid-Je '58

ORE deposits—Continued

Deuteric alteration of some aplite-pegmatites of the Boulder batholith, Montana, and its possible significance to ore deposition. G. J. Neuenburg. *bibliog Econ Geol* 53:287-99 My '58

Mineralizing solutions that carry and deposit iron and sulfur. B. S. Butler. *bibliog Min Eng* 8:Trans 1012-17 O '56; Discussion. A. D. Mutch. 10:Trans 596 My '58

Solubility product and ore precipitation. N. Street. *Econ Geol* 53:617-18 Ag '58

Temperatures and depth of formation of sulfide ore deposits at Gilman, Colo. T. G. Lovering. *bibliog map Econ Geol* 53:689-707 S '58

See also
Copper ores
Gold ores
Iron ores
Lead ores
Mines and mineral resources
Nickel ores
Placer deposits
Thorium ores
Tungsten ores
Uranium ores
Zinc ores

ORE docks

Mixed soils require five designs for ore dock reconstruction. E. M. Cummings. *il plan diags Civil Eng* 27:792-5 N '57

ORE feeders. *See Feeders, Ore*

ORE handling

Conveyor operation in Michigan wilderness; White pine copper co. F. E. Speaker. *il diags Min Eng* 9:1324-5 D '57

New ore handling, screening and sintering facilities at Sparrows Point. M. Becker; E. C. Olson. *il plans diags Iron & Steel Eng* 34:96-108; Discussion. 109-12 N '57

Open pit conveyors at Steep rock iron mines. E. H. Mulligan. *il map Min Cong J* 44:24-3 Ja '58

Remote-controlled shuttle conveyor serves five discharge points; Pend oreille mines & metals co. *diags Eng & Min J* 159:99 Ja '58

Scraper trenches at stations ease underground skip loading. A. W. T. Freares. *diags Eng & Min J* 159:112 J1 '58

Structural design problems and recommended practice for ore bridges and unloaders. W. B. McLean. *il diags Iron & Steel Eng* 35:78-86 Ag '58

See also
Feeders, Ore
Ore docks
ORE sampling
Machine sampling from a conveyor belt. A. H. Blyth. *il diags Min Cong J* 43:59-61 N '57

ORE testing

See also
Ore sampling

ORE transportation

Berkeley pit crushing-conveying plant designed to handle 1800 tons per hour. J. B. Hutt. *il diags Eng & Min J* 158:102-4 D '57

See also
Mine haulage
Ore handling

ORE treatment

Filtration and control of moisture content on taconite concentrates. A. F. Henderson and others. *diag Min Eng* 9:Trans 349-55 M '57; Discussion. 10:Trans 596 My '58

Fine grinding at supercritical speed. R. T. Hukki. *bibliog Min Eng* 10:Trans 581-9; Discussion. 589-91 My '58

Graphical representation of theoretical soluble losses by CCD (countercurrent decantation). E. J. Woody. *diags Min Eng* 10:Trans 728-8 J1 '58

High-grade iron ore at Copper Cliff, Ontario. P. Queneau and others. *il diag J Metals* 10:527-32 Ag '58

Humphreys spiral concentrator; its place in ore dressing; Henry J. Kaiser co. J. V. Thompson. *bibliog flow sheet il Min Eng* 10:84-7 Ja '58

International mineral dressing congress, 2d, Stockholm, Sept. 18-21; abstracts of papers. *Eng & Min J* 158:79-85 N '57

Mineral dressing, 1957. N. Weiss. *il Min Cong J* 44:70-4 F '58

New process, new plant; high grade iron from Inco's concentrates. *il Min Eng* 10:864-6 Ag '58

Separating ore from clay; African manganese co. *il Engineering* 186:8 J1 '58

South River mine whips a tough manganese ore problem in Virginia. R. C. Spurgeon and E. J. O'Connell. *flow sheet il Eng & Min J* 159:106-11 My '58

U.S. Borax has integrated a complex industrial plant. *il Eng & Min J* 159:103-5 Ap '58

See also

Crushing
Crushing machinery
Flotation process
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Iron metallurgy
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Metallurgical plants
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Sintering
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OREGON

See also subdivision Oregon under special subjects, e.g.
Architecture, Domestic
Electronics industry
Geology
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ORES

See also

Carnolite
Manganese ores
Metals
Mineralogy
Mines and mineral resources
Ore sampling

ORGAN, Electronic

Electronic organ uses neon tone generators. E. H. Dorf. *il diags Electronics* 31:36-41 Ag 29 '58

ORGANIC acids. *See Acids, Organic*

ORGANIC chemistry. *See Chemistry, Organic*

ORGANIC compounds. *See Chemistry, Organic*

ORGANIC finishes. *See Finishing materials*

ORGANIZATION for European economic co-operation
OEEC reports on engineer shortage. *Product Eng* 29:28 Ja 27 '58

ORGANIZATION in industry

Automation, the sales, engineering, manufacturing triangle. W. C. Allen. *Tool Eng* 40:73-6 My '58

Catalyst for a better product; GE's value-analysis seminars. R. E. Abbott. *il Product Eng* 28:30-1 D 2 '57

Communication, key to company survival; how Chevrolet, Cummins Engine, Thompson Products, Dana, Clark Equipment, and International Harvester organize for coordination of engineering and manufacturing. J. Geschelin. S A E J 66:32-6 Ag '58

Cost control needs supervisor-employee aid. R. M. Lynas. S A E J 66:120-1 J1 '58

How to plan and organize for new-product development. P. R. Marvin. *Machine Design* 30:88-90 Ag 7 '58

How you can buy time. R. McCullough. *Product Eng* 29:32-3 Ap 7 '58

Introducing into production new manufacturing techniques and processes. V. A. Dornes. S A E J 66:57-8 Mr '58

It ain't mechanical. J. L. Lindberg. *il diags Iron & Steel Eng* 35:166-72 S '58

Logic of organizational planning. T. F. Koch. *Mech Eng* 79:836-7 S '57; Discussion. 80:124-5 Mr '58

Organization and functions of an operations analysis group. H. W. Schulz. *Chem Eng Prog* 58:548-50 N '57

Organization for chemical process control. J. Williams and J. O. Hougen. *Chem Eng Prog* 54:46-7 S '58

Organization of chemical engineering projects; symposium. *Chem & Ind* p 1193-5 S 13 '58

Organization planning. J. K. Hodnette. *Westinghouse Eng* 18:148-51 S '58

Organizing engineering work; abstract. C. H. Bayer. *Tool Eng* 40:213-14 F '58

Organizing for standards. L. G. Harrison. *diags Machine Design* 30:92-8 J1 10 '58

Organizing planning; organized methods pay dividends. J. H. Greene. *diag Tool Eng* 40:119-21 Ap '58

Putting standards to work; American machine & foundry co. E. Woerter. *Machine Design* 30:94-9 Ag 21 '58

West Penn writes down its policy, here's how it tackled the job. J. Mueller. *Elec World* 148:62-3 N 4 '57

See also
Committees (in management)
Efficiency, Industrial
Engineering departments
Industrial management
Maintenance departments
Research departments
Safety organization

ORGANOLEPTIC panels

Consumer survey versus panel testing for acceptance evaluation of Maine sardines. E. F. Murphy and others. *Food Tech* 12:222-6 My '58

ORGANOMETALLIC compounds

Intramolecular cleavage-cyclization reaction of silicon-containing organolithium compounds. D. Wittenberg and H. Gilman. *Am Chem Soc J* 80:2677-80 Je '58

Isoprene polymerization by organometallic compounds. H. Morita and A. V. Tobolsky. *Am Chem Soc J* 79:5853-5 N 20 '57

Metal-organic compounds. *Bibliog diags Ind & Eng Chem* 49:sup44A-9A D '57

New world of chemicals; organometallics. *Chem & Eng N* 36:48+ JI 28 '58

Nitrogen analogs of ketenes; formation of hydroperoxides and vinylamines by reaction with lithium aluminum hydride and organometallic reagents. C. L. Stevens and R. J. Gasser. *bibliog Am Chem Soc J* 79:6057-62 N 20 '57

Organic compounds of zirconium; studies of zirconium mandelates. R. N. Kapoor and R. C. Mehrotra. *bibliog Am Chem Soc J* 80:3569-73 JI 20 '58

Organosiluminum halides as hydrogenation catalysts. J. A. Ridgway, Jr. *bibliog Ind & Eng Chem* 50:1139-42 Ag '58

Organometallic compounds of palladium (II). G. Calvin and G. E. Coates. *Chem & Ind* p 160-1 F 8 '58

Organometallic compounds; symposium abstracts. *Manuf Chem* 29:346+ Ag '58

Organometallics in ethylene polymerization. H. N. Friedlander and K. Oita. *bibliog diags Ind & Eng Chem* 49:1885-90 N '57

Organotin compounds as textile preservatives. H. J. Hueck and J. G. A. Luijten. *Soc Dyers & Col J* 74:476-80 Je '58

Organotin compounds get boost. *Chem & Eng N* 36:25-6 Ap 14 '58

Pyrophorics hold future promise; organometallics that ignite spontaneously in air have fuel potential for aircraft, missiles. *Chem & Eng N* 36:58 Ap 7 '58

Research on organotin compounds and their technological applications; abstract and discussion. E. S. Hedger and G. J. M. van der Kerk. *Chem & Ind* p609-11 My 24 '58

Toxicological studies on bis(tri-*n*-butyltin) oxide. J. R. Elsee and O. E. Paynter. *bibliog A M A Archives Ind Health* 18:214-17 S '58

Spectra

Infrared absorption spectra of inorganic coordination complexes; infrared studies of some metal thiourea complexes. A. Yamaguchi and others. *Am Chem Soc J* 80:527-9 F 5 '58

ORGANOSILICON compounds. See **Silicon compounds**

ORIENTATION

Celestial navigation by birds. E. G. F. Sauer. *maps diags Sci Am* 199:42-7 Ag '58

ORIENTATION (chemistry)

Crosslinking of oriented rubber. A. Charlesby and E. von Arnim. *Rubber Chem & Tech* 31:98-104 Ja '58

Preparation of high-ortho novolak resins; metal ion catalysis and orientation effect. D. A. Fraser and others. *bibliog J Ap Chem* 7:876-89 D '57

Reversible contractile processes in fibrous macromolecules. L. Mandelkern and others. *bibliog Am Chem Soc J* 80:500 Ja 20 '58

Some properties of polymer networks formed from oriented chains of natural rubber. D. E. Roberts and L. Mandelkern. *bibliog Am Chem Soc J* 80:1289-97 Mr 20 '58; Same. *Rubber Chem & Tech* 31:469-84 JI '58

Study of meta orientation in the nitration of toluene by isotope dilution analysis. R. M. Roberts and others. *bibliog Am Chem Soc J* 80:4285-7 Ag 9 '58

ORIENTATION (crystals). See **Crystals**

ORIENTATION (geology)

Modifications of the Rayleigh test for uniformity in analysis of two-dimensional orientation data. D. Durand and J. A. Greenwood. *bibliog diag J Geol* 66:229-38 My '58

ORIFICE meters

Orifice metering. H. Elayer. *diags Instruments & Automation* 31:1378-82 Ag '58

Practical approach to testing and maintaining field type orifice meters. H. H. Holmes. *Gas Age* 121:51+ My 1 '58

Restoring PT metering orifices; Cummins PT injectors. K. P. MacDonald. *il diag Diesel Power* 36:40-1 O '58

ORIFICES

Computation of orifice-meter gas coefficients. W. J. Kennedy. *Instruments & Automation* 31:1537-40 S '58

Concentric orifice diameters. A. Goldstein. *Water & Sewage Works* 105:R57+ S 15 '58

Flow measurement by square-edged orifice plates; pipe roughness effects. W. J. Clark and R. C. Stephens. *il Inst Mech Eng Proc* 171 no 33:895-904; Discussion. 905-8; Reply. 908-10 '57

Problems in measuring steam flow at 1250 psia and 950 F with nozzles and orifices. J. W. Murdock and J. Goldsberry. *bibliog il diags A S M E Trans* 80:975-84 JI '58

Rate of exhaust through a tube or orifice. J. Rohsteln. *R Sci Instr* 29:243-4 Mr '58

Reinforced opening design simplified. R. Chuse. *diag Pet Refiner* 37:146 F '58

Some experiments on orifice sprays. W. E. Ranz. *bibliog il diags Can J Chem Eng* 36:175-81 Ag '58

Tapered orifice controls fluid flow. *il diags Tool Eng* 40:92 Mr '58

Unity-coupled shear orifice yields reliable servovalves. T. J. Thomas. *il diags Control Eng* 5:90-3 Ar '58

ORIGINALITY

Psychology of imagination. F. Barron. *il diags Sci Am* 199:150-6+ S '58

ORLAND, California**Lighting**

Town woos people, business with street lights. H. J. Richardson. *il Elec World* 150: 129 Ar 4 '58

ORLON

Discoloration of Orlon sweaters in drycleaning; abstract. C. H. Bayley and A. S. Tweedie. *Am Dyestuff Rep* 46:980 D 16 '57

How Rhyme-Houser runs Orlon staple on cotton machinery. *il Textile World* 108:48-50 S '58

How to finish Orlon blankets. K. D. Houser and L. Blygood, Jr. *diag Mod Textiles Mag* 28:50+ N '57

Statistical methods in fabric development; Orlon sweaters. F. J. Evans and others. *Mod Textiles Mag* 39:67-73; Discussion. 73-5 Ap '58

See also

Dyes and dyeing—Orlon

Bleaching

See Bleaching—Orlon

ORMOSIA

Alkaloids of *ormosia panamensis* Benth. and related species. H. A. Lloyd and E. C. Horning. *Am Chem Soc J* 80:1506-10 Mr 20 '58

ORONITE chemical company

Career opportunities. *Chem & Eng N* 36: 48-9 pt 2 Ja 27 '58

ORTHICON. See **Television cameras****ORTHODEUTERIUM.** See **Deuterium****ORTHOFLOW process.** See **Gasoline—Manufacture****ORTHOHYDROGEN.** See **Hydrogen****ORTHOPHOSPHATES.** See **Phosphates****OSCILLATIONS**

Fine structure of response curves of frequency entrained oscillations. C. A. Luke and J. D. Blades. *bibliog diags J Ap Phys* 28:1326-8 N '57

Method for damping phase oscillations in a synchrotron. E. J. Rogers. *diags R Sci Instr* 29:215-17 Mr '58

Non-linear vibrations in mechanical systems. F. R. E. Crossley. *bibliog diags Engineering* 186:212-15 Ag 15 '58

Oscillation and air assemble small parts. *il diag Electronics* 31:121-3 Ag 1 '58

Ring damping of free surface oscillations in a circular tank. J. W. Miles. *diag J Ap Mech* 25:274-6 Je '58

Wind forces on structures; structures subject to oscillation. F. B. Farquharson. *bibliog diags Am Soc C E Proc* 84 [ST 4 no 1712]:1-13 JI '58

See also

Nuclear reactors—Instability

OSCILLATIONS, Electric

Curves for finding damping ratio and resonant gain of second-order systems. L. R. Axelrod. *Instruments & Automation* 30:2073 N '57

Simultaneous asynchronous oscillations in class-C oscillators. M. I. Disman and W. A. Edson. *bibliog diags Inst Radio Eng Proc* 46:895-903 My '58

OSCILLATIONS, Electric—Continued

Subharmonics in iron-cored reactor oscillatory circuits. A. S. Mostafa and M. I. Karakali. *diags Com & Electronics* p 104-13 Mr '58

Timer measures period of servo oscillation. J. Colker. *diag Control Eng* 5:78 Ag '58

OSCILLATORS

Air under pressure loads parts in oscillating collector plate; illustrations with text. Machine Design 30:154-5 Mr 20 '58

Alarm system uses gated neon warbler in Conelrad system. R. L. Ives. *diags Electronics* 31:74-7 My 23 '58

Amplitude-stabilized bridge-T oscillator. K. Enslin. *bibliog diags Com & Electronics* p75-9 Mr '58

Backward wave oscillators. A. G. Stainsby. *bibliog diags Electronic Eng* 30:329-34 My '58

Cite advances in high-frequency power tubes. *Electronics* 31:16 Ap 11 '58

Coaxial-line velocity modulated oscillator valves. D. E. Lambert. *diags Electronic Eng* 30:324-8 My '58

Design basis for junction transistor oscillator circuits. D. F. Page. *bibliog diags Inst Radio Eng Proc* 46:1271-80 Je '58

Designing transformers for blocking oscillators. R. D. McCartney. *diags Electronics* 31:78-80 F 28 '58

Double tetrode oscillator; v.h.f. power generator covering 150 to 500mc/s. J. H. Andraee and P. L. Joyce. *diags Wireless World* 64:173-7 Ap '58

Electronic organ uses neon tone generators. R. H. Dorf. *diags Electronics* 31:36-41 Ag '58

Gonset vhf vfo, model 3226. E. P. Tilton. *diags Q S T* 42:45-6 S '58

Helitron oscillator. D. A. Watkins and G. Wada. *diags Inst Radio Eng Proc* 46:1700-5 O '58

Humless preamp heater supply. L. E. Geisler. *diags Radio-Electronics* 29:117-18 Mr '58

Maser oscillator with one beam through two cavities; geometrical representation of the Schrödinger equation. W. H. Wells. *diags J Ap Phys* 29:114-17 Ap '58

National vfo-62. E. P. Tilton. *diags Q S T* 42:33-4 J1 '58

New microwave repeater system using a single traveling-wave tube as both amplifier and local oscillator. H. Kurokawa and others. *bibliog diags Inst Radio Eng Proc* 45:1604-11 D '57

New solid-state oscillator for microwaves. *diags Q S T* 41:184 D '57

Oscillator measures tube capacitance. H. L. Morgan. *Electronics* 31:126-7 F 14 '58

Oscillator reduces recorder stiction. R. L. Ives. *diags Bibliog diags* 31:110-4 Ap 11 '58

P & H VFO-Matic 8020. B. Goodman. *diags Q S T* 42:41-3 Mr '58

Polyphase oscillators. A. S. Gladwin. *bibliog diags Electronic & Radio Eng* 35:16-24 Ja '58

Postcast control of damped oscillatory systems. O. J. M. Smith. *bibliog diags Inst Radio Eng Proc* 45:1249-55 S '57

Precision high-speed telemetering oscillator. D. Garshman and J. A. Fraunfelder. *diags Power Apparatus & Systems* p95-9 Ap '58

Proposed high-frequency, negative-resistance diode. W. T. Read, Jr. *diags Bell System Tech* 37:401-46 Mr '58

Proximity transducer uses rapid relay. D. Elam. *diags Electronics* 31:73 Je 20 '58

Series-triggered blocking oscillator. *diag Instruments & Automation* 31:1050 Je '58

Simultaneous asynchronous oscillations in class-C oscillators. M. I. Disman and W. A. Edson. *bibliog diags Inst Radio Eng Proc* 46:895-903 My '58

Slug-tuned vfo has stable output. J. Gallagher. *diags Radio-Electronics* 29:38 Je '58

Solid-state microwave amplifier and oscillator using ferrite; abstract. M. T. Weiss. *J Ap Phys* 29:421 Mr '58

Solution of the non-linear differential equation of the rotating machine oscillator. C. V. Govinda Rao. *diags Franklin Inst J* 265:29-42 Ja '58

Strain gage oscillator for flight testing. W. H. Foster. *diags Electronics* 31:40-2 Ja 31 '58

Synchronization of oscillators by periodically interrupted waves. D. W. Fraser. *diags Inst Radio Eng Proc* 45:1256-68 S '57

Tone modulator for radio-control. E. L. Safford, Jr. *diags Radio-Electronics* 29:122-4 Ap '58

Transistor blocking oscillator. C. F. Kezer and M. H. Aronson. *diag Instruments & Automation* 31:1529 S '58

Transistor circuit varies reactance. F. F. Radcliffe. *diags Electronics* 31:76-7 J1 4 '58

Transistor-oscillator induction-motor drive. W. H. Card. *diags Com & Electronics* p631-5 S '58

Transistor oscillator supplies stable signal. L. H. Dulberger. *diags Electronics* 31:43 Ja 31 '58

Understanding the backward wave oscillator. D. A. Dunn. *bibliog diags Electronic Ind* 17:72-6 Ja '58

Using the BC-459 with the v.h.f. overtone oscillator. R. L. Sherwood. *diag Q S T* 41:72 D '57

See also

Magnetrons

Multivibrators

Pulse generators

Design

Designing transistor d-c to a-c converters. Schenckerman. *diags Electronics* 31:78-80 S 26 '58

Frequency stabilization

Temperature-compensated crystal oscillators; new method of stabilization. *diags Electronic & Radio Eng* 35:314 Ag '58

Thermally compensated crystal oscillator. *diags Wireless World* 64:441 S '58

Noise

Tunable filter for use in the measurement of excess noise from local oscillators. W. P. N. Court. *diags Electronic Eng* 30:208-9 Ap '58

Patents

Feedback oscillator patent is granted. *diag Electronics* 31:108 S 12 '58

Tuning

Voltage-tunable magnetron; lightweight low power generator. K. E. Anspach. *diags Aviation Age* 30:168-71 S '58

OSCILLATORS, Crystal

Blocking oscillator is crystal controlled. P. S. Bengston. *diag Electronics* 31:88-9 Je 20 '58

Crystal oscillator has variable frequency. G. A. Gedyne and G. M. Davidson. *diags Electronics* 31:118-19 F 14 '58

Direct quartz crystal control of a low-level Pound-Knight-Watkins spin magnetometer. R. J. Blume. *bibliog diags R Sci Instr* 29:574-7 J1 '58

Harmonic amplifier for X-band local oscillator. W. J. Daukscher. *diags Electronics* 31:80-2 Je 20 '58

Increasing quartz oscillator stability. *diags Engineering* 184:496 O 18 '57

Special timing techniques employed on guided missile ranges using a crystal oscillator and frequency dividers. R. J. Garvey. *diags Electronic Eng* 30:2-9 Ja '58

Temperature-compensated crystal oscillators; new method of stabilization. *diags Electronic & Radio Eng* 35:314 Ag '58

Thermally compensated crystal oscillator. *diags Wireless World* 64:441 S '58

Transistor chopper drives accurate clock. R. H. Williams. *diags Electronics* 31:64-5 My 23 '58

VXO, a variable crystal oscillator. H. Shall. *diags Q S T* 42:11-15 Ja '58

Vehicle speed measuring equipment. *diags Electronic Eng* 30:77 F '58

Testing

Methods of measurement of the parameters of piezoelectric vibrators. E. A. Gerber and L. F. Koerner. *diags Inst Radio Eng Proc* 46:1731-7 O '58

Pulse-type frequency measurement apparatus for the checking of crystal oscillators. J. C. Muller. *diags Wireless World* 64:83-5 F '58

OSCILLOGRAPHS

Broadband oscilloscope tube. D. J. Braggaccio and others. *bibliog diags Bell System Tech J* 37:447-60 Mr '58

Datarite attachment provides quick reading from oscillographs. *diags Ind Lab* 9:67 Je '58

OSCILLOGRAPHS, Cathode ray

Add an amplitude calibrator to your scope. P. S. Lederer. *diags Radio-Electronics* 29:76-7 J1 '58

Crt images persist for days. *Electronics* 31:90 My 9 '58

Central electronics MM-2 r.f. analyzer. B. Goodman. *diags Q S T* 42:47-8 O '58

OSCILLOGRAPHY, Cathode ray—Continued

- Comet shows crt beam direction. J. J. Wormser. *il diag Electronics* 31:88+ My '58
- Detector plots eye movements. B. Shackel and others. *bibliog il diags Electronics* 31:36-9 Ja '58
- Diagnosing engine troubles; abstract. N. A. Accardo and E. E. Ecklund. *il S A E J* 66:54-6 My '58
- Educational aids; design for an oscilloscope for construction in schools. *il Wireless World* 64:433 S '58
- Electronic fault locator for overhead lines. G. Hitchcox and W. A. Neighbours. *il diag Electronic Eng* 30:34-7 Ja '58
- Electronic tracing of oscilloscope displays. C. H. Hertz and M. Möller. *il diags R Sci Instr* 29:611-13 J '58
- Evaluation factors for recorders; direct-writing oscillographic recorders. G. Phil. Instruments & Automation 31:841 My '58
- Four-gun oscilloscope for use in nuclear research. H. G. Jackson. *il R Sci Instr* 29:527 Je '58
- Fractional-millisecond oscilloscope system utilizing commercially available components. C. N. Winningsstad. *bibliog il diags R Sci Instr* 29:578-84 J '58
- Ignition analyzer; DuMont IgnitionScope. *il Electronic Ind* 17:84 F '58
- Impulse voltage wave chopping circuit for use with a recurrent surge oscilloscope. J. W. Armitage. *il diags Electronic Eng* 30:186-8 Ap '58
- Inexpensive scope calibrator. J. Chernof. *il diag Radio-Electronics* 29:99-100 Je '58
- Instrument to measure fluorescence lifetimes in the millimicrosecond region. S. S. Brody. *bibliog il diags R Sci Instr* 28:1021-6 D '57
- Measurements of steep-front impulse waves with an isolated screen room installation. C. J. Miller, Jr. and J. F. Wittbschlager. *il diags Com & Electronics* p262-70 J '58; Abstract. *Elec Eng* 77:507 Je '58; Discussion. *Com & Electronics* p270-1 J '58
- Method for measuring rise and decay times. T. A. Harwood and O. E. Kruse. *diag Am J Phys* 26:191-2 Mr '58
- Method of recording the glow curve of thermoluminescence. K. Osada. *il diag R Sci Instr* 28:1091-2 D '57
- Modern oscilloscope practice; performance and circuitry. *il diags Electronic & Radio Eng* 35:212-25 Je '58
- Multi-channel oscillograph. *il Engineering* 185:485 Ap '58
- Multiple beam oscilloscope for the study of high voltage of transient discharges. K. G. Beauchamp. *il diags Electronic Eng* 30:358-65 Je '58
- Oscilloscope camera-positioning for multiple sweep exposures. P. L. Kerley. *il diags Electronic Ind* 17:70-1 Ag '58
- Oscilloscope is a key unit in immersed ultrasonic testing of welded carbon-steel tubing. *il Oil & Gas J* 55:105 F 3 '58
- Oscilloscope pre-amplifier. R. E. Aitchison. *diag Electronic Eng* 30:398 Je '58; Discussion. *30:562 S '58*
- Oscilloscope without a direct connection probe. *il Electronics* 31:100+ My '58
- Oscilloscopes check cars. *il Electronics* 31:17 F '58
- Recent advances in oscillographic measurement. R. H. Cerni. *il diags Instruments & Automation* 31:842-5 My '58
- Recording oscillographs in aircraft and missile testing. W. F. Johnson. *il Instruments & Automation* 31:846-7 My '58
- Sampling oscilloscope for statistically varying pulses. R. Sugarman. *bibliog il diags R Sci Instr* 28:933-9 N '57
- Scope analyzes reciprocating engines. E. Sammis. *il diags Electronics* 31:65-71, cover My '58
- Screen efficiency of sealed-off high-speed oscillograph cathode-ray tubes. R. Felsberg. *bibliog Inst E E Proc* 105 pt B:370-2 J '58
- Simple three-channel c.r.o. beam switch. W. F. Lovering and M. P. Hearn. *il diags Electronic Eng* 30:134-5 Mr '58
- Simultaneous display of a rectified waveform and a time scale using a single spot oscillograph. J. K. Grierson. *il diag Electronic Eng* 30:506 Ag '58
- Stairstep integrator analyzes rotation. G. E. Edens. *il diag Electronics* 31:41-3 Mr '58
- Sweep testing thyatron characteristics. J. G. Weissman. *diags Electronics* 30:206+ D 1 '57
- Synchronized electronic switch. T. Jaski. *il diags Radio-Electronics* 29:60-3 Ap '58
- Time-multiplex oscilloscope for electroencephalography. T. J. McDermott. *il diags Electronic Eng* 30:65-70 F '58
- Timer shutters crt for single frame photos. A. A. Tarnowski and K. G. Lisk. *il diags Electronics* 31:53-5 Ap '58
- Wide-band oscilloscope; modifying an existing commercial instrument. G. H. Leonard. *diags Wireless World* 64:395-8 Ag '58

Maintenance and repair

Fix your scope. R. Samuel. *il diags Radio-Electronics* 29:64-6 Ap '58

OSER, Bernard L.

1958 Babcock-Hart award winner, por Chem & Eng N 36:98 Je 30 '58
New York scientist to receive Babcock-Hart award for nutritional research. por Food Tech 12:sun24 My '58

OSMIUM

Interaction of osmium with 1,2,3-benzotriazole. R. F. Wilson and L. J. Baye. *Am Chem Soc J* 80:2652-4 Je 5 '58
Use of chlorine in the attack of noble metals; quantitative recovery of micro amounts of platinum, ruthenium, and osmium. A. D. Westland and F. E. Beamish. *bibliog diags Anal Chem* 30:414-18 Mr '58

See also

Iridosmine

OSMIUM compounds

Ring-substitution reactions of dicyclopentadienylium and dicyclopentadienylium. M. D. Rausch and others. *bibliog Chem & Ind* p756-7 Je 21 '58

OSMIUM fluorides

Osmium hexafluoride and its identity with the previously reported octafluoride. B. Weinstock and J. G. Malm. *bibliog Am Chem Soc J* 80:4466-8 S 5 '58

OSMOSIS

Reversal of electro-osmotic flow in glass fibre paper. R. Thomas. *bibliog Chem & Ind* p 1571-2 N 30 '57

See also

Dialysis

Electrophoresis

OSMOTIC pressure

Osmotic pressure, protein solutions and active transport. T. L. Hill. *Am Chem Soc J* 80:2923-6 Je 20 '58

OSSINING, New York**Water supply**

Forced circulation of large bodies of water; Municipal water collecting reservoir. T. M. Rickard. *il plan diags Am Soc C E Proc* 84 [ISA 4 no 1703]:1-21 J '58

OSWEGO, New York**Water supply**

Water intakes in the Niagara river and Lake Ontario. R. H. N. Murray. *Am Soc C E Proc* 84 [ISA 2 no 1607]:1-11 Ap '58

OTTAWA university

Electrical engineering building. *il Eng J* 41:95 My '58

OUABAGENIN

Ouabagenin; assignment of the sixth hydroxyl group and a structural correlation with strophanthidin. R. B. Turner and J. A. Meschino. *bibliog Am Chem Soc J* 80:4862-5 S 20 '58

OUTAGES. See Electric power—Interruptions**OUTBOARD motors. See Motor boat engines, Outboard****OUTDOOR advertising. See Advertising, Outdoor****OUTDOOR boiler plants. See Boiler plants, Outdoor****OUTDOOR steam plants. See Steam plants, Outdoor****Ovens**

Oven designed and built for the job. *Ind Finishing* 34:48+ Mr '58

See also

Electric ovens

Gas ovens

OVENS, Baking**See also**

Gas ovens, Baking

OVER-the-counter marketing. See Securities—Over-the-counter marketing**OVERTIME**

Government says this on overtime pay for engineers. R. D. Stevens. *Product Eng* 29:21-23 '58

OVERVOLTAGE

Analytical studies of overvoltages caused by disconnecting-switch operation; Indiana and Michigan electric co. S. B. Griscom and others. *diags Power Apparatus & Systems* p833-8 O '58

OVERVOLTAGE—Continued

- Anodic corrosion and hydrogen and oxygen overvoltage on lead and lead antimony alloys. P. Ruetschi and E. D. Cahen, *biblog diags Electrochem Soc J* 104:406-13 J1 '57; Discussion. 105:360-1; Reply. 361-3 Je '58
- Investigations of switching surges caused by 345-kv disconnecting-switch operation; Indiana and Michigan electric co. H. L. Rorden and others, *il diags Power Apparatus & Systems* p838-44 O '58

OXACYCLOBUTANE. See Trimethylene oxide**OXADIAZOLIDINONE**

- Synthesis of some 1,2,4-oxadiazolidinones. S. R. Safir and R. J. Lopresti, *biblog Am Chem Soc J* 80:4921-3 S 20 '58

OXALATES

See also

Rare earth oxalates

OXALYSINE. See Lysine, Analogs of

OXATHIANE

- Studies in organic sulfur compounds; the scope of the Raney nickel desulfurization of cyclic hemithioketals (1,3-oxathiolanes and 1,3-oxathianes). D. Djerassi and others, *biblog Am Chem Soc J* 80:4723-32 S 5 '58

OXATHIOLANE

- Studies in organic sulfur compounds; the scope of the Raney nickel desulfurization of cyclic hemithioketals (1,3-oxathiolanes and 1,3-oxathianes). D. Djerassi and others, *biblog Am Chem Soc J* 80:4723-32 S 5 '58

OXAZIRANE

- Preparation and properties of oxaziranes. W. D. Emmons, *biblog Am Chem Soc J* 79: 5739-54 N 5 '57

OXAZOLIDINE

- Study of oxazolidine ring isomerization in models of the diterpenoid alkaloids. N. J. Leonard and others, *biblog Am Chem Soc J* 80:5185-93 O 5 '58

OXAZOLIDINEDIONES

- Action of diazoalkanes on oxazolidine-4,5-diones. G. S. Skinner and E. J. Wright, *Am Chem Soc J* 79:6204-7 D 5 '57
- Pyridylethylated oxazolidinediones. S. L. Shapiro and others, *biblog Am Chem Soc J* 80:1648-51 Ap 5 '58

OXAZOLONE

- Synthesis of some substituted benzoxazolones. R. L. Clark and A. Pessolano, *biblog Am Chem Soc J* 80:1662-4 Ap 5 '58

OXIDASES

- Enzymic oxidation of polyphenols to benzo-
polones. E. A. H. Roberts and M. Old-
school, *biblog Chem & Ind* p99-100 Ja 25 '58
- Formation of keto-pyruvate in the dehydro-
genation catalyzed by yeast lactic oxidase.
A. Marcus and B. Vennesland, *biblog Am Chem Soc J* 80:1123-5 Mr 5 '58

See also

Amine oxidase

Analysis

- Spectrophotometric microdetermination of
copper in copper oxides using oxydyl-
hydrazide. G. R. Stark and C. R. Dawson,
biblog Anal Chem 30:191-4 F '58

OXIDATION

- Absorption of sulfur dioxide from air; oxida-
tion in drops containing dissolved catalysts.
H. F. Johnston and D. R. Coughanowr,
biblog diags Ind & Eng Chem 50:1169-72
Ag '58
- Accelerated high temperature oxidation due
to vanadium pentoxide. K. Sachs, *biblog
il diag Metallurgia* 57:123-37, 167-73 Mr-
Ap '58
- Acceleration of wax oxidation by contact
with papermaking materials. G. G. Rum-
berger, *diag Tappi* 41:300-3 Je '58
- Anodic oxidation of cadmium. P. E. Lake
and E. J. Casey, *biblog Electrochem
Soc J* 105:62-7 Ja '58
- Anodic oxidation of zinc and zinc-tin alloys
at very low current density. S. E. S. El
Wakkad and others, *biblog Electrochem
Soc J* 105:47-51 Ja '58
- Applications of infrared absorption spectro-
scopy to investigations of cotton and mod-
ified cottons; physical and crystalline mod-
ifications and oxidation. R. T. O'Connor and
others, *biblog Textile Res J* 28:382-92 My
'58
- Breakaway oxidation of zirconium-tin alloys.
E. A. Gulbransen and K. F. Andrew, *biblog
Prog Corrosion* 14:50 Ja '58
- Chemical engineering unit processes; oxida-
tion, liquid phase. W. G. Toland, *il Ind &
Eng Chem* 50:1386-92 *biblog* (p 1390-2) pt 2
S '58
- Determination of iodide by oxidation with
nitrous acid. J. K. Johansson, *biblog
Anal Chem* 30:1535-6 S '58

- Determination of iodoform by photooxidation.
S. Bose, *biblog Anal Chem* 30:1187-9 Je '58
- Deuterium isotope effects in the bromine
oxidation of ethanol and of acetaldehyde.
L. Kaplan, *biblog Am Chem Soc J* 80:
2639-42 Je 5 '58
- Direct oxidation of propane-butane; Celanese
corporation of America, flow diags (p232)
Pet Refiner 36:233 N '57
- Effect of composition on the oxidation stabi-
lity of electrical oils. J. L. Jezi and
others, *biblog Power Apparatus & Systems*
p715-21 O '58
- Effect of inhibitors in fuming nitric acid on
corrosion and oxidation. T. E. Yee, *Corrosion*
14:42-4 F '58
- Effect of oxide recrystallization on the oxida-
tion kinetics of a 62:38 copper-nickel alloy;
abstract. J. A. Sartell and others, *Metal
Prog* 72:178-181 D '57
- Effects of oxidation on adhesion of poly-
ethylene to metals. F. J. Bockhoff and
others, *biblog diag Ind & Eng Chem* 50:
904-7 Je '58
- Electric research association, International
electrotechnical commission work on oxida-
tion tests for insulating oils in the last
decade. P. W. L. Gossling, *biblog Inst
Pet J* 44:273-83 '58
- Ethylene oxide, flow diag *Pet Eng* 30:C51-2
Mr '58
- Explosive oxidation by dinitrogen tetroxide
in the presence of indium. G. C. Addison
and others, *Chem & Ind* p 1004-5 Ag 9 '58
- Factors in the decolorizing of tallow. A. D.
Rich and A. Greentree, *biblog Am Oil Chem
Soc J* 35:284-7 Je '58
- General Aniline & Film backs air-oxidation
for ethylene oxide process flowsheet, *il
Chem Eng* 65:100-3 J1 28 '58
- High temperature oxidation of high purity
nickel between 750° and 1050°C. E. A.
Gulbransen and K. F. Andrew, *biblog Electro-
chem Soc J* 104:451-4 J1 '58; Discussion,
363-4 Je '58
- High temperature oxidation of iron-nickel
alloys. M. J. Brabers and C. E. Birchenall,
biblog il Corrosion 14:33-6 Ap '58
- Hydrogen peroxide-induced oxidation of as-
corbic acid in passion fruit juice. E. Ross
and A. T. Chang, *biblog J Agri & Food
Chem* 6:610-15 Ag '58
- Influence of alkali on the oxidation of lubri-
cating oils. K. U. Ingold and I. E. Fudding-
ton, *biblog il Inst Pet J* 44:168-77 Je '58
- Influence of heat on oxidative stability and
on effectiveness of metal-inactivating agents
in vegetable oils. P. M. Cooney and others,
biblog Am Oil Chem Soc J 35:152-6 Ap '58
- Influence of surface pretreatment on the at-
mospheric oxidation of 2S U.S. alloy 100
aluminum. F. M. Aziz and H. P. Godard,
Electrochem Soc J 104:738-9 D '57; Discus-
sion, 105:387 Je '58
- Internal oxidation mechanism for nontracking
organic insulations. R. S. Norman and
A. A. Kessel, *biblog il diag Power Appa-
ratus & Systems* p832-6 Ag '58; Abstract,
il Eng 77:699 Ag '58
- Interrelated effects of oil components on
oxidation stability. J. L. Jezi and others,
biblog diag Ind & Eng Chem 50:947-50 Je
'58
- Kinetics and mechanism of alkyl photo-
oxidation. C. D. Miller, *diags Ind & Eng
Chem* 50:125-8 Ja '58
- Kinetics of low temperature metal-catalysed
hydrocarbon oxidation. C. E. H. Bawn and
D. P. Moran, *biblog Inst Pet J* 44:290-5 S
'58
- Kinetics of the ferrous iron-oxygen reaction
in acidic phosphate-pyrophosphate solutions.
J. King and N. Davidson, *biblog Am Chem
Soc J* 80:1542-5 Ap 5 '58
- Kinetics of the oxidation of a mercaptan to
the corresponding disulfide by aqueous hy-
drogen peroxide. I. Pascal and D. S. Tar-
bell, *biblog Am Chem Soc J* 79:6015-20
N 20 '57
- Low temperature liquid phase oxidation of
hydrocarbons; a literature survey. F. Mor-
ton and R. T. Bell, *biblog diags Inst
Pet J* 44:260-72 '58
- Low temperature oxidation of solid ferrous
sulfate heptahydrate with oxygen in the
presence of solid calcium hydroxide. E. Roig
and others, *biblog diag Am Chem Soc J* 80:
1874-6 Ap '58
- Mechanism of copper catalysis in insulating
oil oxidation. C. N. Thompson, *biblog Inst
Pet J* 44:299-310; Discussion, *il diags* 310-17
S '58
- Metallographic manifestations of the air ox-
idation of tantalum at 750° C. R. Baklan,
biblog il Electrochem Soc J 105:71-4 F '58

OXIDATION—Continued

- New and selective method of oxidation. N. Kornblum and others. *Am Chem Soc J* 79: 6562 D 20 '57
- New protectants for polyethylene; suppressing thermal oxidation. F. H. Winslow. *Il Bell Lab Rec* 36:318-22 S '58
- Novel reoxidation scores nitric acid gains. C. S. Cronan. *Il diags Chem Eng* 65:58+ JI 28 '58
- Organic oxidations with hexavalent chromium; abstract. R. Slack. *Chem & Ind* p247-8 Mr 1 '58
- Oxidation behavior of silicon carbide. G. Ervin, Jr. *bibliog Am Cer Soc J* 41:847-52 S 1 '58
- Oxidation of copper to Cu_2O and CuO . D. W. Bridges and others. *bibliog Electrochem Soc J* 103:475-8 S '56; Discussion. 104:749-50 D '57
- Oxidation of hydrocarbons; the oxidation of cyclohexene in acetic and propionic anhydride solutions. H. J. Shine and R. H. Snyder. *Am Chem Soc J* 80:3064-6 Je 20 '58
- Oxidation of iron pretreated for porcelain enameling. L. E. Fushell and R. L. Hadley. *bibliog Il Am Cer Soc J* 41:81-8 Mr 1 '58
- Oxidation of metals; annual review. W. W. Smeltzer and L. H. Everett. *Ind & Eng Chem* 50:496-502 *bibliog* (p501-2) pt 2 Mr '58
- Oxidation of molybdenum. E. S. Jones and others. *bibliog* (29 ref) *Il diags Corrosion* 14: 29-6 Ja '58
- Oxidation of radioactive glucose by aerated sludge. N. Porges and others. *bibliog Sewage & Ind Wastes* 30:776-82 Je '58
- Oxidation of *tert*-butylcyclohexane to dibasic acids with nitrogen dioxide. W. H. Clingman, Jr. and P. T. Wadsworth. *bibliog diags Ind & Eng Chem* 50:777-80 My '58
- Oxidation of tertiary amines; abstract. H. B. Henbest. *Chem & Ind* p246-7; Discussion. 247 Mr 1 '58
- Oxidation of unsaturated compounds. F. R. Mayo and others. *bibliog Am Chem Soc J* 80:2455-507 My 20 '58
- Oxidation-reduction reactions at silica surfaces. E. Richardson and C. D. Poucher. *bibliog Research* 11:247-8 Je '58
- Oxidation-reduction studies in the realm of indole alkaloids. E. Wenkert and D. K. Roychaudhuri. *bibliog Am Chem Soc J* 80: 1613-19 Ap 5 '58
- Oxidations with lead tetra-acetate; abstract. Criegee. *Ind Chem* 34:399 JI '58
- Oxidative degradation of epoxy resin coatings. W. R. R. Park and J. Blount, Jr. *diag Ind & Eng Chem* 49:1897-902 N '57
- Oxidizing partially etherified cottons. R. M. Reinhardt and others. *bibliog Ind & Eng Chem* 50:83-6 Ja '58
- Passivity during the oxidation of silicon at elevated temperatures. C. Wagner. *bibliog J Ap Phys* 29:1295-7 S '58
- Poised oxidation-reduction systems; a quantitative evaluation of redox poisoning capacity and its relation to the feasibility of redox titrations. E. R. Nightingale, Jr. *bibliog Anal Chem* 30:287-72 F '58
- Predicting the thermodynamic stabilities and oxidation resistances of silicidic cernets. A. W. Secoy. *bibliog Am Cer Soc J* 40: 431-5 D 1 '57
- Promoted air oxidation of benzene to phenol in the gas phase. M. B. Donald and M. E. Darlington. *bibliog diag Ind Chem* 34:8-15 Ja '58
- Quantitative high-temperature oxidation of porcelain enameled iron. H. G. Lefort and A. L. Friedberg. *bibliog Am Cer Soc J* 41: 216-26 Je 1 '58
- Radiolysis and radiolytic oxidation of lubricants. R. O. Bolt and J. G. Carroll. *bibliog Ind & Eng Chem* 50:221-8 F '58
- Rate and mechanism of the electrooxidation of iodide. J. Jordan and R. A. Javick. *Am Chem Soc J* 80:1264 Mr 5 '58
- Reflectance of oxidized coals. D. Chandra. *bibliog Il Econ Geol* 53:102-3 Ja '58
- Role of minor elements in oxidation of metals; abstract. E. A. Gulbransen. *Metal Prog* 78: 148+ Mr '58
- Selective catalytic oxidation; abstract. K. Heyns and H. Paulsen. *Ind Chem* 34:149-50 Mr '58
- Some aspects of the kinetics of oxidation of coal. T. Wood. *bibliog J Ap Chem* 8:565-71 S '58
- Some preliminary results of an electron microscope study of the oxidation of steels. A. M. Edwards and F. B. Pickering. *Il Iron & Steel Inst J* 189:56-7 Mr '58
- Steric inhibition of periodate oxidation of glycosides. E. F. Garner and others. *bibliog Am Chem Soc J* 80:1266-8 Mr 5 '58
- Studies on oxidation-reduction mechanism; the anodic oxidation of *p*-aminophenol. W. K. Sneed and A. E. Remick. *bibliog diags Am Chem Soc J* 79:5121-7 D 5 '57
- Study of black liquor oxidation in towers packed with asbestos cement plates. F. E. Murray. *bibliog Il Can J Chem Eng* 36:69-72 Ap '58
- Study of the oxidation of steel plate as related to wettability and adherence of porcelain enamel. H. P. Sull. *Jr bibliog Il Am Cer Soc Bull* 37:22-6 Ja 15 '58
- Thermocouple method of studying oxidation reactions; photosensitized oxidation of cyclohexene. J. C. Robb and M. Shahin. *bibliog diags Inst Pet J* 44:283-90 S '58
- Total oxidation treatment of organic wastes; Ratederation. J. A. Tapleshaw. *flow diags Il plans diag Sewage & Ind Wastes* 30:652-61 My '58
- See also
- Antioxidants
- Autooxidation
- Application of near infrared spectrophotometry to the study of the autooxidation products of fats. H. T. Slover and L. R. Dugan, Jr. *bibliog Am Oil Chem Soc J* 35:350-5 JI '58
- Autooxidation of methyl elaeostearate. R. N. Faulkner. *bibliog J Ap Chem* 8:448-58 JI '58
- Coupled oxidation of β -carotene by a linoleate-lipoxygenase system and by autoxidizing linoleate. J. Friend. *bibliog Chem & Ind* p597-3 Mr 17 '58
- Influence of autooxidation on the chemical assay of cholesterol. L. N. Norcia. *bibliog* (32 ref) *Am Oil Chem Soc J* 35:25-7 Ja '58
- Preparation of boron peroxides by autoxidation. M. H. Abraham and A. G. Davies. *bibliog Chem & Ind* p 1622-3 D 14 '57
- OXIDATION, Physiological products; a new biochemical degradation of stream pollution. R. H. Bogan. *bibliog Sewage & Ind Wastes* 30: 208-14 F '58
- Biological oxidation. D. E. Green. *Il diags Sci Am* 199:56-62 JI '58
- Biological oxidation of sugar-based detergents. E. C. G. Isaac and D. Jenkins. *bibliog Chem & Ind* p376-7 Ag 2 '58
- Ubiquinone, an active component of the respiratory chain. A. M. Pumphrey and others. *bibliog Chem & Ind* p378-9 Ag 2 '58
- OXIDATION reduction potential. See Potential, Electric
- OXIDE cathodes. See Cathodes
- OXIDE cutting tools. See Cutting tools, Ceramic
- OXIDES
- Alloys from oxides; abstract. N. Martini. *Chem & Eng N* 36:59-80 Ap 21 '58
- Characterization of sinterable oxide powders; *See J F Quirk and others. Il Am Cer Soc J* 40:416-19 D 1 '57
- Coulometric reduction of oxides on tin plate. R. P. Frankenthal and others. *bibliog Anal Chem* 30:441-3 Mr '58
- Effect of oxide additions on sintering of magnesia. J. W. Nelson and L. B. Cutler. *bibliog Am Cer Soc J* 41:406-9 O 1 '58
- Electrochemical measurement of oxide formation. D. G. Hill and others. *bibliog Electrochem Soc J* 105:408-12 JI '58
- High-temperature heat conductivity of some metal oxides. J. C. Jamieson and A. W. Lawson. *bibliog J Ap Phys* 29:1313-14 S '58
- Organic sulfides and polysulfides; reactions of metallic oxides with polysulfide rubbers. Y. Minoura. *bibliog Rubber Chem & Tech* 31:624-30 JI '58
- Oxides of the 3d transition metals. F. J. Morin. *bibliog diags Bell System Tech J* 37:1047-84 JI '58
- Photorefractive effects in oxides; white oxides in general. J. Baer and F. K. McTaggart. *J Ap Chem* 8:72-6 Ja '58
- Properties of materials; refractory oxides. Materials in Design Eng 43:231 Mid-O '58
- Role of metal oxides as activators of vulcanization. M. Feldstein and others. *bibliog Rubber Chem & Tech* 31:526-38 JI '58
- Some isomorphous ternary oxides containing tantalum. F. S. Galasso and others. *Am Chem Soc J* 80:1262-3 Mr 5 '58
- Structural interpretation of immiscibility in oxide systems. E. M. Levin and S. Block. *bibliog diags Am Cer Soc J* 40:95-106, 113-18; 41:49-54 Mr 1-Ap 1 '57, F 1 '58; Abstract. *Glass Ind* 39:155-6 Mr '58

OXIDES—Continued

- Structure and antimicrobial activity of some isothiocyanate oxides and sulfides. C. K. Brudsher and others, *bibliog* Am Chem Soc J 80:414-17 Ja 20 '58
- Structure of oxides formed on high-temperature alloys at 1500° F. abstract, J. F. Radavich, *Metal Prog* 73:158-4 F '58
- Supported oxide catalysts in the production of polythene. E. G. Curphey, *bibliog* flow diag Brit Plastics 31:63-5 F '58
- Surface catalysis of the ortho- to para-conversion in liquid hydrogen by paramagnetic oxides on alumina. C. M. Cunningham and H. L. Johnston, *bibliog* Am Chem Soc J 80:2377-82 My 20 '58
- Transparent electrically conductive coating. E. R. Olson and E. H. Lougher, *bibliog* Elec Manuf 61:143-54 F '58
- Ultrathin oxide films and research. II Iron Age 181:116 Mr 8 '58
- Vulcanization of elastomers; the role of the oxide in vulcanization with thuram compounds. W. Scheele and others, *bibliog* Rubber Chem & Tech 31:315-26, 539-47 Ap-Jl '58

See also

- Alumina
Aluminum oxides
Gallium oxides
Lead oxides
Rare earths
Tungsten oxides

OXIDIZING agents

- High temperature, vapor phase reactions of some fluorocarbon derivatives with oxidizing agents. W. A. Severson and T. J. Brice, *bibliog* Am Chem Soc J 80:2313-16 My 5 '58
- Kinetic studies of formation of atmospheric oxidants. B. E. Saltzman, *bibliog* (35 titles) *diag* Ind & Eng Chem 60:677-82 Ap '58

OXIMES

- Azulene; a study of the Beckmann rearrangement of 1,3-diacetylazulene dioxime and 1,3-diacetylazulene dioxime diacetate. A. G. Anderson, Jr. and others, *bibliog* Am Chem Soc J 79:8511-16 D 20 '57
- Interaction of 2-methyl-2-amino-3-butanone oxime with nickel(II) and copper(II) ions. E. K. Murmann, *bibliog* Am Chem Soc J 80:4174-Ag 20 '58
- Intermolecular metal-metal bonds and absorption spectra of some nickel(II) and palladium(II) complexes of *vic*-dioximes. C. V. Banks and D. W. Barnum, *bibliog* Am Chem Soc J 80:4767-72 S 20 '58
- Intermolecular metal-metal bonds and solubility of some nickel and palladium complexes of *vic*-dioximes. C. V. Banks and D. W. Barnum, *bibliog* Am Chem Soc J 80:3579-82 Jl 20 '58
- Phenyl α -pyridyl ketoxime as a chelating agent. B. Sen, *Chem & Ind* p582 My 10 '58

OXINDOLE

- Novel conversion of derivatives of oxindoles to indoles. E. Wenkert and others, *bibliog* Am Chem Soc J 80:1899-903 S 20 '58
- Oxindole analogs of (5-hydroxy)-tryptamine and -tryptophan, as inhibitors of the biosynthesis and breakdown of serotonin. K. Freter and others, *bibliog* *diag* Am Chem Soc J 80:983-7 F 20 '58

OXINE. See Quinololinol**OXIRANE compounds. See Epoxy compounds****Oxo process**

- Intermediate cobalt hydrocarbonyl-olefin complex in the oxo reaction. L. Kirch and M. Orchin, *bibliog* Am Chem Soc J 80:4428-9 Ag 20 '58
- Isomer distribution in the oxo reaction. V. L. Hughes and L. Kirshenbaum, *bibliog* Ind & Eng Chem 49:1999-2003 D '57
- Oxo chemicals expand again. II *Chem & Eng* N 36:30-1 Ag 11 '58
- Oxo process, flow *diag* Pet Refiner 36:268 N '57
- Oxonation of rosin. D. R. Levering and A. L. Glasbrook, *bibliog* Ind & Eng Chem 50:317-20 Mr '58
- Petrochemicals via the Oxo process. P. W. Sherwood, *bibliog* II *diag* Pet Eng 30:C16-18 F; C26-74 Mr '58
- These variables affect Oxo reactions. I. Kirshenbaum and V. L. Hughes, *Pet Refiner* 37:203-11 Je '58

OXOHAEMANTHIDINE. See Hemanthidine**OXYACETYLENE apparatus**

- Cylinder care cuts costs. II *Welding J* 36:1100-1 N '57
- Jet piercing, the miner's rocket. L. E. Antonides, II *diag* Eng & Min J 159:103-7 Jl '58

- One-third billion dollar brazing job: magnets for magnetic separator. H. O. Quartz, II *Welding J* 37:127 F '58

OXYACETYLENE cutting

- Automatic flame profiling of steel plate. II *Engineering* 184:774 D 20 '57
- Conveyor belts speed scarfing; Connors Steel. *Welding Eng* 43:52 Ja '58
- Flame cutting production with flame cutting. II *Tool Eng* 40:153-4 Je '58
- Flame-cutting line plays marketing role; Colorado fuel and iron corp.'s Claymont steel fabrication div. A. E. Yoch, II *Welding Eng* 43:72 Mr '58
- Flame cutting stainless grades. II *Welding Eng* 43:48 Jl '58
- Precision flame cutting. II *Mech Eng* 80:93 Je '58
- Torches machine big forgings to near-finished size; Midvale-Heppenstall co. G. J. Gilhorn, II *Iron Age* 182:108-9 Jl 10 '58
- Welding, flame cutting and fabrication: abstracts of papers, *Engineering* 185:505 Ap 18 '58

Control

- Computer cuts steps in flame profiling. II *diag* Iron Age 181:90-1 My 1 '58
- Look, no hands; electronic tracer. II *Westinghouse Eng* 18:144-5 S '58

Safety measures

- Safe welding on gas filled pipelines; Southern California gas co. J. S. Powell and H. M. Curtis, II *diag* Gas 34:102-4 Je '58

OXYACETYLENE flame

- Flame cambering of beams for bridges. A. H. Yoch, II *Welding J* 37:138 F '58
- Flame hardening machine. II *Metallurgia* 56:361 D '57
- Flux in flame finds greater applications. E. H. Conway, II *Welding Eng* 43:40-2 Mr '58
- Uses of oxygen and acetylene gases in the refrigerator industry. F. Bowman, II *Welding J* 37:120-3 F '58

OXYACETYLENE welding

- Arc vs gas welding on gray cast iron; which should it be? J. C. Pellegrino, II *Welding Eng* 43:48 Jl '58
- Artist cuts costs by welding. F. W. Foerste, II *Welding Eng* 43:43 Mr '58
- Hard surfacing eliminates unnecessary replacement costs. II *Welding J* 37:362 Ap '58
- How to make good braze welds; illustrated instructions. *Coal Age* 62:92 N '57
- How to weld copper and its alloys; carbon arc and oxyacetylene. L. F. Spencer, *diag* Steel 142:110-12+ Mr 17 '58
- Old welding process cheats the sea; oxyacetylene welding in the reconditioning and rebuilding of man-of-war bronze marine propellers. L. Walker, Jr. II *Welding J* 37:225-30 Mr '58
- Oxyacetylene and tungsten inert-gas welding white metal. *Welding Eng* 43:64 Mr '58
- Principles of braze welding; illustrated instructions. *Welding J* 37:708 Jl '58
- Thanks to welding, it's cooler inside; Carson Pirie Scott & co. converts open ventilation system to closed air-conditioning. F. Foerste, II *Welding Eng* 43:53 Jl '58

OXYCELLULOSE

- Affinity of nitrogen dioxide oxycelluloses and periodate oxycelluloses for methanol. T. P. Nevell, *Chem & Ind* p389-90 Mr 29 '58

OXYGEN

- Absorption of oxygen and carbon monoxide on tungsten. R. E. Schlier, *diag* J Ap Phys 29:1162-7 Ag '58
- Air for space travelers. D. C. Wallis, *Aviation Age* 30:158-9 Jl '58
- Anodic corrosion and hydrogen and oxygen overvoltage on lead and lead antimony alloys. P. Ruetschi and E. D. Cahan, *bibliog* *diag* Electrochem Soc J 104:406-13 Jl '57; Discussion. 105:360-1; Reply. 361-3 Je '58
- Bond refractions and the nature of phosphorus-oxygen bonds. R. G. Gillis and others, *bibliog* Am Chem Soc J 80:2999-3002 Je 20 '58
- Bottom deposits in a river and their potential effects on dissolved oxygen concentrations; SED research report no. 20, *bibliog* map Am Soc C E Proc 84 [ISA 5 no 1179]:1-7 S '58
- Chemical properties of the reaction product of cyclohexene with phosphorus and oxygen. C. Walling and others, *Am Chem Soc J* 80:4546-9 S 5 '58
- Chemisorption of oxygen on activated charcoal and sorption of acids and bases. B. R. Furi and others, *bibliog* Ind & Eng Chem 50:1071-4 Jl '58

OXYGEN—Continued

- Chemistry of *p*-xylene; the reaction of *p*-xylene with oxygen. L. A. Errede and S. L. Hopwood, jr. *Am Chem Soc J* 79:6507-10 D 20 '57
- Combustion of metals in oxygen. A. V. Grosse and J. B. Conway. bibliog (35 ref) *Ind & Eng Chem* 50:663-72 Ap '58
- Cyanogen-oxygen flame under pressure. J. B. Conway and A. V. Grosse. bibliog diag *Am Chem Soc J* 80:2972-6 Je 20 '58
- Diffusion of oxygen in zirconium and its relation to oxidation and corrosion. J. P. Pemsler. bibliog diags *Electrochem Soc J* 105:315-22 Je '58
- Effect of dissolved oxygen on high-resolution nuclear magnetic resonance spectra. D. F. Evans. bibliog *Chem & Ind* p526-7 My 3 '58
- Effect of oxygen on etch-pit formation in silicon. R. A. Logan and A. J. Peters. bibliog *Il J Ap Phys* 28:1419-23 D '57
- Effect of oxygen on ferric ion yields in aqueous solutions containing polonium. C. N. Trumbore. bibliog *Am Chem Soc J* 80:1772 Ap 5 '58
- Effect of the interaction of tantalum with oxygen, nitrogen, and hydrogen. R. Bakish. bibliog *Il Electrochem Soc J* 105:574-7 O '58
- Effects of gamma radiation on cotton; some of the properties of purified cotton irradiated in oxygen and nitrogen atmospheres. F. A. Blouin and J. C. Arthur, jr. bibliog (43 ref) *Textile Res J* 28:198-204 Mr '58
- Exchange of oxygen between phosphoric acid and water. B. Keisch and others. bibliog *Am Chem Soc J* 80:4778-82 S 20 '58
- Factors determining the oxygen content of liquid silicon at its melting point. W. Kaiser and J. Breslin. bibliog *J Ap Phys* 29:1292-4 S '58
- Gettering of oxygen by a nonoperating ion gauge. E. J. Todd. diag *J Ap Phys* 29:232 F '58
- Insulation aging in pure oxygen and in a vacuum. L. C. Whitman. *Il Power Apparatus & Systems* p294-7 Je '58; *Abstract. Elec Eng* 77:781 S '58; *Discussion. Power Apparatus & Systems* p297-8 Je '58
- Interactions between oxygen and acceptor elements in silicon. C. S. Fuller and F. H. Doleiden. bibliog *J Ap Phys* 29:1264-5 Ag '58
- Laminar burning velocities of methane-oxygen-diluent gas mixtures. S. A. Weil and others. bibliog *Ind & Eng Chem* 50:1101-4 Jl '58
- Measurement and mechanism of oxygen transfer in submerged culture. G. L. Solomons and M. P. Perkin. bibliog *J Ap Chem* 8:251-9 Ap '58
- Movement of dissolved oxygen through sea water. E. E. Nelson and others. diag *Corrosion* 14:15 Ag '58
- Oxygen as a propellant; abstract. S. T. Demetriades. *Il Chem & Eng N* 36:48 Ap 21 '58
- Oxygen demand of leaves in water. E. S. Chase and A. F. Ferullo. *Water & Sewage Works* 105:204-5 My '58
- Oxygen expands cat cracker. *Oil & Gas J* 56:59 S 22 '58
- Oxygen transfer in laboratory fermenters. G. L. Solomons. bibliog *J Ap Chem* 8:445-8 Jl '58
- Physical factors affecting the absorption of oxygen by thin films of bituminous road binders. E. J. Dickinson and others. bibliog diag *J Ap Chem* 8:673-87 O '58
- Reaction between iron and water in the absence of oxygen. J. Linneborn. bibliog *Electrochem Soc J* 105:322-4 Je '58
- Reaction of olefins with oxygen and phosphorus. C. Walling and others. bibliog *Am Chem Soc J* 80:4543-6 S 5 '58
- Reversible uptake of oxygen by vitamin B₁₂. B. Jaselskis and H. Diehl. bibliog *Am Chem Soc J* 80:2147-52 My 5 '58
- Solidus, subsolidus, and dissociation phase equilibria in the system Fe-Al-O. L. M. Atlas and W. K. Sumida. bibliog *Am Cer Soc J* 41:150-60 My 1 '58
- Solubility of oxygen in water; nomograph. D. S. Davis. *Water & Sewage Works* 105: R385 S 15 '58
- Thermal restoration of oxygenated germanium surfaces. A. J. Rosenberg and others. bibliog diags *J Ap Phys* 29:771-5 My '58
- Upper atmosphere atomic-oxygen power plant. S. T. Demetriades. *J Aero/Space Sci* 25:653-4 O '58

See also

Oxidation

Ozone

Steel—Oxygen content

Analysis

- Conductometric determination of small amounts of oxygen in titanium. M. Codell and G. Norwitz. diag *Anal Chem* 30:524-6 Ap '58
- Determination of oxygen in niobium. W. R. Hansen and M. W. Mallett. *Anal Chem* 29:1868-9 D '57
- Determination of oxygen in titanium; modified vacuum fusion apparatus and platinum bath technique. S. J. Bennett and L. C. Covington. bibliog diags *Anal Chem* 30:363-5 Mr '58
- Effect of nitrides in silicon iron on the determination of oxygen by chlorination, and the possible direct determination of aluminum nitride. F. J. Armson and H. L. Bennett. bibliog *Iron & Steel Inst J* 188:132-7 F '58
- Emission spectrometric determination of oxygen in titanium and titanium alloys. V. A. Fassel and W. A. Gordon. bibliog diags *Anal Chem* 30:179-82 F '58
- Evaluation of inert gas fusion method for rapid determination of oxygen in steel. J. I. Peterson and others. bibliog *Il Anal Chem* 30:1086-9 Je '58
- How to improve glass tank efficiency with oxygen analysis. J. P. Puckett. *Il diags Cer Ind* 70:136-7 Ap '58
- Improving combustion efficiency! oxygen analyzers. *Il Can Chem Process* 42:98-9 F '58
- Indigo-carmin method for the colorimetric determination of low concentrations of dissolved oxygen in water. G. P. Alcock and K. B. Coates. diag *Chem & Ind* p554-5 My 10 '58
- Oxygen analyzer installed in flue-gas system of a fluid cat cracker. D. H. Stormont. *Il diag Oil & Gas J* 56:129-30 Jl 7 '58
- Oxygen analyzer; trace amounts in water recorded continuously. *Il Eng N* 160:64 Je 5 '58
- Routine determination of oxygen in steel using a carrier-gas fusion technique. C. E. A. Shanahan and F. Cooke. *Il diags Iron & Steel Inst J* 188:138-42 F '58
- Save time in oxygen analysis; oxygen in metals determined by new Leco technique. *Chem & Eng N* 36:76 F 24 '58
- U.S. Steel puts oxygen analyzer into closed-loop combustion control. E. W. Hunziker and J. W. Bain. *Il diag I S A J* 5:32-6, cover My '58

Industrial applications

- New techniques for copper refining; use of oxygen. E. F. Kurzinski. bibliog *Il diags J Metals* 10:533-7 Ag '58
- Oxygen injection process aids cupola combustion control. J. B. La Pota. diags *Foundry* 86:269-71-4 My '58
- Oxygen-plant control. R. Francy. *Il diags Instruments & Automation* 31:287-9 F '58
- Use of oxygen for decarburization in the open-hearth furnace. A. J. Kesterton. bibliog diags *Iron & Steel Inst J* 189:22-5 My '58
- Use of oxygen to assist combustion in the open-hearth furnaces at Consett. J. F. Allen. *Iron & Steel Inst J* 189:25-6 My '58

See also

Oxyacetylene flame

Steel metallurgy—Oxygen processes

Isotopes

- Oxygen isotopes spur research; Weizmann institute of science, Rehovoth, Israel. *Il diag Chem & Eng N* 36:53-4 My 26 '58
- Relationship between C¹³/C¹² ratios in co-existing quartz, carbonate, and iron oxides from various geological deposits. R. N. Clayton and S. Epstein. bibliog diags *J Geol* 66:352-73 Jl '58
- Variations in isotopic composition of oxygen and carbon in Leadville limestone (Mississippi, Colorado) and in its hydrothermal metamorphic phases. A. E. J. Engel and others. bibliog map diags *J Geol* 66:374-93, pl 1 Jl '58

Manufacture

- Bolsters oxygen supplies; Granite City steel co.'s gas producing plant. *Steel* 143:60 Jl 28 '58
- Electrolytic production of oxygen. *Welding Eng* 43:58 Je '58
- High purity oxygen for steel making. J. T. Huggill. bibliog flow sheet *Il Can J Chem Eng* 36:169-74 Ag '58
- Largest on-site oxygen plant; Linde co. map *Chem Eng Prog* 54:78 Je '58
- Maintenance experience with O₂ plants at Sparrows Point. A. Stutzer. *Iron & Steel Eng* 35:84-6 My '58

OXYGEN—Manufacture—Continued

More oxygen in the wind. *Linde and Chematron* move to meet increasing need for oxygen in steelmaking. *map Chem & Eng N 36:29 My 26 '58*

New England gets gas plant; Airco puts oxygen-nitrogen-argon plant on stream. *il Chem & Eng N 36:22-3 Je 30 '58*

Operation and maintenance of a 100-ton double-cycle, gaseous O_2 plant. G. T. Wright. flow sheet *il Iron & Steel Eng 35:81-4 My '58*

Operators report on safety in air and ammonia plants; panel discussion. *il diags Chem Eng Prog 54:52-64 Ag '58*

Oxygen plant cycles tailored to requirements of iron and steel producers. C. J. Schilling. *il diags Iron & Steel Eng 35:86-94 My '58*

Oxygen production. E. G. Hickling and A. E. Hittl. *diag Welding J 37:700-1 JI '58*

Power cost cut in oxygen plant. *il Chem & Eng N 36:53 Ja 6 '58*

Select the most reliable instrument; compressed gases. R. C. Mars. *il Can Chem Process 42:113-14 S '58*

Transportable oxygen plants. *il Ind Chem 34: 374 JI '58*

Transportable oxygen producing equipment; British oxygen gases, Ltd. *il Engineer 205: 984 Je 27 '58*

Spectra

Experimental evaluation of the oxygen microwave absorption as a possible atomic frequency standard. J. M. Richardson. *bibliog diags J Ap Phys 29:137-45 F '58*

Tables, calculations, etc.

Estimating oxygen cutting time; engineering data sheet. *Welding Eng 43:57 F '58*

OXYGEN, Liquid

Detonation of liquid oxygen-liquid methane solutions. A. V. Grosse and others. *Am Chem Soc J 79:6341-2 D 5 '57*

Dilution of cryogenic liquid rocket propellants during pressurized transfer; conditions affecting the dilution of liquid oxygen with nitrogen and ways of preventing it. S. Greenfield. *il diags Aircraft Eng 30:210-12 JI '58*

Don't overlook merits of liquid oxygen systems. F. L. Catron. *diags S A E J 66:73-80 Ja '58*

Liquid oxygen is on the move. *il Chem & Eng N 35:54 N 11 '57*

Materials detonating in liquid oxygen. *il diag Engineering 136:391 S 19 '58*

Rocket engines use liquid oxygen. F. F. Twight. *S A E J 66:68 F '58*

What is the future for LOX? R. S. Kraemer. *Aviation Age 29:196-7 My '58*

Safety measures

Good handling techniques eliminate LOX problems. D. Joliceur. *il Aviation Age 30: 60-3+ JI '58*

OXYGEN apparatus

Analog points to optimum design. *il diags Product Eng 28:38 D 9 '58*

Don't overlook merits of liquid oxygen systems. P. L. Catron. *diags S A E J 66:78-80 Ja '58*

Hazards of diving with self-contained underwater breathing apparatus. H. J. Alvis. *bibliog Ind Med 27:389-92 Ag '58*

How to braze copper tube. A. I. Heim. *il Air Cond Heat & Ven 54:72-4 N '57*

Uses of oxygen in industrial medicine. E. A. Irvin. *Ind Med 27:506-7 O '58*

OXYGEN cutting

Combustion of liquid hydrocarbon fuels for oxygen cutting. D. K. Huu and others. *bibliog il diag Welding J 37:sup 101-6 Mr '58*

Electronic brain flame-cutting. W. Sekules. *il diag Marine Eng/Log 63:64-5+ My '58*

Flame cutters trace fast patterns; Colorado fuel and iron corp. *il Iron Age 181:110 F 6 '58*

Natural gas for cheaper cutting. W. J. Semple. *il Am Mach 102:69-71 Ag 25 '58*

Oxygen cutting speeds jet brake rotor production. *il Welding J 37:709 JI '58*

Quality of oxygen-cut surface; abstract. H. Christoph. *Welding J 37:sup53 F '58*

OXYGEN demand tests. See Sewage—Testing**OXYGEN-sag equation. See Equations****OYSTER BAY, New York****Sanitary affairs**

Innovations feature refuse incinerator. *Power Eng 62:67-8 Mr '58*

OYSTERS

Chlorotetracycline for preserving Gulf oysters. A. F. Novak and others. *bibliog Food Tech 12:237-9 My '58*

See also

Canned oysters

OZONE

Oxidation of *tert*-butylcyclohexane to dibasic azides with ozone. W. H. Clingman, Jr. and P. T. Wadsworth. *bibliog Ind & Eng Chem 50:1257-8 S '58*

O_3 pegs double bond. *Chem & Eng N 36:41 O 20 '58*

Science for electroplaters; cyanide waste treatment, ozonation and electrolysis. L. Serota. *diags Metal Finishing 56:71-4 F '58*

See also

Rubber—Ozone effect

Rubber, Artificial—Ozone effect

Physiological effect

Ozone toxicity studies. H. E. Stokinger and others. *bibliog J A M A Archives Ind Health 18:14-22 D '57*

Toxicity of ozone. S. Mittler and others. *bibliog il Ind Med 26:301-6; 26:63-6; 27:43-5 JI '56, F '57, Ja '58*

Toxicity of ozone for young chicks. J. J. Quilligan, Jr. and others. *bibliog J A M A Archives Ind Health 18:16-22 JI '58*

OZONOLYSIS

Adipic acid by ozonolysis of cyclohexene. P. S. Bailey. *bibliog il Ind & Eng Chem 50: 993-6 JI '58*

Ozonolysis; the effect of pyridine on the ozonolysis of 4,22-stigmastadien-3-one. G. Slomp, Jr. and J. L. Johnson. *bibliog Am Chem Soc J 80:315-21 F 20 '58*

Ozonolytic degradation of interpolymers of natural rubber with methyl methacrylate and styrene. D. Barnard. *bibliog Rubber Chem & Tech 31:82-5 Ja '58*

P

PA-147. See Antibiotics

pH. See Hydrogen ion concentration

P.V.C. See Vinyl chloride

PACHUCA tanks. See Tanks

PACHYMAN. See Polysaccharides

PACIFIC coast

See also

Gas industry—Pacific coast

Petroleum—Pacific coast

Petroleum laws and regulations—Pacific coast

Shipping—Pacific coast

PACIFIC coast electrical association

Annual meeting, Coronado, May 14-16. *Elec World 150:118+ JI 14 '58*

Engineering and operating meeting, San Francisco. *Elec World 149:91+ Ap 28 '58*

Hawaiian conference, Honolulu. *Elec World 148:90-1 D 16 '57*

PACIFIC coast gas association

Annual meeting, 65th, Portland, Ore. Sept. 3-5. *Am Gas Assn Mo 40:50 O '58; Gas Age 122:20+ O 2 '58*

PACIFIC lighting corporation

Pacific lighting system, J. F. Ebdon. *il maps diag Gas 34:49-65, 105-16+ Ag '58*

PACIFIC ocean

Clipperton fracture zone in the northeastern equatorial Pacific. H. W. Menard and R. L. Fisher. *bibliog maps J Geol 66:239-53, pl 1 My '58*

PACKAGE design

Creating the package. Published in monthly numbers of Food engineering

Impact of packaging on modern merchandizing. C. J. Reith. *Tappi 40:sup40A+ N '57*

Problems of package design for an international pharmaceutical company. T. E. D. Haines. *Drug & Cosmetic Ind 82:43+ Ja '58*

Stand-out package design flags busy shoppers. *il Food Eng 30:64-5 JI '58*

This all-out attack assured best design; Kitchens of Sara Lee. *il Food Eng 30:86-8 Ap '58*

Trends in packaging. *Am Perfumer & Aromatics 72:31 Ag '58*

PACKAGE goods

United parcel service sorts from moving storage! package sorting and distributing center. J. Joseph. *il Mod Materials Handling 13:100-3 JI '58*

PACKAGE goods—Continued

What is a package? W. F. Kohn. Soap & Chem Spec 33:166+ D '57

See also

Christmas gifts
Drug packages
Food packages
Labels
Packaging machinery
Soap packages

Combination packages

Flip-lid can lets housewife season to taste; Broadcast chill. *il* Food Eng 30:82-3+ Mr '58

Gift packages

Christmas packaging. *il* Am Perfumer & Aromatics 72:56-8 S '58

New packages

Double-duty label pre-sells and re-sells. C. R. Havighorst. *il* Food Eng 30:62-3+ J1 '58
How Johnson & Johnson met re-packaging challenge. J. Spaulding. *il* Drug & Cosmetic Ind 52:466+ Ap '58

Opening devices

Fast-openers up package value. *il* Food Eng 30:68 My '58
Manufacture of can keys. *il* Wire & Wire Prod 33:666+ Je '58

Protection

Fragile electronic tubes travel safer when encased in urethane foam. *il* Mod Plastics 36:89 O '58
Thin metal film corrosion indicators. D. Roller. *il* diag Corrosion 14:21-5 Je '58

Transparent packages

Innovations through skin and blister packaging; guest editorial. D. S. Threlkeld. *il* Plastics Tech 4:545-6 Je '58

PACKAGING

Handling and packaging; forum on technical progress. Steel 142:380-2+ Ja 6 '58
Impact of packaging on modern merchandizing. C. J. Reith. *il* Tappi 40:sup40A+ N '57
Inventory of new equipment and accessories; packaging and handling equipment. *il* Chem Eng 64:349-50+ Mid-N '57
Modular packaging of transistorized circuit assemblies. A. A. Lawson and J. D. Svedlow. *il* diag Machine Design 30:114-22 My 1 '58

Molecules switch from sieving to containing; carriers of catalytic materials. *il* Chem Eng 65:72 Ap 7 '58

New packaging and promotion. *il* Published in monthly numbers of American perfumer and aromatics

Pack in low-cost capsules. *il* diag Chem Eng 65:88+ Ja 13 '58

Packaging and selling. Published in monthly numbers of Drug and cosmetic industry

Packaging and the chemical industry; conference. Buxton, Derbyshire, March 17-20; abstracts of papers. *Chem & Ind* p676-9 Je 7 '58

Packaging perfumed products. C. F. Wight. *il* Soap & Chem Spec 34:61-4 My '58

See also

Closures (containers)
Food packages
Food packaging
Meat—Prepackaging
Packing for shipment

Exhibitions

Annual packaging exposition. New York, May 26-30. Soap & Chem Spec 34:157 My; 115+ Je '58; *Chem & Eng N* 36:20-2 Je 9 '58; *Food Eng* 30:71-2 J1 '58

Packaging machinery and materials exposition. Atlantic City, March 25-28. *il* Soap & Chem Spec 34:147+ Mr; 155+ Ap '58

Unit packaging

Kinetic packaging; parts feeding from the package. R. A. O'Reilly, Jr. *il* Mod Materials Handling 13:85-8 J1 '58

PACKAGING awards

Aerosol package contest winners. *il* Soap & Chem Spec 33:198-9 D '57

1958 boxarama set-up paper box competition. *il* Am Perfumer & Aromatics 71:56-7 My '58; *Drug & Cosmetic Ind* 52:465, 615+ Ap-MY '58; *Soap & Chem Spec* 34:121 Ap; 151+ My '58

PACKAGING for shipment

New bag for shippers. *il* Chem & Eng N 36: 48 My 19 '58

Packaging, handling and transport of chemicals; abstracts of papers. *Manuf Chem* 29: 204-5 My '58

PACKAGING laboratories

How Glass container manufacturers institute packaging lab aids industry. *il* Cer Ind 69: 82-5 D '57

PACKAGING machinery

Automatic packing machine; model BBS. *il* Engineer 206:74 J1 11 '58

Bag limit; 3000 garments per hour; special-purpose packaging machine. *il* Textile Ind 122:148-9 My '58

15 new units for better packaging; PMMI Atlantic City show; illustrations with text. *Food Eng* 30:71-3 My '58

Here are latest machines for updating your plant; packaging. *il* Food Eng 30:67-8 O '58

How to make your packaging line really click; Ventura farms frozen foods, inc. D. Mead. *il* diag Food Eng 30:80-2 Ap '58

Machine cuts mill's cloth packaging time 75 per cent; Pepperell manufacturing co. *il* Textile Ind 122:97 Mr '58

Multi-pack units move into high gear; food products. *il* Food Eng 30:76-7 Mr '58

Package increases hosiery sales; Chester H. Roth co. overwrapping packaging machinery. *il* Textile Ind 122:121+ J1 '58

Packagers scrutinize latest units, methods; AMA show, New York. *il* Food Eng 30:66-8 J1 '58

Packaging machinery and materials exposition. Atlantic City, March 25-28. *il* Soap & Chem Spec 34:147+ Mr; 155+ Ap '58

Packaging today; machinery. *il* Manuf Chem 29:44-8 F '58

Packing goes electronic. *il* Electronics 31:8 Je 20 '58

Plant develops own pharmaceutical packager; Hoffmann-LaRoche inc. S. E. Harris. *il* diag Automation 5:42-4 Ag '58

See also

Filling machines
Sealing machines
Wrapping machines

PACKAGING materials

Business opportunities in packaging. I. Skeist. *Plastics World* 16:8 My '58

Easy-to-open polyethylene-wrapped packages. *il* Mod Plastics 35:180 Ag '58

Effect of packaging materials and techniques on shelf life of fresh poultry meat. F. E. Wells and others. *il* Food Tech 12:425-7 Ag '58

Equip for new package materials. *il* Food Eng 30:84-5 O '58

Film sparkles at packaging show. R. L. Van Boskirk. *Mod Plastics* 35:204+ Ag '58

Impact styrene for packages, consumer goods. R. J. Lee. *il* Plastics World 16:6-7 My '58

Latest container materials and closing units. *il* Food Eng 30:78-9 Ap '58

Packaging today; containers and materials. *il* Manuf Chem 29:68-71 F '58

Plastics in packaging; continuing growth predicted. *Plastics World* 16:9 My '58

Selection of urethane plastic foams for packaging electronic equipment. J. A. Meyer and H. Shapiro. *il* diag Machine Design 30: 147-50 Mr 20 '58

Tomorrow's plastics packages. *il* Mod Plastics 35:95-101+ My '58

Use of plastics in protective packaging; abstract. F. A. Paine. *Chem & Ind* p431-2 Ap 12 '58

See also

Adhesives
Aluminum foil
Cellophane
Paper, Waxed
Plastic films
Wrapping paper

Printing

Eliminating uneven printings in flexographic printing. *diag Inland Ptr* 141:90 Ag '58

Operating procedures shown in flexographic survey. *il* Inland Ptr 141:14-15 My '58

Where does flexography stand in today's market? H. A. Nash. *Inland Ptr* 141:64-5 J1 '58

PACKAGING research

Packaging research laboratory; Geo. Salter and co. *il* Engineer 206:424 S 12 '58

Some aspects of packaging. F. A. Paine. *il* diag Chem & Ind p 1656-63 D 28 '57

Testing packing methods for transport anywhere. *il* Engineering 186:423-4 S 26 '58

See also

Packaging laboratories

PACKING

- Analysis of equilibrium operating temperatures of railroad journal bearings. W. M. Keller and G. L. Pigman. *Lub Eng* 14:108-15 Mr '58
- Effects of medium on materials; tables. Product Eng 29:C8-9 Mid-S '58
- Flow through packings and beds (cont). M. Leva and C. Y. Wen. *bibliog diags Chem Eng* 64:267-71 D '57
- How to solve soft packing problems. W. Coopey. *diags Chem Eng* 65:131-4 Ja '58
- Metallic packing, best for gases. K. C. Wize-man. *il diags Power* 102:120-2 Ar '58
- Packed glands for high pressures; an analysis of fundamentals. J. L. Thomson. *bibliog diags Combustion* 29:38-51 My '58
- Pall rings, new type of tower packing. J. S. Eckert and others. *bibliog il diags Chem Eng Prog* 54:70-5 Ja '58
- Plastics packings increase efficiency of cooling towers; receives citation in Materials in design engineering competition. *il diags Materials in Design Eng* 47:147-8 Ap '58
- Selection and application of dynamic seals and packings. J. E. Holt and W. S. Miller. *il diags Machine Design* 29:69-98 O 31 '57 (reprints \$1)
- Should we switch from jam type packing to mechanical seals? answers. *diags Power* 102:124-5 J1 '58
- Star packing; a new low pressure-drop packing for use in distillation columns. F. D. Thornton. *bibliog il diags J Ap Chem* 8: 528-32 Ar '58
- Study of black liquor oxidation in towers packed with asbestos cement plates. F. E. Murray. *bibliog il Can J Chem Eng* 36:69-72 Ap '58
- See also
- Gaskets
- Stuffing boxes
- PACKING for shipment**
- Air pack for maggies. *diags Space/Aeronautics* 30:172-3 O '58
- Cellulose packing material cuts shipping damage. *il Elec Manuf* 62:120+ J1 '58
- Don't side-step your packing operations. E. A. Cyrol and R. L. Borck. *diags Mill & Factory* 62:124-7 Ap '58
- Fragile electronic tubes travel safer when encased in urethane foam. *il Mod Plastics* 36:89 O '58
- Handling; new packing method cuts rod damage. *il Iron Age* 182:196-7 S 11 '58
- How to bind package loads together, at low cost. E. L. Kullman. *il diags Pet Eng* 29: C38+ N '57
- Instruments boxed on foam-cushioned base; tape recorders. *il Electronics* 31:110+ My 9 '58
- Modernized materials handling; Hormel & co. J. V. Ziemba. *il diags Food Eng* 30:88-92 F '58
- New packaging; grip strip. *Franklin Inst J* 265:83 Ja '58
- 1958 equipment buyer's guide; packaging materials and equipment. *il Mod Materials Handling* 13:309-46 My '58
- Packaging research laboratory; Geo. Salter and co. *il Engineer* 206:424 S 12 '58
- Production-line packing cuts costs; Parke, Davis & co. A. J. Gavern. *il plan Mod Materials Handling* 13:94-5 Ag '58
- Push-button strapping unit cuts time at KVP co. *il Paper Ind* 39:863-4 Ja '58
- Rod packaging. J. S. Laver. *il diags Wire & Wire Prod* 33:879-80+ Ag '58
- Some aspects of packaging. F. A. Paine. *bibliog il diags Chem & Ind p* 1656-63 D 28 '57
- Space platform protects fragile equipment; Ampex corp. G. Hoskins. *il Mod Materials Handling* 13:109 Ap '58
- Testing packing methods for transport anywhere. *il Engineering* 186:423-4 S 26 '58
- What causes shipping damage? handling forum. *Mod Materials Handling* 13:96-7 N '58
- See also
- Containers (for shipping)
- Crates
- Shipment of goods
- Steel straps
- PACKING houses**
- Refrigeration and meat packing conference; abstracts of papers. *Refrig Eng* 66:60-4+ Ja '58
- By-products
- Protein by-products of the meat packing industry. H. E. Robinson and others. *il Ind & Eng Chem* 50:sup42A-4A Ap '58

Equipment

- Ends checkweigh routine; caliper that continuously measures stuffed franks; Wisconsin meat products. *il Food Eng* 30:79 F '58
- Modernized materials handling; Hormel & co. J. V. Ziemba. *il diags Food Eng* 30:88-92 F '58
- Heating and ventilation
- Strip heaters provide low-cost week-end heating; Braun brothers packing co. G. H. Maier. *il Elec World* 149:100 Mr 17 '58
- Management
- How weekly sales analysis alerts management to trends; data-computer program; Stahl-Meyer, E. W. Wilson and T. C. Taylor. *il Food Eng* 30:56-7+ My '58

Power

- Tips on getting a new steam system; William Focke sons, inc. *il Food Eng* 29:121 D '57

Waste

Bibliography

- Review of the literature of 1957 on sewage, waste treatment, and water pollution; packinghouse wastes. *Sewage & Ind Wastes* 30:722-3 Je '58

PADAR. See Radar

PADDLE-wheel. See Ship propulsion

PAGE, Arizona

Town site at Glen Canyon dam. *Pub Works* 39:198 Ap '58

PAGING service. See Radio communication—Paging service

PAIRS

Manufacture

- Pails are stretched to shape; United States steel products. *il Steel* 142:90 My 5 '58

PAIN

- Pain; its nature and management. B. Idson. *bibliog diag Drug & Cosmetic Ind* 82:444-5+ Ap '58

PAINT

- Comparative hiding power of paints. J. Ixman. *Ind Finishing* 34:92-3 Ja '58
- Conductive and resistive coatings. R. J. Phair. *Product Eng* 29:D8-10 Mid-S '58
- Latex foam reduced. *il Chem & Eng N* 36:40 Ar 4 '58
- Latex paint goes outdoors; Celanese corp. *il Chem Eng* 65:74 Ap 21 '58
- Make your paint work profitably for you. E. A. Zahn. *Ind Finishing* 34:46+ Je '58
- Materials of construction for chemical engineering; protective coatings. F. Scofield. *bibliog Ind & Eng Chem* 50:1479-81 pt 2 S '58
- New styrene-butadiene latex forms hard finishes. M. C. Carpenter and A. L. Cipriano. *il Iron Age* 182:88-9 J1 24 '58
- Percent solids is obsolete. A. M. Cooke. *Paint Oil & Chem R* 121:8-10 O 2 '58
- Thickeners for vinyl paints. B. D. Jubilee, jr. *Paint Oil & Chem R* 121:6-7 Ja 9 '58
- Water base industrial finishes. J. G. Broughton. *Paint Oil & Chem R* 121:8-9 F 20 '58
- Water-thinned paints; how they compare for metal products. W. Brenner. *il Materials in Design Eng* 47:100-3 My '58

See also

Aluminum—Paint

Pigments

Plastic paint

Drying

- Burn-off cleaning and paint baking in one radiant oven. H. Swink. *il Ind Finishing* 34:82-3 Ag '58
- Dry-off ovens. *Ind Finishing* 34:96-7 Ag '58

Fading

- Wanted, colors to fade completely. *Ind Finishing* 34:86-7 My '58

Specifications

- Are your specifications really helping you? K. Schreiber. *Ind Finishing* 34:31-2 My '58
- Why paint specifications; their tests and controls. C. F. Pickett. *A S T M Bul* p70-2 Ja '58

Storage

- Keep stored paints warm in winter. *Ind Finishing* 34:96-7 D '57

Testing

- Damage to various films by gamma irradiation. *il Paint Oil & Chem R* 121:6-7+ Ja 23 '58
- Detection of oticica oil in coatings. G. G. Esposito and M. H. Swann. *Anal Chem* 29: 1861-2 D '57

PAINT—Testing—Continued

Effect of dust particles on the electrical resistance and anti-corrosive properties of varnish and paint films. C. Graff-Baker. *bibliog* *il* *diag* *J* *Ap* *Chem* 8:590-8 S '58

Flexibility tests for enamel and lacquer films. G. I. Norman. *Ind* *Finishing* 34:110-11 N '57

Use paint applicator to make many tests. P. Grossman. *Ind* *Finishing* 34:80-1 Ja '58

Why paint specifications; their tests and controls. C. F. Pickett. *A S T M Bul* p70-2 Ja '58

PAINT, Fire resisting

Fire retardant paint for aircraft studied. Materials in Design *Eng* 47:185-6+ Ap '58

Fire retardant paints. J. A. Holderried. *bibliog* *il* *Paint Oil & Chem R* 121:8-9 JI 24 '58

PAINT, Fluorescent. See Paint, Luminous**PAINT, Heat resisting**

Protecting metals at high temperatures; special paints. A. F. Hoistatter. *il* *Materials in Design Eng* 47:119 Ap '58

PAINT, Luminous

Fluorescent dry colors. *bibliog* *il* *Paint Oil & Chem R* 121:3-12 Mr 6 '58

Self-luminous materials. J. L. Seminara. *il* *Materials in Design Eng* 48:89-92 S '58

PAINT, Protective

Characteristics of potential-time curves for painted non-ferrous metals. J. H. Greenblatt. *bibliog* *J* *Ap* *Chem* 8:229-32 Ap '58

Coatings for underwater metal surfaces in fresh water exposures. S. M. Giesler. *il* *Corrosion* 14:41-50 Ag '58

Flow coating setup for painting structural steel. E. A. Moennink. *il* *Ind* *Finishing* 34:26-8+ F '58

How to specify colorful, functional, economical pre-painted steel. F. R. Park. *il* *Product Eng* 28:99-102 D 9 '57

Internal pipe coating; erosion-proof industrial paint; Copon. *il* *Paint Oil & Chem R* 121:18 Ap '58

Introduction to wash primers. E. S. Beck. *bibliog* *il* *Metal* *Finishing* 56:58-60 Ja: 61-4 F '58

Inventory of new chemicals and materials; protective coatings. *il* *Chem Eng* 64:182+ Mid-N '57

Map your protective coating program; Dow chemical co. *il* *Chem Eng* 65:125-8 F 10 '58

Painting rough metal and castings. K. F. Schreiber. *Ind* *Finishing* 34:94-5+ F '58

Priming paints for light alloys. J. G. Riggs and E. W. Skerrey. *il* *Inst* *Metals* *J* 86:421-4 My '58

Wash primers; use them correctly; aircraft production. C. Conway. *Ind* *Finishing* 34:48-9 Ja '58

See also

Electric transformers—Painting

Paint, Fire resisting

Standards

Protective coatings standardization in a multi-plant chemical operation. S. W. McIlrath. *Corrosion* 14:93-4+ S '58

PAINT, Temperature indicating

Chameleon-like paint shows hot spots. *il* *Pet Refiner* 37:209 Ja '58

PAINT brushes

Touch-up brushes. G. Conrad. *Ind* *Finishing* 34:94-5 Ja '58

PAINT containers

Aerosols at Sargent-Gerke. *il* *diag* *Paint Oil & Chem R* 120:8-11 N 14 '57

Containers and cartons. *il* *Paint Oil & Chem R* 121:20-2 S 18 '58

Is your label making sense? *il* *Paint Oil & Chem R* 121:24+ S 18 '58

What's hot for aerosols. A. Gaines. *Paint Oil & Chem R* 121:8-10 Je 12 '58

PAINT factories

Sherwin-Williams co. opens new \$4 million facility in Texas. *il* *Plant* 18:33-4 O '58

Equipment

Aeropak's new filling line. *il* *diag* *Paint Oil & Chem R* 121:12-16 Je 12 '58

Aerosols at Sargent-Gerke. *il* *diag* *Paint Oil & Chem R* 120:8-11 N 14 '57

Expansion at Carolina Paint. *il* *Paint Oil & Chem R* 121:12-13 My 15 '58

Materials handling in the paint and varnish industry. H. J. McCormick. *il* *Paint Oil & Chem R* 121:14-17 Mr 6 '58

Monitoring dictated by nature of process; paints and varnishes. W. Noble. *il* *Can* *Chem Process* 42:111-12 S '58

PAINT handling

Pipelines for paint; finishing automobile bodies at Ionia mfg. co. div. of Mitchell-Bentley corp. *il* *Mill & Factory* 63:103-4 JI '58

PAINT industry and trade

Color cards that really sell. *il* *Paint Oil & Chem R* 121:12-16 S 18 '58

Help your dealer to sell. D. Belyea. *Paint Oil & Chem R* 121:12-15 My 1 '58

Integrated decorating package. *il* *Paint Oil & Chem R* 121:12-15 O 2 '58

Is the dealer the weak link? F. J. Schick. *Paint Oil & Chem R* 121:10-14 My 29 '58

Market data report; trends and thinking that parallel the national picture now disclosed in broad-spectrum survey. *Paint Oil & Chem R* 121:9-12+ Ar 21 '58

Merchandising muscle makes more sales! L. J. Walters. *il* *Paint Oil & Chem R* 121:8-10 S 18 '58

Paint makers see turn ahead. *il* *Chem & Eng N* 36:21-2 Je 2 '58

Paint man's forum. *Paint Oil & Chem R* 120:24-6 O 17 '57; 121:11-12 F 20; 10-11 Ap 3; 10-12 JI '58

Paint men comment favorably on merchandising series. *Paint Oil & Chem R* 121:10-11 JI 24 '58

Protective coatings; annual review 1957. H. Burrell. *il* *Ind & Eng Chem* 50:sup32A-3A Ja '58

Protective coatings industry matures; 50th anniversary feature. A. L. Alexander. *il* *Ind & Eng Chem* 50:sup52A-5A Ar '58

Rockcote's color survey. *Paint Oil & Chem R* 121:8-9 JI 10 '58

Sleeping giant of color. F. J. Schick. *Paint Oil & Chem R* 121:10-13 Mr 20 '58

Southern paint and varnish production club convention, Atlanta, March 19-22. *Paint Oil & Chem R* 121:3-11 My 1 '58

Technical meeting, San Francisco, Feb. 27-28; with list of exhibitors. *Paint Oil & Chem R* 121:14-17 Ap 17 '58

Typical city to be surveyed for paint market data; Peoria. Ill. *Paint Oil & Chem R* 120:14 D 12 '57

What's coming in colors; California Ink's color report; with chart. *Paint Oil & Chem R* 120:8 D 26 '57

Why don't people paint more? F. J. Schick. *Paint Oil & Chem R* 121:18-19 F 6 '58

See also

Oil and colour chemists association

Advertising

Moving paint by direct mail. R. W. Bogenberger. *il* *Paint Oil & Chem R* 121:30-2+ S 18 '58

Directories

Aerosol suppliers directory. *Paint Oil & Chem R* 121:18+ Je 12 '58

History

75 years of progress with the paint industry. *il* *Paint Oil & Chem R* 120:10-11. *sup* 1A-32 D 26 '57; 121:10-26 Ja 9; 18-34 F 20; 16-32 Ap 3; 18-34 My 16; 14-30 Je 26; 18-34 Ag 7 '58

Salesmen

Confidence or fear in product or salesman. *Ind* *Finishing* 34:156 Ag '58

Customer angry? keep cool; let him talk. M. Sengay. *Ind* *Finishing* 34:94-5 Ag '58

Success secrets of two paint salesmen. K. MacKenzie. *Ind* *Finishing* 34:58+ N '57

Successful paint sales and service. R. C. Fox. *Ind* *Finishing* 34:90-1 Ja '58

When salesmen have to take a beating. *Ind* *Finishing* 34:88-9 My '58

Statistics

Facts and figures for the chemical process industries. M. Salkind. *il* *Chem & Eng N* 36:99-103 S 1 '58

Canada

Annual statistical review: paints and varnishes. *Can* *Chem Process* 42:sup 14-15 Je 58

Paint sales to hit short plateau. C. C. Pettet. *Can* *Chem Process* 42:sup31A Ja '58

York paint works of C-I-L. *il* *Chem & Ind* p 1051-2 Ag 16 '58

Illinois

Peoria paint survey. *Paint Oil & Chem R* 121:3-14 S 4 '58

Montana

Paintmaking in Montana. *il* *Paint Oil & Chem R* 120:10-12 D 12 '57

PAINT laboratories

I.C.I. marine research station; Paints div. *il* *Chem & Ind* p947-8 JI 26 '58

Research; key to success at United. *il* *plan* *Ind* *Lab* 9:36-9 Mr '58

PAINT laboratories—Continued

Small paint laboratory for the small paint user. E. A. Zahn. *II Ind Finishing* 34:56+ Ap '58

PAINT materials

Calced clays in paints. H. B. Naylor. *diags Paint Oil & Chem R* 121:6-8 My '58

Gloss from aqueous paints. *II Can Chem Process* 42:89-90+ Mr '58

Introduction to wash primers. E. S. Beck. *bibliog II Metal Finishing* 56:58-60 Ja; 61-4 F '58

New latex arrives; Rhoplex AC-55. *Chem & Eng N* 36:60 F 24 '58

Painter's delight now ready? polyurethane-based paints. *II Chem & Eng N* 35:52 N 25 '57

Science for the coatings technologist; paint additives, anti-settling agents. E. S. Beck. *diags Metal Finishing* 56:53-5+ Je; 56-9 JI '58

Science for the coatings technologist; paint additives; driers and anti-skinning agents. E. S. Beck. *Metal Finishing* 56:64-6+ S; 56-60 O '58

Use good thinner on quality paint work. *Ind Finishing* 34:119-20 Je '58

See also
Drying oils
Pigments
Soap, Metallic
Tall oil

PAINT mixers

Automatic color dispensers; the coming retail trend? *II Paint Oil & Chem R* 121:6-10 F 6 '58

Manual colorant dispensers. *Paint Oil & Chem R* 121:11 Aug 7 '58

Shakeup brings costs down; waste of pigmented base and excessive cleaning problems solved by using two paint shakers. *II Paint Oil & Chem R* 121:8 Je 26 '58

PAINT, oil and chemical review (periodical)
75 years of progress with the paint industry. *II Paint Oil & Chem R* 120:10-11. sup 1A-32A D 26 '57; 121:10-26 Ja 9; 18-34 F 20; 18-32 Ap 3; 18-34 My 15; 14-30 Je 26; 18-34 Aug 7 '58

PAINT research

How technical skill of young men rescued paint industry. C. F. Rassweiler. *Mech Eng* 79:1188-9 D '57

See also

Paint laboratories

PAINT rollers

Roller coating eases cost; Stanley-Judd div., Stanley works. *II Steel* 142:121 Je 16 '58

Roller coating panels for toy blackboards. J. Hyler. *II Ind Finishing* 34:36 Je '58

PAINT shops**Employees**

Are workers as good as other facilities? *Ind Finishing* 34:58+ Mr '58

Equipment

Reducing spray painting costs. J. A. Weed. *II Metal Finishing* 56:68-9+ S '58

Management

Organizing your new finishing personnel. J. J. Pardes. *Ind Finishing* 34:114-16 Ap '58

PAINT spraying

Airless spray painting. *II diag Plant* 17:32-3 Je '58

Are you ready for automatic spray painting? E. H. Cocks. *II Mill & Factory* 63:91-3 S '58

Automatic spray finishing at Goodyear plant. *II Rubber World* 137:255 N '57

Automatic spray painting of electrical conduit. E. H. Cocks. *II Automation* 5:69-72 Mr '58

Automatic spray painting offers advantages in finishing of rubber-covered athletic balls. *II Rubber Age* 82:476-7 D '57

Automatically sprays parts resting on trays. *Ind Finishing* 34:108-9 Ap '58

Considerations in selecting automatic painting equipment. E. H. Cocks. *II diags Automation* 5:66-9 Ag '58

Decorative painting in a custom shop; Lake shore markers, inc. W. Rudolph. *II Ind Finishing* 34:96-9 Ja '58

Do you use correct spray pressure? *Ind Finishing* 34:92-3 My '58

Excessive overspray; how to reduce it. *Ind Finishing* 34:85-6 Je '58

Hot lines keep paint fluid; Douglas aircraft co. *diag Steel* 143:117 JI 21 '58

Hot paint improves spray; Offenhausser co. *II Steel* 142:138 F 17 '58

Hot spray painting; big transformers. *II Ind Finishing* 34:76+ D '57

How to get a breath of fresh air. F. A. Westbrook. *II Mill & Factory* 62:111-12 Ja '58

Interest grows in hot spray painting. W. Beach. *Metal Finishing* 56:63 Mr '58

Machine for painting scaffolding tubes. *II Engineer* 205:784 My 23 '58

Modern painting line produces fewer rejects. E. H. Pechan, Jr. *II Elec World* 150:112 JI 14 '58

Our two years with airless paint spray; Henry M. Carr, inc. H. M. Carr. *II Ind Finishing* 34:34-6+ Ap '58

Painting big airplanes; Boeing airplane co. T. A. Dickinson. *II Ind Finishing* 34:60+ Ja '58

Painting 1000-ton presses. P. C. Bardin. *II Ind Finishing* 34:66-8 Je '58

Painting operations at Rohr Aircraft. M. Larsen. *II Ind Finishing* 34:20-2+ N '57

Painting steel pails. H. L. Cerniak. *II Ind Finishing* 34:62-4 F '58

Painting the Edsel. P. C. Bardin. *II Ind Finishing* 34:62-4 N '57

Painting trucks; Dart truck co. *II Ind Finishing* 34:34+ My '58

Rapid color changes and 35 per cent saving in paint cost; painting playground equipment. R. Liegenbaum. *II Ind Finishing* 34:68-3+ Ag '58

Reducing spray painting costs. J. A. Weed. *II Metal Finishing* 56:58-9+ S '58

Replaces a cup gun for special work. *II Ind Finishing* 34:44 Je '58

Slow sprayer. K. MacKenzie. *Ind Finishing* 34:56+ Ap '58

Special rig makes painting a cinch anywhere! R. B. Payne. *II Mill & Factory* 62:116-18 Mr '58

Spray unit speeds painting steps. *II Iron Age* 131:112 My 8 '58

Sprayer body; 56 per cent lighter; paint sprayer with lightweight molded nylon body. *II Mod Plastics* 35:101 F '58

Tumble-spray painting small metal parts. *Ind Finishing* 34:84 My '58

Booths

New type wet spray booth has no exhaust fan; Hydrex. *II Ind Finishing* 34:114 Mr '58

Safe design and use of spray booths with paint filters. S. Marlow. *II diags Air Cond Heat & Ven* 54:83-7 O '57; Same. *Safety Maint* 114:34-8 N '57

Spray booths move past the product. *Ind Finishing* 34:107-8 JI '58

Use fully enclosed pressurized booths. *II Ind Finishing* 34:117 Ap '58

Safety measures

How to keep painting and finishing safe from fire. E. A. Zahn. *Ind Finishing* 34:34+ Ja '58

R for spray booth dangers. S. Marlow. *II Safety Maint* 114:34-8 N '57

PAINT spraying, Electrostatic

Electrostatic paint spray trims labor, material costs. Aetna steel products corp

V. J. Smith. *II Elec World* 149:104 Mr 3 '58

Electrostatic painting; saves \$11,000 in three months. *II Steel* 142:141 F 17 '58

Electrostatic spray systems. *II Metal Finishing* 56:85-7 JI '58

Electrostatic spraying cuts costs; Regina corp. flow diag *II Steel* 141:204 N 18 '57

Hot paint boosts spraying efficiency; Underwood corp. *II Mill & Factory* 62:123 Ap '58

Job shop painting with electrostatic spray. P. T. Spera. *II Ind Finishing* 34:56-8+ Je '58

PAINT spraying masks

Masking for painting. P. C. Bardin. *II Ind Finishing* 34:8-10 Mr '58

Reinforced epoxy spray masks for two-tone painting of shrouds for out-board motors. C. B. Martin. *II Plastics Tech* 4:41-3+ Ja '58

PAINTING, Industrial

Compact and complete product painting system; Bohnman engineering co. *II diag Ind Finishing* 34:22-4 O '58

Conveyorized painting layout combines continuous flow and flexibility; Ebco mfg. co. flow diag *II Automation* 5:57-9 Ap '58

Finishing Chrysler Airtemp cooling and heating units. P. C. Bardin. *II Ind Finishing* 34:20-2+ Ja '58

Improving paint adhesion on phenolic surfaces. *II Metal Finishing* 56:67+ S '58

Industrial flow coat painting is here to stay. E. A. Zahn. *II Plating* 45:252-4 Mr '58

Industrial know-how handbook; production painting. *II Mill & Factory* 62:MW34-5 My '58

Magnets solve painting problem. *II Tool Eng* 40:106 Mr '58

PAINTING, Industrial—Continued

Mechanized finishing boosts profits; Hoffman engineering co., Anoka, Minn. 11 diag Steel 142:92-3 Je 23 '58

Modern conveyor types for automated or semi-automated paint finishing processes. A. S. Dawe and J. A. Kinn. 11 Plant 18: 45-7 S '58

New production line speeds painting; Dana corp.'s Parish div. 11 Iron Age 182:109-10 S 4 '58

New vinyl paint facilities at Poughkeepsie IBM. H. D. Bowen, jr. 11 Metal Finishing 56:59-61 Ap '58

Organic finishing of aluminum and its alloys. L. F. Spencer. biblog Metal Finishing 56: 58-61+ Ag '58

Preassembly cuts painting and handling cost; Janitrol heating & air conditioning div., Surface combustion corp. 11 diag Steel 143:80-1 Ag 25 '58

Special coatings will resist spillage. R. Cushman. Chem Eng 65:156+ F 24 '58

Three ways to put on clean-cut stripes. Ind Finishing 34:42-3 My '58

See also

Paint, Protective

Paint spraying

Stains and staining (wood)

also subdivision Painting and Painting

and finishing under special subjects, e.g.

Air conditioning equipment

Airplanes

Automobiles

Electric conduits

Electric lines

Electric transformers

Factories

Fences

Food factories

Helicopters

Hydrants

Kitchen cabinets

Lamps

Motor trucks

Presses

Steel works

Vending machines

Water heaters

PAKISTAN**See also**

Gas, Natural—Pipe lines—Pakistan

Hydroelectric plants—Pakistan

PALACES

Presidential palace of Cuba, Havana. 11 Arch

Rec 123:134-7 Ja '58

PALEOBOTANY**Devonian**

Middle or lower Devonian psilophyte flora from central Arizona and its paleogeographic significance. C. Teichert and J. M. Schopf. biblog map diag J Geol 66:208-17, pl 1 Mr '58

Arizona

Middle or lower Devonian psilophyte flora from central Arizona and its paleogeographic significance. C. Teichert and J. M. Schopf. biblog map diag J Geol 66:208-17, pl 1 Mr '58

PALEOCENE period. See Geology, Stratigraphic**—Paleocene****PALEOCLIMATOLOGY**

Climate and the changing sun. E. J. Öpik. 11 map Sci Am 198:35-50+ Je '58

Early climates; clues to source rocks. B. Nagy. diags Oil & Gas J 56:155-6+ J1 14 '58

Paleotemperature analysis of core 280 and pleistocene correlations. C. Emiliani. biblog pl J Geol 66:264-75 My '58

See also

Earth temperature

PALEOGEOGRAPHY

Middle or lower Devonian psilophyte flora from central Arizona and its paleogeographic significance. C. Teichert and J. M. Schopf. biblog map diag J Geol 66:208-17, pl 1 Mr '58

PALEONTOLOGY

Primary factors in biostratigraphy. H. E. Wheeler. biblog diags Am Assn Pet Geol-ogists Bul 42:640-55 Mr '58

Some biostratigraphic concepts. C. Teichert. Geol Soc Bul 69:99-119 biblog(p 117-19) Ja '58

See also

Foraminifera, Fossil

Marine fauna, Fossil

Permian

Specimen of the captorhinid reptile captorhinikos chozaensis Olson, 1954, from the Hennessey formation, lower Permian of Oklahoma. P. P. Vaughn. biblog J Geol 66: 327-32 My '58

Africa

Early man in Africa. J. D. Clark. 11 map Sci Am 199:76-8+ J1 '58

California

Paleontology and stratigraphy of some marine pleistocene deposits in northwest Los Angeles basin, California. P. U. Rodda. biblog 11 maps diag Am Assn Pet Geologists Bul 41:2475-92 N '57

Oklahoma

Specimen of the captorhinid reptile captorhinikos chozaensis Olson, 1954, from the Hennessey formation, lower Permian of Oklahoma. P. P. Vaughn. biblog J Geol 66: 327-32 My '58

Wyoming

Fishing for fossils near Lander, Wyo. 11 Comp Air Max 63:23-4 Mr '58

PALEOTEMPERATURE. See Paleoclimatology**PALEOZOIC period. See Geology, Stratigraphic****—Paleozoic****PALLADIUM**

Constitution of alloys of iron with ruthenium, rhodium, palladium, and silver. W. S. Gibson and W. Hume-Rothery. diags Iron & Steel Inst J 189:243-50 J1 '58

Hydrogenation of butadiene rubber solutions; influence of the solvent with palladium-on-calcium carbonate catalyst. A. I. Yakubchik and G. N. Gromova. biblog Rubber Chem & Tech 31:588-91 J1 '58

Mechanisms of hydrogen producing reactions on palladium; the deuterium-palladium system. S. Schuldiner and J. P. Hoare. biblog diag Electrochem Soc J 105:278-84 My '58

Analysis

Separation of platinum, palladium, rhodium, and iridium by paper electrochromatography. W. M. MacNevin and M. L. Dunton. biblog diags Anal Chem 29:1806-9 D '57

PALLADIUM compounds

Fluorimetric and colorimetric estimation of cyanide and sulfide by demasking reactions of palladium chelates. J. S. Harker and others. biblog Anal Chem 30:93-5 Ja '58

Intermolecular metal-metal bonds and absorption spectra of some nickel(II) and palladium(II) complexes of vic-dioximes. C. V. Banks and D. W. Barnum. biblog Am Chem Soc J 80:4767-72 J 20 '58

Intermolecular metal-metal bonds and solubility of some nickel and palladium complexes of vic-dioximes. C. V. Banks and D. W. Barnum. biblog Am Chem Soc J 80:3579-82 J1 20 '58

Organometallic compounds of palladium (II). G. Calvin and G. E. Coates. Chem & Ind p 160-1 F 8 '58

Palladium complexes of N:N':N''-tetramethyl-O-phenylenediamine. F. H. C. Stewart. Chem & Ind p264 Mr 1 '58

PALLADIUM hydride

Influence of ligands on the Pt-H stretching frequency in a series of complex hydrides of platinum (II); a complex hydride of palladium. J. Chatt and others. biblog Chem & Ind p859-60 J1 5 '58

Thermionic ions from hydrogen palladium. C. H. Bachman and P. A. Silberg. 11 diags J Ap Phys 29:1266-7 Ag '58

PALLETS

Industrial know-how handbook; skids and pallets. 11 diags Mill & Factory 62:MH25 My '58

Movers of materials; equipment types for yard handling of palletized loads. A. T. Gaudreau. 11 Plant Eng 12:122+ Ag '58

New unitizing system for odd shaped, bulky items; pallet boxes. 11 Mod Materials Handling 13:136-7 Mr '58

Pallet racks at 45° angle solve narrow aisle problem. 11 diag Plant 17:54 Je '58

Palletization cuts yard handling costs at Carbide's Institute plant. 11 Mod Materials Handling 13:120-1 F '58

Plywood pallets weather cycle longer. 11 Concrete 66:36-7 F '58

Truck-pallet system paid off; Torrington co. 11 Safety Maint 115:28-30 Mr '58

225-ft palletized transfer unit machines 240 gear housings an hour; GM's Saginaw steering rear div. 11 diag Am Mach 102: 150-1 Ja 13 '58

PALLETS—Continued

- Unit loads trim cost of moving construction materials to chemical maker's new plant site; Union carbide chemicals co. *il Chem Eng* 65:64-5 My 19 '58
- Vendor sets his own standards; unit pack. G. C. Thomas, *il Mod Materials Handling* 13:114-15 Je '58
- West coast goes for big pallets in big way. *il Mod Materials Handling* 13:74-5 F '58
- What Europe can tell us about pallet pools. W. H. Sardo, Jr. *il map Mod Materials Handling* 13:118-16 Mr '58

PALM oil

- Judging the quality of palm oil. P. I. Smith. *Am Perfumer & Aromatics* 71:32 My '58

PALMITIC acid

- Preparation of pure palmitic acid and a by-product plasticizer from cottonseed oil. F. C. Magne and others. *Am Oil Chem Soc J* 35:477-9 S '58

PAMPHLETS

- Scouts publish chemistry pamphlet. *il Chem & Eng N* 35:90-1 D 2 '57

PANAMA

- See also*
Petroleum—Panama
Public health—Panama

PAN-AMERICAN congress of pharmacy and biochemistry

- Congress, 4th, Washington, D.C. Nov. 3. Drug & Cosmetic Ind 52:155-74 F '58

PAN-AMERICAN highway

- Expressway completion to bring economic growth. D. Wakeck. *il Pub Works* 89:75-6 F '58

PANCREAS**Diseases**

- Care of children with nephrosis and cystic fibrosis of the pancreas in a crippled children program. S. G. Dodd and V. Shannon. *bibliog Am J Pub Health* 48:15-21 Ja '57

PANEL coils. See Coils, Pipe**PANELING**

- Ceramic panels; old face, new form. *il diags Arch Rec* 122:223 N '57
- Modular panels cut partition costs. R. M. Doyle. *il Plant Eng* 12:128 Ja '58
- New panels compete with wood; Battelle's cement-based material. *Chem & Eng N* 36:64 Je 16 '58
- Panels which polarize light. *il diags Arch Forum* 109:136-8 S '58
- Tile curtain wall panels add new dimension to construction. *il Cer Ind* 69:88-9 N '57
- Wall shutters with plywood facings. *il Engineering* 186:160 Ag 1 '58

PANELING, Plastic

- Longest cast acrylic sheets. *il Mod Plastics* 35:186 Mr '58
- Molten slag's heat doesn't harm panes; fire-retardant, glass fiber reinforced polyester resin. *Iron Age* 180:164-4 N 21 '57
- Plastic panel coverings handle tough plant conditions. P. N. Cheremisinoff. *il Chem Eng* 65:152-4 My 5 '58
- Plastic panels for architectural use. *il Plastics World* 16:24 F '58

PANELS, Instrument. See Instrument panels**PANHANDLE eastern pipe line company**

- Michigan Consolidated asks \$17 million, charges Panhandle with improper sales. *Gas Age* 121:34 Mr 6 '58

PANTHEINE

- Requirement of cytidine triphosphate for the biosynthesis of phosphopantetheine. G. M. Brown. *Am Chem Soc J* 80:3161 Je 20 '58

PANTOTHENIC acid

- Cholesterol in blood and tissues of adult pantothenic acid-deficient rats. M. O. Osborn and others. *bibliog J Nutrition* 64:313-19 F '58
- Effects of short-term pantothenic acid deficiency in the growing rat. J. J. Barboriak and others. *bibliog J Nutrition* 64:251-7 F '58
- Pantothenic acid deficiency and its effect on the integrity and functions of the intestines. T. F. Zucker. *bibliog* (29 titles) *il Am J Clinical Nutrition* 6:65-74 Ja '58

PAPAIN

- Effectiveness of commercial papain in meat tenderization. S. Weiner and others. *bibliog Food Tech* 12:248-52 My '58
- Fractionation of commercial papain by ion exchange. O. Gawron and F. Drais. *bibliog J Agri & Food Chem* 6:615-17 Ag '58

PAPER

- Paper as an engineering material. M. W. Riley. *bibliog il Materials in Design Eng* 48:107-18 Ag '58 (reprints 35c)

- Review of statistical problems involved by three distinct major dimensions of paper. N. Shoumatoff. *il Tappi* 41:sup 195A-5A Je '58

- TAPPI paper-plastics conference, 12th, Cincinnati; with abstracts of papers. *Paper Tr J* 141:24-7 O 28 '57; *Tappi* 40:sup 127A-30A N '57

- Versatile new reinforcing paper. *il Mod Plastics* 35:164 J1 '58

See also**Creme paper****Newsprint paper****Waste paper****Wood pulp****Wrapping paper****Analysis**

- Ash in paper; proposed revision of TAPPI standard T413 m-54. *Tappi* 41:sup 127A-8A J1 '58

- Detection of carboxymethyl cellulose in rosin size and paper; abstract. F. Blechinger. *Paper Ind* 40:251-2 J1 '58

- Indicators for volumetric analyses; proposed revision of TAPPI standard T 609. *Tappi* 41:sup 174A Je '58

Brightness

- Alinc brightness meter. W. M. Ackerman. *il diags Tappi* 41:sup 157A-8A My '58
- Brightness of paper and paperboard; proposed revision of TAPPI standard T452 m-48. *Tappi* 41:sup 129A-33A J1 '58

- Investigation of the reuse of black liquor in kraft pulping on bleaching to high brightness levels. M. N. May and J. R. Peckham. *Tappi* 41:30-3 F '58

- Use of phosphoric acid for brightness control of book paper containing calcium carbonate. J. H. Dinius. *bibliog Tappi* 41:93-6 F '58

Color

- Carbonyl groups in pulp and color reversion; abstract. W. H. Rapson and K. A. Hakin. *Paper Ind* 39:725-6 N '57

- Problems associated with the manufacture of colored papers for decorative high-pressure laminates. D. A. Knight. *Tappi* 41:sup 244A-7A Je '58

- Use of high-speed dispersion unit as applied to production of pigmented paper coatings. L. J. Slentz. *il diags Tappi* 41:sup 246A-9A My '58

- Water retention test in evaluating coating color. J. C. Stinchfield and others. *bibliog il Tappi* 41:77-9 F '58

Dirt content

- See also*
Paper making—Dirt problem

Dyeing

- See* Dyes and dyeing—Paper

Expansion and contraction

- Dimensional stability problems in converting and processing punched cards. J. L. Morton. *il diags Tappi* 41:124-3 Mr '58

- Dimensional stabilization of paper. W. P. Ericks and R. L. Slatery. *Tappi* 41:38-41 Ja '58

- Laboratory investigations into the dimensional stability of paper. L. S. Nordman. *bibliog Tappi* 41:23-30 Ja '58

- Methods of affecting the dimensional stability of paper. H. O. George. *Tappi* 41:31-3 Ja '58

- Paper stretches two ways: called Kraftman Clupak. *il Chem & Eng N* 36:56 F 10 '58

- Problems caused by dimensional instability of paper in the manufacture of glue bonded coated abrasives. A. J. Kirsch. *bibliog diags Tappi* 41:18-19 Ja '58

- Shrink process makes paper shock resistant: Clupak process. *il diags Chem Eng* 65:84-4 Mr 10 '58

- Stretchable paper ready for job. *Product Eng* 29:17 F 24 '58

- Westvaco; stretchable paper product of unusual strength; Clupak. *il Tappi* 41:sup 124A-6A Mr '58

Bibliography

- Survey of literature on the dimensional changes of paper with changes in humidity. F. W. Lorey. *bibliog Tappi* 41:sup 233A-6A My '58

Folding

- See also*
Paper board—Folding

Gloss measurement

- Factors influencing sheet smoothness; abstract. F. Wultsch. *Paper Ind* 39:725 N '57

PAPER—Gloss measurement—Continued

Gloss stability of waxed papers, F. J. Hughes and D. C. Walker, bibliog *il* Tappi 41:280-3 Je '58

Specular gloss of waxed paper at 20°; TAPPI suggested method T653 sm-53, diag Tappi 41:sup 124A-6A Ja '58

Standardization of test for specular gloss of paper at 75°; TAPPI standard T 480 m-51, R. S. Hunter, bibliog *il* diags Tappi 41:385-96 Ag '58

Moisture content

Hurletron moisture control, *il* diags Paper Ind 40:92-3+ My '58

Moisture in paper and paperboard by toluene distillation; revision of TAPPI tentative standard T 484 m-53, diag Tappi 41:sup 168A-9A Ap '58

New web conditioner controls addition of moisture to paper, L. Engel, *il* Tappi 40:sup 202A-4A N '57

Some aspects of moisture measurement in paper and paperboard, M. Yezek, Tappi 41:sup 193A-5A Ag '58

Uncertainty factor in continuous moisture determinations in paper; abstract, Paavo-Kujanen and A. Hollming, Paper Ind 39:938 F '58

Bibliography

Survey of literature on the dimensional changes of paper with changes in humidity, F. W. Lorey, bibliog Tappi 41:sup 233A-6A My '58

Permeability

Instrumentation studies; Sheffield porosimeter, K. W. Hardacker and others, *il* diags Tappi 41:sup 231A-8A Ag '58

Moisture-vapor transmission testing, F. M. Corney, *il* Instruments & Automation 31:1201 JI '58

Spreading of low vapor pressure liquids in paper, T. Gillespie, bibliog diags J Colloid Sci 13:32-50 F '58

Prices

Price behavior in the paper industry, L. T. Stevenson, Tappi 41:sup 40A+ My '58

Printing properties

Factors which affect the printability of coated paper and how they can be controlled, L. P. Crane and B. E. Majani, *il* diags Tappi 41:sup 196A-206A Ag '58

How the inkmaster looks at paper, G. J. Huelsman, Tappi 40:sup 169A-71A N '57

Improved method for the determination of the lowering of the surface tension of dampening fluids caused by surface active substances present in offset paper, J. H. Bitter, Tappi 41:433-7 Ag '58

Influence of some mechanical properties on the printability and printing quality of paper, R. A. Diehm, Tappi 41:sup 153A-6A F '58

Paper and paperboard in lithography, R. F. Frederick, Tappi 41:sup 168A-7A My '58

Paper industry meeting litho quality requirements, R. L. Drake, *il* diag Inland Ptr 141:96-7+ My '58

Printability studies on a survey series of paperboards and coated papers, J. M. Fet-sko, bibliog (28 ref) *il* Tappi 41:49-63 F '58

Printing quality paper's part in it, M. C. Rogers, Tappi 41:sup 158A-9A Mr '58

Purchases of graphic arts material, G. H. De Mann, Tappi 40:sup 171A-3A N '57

Smoothness measurement

Gurley-Hill S-P-S smoothness test evaluation of sack paper for nonskid properties, R. P. Anderson, Tappi 41:sup 150A-1A My '58

Institute of paper chemistry friction meter, W. W. Apple, *il* diag Tappi 41:sup 151A-2A My '58

Standards

Formation standard, C. J. Moen, Tappi 41:sup 212A-14A Ap '58

Strength

Beater addition of latex and effect of particle size distribution, B. Andersson and V. Stannett, *il* Tappi 40:899-900 N '57

Frag tester sack paper tester no. 831, R. P. Anderson, Tappi 41:sup 164A-5A Mr '58

Importance of fiber strength to sheet strength, J. A. Van den Akker and others, bibliog *il* diag Tappi 41:416-25 Ag '58

Interfiber bond strength of paper, A. F. Blockman and W. C. Wikstrand, *il* diags Tappi 41:sup 191A-4A Mr '58

Nitrile latex and wet-strength resin combinations; beater addition at low percentage levels, R. E. Benton, Tappi 40:944-51 D '57

Paper, cotton respond; chemical treatment enhances cellulose materials, helps them meet new demands, *il* Chem & Eng N 36:51-2 S 22 '58

Preliminary development of the Sisalkraft internal bond tester, F. F. Newkirk and M. I. Holt, Tappi 41:sup 202A Mr '58

Role of small quantities of neoprene in paper, D. Graham, Tappi 41:231-6 My '58

Study of improved strength in paper made from low-substituted carboxymethylcellulose pulps, K. K. Talwar, bibliog Tappi 41:207-15 My '58

Van der Korput tensile-strength tester, F. B. Elmore, Jr. *il* diags Tappi 41:sup 155A-7A My '58

Zero-span breaking length of pulp; revision of suggested method of T 231 sm-53, diags Tappi 41:sup 171A-4A Je '58

Testing

Frag tester sack paper tester no. 831, R. P. Anderson, Tappi 41:sup 164A-5A My '58

Gurley-Hill S-P-S smoothness test evaluation of sack paper for nonskid properties, R. P. Anderson, Tappi 41:sup 150A-1A My '58

Instron tester, R. P. Anderson, Tappi 41:sup 158A-9A My '58

Instrumentation studies; automatic recording of the load elongation characteristic of paper; table model Instron (universal testing instrument), J. A. Van den Akker and K. W. Hardacker, *il* Tappi 41:sup 224A-31A Ag '58

Interfiber bond strength of paper, A. F. Blockman and W. C. Wikstrand, *il* diags Tappi 41:sup 191A-4A Mr '58

Laboratory investigations into the dimensional stability of paper, L. S. Nordman, bibliog Tappi 41:23-30 Ja '58

Stiffness measurements of paper, A. H. H. van Roven, diags Tappi 41:sup 194A-6A My '58

Van der Korput tensile-strength tester, F. B. Elmore, Jr. *il* diags Tappi 41:sup 155A-7A My '58

See also

Paper—Printing properties

Paper, Coated—Testing

PAPER, Asphalt coated

Hot oil heater aids process, saves company \$20,000 annually; asphalt-coated paper; Baldwin-Hill co. D. Merrill, *il* Plant Eng 12:121-2 O '58

PAPER, Coated

Factors which affect the printability of coated paper and how they can be controlled, L. P. Crane and B. E. Majani, *il* diags Tappi 41:sup 196A-206A Ag '58

Printability studies on a survey series of paperboards and coated papers, J. M. Fet-sko, bibliog (28 ref) *il* Tappi 41:49-63 F '58

Sealing strength of wax-polyethylene blends, D. S. Brown and others, bibliog diags Tappi 41:295-300 Je '58

See also

Paper coating

Testing

Microsectional studies of coated book paper, R. L. Gaiser, *il* Tappi 41:sup 193A-6A Ja '58

Water retention test in evaluating coating color, J. C. Stinchfield and others, bibliog *il* Tappi 41:77-9 F '58

PAPER, Crepe. See Crepe paper

PAPER, Glass

Glass-flake paper, a new electrical insulation material, L. M. Conklin and M. P. Koerner, *il* Elec Manuf 61:87-91 Je '58

Glass paper; patent, Glass Ind 39:336-7 Je '58

Reversal of electro-osmotic flow in glass fibre paper, R. Thomas, bibliog Chem & Ind p 1671-2 N 30 '57

Simplified technique for the preparation of glass paper impregnated with silicic acid, J. W. Dieckert and others, Anal Chem 30:1442 Ar '58

Use of glass fibers in the paper industry, R. Peterl, Tappi 41:sup 228A-32A My '58

PAPER, Insulating

Battery separator requirements from the standpoint of the battery manufacturer, H. C. Burns, *il* Tappi 41:sup 223A-6A Je '58

Cellulose-base separators for lead-acid batteries, J. R. Thomas, bibliog (25 ref) Tappi 41:sup 187A-91A Mr '58

PAPER, Insulating—Continued

Glass-flake paper, a new electrical insulation material. L. M. Conklin and M. P. Koerner. *Il Elec Manuf* 61:87-91 Je '58

INSULIDUR, another milestone in transformer insulation development. J. G. Ford and others. *Il Power Apparatus & Systems* p804-8 O '58

Laboratory and field tests on 132kv synthetic-resin bonded-paper condenser bushings. J. L. Douglas and A. W. Stannett. *biblog Il diags Inst E E Proc* 105 pt A:278-87; Discussion, 288-93; Reply, 294 Je '58

Paper additive betters insulation of distribution transformer. J. G. Ford and others. *Illec World* 149:30 F 24 '58

PAPER, Laminated

Battery separator requirements from the standpoint of the battery manufacturer. H. C. Burns. *Il Tappi* 41:sup223A-6A Je '58

Hardwood kraft saturating papers for phenolic laminate core stock. W. L. Hearn and H. R. Titus. *Il Tappi* 41:sup204A-6A Je '58

Paper-base laminate is flame retardant. *Il Materials in Design Eng* 48:130 JI '58

Problems associated with the manufacture of colored papers for decorative high-pressure laminates. D. A. Knight. *Tappi* 41:sup244A-7A Je '58

PAPER, Newsprint. See Newsprint paper

PAPER, Photographic. See Photographic paper

PAPER, Waxed

Acceleration of wax oxidation by contact with papermaking materials. G. G. Rumberger. *diag Tappi* 41:300-3 Je '58

Gloss stability of waxed papers. F. J. Hughes and D. C. Walker. *biblog Il Tappi* 41:280-3 Je '58

Mechanism of the fracture of wax seals. R. M. Butler and others. *Il diags Tappi* 41:362-5 JI '58

Paraffin wax and paraffin hot melts in the paper, paperboard, and container industry. L. H. Macomber. *Tappi* 40:sup 174A-5A N '57

Sealing strength of wax-polyethylene blends. D. S. Brown and others. *biblog diags Tappi* 41:295-300 Je '58

Specular gloss of waxed paper at 20°; TAPPI suggested method T653 sm-58. *diag Tappi* 41:sup 124A-6A Ja '58

Test method for adhesion of paraffin wax to milk carton stock. R. H. Salvesen and M. K. Eosefow. *Il Tappi* 41:sup 174A-7A Mr '58

Testing

Factor influencing the staining tendency of waxes. J. Phillips. *Tappi* 41:290-5 Je '58

Relationship of wax crystal structure to the water vapor transmission rate of wax films. R. C. Fox. *biblog Il diags Tappi* 41:283-9 Je '58

PAPER, Wiping. See Wiping paper

PAPER and pulp association. American. See American paper and pulp association

PAPER and pulp mills

Alaska lumber & pulp co. *Tappi* 40:sup 140A-2A D '57

Burnaby plant of Sidney roofing and paper co. *Id.* *Tappi* 41:sup 100A-1A Ja '58

Canadian International paper co. *Il Chem & Ind* p 1047-8 Ag '58

Central paper co. celebrated its 40th anniversary. *Tappi* 41:sup 113A My '58

Corrosion problems in pulp and paper mills, present day answers. D. P. Roberts. *Tappi* 41:sup 140A-2A Ja '58

\$4,000,000 Rayonier woodmill on stream at Grays harbor div. *Il Paper Ind* 40:108 My '58

Industrial engineering in the paper industry. L. Pearson. *Tappi* 41:sup 191A-2A Ag '58

International paper co.'s northern division mills. *Tappi* 41:sup97A-8A Ja '58

Inventory of new plants and facilities; pulp and paper. *Chem Eng* 64:159-60 Mid-N '57

Knowlton brothers 150th anniversary. *Tappi* 41:sup 139A-4A Ap '58

Mead corp. *Tappi* 41:sup 120A-2A Mr '58

Planning a paper mill expansion. F. G. Wilson; K. G. Taylor. *Tappi* 40:sup 160A-6A N '57

Progress in paper mill engineering. A. P. Schnyder. *Tappi* 41:sup38+ Ag '58

Rayonier; chemical cellulose and wood pulp plant. *Tappi* 41:sup 132A-4A F '58

Rayonier dedicates 100,000-ton Georgia cellulose and pulp plant. *Il Paper Ind* 39:927-8 F '58

Research forecasts the southern kraft mill of tomorrow. W. J. Nolan. *Tappi* 41:sup 178A-81A Ap '58

Scott paper co. 1957 annual report. *Tappi* 41:sup 110A My '58

Time and motion studies in the paper industry. E. Christensen. *Tappi* 41:sup 192A-3A Ag '58

Tissue paper mill at Bridgend. *Il Engineer* 205:400-1 Mr 14 '58

Accidents

Photography in accident prevention. E. R. Wallace. *Il Tappi* 40:sup42A+ D '57

Design

Mill design with maintenance in mind. B. M. Hutchins. *Tappi* 41:sup212A-13A Je '58

Electric analogies

Simulation of paper mills; abstract. D. Miller. *Instruments & Automation* 31:652-3 Ap '58

Electric equipment

Ensuring high performance from induction motors; mechanical and electrical maintenance and repair. J. W. Samzelius and R. F. Woll. *Il diags Tappi* 40:sup 193A-201A N '57

Handling materials with three fork lift trucks saves 2500 manhours per year. *Il Mill & Factory* 62:150 F '58

Location and causes of motor failure. D. E. Bivins, Jr. and others. *diags Tappi* 41:sup 163A-82A F '58

Problems of switchgear application in pulp and paper mills. C. A. Fletcher, *diag Paper Ind* 39:991-3 Mr '58

Productive maintenance and your electrical system. T. M. Hushen. *Tappi* 41:sup 146A-7A My '58

See also

Electric driving—Paper and pulp mills

Employees

Industrial relations; where to? W. M. McFeely. *Paper Ind* 39:770-1 D '57

Sales management looks at the mill technical man. F. S. Leinbach. *Tappi* 41:sup26A+ My '58

Equipment

Aluminum applications in the pulp and paper industry. H. W. Fritts and D. G. Vandenberg. *flow chart Il Tappi* 41:sup54A+ Ap '58

Bulk handling system for starch; Consolidated water power & paper co. C. Wittig and F. Kaulakis. *diag Tappi* 40:sup206A-7A D '57

Chesapeake corp. of Virginia expansion program. *Tappi* 41:sup96A-7A JI '58

Corrosion of mild steel in alkaline pulping liquors. R. B. Kesler and J. F. Bakken. *biblog Tappi* 41:97-109 Mr '58

Crystal tissue co. development program. *Il Tappi* 40:sup 137A-8A N '57

Eastern corporation enters bleached kraft field. R. M. Ludwig. *Il Paper Ind* 40:286-91+ cover Ag '58

Expansion at Middletown; Crystal Tissue starts up new Yankee machine. *Il Paper Ind* 39:710 N '57

Feedwater equipment designs and methods. L. Limon. *diags Tappi* 41:sup236A-41A Je '58

From Elk Falls to Antioch; a unique Crown-Zellerbach operation. A. W. J. Dyck. *Il Paper Ind* 39:584-9+, 684-8+ O-N '57

Georgia-Pacific paper co. has opened its \$22 million kraft plant. *Il Tappi* 41:sup 105A-7A My '58

Georgia-Pacific's Toledo mill in full operation. *Il Paper Ind* 40:156-60, cover Je '58

Heat exchange equipment in the modern paper mill. W. Pittam. *Tappi* 41:sup 190A-1A Ag '58

Instrumentation studies. J. A. Van den Akker and others. *Il diags Tappi* 41:sup224A-38A Ag '58

Instrumentation, the combined tools of measurement and control. M. B. Newell. *diags Tappi* 41:sup216A-22A Je '58

Monel nesting cups insulation maintenance costs; Southern kraft div. of International paper co. *Il Paper Ind* 40:91 My '58

Neutral sulphite recovery process. W. J. Darmstadt. *diags Tappi* 41:sup 147A-9A Mr '58

New Fabricas de papel Tuxtepec pulp and paper mill. *Il Tappi* 41:sup89A-91A JI '58

New Gulf States' pulp mill uses continuous process. A. W. J. Dyck. *Il diag Paper Ind* 40:16-23+ Ap '58

PAPER and pulp mills—Equipment—Continued

New look at Otsego falls paper mills division of Menasha wooden ware corp. R. C. Beveridge and C. C. Saxe. *Il Tappi* 41:sup 154A-5A J1 '58

Planning economical kraft mill evaporators. R. E. Florine and W. G. Dedert. *Il Chem Eng Prog* 54:64-8 Ap '58

Portals (John Allen & sons) Ltd.; Stowford paper mill. *Il Chem & Ind* p801 Je 28 '58
Riegel Carolina pulp and paper plants. *Il Tappi* 41:sup 133A-7A Ag '58

St. Cuthberts paper works. *Chem & Ind* p793-9 Je 28 '58

Stock preparation system for a fine grade paper mill. W. P. Nesbitt and L. D. Ketchum. *Il plan diag Tappi* 41:sup 226A-8A Je '58

Study of corrosion resistant materials suitable for high temperature service in recovery units. F. E. Hutton. *Tappi* 41:sup 130A-1A My '58

There is a greater stress on quality; pulp and paper. J. T. Dykes. *Il Can Chem Process* 42:101-4 S '58

Trends in design for the chemical recovery unit in the alkaline pulping industry. V. P. Owens. *bibliog diag Tappi* 41:sup 142A-7A Mr '58

Use of high-speed dispersion unit as applied to production of pigmented paper coatings. L. J. Slentz. *Il diag Tappi* 41:sup 246A-9A My '58

Use of pipe, fittings, valves and pumps in the pulp and paper industry. R. L. Allen, Jr. *Paper Ind* 40:24-6+, 86-8+, 161-2+, 232-4, 292-3+, 360-1 Ap-S '58

Wiggins, Reape & co. *Il Chem & Ind* p815 Je 28 '58

See also

Digesters (paper making)

Paper board mills—Equipment

Paper making machinery

Experimental plants

Brown co. pulp pilot mill. *Il Tappi* 41:sup 123A-4A Mr '58

Chemical recovery from neutral sulphite semi-chemical spent liquors by the atomized suspension techniques. G. Lee and W. H. Gauvin. *bibliog flow sheet Il diag Tappi* 41:110-16 Mr '58

Fires and fire protection

Fire prevention, fire fighting. M. M. Batzer. *Tappi* 41:sup 106A+ Ap '58

Heating and ventilation

Air systems in connection with the utilization of heat in paper mills. C. E. Blanchard. *Il diag Tappi* 41:sup 187A-9A Ag '58

Lighting

Lighting design for pulp and paper mills. *Tappi* 41:sup 120A-3A Ja '58

Lighting in the paper industry. D. R. Phillips. *Il diag Paper Ind* 39:600-1, 697-9, 778-9+ O-D '57

Location

Soil mechanics, a tool in plant site selection. E. S. Persons. *Il diag Paper Ind* 40:97-5 My '58

Maintenance and repair

Electrical maintenance training; methods and bibliography. *Tappi* 40:sup 174A-7A D '57
Productive maintenance and your electrical system. T. M. Hushen. *Tappi* 41:sup 146A-7A My '58

Productive maintenance; the time is now! C. E. Sutton, Jr. *Tappi* 41:sup 143A-5A My '58

Program for effective maintenance. F. D. Whitehead, Jr. *Tappi* 41:sup 140A-3A My '58

Management

Application of statistical methods in the pulp and paper industry. A. G. Schöning. *Tappi* 41:sup 184A-8A My '58

My responsibility to others in my company. R. R. Driscoll. *Paper Ind* 39:780-1 D '57

Operations research; Nekoosa-Edwards paper co. abstract. D. Lichty. *Tappi* 41:sup 127A-8A F '58

Toughest of all problems; people, indubitably. W. P. Stevens. *Tappi* 40:sup 22A+ D '57

Power

Approximate requirements for electric power in pulp bleaching; data sheet. *Tappi* 41:sup 141A Mr '58

By-product steam power. W. E. Knight. *Tappi* 41:sup 185A-7A Ag '58

Characteristics of steam control valves. L. Walter. *Il diag Paper Ind* 39:772-5+ D '57

Combustion and safety controls for gas firing; Scott Paper plant. F. Westfall. *Tappi* 41:sup 149A-50A Mr '58

Determination of pulp mill steam plant capacity. F. O. White. *Tappi* 41:sup 184A-5A Ag '58

Great Northern Paper adds new plant for process steam and power. R. V. Weldon and W. W. Knight. *flow diag Il diag Power Eng* 62:86-9 S '58

Method of comparison and evaluation of power plant equipment when competing for capital dollars; panel discussion. *Tappi* 41:sup 166A-7A Ap '58

New boiler gives Blandin Paper operating flexibility. *flow diag Il diag Power Eng* 61:78-80 N '57

Nuclear heat for paper mills? G. Perazich. *Nucleonics* 16:68 F '58

Steam generators for multiple fuel firing; suspension burning of bark and coal. M. O. Funk. *Il diag Combustion* 30:49-54 O '58

Turbine generators for paper mill power plants simplify control of mill power and heat balance. W. B. Wilson and G. H. Gibb. *Il diag Tappi* 40:885-94 N '57

Quality control

Application of statistical methods. J. F. Theriault. *Tappi* 40:sup 197A-8A D '57

Applications of statistical quality control in administrative areas of a company. D. L. Lobsinger. *Tappi* 40:sup 209A-11A N '57

Approach to statistical quality control. W. I. Arnold. *Tappi* 41:sup 189A-91A Je '58

Audit testing; a sound investment. Minnesota and Ontario paper co. C. W. Carter and L. C. Paulson. *Il Ind Quality Control* 14:8-11 Mr '58

Quality control in the finishing room. W. E. Carlson. *Tappi* 40:sup 198A-200A D '57

Quality control program. C. W. Carter and L. C. Paulson. *Tappi* 40:sup 207A-9A D '57

Quality from the manufacture viewpoint. G. C. Lecky. *Tappi* 40:sup 184A-5A N '57

Review of statistical problems involved by three distinct major dimensions of paper. N. Shoumatoff. *Il Tappi* 41:sup 193A-5A Je '58

Statistics is spinach; relationship between statistics and the pulp and paper industry. H. E. Young. *bibliog diag Tappi* 40:sup 194A-7A D '57

Use of statistics in the paper industry. F. C. Hartwell. *Tappi* 41:sup 191A-3A Je '58

What quality control can do for the production man. L. R. Gwaltney. *Tappi* 41:sup 198A-9A Je '58

Safety measures

Mando takes Scott award second straight year. *Il Paper Ind* 39:700-1+ N '57

National safety council Pulp and paper section annual meeting. Oct. 21-24, Chicago. *Paper Ind* 39:690-1+ N '57

Photography in accident prevention. E. R. Wallace. *Il Tappi* 40:sup 42A+ D '57

Waste

Activated sludge treatment of wastes from a kraft and neutral sulphite mill. B. V. Pearman, Jr. *flow diag Tappi* 41:sup 206A-11A Ag '58

Application of instrumentation to pulp mill atmospheric discharges. D. F. Adams and R. K. Koppe. *bibliog Tappi* 41:366-72 J1 '58

Application of the atomized suspension technique. W. H. Gauvin. *flow sheets diag Tappi* 40:866-72 N '57

Biological effects of various fractions of kraft mill effluents; abstract. R. Berthier and others. *Paper Ind* 40:262 J1 '58

Broke handling system speeds pulp recovery; P. H. Glatfelter co. *Il diag Automation* 5:70 Ag '58

Contamination of pollution in the Yaquina River estuary. W. V. Burt and L. Marriage. *map Sewage & Ind Wastes* 29:1386-9 D '57

Corrosion of mild steel in alkaline pulping liquors; kraft white liquor. R. B. Kesler and J. F. Bakken. *bibliog Tappi* 41:97-102 M '58

Development of methods for using bioassays in the control of pulp mill waste disposal. C. E. Warren and P. Doudoroff. *bibliog Tappi* 41:sup 211A-16A Ag '58

Dimethyl sulfide production from kraft pulp mill black liquor. W. G. Meyer and J. G. Coma. *flow diag Chem Eng Prog* 54:178-+ My '58

PAPER and pulp mills—Waste—Continued

- Economics of thermal compression evaporation; pulp mill waste cooking liquors, R. V. Kleinschmidt and others. *Tappi* 41:86-90 F '58
- Effect of biological imbalance in streams; *sphaerotilus natans* infestation. W. A. Cawley. *bibliog* *il Sewage & Ind Wastes* 30:1174-82 S '58
- Evaluation of mesh entrainment separators in multieffect evaporators. O. P. Morgan. *Tappi* 41:sup 137A JI '58
- Floitation processes use and results in paper mill waste water clarification. O. F. Hutchinson. *diags* *Tappi* 41:sup 158A-62A JI '58
- Investigation of the reuse of black liquor in kraft pulping on bleaching to high brightness levels. M. N. May and J. R. Peckham. *Tappi* 41:90-3 F '58
- Magnesia pulping breaks pollution stalemate; Brown co. flow sheet (p 114-17) *il Chem Eng* 65:60+ S 8 '58
- Manometric method for the rapid, practical determination of biochemical oxygen demand. B. O. Dillingham and others. *il Tappi* 41:321-33 JI '58
- Modern approaches to pulp and paper mill waste problems. H. W. Gehm. *il Sewage & Ind Wastes* 29:1370-6 D '57
- New process power from organic wastes; Zimmermann process. *Chem Eng Prog* 54:130+ Mr '58
- Precipitators save \$3,000; salvage sulphates from paper plant flue gases. *il Elec World* 149:100 Mr 17 '58
- Pulp and paper mill waste water treatment. N. C. Burbank and C. D. Eaton. *flow diag plan diags* *Tappi* 41:sup 195A-3A Je '58
- Pulp mills research program at the University of Washington. V. F. Felicetta and J. L. McCarthy. *flow sheet il diag* *Tappi* 40:851-66 *bibliog* (103 ref. p 864-6) N '57
- Pulp, paper, and pollution. *il Ind & Eng Chem* 50:sup 33A-4A Ap '58
- Soda ash air pollution; Mead corp. *Tappi* 40:sup 135A-6A N '57
- Spray irrigation of certain sulfate pulp mill wastes. S. C. Crawford. *il plan Sewage & Ind Wastes* 30:1266-72 O '58
- Study of black liquor oxidation in towers packed with asbestos cement plates. F. E. Murray. *bibliog il Can J Chem Eng* 36:69-72 Ap '58
- Use of additives in the clarification of white liquor. F. G. Pavlick and J. McPherson. *Tappi* 41:sup 208A-10A Je '58
- Waste troubles at new plant; Georgia Pacific paper co.'s plant in Toledo, Ore. *il Eng N* 160:30 Ap 3 '58
- Water and an example of the economics of handling paper machine effluent. F. C. Holmes. *Tappi* 41:sup 206A-8A Je '58
- See also*
Paper making—By-products
Sulfite liquor

Bibliography

- Review of the literature of 1957 on sewage, waste treatment, and water pollution; pulp and paper wastes. *Sewage & Ind Wastes* 30:731-4 Je '58

Water supply

- See* Water supply for paper and pulp mills

California

- Fiber industries in northern California. C. R. P. Cash. *Tappi* 40:sup 48A+ N '57
- Wood pulp and pulp mill potentialities in California. T. F. Arvola. *Tappi* 40:sup 158A-60A N '57

Ontario

- Pulp and paper, the basic industrial force. *il Can Chem Process* 41:34-5 N '57

PAPER associations

See also

- Technical association of the pulp and paper industry

PAPER board

- Linerboard by the foot. W. H. Boatwright and J. F. Turner. *Tappi* 41:sup 151A-2A Mr '58

See also

- Wall board

Brightness

- Brightness of paper and paperboard; proposed revision of TAPPI standard T452 m-48. *Tappi* 41:sup 129A-33A JI '58
- Color variation in paperboard. J. T. Patterson and others. *Tappi* 41:20-3 Ja '58

Folding

- Effect of aging on certain properties of folding boxboard. W. H. Alken. *Tappi* 41:sup 196A-200A Mr '58
- Study of some factors which affect the stiffness of folding boxboard. S. W. Trosset and W. H. Alken. *bibliog* *Tappi* 41:sup 177A-86A Mr '58

Manufacture

- American Box Board's new mill at Filer City, A. W. J. Dyck. *flow chart il Paper* 104:224-31 JI '58
- Cornell paperboard products co. uses new method of starch addition. C. H. Fletcher. *il diags* *Paper Ind* 39:912-13+ F '58
- Functional coatings and adhesives. L. J. Wood, jr. *il Paper Ind* 39:853-5 Ja '58
- Type, use, and physical properties imparted by starches in wet-end sizing of paper and board. P. J. Shirley, jr. *Tappi* 41:sup 167A-9A Mr '58
- Use of sulphuric acid in the sizing of linerboard. D. D. Taylor. *diags* *Tappi* 41:sup 131A-3A Ja '58
- Wasteboard and the paperboard industry. M. M. Scher. *Tappi* 41:sup 184A-6A Ap '58

See also

- Paper board, Corrugated—Manufacture

Moisture content

- Moisture in paper and paperboard by toluene distillation; revision of TAPPI tentative standard T 484 m-53. *diag* *Tappi* 41:sup 168A-9A Ap '58
- Some aspects of moisture measurement in paper and paperboard. M. Yezek. *Tappi* 41:sup 193A-6A Ag '58

Printing properties

- Paper and paperboard in lithography. R. F. Frederick. *Tappi* 41:sup 165A-7A My '58
- Printability studies on a survey series of paperboards and coated papers. J. M. Pet-sko. *bibliog* (28 ref) *il Tappi* 41:49-63 F '58
- Surface application to improve printability of paperboard. A. R. Hurst. *Tappi* 41:436-7 Ag '58

Testing

- Effect of aging on certain properties of folding boxboard. W. H. Alken. *Tappi* 41:sup 196A-200A Mr '58

PAPER board, Corrugated

- Corrugated containers conference. 7th. Philadelphia. Oct. 23-24. *Tappi* 41:sup 143A-66A Ja '58
- Corrugated containers conference. 7th. Philadelphia. Oct. 23-24; with abstracts of papers. *Tappi* 40:sup 130A-5A D '57
- Corrugated for heavyweights! *il Mod Materials Handling* 13:117 Mr '58
- New corrugated board replaces wood crates; Mack trucks, inc. C. H. Taylor. *il Mod Materials Handling* 13:108-9 S '58
- Paperboard models aid weldment design. J. C. Horth. *il diags* *Machine Design* 30:132-4 F 6 '58
- Technical association of the pulp and paper industry. 42d annual meeting; corrugated containers session. New York, Feb. 19; addresses. *Tappi* 40:sup 174A-92A N '57

Manufacture

- Further studies on flute contour. C. D. Nitchie. *diags* *Tappi* 40:sup 181A-4A N '57
- Future of speed in the corrugating industry. L. J. Wood, jr. *Tappi* 40:sup 179A-81A N '57
- Use of resin adhesives in combining corrugated board. R. M. Walsh. *Tappi* 40:sup 175A-6A N '57

PAPER board industry

- Forecast of 1958 paper production. L. T. Stevenson. *Tappi* 41:sup 30A+ Ja '58
- Optimistic future for paper in the next decade; pulp, paper and board. A. K. Beggs. *Paper Ind* 40:89-90+ My '58
- Pulp, paper, and board in the United States. W. L. Neubrech and W. H. Pederson. *Tappi* 40:sup 12A+ N '57
- Trends in the pulp, paper and board industry; an economic review. W. L. Neubrech. *Paper Ind* 39:840+ Ja '58

Statistics

- Production of paper and paperboard in 1957. *Tappi* 41:sup 97A-8A My '58
- Pulp, paper, and board in the United States; economic review for 1957. W. H. Pederson. *Tappi* 41:sup 14A+ Je '58

PAPER board mills

John-Manville's North Bay insulating board plant. *Il Tappi* 40:sup 138A-9A N '57

Equipment

American Box Board's new mill at Filer City, A. W. J. Dyck. flow chart *Il Paper Ind* 40:224-31 JI '58

Balanced cut-off knives. J. P. Hass. *Il diags Tappi* 41:sup 149A-55A Ja '58

Board mill at Thatcham. Colthrop board and paper mills, Ltd. *Il Engineer* 205:854-7 Je 6 '58

Colthrop board & paper mills Ltd. *Il Chem & Ind* p680 Je 7 '58

Enso-Gutzeit oy, Kaukopää mill. V. Luos-tarinen and K. Vartio. *Tappi* 40:sup 142A-3A D '57

Gigantic log- and chip-handling system serves Abitibi's new Alpena mill. R. E. Place. *Il Paper Ind* 40:362-3, 365 S '58

Huntingdon and Porter partition assemblers. J. W. Honeysett, Jr. *Tappi* 40:sup 176A-9A N '57

Making carton board: Colthrop board and paper mills. *Il Engineering* 185:764-5 Je 13 '58

St Regis completes southern expansion. *Il diags Paper Ind* 39:908-11+, 984-90+ F-Mr '58

Power

New Abitibi mill makes the most of process steam for power. E. H. Barry. *Il Power Eng* 62:64-6 Ag '58; Same. *Tappi* 41:sup 60A+ Ag '58

PAPER box factories**Equipment**

Sheet handling in the modern corrugated box shop. T. Ley. *Tappi* 40:sup 186A-9A N '57

PAPER boxes

Effect of aging on certain properties of folding boxboard. W. H. Aiken. *Tappi* 41:sup 196A-200A Mr '58

Eight food cartons hailed as tops; Folding paper box associations annual carton competition. *Il Food Eng* 30:85 Ap '58

Study of some factors which affect the stiffness of folding boxboard. S. W. Trosset and W. H. Aiken. *bibliog Tappi* 41:sup 177A-86A Mr '58

Manufacture

Boستitch Equalok gluer and operating experience with several units. R. H. Bowers. *Tappi* 41:sup 153A-61A Ja '58

Continental Can Fibre drum and corrugated box div. *Tanol* 41:sup 143A-5A Ap '58

Three types of S&S automatic folder gluers and their operating characteristics. A. F. Shields. *Tappi* 41:sup 164A-6A Ja '58

Universal glue lap machine and my operating experience in developing this machine. A. Richardson. *Tappi* 41:sup 161A-4A Ja '58

Printing

New developments in printer slotters. L. J. Baudis; H. W. Moser. *Tappi* 40:sup 189A-92A N '57

Plastic printing dies. J. F. Mitchell. *Tappi* 41:sup 157A-8A Ja '58

Preprinted liners with registered cut-off and rotogravure printing for corrugated cases. A. R. Shade. *Tappi* 41:sup 155A-7A Ja '58

Testing

Ohio Boxboard score bend tester. J. M. Kernan and R. L. Lewis. *Il Tappi* 41:sup 200A-1A Mr '58

PAPER chemicals

Inventory of new chemicals and materials; pulp and paper chemicals. *Chem Eng* 64:187 Mid-N '57

Some of the more recent uses of chemicals in the manufacture of wood pulp. W. Beazley. *Paper Ind* 39:310-4, 402, 492, 590, 777 JI-O, D '57

See also

Carboxymethyl cellulose

PAPER chromatography. See *Chromatographic analysis*

PAPER coating

Antiskid coatings and their application. D. Bookshester. *Tappi* 40:sup 156A-8A N '57

Coating of diazotype paper at Ozalid. C. H. Benbrook and others. *Tappi* 41:sup 166A-8A JI '58

Coating study. K. F. Byington. *Tappi* 41:sup 136A-7A Ja '58

Enzyme converted starches as coating adhesives. M. L. Cushing and C. W. Turner. *bibliog Tappi* 41:345-9 JI '58

Functional coatings and adhesives. L. J. Wood, Jr. *Il Paper Ind* 39:853-5 Ja '58

Further studies on the use of a UF concentrate for improving wet rub of starch paper coatings. J. R. Belche, Jr. *Il Tappi* 41:318-20 Je '58

Progress report on the use of a new low odor latex as the sole binder for boxboard coatings. R. L. Hageman and others. *Il Tappi* 41:sup 217A-25A Ag '58

Refined calcium carbonate and its effect on paper coating. R. W. Hagemeyer and G. E. Hall. *Il Tappi* 41:sup 217A-21A Ap '58

Silicone paper coatings. J. W. Keil. *Tappi* 41:sup 232A-5A Je '58

TAPPI coating conference. 9th, Bedford, Pa. *Chem & Eng N* 36:50 Je 2 '58

TAPPI coating conference. 9th, Bedford, Pa. May 14-16. *Tappi* 41:sup 80A-5A JI '58

Use of high-speed dispersion unit as applied to production of pigmented paper coatings. L. J. Slentz. *Il diags Tappi* 41:sup 245A-9A My '58

Water retention test in evaluating coating color. J. C. Stinchfield and others. *bibliog Il Tappi* 41:77-9 F '58

Wetting angle determinations; a tool for evaluation of coating adhesion. S. Orchon. *bibliog Il diags Tappi* 41:33-7 Ja '58

Testing

Laboratory waxing machine. F. Walter and others. *Il A S T M Bul* p58-9 Ja '58

Ultrasonic coating color defoaming. F. R. Adams. *bibliog diags Tappi* 41:sup 173A-7A My '58

PAPER coating, Plastic

Plastic coating in the manufacture of paper food containers. C. G. Morse. *Tappi* 41:sup 60A+ Ja '58

PAPER containers

Putting new convenience in paper cans. *Il Food Eng* 29:34-6 D '57

Switch to paper cups gives yogurt big boost. J. D. Sanderson. *Il Food Eng* 29:80-2 N '57

See also

Paper board, Corrugated

Manufacture

Plastic coating in the manufacture of paper food containers. C. G. Morse. *Tappi* 41:sup 60A+ Ja '58

PAPER drying

Drainage properties of wood fibers; determination and influence of hydration upon drainage. J. E. Ayer. *bibliog Tappi* 41:237-40 My '58

Effect of fluid properties on condensate behavior. R. E. White and T. W. Higgins. *Tappi* 41:71-6 F '58

Heat transfer in hot-surface drying of paper. S. T. Han and T. Ulmanen. *Tappi* 41:185-9 Ap '58

New dryers for no. six at Union bag-Camp paper corp. *Il Paper Ind* 40:178 Je '58

See also

Felts (paper making)

PAPER finishing

Finishing, the orphan of the paper industry. C. Stevens. *Tappi* 41:sup 249A-50A My '58

See also

Paper coating

PAPER handling

Automatic paper roll handling; a result of recent conveyor developments. W. G. Engler. *Il diags Paper Ind* 39:681-3 N '57

Push-button strapping unit cuts time at KVP co. *Il Paper Ind* 39:863-4 Ja '58

Sheet handling in the modern corrugated box shop. T. Ley. *Tappi* 40:sup 186A-9A N '57

PAPER industry and trade

Economic impact of new processes on the pulp and paper industry. L. Eberhardt. *Paper Ind* 39:382-3+ Mr '58

Forecast of 1958 paper production. L. T. Stevenson. *Tappi* 41:sup 30A+ Ja '58

Hope runs high for paper exports. *Chem & Eng N* 36:24 Mr 3 '58

1957-1958 position of the paper industry. J. H. Vogel. *Paper Ind* 39:836-7+ Ja '58

Opportunities I see in the pulp and paper industry. M. Flanders. *Tappi* 41:sup 170A-1A My '58

Opportunities I see in the pulp and paper industry. J. Jacques. *Tappi* 41:sup 171A My '58

Opportunities I see in the pulp and paper industry. T. B. Murdoch. *Tappi* 41:sup 169A-70A My '58

PAPER industry and trade—Continued

- Optimistic future for paper in the next decade; pulp, paper and board. A. K. Egge. Paper Ind 40:89-90+ My '58
- Paper industry; recent developments and prospects. A. N. Rumpf. Tappi 41:sup 14A+ JI '58
- Paper squeeze continues. Chem & Eng N 36: 30 F 17 '58
- Pattern for profit. L. A. Whittle. Tappi 41: sup 48A+ Mr '58
- Personal side of papermaking. P. H. Glat-felter, 3d. Tappi 41:sup 82A+ Je '58
- Pulp and paper; annual review 1957. P. E. Nethercut. II diags Ind & Eng Chem 50: sup 34A-7A Je '58
- Pulp, paper, and board in the United States. W. L. Neubrech and W. H. Pederson. Tappi 40:sup 12A+ N '57
- Scholarship programs of the U.S. pulp and paper industry. T. T. Collins, Jr. and R. H. Collins. bibliog Tappi 41:sup 14A+ Ap '58
- Today's overcapacity and competition in the pulp and paper industry. D. L. Luke. Paper Ind 39:878-80 N '57
- Trends in the pulp, paper and board industry; an economic review. W. L. Neubrech. Paper Ind 39:840+ Ja '58
- See also
- Technical association of the pulp and paper industry

Exhibits

- Franklin Institute museum; pulp and paper making exhibit. T. Coulson. Franklin Inst J 265:63-4 Ja '58
- Paper industry exhibit, Franklin Institute. Tappi 41:sup 137A Ap '58

Statistics

- Production of paper and paperboard in 1957. Tappi 41:sup 97A-5A My '58
- Pulp, paper, and board in the United States; economic review for 1957. W. H. Pederson. Tappi 41:sup 14A+ Je '58

Canada

- Pulp and paper. II Eng J 41:119-22 Ap '58
- Pulp and paper prospects better for 1958? Can Chem Process 42:sup 24A-5A Ja '58
- Three Rivers and the Canadian paper industry. Chem & Ind p672 Je 7 '58

PAPER laboratories

- Bolton research keeps pace with paper production at new lab. II Paper Ind 40:181 Je '58
- John W. Bolton & son's pulp and paper research center. II Tappi 41:sup 100A-2A JI '58

PAPER making

- Action of acid chlorite on certain nonwoody tissues. E. Bennett. Tappi 40:984-5 D '57
- American chemical society 133d national meeting, San Francisco, April 13-18; abstracts of papers of interest to the paper industry. Paper Ind 40:165-7, 171 Je '58
- Degradation of paper stock with or without cleaning; Deculator process. J. J. Jacobson. bibliog II diags Tappi 41:sup 179A-84A My '58
- Effect of certain variables on the causticizing process. C. W. Rothrock, Jr. Tappi 41: sup 211A-4A Je '58
- Evaluation of combinations of starches and natural gums as papermaking aids. M. L. Cushing. bibliog diags Tappi 41:sup 155A-8A JI '58
- Fiber bonding in nylon paper sheets; abstract. G. Prati and S. Pacetti. Paper Ind 39:803 D '57
- Flow characteristics of distributor rolls and perforated plates. H. W. Bennett. bibliog II diags Tappi 40:978-93 D '57
- International mechanical pulping conference, 3d. Quebec, Sept. 10; program. Tappi 41: sup 124A+ Ap '58
- Inventories of new processes and technology; pulp and paper. Chem Eng 65:134 My 5 '58
- Methods of affecting the dimensional stability of paper. H. O. George. Tappi 41:31-3 Ja '58
- Personal side of papermaking. P. H. Glat-felter, 3d. Tappi 41:sup 82A+ Je '58
- Role of small quantities of neoprene in paper. D. Graham. Tappi 41:231-6 My '58
- Semichemical pulps obtained by the use of AlCl₃ salt. P. Marpillero. diag Tappi 41: sup 24A-8A My '58
- Stock preparation. L. G. Shealy. Tappi 41: sup 176A-8A Ap '58
- Stock preparation system for a fine grade paper mill. W. P. Nesbitt and L. D. Ketchum. II plan diag Tappi 41:sup 226A-8A Je '58

- Stock slurry hydraulics. V. P. Head and R. E. Durst. II Tappi 40:981-6 D '57
- TAPPI engineering conference, 12th. Cincinnati, Sept. 23-26; with abstracts of papers. Tappi 40:sup 110A+ N '57
- TAPPI Maine-New Hampshire section fall meeting, Portland, Me. Oct. 25-26. Tappi 40:sup 192A-4A D '57
- TAPPI Virginia-Carolina section meeting. Hopewell, Va. Nov. 1. Tappi 40:sup 181A-3A D '57
- Theory and mechanics of refining. A. J. Felton. Tappi 41:sup 186A-91A Ap '58
- See also
- Digesters (paper making)
- Feits (paper making)
- Paper and pulp mills
- Paper finishing
- Paper making machinery
- Paper research
- Paper sizing
- Technical association of the pulp and paper industry
- Wood pulp

Bacteria control

- Economics of microorganism control in the paper industry. S. J. Buckman and C. P. Kirchen. bibliog Tappi 41:sup 144A-9A JI '58
- Relative toxicity of disinfectants available for use in the pulp and paper industry; 1957 supplement. J. H. Conkey and J. A. Carlson. Tappi 41:sup 12A+ Ag '58

Beating

- Beater addition of latex and the effect of particle size distribution. B. Andersson and V. Stannet. II Tappi 40:899-900 N '57
- Comparative beating of some paper pulps. G. Van Nerveen. Tappi 41:sup 206A-10A My '58
- Internal treatment of paper with polyvinyl acetate; comparison of beater addition and saturation. R. P. Barber and others. Tappi 41:116-18 Mr '58
- Interpretation of the beating process of paper based on the hydrogen-bond theory of the mechanical properties of cellulose sheets. A. H. Nissan. Tappi 41:131-4 Mr '58
- Nitrile latex and wet-strength resin combinations; beater addition at low percentage levels. R. E. Benton. Tappi 40:944-51 D '57
- Properties of elastomers and their application in beater addition. H. Spector. Tappi 41:sup 162A-7A Mr '58
- Structure and properties of paper; study of the mechanisms of beating and interfiber bonding by means of esterification. H. G. Higgins and others. bibliog Tappi 41:193-204 My '58
- Study on tropical woods; influence of beating conditions on sheet properties. K. Lauer. Tappi 41:325-7 JI '58

Bibliography

- Recent books. Published in monthly numbers of Tappi

Bleaching

- Approximate requirements for electric power in pulp bleaching; data sheet. Tappi 41:sup 141A Mr '58
- Black widow bleaching control system. D. N. Obenshain. II diags Tappi 41:1-9 Ja '58
- Bleaching of groundwood pulp with combinations of peroxide and hydrosulphite. R. W. Barton. flow diag Tappi 41:sup 161A-5A Mr '58
- Bleaching of pulps with activated chlorate. P. Marpillero. diags Tappi 41:sup 213A-16A My '58
- Carbonyl groups in cellulose and color reversion; hypochlorite bleaching and color reversion on W. H. Rapson and others. Tappi 41:442-7 Ag '58
- Hypochlorite as the third stage in bleaching aspen neutral sulphite semichemical pulp. N. A. Jappe. bibliog II Tappi 41:224-31 My '58
- Investigation of the reuse of black liquor in kraft pulping on bleaching to high brightness levels. M. N. May and J. R. Peckham. Tappi 41:90-3 F '58
- New look at the bleaching of wood pulps. J. D. Rue. Tappi 40:sup 207A-9A N '57
- Peroxide bleaching of sulfite pulp; abstract. Y. Hentola and others. Paper Ind 39:1052 Mr '58
- Some of the more recent uses of chemicals in the manufacture of wood pulp; wetting agents used in pulp bleaching. W. Beazley. Paper Ind 39:777 D '57

PAPER making—Bleaching—Continued

Use of sodium hydrosulphite for bleaching Italian wood pulp, L. Merlo and others. Tappi 41:sup216A-18A My '58

By-products

Chemical recovery from neutral sulphite semichemical spent liquors by the atomized suspension technique, G. Lee and W. H. Gavvin. bibliog flow sheet II diag Tappi 41:110-16 Mr '58

Neutral sulphite recovery process, W. J. Darmstadt. diags Tappi 41:sup 147A-9A Mr '58

Pulp mills research program at the University of Washington, V. F. Felicetta and J. L. McCarthy. flow sheet II diag Tappi 40:851-66 bibliog (103 ref, p864-6) N '57

Silvichemicals, M. A. Brown. Tappi 41:sup 130A Ag '58

Trends in design for the chemical recovery unit in the alkaline pulping industry, V. P. Owens. bibliog diags Tappi 41:sup 142A-7A Mr '58

See also

Sulfite liquor

Tail oil

Dirt problem

Bauer cleaner operation on a newsprint, T. C. Smyth and E. C. Meckfessel. flow diag II Tappi 41:sup 129A-31A Ja '58

Bird machine co.'s centrifugal cleaners, E. P. Troland. Tappi 41:sup 187A-8A Je '58

Centri-cleaning of kraft bleached pulp ahead of drying machine, T. R. Johnson, Jr. diag Tappi 41:sup 152A-4A Mr '58

Coupling and design of cyclone installations, G. H. Nuttall and I. F. Hendry. bibliog diags Tappi 40:951-65 D '57

Deposits in paper mill systems, R. E. Eddy. Tappi 41:sup210A-13A My '58

Fillers

New polyacrylamide-type flocculant for improved filler retention, J. F. Reynolds and R. F. Ryan. II Tappi 40:918-20 N '57

Freeness testing

Drainage properties of wood fibers; determination and influence of hydration upon drainage, J. E. Ayer. bibliog Tappi 41:237-40 My '58

Effect of different variables on Williams drainage rate test, L. C. Aldrich. bibliog II Tappi 41:453-9 Ag '58

Freeness in pulp; proposed revision of official standard T 227 m-50, diags Tappi 41:sup 170A-4A Ag '58

Freeness of blended sulfite and bookstock, D. S. Davis. Paper Ind 39:918-19 F '58

Neutral sulfite semichemical process

See Paper making—Sulfite process

Patents

Patent reviews, M. Nord. Published in monthly numbers of Paper Industry

United States patents on papermaking; quarterly list (cont), Tappi 41:sup 167A-78A Ja; sup 196A-208A F; sup 192A-206A Ad '58

Pitch problem

Depitching bagasse; Horkel mechanical system for removing pitch and dirt, II Tappi 41:sup 127A-9A Ag '58

Deposits in paper mill systems; pitch deposits, R. E. Eddy. Tappi 41:sup213A My '58

Measuring the effectiveness of pitch control methods on bleached sulphite pulp, R. W. Durand. Tappi 41:sup 171A-3A My '58

Screening

Theory of screening, A. Tirado A. bibliog diags Tappi 41:sup237A-45A My '58

Slime problem

Deposits control, J. R. Sanborn. Tappi 41:sup 142A-4A Ji '58

Deposits in paper mill systems; microbiological slimes, R. E. Eddy. Tappi 41:sup211A-12A My '58

Laboratory testing of biostatic agents recommended for use in the pulp and paper industry, J. H. Conkey. Tappi 41:sup 140A-2A Ji '58

Toxicity of arsenical compounds to microorganisms, R. A. Zabel and F. W. O'Neill. bibliog Tappi 40:911-14 N '57

Soda process

Cold soda semichemical pulping; panel discussion. Paper Ind 39:994-6 Mr '58

Mechanical pulp from hardwood chips for use in book papers, K. L. Snyder and R. Premo. flow diag II Tappi 40:901-44 N '57

Some aspects of alkali refining of pulps, W. M. Corbett and J. Kidd. bibliog (38 ref) Tappi 41:137-44 Mr '58

Special considerations toward improvements of cold soda pulping process, K. J. Brown. Tappi Ind 39:844-50 Ja '58

Stabilization of cellulose towards alkaline degradation, G. Machell and G. N. Richards. bibliog Tappi 41:112-16 Ja '58

Sulfate process

Alkaline pulping conference, 11th, Charleston, S. C. Nov. 5-8; with abstracts of papers, Paper Ind 39:782-4 D '57; Tappi 41:sup18A-102A Mr '58

Bark tolerance of Douglas-fir chips in kraft pulp manufacture, R. M. Samuels and D. W. Glennie. bibliog Tappi 41:250-5 My '58

Cooking bleachable kraft pulp with Kamyr continuous digesters at North Western Pulp and Power, D. Smith and A. C. McCorkin. Tappi 41:sup247A-50A Je '58

Degradation of cellulose in alkaline cooks; abstract, O. Franzon and O. Samuelson. Paper Ind 40:192 Je '58

Deodorization of kraft pulp mill exhausts, F. Schneider. diags Tappi 41:sup70A+ Ja '58

Georgia-Pacific paper co. has opened its \$22 million kraft plant, II Tappi 41:sup 105A-7A My '58

Georgia-Pacific's Toledo mill in full operation, II Paper Ind 40:156-60, cover Je '58

Hardwood kraft saturating papers for phenolic laminate core stock, W. L. Hearn and H. R. Titus. II Tappi 41:sup204A-5A Je '58

Investigation of the reuse of black liquor in kraft pulping on bleaching to high brightness levels, M. N. May and J. R. Peckham. Tappi 41:90-3 F '58

Kraft pulping of spruce pine, R. O. Koch and others. Tappi 41:349-53 Ji '58

New Gulf States' pulp mill uses continuous process, A. W. Dyck. II diag Paper Ind 40:16-23 Ap '58

Paper pulp from sugarcane bagasse by the sulphate process, A. J. Ernst and others. bibliog diag Tappi 40:873-9 N '57

Properties, storage, and conveying of salt cake, H. A. Stoess, Jr. II diags Tappi 41:sup221A-6A Ap '58

Pulping studies on eucalyptus deglupta, Bl. bruguiera parviflora, Wight, and Arn., avicennia marina (Forsk.) Vierh. A. von Koepen. bibliog Tappi 41:460-4 Ag '58

Recovery of green liquor dregs in the lime mud system; Weyerhaeuser timber co., J. R. Parkinson. Tappi 40:sup202A-3A D '57

Relationship between pulp quality and alkali concentration, C. B. Christiansen and G. W. Legg. bibliog diag Tappi 41:216-23 My '58

Research forecasts the southern kraft mill of tomorrow, W. J. Nolan. Tappi 41:sup 178A-81A An '58

Short wavelength ultraviolet absorption of alkali-lignin; a means of control in kraft cooking and brown stock washing, T. N. Kleinert and C. S. Joyce. bibliog Tappi 41:372-80 Ji '58

Soap collection in the sulphate process, W. S. Shew and A. L. Pickens, Jr. bibliog II diags Tappi 41:sup 148A-50A My '58

Study of corrosion resistant materials suitable for high temperature service in recovery units, F. E. Hutton. Tappi 41:sup 130A-1A My '58

Study of tropical woods; comparison of sulphate pulps from mixed tropical woods with industrial kraft pulps from southern hardwoods, K. Lauer. Tappi 41:339-42 Ji '58

Study of tropical woods; high-yield pulps from tropical hardwoods, K. Lauer. Tappi 41:342-4 Ji '58

Study of tropical woods; sulphate pulping of some tropical woods from the Amazon, K. Lauer. Tappi 41:337-9 Ji '58

Xylan adsorption on cellulose in the kraft cook; abstract, S. Yliner and B. Enstrom. Paper Ind 39:874-5 Ja '58

Sulfite process

Continuous sulfite pulping; abstract, N. A. Rozenberger. Paper Ind 39:938+ F '58

Fines of beechwood sulfite pulps; abstract, W. Bandel. II Paper Ind 39:727 N '57

Freeness of blended sulfite and bookstock, D. S. Davis. Paper Ind 39:918-19 F '58

High-temperature semichemical pulping of mixed species; abstract, W. Riese. Paper Ind 39:802-3 D '57

PAPER making—Sulfite process—Continued

- High-yield, soluble-base sulphite pulping developments at the Pulp and paper research Institute of Canada, J. S. Hart, bibliog Tappi 41:sup218A-24A My '58
- Hypochlorite as the third stage in bleaching aspen neutral sulphite semichemical pulp, N. A. Jappe, bibliog il Tappi 41:224-31 My '58
- Improvements in measuring pH in sulphite pulping, K. A. E. Blackmore and A. E. Markham, diags Tappi 41:sup 138A-40A JI '58
- Magnesia pulping breaks pollution stalemate: Brown co. flow sheet(p 114-17) il Chem Eng 65:60-1 S 3 '58
- Neutral sulphite semichemical studies; fibrillation of pulps, W. J. Nolan, Tappi 41:41-8 Ja '58
- Progress report on neutral sulphite semichemical pulping of hardwood at Longview fibre co., G. L. Hollimon, Tappi 40:sup200A-1A D '57
- Stabilization of fiber suspensions, A. J. de Roos, bibliog diag Tappi 41:354-8 JI '58
- Study of the effect of sodium thiosulphate in neutral sodium sulphite semichemical pulping, M. N. May and J. E. Peckham, bibliog Tappi 40:314-17 N '57
- Study of tropical woods; high-yield pulps from tropical hardwoods, K. Lauer, Tappi 41:342-4 JI '58
- Sulfite pulp from African eucalypts; abstract, H. Sadler and O. Trantina, Paper Ind 39:803 D '57
- Sulphite pulp washing practices and trends, W. H. Pitkin and H. L. Crosby, bibliog Tappi 40:sup204A-7A N '57
- See also
Sulfite liquor

Bibliography

- Formation of sulphur trioxide and calcium sulphate in the sulphite process; abstracts from the literature, G. J. C. Potter and others, Tappi 41:sup 183A-95A F '58

PAPER making machinery

- Apparatus for the defibering of wastepaper, M. P. Chaplin, il diag Tappi 41:sup203A-4A Mr '58
- Bird machine co.'s centrifugal cleaners, E. P. Troland, Tappi 41:sup 187A-8A Je '58
- Deaeration of paper stock with or without cleaning; Deculator process, J. J. Jacobson, bibliog il diags Tappi 41:sup 179A-84A My '58
- Developments and applications of suction former, D. W. Curtis, diags Paper Ind 40:358-9 S '58
- Enclosed hood operation on a modern coated book machine, R. L. Sleight, il Tappi 41:sup207A-10A Ap '58
- Modernization of a paper machine condensate system, J. M. Mallory, diags Tappi 41:sup 139A-40A Ja '58
- New no. 12 machine in operation at Thilmany Pulp & Paper, il Paper Ind 39:707-8 N '57
- Osborne's paper machine in operation at American forest products corp's new mill, il Paper Ind 39:835-9 Ja '58
- Our forward look for your growing industry; Rice Barton corp. A. J. Gardner, il diags Tappi 41:sup 158A-61A F '58
- Preliminary study of the instability of the stock on the way of a Fourdrinier paper machine, J. S. McNown and A. C. Spengos, bibliog il Tappi 41:9-11 Ja '58
- Thilmany pulp and paper co. new machine, il Tappi 40:sup 141A-2A N '57

See also

- Electric driving—Paper and pulp mills
Paper drying
Rolls (paper machinery)

Control

- Evaluation of temperature rise as a Jordan control, F. P. Ford, diag Tappi 41:sup40A+ Ja '58
- Hurlertron moisture control, il diags Paper Ind 40:92-3+ My '58

Noise

- Reduction of noise from paper machine suction rolls and rewinders, C. B. Dahl, il diags A M A Archives Ind Health 17:519-26 My '58

Patents

- Patent reviews, M. Nord, Published in monthly numbers of Paper Industry

PAPER making materials

- Acceleration of wax oxidation by contact with papermaking materials, G. G. Rumberger, diag Tappi 41:300-3 Je '58

- Effect of some papermaking materials upon certain characteristics of paper, G. Vámos and T. Méro, Tappi 41:sup 196A-206A My '58

- New products and new raw materials for the paper industry, W. E. Hansen, Paper Ind 40:163-4 Je '58
- Progress report on the development of metal paper, H. F. Arledter, bibliog il Tappi 41:130-32 Ap '58
- Properties of some experimental map papers containing synthetic fibers, G. L. McLeod, bibliog Tappi 41:430-3 Ag '58
- TAPPI agricultural fibers conference, Quincy, Ill, Oct. 16-17, Tappi 40:sup 126A-30A D '57
- See also
Bagasse
Cellulose
Paper making—Fillers
Paper pulp
Paper sizing
Wood pulp

PAPER mills. See Paper and pulp mills**PAPER products**

- Heat resistant tape impregnants, W. C. Collins, il Tappi 41:sup229A-32A Je '58
- Sampling of paper and paper products, G. G. Maltenfort and R. E. Boedeker, bibliog Ind Quality Control 14:19-23 My '58

Manufacture

- From Elk Falls to Antioch; a unique Crown-Zellerbach operation; linerboard, bag paper and paper converting, A. W. J. Dyck, il Paper Ind 39:684-8+ N '57
- Phenolic resin, core and bushing winding machines, W. R. Fenrod and J. W. Couture, il diags Tappi 41:sup200A-3A Je '58

PAPER pulp

- Solubility of pulp in cold sodium hydroxide; new TAPPI tentative standard T 235 m, diag Tappi 41:sup 134A-5A My '58
- Study of improved strength in paper made from low-substituted carboxymethylcellulose pulps, K. K. Talwar, bibliog Tappi 41:207-15 My '58

PAPER research

- Correlation of equilibrium data for the system $\text{SO}_2\text{-H}_2\text{O-CaO}$, W. A. Dickens and A. W. Plummer, bibliog Tappi 40:895-9 N '57
- Effect of some papermaking materials upon certain characteristics of paper, G. Vámos and T. Méro, Tappi 41:sup 196A-206A My '58
- Evaluation and administration of a research department; panel discussion, Tappi 41:sup 131A-2A Ag '58
- Fiber products research center, J. P. Lewis, il Tappi 41:sup 146A Ap '58
- Pulp mills research program at the University of Washington, V. F. Felicetta and J. L. McCarthy, flow sheet il diag Tappi 40:851-66 bibliog (103 ref, 864-6) N '57
- Research for the future, J. G. Strange, Tappi 41:sup 14A+ F '58
- Some fundamental research problems of the pulp and paper industry, Tappi 41:sup40A+ Je '58
- Study of improved strength in paper made from low-substituted carboxymethylcellulose pulps, K. K. Talwar, bibliog Tappi 41:207-15 My '58

See also

- Empire state paper research associates, inc. Paper laboratories

PAPER rolls

- System straps and weighs paper rolls, il Automation 5:49 Je '58

PAPER sampling

- Sampling of paper and paper products, G. G. Maltenfort and R. E. Boedeker, bibliog Ind Quality Control 14:19-23 My '58

PAPER sizing

- Type, use, and physical properties imparted by starches in wet-end sizing of paper and board, P. J. Shirley, jr, Tappi 41:sup 167A-9A Mr '58
- Use of sulphuric acid in the sizing of linerboard, D. D. Taylor, diags Tappi 41:sup 131A-3A Ja '58

See also

- Paper coating

Testing

- K.B.B. galvanic size tester, A. P. Yundt, Tappi 41:sup 159A-60A My '58

PAPER waste. See Waste paper**PAPER wipers. See Wiping paper****PAPUA**

- See also
Petroleum—Papua

PARABOLA

- Conoid with corrugations makes an unusual roof, George Nakashima's furniture workshop and showroom in New Hope, Pa. M. P. Levy and P. Weidinger, *il* *diag* Eng N 159:46-8 D 5 '57
- Hyperbolic paraboloid band shell collapses for storage. *il* Arch Rec 122:212 D 1 '57
- Hyperbolic paraboloids and other shells of double curvature. A. L. Parme, *bibliog* *diags* Am Soc C E Proc 82 [ST 5 no 1057]: 1-32 S '56; Discussion. 33 [ST 5 no 1192]: 57-65 Mr '57; Reply. 84 [ST 3 no 1656]: 5-10 My '58
- Inverted umbrella roof designed for Hunter college library; illustration with text. Civil Eng 28:147 F '58
- King-size thin shell roofs Denver shop. *il* Arch Rec 123:229 F '58
- Parabolic garage. *il* *diag* Arch Forum 108:127 F '58
- Psychology of shells. M. G. Salvadori and E. Raskin, *diags* Arch Forum 109:112-13 JI '58
- Rise of shells. L. Lessing, *il* *diags* Arch Forum 109:106-11 JI '58
- Twin hyperbolic paraboloids roof Kansas residence. *il* Arch Rec 122:254 N '57
- Understanding the hyperbolic paraboloid. F. Candela, *il* *diags* Arch Rec 124:191-5 JI: 205-7+ Ag '58
- Useful curves and curved surfaces; time-saver standards. S. Howard, *diags* Arch Rec 123:215-4 J '58
- Warped wood shell roofs quarter acre; Royal Wilton carpet co.'s rug factory. *il* Eng N 160:53 Mr 27 '58

PARACHUTES

- Army QM engineers design shoot-the-chute. Product Eng 29:24 S 22 '58
- Design notes; drag chute cables snag. *diags* Aviation Age 29:84 My '58

PARACYCLOPHANES

- Macro rings; restricted rotation and transannular electronic effects in the paracyclophanes. D. J. Cram and others, *bibliog* Am Chem Soc J 80:3126-32 Je 20 '58
- Macro rings; substitution studies in the [4+1] paracyclophane system. D. J. Cram and E. A. Reeves, *bibliog* Am Chem Soc J 80:3094-103 Je 20 '58
- Macro rings; the synthesis and properties of six new paracyclophanes carrying one methylene in one of the bridges. D. J. Cram and M. F. Antar, *bibliog* Am Chem Soc J 80:3103-9 Je 20 '58
- Macro rings; the synthesis and side chain chemistry of [9]paracyclophane. D. J. Cram and M. F. Antar, *bibliog* Am Chem Soc J 80:3109-14 Je 20 '58
- Many-membered carbon rings; a paracyclophane possessing two *gem*-dimethyl groups. A. T. Blomquist and J. Jaffe, *bibliog* Am Chem Soc J 80:3405-8 JI 5 '58

PARADEUTERIUM. See Deuterium

PARAFFIN

- Hydro-isomerization of paraffin wax. F. Breimer and others, *bibliog* Inst Pet J 43: 297-306 N '57
- Melting point of paraffin wax; proposed revision of TAPPI standard T360 m-55. *diag* Tappi 41:sup 126A-7A Ja '58
- Mesomorphic behaviour of the sodium and lithium soaps prepared from oxidized paraffin wax. K. U. Ingold and I. E. Puddington, *bibliog* (36 ref) Inst Pet J 44:41-4 F '58
- Paraffin wax and paraffin hot melts in the paper, paperboard, and container industry. L. H. Macomber, Tappi 40:sup 174A-5A N '57
- Relation between composition and blocking temperature of paraffin waxes. K. G. Arabian, Tappi 41:275-80 Je '58
- Test method for adhesion of paraffin wax to milk carton stock. R. H. Salvesen and M. K. Eosefow, *il* Tappi 41:sup 174A-7A Mr '58
- Use of paraffin wax as a model material to simulate the plastic deformation of metals. C. Bodsworth and others, *bibliog* *il* *diag* Iron & Steel Inst J 185:375-83; 188:321-31 Mr '57, Ap '58
- Vapor pressure equilibrium of stearic acid in triglyceride and in high paraffin solutions. D. S. Sarkadi, *bibliog* Am Oil Chem Soc J 35:473-81 S '58
- See also
Petroleum—Paraffin problem
Petroleum—Wax content

Testing

- Tensile strength of paraffin wax; revision of TAPPI tentative standard T 644 m-54. *diags* Tappi 41:sup 136A-8A My '58

PARAFFINS

- Action of diazoalkanes on oxazolidine-4,5-diones. G. S. Skinner and E. J. Wright, Am Chem Soc J 79:6204-7 D 5 '57
- Double-bond formation in paraffinic hydrocarbons on exposure to ionizing radiation. R. M. Black, *bibliog* J Ap Chem 8:159-63 Mr '58
- Organic sulfur compounds; synthesis of ethylenes and ethylene sulfides by action of diazoalkanes on thioketones. A. Schönborg and others, *bibliog* Am Chem Soc J 79:6020-3 N 20 '57
- Proton magnetic shieldings in the haloalkanes. A. A. Bothner-By and C. Naar-Colin, *bibliog* Am Chem Soc J 80:1728-33 Ap 16 '58
- Stabilization of alfalfa carotenoids with *N,N'*-diaryl- α,ω -diaminoalkanes. L. A. Gugliemelli and H. L. Mitchell, *bibliog* J Agri & Food Chem 6:126-8 F '58
- This equation gives viscosity of normal paraffins. L. F. Albright and K. K. Innes, *bibliog* Pet Refiner 36:156-8 D '57

See also

- Butane
Cycloparaffins
Ethane

Analysis

- Direct determination of isoparaffins and *n*-paraffins in olefin-free gasoline by mass spectrometer. W. C. Ferguson and H. E. Howard, *bibliog* Anal Chem 30:314-17 Mr '58
- Distribution of *n*-paraffins and separation of saturated hydrocarbons from recent marine sediments. E. D. Evans and others, Anal Chem 29:1853-61 D '57
- PARAFORMALDEHYDE
Reaction of acylamino acids with paraformaldehyde. D. Ben-Ishal, Am Chem Soc J 79:5736-8 N 5 '57

PARAGUAY

See also

- Petroleum—Paraguay
Petroleum industry and trade—Paraguay

PARAHYDROGEN. See Hydrogen

PARALYSIS

- Artificial muscle for paralyzed hands developed. Elec Eng 77:475 My '58

See also

- Poliomyelitis
PARAMAGNETIC resonance. See Magnetic resonance.

PARAMETERS

- Accurate measurement of r_e and α_0 for transistors. M. A. Melehy, *diag* Inst Radio Eng Proc 45:1739-40 D '57
- B-H tester measures memory core parameters. T. H. Bonn and others, *il* *diags* Electronics 31:76-80 Ja 17 '58
- Carbonium ions; σ -parameters. N. C. Deno and W. L. Evans, *bibliog* Am Chem Soc J 79:5804-7 N 5 '57
- Concept of elastic parameters. V. Leontovich, *diags* Am Concrete Inst J 29:987-1008 My '58; Discussion. 30:1415-24 pt 2 D '58
- Effect of various parameters on the rate of formation of fibers from collagen solutions. H. B. Bensusan and B. L. Hoyt, *bibliog* Am Chem Soc J 80:719-24 F 5 '58
- Equivalent performance parameters for turboblowers and compressors. H. Davis, *bibliog* *diag* A S M E Trans 80:108-13; Discussion. W. A. Clark, 113-16 Ja '58
- Fluid mechanics; parameters and modeling. J. M. Robertson, Power Ind 74:24-5 Mr '58
- Fluid mechanics; similarity and modeling. J. M. Robertson, Power Ind 74:19-21 F '58
- High frequency parameters of transistors and valves. J. Zawels, *bibliog* *diags* Electronic Eng 30:15-17 Ja '58
- Lattice parameter determination from broad diffraction lines. F. R. Brotzen and E. L. Harmon, Jr, *bibliog* J Sci Instr 34:247-8 Je '57; Discussion. E. R. Pike, 35:34-5 Ja '58
- Methods of measurement of the parameters of piezoelectric vibrators. E. A. Gerber and L. F. Koerner, *diags* Inst Radio Eng Proc 46:1731-7 O '58
- One kc/s junction transistor T-parameter measurement set. R. A. Hall, *diags* Electronic Eng 30:82-5 F '58
- Optimization of the N-step rocket with different construction parameters and propellant specific impulses in each stage. M. Subotowicz, Jet Propulsion 28:460-3 JI '58
- Parametric amplification and frequency mixing in propagating circuits. P. K. Tien, *bibliog* *diags* J Ap Phys 29:1347-57 S '58
- Radio-frequency communication systems parameters; nomograph. B. J. Bittner and R. E. Hanson, Aviation Age 28:66-8 Ja '58

PARAMETERS—Continued

- Rapid conversion of hybrid parameters; reference sheet, S. Sherr, *Electronics* 31:75-6 Mr '58
- Reservoir parameters from the gamma-ray logs, Cardium sand, Pembina field, T. P. Cutmore, map diags *Oil & Gas J* 56:97-100 F '58
- Study of order in annealed and irradiated alpha brass by lattice parameter measurements, R. Feder and others, *bibliog J Ap Phys* 29:384-8 Je '58
- Synthesis of lumped parameter precision delay line, E. S. Kuh, *bibliog diags Inst Radio Eng Proc* 45:1632-42 D '57
- System optimization by steepest descent method; abstract, H. Meisinger, *diags Instruments & Automation* 31:1546-7 S '58
- Transistor data for logical circuit design, R. B. Hurley, *bibliog diag Electronic Ind & Tele-Tech* 16:60-1+ O '57
- Transistor formulas use h-matrix parameters; reference sheet, A. E. Hayes, jr., *diags Electronics* 31:81-2 F '58
- Use of operational amplifiers in the measurement of transistor parameters, W. C. Hazel, *bibliog diags R Sci Instr* 29:235-7 Mr '58

PARASITES

See also

- Filaria
- Worms, Intestinal and parasitic

PARATHION

- Effect of light on chemical and biological properties of parathion, J. P. Frawley and others, *bibliog J Agri & Food Chem* 6:28-30 Ja '58
- Organophosphates on stream; Monsanto starts up new parathion, methyl parathion unit, *il Chem & Eng N* 36:26 Ja 27 '58

PARATHYROID GLAND

- Concerning the mechanism of action of parathyroid hormone I ion-gradients, H. Firschein and others, *bibliog Am Chem Soc J* 80:1619-23 Ap 5 '58

PARIA, Gulf of

- Multitwell platforms invade busy Paria, *il map Oil & Gas J* 56:33+ JI 14 '58

PARIS

See also

- Gas supply—Paris
- PARTY conservation. See Wave mechanics

PARK buildings

- Park development; newly erected structures at Grosse Pointe, *il plans Prog Arch* 39: 90-1 JI '58

PARKE, Davis and company

- Career opportunities, *il Chem & Eng N* 36:47 pt 2 Ja 27 '58

PARKER, James Wentworth

- Obituary, *por Power Eng* 62:114+ F '58
- Obituary, G. A. Stetson, *por Mech Eng* 80: 55-6 F '58

PARKING. See Automobile parking

- PARKING control officers. See Automobile parking—Control officers

- PARKING meters. See Automobile parking—Meters

PARKS

See also

- National parks and reserves
- San Francisco—Parks
- PARKS, Roadside
- Design and maintenance of roadside parks, F. T. Rose, *il Pub Works* 88:100-2+ D '57

PARKWAYS

- Mowing the Nation's biggest lawn; shoulders and median strip of the Garden State parkway, *il Pub Works* 89:112-14 Ag '58

PARSONS, Arthur Leonard

- Memorial, V. B. Meen, *por Am Mineralogist* 45:302-6 *bibliog*(p304-6) Mr '58

PARSONS, Douglas E.

- Sketch, *por Am Concrete Inst J* 29:sup4-5 Mr '58

PART time employment

- Earning while learning; Diamond alkali co. summer program, R. Jones and J. Dan-nemiller, *Ind & Eng Chem* 49:sup89A-90A D '57

- PARTICLE accelerators. See Accelerators (particles)

- PARTICLE board. See Fiber board

PARTICLES

- Beater addition of latex and the effect of particle size distribution, B. Andersson and V. Stannett, *il Tappi* 40:899-900 N '57
- Blasting with three-micron particles; panel discussion, S. A. E. J 65:31 N '57
- Characteristics of the organic particulate matter in the atmosphere of certain American cities, E. C. Tabor and others, map diag A M A Archives *Ind Health* 17:58-63 Ja '58

- Effect of particle size of raw materials on granulation of fertilizers, A. B. Phillips and others, *bibliog il J Agri & Food Chem* 6:449-53 Je '58

- Effect of particle size on availability to plants of phosphorus in phosphate rock from various sources, W. H. Armiger and M. Fried, *J Agri & Food Chem* 6:539-43 JI '58

- Effect of particle size on the velocity of detonation of simple nitroglycerine/salt mixtures, J. E. Dolan, *bibliog J Ap Chem* 8:471-7 Ag '58

- Effects of drying conditions on the properties of spray-dried particles, E. J. Crosby and W. R. Marshall, jr., *il Chem Eng Prog* 54: 56-63 JI '58

- Evaluation of air-borne particulates in atmospheric pollution studies, M. Katz and others, *bibliog Anal Chem* 30:1172-80 JI '58
- Glass; its transparency and structure; presence of particles, and transparency, H. H. Holscher, *il diags Glass Ind* 39:143-50 Mr '58

- Influence of particle size on the viscosity of synthetic latex, P. H. Johnson and R. H. Kelsey, *Rubber World* 138:877-82; 139:227-31 S N '58

- Inventoried storage of large numbers of small radioactive particles, L. E. Preuss, *il diags J Sci Instr* 35:307 Ag '58

- Loss of exchange coupling in the surface layers of ferromagnetic particles, F. E. Lu-borsky, *bibliog J Ap Phys* 29:309-10 Mr '58

- Particle motions in sheared suspensions, W. Bartok and S. G. Mason, *bibliog diags J Colloid Sci* 13:293-307 Ag '58

- Particle size and efficiency of electroluminescent zinc sulfide phosphors, W. Leh-mann, *bibliog Electrochem Soc J* 105:585-8 O '58

- Precise evaluation of surface area with indirectly calculated dead space, W. V. Loebenstein, *J Res Nat Bur Stand* 60:105-8 F '58

- Relations between different modes of acquisition of the remanent magnetization of ferromagnetic particles, E. F. Wohlfarth, *J Ap Phys* 29:595-6 Mr '58

- Sampler for particles in wet gas streams, J. W. Thomas, *diag Chem Eng* 65:148 F 10 '58

- Size dependence of the wall characteristics in a two-domain iron particle, H. Amar, *bibliog J Ap Phys* 29:542-3 Mr '58

- Some effects of oxidizer concentration and particle size on resonance burning of composite solid propellants, L. Green, jr., *bibliog il Jet Propulsion* 28:159-64 Mr '58

- Spouting of large particles, C. B. Cowan and others, *bibliog il diags Eng J* 41:60-4 My '58

- Study of precipitate particles in Cu-Co employing ferromagnetic resonance, D. S. Rodbell, *bibliog J Ap Phys* 29:311-12 Mr '58

- Swift peek at small particles, *il diag Ind & Eng Chem* 50:sup24A-5A Je '58

- Unit operations in chemical engineering; size reduction, L. T. Work, *bibliog diags Ind & Eng Chem* 50:481-4 pt 2 Mr '58

See also

- Aerosols
- Brownian movements
- Cloud chambers
- Dispersion
- Drops
- Electrophoresis
- Granular materials
- Micelles
- Pigments
- Polarization of particles
- Powders
- Radiation
- Sand
- Sedimentation
- Specific surface
- Suspensions

Size determination

- Aerosol size and relative humidity, C. Orr, jr. and others, *bibliog J Colloid Sci* 13: 472-82 O '58

- Cascade impactor for adiabatic measurements, J. A. Brink, jr., *bibliog diags Ind & Eng Chem* 50:645-8 Ap '58

- Comminution exposure constant by the third theory, F. C. Bond, *bibliog Min Eng* 9:Trans 1372-6 D '57

- Determination and measurement of particles in city atmospheres, M. B. Jacobs and others, *bibliog Am J Pub Health* 47:1430-3 N '57

- Determination of aerosol size distributions by jet impactor-light scattering technique, J. K. Thompson, *diag Anal Chem* 29:1847-50 D '57

PARTICLES—Size determination—Continued

- Determination of sieve-size distribution from thin-section data, for sedimentary petrological studies, G. M. Friedman, bibliog J Geol 66:394-416 J1 '58
- Distribution of particle size in colloidal silica by ultracentrifugation, J. J. Hermans and A. M. Ryke, J Colloid Sci 13:508-9 O '58
- Importance of clay particle size, W. E. Gruver, Jr. Foundry 86:94-6 J1 '58
- Instrumentation for aerosols, W. B. Leighton, II Soap & Chem Spec 34:79-81+ Ag '58
- Particle-sizing method for aerosols and fine powders, R. L. Dimmick and others, bibliog diag A M A Archives Ind Health 18:23-9 J1 '58
- Practical particle-size analysis of clays, G. W. Phelps and S. G. Maguire, Jr. bibliog II diag Am Cer Soc J 40:399-409 D 1 '57
- Subsieve particle size measurements on porcelain materials, R. H. Lester, bibliog diags Am Cer Soc Bul 37:129-34 Mr 15 '53
- Volume-frequency analysis of sediments from thin-section data; a discussion, A. B. Vistelius, J Geol 66:224-6 Mr '58

PARTICLES, Elementary

- Anti-matter, G. Burbidge and F. Hoyle, II diags Sci Am 198:34-9 Ap '58
- CsI crystal mounting for high-resolution particle detection, E. Souch and D. R. Sweetman, diag R Sci Instr 29:794-5 S '58
- Easy as pi; mathematically derived nuclear periodic table, J. J. Grebe, Chem & Eng N 36:22-3 My 5 '58
- Electronic computer for mass identification of particles, W. L. Briscoe, diags R Sci Instr 29:401-4 My '58
- Mnemonic device for relativistic particle kinematics, F. S. Crawford, Jr. Am J Phys 26:376-7 S '58
- Recent advances in physics; the parity question, D. Park, bibliog diags Am J Phys 26:215-34 Ap '58
- Review and preview; particles yield a little, II diag Chem & Eng N 36:36-8 Ja 6 '58

See also

- Accelerators (particles)
- Atomic nuclei
- Hyperons
- Mesons
- Neutrinos

PARTITION (chemistry)

- Partition of picric acid between 0.5N aqueous perchloric acid and chlorobenzene; the molecularity of picric acid in chlorobenzene, J. W. Bayles and A. Chetwyn, Chem & Ind p 1204-5 S 13 '58

PARTITION chromatography. See Chromatographic analysis**PARTITIONS**

- How to put up movable walls, II Power 102: 144 Ap '58
- Industrial know-how handbook; doors, windows, partitions, II diags Mill & Factory 62:B 12-13 My '58
- Modular design simplifies setting-up or rearranging of prefabricated office partitions, II Plant 17:32-3 My '58

PASSAMAQUODDY tidal power project

- Best 'Quoddy tidal power project chosen, R. D. Field, II map diag Eng N 160:36-8 Je 12 '58

PASSION fruit

- Nutritive values and utility of passion fruit by-products, K. K. Ottagaki and H. Matsumoto, bibliog II J Agri & Food Chem 6:54-7 Ja '58

PASTE*See also*

- Adhesives

PASTEURIZATION of milk. See Milk—Pasteurization**PASTEURIZERS**

- Pasteurizes honey continuously, G. F. Townsend, II Food Eng 30:97 Ja '58

PATCH test. See Skin—Diseases**PATCHOULY oil**

- Patchouly oil and one of its strange cousins, S. Arcander, II Drug & Cosmetic Ind 82: 738-9+ Je '58

PATENT laws and regulations

- Answers to patent dilemmas, M. Sandel, Jr. Chem & Eng N 36:58-9, cover Mr 10 '58
- Legally acceptable invention records, G. M. Naimark, bibliog Drug & Cosmetic Ind 82: 596-7+ My '58
- Patents were invented to protect the interests of individuals, V. A. Kalichevsky, II Pet Eng 29:C46-8+ N '57
- Some fundamental principles of patent ethics, A. W. Gray, bibliog Machine Design 30: 103-4 Ja 9 '58

See also

- Design—Protection

Great Britain

- Foster mother of invention; patents in the pattern of to-day, Engineering 184:749-51 D 13 '57

Russia

- Abstracts and patents in U.S.S.R. Chem & Eng N 36:26 S 22 '58

United States

- Committee on patents; subcommittee on patents, trademarks and copyrights of the Senate committee on the judiciary, report for 1957-1958, Am Cer Soc Bul 37:289-90 Je 15 '58
- Courts rule patentees must be first inventor, A. W. Gray, Foundry 86:206+ S '58
- The little man can't protect his patents, D. Von Ludwig, Product Eng 29:26-7 J1 28 '58; Discussion, 29:38-40 S 22 '58
- Patent pools, A. W. Gray, bibliog Machine Design 29:116-18 N 14 '57
- Patent thoughts and trends, T. Cifelli, Jr. Published in monthly numbers of Drug and cosmetic industry
- Review patent fundamentals, R. G. Crooks, Chem Eng 65:121-36 F 24 '58
- Trinity of the patent law; invention, novelty, and utility, A. W. Gray, bibliog Audio 42: 44+ Mr '58
- Up design patent protection; still not enough! say designers, Product Eng 28:88 D 23 '57

PATENT pools. See Patents—Pooling**PATENT searching**

- Automated searching, second step, Chem & Eng N 35:89 D 2 '57

PATENTS

- Are patents any good? points of view, Product Eng 28:40-1 D 16 '57
- Are patents outmoded? Chem & Eng N 36:32 J1 14 '58
- Foreign patents move fast, N. S. Schmitz, Chem & Eng N 36:82 F 3 '58
- Franklin institute museum; research and patents, T. Coulson, Franklin Inst J 265:499-500 Je '58
- Impact of the patent system on research; abstract, S. Melman, Elec Manuf 62:9 S '58
- Patents and small business; abstract, C. W. Ooms, Tool Eng 40:215 F '58
- Value and validity of patents, L. T. Parker, Pit & Quarry 50:108-9+ F '58
- What about the patent system? Chem & Eng N 36:36-7 Ag 25 '58
- Who owns the results of basic research underwritten at a university? points of view, Product Eng 29:32-3 Ja 13 '58

See also

- Acoustic patents
- Chemical patents
- Coal patents
- Dye patents
- Inventions
- Metallurgical patents
- Patent laws and regulations
- Patent searching
- Textile patents
- also subdivision Patents under special subjects, e.g.
- Aeronautics
- Atomic power
- Automobiles
- Coal mining machinery
- Drugs
- Dyeing machines
- Electronics
- Food industry and trade
- Geophysics
- Glass machinery
- Glass manufacture
- Jet propulsion
- Lubrication and lubricants
- Machinery
- Machinery, Automatic
- Metal finishing
- Minerals
- Oscillators
- Paper making
- Paper making machinery
- Petroleum refining
- Phosphate coating
- Photography
- Pig iron
- Plastics
- Plating
- Polyethylene
- Radar
- Rubber
- Rubber, Artificial
- Telegraph
- Telephone
- Wire

PATENTS—Continued

- Licensing**
Bombshell drops in polyethylene. Chem & Eng N 35:17-18 D 30 '57
Licensing on upswing. Chem & Eng N 36:40 Mr 31 '58
- Pooling**
Patent pools. A. W. Gray. bibliog Machine Design 29:116-18 N 14 '57
- PATHOGENIC bacteria.** See Bacteria, Pathogenic
- PATHOGENIC fungi.** See Fungi, Pathogenic
- PATINA**
Patina coatings on copper and copper alloys: abstract. Metal Finishing 56:76 Ja '58
- PATMAN law.** See Price discrimination—Patman law
- PATRICK, Joseph C.**
Dr Patrick to receive Goodyear medal. por Rubber Age 83:508 Je '58
Franklin institute medal. Rubber World 138:755 Ag '58
Goodyear medal awarded to J. C. Patrick. por Chem & Eng N 36:116 S 22 '58
- PATROL boats**
New fast patrol boats. diag Mech Eng 80:106-7 Mr '58
- PATTERN making**
Casting iron patterns in zircon sand; Cadillac motor car div. of General motors corp. C. W. Yaw. il Foundry 86:74-5 O '58
How to cut costs on patterns and cores. R. B. Sinclair and W. N. Richards. diags Iron Age 130:132-4 D 12 '57
How to make plastic steel patterns. D. J. Volk and G. Battis. il Foundry 86:196- Mr '58
Insert boards are key to lower production costs. H. Brown and R. MacDonald. il Foundry 86:114- Je '58
New pattern shop improves operation; Wellman bronze & aluminum co. il Foundry 86:122 S '58
Pattern engineering needs trained men. R. Olson. il Foundry 86:144- F '58
Patternmaking; abstracts of American foundrymen's society papers. Foundry 86:173-4- JI '58
Shell pattern equipment must meet high standards. R. Olson. il Foundry 86:104-6 Ap '58
See also
Templets
- Plastic patterns**
Epoxy patterns and coreboxes. J. W. Tierney. il Foundry 85:86-90 D '57
One foundry's experience with plastic patterns and coreboxes; Texas steel co., R. E. Grimes. il diag Foundry 86:146-8 O '58
- PATTERN storage**
Systematic pattern storage. il Foundry 86:206-7 JI '58
- PATTON, Leroy Thompson**
Memorial. G. C. Clark. bibliog por Am Assn Pet Geologists Bul 42:690-4 Mr '58
- PAUL, Les**
L. Paul, technician and musician. E. Leslie. por(cover) Radio-Electronics 29:38-9 O '58
- PAVEMENT marking.** See Traffic lines
- PAVEMENTS**
Radiological decontamination of pavements and roofs. E. E. Shalowitz and W. F. Glover. Pub Works 89:133 F '58
Resin pavement stops auto skid. il Chem & Eng N 36:46 JI 14 '58
USAF airfield pavement problems in the jet age. G. W. Leslie. il plan diags Am Soc C E Proc 83 [AT 2 no 14801:1-23; Discussion. IAT 2 no 14851:3-6 D '57
See also
Bridges—Floors
Street openings
Streets
- Cutting**
See also
Pavements, Macadam—Cutting
- Design**
Heavy duty pavement design. H. G. Nevitt. Roads & Sts 101:140-1+ Je '58
Recommended practice for design of concrete pavements (ACI 325-58). diags Am Concrete Inst J 30:17-51 JI '58
- Foundations**
Low cost street construction with lime stabilization. A. R. Kelley. il Pub Works 89:113-14 O '58
Worn-out road rebuilt with lime stabilization; Fox Point, Wis. il Pub Works 88:100-1 N '57

Concrete

- Specifications for concrete pavements and concrete bases (ACI 617-58). Am Concrete Inst J 30:53-81 JI '58
- Water bays**
Water-borne runway. D. Williams. il diags Am Soc C E Proc 84 [AT 1 no 1658]:1-32 Je '58
- Heating**
Heating cable for snow removal. il Elec Constr & Maint 57:104-+ Je '58
Snow melting system hookup; detail sheet. diag Air Cond Heat & Ven 55:100 F '58
Snow problems melt away. il Safety Maint 114:25 D '57
- Maintenance and repair**
Proper methods for breaking and repairing pavement. J. M. Rogeven. il Am Water Works Assn J 50:335-9 Mr '58
- Marking**
See Traffic lines
- Resurfacing**
Bonding thin concrete to old pavements; parking aprons at three air bases. W. G. Westall. il Civil Eng 38:406-9 Je '58
Design of concrete overlays for pavements. Am Concrete Inst J 30:315-20 S '58
- Subgrades**
County road stabilization with calcium chloride. L. J. Waldenberger. il Pub Works 89:120 Mr '58
Lesson in how to make good use of poor materials: Dow air force base, Bangor, Me. il Eng N 159:40-2+ N 14 '57; Discussion. 160:122 Ap 3 '58
Vibratory rollers compact eight million yards of sand; Griffis air force base. H. J. McKeever. il Roads & Sts 101:57-61 Ja '58
See also
Roads—Subgrades
- Surface treatment**
Sealing bituminous concrete pavements. V. R. Snyder. il Pub Works 89:86-7 JI '58
Tar rubber concrete apron and its surface treatment by new slurry method. W. O. Harrell. il Roads & Sts 101:147-50 F '58
- Testing**
Road tests determine; what makes autos skid? H. O. Thompson. il Eng N 160:54-6+ F 6 '58
- PAVEMENTS, Asphalt**
See also
Pavements, Bituminous
Roads, Asphalt
- Testing**
Know your asphalts; determine asphalt quality with tests. E. J. Barth. Pet Refiner 37:194 Ja '58
- PAVEMENTS, Bituminous**
Anti-stripping additives today. H. G. Nevitt. Roads & Sts 101:123-9 Ag '58
Asphalt paved sludge beds, in Salt Lake City. W. T. South. diag Water & Sewage Works 105:347-8 Ag '58
Asphalt technology is progressing. H. G. Nevitt. Roads & Sts 101:157-8-4 Mr '58
Design of asphalt paving mixtures. L. H. Csanyi. Pub Works 89:93-4 Ja '58
Duluth's main street paved at night. H. K. Glidden. il Roads & Sts 100:154-6+ N '57
Evolution; black sheep now a star. Pet Refiner 37:93+ JI '58
Half-size bituminous paver for construction and repair. il Pub Works 89:176 Ag '58
Heavy duty pavement design. H. G. Nevitt. Roads & Sts 101:140-1+ Je '58
Parkway bridge gets new reinforced asphalt surface. il Pub Works 89:159 D '57
Radio helps keep hot-mix producer from getting burned with wasted loads. J. F. LeSage. il Roads & Sts 101:126-7 JI '58
What penetration asphalt? H. G. Nevitt. Roads & Sts 101:139-40 F '58
- Maintenance and repair**
Cheap and traffic-sparing way to repair streets with heater-planers. C. G. Gilmore. il Eng N 160:68 Mr 13 '58
Portable asphalt plant speeds street patching; Willie mfg co. Patchmobile. M. Huston. il Pub Works 89:214 S '58
- Rubber mixtures**
Goodyear builds rubber-asphalt track. il Roads & Sts 101:129 Ag '58

PAVEMENTS, Bituminous—Rubber mixtures—*Continued*

- High-speed test track built by the Goodyear tire & rubber co. *Il Rubber World* 138:607 J1 '58
- New rubberized asphalt for roads. J. Y. Welborn and J. F. Babashak, jr. *Il Am Soc C E Proc* 84 [HW 2 no 1651]:1-22 My '58; *Abstract, Eng N* 160:62 My 29 '58
- Rubber for roads, railways and buildings. *Engineering* 186:144 Ag 2 '58
- Rubberized asphalt experiments in Wyoming and Montana. F. B. Odasz and R. V. Witter. *Il diag Roads & Sts* 101:128+ Je '58
- Rubberized asphalt tested for winter seal. *Il Roads & Sts* 101:194 Ap '58
- Rubberized playground surface gives bounce instead of bump. T. A. Johnson. *Il Pub Works* 89:110 F '58
- Tar rubber concrete apron and its surface treatment by new slurry method. W. O. Harrell. *Il Roads & Sts* 101:147-50 F '58
- PAVEMENTS, Bituminous concrete**
- Asphaltic deck is dam's watertight layer; upstream face of Montgomery dam. *Il diag Eng N* 169:318 D 6 '57
- Big capacity plant mixes asphalt for Mackinac bridge. *Il Roads & Sts* 101:153, cover F '58
- Compaction of asphaltic concrete. G. E. Zorger. *Roads & Sts* 101:128+ J1 '58
- Effects of jet blast and fuel spillage on bituminous pavements. W. J. Turnbull and C. R. Foster. *Il Am Soc C E Proc* 83 [AT 2 no 1479]:1-13 D '57
- Heavy-duty asphalt pavement for Chicago's Calumet skyway. A. G. Avedisian. *Il diag Roads & Sts* 101:119-20+ J1 '58
- New solution aids wet concrete-asphalt bond. *Roads & Sts* 101:121 My '58
- Practical gradation limits for natural aggregate bituminous concrete. S. B. Hudson. *bibliog Il Roads & Sts* 101:115-16+ My; 131:2+ Je '58
- Sealing bituminous concrete pavements. V. R. Snyder. *Il Pub Works* 89:86-7 J1 '58
- Smooth deck for Mackinac bridge. *Il Roads & Sts* 101:144, cover F '58
- Welded mesh anchors asphalt; resurfacing timber-decked railroad overpasses. *Il Eng N* 160:71 My 8 '58
- See also*
- National bituminous concrete association
Roads, Bituminous concrete
- PAVEMENTS, Concrete**
- Bonding thin concrete to old pavements; parking aprons at three air bases. W. G. Westall. *Il Civil Eng* 28:406-9 Je '58
- Concrete paving at Griffiss air base. *Il diag Roads & Sts* 101:157-63 Mr '58
- Design of concrete overlays for pavements. *Am Concrete Inst J* 30:315-20 S '58
- More durable paint stripes on concrete roads. C. J. Keese and L. J. Horn. *Il Roads & Sts* 100:73-4 N '57
- Pot is boiling in concrete pavement design; ACI convention committee reports. *Roads & Sts* 101:58+ My '58
- Recommended practice for design of concrete pavements (ACI 325-58). *diags Am Concrete Inst J* 30:17-51 J1 '58
- Topping pavements with calcium aluminate cement concrete. W. C. Hansen and W. W. Brandvold. *Am Concrete Inst J* 29:1009-11 My '58
- Water-borne runway. D. Williams. *Il diags Am Soc C E Proc* 84 [AT 1 no 1658]:1-32 Je '58
- See also*
- Bridges—Floors
Pavements—Foundations—Concrete
Roads, Concrete
- Joints**
- Prestressing promises nearly joint-free concrete highways. B. Morell. *Il plans diags Civil Eng* 28:570-3 Ag '58
- Maintenance and repair**
- Thruway bridge surfaces fail. C. Lang. *Eng N* 161:26 Ag 21 '58
- Prestressing**
- Prestressed concrete dominant on Illinois toll highway structure. *Il map Civil Eng* 28:418-19 Je '58
- Prestressing promises nearly joint-free concrete highways. B. Morell. *Il plans diags Civil Eng* 28:570-3 Ag '58
- Water slab bridge decks. P. W. Abeles. *diags Engineer* 205:842-3 Je 6 '58
- Reinforcement**
- Indianapolis runway has first banked high speed plane turn-off. D. R. Parsons. *Il plan diags Roads & Sts* 100:43-6+ D '57
- Slip-form paver lays reinforced slab. G. N. Miles. *Il Roads & Sts* 101:53-5 Ag '58
- Ten-year report on Illinois experimental continuously reinforced pavement. *Roads & Sts* 101:116-17+ Mr '58
- Specifications**
- Specifications for concrete pavements and concrete bases (ACI 617-58). *Am Concrete Inst J* 30:53-81 J1 '58
- Testing**
- Performance of doweled joints under repetitive loading. L. W. Teller and H. D. Casheil. *bibliog Il diags Pub Roads* 30:1-24, cover Ap '58
- PAVEMENTS, Macadam**
- Cutting**
- Rubber-tired ripper slices macadam like butter. *Il Roads & Sts* 100:94 N '57
- PAVEMENTS, Rubber**
- See also*
- Pavements, Bituminous—Rubber mixtures
- PAVILIONS**
- Pavilion symbolizes Fountain of youth. *Il plan diags Arch Rec* 123:141-6 Ja '58
- PAVING machines**
- Electric clutches and brakes permit toggle-switch operation of paver. *Il diags Machine Design* 30:110-11 My 1 '58
- Half-size bituminous paver for construction and repair. *Il Pub Works* 89:176 Ag '58
- Paver uses bucket spreader. *Il Eng N* 161:60 J1 '58
- Same pavers place base and hot-mix. *Il Roads & Sts* 101:127 Ag '58
- Slip-form paver lays reinforced slab. G. N. Miles. *Il Roads & Sts* 101:53-5 Ag '58
- Traveling pugmill processes materials for Colorado's smoothest concrete pavement. *Il diag Eng N* 160:50-2+ My 29 '58
- PAY television.** *See* Television broadcasting—Subscription programs
- PAYMENT**
- See also*
- Collecting of accounts
- PAYROLLS**
- Accounting**
- Seven pay 2,000; payroll office of Avondale mills. *Il Textile Ind* 122:90-3 Mr '58
- You can make every day pay; Philadelphia electric co. controls costs by scheduling salary payments over the five working days. C. F. Mills. *Am Gas Assn M* 40:24-6+ O '58
- Records**
- How good are your wage-hour records? R. D. Stevens. *Mill & Factory* 63:104-5 S '58
- PEACHES**
- Bruising and the quality of freestone peaches. *bibliog Food Tech* 12:198 Ap '58
- Canning quality of Elberta peaches as affected by nitrogen fertilization. G. H. Carter and others. *bibliog Food Tech* 12:174-9 Ap '58
- Factors influencing drained weight of canned clingstone peaches. S. Leonard and others. *bibliog Food Tech* 12:80-5 F '58
- Makes better peach concentrates; EURDD. N. H. Eisenhardt and others. *diag Food Eng* 30:95-6 Ja '58
- Penetration of maitosaccharides into processed clingstone peaches. R. E. Hughes, jr. and others. *bibliog Il Food Tech* 12:111-16 F '58
- PEANUT butter**
- Better peanut butter ultrasonically; Nabob foods. R. Rupp and J. P. B. Jones. *Il Food Eng* 29:100 D '57
- Taps away from home sales with squeeze-tube product; Kitchen King peanut butter. *Il Food Eng* 30:76-7 My '58
- PEANUTS**
- Acid denaturation of the proteins of the groundnut (*arachis hypogaea*). W. E. F. Naismith and K. O. Kelly. *bibliog diags J Ap Chem* 8:598-605 S '58
- Cross-linking action of formaldehyde on the proteins of the groundnut: a physico-chemical investigation. A. M. G. Kinnear and W. E. F. Naismith. *bibliog J Ap Chem* 8:286-90 Mr '58
- Fractionation studies on the proteins of the groundnut (*arachis hypogaea*). W. E. F. Naismith and E. M. R. McDavid. *bibliog diags J Ap Chem* 8:605-10 S '58
- Studies on the protein from groundnut protein spinning solutions. W. E. F. Naismith. *bibliog diags J Ap Chem* 8:518-22 Ag '58
- PEARLITE.** *See* Steel—Metallography

PEARS

Cost squeeze eased by mechanization; Dole Hawaiian pineapple co. Coon's pear machine. C. R. Havighorst. *il Food Eng* 30: 98-74 F '58

Factors influencing consumer opinion of canned Bartlett pears. R. M. Pangborn and S. J. Leonard. *Food Tech* 12:234-90 Je '58
Influence of ripening temperature, ripeness level, and growing area on quality of canned Bartlett pears. L. L. Claypool and others. *bibliog Food Tech* 12:375-80 Ji '58
Vodka from pear wastes; Hood river distillers, inc. H. Y. Yang. *il Food Eng* 30:87-8 Ja '58

PEAS

Maturation and germination of peas; symposium. *Chem & Ind* p486-8 Ap 26 '58
Quality evaluation of deep-fat fried peas. W. Sathiraswasti and D. K. Salunkhe. *bibliog Food Tech* 12:351-5 Ji '58

PEAT

Chemicals from Quebec peat bogs, flow sheet Can Chem Process 42:85-6+ S '58

PEAT bogs

Photo-reading technique aids fight against muskeg. *Eng N* 159:50+ D 26 '57

PEBBLE heaters

Ethylene with pebble heater; Phillips petroleum co. flow diag *Pet Refiner* 36:244 N '57

PEBBLES

Pebble and sand lithology of the major Wisconsin glacial lobes of the central lowland. R. C. Anderson. *bibliog map diags Geol Soc Bul* 68:1415-49 N '57

Pebbles in the lower Colorado river, Texas; a study in particle morphogenesis. E. D. Sneed and R. L. Folk. *bibliog il map diags J Geol* 66:114-60, pl 1 Mr '58

PECHMANN reaction

Use of cation exchange resins in the von Pechmann reaction. S. S. Israelstam and E. V. O. John. *Chem & Ind* p 1262 S 27 '58

PECTINS

Alkaline degradation of pectin. H. Neukom and H. Deuel. *bibliog Chem & Ind* p683 Je 7 '58

Degradation of pectic substances by plant pathogens; abstract and discussion. R. K. S. Wood and M. Cole. *Chem & Ind* p433 Ap 12 '58

Pectin plugs cause wilts; mechanism of various fungus diseases; abstract. M. A. Stahmann and J. C. Walker. *il Chem & Eng N* 36:47 Ap 21 '58

PEDESTRIAN bridges. See **Bridges, Foot**

PEELING

Theory of peeling through a Hookean solid. J. J. Bikerman. *bibliog J Ap Phys* 28:1484-5 D '57

PEELING machines

Here are latest machines for updating your plant; washing and peeling. *il Food Eng* 30:80-1 O '58

Hot dogs lose their hides. *il Product Eng* 29:64 Je 9 '58

PEENING

See also
Shot peening

PEGMATITES

Beryllium content of roschelite from the sapucaia pegmatite mine, Minas Gerais, Brazil, and from other localities. M. L. Lindberg. *il diags Am Mineralogist* 43:824-38 S '58

Deuteric alteration of some apatite-pegmatites of the Boulder batholith, Montana, and its possible significance to ore deposition. G. J. Neuberger. *bibliog Econ Geol* 53:287-99 My '58

Lithium and beryllium pegmatites of southeastern Manitoba. J. F. Davies. *bibliog map diags Can Min & Met Bul* 51:420-6 Ji '58

Mineralogy of an yttrium-bearing pegmatite body near Lake George, Park county, Colo. J. J. Glass and others. *Am Mineralogist* 43: 391-4 S '58

Odara pegmatite. C. V. Paulose. *il map diag Econ Geol* 52:702-8 S '57

Pegmatite phosphates and their problems. D. J. Fisher. *il Am Mineralogist* 43:181-207. 609-10 Mr-May '58

See also
Morinite

PEILER, Karl E.

Sketch. *Mech Eng* 80:146-7 Je '58

PELLAGRA

History of pellagra. its recognition as a disorder of nutrition and its conquest. V. P. Sydenstricker. *Am J Clinical Nutrition* 6: 409-14 Ji '58

PELLETIZING. See **Iron metallurgy**

PETLIER effect

Peltier heat at the interface between a metal and its melt. J. M. Bardeen and B. S. Chandrasekhar. *J Ap Phys* 29:1372-3 S '58
Physical properties of thermoelectric materials. S. V. Galgaitis. *diags Refrig Eng* 66:46-8+ Ji '58

PENCIL sharpeners

Magnetic wheel holds abrasive disc in automatic pencil pointer. Illustrations with text. *Machine Design* 30:111 F 6 '58

Pencil sharpeners turn to plastics. *il Mod Plastics* 35:111-13+ Je '58

PENDULUM

Simple pendulum equivalent to spring-mass system. J. W. Dewdney. *diag Am J Phys* 26:340-1 My '58

See also
Foucault pendulum

PENETROMETERS

Subsurface exploration with the A-G soil penetrometer. E. T. Apfel and others. *il Pub Works* 83:105-6 D '57

PENEX process. See **Gasoline, Natural—Manufacture**

PENGUINS

Penguins. W. J. L. Sladen. *il map Sci Am* 197:44-51 D '57

PENICILLIN

Absorption of radiolysine by the chick as affected by penicillin administration. H. H. Draper and C. Lowe. *bibliog J Nutrition* 64: 33-42 Ja '58

Effect of penicillin on the intestinal synthesis of thiamine in the rat. M. S. Mameesh and B. C. Johnson. *bibliog J Nutrition* 65:161-7 My '58

Effect of thyroprotein and penicillin on the thiamine requirement and growth of normal and hyperthyroid rats. G. R. Vogel and others. *bibliog J Nutrition* 65:525-33 Ag '58
Growth and development of Central American children: growth responses of rural Guatemalan school children to daily administration of penicillin and aureomycin. M. A. Guzman and others. *bibliog Am J Clinical Nutrition* 6:430-8 Ji '58

PENNSALT chemicals corporation
Career opportunities. *Chem & Eng N* 36:50 pt 2 Ja 27 '58

PENNSYLVANIA

See also subdivision Pennsylvania under special subjects, e.g.
Architecture, Domestic
Coal mines and mining
Gas, Natural
Geology
Petroleum industry and trade

PENNSYLVANIA electric association

Annual meeting. 50th, Philadelphia, Oct. 2-3. *Elec World* 148:51-2 O 38 '57

System planning committee meeting. Garden City, N.Y. *Elec World* 149:84+ Je 23 '58

PENNSYLVANIA gas association

Annual meeting, 50th, Pocono Manor, May 20-22. *Gas Age* 121:30-1+ Je 26 '58

PENNSYLVANIA highway material producers

Annual meeting, Harrisburg, Jan. 23-24. *Pit & Quarry* 50:91+ My '58

PENNSYLVANIAN period. See **Geology, Stratigraphic—Pennsylvanian**

PENROSE, Charles

Obituary. *Engineering* 185:676 My 30 '58

PENSION trusts

See also
Employee trusts

PENSIONS, Industrial

Does your plant have a pension plan? R. D. Stevens. *Mach* 65:163-4 O '58

Pension plan arbitrated in favor of employers. *Rock Prod* 60:61 D '57

Reconciliation of pensions and social security disability insurance. E. E. Royce. *A M A Archives Ind Health* 17:590-2 Je '58

PENSTOCKS

Computer studies of penstock and governor systems. E. C. Koenig and H. A. Knudtson. *bibliog diags Am Soc C E Proc* 83 [PO 6 no 14891]:18 D '57

Fixed-wheel rates for penstock intakes. S. J. Skinner. *bibliog diags Am Soc C E Proc* 84 [PO 5 no 14201]:3-8 O '57; Discussion. J. R. Bowman. 84 [PO 2 no 16181]:9-11 Ap '58; Reply. 84 [PO 5 no 18301]:15-16 O '58
Lung Chien penstock finished. A. E. Niedernoff. *il Eng N* 161:111-12 S 13 '58

Penstock design and construction. G. R. Latham. *il diag Am Soc C E Proc* 83 [PO 3 no 12851]:1-23 Je '57; Discussion. R. P. Hobson. 83 [PO 5 no 14161]:9-22 O '57; Reply. 84 [PO no 15381]:7-8 F '58

Steel penstock assembly stress relieved on the job. *il Eng N* 160:40-1 Je 9 '58

World's largest wooden penstock. E. T. Nesbitt. *il Power Eng* 62:34 F '58

PENSTOCKS—Continued

Design

Water-hammer design criteria. J. Parmakian. *Am Soc C E Proc* 83 [PO 2 no 1216]: 1-3 Ad '57; Discussion, 83 [PO 4 no 1346]: 13-14 Ad '57; 84 [PO 1 no 1538]: 3-6 F '58

PENTABORANE. See Boron hydrides

PENTACHLOROPHENOL

Pentachlorophenol for wood preservation. 1939. *Ind & Eng Chem* 50:sup28A. My '58

PENTAERYTHRITOL

Epoxidized esters of glycols and pentaerythritol; application as plasticizers for poly(vinyl chloride). E. J. Hensch and A. G. Wilbur. *Ind & Eng Chem* 50:871-2 Je '58
Pentaerythritol prices tumble. *Chem & Eng N* 36:27 F 17 '58

Manufacture

Pentaerythritol, flow diag *Pet Refiner* 36:269 N '57

Pentaerythritol. M. Salkind and others. bibliog flow sheets II map *Ind & Eng Chem* 50:1106-14 Ag '58

PENTAERYTHRITOL tetranitrate

Microstructures of some fusion-cast mixtures of pentaerythritol tetranitrate and 2,4,6-trinitrotoluene. W. O. Williamson. bibliog II *J Ap Chem* 8:661-5 O '58

PENTAFINING process. See Gasoline—Manufacture

PENTANE

C³ hot atom chemistry of *n*-pentane and isopentane. C. F. Mackay and W. F. Libby. bibliog *Am Chem Soc J* 79:6366-9 D 20 '57

Chemistry of coal tars; preliminary examination of the neutral, pentane-soluble fraction from down-jet tar. M. Vahrman. *J Ap Chem* 8:485-92 Ag '58

First pentane isomerization unit. L. E. Dean and others. flow sheet II *Oil & Gas J* 56: 54-6 S 29 '58

Liquid-phase isomerization; Shell development co. flow diag *Pet Refiner* 37:264 S '58

PENTANONE

Photolysis and pyrolysis of 2-pentanone-1,1,1,3,3-*ds*. J. R. McNesby and A. S. Gordon. bibliog *Am Chem Soc J* 80:261-4 Ja 20 '58
Thermal decomposition of methyl *n*-propyl ketone. W. B. Guenther. bibliog *Am Chem Soc J* 80:1071-3 Mr 5 '58

PENTENE

Analysis

Gas chromatography of olefins; determination of pentenes and hexenes in gasoline. H. S. Knight. bibliog *Anal Chem* 30:9-15 Ja '58

PENTOSANS

Analysis

Pentosans in pulp; proposed revision of TAPPI standard T 223 m-48, diag Tappi 41:sup 172A-4A Ad '58

PEORIA, Illinois

Water supply

Recharge of ground water. T. E. Larson and others. II *Water & Sewage Works* 104:488-91 N '57

PEPPERS

Detection of foreign pungent compounds: oleoresin capsicum, ground capsicum, and chilli spices. P. H. Todd, jr. bibliog *Food Tech* 12:468-9 S '58

PEPSIN

Denaturation of pepsin; macromolecular changes. H. Edelhoch. bibliog II *Am Chem Soc J* 79:6100-9 D 5 '57
Phosphopeptides obtained from α -, β - and whole casein by partial hydrolysis with pepsin. M. L. Groves and others. bibliog *Am Chem Soc J* 80:716-18 F 5 '58

PEPTIDES

Behavior of a bacterial polypeptide as a polyelectrolyte. H. Edelhoch and J. B. Bateman. bibliog *Am Chem Soc J* 79:6093-100 D 5 '57

Compositional effects on the configuration of water-soluble polypeptide copolymers of L-glutamic acid and L-lysine. E. R. Blout and M. Idelson. bibliog *Am Chem Soc J* 80: 4909-13 S 20 '58

Isolation and determination of structure of peptides with streptogenin activity; the disulfide of leucylvalylcysteinylglycylglutamylarginine from insulin. G. L. Tritsch and D. W. Woolley. bibliog *Am Chem Soc J* 80:1490-3 Mr 20 '58

N,N'-carbonyldiimidazole, a new reagent for peptide synthesis. G. W. Anderson and E. Paul. bibliog *Am Chem Soc J* 80:4423 Ag 20 '58

New synthesis of cysteinyl peptides. J. C. Sheehan and D. G. H. Yang. bibliog *Am Chem Soc J* 80:1158-64 Mr 5 '58

Nitrogen analogs of ketenes; formation of the peptide bond. C. L. Stevens and M. E. Munk. bibliog *Am Chem Soc J* 80:4069-71 Ag 5 '58

Peptide synthesis using amino acid-phosphoric acid anhydrides. F. D. Cramer and K. G. Gärtner. bibliog *Chem & Ind* p560 My 10 '58

Poly- β -benzyl aspartates; optical rotation and the sense of the helix. E. R. Blout and R. H. Karlson. *Am Chem Soc J* 80: 1259-60 Mr 5 '58

Polypeptides; a kinetic study of the polymerization of amino acid N-carboxyanhydrides initiated by strong bases. M. Idelson and E. R. Blout. bibliog *Am Chem Soc J* 80:2387-93 My 20 '58

Racemization by the dicyclohexylcarbodiimide method of peptide synthesis. G. W. Anderson and E. M. Callahan. bibliog *Am Chem Soc J* 80:2902-3 Je 5 '58

Selective cleavage of peptide bonds; the tryptophyl peptide bond and the cleavage of glucagon. A. Patchornik and others. bibliog *Am Chem Soc J* 80:4747-8 S 5 '58

Some metal complexes of glycine peptides, histidine and related substances. N. C. Li and others. bibliog *Am Chem Soc J* 79:5859-63 N 20 '57

Structure of glycopeptides from a human γ -globulin. J. W. Rosevear and E. L. Smith. bibliog *Am Chem Soc J* 80:250-1 Ja 5 '58

Studies on polypeptides; preparation of an octapeptide possessing melanocyte-stimulating activity. K. Hofmann and others. *Am Chem Soc J* 79:6087-8 N 20 '57

Studies on polypeptides; the synthesis of a pentapeptide corresponding to an amino acid sequence present in corticotropin and in the melanocyte stimulating hormones. K. Hofmann and others. bibliog *Am Chem Soc J* 80:1486-9 Mr 20 '58

Synthesis of a biologically active octapeptide similar to natural isoleucine angiotensin octapeptide. E. Schwartz and others. bibliog *Am Chem Soc J* 79:5697-703 N 5 '57

Synthesis of peptides related to gramicidin S; the decapeptide containing D-tyrosine residues in place of D-phenylalanine. B. F. Erlanger and others. bibliog *Am Chem Soc J* 80:1128-31 Mr 5 '58

Synthesis of the optically active tripeptides of valine. S. Shankman and Y. Schvo. bibliog *Am Chem Soc J* 80:1164-8 Mr 5 '58

Synthesis of two protected hexapeptides containing the N-terminal and C-terminal sequences of arginine-vasopressin. P. G. Katsouris and others. bibliog *Am Chem Soc J* 80:2558-62 Mr 20 '58

Synthetic polypeptides as protein models; abstract and discussion. C. H. Bamford. *Chem & Ind* p 1615-16 D 14 '57

t-butylloxycarbonylamino acids and their use in peptide synthesis. G. W. Anderson and A. C. McGregor. bibliog *Am Chem Soc J* 79:6180-3 D 5 '57

Thermal condensation of glutamic acid and glycine to linear peptides. K. Harada and S. W. Fox. bibliog *Am Chem Soc J* 80: 2694-7 Je 5 '58

Thermodynamics of ionization of amino acids; the first ionization constants of some glycine peptides. E. J. King. bibliog *Am Chem Soc J* 79:6151-6 D 5 '57

Three Schiff base types formed by amino acids, peptides and proteins with pyridoxal and pyridoxal-5-phosphate. H. N. Christensen. bibliog *Am Chem Soc J* 80:99-105 Ja 5 '58

Use of N-formylamino acids in peptide synthesis. J. C. Sheehan and D. D. H. Yang. bibliog *Am Chem Soc J* 80:1154-8 Mr 5 '58

Use of neighboring group effects for the selective cleavage of peptide bonds; on the mechanism of oxidation of β -substituted indoles with N-bromosuccinimide. A. Patchornik and others. bibliog *Am Chem Soc J* 80:4748-9 S 5 '58

Spectra

Raman spectra of amino acids and related compounds; the Raman spectra of certain peptides and of lysozyme. D. Garfinkel and J. T. Edsall. bibliog *Am Chem Soc J* 80: 3818-23 Ag 5 '58

PEPTONES

See also

Phosphopeptides

PERACETIC acid

Derivatives of acrolein and peracetic acid. H. J. Sandford and others. bibliog flow sheets II Ind & Eng Chem 50:854-60 Je '58
New synthesis of peracetic acid. B. Phillips and others. bibliog Am Chem Soc J 79:5982-6 N 20 '57

Some aspects of bleaching with hydrogen peroxide and with peracetic acid. L. Chesser and G. C. Woodford. bibliog Soc Dyers & Col J 74:531-41; Discussion. 541-2 JI '58

Manufacture

Peracetic acid from acetaldehyde; Union carbide chemicals co. flow diag Pet Refiner 36:270 N '57

PERACIDS

Electric moments of organic peroxides; aliphatic peracids. J. R. Rittenhouse and others. bibliog Am Chem Soc J 80:4850-2 S 20 '58

PERCEPTRON

Human recognition processes simulated; Perceptron. Mech Eng 80:77 O '58
Perceptron demonstrates human conduct. F. Rosenblatt. Control Eng 5:44+ S '58

PERCHLORATES

Kinetics of the neptunium(III)-neptunium(V) reaction in perchlorate solution. J. C. Hindman and others. bibliog Am Chem Soc J 80:1812-14 Ap 20 '58

Oxygen exchange between oxy-anions and water; chlorite, chlorate and perchlorate ions. T. C. Hoering and others. bibliog Am Chem Soc J 80:3876-9 Ag 5 '58

See also

Silver perchlorate
Sodium perchlorate

PERCHLORIC acid

Behavior of [Fe(bipy)]³⁺ type compounds in strong HClO₄. E. A. Healy and R. K. Murrmann. Am Chem Soc J 79:5827-8 N 5 '57
Partition of picric acid between 0.5N aqueous perchloric acid in chlorobenzene; the molecular weight of picric acid in chlorobenzene. J. W. Bayles and A. Chetwyn. Chem & Ind p 1204-5 S 13 '58

Polarography in acetonitrile; Bronsted acids; amperometric titration of amines with perchloric acid; oxygen. J. F. Coetzee and I. M. Kolthoff. bibliog Am Chem Soc J 79:6110-15 D 5 '57

PERCHLOROETHYLENE. See Tetrachloroethylene

PERCHLORYL fluoride

Chloryl, not chloro; perchlorylation, a new Pennsalt unit process based on perchloryl fluoride. Chem & Eng N 36:52 J 24 '58

Perchloryl fluoride; vapor pressure, heat capacity, heats of fusion and vaporization failure of the crystal to distinguish O and F. J. K. Koehler and W. F. Glauque. Am Chem Soc J 80:2659-62 J 5 '58

Reactions of perchloryl fluoride with organic compounds; perchlorylation of aromatic compounds. C. E. Inman and others. bibliog Am Chem Soc J 80:5286-8 O 5 '58

Use of perchloryl fluoride in flame photometry. G. E. Schmauch and E. J. Serfass. Anal Chem 30:1160-1 Je '58

PERCUSSION welding. See Electric welding

PEREZ DE LA COVA, Carlos

Venezuela names new oil minister. por Oil & Gas J 56:68-9 Mr 3 '58

PERFLUORO compounds

Oil and water repellent treatments for cotton with fluorochemicals. L. Segal and others. bibliog II Textile Res J 23:233-41 Mr '58

Perfluoropropyl-substituted thia-, oxo- and aza-dicarboxylic esters. E. T. McBee and others. bibliog Am Chem Soc J 80:1719-21 Ap 5 '58

Some thermal reactions of perfluoroalkyl derivatives of SF₆ with fluorocarbon olefins. R. D. Dresdner and others. bibliog Am Chem Soc J 80:3007-9 Je 20 '58

Trifluoromethyl hypofluorite; its decomposition and its reaction with carbonyl fluoride to form perfluorodimethyl peroxide. R. S. Porter and G. H. Cady. bibliog Am Chem Soc J 79:5628-31 N 5 '57

PERFLUOROHEXANE

Solubilities and volume changes attending mixing for the system; perfluoro-n-hexane-n-hexane. R. G. Bedford and R. D. Dunlap. bibliog Am Chem Soc J 80:282-5 Ja 20 '58

Some physical properties of perfluoro-n-hexane. R. D. Dunlap and others. bibliog Am Chem Soc J 80:83-5 Ja 5 '58

PERFLUOROPROPYLENE

Thermal dimerization of perfluoropropene. M. Hauptschlein and others. bibliog Am Chem Soc J 80:842-5 F 20 '58

PERFORATING machines

To generate perforating punches, company uses a versatile attachment with many advantages. II Mill & Factory 61:138 D '57

PERFUMERS. American society of. See American society of perfumers

PERFUMERY

America's oldest perfumers; Caswell-Massey co. Am Perfumer & Aromatics 72:42 Ag '58
Creating fragrance appeal. J. R. Elliott. Drug & Cosmetic Ind 82:598-9+ My '58
Creative perfumery. J. R. Elliott. Drug & Cosmetic Ind 82:452-3+ Ap '58

Effect of perfume oils on emulsions. W. Wynne. II Am Perfumer & Aromatics 71:85-7 Je '58

Matching perfumery. J. R. Elliott. II Drug & Cosmetic Ind 82:742-4+ Je '58

New fragrances of an old nation; China's recent progress in the perfumery industry. C. Hsi-chang. Am Perfumer & Aromatics 71:31-4 Ap '58

Oakleaf. F. Muller. Drug & Cosmetic Ind 82:82 Ja '58

Paracresol derivatives. M. S. Carpenter. Drug & Cosmetic Ind 82:660-1 My '58

Pentione; Hoffmann-La Roche inc. has developed a new aromatic material. Drug & Cosmetic Ind 83:220-1 Ag '58

Perfumer. J. R. Elliott. II Drug & Cosmetic Ind 82:162-3+ F '58

Perfumery and essential oils. G. B. Pickering. bibliog Manuf Chem 29:28-32 Ja '58

Perfumery aromatics industry in the United States. P. Z. Bedoukian. II Am Perfumer & Aromatics 71:43-50 Ja '58

Perfumes for cosmetics. V. Vasic. bibliog Manuf Chem 29:287-9, 330-2, 431-2 JI-Ag. O '58

Prerequisites of top quality perfume. E. Shifan. Am Perfumer & Aromatics 71:35-7 My '58

Progress in perfumery materials. P. Z. Bedoukian. bibliog II Am Perfumer & Aromatics 71:42-6 Ap; 26-30 My '58

Testing and evaluating perfume compounds in cosmetic preparations. V. Digiacom and W. Wynne. Drug & Cosmetic Ind 83:44-5+ JI '58

See also

Essential oils
Plastics-Perfuming
Soap manufacture-Perfuming

Bibliography

Chemical abstracts. Am Perfumer & Aromatics 71:47+ My; 72:18+ Ag; 38+ S '58

Glossaries

Perfumer's vocabulary. J. R. Elliott. II Drug & Cosmetic Ind 82:306-7+ Mr '58

Study and teaching

Rutgers perfumery course. Drug & Cosmetic Ind 82:796-7 Je '58

Rutgers to continue course in perfumery and essential oils. Am Perfumer & Aromatics 72:60 JI '58

PERFUMING of soap. See Soap manufacture-Perfuming

PERILASE

Thermal conductivity and dielectric strength of perilase insulation. J. M. Karpinski and others. bibliog diags Am Cer Soc Bul 37:329-33 JI 15 '58

PERIODATES

Mechanism of the periodate oxidation of monosaccharides. S. A. Warsi and W. J. Whelan. bibliog Chem & Ind p71 Ja 18 '58

Periodate-permanganate oxidations for determining location and amount of unsaturation in monounsaturated fatty acids. E. F. Jones and J. A. Stolt. bibliog Am Oil Chem Soc J 35:71-6 F '58

Reaction of periodate-oxidized polysaccharides with alcoholic hydrogen chloride. I. J. Goldstein and F. Smith. Chem & Ind p40-2 Ja 11 '58

Reduction of the products of periodate oxidation of carbohydrates; methylation studies on the monaldehyde formed by catalytic reduction of D-methoxy-D-hydroxymethyl-diglycolic aldehyde. I. J. Goldstein and F. Smith. bibliog Am Chem Soc J 80:4681-2 S 5 '58

Structural analysis of clinical dextrans by periodate oxidation and isotope dilution techniques. J. D. Moyer and H. S. Isbell. bibliog II Anal Chem 29:1862-6 D '57

Viscosity behavior; periodate, and hypochlorite-oxidized starches. R. L. Mellies and others. bibliog Ind & Eng Chem 50:1311-14 S '58

PERIODIC system
Nuclear periodic table. Y. Yavitch. Power Eng 52:43 Je '58
Periodic table in 3-D. *il* Chem & Eng N 36: 98 S 22 '58

PERIODICALS

See also

Acetylene journal (periodical)
American journal of physics (periodicals)
Chemistry—Periodicals
Employees magazine
Engineering journal (periodical)
Gas age (periodical)
ISA journal (periodical)
Oil and gas journal (periodical)
Radio-electronics (periodical)
Textile world (periodical)
Water and sewage works (periodical)

Binding

Detector-ejector designed to speed magazines, books; Meredith publishing co. *il* Inland Ptr 141:84-5 S '58
Photocell length detector rejects in-process defectives; Meredith publishing co. *il* diag Automation 5:55-6 Az '58

PERITRON. See Cathode ray tubes

PERKIN, Sir William Henry

Perkin memorial plaque at Greenford factory. Chem & Ind p 1488-9 N 9 '57

PERKIN medal

Lone wolf researcher; Perkin medalist says teamwork has not replaced sealing-wax-baling-wire science. W. J. Kroll. Chem & Eng N 36:45 Ja 27 '58
Perkin medal award to W. J. Kroll. Electrochem Soc J 101:583-9C Mr '58
Perkin medal; list of recipients. *il* Soc Dyers & Col J 74:3 Ja '58

PERKIN reaction

Preparation of a substituted 1,2-benzofluorenone; an unusual Perkin reaction. J. C. Godfrey and R. A. Barnes. *il* Soc Dyers & Col J 80:3902-4 Ag 5 '58

PERLAURIC acid

Peroxides; kinetics and products of decomposition of perlauric acid. W. E. Parker and others. *il* Soc Dyers & Col J 80:323-7 Ja 20 '58

PERLITE

Temple's construction demands met by variations of volcanic material; Fairmount temple, Beechwood Village, Cleveland. *il* Air Cond Heat & Ven 55:76 Ja '58

PERMAFROST. See Soils—Freezing

PERMALLOY

Domain-wall structure in permalloy films. E. E. Huber, Jr. and others. *il* diags J Ap Phys 29:294-5 Mr '58

Ferromagnetic resonance in ultra-thin films. M. H. Seavey, Jr. and P. E. Tannenwald. *il* diags J Ap Phys 29:292-3 Mr '58

Low-temperature spin-wave resonance at 3000 and 4000 mc/sec in a permalloy having nearly zero magnetocrystalline anisotropy. J. R. Weertman and G. T. Rado. *il* diags J Ap Phys 29:328-9 Mr '58

Magnetic fluctuations in molybdenum permalloy. J. J. Brophy. *il* diags J Ap Phys 29: 483-4 Mr '58

Orientation study of ultra-thin molybdenum permalloy tape. P. K. Koh. *il* diags J Ap Phys 29:636-7 Ap '58

Reversible rotation in magnetic films. R. M. Sanders and T. D. Rossing. *il* diags J Ap Phys 29:288-9 Mr '58

Static and dynamic behavior of thin permalloy films. D. O. Smith. *il* diags J Ap Phys 29:264-73 Mr '58

Steady-state and pulse measurement techniques for thin magnetic films in the vhf-uhf range. D. O. Smith and G. P. Weiss. *il* diags J Ap Phys 29:290-1 Mr '58

Switching properties of permalloy cores of varying coercivity. T. D. Rossing and V. J. Korkowski. *il* diags J Ap Phys 29:479-80 Mr '58

PERMANGANATES

Periodate-permanganate oxidations for determining location and amount of unsaturation in monounsaturated fatty acids. E. P. Jones and J. A. Stolz. *il* diags Am Oil Chem Soc J 45:71-6 F '58

Permanganate oxidation of unsaturated esters. C. R. Eshelman and E. G. Hammond. *il* diags Am Oil Chem Soc J 35:280-3 My '58

PERMEABILITY

Determination of moisture permeation rate through polythene cable glands. D. W. Glover and A. J. Cleaver. *il* diags Brit Plastics 31:105-6 Mr '58

Effect of fluid-flow rate and viscosity on laboratory determinations of oil-water relative permeabilities. C. R. Sandberg and others. *il* diags J Pet Tech 10:Trans 36-43 F '58

Effective compressibility of reservoir rock and its effects on permeability. A. S. Mc-Latchie and others. *il* diags J Pet Tech 10:49-51 Je '58

Now separate by membrane permeation. R. C. Binning and F. E. James. *il* diags J Pet Refiner 37:214-15 My '58; Same. Oil & Gas J 56:104-5 My 26 '58; Same. *il* Eng 30:C 14-15 Je '58

Permeability log determination. S. T. Yuster and A. S. Odeh. *il* Eng 30:B36-8 Ag '58

Permeability valves. C. E. Rogers and others. *il* diags Ind & Eng Chem 49:1933-6 N '57

Semimicro gas permeability apparatus for sheet material. W. R. R. Park. *il* diags Anal Chem 29:1397-9 D '57

Studies of the permeability of blast-furnace burden materials. J. M. Ridgion. *il* Iron & Steel Inst J 188:317-20 Ap '58

Vapor transfer through barriers. K. Kammermeyer. *il* diags (31 ref) Ind & Eng Chem 50:397-702 Ap '58

See also subdivision Permeability under special subjects, e.g.
Fiber board
Films
Paper
Plastic films
Textile fabrics

PERMEABILITY, Magnetic. See Magnetic permeability

PERMEAMETERS

Permeameter controller for magnetic measurements. M. J. Swan. *il* diags J Sci Instr 35: 344-6 S '58

Radio-frequency permeameter techniques for testing ferrite cores. A. L. Rasmussen and A. E. Hess. *il* diags Elec Manuf 61:86-91+ My '58

PERMIAN period. See Paleontology—Permian

PERMITTIVITY. See Dielectric constants

PERMYRON process. See Steel, Stainless—Coloring

PEROVSKITE

Ion-deficient phases in titanium and vanadium compounds of the perovskite type. M. Kestigian and others. *il* diags Am Chem Soc J 79:5598-601 N 5 '57

PEROXIDASES

Application of peroxidase test paper in food processing. H. J. Morris. *il* diags Food Tech 12:265-7 Je '58

Heat inactivation of sweet corn peroxidase in the temperature range of 210°-310° F. J. L. Vetter and others. *il* diags Food Tech 12:244-7 My '58

Analysis

Quantitative determination of peroxidase in sweet corn. J. L. Vetter and others. *il* diags J Agri & Food Chem 6:39-41 Ja '58

Test paper for detecting peroxidase. H. J. Morris. *il* diags J Agri & Food Chem 6: 383-4 My '58

PEROXIDES

Combine chlorine and peroxide for better cotton bleaching. *il* Textile World 108:69 Ag '58

Cut your bleaching costs. H. G. Smolens. *il* Textile Ind 122:98-9 Mr; 79-80 S '58

Cyclic diacyl peroxides; the reaction of phthaloyl peroxide with olefins. F. D. Greene and W. W. Rees. *il* diags Am Chem Soc J 80:3432-7 Ji 5 '58

Determination of the peroxide value of edible fats by colorimetric iodometric procedures. P. A. T. Swoboda and C. H. Lea. *il* diags Chem & Ind p 1090-1 Ag 16 '58

Effect of iron and copper contaminants on cotton degradation in peroxide bleaching. *il* diags Am Dyestuff Rep 47:79-83 F 10 '58

Effects of metal contaminants on peroxide-bleached cotton; abstract. *il* Textile World 108:115 Ja '58

Electric moments of organic peroxides; aliphatic peroxides. J. R. Rittenhouse and others. *il* diags Am Chem Soc J 80:4850-2 S 20 '58

Electric moments of organic peroxides; di-alkyl peroxides, alkyl hydroperoxides and diacyl peroxides. W. Lobenez and others. *il* diags Am Chem Soc J 80:3505-9 Ji 20 '58

New inorganic chemicals; peroxide family. S. S. Naistat and E. S. Shanley. *il* diags Ind & Eng Chem 49:sup51A-2A N '57

Organic peroxides and their industrial uses; abstracts and discussion. E. G. E. Hawkins. *il* diags Ind p702-3 Je 14 '58; *il* Manuf Chem 29:348 Ag '58

PEROXIDES—Continued

- Organoperoxy-cadmium compounds. A. G. Davies and J. E. Packer. *Chem & Ind* p 1177 S 6 '58
- Peroxide bleaching of sulfite pulp; abstract. Y. Hentola and others. *Paper Ind* 39:1052 Mr '58
- Peroxides. W. E. Parker and others. *bibliog Am Chem Soc J* 80:323-37 Ja 20 '58
- Peroxides boost Grignards; new path to alcohols, phenols, and ethers. *Chem & Eng N* 36:50 S 22 '58
- Polymeric peroxide of 1,3-butadiene. C. T. Handy and H. S. Rothrock. *bibliog Am Chem Soc J* 80:5307-8 O 5 '58
- Preparation of boron peroxides by nucleophilic substitution. A. G. Davies and R. B. Moodie. *Chem & Ind* p 1622 D 14 '57
- Reaction of acyl peroxides with phenols. C. Walling and R. B. Hodgdon, jr. *bibliog Am Chem Soc J* 80:228-33 Ja 5 '58
- Spectrophotometric study of the system titanium(IV)-peroxide-fluoride. K. Herrington and D. E. Kingsbury. *bibliog Am Chem Soc J* 79:5893-5 N 20 '57
- Syntheses by free-radical reactions; additive dimerizations of butadiene with radicals from acyclic ketone peroxides. D. D. Coffman and H. N. Chapp, *bibliog Am Chem Soc J* 80:2880-2 Je 5 '58
- Toxic effects of oil peroxides formed during fermentation. I. Horváth and others. *Chem & Ind* p916-17 J 19 '58
- Trifluoromethyl hypofluorite; its decomposition and its reaction with carbonyl fluoride to form perfluorodimethyl peroxide. R. S. Porter and G. H. Cady, *bibliog Am Chem Soc J* 79:5623-31 N 5 '57
- See also
Hydrogen peroxide

Analysis

- Automatic titration of peroxides in petroleum products; abstract. J. S. Matthews and J. F. Patchan. *Pet Refiner* 37:205 My '58

PEROXYBENZOIC acid

- Studies of the peroxybenzoic acid oxidation of *p*-methoxyl substituted stilbenes. D. R. Campbell and others. *bibliog Am Chem Soc J* 80:5308-12 O 5 '58

PEROXYCARBAMATES

- Decomposition of peroxy-carbamates and their efficiency as initiators in vinyl polymerization. E. L. O'Brien and others. *bibliog Am Chem Soc J* 79:6238-42 D 5 '57

PEROXYDISULFATES

- Elbs peroxydisulfate oxidation in the pyridine series; a new synthesis of 2,6-dihydroxypyridine. E. J. Behrman and B. M. Pitt. *bibliog Am Chem Soc J* 80:3717-18 J 1 20 '58

PEROXYMOLYBDIC acids

- Complexes of organic phosphorus compounds with peroxy-molybdic acids. E. K. Fields. *bibliog Am Chem Soc J* 80:2358-62 My 20 '58

PERSIAN gulf

- New role for ancient Persian gulf. *il map Oil & Gas J* 55:51 D 23 '57

- PERSISTOR. See Magnetic memory (calculating machines)

PERSONALITY

- Explore personality factors in research and development. F. L. Ryder. *Ind Lab* 9:10-13 Mr '58

PERSPIRATION

- Malonate antiperspirant; abstract. A. Rostenberg and E. L. Gonzalez. *Drug & Cosmetic Ind* 82:231 F '58

- Potentiometric measurement of pCl; application to the determination of chloride in sweat, urine, and miscellaneous solutions. M. Stern and others. *bibliog Anal Chem* 30: 1505-10 S '58

- Spectrophotometric determination of chloride in sweat and serum with diphenylcarbazone. J. L. Gerlach and R. G. Frazier. *bibliog Anal Chem* 30:1142-6 Je '58

PERSULFATES

- Preparation or regeneration of a silver bleach solution by oxidizing ferrocyanide with persulfate. B. A. Hutchins and L. E. West. *SMPTTE J* 66:764-8 D '57

- PERTURBATION theory. See Wave mechanics

PERU

- See also subdivision Peru under special subjects, e.g.
Copper mines and mining
Engineering education
Geology
Hydroelectric plants
Mines and mineral resources
Petroleum
Petroleum industry and trade
Petroleum laws and regulations

PESTICIDES

- Changing patterns in pesticides. J. C. Ward. *A M A Archives Ind Health* 18:134-7 Ag '58
- Fertilizers and pesticides; annual review 1957. L. S. Hitchner. *Ind & Eng Chem* 50:sup61A-2A+ Ja '58
- Fertilizers and pesticides in sound position for '58. D. K. Jackson. *Can Chem Process* 42:sup28A-30A Ja '58
- Fifty years of development in agricultural pesticidal chemicals. L. R. Gardner. *il Ind & Eng Chem* 50:sup48A-51A My '58
- Pest control chemicals. D. P. Hopkins. *bibliog Manuf Chem* 29:32-3+ 156-8, 295-7, 437-8 Ja '58
- Pesticide development costs. C. O. Barnard. *J Agri & Food Chem* 6:512-13 J 1 '58
- Pesticide inventory control. *il J Agri & Food Chem* 6:417-18 Je '58 (to be cont)
- Pesticides figure on boost from soil bank. M. Goldberg. *Chem Eng* 65:102-4 F 10 '58
- Pesticides; no supply buildups. *il Chem & Eng N* 36:28+ O 13 '58
- Pesticides; past, present and future; abstract. F. P. Coyne. *Chem & Ind* p671 Je 7 '58
- Pesticides; petroleum chemicals. M. Goldberg. *Pet Refiner* 36:200-1 N '57
- Pesticides, problems and prospects; abstract. R. A. E. Galley. *Chem & Ind* p65 Ja 18 '58
- Pests of stored products; symposium abstracts and discussion. *Chem & Ind* p577-82 My 17 '58
- Testing pesticide emulsions. R. W. Behrens. *il J Agri & Food Chem* 6:20-4 Ja '58
- Wanted: common names for pesticides. A. W. Lougheed. *Can Chem Process* 42:43-4 F '58
- What pesticides do to soils. *il J Agri & Food Chem* 6:344-53 My '58
- See also
Insecticides

Analysis

- Determination of *m*-dinitrophenyl pesticides. C. Menzie. *bibliog J Agri & Food Chem* 6: 212-13 Mr '58
- Determination of total chlorine in pesticides by reduction with a liquid anhydrous ammonia-sodium mixture. H. F. Beckman and others. *bibliog diag J Agri & Food Chem* 6:104-5 F '58
- Pyridine-alkali reactions in the analysis of pesticides containing active halogen atoms. H. P. Burchfield and P. H. Schudt. *bibliog* (40 ref) *J Agri & Food Chem* 6:106-11 J '58
- Spectrophotofluorimetry for pesticide determinations. I. Hornstein. *bibliog J Agri & Food Chem* 6:32-4 Ja '58

Manufacture

- Safety in pesticide plants. *il J Agri & Food Chem* 6:335-6 My '58

Physiological effect

- Morbidity and mortality from economic poisons in the United States. B. E. Conley. *diag. A M A Archives Ind Health* 18:126-33 Ag '58
- Pesticides can be humanicides. B. E. Conley. *il Safety Maint* 115:36-9 F '58

Residues

- How to get valid pesticide residue data. C. H. Van Middelgem. *il J Agri & Food Chem* 6:581-2 Ag '58
- Residues of pesticides in foodstuffs; abstracts of papers and discussion. *Chem & Ind* p 1536-7 N 23 '57
- Residues of pesticides in foodstuffs; determination of residues. J. M. Winchester. *Chem & Ind* p728-31; Discussion. 731-3 Je 21 '58
- Residues of pesticides in foodstuffs; existing regulations in the United Kingdom and overseas. J. I. Hendrie. *Chem & Ind* p666-8 Je 7 '58
- Residues of pesticides in foodstuffs; pesticide residues and public health. E. F. Edson. *bibliog Chem & Ind* p694-9 Je 14 '58
- Utility of bioassay in the determination of pesticide residues. J. E. Dewey. *J Agri & Food Chem* 6:274-81 *bibliog* (100 ref, p279-81) Ap '58

Statistics

- Annual statistical review; agricultural chemicals. *Can Chem Process* 42:sup8-9 Je '58
- Pesticide supplies and requirements. H. H. Shepard. *J Agri & Food Chem* 6:188-9 Mr '58

Testing

- How to get valid pesticide residue data. C. H. Van Middelgem. *il J Agri & Food Chem* 6:581-2 Ag '58

PETALITE

Laboratory development of dunt resisting bodies containing ten per cent petalite. C. H. Commons, Jr. and P. J. Romano, *il* diags Am Cer Soc Bul 37:353-6 Ag 15 '58

PETHIDINE. See Meperidine**PETROCHEMICALS**. See Petroleum chemicals**PETROGRAPHY**. See Rocks**PETROLEUM**

Composition of petroleum oils. H. M. Smith. A S T M Bul 555-6 Jl '58

Effect of fluid-flow rate and viscosity on laboratory determinations of oil-water relative permeabilities. C. R. Sandberg and others. *bibliog* diag J Pet Tech, 10: Trans 36-43 F '58

Fundamentals of geochemistry: origin of oil. B. Nagy. *bibliog* Oil & Gas J 56:132-3+ Ag 25 '58

Reduced crude oil-dipropylene glycol; liquid-liquid extraction system. F. F. Papa-Blanco and M. Van Winkle. *bibliog* Ind & Eng Chem 50:703-6 Ap '58

Vanadium, nickel, and porphyrins in thermal geochemistry of petroleum. G. W. Hodgson and B. L. Baker. *bibliog* Am Assn Pet Geologists Bul 41:2413-26 N '57

See also

Gasoline

Hydrocarbons

Kerosine

Liquefied petroleum gas

Oil flow

Oil lands

Oil reserves (United States navy)

Oil sand

Oil shales

Oil storage

Acidation of wells

Retarded acids; new well stimulation technique. A. W. Coulter. *il* diags Pet Eng 30:B75-6+ Je '58

Analysis

Carbon isotopic compositions of petroleum and other sedimentary organic materials. S. R. Silverman and S. Epstein. *bibliog* diag Am Assn Pet Geologists Bul 42:998-1012 My '58

Carbon-type composition of viscous fractions of petroleum; density-refractivity intercept method. S. S. Kurtz, Jr. and others. *bibliog* Anal Chem 30:1224-36 Jl '58

Determination of arsenic in petroleum fractions and reforming catalysts. D. Liederman and others. *bibliog* diags Anal Chem 30:1543-6 S '58

Gas-liquid chromatography; effect of support size and proportion of liquid phase on column efficiency. J. D. Cheshire and R. P. W. Scott. *bibliog* Inst Pet J 44:74-9 Mr '58

Mass spectrometry for analysis. *diag* Oil & Gas J 56:243 S 15 '58

Microcarbon and hydrogen determination by automatic combustion control; abstract. E. Stehr. *Pet Refiner* 37:205 My '58

Micromethods for analysis of petroleum. A. R. Javes and C. Liddell. *bibliog* diags Anal Chem 30:1570-5 S '58

Modern trends in petroleum analysis. H. Powell and W. H. Thomas. *bibliog* (49 ref) diags Inst Pet J 44:19-28 F '58

Polarographic estimation of thiophenes and aromatic sulfides in petroleum. H. V. Drushel and J. F. Miller. *bibliog* Anal Chem 30:1271-80 Jl '58

See also

Hydrocarbons—Analysis

Naphtha—Analysis

Automatic custody transfer

See Petroleum—Measurement

Bibliography

Abstracts. Published in monthly numbers of Journal of the Institute of petroleum

Blending

New controller recorder gravitometer makes possible blending crudes automatically. H. A. Brainerd and J. J. Piro. *il* diag Oil & Gas J 55:78-81 D 2 '57

Chemistry

Capillarmetric method for measurement of crude oil wetting tendencies. H. N. Dunning and R. T. Johansen. *bibliog* diag Pet Eng 30:B26-7 Jl '58

New light on oil; convincing evidence suggests that oil started from physical rather than chemical process. Chem & Eng N 36: 54 S 22 '58

Polycycloparaffin hydrocarbons in petroleum.

B. J. Mair and others. *bibliog* Ind & Eng

Chem 50:115-16 Ja '58

See also

Petroleum chemicals

Concessions

Algerian rights eyed. map Oil & Gas J 56:74 Ap 28 '58

Argentina still is cool. Oil & Gas J 56:86 Je

Bandini gets drilling rights in British Hon-

duras. Oil & Gas J 56:105 Mr 24 '58

Big Bolivian concession goes to three Ameri-

can independents. map Oil & Gas J 56:99

Ja 20 '58

Bolivian acreage scheduled to be granted to

fish. Oil & Gas J 56:103 Mr 24 '58

Canadians win acreage in partnership deal

with Iran. map Oil & Gas J 56:61 Je 30

'58

Drileco operations extended to Bolivia. Pet

Eng 30:B39 Ja '58

Fish lands rights in Bolivia with high bid.

Oil & Gas J 56:74 Ap 28 '58

High price tag fixed on Middle East conces-

sions by Japanese-Kuwait pact. Oil & Gas

J 56:116 My 19 '58

Independent looks at Venezuelan oil; inter-

view with C. V. Hagen. Pet Eng 30:B26-4

Ja '58

Indonesia closes door to Shell in northern

Sumatra. Oil & Gas J 56:84 F 10 '58

Iran ready to grant new concessions. map

Oil & Gas J 56:104 Mr 24 '58

Japan pays bonus for neutral zone offshore

concession. Oil & Gas J 56:109 Ap 21 '58

Japanese shop for new deals in wake of

neutral zone success. Oil & Gas J 56:121

S 15 '58

Japanese sign deal with Saudi government

for offshore concession. Oil & Gas J 55:81

D 16 '57

Kuwait rights given to Japanese for half

of neutral zone waters. Oil & Gas J 56:98

My 12 '58

Mattel mad at Americans over loss of Libyan

concession. Oil & Gas J 56:69 Ja 13 '58

New Bolivian concession. Oil & Gas J 56:76

D 2 '57

New interest in Paraguay. map Oil & Gas J

56:71 F 3 '58

Oil search is picking up in Philippines. *il* map

Oil & Gas J 56:120-1 S 1 '58

Pan Am gets blocks in Libya. map Oil &

Gas J 56:82 Ap 14 '58

Pan Am pays \$25 million bonus for Persian

Gulf permit. Pet Eng 30:B88 Jl '58

Paraguay interest picking up. map Oil &

Gas J 56:75 Ap 28 '58

Pan Am in Venezuela to get rougher. Oil & Gas J

56:82-3 F 18 '58

Peru's petroleum laws invite private capital.

Pet Eng 30:A32 Ap '58

Prize Itranium plot landed by Standard of

Indiana. Oil & Gas J 56:84 My 5 '58

Rimrock selects site in Paraguay for first

wheat on international products corp.

concessions. map Oil & Gas J 56:84-5 Je 9

'58

Selection of new regions for overseas ex-

ploration. W. E. Wallis and E. M. Mc-

Natt. *il* maps diags Geophysics 23:305-17

Ap '58

75-25 split signed by Italians and Morocco.

Oil & Gas J 56:73 Ar 4 '58

Shell claims crude bound for California re-

finery from Sumatra. Oil & Gas J 56:140

Ja 27 '58

Sumatra oil moves to Japanese refinery. Oil

& Gas J 56:89 Je 23 '58

Tunisia awards acreage to Conorada petro-

leum corp. map Oil & Gas J 56:88 My 5

'58

U.S. firms go abroad. L. M. Fanning. Oil &

Gas J 56:10 Ap 21 '58

U.S. operator spurs European search. map

Oil & Gas J 56:51-2 S 29 '58

Venezuelan know-how. H. A. Franklin and

W. D. Miller. maps Oil & Gas J 56:76-9

F 3; 132-4 F 24 '58

Want to seek oil in Colombia? E. Ospina-

Racines. *il* Pet Eng 30:E3-6+ F '58

Who got new concessions and what they cost.

N. R. VanMiddlesworth. Pet Eng 29:E6-7 N

'57

See also

Arabian American oil company

Conservation

See also

Petroleum—Proration

Custody transfer

See Petroleum—Measurement

PETROLEUM—Continued

Deshydration

See also

Petroleum—Water problem

Desalting

See Petroleum refining—Salt removal

Dewaxing

See Petroleum refining—Wax removal

Drilling muds

See Petroleum—Mud fluids

Emulsions

Electrical treating of refinery distillates. R. W. Stenzel. flow diag Pet Eng 29:C 15-17 D '57

Evaporation losses

Chart reveals tank's vapor formation rate. S. D. George. Pet Refiner 37:362 S '58
Evaporation loss becomes production gain; vapor recovery system. R. E. Fields. biblog flow diag diag Pet Eng 30:B121-4 Je '58; Same abr. Oil & Gas J 56:73-6 J1 21 '58

Floating-roof performance from fixed-roof tanks in reducing evaporation losses. K. C. Bottenberg. biblog il diags Oil & Gas J 56:100-2+ J1 21 '58

Measure vapor losses with radioisotopes. A. J. Brandel and D. E. Hull. Pet Refiner 37: 195-6 Mr '58

Microballoons; five years later. Oil & Gas J 56:224 Ag 18 '58

Reduction of evaporation losses; abstract. A. Charnaknat. Ind Chemist 34:571-2 O '58

Vapor loss is cut by plastic spheres and blankets in storage tanks; abstract. K. C. Bottenberg. Oil & Gas J 56:90 My 12 '58

Gas injection

See Petroleum—Production methods

Gas mixtures

Bubble point pressure correlation. J. A. Laester. J Pet Tech 10:55-7 My '58

Concurrent flow of air, gas-oil, and water in a horizontal pipe. D. P. Sobocinski and R. L. Huntington. biblog diag A S M E Trans 80:252-5; Discussion. 255-6 Ja '58

Elements of field processing (cont.) J. M. Campbell. diags Oil & Gas J 55:151-2 biblog(p 151-2) N 4; 126-7 D 9 '57; 56:122 Ja 6; 148 Ja 20; 101-2 F 3; 111 F 17; 97-8 Mr 31; 166+ Ap 21; 104-5 My 5; 122-3 Je 16; 94-5 Je 30 '58

Evidence of chromatographic effect during flow of gases through field cores. W. A. Roper and others. biblog J Pet Tech 10: 61-3 Mr '58

How uphill and downhill flow affect pressure drop in two-phase pipelines through hilly country. W. E. Brigham and others. biblog il Oil & Gas J 55:145-6+ N 11 '57; Same. Pet Eng 29:D39-42 N '57; Discussion. O. Baker. Oil & Gas J 55:150+ N 11 '57; Pet Eng 29:D42+ N '57

Liquid reserves 39.67 billion barrels, 1957; with tables. Oil & Gas J 55:160-2 Ja 27 '58

Offshore pipeline system designed for two-phase flow. T. W. Sigler and W. L. McNatt. il map diag Pet Eng 29:D46-7+ N '57

Open-hole packers shut off gas. E. McGhee. Oil & Gas J 55:111-12 D 9 '57

Pacific petroleum. Ltd.'s field-processing-plant complex. C. R. Hetherington. flow diags il maps diags Oil & Gas J 56:93-109+ J1 7 '58

Spot those gas zones with neutron logging. B. H. Bailey and others. Oil & Gas J 55: 368+ N 13 '57

Three-stage separators handle two-phase flow from offshore wells. L. Resen. il diag Oil & Gas J 56:176+ My 19 '58

Geology

Age-dating rocks from wildcat wells. W. J. Yost. Oil & Gas J 55:212-16 N 18 '57

Colombia's geological features. W. C. Hatfield. il map Pet Eng 30:B21-5+ F '58

Complex geologic structures in Texas indicate careful groundwork pays off in Cooke and Grayson counties. M. C. Kelsey. maps diag Oil & Gas J 56:142-5 F 3 '58

Compressibility of sandstones at low to moderate pressures. I. Fatt. biblog diag Am Assn Pet Geologists Bul 42:1924-57 Ag '58

Cooking Lake and Duvernay (late Devonian) sedimentation in Edmonton area of central Alberta, Canada. J. M. Andrichuk. maps diags Am Assn Pet Geologists Bul 42:2189-222 S '58

Cretaceous possibilities good for northwest Kansas. D. F. Merriam. biblog map Oil & Gas J 56:138-9+ Mr 31 '58

Delaware basin what traps its oil? C. F. Dodge. maps diag Pet Eng 30:B48+ My '58

Depositional topography; examples and theory; electric well-log cross sections and isopach maps in the late Pennsylvanian and early Permian of western Texas. D. C. Van Sienlen. biblog maps diags Am Assn Pet Geologists Bul 42:1937-913 Ag '58

Differential entrapment of oil and gas in Arbuckle dolomite of central Kansas. R. F. Walters. maps diags Am Assn Pet Geologists Bul 42:2133-73 biblog(p2172-3) S '58

Effect of overburden and reservoir pressure on electric logging formation factor. I. Fatt. biblog diags Am Assn Pet Geologists Bul 41:2456-66 N '57

Environmental studies of carboniferous sediments; application of geochemical criteria. E. T. Degens and others. biblog map diags Am Assn Pet Geologists Bul 42:981-97 My '58

Environmental studies of carboniferous sediments; geochemical criteria for differentiating marine from fresh-water shales. E. T. Degens and others. biblog flow diag map diags Am Assn Pet Geologists Bul 41:2427-55 N '57

Frío offers lucrative hunting. A. M. Tolbert. maps diag Oil & Gas J 56:156-7+ Ja 6 '58

Geological research and the American petroleum institute. C. I. Alexander. Oil & Gas J 55:159-62 N 18 '57

Geological province; how and where its oil and gas occur. G. E. Murray. maps Oil & Gas J 55:109-16 N 4 '57

Herrera subsurface structure of Penal field, Trinidad. B.W.L. P. Bitterli. biblog maps diag Am Assn Pet Geologists Bul 42:145-58 Ja '58

In southern Oklahoma counties wildcaters turn to the Ordovician. N. S. Morrissey. maps Oil & Gas J 56:270+ My 19 '58

Is there oil in Oregon? F. D. Hansen. biblog map diags Oil & Gas J 56:183-4 My 12 '58

Kansas looks at its Precambrian; abstract. O. C. Farquhar. map diag Oil & Gas J 56: 252 Mr 10 '58

Los Bajos fault and its relation to Trinidad's oilfield structures. C. C. Wilson. biblog map diag Inst Pet 44:24-36 My '58

Maritimes offer new challenge. W. S. Shaw. biblog maps diag Oil & Gas J 56:252-4+ Ag 18 '58

Mississippian sedimentation and oil fields in southeastern Saskatchewan. R. W. Edle. biblog(26 ref) maps diags Am Assn Pet Geologists Bul 42:94-126 Ja '58

Newest major oil province at Swan Hills, Alberta. il maps diags Oil & Gas J 56:169-71+ Ag 18 '58

Northeastern British Columbia: giant of the future. G. L. Gray. maps diags Oil & Gas J 56:128-35 Ag 18; 74-9 Ag 25 '58

Oil and gas possibilities of Onachita structural belt in Texas and Oklahoma. A. Goldstein. Jr. and P. T. Flawn. Am Assn Pet Geologists Bul 42:876-81 Ap '58

Operators in the nadar hit nearly one out of two. W. E. Swearingen and A. C. Hayden. maps Oil & Gas J 56:230-3 Ap 21 '58

Ordovician oil may leap border. F. J. Gardner. map Oil & Gas J 55:149 D 2 '57

Ordovician may lures attraction in southern Oklahoma. F. P. Schweers. maps Oil & Gas J 56:126-31 Mr 17 '58

Paleozoic stratigraphy and oil possibilities of Kaiparowits region, Utah. E. B. Heymum. biblog maps diag Am Assn Pet Geologists Bul 42:1781-811 Ag '58

Pennsylvanian system of Four Corners region. S. A. Wenger and M. L. Matheny. maps diags Am Assn Pet Geologists Bul 42:2048-106 biblog(p2102-6) S '58

Performance of the Sussex area Tensleep reservoirs. T. R. Bevins. maps diags J Pet Tech 10:19-23 Ja '58

Permian Basin correlator; chart. Oil & Gas J 56:235 Ap 7 '58

Petroleum geology of eastern Peru today. W. Ruegg. biblog maps diags Pet Eng 30: B32-6+ Ap '58

Petroleum reservoirs in Kansas. map Oil & Gas J 56:165+ J1 14 '58

Petrology of Beaver Lodge Madison limestone reservoir, North Dakota. D. Towse. biblog il maps diags Am Assn Pet Geologists Bul 41:2493-507 N '57

PETROLEUM—Geology—Continued

- Pre-Cretaceous, Alberta's big source of oil; cretaceous, Alberta's big source of gas. J. R. Pow. maps diags Oil & Gas J 56:151-3 Ap 28 '58
- Preliminary considerations of Alborz oil reservoir at Qum. H. Farkhan and J. Tavarna. bibliog map Inst Pet J 44:45-8 Mr '58
- Professor lament and an editor replies. O. T. Hayward; R. J. Gardner. Oil & Gas J 56:227 Mr 17 '58
- Rate of migration of petroleum by proposed mechanisms. J. G. Roof and W. M. Rutherford. bibliog diag Am Assn Pet Geologists Bul 42:963-80 My '58
- Steelman field, an 80-million-barrel strat trap in Saskatchewan. J. Nesbitt. bibliog il maps diags Oil & Gas J 56:149-50+ Ag 18 '58
- Stratigraphic classification and terminology. H. D. Hedberg. diag Am Assn Pet Geologists Bul 42:1881-96 Ag '58
- Venezuela is divided into three basins. G. Zuloaga. maps diags Pet Eng 29:B21-7 N 57
- What causes variations in radioactivity intensity over oil pools? J. A. Miller. bibliog diags Oil & Gas J 56:245-6 Mr 10 '58
- Wildcatter's delight, an undrilled basin; Hecate basin and Queen Charlotte islands. C. W. Hunt. il map Oil & Gas J 56:136-40 Ag 18 '58
- See also
American association of petroleum geologists
Petroleum—Prospecting

Lease automatic custody transfer

See Petroleum—Measurement

Measurement

- Automation in custody transfer and trunk-line operation, plus pressure reduction to feature Four Corners pipeline. R. W. Guthrie, jr. map Oil & Gas J 56:113-14 My 5 '58
- Bi-directional prover can solve metering problems. M. L. Barrett, jr. il diag Oil & Gas J 56:179-81 Ap 21 '58
- Does your meter need proving? calibrate tank cars at the same time. T. Y. Yang. il diag Pet Refiner 37:167-9 Ja '58
- Esso engineers have come up with a new way to measure product in slack lines. diags Oil & Gas J 56:38-41 S 8 '58
- First LACT system for low-gravity viscous crudes. D. H. Stormont. il diag Oil & Gas J 56:82-6 D 2 '57
- First LACT unit star performer. il Oil & Gas J 56:114 F 17 '58
- Greater rewards from LACT. H. L. Shatto and A. E. Hall. bibliog Oil & Gas J 56:133-9 Ap 7 '58; Abstract. Pet Eng 30:D39-41 My '58
- Here's the way to proper meter calibration. M. A. Levy. Oil & Gas J 56:107-9 Je 30 '58
- High-capacity p/d meters; three barrels per second. M. J. Dabney. il S A J 5:54-7 F '58
- How Cities Service is using p.d. meters for LACT. E. McGhee. flow diag il Oil & Gas J 56:74-7 Ja 13 '58
- LACT; a youngster now, soon a giant. Oil & Gas J 56:54-7 S 22 '58
- LACT rule asked by Shell in Texas to allow blanket use of systems. Oil & Gas J 56:109 Ap 7 '58
- Meter contest: turbine-type vs. positive-displacement. il Oil & Gas J 56:67 Ap 14 '58
- Meter proving. M. L. Barrett, jr. il diags Oil & Gas J 56:153-5 F 24; 201-2+ Mr 10; 213-15 Mr 24; 179-81 Ap 21; 133+ My 5 '58
- Meter station for pipeline-refinery custody transfer. F. E. Pveatt, jr. diag Oil & Gas J 56:148-9 S 15 '58
- New turbine-type meters for custody transfer of crude petroleum and petroleum products. A. R. Dunlop and C. A. McCutcheon. il diag Oil & Gas J 56:83-5 S 22 '58
- Positive-displacement metering; Interprovincial pipe line co. R. B. Canning. diags Oil & Gas J 56:200-1 S 15 '58
- Remote control and gaging, automatic blending, with microwave providing voice and supervisory control channels; Magnolia pipe line co. G. J. Dorris, jr. and G. A. Lundberg. il map diags Oil & Gas J 56:182-3+ S 15 '58
- Through history with standards. Mag of Stand 29:79 Mr '58
- Weight measures flow in new unit. diag Oil & Gas J 56:66 S 8 '58
- What we know now about LACT, and why we like it. E. McGhee. il diags Oil & Gas J 56:130-1+ Ja 20 '58
- Who picks up the tab for LACT? panel discussion. Oil & Gas J 56:192+ My 19 '58

Mud fluids

- Conversion table for mud weights. Pet Eng 30:Elh J1 '58
- Degassers. C. R. Graham. il diags Pet Eng 29:B31-2 D '57
- Drilling fluids. O. W. Van Dyke. Pet Eng 30:B48 Mr '58
- Extreme pressure lubricated mud. Pet Eng 30:B 160 Mr '58
- Fundamental approach to well bore stabilization; with field application case histories and operating experiences. W. J. Weiss and others. bibliog il diags Pet Eng 30:B43+ Ap '58
- Gyp muds now practical for Louisiana coastal drilling; new thinner, ferrochrome lignosulfonate. J. M. Hurdle. bibliog Oil & Gas J 55:93-5 O 28 '57
- Inverted emulsion mud cuts drilling costs. R. M. Waltman and T. F. Cox. il diag. Pet Eng 30:B42+ Ag '58
- Mud additive extends life of drill bit. il Oil & Gas J 56:94 F 24 '58
- Mud pressure gradient; API method for reporting mud weight, or mud density. Pet Eng 30:B 119-20 Ja '58
- New oil base mud trims cost and improves drilling. J. E. Atkinson and G. G. Baker. il map Pet Eng 30:B30-4 Je '58
- New squeeze for lost circulation. D. R. Ruffin. Oil & Gas J 55:96-7 O 28 '57
- Prices trimmed on bits, mud. Oil & Gas J 56:90-1 My 12 '58
- Salvaged mud saves \$813,670. D. M. Jeffus, jr. and V. T. Jones, jr. diag Oil & Gas J 56:119-21 Ap 14 '58
- Surfactants score on three counts. L. Lawrence. Oil & Gas J 56:122-3 Ap 14 '58
- Transporting oilwell mud. il Engineering 185:581 My 9 '58
- Use of Binacal oil-base mud in the Dukhan field; abstract. Inst Pet J 44:71 Mr '58

Nitrogen content

See Petroleum refining—Nitrogen removal

Paraffin problem

- Effect of flow rate on paraffin accumulation in plastic steel and coated pipe. F. W. Jessen and J. N. Howell. bibliog il diag J Pet Tech 10:80-4 Ap '58
- Effect of oil field use of chlorinated solvents on catalytic reforming. J. A. Guthrie and P. S. Hepp. Pet Eng 29:C40+ D '57

Prices

- California bids for Four Corners crude. Oil & Gas J 55:66-7 D 9 '57
- California prices cut by General Petroleum and Union. Oil & Gas J 56:66 Je 16 '58
- California prices drop for heavy crudes and fuel oil. Oil & Gas J 56:94 Ap 21 '58
- Costs threaten tri-state producers. Oil & Gas J 55:30-1 D 23 '57
- Crude market nervous. Oil & Gas J 56:72 Ja 6 '58
- Crude prices boosted in Oklahoma and Kansas. Oil & Gas J 56:62 Ag 4 '58
- Crude prices cut in two areas. Oil & Gas J 56:76 Je 23 '58
- Crude prices; what the changes mean. Oil & Gas J 55:27-8 D 23 '57
- Fresh look at crude-oil values. N. R. Adams and R. C. Kersten. flow diag Oil & Gas J 56:125-8+ F 24 '58
- Gravity vs. value. Oil & Gas J 55:76 D 16 '57; 56:117 My 26 '58
- Independent petroleum association of America forecasts domestic crude production hike. Pet Eng 29:B84 D '57
- Industry watching new price moves. Oil & Gas J 56:65-6 F 10 '58
- Kernaco poses new issues; who pays for gathering? D. A. McGee. Oil & Gas J 56:82-3 F 24 '58
- Low Middle East price posted by Getty for low-gravity neutral zone crude. Oil & Gas J 56:66 Ag 25 '58
- Lower prices posted for condensate. Oil & Gas J 56:74-5 Ap 14 '58
- Market tone is perking up. Oil & Gas J 56:143 J1 28 '58
- More prices cut. Oil & Gas J 56:117 Ap 7 '58
- New price cuts are kept small, local. Oil & Gas J 56:57 Ja 13 '58
- Next two months critical for industry. Oil & Gas J 56:81-2 Mr 10 '58
- Oil-price shifts continuing throughout country. Oil & Gas J 56:83 J1 7 '58
- Oil prices cut in three areas. Oil & Gas J 56:55 Je 30 '58
- Oil throttles back to shrink surplus to get supplies in balance with demand before price structure breaks. Oil & Gas J 56:81-3 F 24 '58

PETROLEUM—Prices—Continued

Penn. Grade in trouble again. Oil & Gas J 56:51 Je 30 '58
 Price cuts hit 29 per cent of U.S. output. Oil & Gas J 56:53-4 Ap 28 '58
 Product prices throughout the world. W. L. Nelson. Oil & Gas J 56:111-12 Ja 13; 117 My 26 '58
 Refiners didn't cash in on shortage. Oil & Gas J 56:200+ Ja 27 '58

Production estimates

Citronelle evaluated by Core lab. Oil & Gas J 56:106 Ap 21 '58
 Distribution of fluid properties in a high relief oil-field and its effect upon the material balance. H. K. Grant. biblog Inst Pet J 44:51-9 Mr '58
 Figuring net pay in carbonate reservoirs. R. E. Stewart. Oil & Gas J 56:64-8 D 23 '57
 Future productive capacity and probable reserves of the U.S. W. Davis. biblog flow diag il diags Oil & Gas J 56:105-19 F 24 '58; Discussion. 56:112+ My 19 '58
 Here's a nomographic method of predicting reservoir performance. I. Dye. biblog diags Oil & Gas J 55:178-80+ N 11 '57
 How to evaluate an oil field. W. Swearingen. Oil & Gas J 56:230+ Ap 7 '58
 Management's use of petroleum engineering evaluations. J. M. Houchin. J Pet Tech 10:11-12 J1 '58
 New ways to evaluate formations. H. M. Johnson. diags Oil & Gas J 56:105-6+ Ap 14 '58

Production methods

ABC's of treating and handling injection water. L. L. Laurence and W. E. Leuszler. il diags Pet Eng 30:B72+ Ag '58 (to be cont.)
 Application of a resistance network for studying mobility ratio effects. M. A. Nobles and H. B. Janzen. biblog il J Pet Tech 10:60-2 F '58
 Application of numerical methods to predict recovery from thin oil columns; abstract. H. H. Rachford, jr. and others. J Pet Tech 10:59 Ag '58
 Application of the Buckley-Leverett frontal advance theory to petroleum recovery. S. G. Dardaganian. biblog J Pet Tech 10:49-52 Ap '58
 Aramco will try sea-water injection. Oil & Gas J 56:121 J1 28 '58
 Are we making water systems too complex? H. L. Bilhartz. J Pet Tech 10:13-16 S '58
 Big Nebraska flood planned. il Oil & Gas J 56:32 Je 23 '58
 Big North Dakota unit sought. Oil & Gas J 56:39 Mr 10 '58
 Bone up on the legal tools; secondary-recovery project. R. R. Huff. Oil & Gas J 56:124-7 Ap 14 '58
 Calculation of linear waterflood behavior including the effects of capillary pressure; abstract. J. Douglas, jr. and others. J Pet Tech 10:Trans 131A Je '58
 Cause, prevention, evaluation and cure of formation damages. C. Gatlin. biblog diags Pet Eng 29:B 102+ N '57
 Centralia water flood; pre-planned automation pays off. K. W. Foster. il diags Pet Eng 30:B 116+ Mr '58
 Challenge in oil field mechanical development. P. A. Huber. biblog il diags Pet Eng 30:B22-31 J1 15 '58
 Chemical compatibility problems in water-injection systems. G. J. Samuelson and B. H. Moore. biblog il diags Oil & Gas J 56:113+ Mr 3 '58
 Citric roams the rigs; citric acid's role in secondary oil recovery. il Chem & Eng N 36:25-7 J1 21 '58
 College men attack waterflood problem. il Pet Eng 30:B 131 J1 15 '58
 Colorado flood looks good. Oil & Gas J 56:74 Mr 3 '58
 Comparison between the predicted and actual production history of a condensate reservoir. J. K. Rodgers and others. biblog J Pet Tech 10:Trans 127-31 Je '58
 Conoco plans new LPG flood. Oil & Gas J 56:73 Ap 28 '58
 Corrosion problems in water flooding. R. W. Amstutz. il Corrosion 14:65-9 My '58
 Deriving maximum profit from hydraulic fracturing. G. C. Howard and others. biblog Oil & Gas J 56:81-3 My 26 '58
 Deterioration of miscible zones in short cores; abstract. A. Sievert and others. J Pet Tech 10:sup90A S '58
 Early LPG flood runs into trouble. map Oil & Gas J 55:59-60 D 2 '57

Eastern Kentucky's first water flood pays off. W. M. Nabors and C. E. Whieldon, jr. map diag Oil & Gas J 56:126-7 My 12 '58
 Estimation of ultimate recovery from solution gas-drive reservoirs. W. L. Wahl and others. biblog J Pet Tech 10:Trans 132-3 Je '58
 Europe's biggest field halts pressure decline by water injection. J. A. Kornfield. il maps Oil & Gas J 56:116+ F 17 '58
 50 per cent recovery by fire drive; situ combustion. V. S. Swaminathan. il Oil & Gas J 56:129+ Je 2 '58
 Finding LPG can be tough. il Oil & Gas J 56:69 Je 16 '58
 Fire flood works, but costs are high. il diag Oil & Gas J 56:106-7 S 1 '58
 First fracturing barge built. il Oil & Gas J 55:77 D 9 '57
 First fracturing barge launched on Venezuela's Lake Maracaibo. Pet Eng 30:B 104 Ja '58
 Flood ideas changing; secondary recovery symposium. Wichita Falls, Tex. Oil & Gas J 56:94 My 12 '58
 Flood picture bright at west Texas' Cogdell field. map Oil & Gas J 56:112 S 1 '58
 Flood report holds Citronelle's fate. il Oil & Gas J 56:72-3 Mr 2 '58
 Flood '52; retrospective look at a profitable water flood. S. F. DeVore and F. F. Wright. biblog flow diag maps diag J Pet Tech 10:11-14 Ap '58
 Floods seen as solution in Spraberry. R. J. Enright. map Oil & Gas J 56:63-5 My 5 '58
 Fluid dynamics during an underground combustion process; abstract. L. A. Wilson and others. J Pet Tech 10:60A J1 '58
 Fluid injection for oil recovery; what it can do and can't. G. Roberts, Jr. and T. M. Geffen. Oil & Gas J 56:86-7+ Ag 25 '58
 Fluid injection means more reserves. Oil & Gas J 56:46-7 Je 30 '58
 Fracturing 89 per cent successful. G. R. Locker. diag Oil & Gas J 56:94+ Ja 13 '58
 Fracturing has changed pattern of U.S. drilling. Oil & Gas J 55:81-2 D 23 '57
 Gas injection in Wilmington field. R. V. Higgins and R. L. Pierce. map diags Pet Eng 30:B 103+ My '58
 Gas to jump Sims sand output. map Oil & Gas J 56:40 D 23 '57
 Ghawar gas plant to reinject gas into Saudi Arabian field. Oil & Gas J 56:101 Mr 10 '58
 Gravity drive helps drillers. diag Oil & Gas J 56:32 My 12 '58
 How fractured limestone responds to water flooding. W. E. Nolan and G. R. Locker. diags Oil & Gas J 55:100-2+ O 28 '57
 Huge Texas recovery project started; gas injection and water flooding of Seeligson field. il map diag Oil & Gas J 56:41-3 Je 30 '58
 Hydraulic fracturing; fracture flow capacity vs well productivity. H. K. van Poolen and others. biblog J Pet Tech 10:Trans 91-5 My '58
 In Oklahoma's Creek county, water flooding reaches deeper. N. S. Morrissy. il Oil & Gas J 56:116-17 Ag 11 '58
 Injection of detergent slugs in water floods; abstract. J. J. Taber. J Pet Tech 10:59 Ag '58
 Isotopes go underground; underground petroleum tagging. il Ind & Eng Chem 50:sup25A-6A My '58
 Laboratory evaluation of prospective enriched gas-drive projects. D. M. Kehn and others. J Pet Tech 10:45-8 Je '58
 Laboratory studies of five-spot waterflood performance; abstract. L. A. Rapoport and others. J Pet Tech 10:Trans 131A Je '58
 Laboratory study of laminar and turbulent flow in heterogeneous porous limestones; abstract. C. R. Stewart and W. W. Owens. J Pet Tech 10:Trans 131A Je '58
 Latest recovery method gets approval from Texas commission. Oil & Gas J 55:156 N 18 '57
 Linear programming model for scheduling crude oil production. A. S. Lee and J. S. Aronofsky. biblog J Pet Tech 10:51-4 J1 '58
 LPG floods look good in the field; symposium. Oil & Gas J 56:60-1 Mr 31 '58
 LPG pilot flood turns up new clues. Oil & Gas J 56:80-1 D 9 '57
 LPG spurs Bisti production at Sunray project. Oil & Gas J 56:56-7 J1 21 '58
 Maximum recovery: how far have we come? V. E. Stepp and E. R. Browncombe. il Oil & Gas J 56:171-3+ S 1 '58

PETROLEUM—Production methods—Continued

- Method for predicting pressure maintenance performance for reservoirs producing volatile crude oil. R. H. Jacoby and V. J. Berry, jr. bibliog diag J Pet Tech 10:Trans 59-64 Mr '58
- Miscible displacements of reservoir oil using fine gas. H. A. Koch, jr. and C. A. Hutchins, jr. bibliog diag J Pet Tech 10:Trans 7-10 Ja '58
- Miscible drive field applications; panel discussion. maps diag J Pet Tech 10:13-24 My '58
- Miscible drive, its theory and application. N. J. Clark and others. bibliog diag J Pet Tech 10:11-20 Je '58
- Miscible fluid displacement in porous media. J. W. Lacey and others. bibliog flow diag J Pet Tech 10:76-9 Ap '58
- Model for the mechanism of oil recovery from the porous matrix due to water invasion in fractured reservoirs. J. S. Aronofsky and others. J Pet Tech 10:Trans 17-19 Ja '58
- New bottom-hole heat pump melts oil block. il Oil & Gas J 56:61 S 22 '58
- New method of producing viscous crudes; natural dilution lifting. N. Lista. map diag Pet Eng 30:B21-5 Je '58
- New miscible flood planned by Atlantic Refining in huge Slaughter field. map Oil & Gas J 55:83 O 28 '57
- New packing method; mouified hydraulic fracturing technique. Oil & Gas J 55:81 O 28 '57
- Newest well stimulation technique; vibration fracturing. H. H. Mohaupt and H. A. Metzger. il diag Pet Eng 30:B30-4 Ag '58
- Oil production from the bottom up. il diag Westinghouse Eng 18:130-3 S '58
- Oil recovery by heat from in situ combustion. J. N. Ereston. bibliog il diag J Pet Tech 10:13-17 Ag '58
- Oil recovery by in-situ combustion. J. S. McNiel, jr. and J. T. Moss. bibliog map diag Pet Eng 30:B29-32+ JI '58; Same. Oil & Gas J 56:232-+ S 15 '58
- Oklahoma lifts restriction on waterfloods. Oil & Gas J 56:53 Mr 31 '58
- Orco launches unusual flood. il Oil & Gas J 56:104 Ap 21 '58
- Pembina LPG flood. Oil & Gas J 55:74-5 N 25 '57
- Pembina pilot water flood proving successful. J. J. Justen and P. J. Hoenmans. maps J Pet Tech 10:21-3 Je '58
- Pilot LPG injection underway at Bisti. D. M. Taylor. il maps diag Pet Eng 29:B38-40+ D '57
- Pilot water flood successful in Tucupido field. S. L. Chu and E. L. Baldwin. il maps Pet Eng 29:B43-4 N '57
- Pin-point heat warms oil zone. diag Oil & Gas J 56:111 S 15 '58
- Plunger lift method of oil production. C. M. Beeson and others. diag Pet Eng 30:B96+ Je; B58+ JI; B58+ Ag '58 (to be cont)
- Porosity balance versus water saturation determined from logs. M. P. Tixier. diag J Pet Tech 10:Trans 161-9 JI '58
- Pressure measurements during formation fracturing operations. J. K. Godbey and H. D. Hodges. J Pet Tech 10:Trans 65-9 Mr '58
- Process variables of in situ combustion. W. L. Martin and others. bibliog flow sheet J Pet Tech 10:Trans 28-35 F '58
- Producing stripper wells by gas lift in Peru. H. W. Winkler. il diag Pet Eng 30:B77-3+ Ap '58
- Production equipment. il Pet Eng 30:B71+ JI 15 '58
- Production practices in Venezuela are based on bigger volumes than those in U.S. H. L. Franklin and W. D. Miller. Oil & Gas J 56:132+ F 24 '58
- Reliable interpretation of waterflood production data. J. K. Jordan. bibliog J Pet Tech 10:18-24 Ag '58
- Repressuring improves production in Mapiri field. G. J. Clarke. map J Pet Tech 10:35-7 S '58
- Research needed in getting more oil from reservoir; abstract. E. O. Thompson. Oil & Gas J 55:146 N 18 '57
- Reservoir oil resaturation with gas during pressure build-up. M. G. Cheney. bibliog diag J Pet Tech 10:11-14 Ja '58
- Reservoir rock wettability; its significance and evaluation. J. E. Bobek and others. bibliog diag J Pet Tech 10:Trans 155-60 JI '58
- Resin cement aids waterflood control. J. R. Williams, jr. il diag Pet Eng 30:B28-9+ My '58
- Rich-gas drive yields high recovery; Seeligion flood. flow diag maps diag Oil & Gas J 56:80-5 Ag 4 '58
- Rich-gas flood works in Texas' Seeligion field. map Oil & Gas J 56:70-1 JI 14 '58
- Sand exclusion in oil and gas wells. G. H. Tausch and C. B. Corley, jr. bibliog diag Pet Eng 30:B38+ Je; B58+ JI '58
- Sea water flood in Peru. W. E. Harris and H. B. Zaremba. il Pet Eng 30:B 102+ Ap '58
- Shell boosts Centralia output; water flooding. Oil & Gas J 56:111 Ap 7 '58
- Skelly to switch from gas to butane in oil-recovery project in Texas. Oil & Gas J 56:71 S 8 '58
- Slaughter project will test new idea. map Oil & Gas J 56:68-9 Je 16 '58
- Smackover's problem; how to stop pollution without going broke? map Oil & Gas J 56:48-9 Ag 25 '58
- Socal stimulates output from California wells; abstract. A. B. Bristow and J. M. Vollmer. Oil & Gas J 56:68-9 My 26 '58
- Sound jars crude from sand. Oil & Gas J 55:35 D 23 '57
- Spraberry can be flooded. L. F. Elkins. maps Oil & Gas J 56:64-7 Je 30 '58
- Subsidence row flares over repressuring project in part of Wilmington field. Oil & Gas J 55:40 D 23 '57
- Sumatra fracturing program expanded. Oil & Gas J 56:69 Ag 4 '58
- Surfactant can hike water-injection rate. H. J. Schneider and others. diag Oil & Gas J 56:105-7 F 17 '58
- 10,680-acre waterflood underway in Oklahoma. Pet Eng 30:B 122 Ag '58
- Thermal recovery process; analysis of laboratory combustion data. A. L. Benham and F. H. Poettmann. J Pet Tech 10:83-5 S '58
- Three Texas floods approved. Oil & Gas J 56:103 My 19 '58
- Two ways to better oil recovery. C. D. Russell. bibliog map diag Oil & Gas J 56:117-21 F 10 '58
- Use of high-speed computers for predicting flood-out patterns; abstract. D. G. McCarty and E. C. Barfield. J Pet Tech 10:60A JI '58
- Water-flood oil recovery is lessened by restricting rates. J. F. Buckwalter and others. bibliog Oil & Gas J 56:88-99 Je 16 '58
- Water-flood project is fully automatic. N. S. Morrissey. il diag Oil & Gas J 56:135-6+ JI 7 '58
- Water-flood restrictions mean little; abstracts of two papers. W. E. Stiles, B. H. Erbeo. Oil & Gas J 56:99 Ap 21 '58
- Waterflooding gets a try at La Cira. H. Rodriguez. flow diag maps diag Pet Eng 30:B32-5 F '58
- Well stimulation practices in the Four Corners area. R. R. Wagner and J. D. Holland. il map Pet Eng 29:B48-51 D '57
- What are the Russians doing in oil drilling and production? diag Oil & Gas J 56:106-11 My 26 '58
- Which process is best for flooding? R. B. Chapman. map Oil & Gas J 56:127-8 JI 14 '58
- Will proration damage water floods? Oil & Gas J 56:94-5 Mr 24 '58
- Will shaly sands respond to water flooding? N. S. Morrissey. il map Oil & Gas J 56:168-9 Ap 7 '58
- Wilmington floods approved. Oil & Gas J 56:139 Ja 27 '58
- World-wide oil report; drilling, production, and pipeline. il Oil & Gas J 55:160-70+ D 30 '57

See also

- Petroleum—Acidation of wells
Petroleum—Mud fluids
Petroleum—Unit operation of pools

Production rate

- Depletion calculations for segregation drive. T. A. O'Brien. map Pet Eng 29:B38-32 N '57
- Tests measure perforating efficiency. il Oil & Gas J 56:132-3 Ja 27 '58

Proration

- Proration irks Texas. Oil & Gas J 55:82 O 28 '57
- Texas proration to end. Oil & Gas J 55:76 N 25 '57
- Will proration damage water floods? Oil & Gas J 56:94-5 Mr 24 '58

Prospecting

- Alaska's booming with oil exploring. il map Oil & Gas J 55:116-18 N 11 '57

PETROLEUM—Prospecting—Continued

Alberta, leads Canadian exploration. Oil & Gas J 56:135 Ag 4 '58
 Another strat trap discovered by accident. F. J. Gardner. map Oil & Gas J 56:263 My 19 '58
 Australian oil search gets boost. W. D. Mott. map Oil & Gas J 55:203-5 D 30 '57
 Brazilian firms vying for Bolivian exploration rights. Oil & Gas J 56:72 S 22 '58
 California firm taps hot water, plants to generate electricity. Oil & Gas J 56:38-9 My 12 '58
 Canadian drillers broaden their horizons. F. J. Gardner. map Oil & Gas J 56:251 Ag 13 '58
 Canadian exploration flourishes. map Oil & Gas J 56:154-5 S 8 '58
 Canadian operations are tied to tricky weather conditions. Oil & Gas J 56:151+ S 8 '58
 Canadian scoreboard for '57. map Oil & Gas J 56:232-3+ Mr 17 '58
 Dedicated exploration. G. B. Moody. Am Assn Pet Geologists. Bul 42:1509-13 J1 '58
 Drilling in Marañon basin of Peru. A. H. Allbee and S. T. Pees. map diags Pet Eng 30:B62+ Ap '58
 Eastern Canada bids for share of spotlight. J. D. McAlary and B. V. Sanford. maps Oil & Gas J 56:206-8 Ag 18 '58
 Exploration flares in California. J. C. McCaslin. maps Oil & Gas J 56:136+ Ag 4 '58
 Exploration problems in Peru. C. del Solar B. il Pet Eng 30:B21-5 Ap '58
 Finding oil tomorrow: where are our future reserves coming from? panel discussion. Pet Eng 30:B21-4 Ja '58
 Green river and Paradox draw the drillers' rigs. J. C. McCaslin. map Oil & Gas J 56:222-3 S 1 '58
 Here's a new oil-finding tool; it's aerial color photography. il Oil & Gas J 56:122-4 Mr 17 '58
 How geochemical analysis helps the geologist find oil. L. Horvitz. bibliog maps Oil & Gas J 55:234+ N 11 '57
 How to hatch a glass egg. F. J. Gardner. map Oil & Gas J 55:191 N 4 '57
 How to rediscover an oil field. map Oil & Gas J 55:147 N 25 '57
 Maritimes offer new challenge. W. S. Shaw. bibliog maps diag Oil & Gas J 56:252-4+ Ag 18 '58
 Mining subsidiary shapes oil future of the Oriente zone; exploration to end use. L. J. Herrera. jr. maps Pet Eng 30:B94+ Ap '58
 New frontiers open, old frontiers expand and salt domes fall to the bit. J. C. McCaslin. map Oil & Gas J 56:203-4 Je '58
 1958 a top year in exploration achievement. F. J. Gardner. map Oil & Gas J 56:129 S 22 '58
 Northeastern British Columbia; giant of the future. G. L. Goss. maps diags Oil & Gas J 56:128-35 Ag 18 '58
 Of mice and elephants. O. C. Clifford, jr. map Oil & Gas J 56:251 Mr 24 '58
 Oil exploration in northern Colombia. C. R. Goss. bibliog il map Pet Eng 30:B26-9 F '58
 Oil hunting in Canada; charts. Oil & Gas J 56:170-1 Je 16 '58
 Photogeology; it cuts time in surface mapping and is aiding exploration in western Canada. P. Euenning and A. J. Broscoe. il maps Oil & Gas J 56:179-80+ Ag 18 '58
 Professor lamentations and an editor replies. O. T. Hayward; F. J. Gardner. Oil & Gas J 56:227+ Mr 17 '58
 Sagging wildcat record. O. C. Clifford, jr. Oil & Gas J 56:84 Mr 17 '58
 Scale in exploration. O. C. Clifford, jr. diags Am Assn Pet Geologists Bul 42:1614-22 J1 '58
 Scipio, hottest thing in Michigan. R. E. Ives. map Oil & Gas J 56:214+ S 1 '58
 Selection of new regions for overseas exploration. W. E. Wallis and E. M. McNatt. il maps diags Geophysics 23:305-17 Ap '58
 Successful wildcats. maps Oil & Gas J 56:276+ Mr 24 '58
 Texans rush to be on ground floor for vast oil search in Alaska. Oil & Gas J 56:68-9 S 8 '58
 Three good strikes boom prospects for Sahara desert. M. Moyal. il map Oil & Gas J 56:91-4 My 5 '58
 We give you our uplook on what's ahead for exploration. map Oil & Gas J 56:204-5 Ja 27 '58
 Well tally; county, result, footage; tables by states. Oil & Gas J 56:252+ Ja 27 '58
 What is oil-finding talent? M. R. Mott. il Oil & Gas J 56:194-5+ F 17 '58

What price oil exploration? with cost data. C. T. Jones. il Oil & Gas J 56:144-5 Ja 13 '58
 What's hot? F. J. Gardner. map Oil & Gas J 56:131 Ag 25 '58
 Wildcat scoreboard for '57. B. W. Blanpied. maps Oil & Gas J 56:132+ Mr 17 '58
 Wildcatter's delight, an undrilled basin; Hecate basin and Queen Charlotte islands. C. W. Hunt. il map Oil & Gas J 56:136-40 Ag 18 '58
 Wildcaters watch Wyoming. J. C. McCaslin. map Oil & Gas J 56:362+ Ja 27 '58
 Wildcatting climb halted in '57. map Oil & Gas J 56:150-2 Ja 27 '58
 Yugoslavia, young oil province with good undeveloped prospects. G. de Mohrenschildt. map Oil & Gas J 56:156+ S 1 '58

Geophysical methods

Chief tool of the petroleum exploration geologist; the subsurface structural map. L. Sebring, jr. bibliog maps diags Am Assn Pet Geologists Bul 42:361-87 Mr '58; Same cond. Oil & Gas J 56:186+ J1 7; 130-3 J1 21 '58
 Directivity effect of elongated charges. A. W. Musgrave and others. il diags Geophysics 23:81-96 Ja '58
 Discontinuity; key word in oil finding. J. W. Phillips. maps diags Oil & Gas J 56:159-60+ Mr 17 '58
 Discovery of stratigraphic traps by the reflection seismograph. G. H. Westby. bibliog il diags Oil & Gas J 56:144+ Mr 17 '58
 Discovery of the Johns field. T. E. Peeler. maps Pet Eng 30:B64+ Je '58
 Experimental seismic method uses mechanical vibrator. Vibroseis. J. M. Crawford and W. E. N. Doty. Pet Eng 30:B94 Je '58
 Exploration geophysics. 1957. R. F. Bennett. Geophysics 23:193-1 Ap '58
 Exploration pictures bright for geophysicists. R. Bennett. il Oil & Gas J 55:108-9 D 23 '57
 Firms see higher fees as solution. Oil & Gas J 56:72-3 J1 14 '58
 Four experts look at future oil finding; panel discussion. Oil & Gas J 55:152-3 N 18 '57
 Fourth dimension in exploration; using what you have. E. A. Krieg, jr. Oil & Gas J 56:146-7 S 8 '58
 Geophysical oil-hunt picks up abroad. Oil & Gas J 56:80 My 5 '58
 Geophysical parties; no picnic in Colombia. il Pet Eng 30:B30-1 F '58
 I found oil by using sound subsurface geology and a little luck. T. E. Peeler. maps Oil & Gas J 56:168-70 My 5 '58
 Interdependence in world-wide oil exploration. D. C. Jon. Geophysics 23:318-25; Discussion. 225-8 Ap '58
 Magnetic data at 100 m.p.h. with the airborne magnetometer. W. B. Agocs. maps diags Oil & Gas J 55:125-6+ N 4 '57
 Magnetic recording is opening up new fields in instrumentation for seismic prospecting. L. B. McManis. il Oil & Gas J 56:116-13 Ja 6 '58
 New seismic method magnetically integrates seismic data in the field. N. S. Morrissey. il diags Oil & Gas J 55:192-4 N 4 '57
 Oil finder looks at his profession and scales it down to size. O. C. Clifford, jr. diags Oil & Gas J 56:156-60 My 26 '58
 Oil finders turn to strat traps as the best hope of finding major fields. Oil & Gas J 56:144-5 J1 28 '58
 Oil-finding theory is pushed. Oil & Gas J 56:66 Ag 25 '58
 Oil is found with ideas. P. A. Dickey. bibliog maps Oil & Gas J 56:234-7+ S 15 '58
 Refraction surveys work well in Alberta foothills. J. L. Robinson. diags Oil & Gas J 56:143-4 Ag 18 '58
 Reservoir parameters from the gamma-ray log. Cardium sand. Pembina field. T. E. Cutmore. map diags Oil & Gas J 56:97-100 F 3 '58
 Second look at your records by a competent geophysicist may prevent dry holes. R. Brewer. diags Oil & Gas J 56:167+ Je 9 '58
 Seismic activity hits all-time high. H. G. Patrick. Oil & Gas J 55:150-2+ D 2 '57
 Seismic crews take to the sea to prospect tideland waters. il Oil & Gas J 56:176 Je 9 '58
 Seismic reflection records obtained by dropping a weight. E. B. Neitzel. bibliog il diags Geophysics 23:58-80 Ja '58
 Seismic survey of Sinal and the Gulf of Suez. P. A. H. Masson and F. J. Armich. maps diags Geophysics 23:329-42 Ap '58
 Seismic work hits a slump. H. G. Patrick. Oil & Gas J 56:176-8 Mr 17 '58

PETROLEUM—Prospecting—Geophysical methods—Continued

7410-mile survey now being studied. *Pet Eng* 29:B62 D '57
Spectrometer spots oil and gas. *il S A J* 5:23 Mr '58
Strat traps are being mapped. *il Oil & Gas J* 55:130 N 11 '57
Successful shooting in Delaware basin. *M. E. Frostle. il map Oil & Gas J* 55:117-19-4 N 4 '57
Television helps read seismograms. *il Oil & Gas J* 56:114 Ap 7 '58
TV monitor new aid in seismic interpretation. *il Pet Eng* 30:B74 My '58
Two-gun approach hits multiple bull's-eye. *F. J. Gardner. map Oil & Gas J* 56:213 S 1 '58
World-wide geophysical activity sets new record in 1956. *Pet Eng* 30:B57-4 Ja '58

Pumping

Efficiencies and power required in estimating pumping costs. *W. L. Nelson. Oil & Gas J* 56:221 Ag 18 '58
Hydraulic system solves Galan pumping problems. *W. A. Gavrira. il map diag Pet Eng* 30:B44-7 F '58
New approach to net positive suction head. *L. T. Hendrix. diags Pet Refiner* 37:191-4 Je '58
New pump for high pressures. *il Oil & Gas J* 56:116 S 1 '58
Portable pumps save money. *il Oil & Gas J* 56:103 Mr 24 '58
Positive-displacement metering; Interprovincial gas pipe line co. *R. B. Canning. diags Oil & Gas J* 56:200-1 S 15 '58
Pressure-loss conversion chart for pumping fluids. *Pet Eng* 30:E 1g Ap '58
Pumping costs too high? dynamometer-card classification. *C. J. Merryman and D. K. Lawrence. diags Oil & Gas J* 56:112-14 My 12 '58
Pumping-depth record broken. *il Oil & Gas J* 56:103 My 19 '58
Sonic pump is ready. *il Oil & Gas J* 56:66-7 Jl 7 '58
24,041 wells to go on pump in '58. *Oil & Gas J* 56:192 Ja 27 '58
Weight of fluid on plunger in pumping wells, lb per 100 ft.; table. *Pet Eng* 30:E 1f Jl 15 '58

See also
Petroleum—Production methods
Sucker rods

Pumping, Electric

Electrification of petroleum production. *J. K. Howell and E. E. Hogwood. il diags West-inghouse Eng* 18:134-8 S '58
How Cities Service is using p.d. meters for LACTR. *E. McGhee. flow diag il Oil & Gas J* 56:74-7 Ja 13 '58
Oil-well electrification saves \$56,000; Cities service co.'s Ray pool, Kansas. *diag Elec World* 149:85 Ja 13 '58

See also
Petroleum pipe lines—Pumping stations. Electric

Noise

Oil wells make good neighbors. *D. P. Loye. il Noise Control* 4:26-31+ My '58

Repressuring

See Petroleum—Production methods

Salt content

Determining salt in crude oil. *K. G. Stoffer. Oil & Gas J* 56:115 Ja 13; 111 F 3; 129 F 10; 133 F 17 '58
Salt content of crude. *W. L. Nelson. Oil & Gas J* 56:155 Ja 20 '58

Sampling

Here are four more ways to collect samples. *diags Oil & Gas J* 56:83 Ag 4 '58
How to take a sample, and live. *J. Pearson. Oil & Gas J* 56:108, 112-13 Ag 4 '58
Sample trap collects air or gas-drilled samples. *K. E. LaPrade. diags Oil & Gas J* 56:86-8 Ag 4 '58

Slim hole drilling

See Petroleum—Well drilling

Statistics

Field wells classified by depth. Published in weekly numbers of Oil and gas journal
Total count of the Nation's completions, by states; tables. *Oil & Gas J* 56:149 Ja 27 '58
Well tally; county, result, footage; tables by states. *Oil & Gas J* 56:252-4 Ja 27 '58

See also

Petroleum supply

Sulfur content

Handling sour gas and oil production. *R. S. Birmingham. flow diag Oil & Gas J* 55:132 O 28; 133 D 9 '57; 56:127 Ja 6; 113 Ja 13; 275 Ja 27 '58
How to combat high-sulfur-fuel corrosion. *W. L. Nelson. Oil & Gas J* 56:61-2 S 23 '58
Interrelated effects of oil components on oxidation stability. *J. L. Jezl and others. bib-log diag Ind & Eng Chem* 50:947-50 Je '58
Sulfur content of U.S. crudes is decreasing slightly. *W. L. Nelson. Oil & Gas J* 56:165 S 1 '58

Tideland development

Big state lost and no action along Santa Monica bay. *Oil & Gas J* 56:70 Mr 3 '58
Contractors go farmout route in Gulf. *J. Reilly. il Oil & Gas J* 56:61-4 Je 9 '58
Deep Caribbean test planned. *map Oil & Gas J* 56:108 Mr 24 '58
Deep Panama test under way. *il map Oil & Gas J* 56:383 Jl 14 '58
Disputed Louisiana lease looks hot. *map Oil & Gas J* 56:72-3 My 5 '58
Drilling programmed off Peru. *il Oil & Gas J* 56:99 My 12 '58
Gloom has replaced offshore glamor. *J. Reilly. il Oil & Gas J* 55:64-6 D 16 '57
Gulf states unite for common fight to hold tidelands. *Oil & Gas J* 55:67 D 2 '57
High price tag fixed on Middle East concessions by Japanese-Kuwait pact. *Oil & Gas J* 56:116 My 19 '58
Hunt has strike off Texas. *map Oil & Gas J* 56:70 Je 9 '58
Ike again backs Texas in state's claim of three-league boundary. *Oil & Gas J* 55:68 D 16 '57
Iran plans leasing in Persian Gulf waters. *Oil & Gas J* 55:131 N 11 '57
Japan says bonus for neutral zone offshore concession. *Oil & Gas J* 56:109 Ap 21 '58
Japanese sign deal with Saudi government for offshore concession. *Oil & Gas J* 55:81 D 16 '57
Kermac drills on Barbados. *Oil & Gas J* 56:86-7 Jl 14 '58
Kuwait drives hard bargain. *Oil & Gas J* 56:103 Ja 20 '58
Kuwait rights given to Japanese for half of neutral zone waters. *Oil & Gas J* 56:98 My 12 '58
Long wait pays off with apparent discovery by Texaco off Louisiana coast. *Oil & Gas J* 56:80 Ag 11 '58
Louisiana offshore has banner year, expects another. *map Oil & Gas J* 56:218 Ja 27 '58
Low bridges-low blow to south Louisiana drilling operators. *Oil & Gas J* 56:81 Jl 14 '58
Mexico eyes U.S. Gulf. *Oil & Gas J* 56:134-5 Ja 27 '58
New role for ancient Persian gulf. *il map Oil & Gas J* 55:51 D 23 '57
Offshore bidding set at last by California agency. *map Oil & Gas J* 56:93 Ap 21 '58
Offshore drilling must wait; variance in offshore California's water depths and ocean-floor conditions. *Oil & Gas J* 56:56 Ag 4 '58
Offshore leasing riddle perplexes California officials. *Oil & Gas J* 56:78-9 Ja 20 '58
Offshore report. *il map diags Oil & Gas J* 56:91-112+ Je 9 '58
Pan Am gets ready to explore Persian Gulf under Iranian agreement. *Oil & Gas J* 56:85 Je 9 '58
Payout lags in Gulf; hearing before sub-committee of the House judiciary committee. *Oil & Gas J* 55:72 N 25 '57
Quick drilling expected off California. *map Oil & Gas J* 56:72-3 Jl 7 '58
Remote Persian Gulf test hits. *map Oil & Gas J* 56:120 S 15 '58
Salt-water plums await the picking. *F. J. Gardner. maps Oil & Gas J* 56:165 Je 9 '58
Seismic crews take to the sea to prospect tideland waters. *il Oil & Gas J* 56:175 Je 9 '58
Social drills off California. *il Oil & Gas J* 56:62 S 22 '58
State studies lease plan for California tidelands. *Oil & Gas J* 56:98 Mr 24 '58
States fight back for three-league offshore limit. *Oil & Gas J* 56:83 Ja 6 '58
Texas tidelands entitled to special hearing. *Oil & Gas J* 56:82 F 10 '58
Two offshore fields served by Shell's giant central terminal facilities. *J. E. Kastrop. il Pet Eng* 30:B74+ F '58

See also

Petroleum—Well drilling, Subaqueous

PETROLEUM—Continued

Transportation

Aneth haul. T. V. Broadbent. *il Pet Eng* 29: B46-7 D '57
Flexible oil barge. *il Engineer* 206:485-6 S 26 '58
1957 topples all records! 12th annual report survey; transportation improved. E. Adams. *il Pet Eng* 30:425-6 My '58
Oil transportation preferences; their bases. H. N. Emerson. *Oil & Gas J* 55:226-7-4 N 18 '57
Rough terrain bows to unusual new fuel train; giant tires. *il Oil & Gas J* 56:90 Ja 20 '58
Sahara oil is headache because of rebel attacks on pipeline and railroad. *il Oil & Gas J* 56:81 F 17 '58
See also
Petroleum pipe lines
Petroleum shipping terminals
Tank ships

Unit operation of pools

Big North Dakota unit sought. *Oil & Gas J* 56:89 Mr 10 '58
Cooperative water flood pays off at Dominguez. D. H. Stormont. maps *Oil & Gas J* 56:77-82 S 22 '58
Pickton units join. *Oil & Gas J* 56:100 Mr 24 '58
Unit plan to give Seeligson new zip. *il Oil & Gas J* 55:126-7 N 11 '57

Water flooding

See Petroleum—Production methods

Water problem

Air drilling with foam combats water influx. R. M. Reed. *Pet Eng* 30:B37+ My '58
Complexity of oil and gas corrosion. H. E. Waldrip and J. A. Rowe. *il diags Corrosion* 14:108+ F '58
Fluid grout for water control. W. Hower and others. *il diag Pet Eng* 30:B26-9 Je '58
How to handle water during air drilling; foaming-agent tests. *diag Oil & Gas J* 56:121 Ag 11 '58
Surfactant treatment selectively seals off water entry. W. E. Brown. *diags Pet Eng* 29:B72+ N '57
Water barrier boosts output. *diags Oil & Gas J* 55:96 N 4 '57
See also
Petroleum—Well cementing and plugging

Wax content

How to estimate wax content of lube stocks. W. L. Nelson. *Oil & Gas J* 55:181 D 16 '57
See also
Paraffin

Well blasting

Evaluate perforating effectiveness. *il diag Pet Eng* 30:B72+ Mr '58
Magnetic marks encased metal parts in high-explosive charge for oil-well blasting. P. Seaward. *il diags Electronics* 31:65-7 Ag 15 '58
New approach toward elimination of slug in shaped charge perforating. J. Delacour and others. *il diags J Pet Tech* 10:15-18 Mr '58
New jet charge eliminates carrot. *il Oil & Gas J* 56:62 J1 21 '58
Non-plugging emulsions useful as completion and well servicing fluids. G. G. Priest and T. O. Allen. *biblog J Pet Tech* 10:11-14 Mr '58
Slim, new gun works below tubing. *diags Oil & Gas J* 56:60 Je 30 '58
Tests measure perforating efficiency. *il Oil & Gas J* 56:132-3 Ja 27 '58

Well casing

Casing and drill pipe. S. Reynolds. *Pet Eng* 30:B45 Mr '58
Casing-joint thread lock. M. E. True and W. A. Pitts. *il Oil & Gas J* 56:116+ Je 2 '58
Casing the world's deepest well. *il Oil & Gas J* 56:77-9 Je 23 '58
How to calculate and apply annular friction losses between tubing and casing. R. W. Brown. *Pet Eng* 30:B22-6 Ag '58
How to remove casing valves under pressure; illustrated instructions. *Oil & Gas J* 55:115 N 25 '57
Hydrostatic pressure testing tubular goods in the field. C. Bendiks. *il Pet Eng* 29:B33-6 N '57
Long casing strings are routine. E. McGhee. *il Oil & Gas J* 56:108-7-4 Ag 11 '58
Mounting external gas failures; cathodic protection proving helpful in limiting damage. *Corrosion* 14:71-2 My '58

New record; 15,868 ft. of 954-in. casing. E. McGhee. *il Oil & Gas J* 56:91-3 Ap 23 '58
New technique tests casing in the hole. L. C. M. Darling. *il diags Pet Eng* 30:B119-20 Je '58; Same. *Oil & Gas J* 56:161+ Ag 18 '58
Primary cementing. E. H. Clarke, Jr. and A. S. Murray. *diags Oil & Gas J* 56:70-3 Ag 25; 179+ S 1; 226+ S 15 '58
Production of seamless casing and tubing; Colorado fuel and iron corp. Pueblo plant. M. Sumrall. *Iron & Steel Eng* 35:138-9 Mr '58
Steel firms giving river-yard service; casing and drill pipe. *il map Oil & Gas J* 56:78-9 My 12 '58
Taking fatigue, bite from high test drill pipe. C. R. Graham. *il diags Pet Eng* 30:B27-9 Ag '58
What's ahead in high strength tubular goods. A. B. Wilder. *diags Pet Eng* 30:B95-6+ F '58
World's longest casing string to 22,919 ft; Phillips petroleum co.'s no. 1-EE university well. *il Pet Eng* 30:B60-1+ J1 15 '58

Maintenance and repair

New cold patch for casing repair. *il Oil & Gas J* 56:72 F 17 '58
Plastic patch seals casing leaks. *il Pet Eng* 30:B32 Mr '58

Well cementing and plugging

Cement stations head south. *il Oil & Gas J* 56:87 J1 14 '58
Cementing. W. D. Owsley. *Pet Eng* 30:B50 Mr '58
Cementing job sets record at world's deepest hole; Pecos county, west Texas. *il Pet Eng* 30:B100 J1 '58
Factors affecting the rate of deposition of cement in unfractured perforations during squeeze-cementing operations. G. W. Binkley and others. *biblog diags J Pet Tech* 10:Trans 61-8 Mr '58
High-temperature oil well cement. I. R. Dunlap and F. D. Patchen. *biblog Pet Eng* 29:B60+ N '57
How to control slurry density during cementing operations; recording densitometer. J. P. Moran and D. G. Hartweg. *il diag Oil & Gas J* 56:88-90 Ap 28 '58; *Pet Eng* 30:B40+ My '58
New cement to improve wells. *Oil & Gas J* 56:114 Ap 7 '58
Primary cementing. E. H. Clarke, Jr. and A. S. Murray. *diags Oil & Gas J* 56:70-3 Ag 25; 179+ S 1; 226+ S 15 '58
Properties of cementing compositions at elevated temperatures and pressure. G. Carter and D. K. Smith. *biblog il J Pet Tech* 10:Trans 20-6; *Discussion*. B. E. Morgan. 26-7 F '58
Radioactive tracer logging with oil well cementing. R. G. Norelius. *diags Pet Eng* 29:B95-6+ N '57
Record casing string is cemented. *il Oil & Gas J* 56:74-5 F 10 '58
Resin cement aids waterflood control. J. R. Williams, Jr. *il diags Pet Eng* 30:B28-9+ My '58
Right cement for the right job. B. E. Morgan. *il Oil & Gas J* 56:77-81 J1 21 '58
75 per cent success ratio in well-cementing jobs. *il diags Oil & Gas J* 55:174-6 N 11 '57
Short-cut method of calculating your cement slurry. J. L. Buster. *Oil & Gas J* 56:112-16 Ja 6 '58
Tracers in cement help find water leaks in wells. D. H. Stormont. *il diags Oil & Gas J* 55:163+ N 11 '57

Well cleaning
New acid formation cleaner promises better fluid recovery on drill-stem test. E. V. Lancaster and others. *flow diags Oil & Gas J* 56:186+ Mr 10 '58

Well completion
CATC makes first four-string quadruple completion. W. W. Foinboeuf and R. Henderson. *il diags Pet Eng* 30:B19-21 Ag '58; Same cond. *Oil & Gas J* 56:98-100 Ag 11 '58
Completions picture brightens a little. *Oil & Gas J* 56:148-9 Ja 27 '58
Concentric tubing; new concept for well workovers. R. J. Goeken. *diags Oil & Gas J* 56:80-4 Ap 28 '58
Development of gas drilling and gas well completions in the San Juan basin. M. B. Jones. *il map Pet Eng* 29:B64-6+ D '57
Drilling and completion methods with money saving motives in Four Corners. D. M. Taylor. *il diags Pet Eng* 29:B26-31 D '57
First four-way well completed by Magnolia. *Oil & Gas J* 56:81 Mr 3 '58

PETROLEUM—Well completion—Continued.

First quadruple completion; Magnolia petroleum co. L. A. Murphy. *il diag Pet Eng* 30:B24-5+ J1 '58

Formation testing, treating, and squeeze cementing; new method cuts rig time; retrievable valve tester. D. L. Farley and H. E. Schwegman. *il diag Pet Eng* 30:B69-70+ Ja '58

Four-stringer, first ever. *diag Oil & Gas J* 56:48-9 Je 30 '58

How to get best results from bentone slurry as a casing-tubing annulus completion fluid. J. C. Broom. *Oil & Gas J* 56:116 Ap 14 '58

Lea county, Vacuum wildcard completed. *Oil & Gas J* 56:173 Je 16 '58

Non-plugging emulsions useful as completion and well-servicing fluids. G. G. Priest and T. O. Allen. *bibliog J Pet Tech* 10:11-14 Mr '58

On small production leases, consider slim-hole and dual completions. D. Follett. *diag Oil & Gas J* 56:122-3 F 17 '58

Selection, design, and use of tubing for completing high-pressure wells. M. J. Epperson. *bibliog diag Pet Eng* 30:B53-4+ Mr '58

Slim hole and unique completion cut well costs thirty-six percent. A. B. Vaughn and L. A. Murphy. *il diag Pet Eng* 30:B35-7 Je '58

Slim-hole drilling and completion practices, Cynthia area. Pembina field, Alberta; Texaco exploration co. W. D. Freeborn and D. R. Wright. *Can Min & Met Bul* 51:590-4 S '58

Slim-hole drilling and 2½-inch casing, tubingless completions. Imperial oil ltd in Saskatchewan and Manitoba. J. H. Nicholls. *diag Can Min & Met Bul* 51:585-9 S '58

Subsurface safety device, controlled from surface, makes for safer offshore completions. L. M. Wilhoit and P. S. Sizer. *diag Oil & Gas J* 56:119-21 Ja 6 '58

Successful completion, fails at Oklahoma's deepest well. *il Pet Eng* 30:B 116 Ja '58

Underwater completions near. *il Oil & Gas J* 56:101 Ap 21 '58

West Texas gets big triple completions. *map Oil & Gas J* 56:130 Je 30 '58

Wildcaters had rewarding first half; completions. *map Oil & Gas J* 56:128-34 J1 28 '58

Well control

How Humble plans to control 15,000-psi well pressures. C. A. Dunlop and T. V. Miller. *diag Oil & Gas J* 55:96+ D 2 '57

Well drilling

Air and gas drilling. M. M. Brantly. *Oil & Gas J* 55:93-4 N 25 '57

Air drill rig cuts oil well drilling time. *il Diesel Power* 33:36-7 Ap '58

Air drilling is possible through long intervals of open hole. R. E. Larson and O. Peters. *Oil & Gas J* 56:105-6+ F 10 '58

Air drilling with foam combats water influx. R. M. Reed. *Pet Eng* 30:B57+ My '58

Big eye bit successful in soft formations. E. McGhee. *il diag Oil & Gas J* 56:131+ J1 7 '58

Canada's deepest test sheds new light on foothills drilling. N. S. Morrissey. *Oil & Gas J* 56:169 Ap 21 '58

Canada's depth mark may fall. *Oil & Gas J* 56:51 Ar 25 '58

Canadian scorecard for '57. *map Oil & Gas J* 56:232-3+ Mr 17 '58

Century of drilling; 69½ ft. to 25,000. *Oil & Gas J* 56:36-7 S 29 '58

Challenge in oil field mechanical development. T. A. Huber. *bibliog il diag Pet Eng* 30:B22-31 J1 15 '58

Charts for air and gas drilling. *Pet Eng* 30:B 130-1 Mr '58

Comparison; turbodrill and conventional bit. E. L. Lomax. *il Oil & Gas J* 56:133+ Mr 3 '58

Could we drill a 50,000-ft hole? panel discussion. *Pet Eng* 30:B44-5+ Mr '58

Cutting carrying capacity of air at pressures above atmospheric. K. E. Gray. *bibliog diag J Pet Tech* 10:Trans 180-5 Ag '58

Deep wells increase 28 per cent. E. Adams. *Pet Eng* 30:B21-30 Mr '58

Deeper drilling trend seen in AAODC '57 statistics. *Pet Eng* 30:B 125-6 Mr '58

Development of gas drilling and gas well completions in the San Juan basin. M. B. Jones. *il map Pet Eng* 29:B64-5+ D '57

Development problems on Colpet's Cicuco concession. C. F. Dawson. *il Pet Eng* 30:B63+ F '58

Drillers are ready to sink tools to 25,000 ft. *il Oil & Gas J* 56:234+ Ja 27 '58

Drillers get nearer 24,000 ft. *Oil & Gas J* 56:61 J1 21 '58

Drillers moving back into Los Angeles. *map Oil & Gas J* 56:68-9 My 5 '58

Drilling and completion methods with money saving motives in Four Corners. D. M. Taylor. *il diag Pet Eng* 29:B26-31 D '57

Drilling clinic solves problems. N. S. Morrissey. *Oil & Gas J* 56:115 F 17 '58

Drilling enlarges North Dakota trend. N. S. Morrissey. *il map Oil & Gas J* 56:180-1 Mr 10 '58

Drilling equipment. *il Pet Eng* 30:B32+ J1 15 '58

Drilling for petroleum. S. S. Marsden, jr. *il diag Sci Am* 199:99-102+ N '58

Drilling halts at deep tests. *Oil & Gas J* 56:69 Ar 11 '58

Drilling in Colombia. *il Pet Eng* 30:B42-3 F '58

Drilling in Marañon basin of Peru. A. H. Albee and S. T. Pees. *map diag Pet Eng* 30:B62+ Ap '58

Effect of low frequency percussion in drilling hard rock. E. Topanalian, jr. *bibliog J Pet Tech* 10:55-7 J1 '58

Effect of pressure on rock drillability. J. R. Eckel. *il diag J Pet Tech* 10:Trans 1-6 Ju '58

Exploratory drilling in 1956. G. B. Moody. *maps Am Assn Pet Geologists Bul* 41:888-1005 Je '57; Correction. 42:440-1 F '58

Exploratory drilling in 1957. B. W. Blanpied. *maps Am Assn Pet Geologists Bul* 42:1125-42 Je '58

Field wells classified by depth. Published in weekly numbers of *Oil and gas journal* 50,000-ft. hole isn't impossible; panel discussion. *Oil & Gas J* 56:62-3 Ja 13 '58

Five Rumberger hits 22,609 ft. *Oil & Gas J* 56:104 S 1 '58

Foaming agents lick water-zone slowdowns. R. L. Reed. *Oil & Gas J* 56:97-101 Je 3 '58

Fundamental approach to well bore stabilization; with field application case histories and operating experiences. W. J. Weiss and others. *bibliog il diag Pet Eng* 30:B43+ Ap '58

High cost of dry holes. *il Pet Eng* 30:B70-2 Je '58

High drilling success rate among majors, 1957; table. *Pet Eng* 30:B26 Ag '58

How Pan American drilled Texas' deepest well, world's second deepest; 1-CS University. E. McGhee. *il diag Oil & Gas J* 56:80-4 F 3 '58

How rotary speed affects penetration rate. J. E. Eckel and D. S. Rowley. *Oil & Gas J* 55:86-7; Discussion. *diag* 91-3 N 25 '57

How to figure how much air to put down the hole in air drilling. J. O. Scott. *Oil & Gas J* 55:104-5+ D 16 '57

How to get the most hole for your money. J. W. Speer. *bibliog Oil & Gas J* 56:90-6 Mr 31; 148-9+ Ap 7 '58

How to handle water during air drilling; foaming-agent tests. *diag Oil & Gas J* 56:121 Ag 11 '58

How to make profit below 15,000 ft; at Carter-Knox the deep pay is paying off. H. J. Reedy. *maps diag Oil & Gas J* 56:166-8+ Ap 14 '58

How weight affects penetration rate. H. B. Woods and E. M. Galle. *Oil & Gas J* 55:88-91; Discussion. *diag* 91-3 N 25 '57

Hydraulic unit tests drilling methods. J. M. Camp. *il Pet Eng* 30:B 114+ J1 15 '58

Lightweight drill pipe in slim hole drilling. J. W. Arnold. *il Pet Eng* 30:B35-6 My '58

New frontiers open, old frontiers expand and salt domes fall to the bit. J. C. McCaslin. *map Oil & Gas J* 56:203-4 Je 2 '58

New record for air drilling; Hunt oil co.'s 1 Burton canon. E. McGhee. *il Oil & Gas J* 56:109+ My 5 '58

On small-production leases, consider slim-hole and dual completions. D. Follett. *diag Oil & Gas J* 56:122-3 F 17 '58

1-5E drills again; Phillips petroleum co. world's deepest well. *Oil & Gas J* 56:69 S 8 '58

Pecos well nears 25,000 ft. *Oil & Gas J* 56:69 S 22 '58

Pescadito test is tough operation. *il map Oil & Gas J* 56:110-12 S 1 '58

Phillips breaks drilling-depth record; 11,600 ft. of open hole. *il diag map Oil & Gas J* 56:63-4 Je 2 '58

Phillips tests ultradeep hole. *Oil & Gas J* 56:53 Ag 4 '58

Phillips writes history in Pecos well. *il diag Oil & Gas J* 56:33-6 S 29 '58

Pore volume compressibilities of sandstone reservoir rocks. I. Fatt. *bibliog diag J Pet Tech* 10:64-6 Mr '58

PETROLEUM—Well drilling—Continued

Production practices in Venezuela are based on bigger volumes than those in U.S. H. L. Franklin and W. D. Miller. Oil & Gas J 56:132+ F 24 '58

Profitability of capital expenditures for development drilling and producing property appraisal. J. J. Arps. bibliog diag J Pet Tech 10:13-20 J1 '58

Record contender passes half-way mark; Anadarko basin no. one, Caddo county, Okla. Pet Eng 30:B96 My '58

Review forecast; drilling. map Oil & Gas J 56:146-55 Ja 27 '58

Rises in use reflect decline in drilling, 1957; with chart and tables. Oil & Gas J 56:239 Ja 27 '58

Russian record claim refuted. il Pet Eng 30:328 J1 '58

Shell going to 24,000 ft. Oil & Gas J 56:109 Ag 18 '58

Simultaneous drilling; a radical new method for drilling development wells; with cost data. W. A. Theriot. plans diag J Pet Tech 10:13-16 Ap '58

Slim hole and unique completion cut well costs thirty-six percent. A. B. Vaught and L. A. Murphy. il diag Pet Eng 30:B35-7 Je '58

Slim-hole drilling and completion practices. Cynthia area, Peabody field, Alberta; Texaco exploration co. W. D. Freeborn and D. R. Wright. Can Min & Met Bul 51:590-4 S '58

Slim-hole drilling and 2½-inch casing, tubing-less completions; Imperial oil ltd. in Saskatchewan and Manitoba. J. H. Nicholls. diag Can Min & Met Bul 51:585-9 S '58

Slim-hole well sets record. Oil & Gas J 56:101 Mr 24 '58

Spooling methods. il diag Oil & Gas J 56:165 Mr 3; 189 Mr 17; 173 Ap 7; 117 Ap 28; 130 My 5; 135 My 19; 135 Je 2; 183 J1 28; 103 Ag 4; 107 Ag 25 '58

Successful propping of fractures in incompetent formations. J. L. Huitt and B. B. McClothlin. il diag Oil & Gas J 56:92-5 S 8 '58

Successful wildcats, maps Oil & Gas J 56:276+ Mr 24 '58

Texas well is nearing record. il Oil & Gas J 55:72 O 28 '57

Three contenders challenge depth record. F. J. Gardner. map Oil & Gas J 56:185 J1 7 '58

Three deep wells go deeper in Texas and Oklahoma. Oil & Gas J 56:75 J1 14 '58

Turbodrill gamble is paying off. il Oil & Gas J 56:215-16 Ar 18 '58

25,961 wells forecast for last half. Oil & Gas J 56:126-7 J1 28 '58

Unusual fishing job in Oklahoma. S. Gerolde. diag Pet Eng 30:B64+ Ja '58

Use of chemicals to maintain clear water for drilling. J. P. Collins and others. bibliog diag J Pet Tech 10:70-5 Ap '58

Weight, speed, penetration; AAOEC committee report. diag Pet Eng 30:B40+ Ja '58

Well drilling activity down last year. F. M. Porter. Gas Age 121:20 F 6 '58

Well tally; county, result, footage; tables by states. Oil & Gas J 56:252+ Ja 27 '58

West Texas well takes world's depth record. P. Peacock. il map Pet Eng 30:B21-3 J1 '58

What are the Russians doing in oil drilling and production? diag Oil & Gas J 56:106-11 My 26 '58

What it takes to plan a super-deep well. R. W. Holman. il plan Pet Eng 30:B31-6+ Mr '58

What's the best way to set up a drilling program? H. O. Reyburn. Oil & Gas J 56:131+ S 22 '58

Wildcat nears record depth. il Oil & Gas J 56:65 My 5 '58

Wildcat scoreboard for '57. B. W. Blanpied. maps Oil & Gas J 56:132+ Mr 17 '58

World depth record contender drilling ahead; Howell & Howell's Anadarko basin no. one. Pet Eng 30:B 151 Ap '58

World-wide oil report; drilling, production, and pipeline. il Oil & Gas J 55:160-70+ D 30 '57

See also

American association of oilwell drilling contractors

Derricks, Oil well

Petroleum—Mud fluids

Petroleum—Prospecting

Petroleum—Well completion

Contracts

Contract drilling gains favor in Venezuela. Pet Eng 29:B 128+ N '57

See also

Petroleum—Well drilling contractors

Costs

Cheaper drilling a must. J. Marsee. Oil & Gas J 56:70 Ap 28 '58

Cost controls for the drilling contractor. W. H. Helmerich. 3d. Oil & Gas J 56:104-6+ S 8 '58

Costly wildcat story is told; Magnolia petroleum co. il Oil & Gas J 56:74 F 17 '58

Drilling cost-price squeeze tightens; with tables for years 1935-1957. Oil & Gas J 56:130-1 Ja 27 '58

Inverted emulsion mud cuts drilling costs. R. M. Waltman and T. F. Cox. il diag Pet Eng 30:B42+ Ag '58

New oil base mud trims cost and improves drilling. J. E. Atkinson and G. G. Baker. il map Pet Eng 30:B30-4 Je '58

New plan to cut drilling costs; central clearing house for air and gas drilling data. il Oil & Gas J 56:66 F 3 '58

Noise

Oil wells make good neighbors. D. P. Loye. il Noise Control 4:26-31+ My '58

Safety measures

Blowouts take a fearful toll; they can be prevented. H. Binney. il Oil & Gas J 56:210+ Ag 18 '58

Needed; checklists in safety inspections. S. V. Asbury. Pet Eng 30:B91-2+ Je '58

New blowout-preventer system. E. McGhee. il diag Oil & Gas J 56:57-9 S 29 '58

What do you know about blowouts? Y. K. Evans and J. E. Evans. il diag Oil & Gas J 56:102-3 My 26 '58

Sampling

Development and field testing of a core barrel for recovering unconsolidated oil sands. A. B. Hildebrandt and others. il diag J Pet Tech 10:51-3 Ja '58

Predicting reservoir performance from core analysis. B. A. Elmdahl. bibliog il diag Pet Eng 30:B95+ Mr '58

Some operating difficulties experienced with the Ruskas subsurface sampler; abstract. P. D. O'Connell. diag Inst Pet J 44:70-1 Mr '58

Surface gamma ray logging of subsurface cores. R. E. Jenkins and M. C. Meurer. il Pet Eng 30:B64+ F '58

Well drilling, Electric

Application of d-c machines to oil-well drilling. B. H. Hefner. il diag Applications & Ind 34:5-50; Disc 156n.3 350-2 Ja '58

Here's how electric drive works. E. McGhee. il Oil & Gas J 56:104-6 My 12 '58

Record-breaking rig is electric. J. O. Scott. il Oil & Gas J 55:157+ N 4 '57

Rig gets undersea power line. il Oil & Gas J 56:59 Ag 25 '58

Well drilling, Subaqueous

Aramco finds new pay zones in Saudi Arabia. Oil & Gas J 56:83 F 17 '58

Diesel drilling package combines electric and mechanical drive. il Diesel Power 36:224+ Je '58

Drilling island almost ready; Richfield oil corp. il Oil & Gas J 56:83 Ag 11 '58

Drilling off California will be tough. W. T. Smith. il map Oil & Gas J 56:68-70 F 17 '58

Expensive test in Persian gulf. il map Oil & Gas J 56:71 Ja 13 '58

Faster drilling rates! E. McGhee. il Oil & Gas J 56:91+ Je 9 '58

Japan drills first marine test in lake. il Oil & Gas J 56:123 S 1 '58

Louisiana's Bastian Bay area takes Gulf Coast play. N. Williams. map Oil & Gas J 56:196-7 N 4 '57

Man made island for oil drilling; Rincon island. il Eng N 160:31+ My 8 '58

Mobile oil drilling platform. il Engineering 186:95 J1 18 '58

Multiwell platforms invade busy Paria. il map Oil & Gas J 56:83+ J1 14 '58

Offshore drilling for onshore prices. R. F. Bauer and others. il Oil & Gas J 56:68-72 Je 30 '58

Off-shore oil grids for long pull. il Marine Eng/Log (Yearbook no) 63:213+ My 31 '58

Offshore platform goes to work in Erie. il Oil & Gas J 56:67 Je 2 '58

PETROLEUM—Well drilling, Subaqueous—

- Continued*
 Oil rig jackets lick offshore corrosion problem. *il Mod Metals* 14:52 J1 '58
 Paria Gulf drilling features variety. *il map Oil & Gas J* 56:68-9 Mr 31 '58
 Phillips cuts offshore producing cost with new platform design. *il Oil & Gas J* 56:79 Ja 6 '58
 Piggy-back drilling job. *il Oil & Gas J* 55:150 N 13 '57
 Power swivel attractive for offshore drilling. H. C. Morgan. *il Oil & Gas J* 56:64-5 Ap 14 '58
 Rig that experience built. J. L. Goldman. *il diag Oil & Gas J* 56:129-30 J1 14 '58
 Secondary stresses in welded offshore drilling structures. E. W. McMillin and L. B. Parker. *diags Oil & Gas J* 56:86-8+ Ja 13 '58
 Some developments in marine drilling foundations. A. Kranendonk. *bibliog il plans diags Inst Pet J* 44:81-92; Discussion. 93-6 Ap '58
 Superior hits jackpot in Lake Maracaibo. D. Taylor. *map diags Pet Eng* 29:B53+ N '57
 Tv helps drill offshore wells. *il Oil & Gas J* 56:125 Ja 27 '58
 Tower anchored off California shore. *il Oil & Gas J* 56:71 Je 23 '58
 Two-well derrick makes bow in California's first offshore drilling platform. *Oil & Gas J* 56:72 D 2 '57
 Wireline for offshore wells. *il Pet Eng* 30:B37-8 My '58

See also

- Barges. Oil well drilling
 Petroleum—Tideland development
 Tenders. Oil well drilling

Safety measures

- Blowout-preventer testing; Gulf oil corp. E. McGhee. *diags Oil & Gas J* 56:95-7 Ag 11 '58
 Classification of hazardous areas for electrical installations on barges employed in drilling operations in Lake Maracaibo, Venezuela. J. C. K. Muhlenberg. *bibliog il plans diags Pet Eng* 29:B 143+ N '57
 Colombia's fast Magdalena River installations protected by Dutch brush mattresses. C. B. Roach. *il maps plan Pet Eng* 30:B36-40 F '58
 Subsurface safety device, controlled from surface, makes for safer offshore completions. L. M. Wilhoit and P. S. Sizer. *diags Oil & Gas J* 56:119-21 Ja 6 '58

Well drilling contractors

- Contractors go farmout route in Gulf. J. Reilly. *il Oil & Gas J* 56:61-4 Je 9 '58
 Drillers not eligible to join a union. NLRB rules. *Oil & Gas J* 55:112 D 30 '57
 Drilling contractors can help lower equipment costs. R. Elliott. *il Oil & Gas J* 55:95-6 N 25 '57
 Economic outlook for the drilling contractor. J. H. Marsee. *Pet Eng* 30:B85+ My '58
 Half of U.S. rigs idled. C. L. Vickers and others. *Oil & Gas J* 56:84-5 Je 2 '58
 More than a hole in the ground; more than more money. J. E. Harrington. *Pet Eng* 30:B 103+ Ag '58
 State of the drilling contractor. E. B. Miller and others. *Pet Eng* 30:B44-55 J1 '58

Accounting

- New cost guide for drillers. W. K. Powell. *Oil & Gas J* 55:104-6 D 9 '57

Directories

- Drilling rig locator; directory of contract rotary and cable tool rigs in the U.S. and Canada. *Pet Eng* 30:R3-6+ Mr '58

Well liners

- New tool for fighting pipe collapse; double-wall liner. B. P. Bayliss. *il diags Oil & Gas J* 56:118+ Je 23 '58

Well logging

- Density logging in the Gulf Coast area. J. L. P. Campbell and J. C. Wilson. *diags J Pet Tech* 10:21-5 J1 '58
 Departure curves for the self-potential log; with charts. A. E. Worthington and R. F. Meldau. *diags J Pet Tech* 10:Trans 11-16 Ja '58
 Depositional topography; examples and theory; electric well-log cross sections and isopach maps in the late Pennsylvanian and early Permian of western Texas. D. C. Van Sien. *bibliog maps diags Am Assn Pet Geologists Bul* 42:1897-913 Ag '68

- Effect of overburden and reservoir pressure on electric logging formation factor. I. Fatt. *bibliog diags Am Assn Pet Geologists Bul* 41:2456-66 N '57
 Electrical logging. W. B. Steward. *Pet Eng* 30:B49 Mr '58
 Evaluation of integrals involving combinations of Bessel functions and circular functions; electrical surveying of oil wells. L. de Witte and K. P. Fournier. *diags Assn for Computing Mach J* 5:119-26 Ap '58
 Evaluation of porosity derivation from neutron logs. R. H. Widmyer and G. M. Wood. *diags J Pet Tech* 10:57-60 My '58
 Example of interpretation of radioactivity and resistivity logs in a shaly sand; abstract. P. A. Pouppon. *Inst Pet J* 44:71-2 Mr '58
 Figuring net pay in carbonate reservoirs. R. E. Stewart. *Oil & Gas J* 55:64-8 D 23 '57
 Formation evaluation by sonic logging. W. P. Biggs. *Pet Eng* 30:B76-9 J1 '58
 Freshen up your old well logs. R. M. Ramseisen. *il diags Oil & Gas J* 56:202-4+ Mr 3 '58
 Gamma-ray detector aids oil field surveys. F. E. Armstrong. *il diags Electronics* 31:61-3 My 23 '58
 Interpretation of radioactivity logs in the Paradox basin. V. C. Stephenson and K. Simmons. *Pet Eng* 29:B32-3 D '57
 New developments in radioactive well-logging research. R. L. Caldwell and R. F. Sippel. *bibliog diags Am Assn Pet Geologists Bul* 42:159-72 Ja '58
 Permeability log determination. S. T. Yuster and A. S. Oden. *Pet Eng* 30:B36-8 Ag '58
 Porosity balance verifies water saturation determined from logs. M. P. Tixier. *diags J Pet Tech* 10:Trans 161-9 J1 '58
 Porosity determinations from neutron logs. A. A. Brown and B. Bowers. *Pet Eng* 30:B30-4 My '58
 Radioactive tracer logging with oil well cementing. G. K. Norelius. *diags Pet Eng* 29:B95-6+ N '57
 Report on the displacement log. R. H. Winn. *J Pet Tech* 10:57-9 F '58
 Reservoir parameters from the gamma-ray log. Cardium sand, Pembina field. T. P. Cumore. *map diags Oil & Gas J* 56:97-100 F '58
 Spot those gas zones with neutron logging. B. H. Bailey and others. *Oil & Gas J* 55:368+ N 18 '57
 Streaming potential and the SP log. M. Gondouin and C. Scala. *bibliog diags J Pet Tech* 10:Trans 170-9 Ag '58
 Streaming potential problem in well logging; abstract. M. R. J. Wyllie and others. *J Pet Tech* 10:sup90A S '58
 Surface gamma ray logging of subsurface cores. R. E. Jenkins and M. C. Meurer. *il Pet Eng* 30:B64+ F '58
 Velocity log characteristics. A. A. Stripling. *diags J Pet Tech* 10:Trans 207-12 S '58
 Why those low lateral readings? M. Martin and K. S. Kunz. *diags Oil & Gas J* 56:88-92 F 10 '58

Well packers

- Multiple packers for selective injection reduce number of injection wells. L. V. Gefvert and others. *diags Oil & Gas J* 55:135-6+ N 4 '57
 Open-hole packers shut off gas. E. McGhee. *Oil & Gas J* 55:111-12 D 9 '57
 Use of hydraulic fracturing equipment for formation sand control. H. E. Rawlings. *jr. bibliog diags J Pet Tech* 10:29-32 My '58

Well pressure

- Analysis of pressure decline. H. Samara. *Inst Pet J* 44:60-5 Mr '58
 Applications of sub-surface pressure data. E. Stoian. *bibliog diags Can Min & Met Bul* 51:234-44 Ap '58
 Calculating static bottom-hole pressures in a finite reservoir. L. L. Hurst and E. T. Guerrero. *bibliog Oil & Gas J* 55:79-86 S 29 '58
 Conversion of wellhead pressures to pressures at base of gas column; table. *Pet Eng* 30:1b Ja '58
 Density of reservoir crude oil, with reference to the calculation of bottom hole pressures. D. E. Buynan and others. *Inst Pet J* 44:65-70 Mr '58
 Effect of overburden and reservoir pressure on electric logging formation factor. I. Fatt. *bibliog diags Am Assn Pet Geologists Bul* 41:2456-66 N '57
 Effect of partial penetration on pressure build-up in oil wells. R. G. Nisile. *bibliog diags J Pet Tech* 10:Trans 85-90 My '58

PETROLEUM—Well pressure—Continued

- Flood report holds Citronelle's fate. *Oil & Gas J* 56:72-3 Mr 3 '58
- High-pressure wellhead equipment; based on papers contributed by the Petroleum div. *Oil & Gas J* 56:62-8 Mr '58
- Method for determining optimum second stage pressure in three stage separation. K. F. Whinery and J. M. Campbell. *J Pet Tech* 10:53-4 Ap '58
- Method for predicting pressure maintenance performance for reservoirs producing volatile crude oil. R. H. Jacoby and V. J. Berry, Jr. *Biblog diag J Pet Tech* 10:Trans 69-84 Mr '58
- Pressure measurements during formation fracturing operations. J. K. Godbey and H. D. Hodges. *J Pet Tech* 10:Trans 65-9 Mr '58
- Producing wells on casing flow; analysis of flowing pressure gradients; abstract. P. B. Baxendell. *J Pet Tech* 10:59 Ap '58
- Study of anomalous pressure build-up behavior. G. L. Stegemeier and C. S. Matthews. *Biblog diag J Pet Tech* 10:Trans 44-50 F '58

Well spacing

- Bisti gets 40-acre spacing. *Oil & Gas J* 55:123 N 11 '57

Well temperature

- Temperature notes on the Bahrain field; abstract. W. H. Cotter. *Inst Pet J* 44:72-3 Mr '58

Well testing

- Deep Caribbean test planned. *map Oil & Gas J* 56:108 Mr 24 '58
- Flood test set for Big Foot in Frio county. *Tex. Oil & Gas J* 56:66 Ja 13 '58
- Formation testing, treating, and squeeze cementing; new method cuts rig time; retrievable valve tester. D. L. Farley and H. E. Schwegman. *Oil & Gas J* 56:108-9 Mr 24 '58
- New acid formation cleaner promises better fluid recovery on drill-stem test. E. V. Lancaster and others. *flow diag Oil & Gas J* 56:186+ Mr 10 '58
- Planning a 24,000-ft. test. N. S. Morrissey. *Oil & Gas J* 56:108-10+ Je 16 '58
- Pumping costs too high? dynamometer-card classification. C. J. Merryman and D. K. Lawrence. *diag Oil & Gas J* 56:112-14 My 12 '58
- Well interference tests in the South dome of the Zubair reservoir. M. J. E. Heaton. *diag Inst Pet J* 44:49-51 Mr '58
- What you ought to know about automatic well testing. H. A. Saye. *plan diag Oil & Gas J* 56:102+ Ja 6 '58
- Wire-line tester tackles hard pay zones. N. S. Morrissey. *Oil & Gas J* 55:120 D 2 '57

Well tubing

- Buckling of tubing in pumping wells. T. Seldenrath and A. W. Wright. *diag J Pet Tech* 10:49-51 Ag '58
- Concentric tubing; new concept for well workovers. R. J. Goeken. *diag Oil & Gas J* 56:80-4 Ap 28 '58
- Experience with sweet oil well tubing coated internally with plastic. *Corrosion* 14:33-5 My '58
- Flash welds pass tough test. *Oil & Gas J* 56:78 Je 9 '58
- How to calculate and apply annular friction losses between tubing and casing. R. W. Brown. *Pet Eng* 30:B22-6 Ag '58
- Hydrostatic pressure testing tubular goods in the field. C. Bendiks. *Oil & Gas J* 56:112-14 My 12 '58
- Lightweight drill pipe in slim hole drilling. J. W. Arnold. *Oil & Gas J* 56:112-14 My 12 '58
- New plastic protects tubing. *Oil & Gas J* 56:78 Je 9 '58
- Oil well metallurgical programs discussed. *Corrosion* 14:78-9 Ja '58
- Production of seamless casing and tubing; Colorado fuel and iron corp. Pueblo plant. M. Sumrall. *Iron & Steel Eng* 35:138-9 Mr '58
- Selection, design, and use of tubing for completing high-pressure wells. M. J. Epperson. *Biblog diag Pet Eng* 30:B53-4+ Mr '58
- Sweet crude oil failures may be stress cracking. *Corrosion* 14:77-8 Ja '58

Corrosion

- In corrosion mitigation does the inhibitor squeeze method work? R. H. Poetker and others. *diag Pet Eng* 29:B 102-3+ D '57
- New corrosion caliper for oil-well tubing. J. Kinley. *diag Oil & Gas J* 55:34 D 23 '57

Theoretical aspects of corrosion in low water producing sweet oil wells. *Corrosion* 14: 61-3 Ja '58

Africa, French West

- West African wildcat to start on Ivory coast. *map Oil & Gas J* 56:87 Ag 11 '58

Alaska

- Alaska lease ban ends. *map Oil & Gas J* 55: 62 N 25 '57
- Alaskan land rush expected. *map Oil & Gas J* 56:55 Ap 28 '58
- Alaskan well nears projected depth. *Oil & Gas J* 56:109-11 D 23 '58
- Alaska's booming with oil exploring. *Oil & Gas J* 56:116-18 N 11 '57
- Alaska's outlook is brighter now. T. C. Hiestand. *Biblog diag Oil & Gas J* 55:191-5 D 9 '57
- Social plugs back in deep Kenai test. *Oil & Gas J* 56:109 J1 28 '58
- Texas rush to get on ground floor for vast oil search in Alaska. *Oil & Gas J* 56:68-9 S 8 '58

Alberta

- Alberta's Devonian gets a three-bagger. B. J. Gardner. *map Oil & Gas J* 56:113 S 29 '58
- Berland river; deep, thick and big. F. J. Gardner. *map Oil & Gas J* 56:153 J1 14 '58
- Canada's got a big one in north-central Alberta. *map Oil & Gas J* 56:66-7 Ap 28 '58
- Exploitation of the Athabasca tar-sands. T. Gaskell. *Ind Chem* 34:76-8 F '58
- Newest major oil province at Swan Hills, Alberta. *Oil & Gas J* 56:169-71 Ag 13 '58
- Pembla pilot water flood proving successful. J. J. Justen and P. J. Hoenmans. *maps J Pet Tech* 10:21-3 Je '58
- Performance of the Leduc D-3 reservoir. R. Horsfield. *Biblog diag J Pet Tech* 10:21-6 F '58
- Pre-Cretaceous, Alberta's big source of oil; cretaceous, Alberta's big source of gas. J. R. Pow. *maps diag Oil & Gas J* 56: 151-3 Ap 28 '58
- Swan Hills area is already paying off and the Foothills belt rates high. *map Oil & Gas J* 56:205+ My 12 '58
- Swan Hills pay moves to Far North. *map Oil & Gas J* 56:136 S 22 '58
- 12 producers in six months; Innisfail story. *map Oil & Gas J* 56:62 D 16 '57

Appalachian region

- Oil's cradle really rocks. *map Oil & Gas J* 56:233 Ja 27 '58

Arabia

- Aramco finds new pay zones in Saudi Arabia. *Oil & Gas J* 56:83 F 17 '58
- Aramco scores on stepout. *Oil & Gas J* 56: 85 Je 9 '58
- Remote Persian Gulf test hits. *map Oil & Gas J* 56:120 S 15 '58
- Two strikes by Aramco in Saudi Arabia. *Oil & Gas J* 56:102 Mr 10 '58

Arctic regions

- Arctic land play attracts nine firms. *Oil & Gas J* 56:98 Ap 21 '58

Arizona

- Here's the state to watch in 1958. F. J. Gardner. *map Oil & Gas J* 56:141 F 3 '58

Arkansas

- Smackover's problem; how to stop pollution without going broke? *map Oil & Gas J* 56: 48-9 Ag 25 '58

Australia

- Delhi probes Texas size block. *map Oil & Gas J* 56:68 J1 21 '58

Bahrain island

- Temperature notes on the Bahrain field; abstract. W. H. Cotter. *Inst Pet J* 44:72-3 Mr '58

Barbados

- Kermac drills on Barbados. *Oil & Gas J* 56:86-7 J1 14 '58

Bolivia

- Brazilian firms vying for Bolivian exploration rights. *Oil & Gas J* 56:72 S 22 '58

British Columbia

- Islands leased off coast of British Columbia. *map Oil & Gas J* 56:82 Je 2 '58

PETROLEUM—British Columbia—Continued

Northeastern British Columbia; giant of the future. G. L. Gray, maps diag Oil & Gas J 56:123-35 Ag 18; 74-9 Ag 25 '58
Wildcatter's delight, an undrilled basin; Hecate basin and Queen Charlotte islands. C. W. Hunt, II map Oil & Gas J 56:136-40 Ag 18 '58

British Somaliland

Stanvac to test African block, map Oil & Gas J 56:122 S 15 '58

Burma

Irrawaddy's oil, either side, diag Oil & Gas J 56:88 JI 7 '58

California

Boundary dispute flares; repressuring treatment to stop Wilmington field sinking. Oil & Gas J 56:116-17 S 15 '58
California drillers bat .600 in North Tejon operations. Oil & Gas J 56:186-7 Je 23 '58
California drillers extend old fields. Oil & Gas J 56:169-70 JI 14 '58
California drillers take a second look, map Oil & Gas J 56:139-4 S 22 '58
California wildcatting dwindles. Oil & Gas J 56:175-6 Je 16 '58
Californians step out for Stevens pay probe, maps Oil & Gas J 56:252-3 Ap 7 '58
California's Gosford race slows down with dry holes. Oil & Gas J 56:128 Je 30 '58
California's Kern county reports good test results. Oil & Gas J 56:156 S 8 '58
Drilling in California stays deep for reserve finds. Oil & Gas J 56:174 Ap 14 '58
Exploration flares in California. J. C. McCaslin, maps Oil & Gas J 56:136-4 Ag 4 '58
Gas injection in Wilmington field. R. V. Higgins and R. L. Pierce, map diag Pet Eng 30:B 103-4 My '58
Interest centers on California well. Oil & Gas J 56:227 S 1 '58

Lengthy California search pays off. II Oil & Gas J 56:66-7 JI 14 '58

Mountain View field can pay. W. T. Smith, map Oil & Gas J 56:178-9 F 10 '58
New finds in old territory. Oil & Gas J 56:280-1 My 19 '58

New Los Angeles ordinances invite downtown drilling action. Oil & Gas J 56:161 My 26 '58

North Tejon gap closed with midway discovery. Oil & Gas J 56:120 S 29 '58

Offset paces California drilling, map Oil & Gas J 56:191 F 10 '58

Rain stops, drilling starts in California. Oil & Gas J 56:200 My 12 '58

Record rains wash out some California operations, map Oil & Gas J 56:238 Ap 21 '58

Review of the production performance of three deep miocene oil pools in the Los Angeles basin. C. L. Doyle, maps J Pet Tech 10:23-9 Mr '58

Richfield finds pay in California's Tejon area. Oil & Gas J 56:104 Ap 7 '58

Sespe scores twice, map Oil & Gas J 56:152 F 3 '58

Socal drills off California. II Oil & Gas J 56:62 S 22 '58

Soundproof drilling increases. II Oil & Gas J 56:58 Ag 4 '58

Subsidence row flares over repressuring project in part of Wilmington field. Oil & Gas J 56:40 D 23 '57

Tejon strike is tops in '58. II Oil & Gas J 56:70 My 5 '58

Three basins share wildcat success, map Oil & Gas J 56:214-4 Ja 27 '58

Twin strikes lift California hopes. F. J. Gardner, map Oil & Gas J 56:129 JI 21 '58

Canada

Alberta leads Canadian exploration. Oil & Gas J 56:135 Ag 4 '58

Canada's deepest test sheds new light on foothills drilling. N. S. Morrisey, Oil & Gas J 56:169 Ap 21 '58

Canada's place in the world oil picture. R. A. Brown, Jr. Can Min & Met Bul 51:465-7 Ag '58

Canadian drillers broaden their horizons. F. J. Gardner, map Oil & Gas J 56:251 Ag 18 '58

Canadian exploration flourishes, map Oil & Gas J 56:154-5 S 8 '58

Canadian operations are tied to tricky weather conditions. Oil & Gas J 56:151-2 S 8 '58

Canadian strikes packed a wallop in 1957. F. J. Gardner, maps Oil & Gas J 56:107 D 23 '57

Canadian success lags, but new developments expected. Oil & Gas J 56:130-1 Je 30 '58

Eastern Canada bids for share of spotlight. J. D. McAlary and B. V. Sanford, maps Oil & Gas J 56:206-8 Ag 18 '58

Maritimes offer new challenge. W. S. Shaw, biblog maps diag Oil & Gas J 56:252-4-4 Ag 18 '58

Normandville crowds news. Oil & Gas J 56:279-81 JI 28 '58

Oil hunting in Canada; charts. Oil & Gas J 56:170-1 Je 16 '58

Ordovician oil may leap border. F. J. Gardner, map Oil & Gas J 56:149 D 2 '57

Photogeology; it cuts time in surface mapping and is aiding exploration in western Canada. P. Fuenning and A. J. Broscoe, II maps Oil & Gas J 56:179-80-4 Ag 18 '58

China

Chinese are banking on Karamal field. II Oil & Gas J 56:85 J 9 '58

Chinese reds excited over three prime discoveries 100 miles from Chungking. Oil & Gas J 56:112 Ap 21 '58

Colorado

Denver basin sparks healthy drilling spurt, map Oil & Gas J 56:145-6 Ag 4 '58

Flush new fields revive Denver basin. F. J. Gardner, map Oil & Gas J 56:199 Je 2 '58

Good strikes prod sleepy Denver basin. F. J. Gardner, map Oil & Gas J 56:201 Mr 3 '58

Much more oil for Denver basin. R. Monahan, maps Oil & Gas J 56:143-4-4 Mr 31 '58

Paradox spills over into Colorado. F. J. Gardner, map Oil & Gas J 56:361 Ja 27 '58

Wildcaters; don't pass up Las Animas. F. J. Gardner, map Oil & Gas J 56:177 F 10 '58

Denmark

Danish efforts fail, map Oil & Gas J 56:70 JI 21 '58

Egypt

Russia aids Egypt in search for oil. Oil & Gas J 56:53 D 23 '57

Seismic survey of Sinal and the Gulf of Suez. P. A. A. H. Masson and F. J. Agnich, maps diag Geophysics 23:329-42 Ap '58

France

French test opens Paris basin, map Oil & Gas J 56:85 Mr 3 '58

Paris basin of central France scene of major oil discovery. J. A. Kornfeld, map Pet Eng 30:B 129-4 Ap '58

Paris discovery goes deeper. Oil & Gas J 56:103 Mr 10 '58

Paris discovery is confirmed. Oil & Gas J 56:62 Je 30 '58

Georgia

How to get an overnight payout. F. J. Gardner, map Oil & Gas J 56:161 Je 16 '58

Gulf Coast region

Density logging in the Gulf Coast area. J. L. P. Campbell and J. C. Wilson, diag J Pet Tech 10:21-5 JI '58

Don't shelve Continental shelf. N. Williams, Oil & Gas J 56:103-7 Je 9 '58

Gulf Coastal province; how and where its oil and gas occur. G. E. Murray, maps Oil & Gas J 56:109-16 N 4 '67

Salt-water plums await the picking. F. J. Gardner, maps Oil & Gas J 56:165 Je 9 '58

Illinois

Illinois scores with three new fields. Oil & Gas J 56:136 S 22 '58

New Illinois pool is developed quickly, map Oil & Gas J 56:101 Mr 24 '58

India

India's wildcat shows promise, map Oil & Gas J 56:53 S 29 '58

Iran

Preliminary considerations of Alborz oil reservoir at Qum. H. Farhan and J. Tavana, biblog map Inst Pet J 44:45-8 Mr '58

Well interference tests in the South dome of the Zubair reservoir. M. J. E. Heaton, diag Inst Pet J 44:49-51 Mr '58

Israel

Israel's Heletz field. J. A. Kornfeld, II map Oil & Gas J 56:215-17 D 30 '57

Japan

Japanese betting on platform. II Oil & Gas J 56:73 S 22 '58

Jordan

Jordan test is being drilled. Oil & Gas J 56:121 Ap 7 '58

PETROLEUM—Continued

Kansas
Another Kansas corner quickens. F. J. Gardner. map Oil & Gas J 56:283+ S 15 '58
Another strat trap discovered by accident. F. J. Gardner. map Oil & Gas J 56:263 My 19 '58
Cretaceous possibilities good for northwest Kansas. D. R. Merriam. bibliog map Oil & Gas J 56:138-9+ Mr 31 '58
Differential entrapment of oil and gas in Arbuckle dolomite of central Kansas. R. F. Walters. maps diag. Am Assn. Pet Geologists Bul 42:213-73 bibliog (p2172-3) S '58
Discovery reported in northwestern Kansas. map Oil & Gas J 56:96 My 12 '58
Kansas looks at its Precambrian; abstract. O. C. Farquhar. map diag Oil & Gas J 56:252 Mr 10 '58
Northwest Kansas play shapes up. F. J. Gardner. map Oil & Gas J 56:145 S 8 '58
Petroleum reservoirs in Kansas. map Oil & Gas J 56:165+ J1 14 '58
Unusual folds dot Kansas. map Oil & Gas J 56:73 Je 9 '58

Kentucky
Eastern Kentucky, a new look at an old area. R. E. Greenfield. map diag Oil & Gas J 56:155-6+ Ag 11 '58
Oil exploration taken to the hills. map Oil & Gas J 56:209 My 12 '58

Libya
Another hit scored in Libya. Oil & Gas J 56:53 S 29 '58
Caltech snuds first Libyan test. Oil & Gas J 56:86 S 8 '58
Esso has Libya show. map Oil & Gas J 56:88 Ja 6 '58
Oasis discovery sparks new wildcat in Libya. Oil & Gas J 56:90 Ag 11 '58
Oasis hits at Libyan wildcat. Oil & Gas J 56:85 J1 7 '58

Louisiana
Calcasieu lake finally pays off after 31 years of probing. F. J. Gardner. map Oil & Gas J 56:263 J1 23 '58
Growth of Louisiana salt domes and effect on petroleum accumulation; abstract. G. Atwater and M. J. Forman. Oil & Gas J 56:179 My 5 '58
Long wait pays off with apparent discovery by Texaco off Louisiana coast. Oil & Gas J 56:80 Ag 11 '58
Louisiana find is near salt dome. map Oil & Gas J 56:264 Ag 18 '58
Louisiana pool jumps river. map Oil & Gas J 56:199-200 P 24 '58
Oil found at Calcasieu dome. map Oil & Gas J 56:80 J1 21 '58

Mexico
Mexico eyes U.S. Gulf. Oil & Gas J 56:134-5 Ja 27 '58

Michigan
Michigan oil finders keep busy. maps diag Oil & Gas J 56:206-8+ Je 2 '58
Scipio, hottest thing in Michigan. R. E. Ives. map Oil & Gas J 56:214+ S 1 '58

Mississippi
Deep Mississippi test hits. Oil & Gas J 56:73 Ap 28 '58
Drowey Black Warrior rouses from slumber. F. J. Gardner. map Oil & Gas J 56:165 Ap 14 '58
How to hatch a glass egg. F. J. Gardner. map Oil & Gas J 56:191 N 4 '57
Mississippi extension puzzles oil hunters. map Oil & Gas J 56:144 S 22 '58
Mississippi has a depth complex. F. J. Gardner. map Oil & Gas J 56:187 F 24 '58
Mississippi's Tuscaloosa bounces back. N. Williams. map Oil & Gas J 56:138+ J1 21 '58
New Gwinville pay. Oil & Gas J 56:83 J1 7 '58

Montana
Are Montanans missing a bet? F. J. Gardner. maps Oil & Gas J 56:145 Ag 11 '58
Montana's outlook expands with hits at Thorson and Wexels. map Oil & Gas J 56:150 F 3 '58

Nebraska
Denver basin sparks healthy drilling spurt. map Oil & Gas J 56:145-6 Ag 4 '58
Wildcatters; don't pass up Las Animas. F. J. Gardner. map Oil & Gas J 56:177 F 10 '58

Nevada
Desert sands could spring surprises. F. J. Gardner. map Oil & Gas J 56:267 D 30 '57

New Mexico
Delaware basin; what traps its oil? C. F. Dodge. maps diag Pet Eng 30:B48+ My '58
In the Bisti pool. R. E. Brooks. J Pet Tech 10:22-4 My '58
New Four Corners map shows exploration action. map Oil & Gas J 56:251 Mr 10 '58
New Mexico pays off. map Oil & Gas J 56:217-18 Ja 27 '58
San Juan basin sparks Four Corners buoyancy. J. C. McCaslin. map Oil & Gas J 56:131 Ag 4 '58
Southwest New Mexico's Bone Spring quits teasing. map Oil & Gas J 56:266+ My 19 '58
Successful shooting in Delaware basin. M. E. Trostle. il map Oil & Gas J 55:117-19+ N 4 '57

Nigeria
New oil in Nigeria. map Pet Eng 30:B69 J1 15 '58
Nigeria gears for major oil program. V. S. Swaminathan. il Pet Eng 30:B79+ My '58
Nigerian strike. Oil & Gas J 56:83 F 17 '58
Shell-EP hits two more Nigerian discoveries. Oil & Gas J 56:84 My 5 '58

North America
Big future ahead for Williston; International Williston Basin symposium. 2d. Regina, Sask. Oil & Gas J 56:69 My 5 '58
Williston comes back. map Oil & Gas J 56:208+ Ja 27 '58
Williston flirts with the jackpot. F. J. Gardner. map Oil & Gas J 55:171 O 28 '57

North Dakota
Drilling enlarges North Dakota trend. N. S. Morrissey. il map Oil & Gas J 56:180-1 Mr 10 '58
Four deep Williston tests hit. map Oil & Gas J 56:36 D 23 '57
In Williston basin North Dakota scores first-half success. map Oil & Gas J 56:140 Ag 4 '58
Watch Williston. F. J. Gardner. map Oil & Gas J 56:193 Ja 20 '58

Northwest Territories, Canada
Shell pioneers summer drilling in Northwest Territories. map Oil & Gas J 56:160+ J1 14 '58

Nova Scotia
Mississippian stratigraphy and petroleum possibilities of central Cape Breton island. Nova Scotia. D. G. Kelley. bibliog il maps diag Can Min & Met Bul 51:341-51 Je '58

Ohio
Ohio strike underscores Appalachian neglect. F. J. Gardner. map Oil & Gas J 55:233 N 11 '57

Oklahoma
Casing cemented in Oklahoma deep test; Anadarko basin no. one, Caddo county. Okla. Pet Eng 30:B92 Ag '58
Drillers dip lightly and come up with oil. map diag Oil & Gas J 56:190-1 J1 7 '58
Fifth new field in recent months born to northwestern Oklahoma. Oil & Gas J 56:174 Je 9 '58
Four sectors show promise in Oklahoma as wildcatting flourishes. maps Oil & Gas J 56:202-3 F 17 '58
Good year-end strikes recorded in four Oklahoma sectors. maps Oil & Gas J 55:110-11 D 23 '57
Hard sands slows Oklahoma deep test; Anadarko basin no. one, Caddo county. Okla. Pet Eng 30:B 133 J1 '58
In the Seminole city pool. R. E. Walker and others. J Pet Tech 10:21-2 My '58
More Arbuckle oil discovered in northwestern Anadarko basin by Sinclair. map Oil & Gas J 56:83 Je 23 '58
New action in an old pool. map Oil & Gas J 56:262 Mr 24 '58

Nothing settles dust better than oil. F. J. Gardner. map Oil & Gas J 56:125 Je 30 '58
Oil and gas possibilities of Ouachita structural belt in Texas and Oklahoma. A. Goldstein. Jr. and P. T. Flawn. Am Assn Pet Geologists Bul 42:876-81 Ap '58
Oklahoma drills deeper, reaches deeper for oil. map Oil & Gas J 56:223-4 Ja 27 '58
Oklahoma probes its deepest trough. F. J. Gardner. map Oil & Gas J 55:189 D 9 '57

Oklahoma reopens Arbuckle hunt. J. McCaslin. maps Oil & Gas J 56:194+ J1 7 '58

Oklahoma story; deeper pays and multiple pays. F. J. Gardner. map Oil & Gas J 56:143 Ja 13 '58

PETROLEUM—Oklahoma—Continued

Ordovician pay zones attractive lure in southern Oklahoma. F. P. Schweers. maps Oil & Gas J 56:126-31 Mr 17 '58
 Sooner success continues to stack up. maps Oil & Gas J 56:134 S 22 '58
 Sooner wildcat sets record. map Oil & Gas J 56:65 Je 16 '58
 Southern, western Oklahoma drilling keeps up swift pace. Oil & Gas J 56:172 Je 16 '58
 Strikes abound, fatten Pennsylvanian coffers. map Oil & Gas J 56:234 Ap 21 '58
 Three Oklahoma counties lead exploratory spurge. maps Oil & Gas J 56:215 Mr 3 '58
 Two-gun approach hits multiple bulls-eye. F. J. Gardner. map Oil & Gas J 56:213 S 1 '58
 Wildcaters set hot pace in Oklahoma. map Oil & Gas J 56:58-60 Ji 21 '58
 Woods county adds another field. map Oil & Gas J 56:157 F 3 '58
 Woodward trend leaps. maps Oil & Gas J 56:128 Je 30 '58

Oregon

Is there oil in Oregon? F. D. Hansen. bibliog map diags Oil & Gas J 56:183-4 My 12 '58

Pacific coast

Future offshore and onshore oil of the Pacific coast states; abstract. J. B. Hudson. Oil & Gas J 56:179-80 My 5 '58

Panama

Deep Panama test under way. il map Oil & Gas J 56:88 Ji 14 '58

Papua

Papua wildcat hits. Oil & Gas J 56:84 F 10 '58

Paraguay

Pure tests big Paraguay concession. Oil & Gas J 56:87 Ji 14 '58

Peru

Drilling in Marañon basin of Peru. A. H. Allbee and S. T. Pees. map diags Pet Eng 30:B62+ Ap '58
 Exploration problems in Peru. C. del Solar B. il Pet Eng 30:B21-5 Ap '58
 Geological features of Peru. J. E. Rassmuss. il map Pet Eng 30:B26-31 Ap '58
 Mining subsidiary shapes oil future of the Oriente zone; exploration to end use. L. J. Herrera, jr. maps Pet Eng 30:B94+ Ap '58
 Petroleum geology of eastern Peru today. W. Ruesg. bibliog maps diags Pet Eng 30:B32-6 Ap '58
 Producing stripper wells by gas lift in Peru. H. W. Winkler. il diags Pet Eng 30:B77-8+ Ap '58
 Sea water flood in Peru. W. E. Harris and H. B. Zaremba. il Pet Eng 30:B 102+ Ap '58

Philippine Islands

Oil search is picking up in Philippines. il map Oil & Gas J 56:120-1 S 1 '58

Rocky Mountain region

Green River basin has what it takes to increase Rockies gas reserves and to become a major oil province. N. S. Morrissey. map Oil & Gas J 56:132+ Ag 4 '58
 Rockies; success story of 1958. map Oil & Gas J 56:181 My 12 '58
 Rockies tee off on big program. map Oil & Gas J 56:387-9 Ja 27 '58
 Thrust faulting and oil accumulation in the Rocky mountains; abstract. A. Thurman. Oil & Gas J 56:199 My 12 '58
 Williston may rival west Texas; Rocky Mountain areas. N. S. Morrissey. maps Oil & Gas J 56:253-4+ Mr 24 '58

Russia

Reds find new oil in old Grozny oil district. Oil & Gas J 56:89 Ap 14 '58

Sahara desert

French hit again in Sahara. Oil & Gas J 56:86 F 10 '58
 Three good strikes boom prospects for Sahara desert. M. Moyal. il map Oil & Gas J 56:91-4 My 5 '58
 Treasure-trove in the Sahara. map Engineering 184:770-2 D 20 '57

Saskatchewan

Steelman field, an 80-million-barrel strat trap in Saskatchewan. J. Nesbitt. bibliog il maps diags Oil & Gas J 56:149-50+ Ag 18 '58

Southwestern states

Southwest scores success. maps Oil & Gas J 56:224+ S 1 '58

Sumatra

Sumatra fracturing program expanded. Oil & Gas J 56:69 Ag 4 '58

Texas

Anderson leads east Texas. C. Hoot. map Oil & Gas J 56:146 F 3 '58
 Clear Fork flows at Bakke. map Oil & Gas J 56:383 Ja 27 '58
 Complex geologic structures in Texas indicate careful groundwork pays off in Cooke and Grayson counties. M. C. Kelsey. maps diags Oil & Gas J 56:142-5 F 3 '58
 Deep dig might pay off in Texas blind belt. F. J. Gardner. map Oil & Gas J 56:177 Je 23 '58
 Delaware basin; what traps its oil? C. F. Dodge. maps diags Pet Eng 30:B48+ My '58
 Discovery of the Johns field. T. E. Peeler. maps Pet Eng 30:B66+ Je '58
 East Texas wells open new pools and new pays. Oil & Gas J 56:213 Je 2 '58
 Frio offers lucrative hunting. A. M. Tolbert. maps diags Oil & Gas J 56:156-7+ Ja 6 '58
 Happy field gets second pay. map Oil & Gas J 56:191 Ji 7 '58
 Hopeless prospects pay off again in east Texas basin. F. J. Gardner. map Oil & Gas J 56:155 My 26 '58
 How to rediscover an oil field. F. J. Gardner. map Oil & Gas J 55:147 N 25 '57
 Hunt has strike off Texas. map Oil & Gas J 56:70 Je 9 '58
 In east Texas salt-dome exploration picks up. C. Hoot. map Oil & Gas J 56:248+ Mr 10 '58
 In far southwest Texas, shallow vs. deep. map Oil & Gas J 56:199 F 24 '58
 In the Block 31 field. L. R. Kern and others. bibliog maps diags J Pet Tech 10:16-20 My '58
 In the Panhandle field. LPG injection. J. L. Relph. J Pet Tech 10:24 My '58
 In the Parks field. D. G. Marrs. maps J Pet Tech 10:20-1 My '58
 In the Seelisker field. H. T. Wright, jr. and R. R. Die. map diags J Pet Tech 10:13-16 My '58
 Is Grayson county back in running? C. Hoot. map Oil & Gas J 56:176 Je 9 '58
 Maverick county seethes with new wildcatting. map Oil & Gas J 56:179-80 F 10 '58
 New pools for Texas. C. Hoot. map Oil & Gas J 56:168 Je 16 '58
 Oil and gas possibilities of Ouachita structural belt in Texas and Oklahoma. A. Goldstein, jr. and P. T. Flawn. Am Assn Pet Geologists Bul 42:876-81 Ap '58
 Orange field, 45 years later. G. P. Cokinios. il map Pet Eng 30:B50-1 Ji '58
 Panhandle wildcats jump the pump. F. J. Gardner. map Oil & Gas J 56:229 Ap 7 '58
 Pecos Valley area gets Devonian production. map Oil & Gas J 55:180 D 16 '57
 Performance of the Pickton field. H. B. Barton and F. R. Dykes, jr. il maps J Pet Tech 10:27-31 F '58
 Shell projects deep test in Wood county. map Oil & Gas J 55:112 D 23 '57
 Shell strike accents Delaware Basin activity. C. Hoot. map Oil & Gas J 56:233+ Ap 7 '58
 Slaughter project will test new idea. map Oil & Gas J 56:68-9 Je 16 '58
 Southwest still holds bright promise. map Oil & Gas J 56:220-1 Ja 27 '58
 Strawn and Devonian wildcats extend Texas production. map Oil & Gas J 56:134 Ji 21 '58
 Successful shooting in Delaware basin. M. E. Trostle. il map Oil & Gas J 55:117-19+ N 4 '57
 Texas! Tyler draws attention. map Oil & Gas J 56:220 S 1 '58
 Two discoveries hit Ellenburger and Wolfcamp. map Oil & Gas J 55:113 D 23 '57
 Val Verde offers 1,600 ft. of Ellenburger to shoot at. F. J. Gardner. map Oil & Gas J 56:193 F 17 '58
 West Texans move to remote Midland spot. map Oil & Gas J 56:294 S 15 '58
 West Texas discovery opens new reef field. map Oil & Gas J 55:264 N 11 '57
 West Texas has good '57. map Oil & Gas J 56:221+ Ja 27 '58
 What oil men do in slack times. C. Hoot. map Oil & Gas J 56:149 Ap 28 '58
 Wildcats uncover new Wilcox oil. Oil & Gas J 56:178 Ap 14 '58

United States

New Journal oil and gas maps of principal producing areas. Oil & Gas J 56:103-20 Mr 17 '58

PETROLEUM—Continued

Utah
Giant Paradox pool spreads, map Oil & Gas J 56:62 My 26 '58
Interpretation of radioactivity logs in the Paradox basin, V. C. Stephenson and K. Simmons, *Pet Eng* 29:B32-3 D '57
Paleozoic stratigraphy and oil possibilities of Kaiparowits region, Utah, E. B. Heylman, *bibliog maps diag Am Assn Pet Geologists Bul* 42:1781-811 Ag '58
Paradox map to push Northwest, F. J. Gardner, map Oil & Gas J 56:137 Mr 31 '58
Seven wildcats seek the Mississippian, map Oil & Gas J 56:192 J1 7 '58

Venezuela
Activity spurts in Maracaibo, map Oil & Gas J 56:87 Je 2 '58
Area of promise, il map *Pet Eng* 29:A 18-29+ N '57
Major oil reserve hit in Venezuela's Monagas state, Oil & Gas J 56:52 S 29 '58
Maracaibo test hit, Superior's fifth strike, Oil & Gas J 56:83 Ja 6 '58
Maracaibo wells hit, giving flush new Golden Lane 22 producers, Oil & Gas J 56:88 Je 23 '58
Monagas wells hit by Pan Venezuelan in Jobo field, Oil & Gas J 56:84 Je 16 '58
More rigs slated for Aguasay, Oil & Gas J 56:74 S 22 '58
New Creole success disclosed, map Oil & Gas J 56:89 Je 2 '58
New Maracaibo discoveries test 4,000 bbl. daily, Oil & Gas J 56:83 F 17 '58
Richmond solves viscous oil problem at Boscan, G. Lebourgeois, flow diag il map *Pet Eng* 29:B37-40+ N '57
Venezuela is divided into three basins, G. Zuloaga, maps diags *Pet Eng* 29:B21-7 N '57

Washington (state)
Can exploration pay off in Washington? map Oil & Gas J 56:187 My 12 '58
Here's the story of Sunshine mining co.'s Washington well, Oil & Gas J 56:175 Ap 14 '58
Washington, no. 32, map Oil & Gas J 56:223 J= 27 '58

Western states
Green river and Paradox draw the drillers' rigs, J. C. McCaslin, map Oil & Gas J 56:222-3 S 1 '58
Oil and gas fields of the Four Corners area; map, *Pet Eng* 29:supp D '57 (reprints \$1.50)
Operators in the Anadarko hit nearly one out of two, W. E. Swearingen and A. C. Hayden, maps Oil & Gas J 56:230-3 Ap 21 '58
Paradox basin still a headline, maps Oil & Gas J 56:206+ Ja 27 '58
Pennsylvanian system of Four Corners region, S. Wengard and M. L. Matheny, maps diags Am Assn Pet Geologists Bul 42:2048-106 *bibliog*(p2102-6) S '58

Wyoming
Developments in Wyoming; good and bad, Oil & Gas J 56:269 My 19 '58
Forgotten provinces are being remembered, J. C. McCaslin, map Oil & Gas J 56:243 Mr 10 '58
Mesaverde hit fires Powder River search, J. C. McCaslin, map Oil & Gas J 56:176-7 Ap 14 '58
Navy drills at Teapot Dome, E. C. Eaton, maps diag Oil & Gas J 56:178-9+ Je 23 '58
Navy to drill at Teapot Dome, Oil & Gas J 56:82 My 5 '58
Oil found midst Wyoming gas area, map Oil & Gas J 56:295 S 15 '58
Performance of the Sussex area Tensleep reservoir, T. R. Elevins, maps diags J *Pet Tech* 10:19-23 Ja '58
Phosphoria; will pinchout play expand into Wind River basin? N. S. Morrissey, maps Oil & Gas J 56:264-6 My 19 '58
Watch Wyoming; it looks good for '58, F. J. Gardner, map Oil & Gas J 56:155 Ja 6 '58

Yugoslavia
Yugoslavia; young oil province with good undeveloped prospects, G. de Mohrenschildt, map Oil & Gas J 56:156+ S 1 '58
PETROLEUM association of America, Independent. See Independent petroleum association of America
PETROLEUM chemicals
Bright future for C₃ and C₄ olefins, T. C. Ponder, *Pet Refiner* 37:202+ J1 '58

Canada's petrochemical industry, *Chem & Ind* p510 My 3 '58
Celanese introduces new petrochem process, il Oil & Gas J 56:71 N 25 '57
Chemical oxygen demand of petrochemical wastes, modification of the standard catalytic reflux procedure, F. W. Bertram and others, *Anal Chem* 30:1482-5 S '58
Development of the petroleum chemical industry in Britain, R. Holroyd, flow sheet il diags *Chem & Ind* p900-9 J1 19 '58
Ethylene still leads growth of petrochemicals; with survey of petrochemicals' growth, Oil & Gas J 56:179-81 Ja 27 '58
European petrochemicals; special report, il *Chem & Eng N* 35:34-8, cover D 9 '57
Functional fluids, R. I. Stirton, *Pet Refiner* 36:198-9 N '57
How a petrochemical plant developed improved mechanical seals for nonlubricating hydrocarbons, A. L. Decker, diags Oil & Gas J 56:93-8 J1 6 '58
In California; petrochemical boom? I. Bergsteinsson and M. J. Laituri, *Pet Refiner* 37:119-22 F '58
Inventory of new processes and technology; petroleum and natural gas products, *Chem Eng* 66:131-3 My 5 '58
Japan's government declines to protect young petrochem industry, Oil & Gas J 56:86-7 Ap 14 '58
Less boom, steady growth in petrochemicals, J. R. Johnson, map *Can Chem Process* 42:sup 18A-19A Ja '58
Mitsui enlarging petrochemical facilities; completion is due in 1959, Oil & Gas J 56:87 Je 23 '58
More aromatics from petroleum, J. W. Bradley and others, *Chem Eng* 66:78-81 My 5 '58
New Conoco plant will make lin. of alcohol products from petroleum, Oil & Gas J 56:49 S 29 '58
1957 petrochemical handbook, flow diags *Pet Refiner* 36:191-304 N '57
Only the morning for Alberta, il *Can Chem Process* 42:24-30 F '58
Peppy petrochemicals line up to be counted, J. W. Bradley and others, *Chem Eng* 64:206+ D '57; 65:88+ Ja 27; 88+ F 24 '58
Petrochem labs need adequate area temperature control, W. R. Shoaff, jr. *Ind Lab* 9:30 Je '58
Petrochem outlay to stay up through 1959, Oil & Gas J 56:71 F 17 '58
Petrochem scandal is exposed by new Venezuelan junta, Oil & Gas J 56:86-7 Je 23 '58
Petrochemicals, a peek at the future, *Chem & Eng N* 35:21-2 D 2 '57
Petrochemicals; gaps to be filled in Canada, il *Can Chem Process* 42:24-6+ My '58
Petrochemicals to keep pace in '58, R. Katen, *bibliog Pet Refiner* 37:179-84 Ja '58
Petrochemicals will double by 1965, Oil & Gas J 56:59-60 N 25 '57
Petrochemicals with a tropical bent; Morón, Venezuela, il map *Chem & Eng N* 35:76-7 D 2 '57
Public support sought for revamping Venezuela's scandal-ridden petrochem program, C. Perez de la Cova, Oil & Gas J 56:71 S 22 '58
Richfield on stream with Watson plant, il *Pet Refiner* 37:183+ J1 '58
Russia to build 157 plants to step up production of synthetic rubber and petrochem products, Oil & Gas J 56:85 Je 16 '58
Selecting the kind and size of pilot plants, N. Flegen and others, il diags *Chem Eng Prog* 54:65-7 Ag '58
Suntide adding petrochem unit, F. Martin, il Oil & Gas J 56:65 Je 2 '58
Thermo data for petrochemicals (cont), K. A. Thermo and others, *bibliog Pet Refiner* 36:147-8 D '57; 37:125-30 J1 '58
These variables affect Oxo reactions, I. Kirshenbaum and V. L. Hughes, *Pet Refiner* 37:209-11 Je '58
Where are petrochemicals headed? W. E. Khan, *bibliog Oil & Gas J* 56:95-9 Mr 3 '58

See also

Butadiene
Ethylene

Manufacture

Carbide's stake in petrochemicals, il *Can Chem Process* 41:55-7 N '57
Control systems are being perfected; petrochemicals, A. Upfold, *Can Chem Process* 42:37-8 S '58
Petrochem row rising on Mississippi may rival Houston area, il map Oil & Gas J 56:80-1 Ja 13 '58
Petrochemicals via the Oxo process, P. W. Sherwood, *bibliog il diag Pet Eng* 30:C16-18 F; C26-7+ Mr '58

PETROLEUM chemicals—Manufacture—Cont.

Texas butadiene & chemical corp. plant makes good use of process analyzers. D. M. Wreyford and N. Eichey. flow diag *l* diags Oil & Gas J 56:76-84+ Je 30 '58

Standards

ASTM and the refining industry. H. W. Ferguson. A S T M Bul p24-6 My '58

Statistics

Annual statistical review; petrochemicals. Can Chem Process 42:sup 11 Je '58
Decade of gain, and now a decline. Oil & Gas J 56:58-9 Je 30 '58
Petrochemicals on the move. R. L. Bateman. Oil & Gas J 56:126-8 S 1 '58
U.S. petrochemicals growth, 1957-1965. D. M. Taylor. Pet Eng 30:C 11-12 Ja '58

PETROLEUM coke

Coking. flow diag Pet Refiner 37:244-5 S '58
Coking, the huge battle; abstract. N. A. Weil and F. S. Rapasky. Oil & Gas J 56:120 My 19 '58
Delayed coke cuts generation fuel costs; Virginia electric & power co.'s Yorktown power station. J. M. McGurn. *l* diags Elec World 149:64-6+ Ja 13 '58
Delayed coking. flow diag Pet Eng 30:C 10a-10b J1 '58

Exploitation of the Athabasca tar-sands. T. Gaskell. Ind Chem 34:78-8 F '58

Fluid coking; Esso research and engineering co. flow diag Pet Refiner 37:246 S '58
H-Oil; Hydrocarbon research, inc. flow diag Pet Refiner 37:247 S '58

Japan may enter coke market. Oil & Gas J 56:37 S 8 '58
Particle size control in fluid coking. D. D. Dunlop and others. *l* diags Chem Eng Prog 54:39-43 Ag '58

Petroleum coke becomes finished product. L. B. Adee. *l* Oil & Gas J 56:115-16 F 10 '58; Same. Pet Eng 30:C 10 F '58

Pulverized coke fires clean in first refinery use. J. Brendler. *l* diag Oil & Gas J 55: 142-3 N 4 '57

Radioactive coke-level indicators increase delayed-coke capacity. P. G. Wright. diags Oil & Gas J 56:93-4 Ag 11 '58

Refiner puts value into coke. Chem & Eng N 36:37 Ja 6 '58

Three years' experience shows low pressure coking successful. C. E. Gibson. flow plan *l* Pet Eng 30:C46+ Mr '58

PETROLEUM conservation**See also****Petroleum—Proration****PETROLEUM distillation**

Catalytic yields from different crudes. W. L. Nelson. Oil & Gas J 56:113 F 3 '58

Chromatography has become a valuable tool as a guide to fractionator operation. A. B. Altom. Oil & Gas J 56:122 Ap 21 '58

Combination cracking; Lummus co. flow diag Pet Refiner 37:248 S '58

Combination unit; Foster Wheeler corp. flow diag Pet Refiner 37:249 S '58

Cost of operating topping plants. W. L. Nelson. Oil & Gas J 56:113 S 22 '58

Cracking. Pet Refiner 37:231 S '58

Crude distillation for maximum cracking feed; Stone & Webster engineering corp. flow diag Pet Refiner 37:311 S '58

Crude distillation for maximum lubes; Foster Wheeler corp. flow diag Pet Refiner 37:312 S '58

Distillate treating; Petroco div., Petrolite corp. flow diag Pet Refiner 37:295 S '58

Distillation of binary and ternary mixtures. A. K. Qureshi and W. Smith. bibliog flow diag Inst Pet J 44:137-46 My '58

Effect of oil field use of chlorinated solvents on catalytic reforming. J. A. Guthrie and P. S. Hepp. Pet Eng 29:C40+ D '57

Equilibrium data now available for cyclohexane. D. S. Hoffman and J. H. Weber. Pet Refiner 37:143-5 F '58

Fluid catalytic cracking, model IV; Esso research and engineering co. flow diag Pet Refiner 37:236-7 S '58

Fluid catalytic cracking, Orthoflow; M. W. Kellogg co. flow diag Pet Refiner 37:238-9 S '58

Fluid catalytic cracking, two stage; Shell development co. flow diag Pet Refiner 37: 240-1 S '58

Fluid catalytic cracking; Universal oil products co. flow diag Pet Refiner 37:234-5 S '58

Hydrocarbons from petroleum. F. D. Rossini. *l* diags Inst Pet J 44:97-107 Ag '58; Discussion. 44:253-4 Ag '58

Hydrogen improves cat cracker feed. M. D. Abbott and others. bibliog Pet Refiner 37:161-6 My '58; Same. Oil & Gas J 56:44-7+ My 19 '58; Abstract. Pet Eng 30:C8 Je '58

Orthoflow fluid catalytic cracking. diag Pet Eng 30:C27-8 Ag '58

Oxygen analyzer installed in flue-gas system of a fluid cat cracker. D. H. Stormont. *l* diag Oil & Gas J 56:123-30 J1 '58

Oxygen expands cat cracker. Oil & Gas J 56:59 S 22 '58

Process feed for more cat gasoline. W. V. Medlin and others. bibliog diag Pet Refiner 37:167-72 My '58; Same. flow sheet Oil & Gas J 56:153-4+ My 19 '58; Abstract. Pet Eng 30:C8 Je '58

Rapid method for the determination of the aromatic contents of petroleum fractions boiling above the kerosene range. B. M. Brook and B. T. Witham. diag Inst Pet J 44:212-15 J1 '58

Thermal cracking; Universal oil products co. flow diag Pet Refiner 37:250 S '58

Tower capacity ranges by 400 per cent. W. L. Nelson. Oil & Gas J 56:126 F 10 '58

See also
Oil shales—Distillation
Petroleum refining

Residuum

Asphalt content of crude oil. W. L. Nelson. Oil & Gas J 56:123 Ja 6 '58

Electrical treating of refinery distillates. R. W. Stenzel. flow diag Pet Eng 29:C 15-17 D '57

Particle size control in fluid coking. D. D. Dunlop and others. *l* diags Chem Eng Prog 54:39-43 Ag '58

Thermal hydrogenation; transfer of hydrogen from tetralin to cracked residua. C. S. Carlson and others. bibliog Ind & Eng Chem 50:1067-70 J1 '58

Treating wax distillate. V. A. Kalichevsky. Pet Eng 30:C40 Ja '58

Tables, calculations, etc.

Better estimate of entrainment from bubble-cap trays. J. R. Fair and R. L. Matthews. bibliog diag Pet Refiner 37:153-8 Ap '58

Design packed columns graphically. J. J. Czernmann and others. bibliog diags Pet Refiner 37:165-72 Ap '58

Fixture flash equilibrium easier, quicker this way. E. J. Lockhart and R. J. McHenry. diag Pet Refiner 37:209-12 Mr '58

New method for vapor-liquid flash calculations. R. Salmon. Pet Refiner 36:133-6 D '57

New relative volatility method for distillation calculations. F. W. Winn. Pet Refiner 37: 216-18 My '58

Perforated trays designed this way. C. J. Huang and J. R. Hodson. bibliog (34 ref) diags Pet Refiner 37:103-18 F '58

Pressure drop through bubble caps. H. T. Welch. bibliog Pet Refiner 37:127-32 Ag '58

Regenerator heat-balance calculation; fluid-unit operating conditions. O. A. Wunderlich and F. E. Ivey, Jr. diag Oil & Gas J 56:121-8 Ja '58

Use digital computers as distillation column design aid. R. N. Maddox. bibliog Pet Eng 30:C 15-18 Ap '58

PETROLEUM engineering

ASME 12th annual Petroleum mechanical engineering conference, Tulsa, Sept. 22-25. Mech Eng 79:1094-9 N '57

Importance of economics in production and reservoir engineering. T. C. Frick. J Pet Tech 10:11-12 S '58

Management's use of petroleum engineering evaluations. J. M. Houchin. J Pet Tech 10:11-12 J1 '58

Miscible drive field applications; panel discussion. maps diags J Pet Tech 10:13-24 My '58

Practical use by management of production and reservoir engineering. F. H. Willibrand. J Pet Tech 10:11-12 My '58

Six steps to better drafting practices; special report. F. Evans. *l* diags Pet Refiner 37: 133-48 Ag '58

See also
Petroleum—Pumping
Petroleum refineries—Equipment
Water supply for petroleum industry

Bibliography

Abstracts. Published in monthly numbers of Journal of the Institute of petroleum

Books to read. Published in monthly numbers of Petroleum engineer

PETROLEUM engineering—Continued

Electric analogies

Application of a resistance network for studying mobility ratio effects. M. A. Nobles and H. B. Janzen. *bibliog* *il* J Pet Tech 10:60-2 F '58

Power

See also

Electricity in the petroleum industry
Petroleum—Pumping, Electric
Petroleum pipe lines—Pumping stations, Electric

Safety measures

See also

Petroleum—Well drilling—Safety measures
Petroleum—Well drilling, Subaqueous—Safety measures

Study and teaching

Education on the oil front; University of Zulul at Maracaibo. *il* Pet Eng 29:E 12-13 N '57

So you want to be a petroleum engineer? H. H. Power. *bibliog* Pet Eng 30:E3-5 Ja '58

You can study petroleum engineering abroad. H. H. Power. Pet Eng 30:A30-1 Ap '58

Tables, calculations, etc.

Application of statistics to the analysis of production decline data; combining principle of least squares with theory of equations. A. T. Chatas and W. W. Yankie, jr. *bibliog* J Pet Tech 10:52-4 Ar '58

Application of the Buckley-Leverett frontal advance theory to petroleum recovery. S. G. Dardaganian. *bibliog* J Pet Tech 10:49-52 Ap '58

Bubble point pressure correlation. J. A. Lasater. J Pet Tech 10:65-7 My '58

Calculating static bottom-hole pressures in a finite reservoir. L. L. Hurst and E. T. Guerrero. *bibliog* Oil & Gas J 56:79-86 S 29 '58

Chart for viscosity-gravity constant. Pet Eng 30:E 1g My '58

Check towers for three-way stress. B. C. Walton. *diags* J Pet Refiner 37:149-51 Ag '58

Computers do double duty via telephone. *il* Oil & Gas J 56:82 Mr 3 '58

Computers go to work on tough problems for Socony's world-wide operations. Oil & Gas J 56:62 J 21 '58

Conversion of wellhead pressures to pressures at base of gas column; table. Pet Eng 30:E 1b Ja '58

Conversion table for mud weights. Pet Eng 30:E 1h J1 '58

Density of reservoir crude oil, with reference to the calculation of bottom hole pressures. D. E. Bunyan and others. *Inst* Pet J 44:68-70 Mr '58

Departure curves for the self-potential log; with charts. A. E. Worthington and R. P. Meldau. *diags* J Pet Tech 10:Trans 11-16 Ja '58

Electronic computer applications to petroleum engineering. J. G. Debanne. *diags* Can Min & Met Bul 51:223-7 Ap '58

Estimation of ultimate recovery from solution gas-drive reservoirs. W. L. Wahl and others. *bibliog* J Pet Tech 10:Trans 132-8 Je '58

How to calculate and apply annular friction losses between tubing and casing. R. W. Brown. Pet Eng 30:B22-6 Ar '58

How to calculate multiphase flow systems. J. M. Campbell. Oil & Gas J 55:126-7 D 9 '57

How to figure how much air to put down the hole in air drilling. J. O. Scott. Oil & Gas J 55:104-5+ D 16 '57

How to get the most hole for your money. J. W. Speer. *bibliog* Oil & Gas J 56:90-6 Mr 21: 148-9+ Ap 7 '58

Identification of mixtures of waters from chemical water analyses. J. C. McKinnell. *bibliog* *diags* J Pet Tech 10:79-82 S '58

Linear programming model for scheduling crude oil production. A. S. Lee and J. S. Aronofsky. *bibliog* J Pet Tech 10:51-4 J1 '58

Method for determining optimum second stage pressure in three stage separation. K. F. Whinery and J. M. Campbell. J Pet Tech 10:53-4 Ap '58

Middle East gets computer; Arabian American oil co. Electronics 31:34 J1 25 '58

Natural gasoline; computer designs plants. H. C. Mieth and A. C. Moore. Pet Refiner 37: 140 Ap '58

Nomograph speeds decline curve analysis. R. Harrell. Pet Eng 30:B36-7 Ja '58

Oil industry looks to computers. Electronics 30:22 D 1 '57

Permeability log determination. S. T. Yuster and A. S. Odeh. Pet Eng 30:B36-8 Ag '58

Petrodatics; using electronic computers in the oil industry (cont). K. L. Austin and others. *diags* Oil & Gas J 55:121 N 25; 135 D 9 '57; 56:125 Ja 6; 150 Ja 20; 106 F 3; 131 F 17; 131 Je 9; 185 J1 28 '58

Plunger lift method of oil production. C. M. Beeson and others. *diag* Pet Eng 30: B96+ Je; B36+ J1; B58+ Ag '58 (to be cont)

Predicting reservoir performance from core analysis. B. A. Elmdahl. *bibliog* *il* *diags* Pet Eng 30:B95+ Mr '58

Pressure-loss conversion chart for pumping fluids. Pet Eng 30:E 1g Ap '58

Refining Engineer's continuous tables. Published in monthly numbers of Petroleum engineer

Selected crude-evaluation charts. Oil & Gas J 56:109-56 Mr 24 '58

Short-cut method of calculating your cement slurry. J. L. Buster. Oil & Gas J 56:112-15 J 6 '58

Use of high-speed computers for predicting flood-out patterns; abstract. D. G. McCarty and E. C. Barfield. J Pet Tech 10:60A J1 '58

Use this chart to quickly determine pump output, annular velocity, tank volume and mud gradient. L. M. Crane and A. C. Perricone. Oil & Gas J 56:112-13 Ap 14 '58

Weight of fluid on plunger in pumping wells, 1b per 100 ft.; table. Pet Eng 30:E 1f J1 15 '58

PETROLEUM engineers

Development of engineers for executive positions. C. O. Tongberg. J Pet Tech 10:11-12 Ap '58

Engineer goes abroad. *il* Pet Eng 30:B58-9+ F '58

Engineers now do engineering; Atlantic refining co. trains engineering aids. *il* Oil & Gas J 56:106 My 13 '58

Few engineers joining unions. W. E. Ault. Oil & Gas J 56:71 Je 16 '58

How to invent. F. E. Gilmore. Pet Refiner 37:187-9+ Ag; 396-400; S 196-8+ O '58 (to be cont)

Role of the process engineer in developing equipment specifications. C. H. Brooks. Pet Eng 30:C 14 Ap '58

Role of the project engineer in plant design and construction. H. F. Rase. *diag* Pet Eng 30:C9-10 Ap '58

See also

American institute of mining, metallurgical and petroleum engineers—Society of petroleum engineers

Kalichevsky, Vladimir Anatole
Vazquez, Siro

Directories

Society of petroleum engineers membership directory, 1958. J Pet Tech 10:sup 1-127 Je '58

PETROLEUM equipment industries

Deliveries cost money for the oil business. Oil & Gas J 56:56 J1 21 '58

Drilling contractors can help lower equipment costs. R. Elliott. *il* Oil & Gas J 55: 95-6 N 25 '57

How service companies serve. N. S. Morrissey. *il* Oil & Gas J 56:94-6+ Ap 28 '58

Oil men are buying less, temporarily. *il* Oil & Gas J 56:86-7 F 24 '58

Steel firms giving river-yard service; casing and drill pipe. *il* map Oil & Gas J 56:78-9 My 12 '58

Ways to reduce oilfield equipment and service costs. R. Elliott and P. M. Mayer. Pet Eng 29:B34-6 D '57

Directories

Refining engineer's buyer's guide, 1958. Pet Eng 30:C20-2+ Ap '58

You can buy it in Colombia. Pet Eng 30: B51 F '58

You can buy it in Venezuela; petroleum supply and service companies, their locations and personnel. Pet Eng 29:B68-9 N; B 112 D '57; 30:B 106 Ja '58

Finance

\$1.175 billion for drilling-producing equipment and services. Pet Eng 30:B 122-3 J1 15 '58

Colombia

You can buy it in Colombia. Pet Eng 30: B51 F '58

PETROLEUM equipment industries—Continued

Venezuela

You can buy it in Venezuela; petroleum supply and service companies, their locations and personnel, *Pet Eng* 29:B58-9 N; B 112 D '57; 30:B 106 Ja '58

PETROLEUM geologists. See Geologists, Petroleum

PETROLEUM geology

Distribution and lithology of organic carbonate unit of upper Devonian Fairholme group, Alberta, H. R. Belyea, bibliog maps diags Can Min & Met Bul 61:64-72 F '58

PETROLEUM industry and trade

Atom won't hurt oil much, *Oil & Gas J* 56:66 J 21 '58

Bright spots appear in supply picture, *Oil & Gas J* 56:85-7 Mr '58

Challenge in oil field mechanical development, T. A. Huber, bibliog ii diags *Pet Eng* 30:B31 J 15 '58

Costs key to oil's future energy role, C. J. Dwyer, *Oil & Gas J* 56:64 S 22 '58

Demand better in '58, but nothing to brag about, *Oil & Gas J* 56:54-5 Mr 31 '58

Foreign cars; new problem for oil? *Oil & Gas J* 56:72-4 Ap 14 '58

Foreign oil is no cinch; abstract, A. L. Nickerson, *Oil & Gas J* 55:140 N 18 '57

Gulf enters politics, *Oil & Gas J* 56:112 S 15 '58

Industry leaders preview 1958, E. Adams and others, *Pet Eng* 30:A17-26+ Ja '58

Letter to the class of '58, J. U. Teague, *Pet Eng* 30:B 137-9 My '58

1958, a plateau in the upward climb, E. Holman and others, *Oil & Gas J* 56:67-9 Ja 6 '58

Oil bottoms out, due for July upturn, *Oil & Gas J* 56:75-6 My 12 '58

Oil business under pressure, *Chem & Eng* N 35:28 N 18 '57

Oil fares well in 1959 federal budget, B. F. Linz, *Oil & Gas J* 56:77 Ja 20 '58

Oil is destined for even greater future growth, K. E. Hill, *Oil & Gas J* 55:155+ D 2 '57

Oil throttles back to shrink surplus to get supplies in balance with demand before price structure breaks, *Oil & Gas J* 56:81-3 F 24 '58

Oil's ills; foreign and domestic, B. Mills, *Pet Eng* 30:B 118-19 My '58

Our part in exotic fuels; editorial, *Pet Refiner* 37:123+ Ap '58

People in petroleum; employees and shareholders, *Pet Eng* 29:E 10 N '57

Petroleum; annual review 1957, W. C. Uhl and E. E. Juterbock, *Ind & Eng Chem* 50: sup44A-7A Ja '58

Petroleum feels the pinch, *Chem Eng* 65:88+ Mr 24 '58

Radiation in the petroleum industry, T. J. Hardwick and R. P. Nejak, *Chem Eng Prog* 54:72-3 F '58

Scolds oil men, offers program; solutions to oil's shortcomings, C. H. Lyons, *Oil & Gas J* 55:138-9 N 18 '57

Small business in oil, ii diags *Oil & Gas J* 55:255-65+ N 18 '57

Weather cuts stocks, *Oil & Gas J* 56:80 Mr 3 '58

What's ahead for the next ten years? A. J. McIntosh, *Pet Refiner* 36:221-2+ D '57

See also

American petroleum institute
Gasoline industry
Lubricating oil industry
National petroleum council
Oil fuel industry
Petroleum research
Petroleum supply
Seaboard oil company
Standard oil company of Indiana
Sunray mid-continent oil company
Suntide refining company
Texas company

Accidents

Blowout! some tips on how to prevent them, Y. K. Evans, ii *Oil & Gas J* 56:102-3 My 26 '58

Blowouts take a fearful toll; they can be prevented, H. D. Binney, ii *Oil & Gas J* 56:210+ Ar 18 '58

What do you know about blowouts? Y. K. Evans, *Pet Eng* 30:B61-3 Je '58; Same abr. *Oil & Gas J* 56:102-3 My '58

Accounting

Cost comparisons by capitalized cost, F. C. Jelen, *Pet Refiner* 37:195-201 Ja '58

How inflation affects cost analysis, F. C. Jelen, *Pet Refiner* 37:101-6 Ag '58

Profitability of capital expenditures for development drilling and producing property appraisal, J. J. Arps, bibliog diag J *Pet Tech* 10:13-20 J 1 '58

Which depreciation method is best, B. J. Gaffney, bibliog *Pet Refiner* 36:137-46 D '57

See also

Petroleum—Well drilling contractors—Accounting

Costs

Deriving maximum profit from hydraulic fracturing, G. C. Howard and others, bibliog *Oil & Gas J* 56:81-8 My 26 '58

How much does it cost to find oil? R. E. Megill, *Oil & Gas J* 56:189+ My 12 '58

Rising cost of oil operations, ii *Pet Eng* 30:B25-7 My '58

Want to seek oil in Colombia? E. Ospina-Racines, ii *Pet Eng* 30:E3-6+ F '58

Directories

International oil directory, *Oil & Gas J* 55: 179-80+ D 30 '57

Employees

See Petroleum workers

Equipment and supplies

Are your specs realistic? N. C. Turner, *Oil & Gas J* 56:123-6 Ap 21 '58

Automatic techniques of oil and gas production, N. E. Armstrong, ii *Automation* 5:57-61 Ag '58

Centralia water flood; pre-planned automation pays off, K. W. Foster, ii diags *Pet Eng* 30:B 116+ Mr '58

Collapsible water tanks boon to wildcaters, N. S. Morrissey, ii *Oil & Gas J* 56:170 Ap 21 '58

Corrosion studied; annual Permian basin corrosion tour, *Oil & Gas J* 55:95 N 4 '57

Degassers, C. R. Graham, ii diags *Pet Eng* 29:B81-2 J 1 '57

Densometer, new tool for drillers; measuring fluid density of cement and drilling mud, ii *Oil & Gas J* 56:70-1 J 17 '58

Development and field testing of a core barrel for recovering unconsolidated oil sands, A. B. Hildebrandt and others, ii diag J *Pet Tech* 10:51-3 Ja '58

First composite tree is installed on Texas producer in the field, E. McGhee, ii *Oil & Gas J* 56:96 Je 2 '58

Flow-rate device; determines depth of water zones encountered while drilling with air, ii *Oil & Gas J* 56:106 My 5 '58

Formation testing, treating, and squeeze cementing; new method cuts rig time; retrievable valve tester, D. L. Farley and H. E. Schweigman, ii diags *Pet Eng* 30: B69-70+ Ja '58

Frac header has unique safety features for oil and gas well fracture treatments, ii *Pet Eng* 30:B 109 J 15 '58

Frac header reduces hazards, ii *Oil & Gas J* 56:66 My 26 '58

High-pressure wellhead equipment; based on papers contributed by the Petroleum div, ii diags *Mech Eng* 80:62-8 Mr '58

Magnetic coupling and magnetic-particle brake, E. A. Studer, ii diags *Oil & Gas J* 55:55-60 D 23 '57

Modern industry equipment, ii *Pet Eng* 30: B7-11+ J 15 '58

New bottom-hole heat pump melts oil block, ii *Oil & Gas J* 56:61 S 22 '58

New Christmas tree, ii *Pet Eng* 30:B63 My '58

New Christmas tree designed, ii *Oil & Gas J* 56:104 Ap '58

New corrosion caliper for oil-well tubing, J. Kinley, diags *Oil & Gas J* 56:34 D 23 '57

New radio hats make noisy job quiet and peaceful, ii *Oil & Gas J* 56:60-1 S 22 '58

New technique tests casing in the hole, L. C. M. Darling, ii diags *Pet Eng* 30: B 119-20 Je '58; Same, *Oil & Gas J* 56:161+ Ar 18 '58

New tools cut costs for drillers and producers, H. Pistole and M. E. True, *Oil & Gas J* 56:48 S 29 '58

New tree to be used by Shell in Maracaibo, ii *Oil & Gas J* 56:113 Ag 18 '58

Oil production; sales for chemicals, ii *Chem & Eng* N 36:68-72 O 13 '58

Oil uses more chemicals, ii *Chem & Eng* N 36:35-7 Ap 28 '58

Power swivel attractive for offshore drilling, H. C. Morgan, ii *Oil & Gas J* 56:64-5 Ap 14 '58

Power swivel speeds drilling, ii *Pet Eng* 30:B 102 My '58

PETROLEUM industry and trade—Equipment and supplies—Continued

- Production equipment. *il* Pet Eng 30:B71+ J1 15 '58
- Sonar caliper simplifies LPG storage surveys. *J. P. Chisholm and G. D. Patterson. il* Pet Eng 30:B30-2 Ja '58
- Steel-price rise starts costing oil. *Oil & Gas J* 56:56-6 Ag 11 '58
- Strange buggies conquer mud; David buggies. *il* Oil & Gas J 56:55 Ag 25 '58
- Tellurometer; mapping instrument measures distances with accuracy up to one in 300,000. *il* Pet Eng 30:B50 F '58
- Testing the oil industry's meters. *M. L. Barrett, Jr. il* diag Mech Eng 80:61-6 My '58
- Tool gets exchanger bundles cleaner. *il* Pet Refiner 37:486 S '58
- Tower anchored off California shore. *il* Oil & Gas J 56:71 Je 23 '58
- When and how to replace anti-friction bearings. *C. V. Borho. il* Pet Eng 30:D27 J1 '58
- When to replace a tractor? *G. Evancoe. Pet Eng* 30:D42-3 My '58
- Wireline for offshore wells. *il* Pet Eng 30:B37-8 My '58
- See also*
- Airplanes in the petroleum industry
- Derricks, Oil well
- Drills, Oil well
- Motor trucks in the petroleum industry
- Petroleum—Pumping
- Petroleum—Well casing
- Petroleum equipment industries
- Sucker rods

Exhibitions

- Chemical and petroleum engineering exhibition, London, June 18-28. *il* Engineer 205:935-8, 977-80; 206:23-6 Je 20-J1 4 '58; Engineering 186:10-11, 70-1 J1 4, 18 '58
- Chemical and petroleum engineering exhibition, London, June 18-28; preview. *il* Ind Chem 34:294-302, 375-87 Je-J1 '58; Chem & Ind p704-16 Je 14 '58; Manuf Chem 29:240-8 Je '58

Exhibits

- National oil museum planned by Smithsonian institute. *Oil & Gas J* 56:81 J1 7 '58

Finance

- Banker appraises oil's recession; interview with Eugene McElvaney. *Oil & Gas J* 56:68-9 Ap 14 '58
- Capital spending up in '57, bank study shows. *Oil & Gas J* 56:67 J1 14 '58
- Earnings dwindle in oil and rubber. *Chem & Eng N* 36:18 My 19 '58
- Heavier going in oil and rubber. *Chem & Eng N* 36:27-8 Mr 3 '58
- Industry optimism seen in 1958 budgets; here's comparison with 1957. *Oil & Gas J* 56:190-1 Ja 27 '58
- New record earnings in prospect for 1957. *E. Adams. Pet Eng* 29:56-7 D '57
- Oil company earnings to lag in 1958; annual and fourth quarter net earnings, 1957 vs. 1956; tables. *Pet Refiner* 37:269-70 Ap '58
- Oil goes to money well. *Oil & Gas J* 56:119 N 11 '57
- Oil profits reveal recession's depth. *Oil & Gas J* 56:113 S 1 '58
- Oil's capital expenditures. *C. Billingham. bibliog* Oil & Gas J 56:148-54 J1 28 '58
- Profitability of capital expenditures for development drilling and producing property appraisal. *J. J. Arps. bibliog* diag J Pet Tech 10:13 J1 58
- Recession? Oil men see a silver lining. *Oil & Gas J* 56:56-9 Ap 28 '58
- Relationship between rate of return, payout and ultimate return in oil and gas properties. *C. E. Phillips. J Pet Tech* 10:26-9 S '58
- Role of Canadian banks in the oil and gas industry. *A. D. Insley. Can Min & Met Bul* 51:108-10 F '58
- Summer driving is upturn barometer. *Oil & Gas J* 56:66-7 Je 9 '58
- Summer pickup is oil's turning point. *Oil & Gas J* 56:100-2 J1 28 '58
- U.S. oil investment \$53.5 billion. 1957. *Pet Refiner* 37:414+ S '58
- What's the best way to set up a drilling program? *H. O. Reyburn. Oil & Gas J* 56:131+ S 22 '58
- World oil industry spending to climb. *Pet Refiner* 36:378 N '57

Fires and fire protection

- Laboratory and plant-scale experiments on the generation and prevention of static electricity. *A. Klinkenberg. bibliog* Oil & Gas J 56:204+ N 18 '57

Safety and fire protection (cont) *J. L. Risinger. il* Pet Refiner 36:369-70+ N; 204+ D '57

Static electricity probed in new research effort by industry. *Oil & Gas J* 55:145-6 N 18 '57

See also

Oil tanks—Fires and fire protection

History

- Petroleum panorama. *il* Oil & Gas J 56:74 S 8 '58

International aspects

- Canada's place in the world oil picture. *R. A. Brown, Jr. Can Min & Met Bul* 51:465-7 Ar '58
- Foreign crude ups gain over U.S. *Oil & Gas J* 56:140 J1 28 '58
- Foreign-U.S. gap now million barrels; tables by countries. *Oil & Gas J* 56:169 Ja 27 '58
- Interdependence in world-wide oil exploration. *D. C. Ion. Geophysics* 23:318-26; Discussion. 325-8 Ap '58
- Oil companies face USSR competition; 11th annual world round-up. *E. Adams. map* Pet Eng 30:A 17-28 J1; E 1-4 J1 15 '58 (reprints 25c)
- Oil target of Algerian attacks. *Oil & Gas J* 56:123 S 1 '58
- Refinery-building boom goes abroad. *G. Weber. Oil & Gas J* 55:103-5 D 30 '57
- Rigs have another busy year abroad. *il* Oil & Gas J 56:68-9 J1 14 '58
- Shell claims crude bound for California refinery from Sumatra. *Oil & Gas J* 56:140 Ja 27 '58
- What the Middle East crisis means. *il* map Oil & Gas J 56:47-9 J1 21 '58
- See also*

Petroleum industry and trade—United States —Imports problem

Laws and regulations

See Petroleum laws and regulations

Public relations

- API takes new tack on public affairs. *Oil & Gas J* 56:41-2 Ag 25 '58
- Disaster planning; disaster and the public. *Pet Refiner* 36:118-20 D '57
- El Segundo has a problem. *il* Pet Eng 30:E22-3 Je '58
- Houston teachers learn the oil story. *il* Oil & Gas J 56:56 Je 30 '58
- If oil could speak. Published in monthly number of petroleum
- New public affairs program mapped by A.P.I. *Oil & Gas J* 55:131 N 18 '57
- Oil and education; fifth Cadman memorial lecture. *Lord Godber. Inst Pet J* 44:1-8 Ja '58
- Security analysts go to oil school. *Oil & Gas J* 55:29 D 23 '57
- Your public relations: how good? *P. Lockwood. Pet Eng* 30:B 151-2 Ja '58

Radio communication

- Communications system saves money; Union oil co. *il* Oil & Gas J 56:70-1 Je 16 '58
- CATC will have microwave circle in the Gulf. *il* map Pet Eng 30:D50d-50e My '58
- Designing land-mobile radio communication systems. *J. R. Neubauer. il* diag Pet Eng 30:D 19-22 Ag '58
- Disaster planning; communications. *Pet Refiner* 36:117 D '57
- 890-960 mc. communication system for Continental co. *M. L. Hall. il* map Oil & Gas J 55:70-3 D 23 '57
- Oil's use of radio is growing fast. *J. P. O'Donnell. il* Oil & Gas J 56:82-3 Ja 20 '58
- Rig-to-shore communication via radio dial telephone. *il* Oil & Gas J 56:148 Ap 14 '58
- Two-way radio system steps up rig efficiency. *N. S. Morrissey. il* diag Oil & Gas J 56:138-9 Ja 20 '58
- Unique microwave is installed. *il* Oil & Gas J 56:73 Mr 17 '58

See also

Pipe lines—Communication systems

Records

- Proposed; uniform oil report forms. *H. Wilson. il* Oil & Gas J 56:84-7 Mr 10 '58
- Richfield taps a well-data gold mine. *il* Oil & Gas J 56:54-6 Ja 13 '58
- Scout check streamlined. *C. Hoot. il* Oil & Gas J 56:200-1 F 17 '58

Safety measures

- How to take a sample, and live. *J. Pearson. Oil & Gas J* 56:108, 112-13 Ag 4 '58
- Personnel man in safety. *G. H. Thompson. Pet Refiner* 37:268+ Ja '58

PETROLEUM industry and trade—Safety measures—Continued
 Safety meetings really do pay off. Oil & Gas J 56:58-9 J1 7 '58
See also
 Petroleum—Well drilling—Safety measures
 Petroleum—Well drilling, Subaqueous—Safety measures

Securities

Security analysts go to oil school. Oil & Gas J 55:29 D 23 '57
 Universal Oil Products sale ordered. Chem & Eng N 36:92-4+ Je 9 '58

Statistics

Canadian scoreboard for '57. map Oil & Gas J 56:232-3+ Mr 17 '58
 Crude output next year will be higher than now. Oil & Gas J 55:87 N 4 '57
 Crude reserves fall below '57 figures. Oil & Gas J 56:80-2 Mr 17 '58
 Chemical fluctuations and black oil demand, an introduction. G. Chandler and D. A. Lindsell. Inst Pet J 44:109-18; Discussion. 118-23 My '58
 Deep wells increase 28 per cent. E. Adams. Pet Eng 30:B21-30 Mr '58
 Deeper drilling trend seen in AAODC '57 statistics. Pet Eng 30:B 125-6 Mr '58
 Demand looks good. A. J. McIntosh. Oil & Gas J 55:132-3 N 18 '57
 Domestic refining capacity is leveling off. G. Weber. II Oil & Gas J 56:88-91 Mr 24 '58
 Don't shelve Continental shelf. N. Williams. Oil & Gas J 56:103-7 Je 9 '58
 Exploratory drilling in 1956. G. B. Moody. maps Am Assn Pet Geologists Bul 41:989-1005 Je '57; Correction. 42:440-1 F '58
 Exploratory drilling in 1957. B. W. Blanpied. maps Am Assn Pet Geologists Bul 42:1126-42 Je '58
 Future productive capacity and probable reserves of the U.S. W. Davis. bibliog flow diag il diars Oil & Gas J 56:105-19 F 24 '58; Discussion. 56:112+ My 19 '58
 Geophysical oil-hunt picks up abroad. Oil & Gas J 56:80 May 5 '58
 Middle East hits peak; but free world's total output is down. Oil & Gas J 56:123 Ap 7 '58
 Midyear report. maps Oil & Gas J 56:123-54 J1 28 '58
 Millions going for product quality. C. A. Umbach. Jr. Pet Refiner 37:231-2 Ap '58
 More people, more pay in petroleum in 1957. Pet Eng 30:E24-5 Je '58
 1957 topples all records! 12th annual report survey; with tables. E. Adams. II Pet Eng 30:A 17-28 My '58
 Oil companies face USSR competition: 11th annual world round-up. E. Adams. map Pet Eng 30:A 17-28 J1; E 1-4 J1 15 '58 (reprints 25c)
 Oil looks ahead; forecast of trends through '65. Oil & Gas J 55:135-42 N 11 '57
 Production level dips again in May. Oil & Gas J 56:68 Ar 4 '58
 Production up again. Oil & Gas J 56:100 My 12 '58
 Review forecast. maps II Oil & Gas J 56:145-94+ Ja 27 '58
 Seismic work hits a slump. H. G. Patrick. Oil & Gas J 56:176-8 Mr 17 '58
 75 years of Texas oil; tables. C. A. Warner. Oil & Gas J 56:70 S 29 '58
 Wildcat scoreboard for '57. B. W. Blanpied. maps Oil & Gas J 56:132+ Mr 17 '58
 World output drops; with tables. Oil & Gas J 56:88 Je 2 '58
 World output falls again. Oil & Gas J 56:72 F 3 '58
 World production gains since June. Oil & Gas J 56:86 Mr 3 '58
 World-wide oil annual report; tables. Oil & Gas J 55:121-70+ D 30 '57

Taxation

Colorado oil tax upheld. Oil & Gas J 56:92 F 24 '58
 Court may have done oil a tax favor; carved-out oil payments are not capital gains. Oil & Gas J 56:91-2 Ap 21 '58
 Effect of taxation on valuation and production engineering. C. W. Breeding and J. R. Herzfeld. bibliog J Pet Tech 10:21-5 S '58
 Oil on notice to expect higher taxes. Oil & Gas J 56:51 S 22 '58
 Tax action won't lower tariffs. Oil & Gas J 56:83 J1 7 '58
 Tax challenged by railroad in suit seeking refund of Colorado's levy. Oil & Gas J 56:47 S 29 '58

Africa

African search pushed. map Oil & Gas J 56:86 Ja 6 '58
 Petroleum developments in Africa in 1957. H. D. Hedberg. maps Am Assn Pet Geologists Bul 42:1631-79 J1 '58

Africa, North

North Africa is humming. map Oil & Gas J 56:122-3 Ar 18 '58

Alaska

Alaskan lands reopened. Oil & Gas J 56:60 Ar 4 '58
 Alaskan wildcat. Oil & Gas J 55:63 N 25 '57
 Developments in Alaska in 1957. C. E. Kirschner. bibliog maps Am Assn Pet Geologists Bul 42:1434-44 Je '58
 Kenai gets another test well. map Oil & Gas J 56:105 Ap 7 '58
 What Alaska statehood means to oil. Oil & Gas J 56:63-4 J1 7 '58

Albania

Russia stepping up little Albania's output. II Oil & Gas J 56:104 Ja 20 '58

Alberta

Alberta income off. Oil & Gas J 56:67 Ar 4 '58
 Alberta offer gets attention; permits are renewable for second year. Oil & Gas J 56:154-5 F 3 '58
 New Canadian play at Kaybob. Oil & Gas J 56:131 Ja 27 '58
 Young field has ten risks. map Oil & Gas J 56:83 Mr 10 '58

Algeria

Algeria play mushrooms. Oil & Gas J 56:119 S 15 '58
 Algerian future is looking good with new Zarzaitine discovery. Oil & Gas J 56:89-90 My 5 '58
 Algerian rights eyed. map Oil & Gas J 56:74 Ap 28 '58
 French oil gains slow but sure. Oil & Gas J 56:111 Ap 21 '58
 Sahara tracts awarded to non-French firms. Oil & Gas J 56:84 Mr 3 '58

Arabia

See also

Arabian American oil company

Arctic regions

Arctic attracts four firms. map Oil & Gas J 56:58 Mr 31 '58

Argentina

Argentina assigns work. Oil & Gas J 56:83 S 8 '58
 Argentina is going all out to develop oil reserves. map Oil & Gas J 56:70-2 Ar 4 '58
 Argentina oil plan unfolding. Oil & Gas J 56:126 Ar 18 '58
 Argentina still is cool. Oil & Gas J 56:86 Je 16 '58
 Argentine deal snagged by government failure to post bond. F. E. Laughlin, Jr. Oil & Gas J 56:86 F 10 '58
 Texas lands 40-well Argentine deal. map Oil & Gas J 56:84-5 O 28 '57

Arizona

Developments in Arizona and western New Mexico in 1957. H. Budd. maps Am Assn Pet Geologists Bul 42:1384-93 Je '58

Arkansas

Developments in Arkansas and north Louisiana in 1957. E. H. Morrow and W. L. Champion. bibliog map Am Assn Pet Geologists Bul 42:1319-26 Je '58

Asia

World-wide oil report. maps Oil & Gas J 55:141-50 D 30 '57

Australia

Australian oil search gets boost. W. D. Mott. map Oil & Gas J 55:203-5 D 30 '57
 Drillers get help in Australia. map Oil & Gas J 56:84 Ap 14 '58

Austria

Reparations cut by Soviet for Austria. Oil & Gas J 56:121 S 15 '58

Bolivia

Big Bolivian concession goes to three American independents. map Oil & Gas J 56:99 Ja 20 '58
 Bolivian acreage scheduled to be granted to Fish. Oil & Gas J 56:108 Mr 24 '58

PETROLEUM industry and trade—Bolivia—*Continued*

Drilexco operations extended to Bolivia. *Pet Eng* 30:B89 Ja '58
 Fish lands rights in Bolivia with high bid. *Oil & Gas J* 56:74 Ap 28 '58
 New Bolivian concession. *Oil & Gas J* 55:76 D 2 '57

Brazil

Brazil dickers for more deals. *Oil & Gas J* 56:124 S 1 '58
 Brazilian firms vying for Bolivian exploration rights. *Oil & Gas J* 56:72 S 22 '58
 Parker is drilling in Brazil. *Oil & Gas J* 56:78 Ap 28 '58
 Reds make oil deal with Brazil. *Oil & Gas J* 56:70 JI 21 '58

British Honduras

Bandini gets drilling rights in British Honduras. *Oil & Gas J* 56:105 Mr 24 '58
 Shell takes Gulf farmout. map *Oil & Gas J* 55:133 N 11 '57

California

California companies use do-it-yourself drill sites. *il Oil & Gas J* 55:74 O 28 '57
 California cuts take of crude as stocks rise sharply. *Oil & Gas J* 56:84 Ja 20 '58
 California prices cut by General Petroleum and Union. *Oil & Gas J* 56:66 Je 16 '58
 California still dogged by oversupply. *Oil & Gas J* 56:117 JI 28 '58
 Drillers moving back into Los Angeles. map *Oil & Gas J* 56:68-9 My 5 '58
 Here's a new review for California oil production, 1957. *Oil & Gas J* 56:154 Ag 11 '58
 Long Beach calls truce in battle to halt subsidence. *Oil & Gas J* 56:68 Ja 13 '58
 Navy forges subsidence showdown. map *Oil & Gas J* 56:52-3 Ag 25 '58
 Offshore bidding set at last by California agency. map *Oil & Gas J* 56:93 Ap 21 '58
 Offshore leasing riddle perplexes California officials. *Oil & Gas J* 56:78-9 Ja 20 '58
 Oil blamed for subsidence at Long Beach harbor. *Oil & Gas J* 56:82 Mr 3 '58
 Quick drilling expected off California. map *Oil & Gas J* 56:72-3 JI 7 '58
 State studies lease plan for California tide-lands. *Oil & Gas J* 56:98 Mr 24 '58
 Subsidence plan adopted by Long Beach. *Oil & Gas J* 55:75 N 25 '57
 Subsidence plan speeded up by Long Beach. *Oil & Gas J* 56:71 Je 9 '58
 West coast is plagued by oversupply. *il Oil & Gas J* 56:86-7 Mr 17 '58
 Wilmington floods approved. *Oil & Gas J* 56:139 Ja 27 '58

Anti-trust suit

Monopoly trial nears in California against seven majors. *Oil & Gas J* 55:69 N 25 '57

Canada

Are Canadian refiners overbuilding? *Oil & Gas J* 56:91 Mr 24 '58
 Blowouts take a fearful toll; they can be prevented. H. D. Binney. *il Oil & Gas J* 56:210+ Ag 18 '58
 Bright spot in Canadian gloom seen by industry leaders. *Oil & Gas J* 56:133 Ja 27 '58
 Canada has good year. H. G. Cochrane. *il Pet Eng* 30:E 1-4 Mr '58
 Canada; prime hunting ground for oil. F. J. Gardner. map *Oil & Gas J* 56:51-4 My 26 '58
 Canada to make big issue of imports. *Oil & Gas J* 56:51-2 Ja 13 '58
 Canada views more exploration, less production in 1957. *Pet Eng* 30:B 106+ F '58
 Canada's refining capacity soars. J. P. O'Donnell. *il Oil & Gas J* 56:197-8+ Ag 18 '58
 Canadian crude oil markets in north-central United States. M. E. Sandlin. *Can Min & Met Bul* 51:515-19 Ag '58
 Canadian scorecard for '57. map *Oil & Gas J* 56:232-3+ Mr 17 '58
 Developments in eastern Canada in 1957. J. D. McAlary and B. V. Sanford. bibliog maps *Am Assn Pet Geologists Bul* 42:1427-33 Je '58
 Developments in western Canada in 1957. H. A. Hiles and G. J. McMurtry bibliog *Am Assn Pet Geologists Bul* 42:1413-26 Je '58
 Imports: Canadian view; exempt pipeline imports. J. A. Coran. *Pet Eng* 30:E3+ Je '58
 Oil interest zooms in Canada. *Oil & Gas J* 56:118 S 15 '58
 Petroleum. flow diag *il Eng J* 41:59-62 Ap '58

Petroleum and natural gas. *Can Min & Met Bul* 51:54-6 Ja '58
 Tariff, lower price could help Canada. W. J. Levy. *Oil & Gas J* 56:49-50 F 3 '58

Caribbean region

Petroleum developments in South America and Caribbean area in 1957. E. W. Clark. bibliog maps *Am Assn Pet Geologists Bul* 42:1537-88 JI '58

China

Chinese oil hopes soar. map *Oil & Gas J* 56:124 Ag 18 '58
 Red China output hits 30,000 bbl. *Oil & Gas J* 56:87 Ja 6 '58

Colombia

Drilling in Colombia. *il Pet Eng* 30:B42-3 F '58
 Oil exploration in northern Colombia. C. R. Goss. bibliog *il map Pet Eng* 30:B26-9 F '58
 Shell-Condor tames wild Magdalena. *il Oil & Gas J* 55:80-1 N 25 '57
 Want to seek oil in Colombia? E. Ospina-Racines. *il Pet Eng* 30:E3-6+ F '58
 Why Colombia attracts oil companies; interview with J. C. Turbay Ayala. *Pet Eng* 30:A24-5 F '58

Colorado

Developments in Colorado and western Nebraska in 1957. R. L. Pott and others. map *Am Assn Pet Geologists Bul* 42:1375-83 Je '58

Cuba

Deep drilling push. *il map Oil & Gas J* 55:158 N 18 '57

Eastern states

Developments in Atlantic coastal states between New Jersey and South Carolina in 1957. H. G. Richards. *Am Assn Pet Geologists Bul* 42:1339 Je '58
 Import ban tested by eastern states. *Oil & Gas J* 56:65 Je 16 '58

Europe

European refinery construction booming! W. Sekules. *il map Pet Eng* 30:C7-11 JI '58
 More drilling in Europe urged. *Oil & Gas J* 56:87 Mr 3 '58
 Petroleum developments in Europe in 1957. R. E. King. maps *Am Assn Pet Geologists Bul* 42:1583-630 JI '58
 U.S. operator spurs European search. map *Oil & Gas J* 56:51-2 S 29 '58
 World-wide oil report. maps *Oil & Gas J* 55:132-40 D 30 '57

Far East

Petroleum developments in Far East in 1957. G. F. Kaufmann. maps *Am Assn Pet Geologists Bul* 42:1709-26 JI '58

Finland

Finland's first refinery on stream. *il Pet Refiner* 37:182+ F '58

France

French refining to move inland. map *Oil & Gas J* 56:102 Mr 17 '58

Germany

World-wide oil report. maps *Oil & Gas J* 55:138-9 D 30 '57

Great Britain

Diverse demands of the petroleum and petrochemical industries on U.K. engineering. L. S. Davis. *il Ind Chem* 34:325-8 Je '58

Greece

Greeks won't sell refinery. *Oil & Gas J* 56:101 Ja 20 '58

Guatemala

Guatemalan oil search starts. *il Oil & Gas J* 56:141 Ja 27 '58

Hungary

Oil outlook is good in Hungary. G. De Mohrenschildt. map *Oil & Gas J* 56:84-5 JI 21 '58

Idaho

Developments in Wyoming and Idaho in 1957. A. L. Lyth, Jr. and P. R. May. maps *Am Assn Pet Geologists Bul* 42:1350-9 Je '58

Illinois

Costs threaten tri-state producers. *Oil & Gas J* 55:30-1 D 3 '57
 Developments in Illinois in 1957. A. H. Bell and V. Kline. map *Am Assn Pet Geologists Bul* 42:1182-9 Je '58

PETROLEUM industry and trade—Continued

Indiana

Developments in Indiana in 1957. G. L. Carpenter, map Am Assn Pet Geologists Bul 42:1190-3 Je '58

Indonesia

Indonesia closes door to Shell in northern Sumatra. Oil & Gas J 56:84 F 10 '58
 Indonesia outlook glum. Oil & Gas J 55:87 D 9 '57
 Indonesia worries investors. il Oil & Gas J 55:80 D 18 '57
 New importer signs deal with Indonesian government for north Sumatran crude. Oil & Gas J 56:84 Ja 6 '58
 Oil company pushes back jungle, people follow. il Pet Eng 29:D5 N '57
 Oil has big stake in Indonesian war. il map Oil & Gas J 56:98-9 Mr 17 '58
 Shell gets out of Dutch. Oil & Gas J 56:122 Ap 7 '58

Iran

Big spending in Iran. map Oil & Gas J 55:102 N 4 '57
 Canadians win acreage in partnership deal with Iran. map Oil & Gas J 56:61 Je 30 '58
 Iran oil future bright. Oil & Gas J 56:120 Ap 7 '58
 Iran plans leasing in Persian Gulf waters. Oil & Gas J 55:131 N 11 '57
 Iran plans more leasing. map Oil & Gas J 55:88 D 9 '57
 Iran ready to grant new concessions. map Oil & Gas J 56:104 Mr 24 '58
 Pan Am gets ready to explore Persian Gulf under Iranian agreement. Oil & Gas J 56:85 Je 9 '58
 Pan Am pays \$25 million bonus for Persian Gulf permit. Pet Eng 30:B38 J1 '58
 Prize Iranian plot landed by Standard of Indiana. Oil & Gas J 56:84 My 5 '58

Iraq

Iraq ready to talk oil with Iraq petroleum co. Oil & Gas J 56:125 Ag 18 '58

Italy

ENI activities up in Sicily and on mainland. Oil & Gas J 56:115 My 19 '58
 72-25 split signed by Italians and Morocco. Oil & Gas J 56:73 Ag 4 '58

Japan

Japan gets ready for huge expansion. il Oil & Gas J 56:113-20 J1 28 '58
 Japan puts ceiling on refinery runs. Oil & Gas J 56:87 Je 23 '58
 Japan steps up hunt. il Oil & Gas J 56:76 Ap 28 '58
 Japanese shop for new deals in wake of neutral zone success. Oil & Gas J 56:121 S 15 '58

Kansas

Crude prices boosted in Oklahoma and Kansas. Oil & Gas J 56:62 Ag 4 '58

Kentucky

Oil and gas developments in Kentucky in 1957. E. Nsow and E. O. Ray, map Am Assn Pet Geologists Bul 42:1172-9 Je '58

Kuwait

Aminoil plans refinery in Kuwait. Oil & Gas J 56:89 My 5 '58
 Extensions to Mina Al-Ahmadi refinery. E. L. Lomax, il map Engineer 205:763-4 My 23 '58
 High price tag fixed on Middle East concessions by Japanese-Kuwait pact. Oil & Gas J 56:116 My 19 '58
 Kuwait drives hard bargain. Oil & Gas J 56:103 Ja 20 '58
 Kuwait grabs a bigger role with new refining, loading facilities. il Oil & Gas J 56:106-7 Mr 24 '58
 Kuwait rights given to Japanese for half of neutral zone waters. Oil & Gas J 56:93 My 12 '58

Latin America

Reds woo Latin America with oil trade agreements. Oil & Gas J 56:101 Ja 20 '58
 World wide oil report. maps Oil & Gas J 55:123-31 D 30 '57

Libya

Mattel mad at Americans over loss of Libyan concession. Oil & Gas J 56:69 Ja 13 '58
 Pan Am gets blocks in Libya. map Oil & Gas J 56:82 Ap 14 '58

Louisiana

Developments in Arkansas and north Louisiana in 1957. E. H. Morrow and W. L. Champion, bibliog map Am Assn Pet Geologists Bul 42:1319-26 Je '58
 Developments in Louisiana Gulf coast in 1957. L. L. Limes, bibliog maps Am Assn Pet Geologists Bul 42:1308-18 Je '58
 Disputed Louisiana lease looks hot. map Oil & Gas J 56:72-3 My 5 '58
 Louisiana offshore has banner year, expects another. map Oil & Gas J 56:218 Ja 27 '58
 Low bridges—low blow to south Louisiana drilling operators. Oil & Gas J 56:81 J1 14 '58

Mexico

Mexico makes headway with big processing, pipeline projects. Oil & Gas J 56:86 Ag 11 '58
 Petroleum developments in Mexico in 1957. E. J. Guzmán and F. Mina U. maps Am Assn Pet Geologists Bul 42:1523-36 J1 '58

Michigan

Developments in Michigan in 1957. R. E. Ives and G. D. Ellis, map diag Am Assn Pet Geologists Bul 42:1194-206 Je '58

Mid-continent region

Developments in north Mid-continent in 1957. G. Q. Williams, map Am Assn Pet Geologists Bul 42:1207-19 Je '58

Middle East

Imports; European view; Mideast oil should be cheaper. B. N. Darbyshire. Pet Eng 30: D6+ Je '58
 Japanese shop for new deals in wake of neutral zone success. Oil & Gas J 56:121 S 15 '58
 Middle East hits peak; but free world's total output is down. Oil & Gas J 56:123 Ap 7 '58
 Oil normal but nervous in Middle East. Oil & Gas J 56:103-5 J1 28 '58
 Petroleum developments in Middle East and adjacent countries in 1957. H. Hotchkiss, maps Am Assn Pet Geologists Bul 42:1680-708 J1 '58
 Profit formula to stick. Oil & Gas J 55:119 D 30 '57
 What the Middle East crisis means. il map Oil & Gas J 56:47-9 J1 21 '58
 World-wide oil report. maps Oil & Gas J 55:141-50 D 30 '57

Montana

Developments in Montana, North Dakota and South Dakota in 1957. S. H. Harris and H. D. Hadley, map Am Assn Pet Geologists Bul 42:1340-9 Je '58
 Pine replaces Poplar as Montana's big producer. maps Oil & Gas J 56:244 Mr 17 '58

Morocco

75-25 split signed by Italians and Morocco. Oil & Gas J 56:73 Ag 4 '58

Nebraska

Developments in Colorado and western Nebraska in 1957. R. L. Pott and others, map Am Assn Pet Geologists Bul 42:1375-83 Je '58
 Nebraska's 1957 record, 776 wells, 38 new oil fields. map Oil & Gas J 56:164-6+ D 16 '57

Nevada

Oil and gas developments in Utah and Nevada in 1957. G. S. Campbell, bibliog map diag Am Assn Pet Geologists Bul 42:1360-74 Je '58

New Brunswick

Imperial eyes New Brunswick. map Oil & Gas J 55:90 N 4 '57

New Mexico

Bisti gets 40-acre spacing. Oil & Gas J 55: 123 N 11 '57
 Developments in Arizona and western New Mexico in 1957. H. Budd, maps Am Assn Pet Geologists Bul 42:1384-93 Je '58
 Developments in west Texas and southeastern New Mexico in 1957. S. L. Smith and others, bibliog map Am Assn Pet Geologists Bul 42:1248-58 Je '58

New York (state)

1957 gas and oil developments in New York. W. L. Kreidler, map Am Assn Pet Geologists Bul 42:1143-6 Je '58

Nigeria

Nigerian crude moves to Europe. Oil & Gas J 56:101 F 24 '58

PETROLEUM industry and trade—Continued

North Dakota

Developments in Montana, North Dakota and South Dakota in 1957. S. H. Harris and H. D. Hadley. map Am Assn Pet Geologists Bul 42:1340-9 Je '58

Ohio

Completions falter, but Ohio production is boosted. G. G. Shearow. map Oil & Gas J 56:171-3 My 5 '58

Oil and gas developments in Ohio in 1957. R. L. Alkire and others. map Am Assn Pet Geologists Bul 42:1159-68 Je '58

Oklahoma

Crude prices boosted in Oklahoma and Kansas. Oil & Gas J 56:62 Ar 4 '58

Developments in Oklahoma in 1957. M. C. Roberts. map Am Assn Pet Geologists Bul 42:1220-33 Je '58

Developments in Texas and Oklahoma Panhandles in 1957. R. M. Lilly. maps Am Assn Pet Geologists Bul 42:1234-47 Je '58

How to make profit below 15,000 ft.; at Carter-Knox the deep pay is paying off. H. J. Reedy. maps diag Oil & Gas J 56:166-8+ Ap 14 '58

In southern Oklahoma counties wildcutters turn to the Ordovician. N. S. Morrissey. maps Oil & Gas J 56:270+ My 19 '58

Oklahoma drilling rebounds. J. C. McCaslin. map Oil & Gas J 56:245-6 Mr 17 '58

Oklahoma wildcats pay off. map Oil & Gas J 56:77 My 12 '58

Pacific coast

Developments in West Coast area in 1957. H. L. Popenoe. bibliog maps Am Assn Pet Geologists Bul 42:1394-412 Je '58

U.S. asks heavy import cutbacks for West coast. Oil & Gas J 56:108-9 D 30 '57

West Coast oil problems aired. Chem & Eng N 35:47+ D 9 '57

Paraguay

New interest in Paraguay. map Oil & Gas J 56:71 F 3 '58

Paraguay interest picking up. map Oil & Gas J 56:75 Ap 28 '58

Rimrock selects site in Paraguay for first wildcat on international products corp. concessions. map Oil & Gas J 56:84-5 Je 9 '58

Pennsylvania

Developments in Pennsylvania in 1957. W. S. Lytle. bibliog map Am Assn Pet Geologists Bul 42:1147-58 Je '58

Economics of refining in the Penn Grade crude area. J. J. Schanz, Jr. and R. C. Barwick. il map Pet Eng 30:C23-6 F '58

Pennsylvania shallow well completion statistics for second quarter of 1958: tables. Oil & Gas J 56:163 Ar 11 '58

Peru

Crude-price control proposed. Oil & Gas J 56:104 F 24 '58

Drilling programed off Peru. il Oil & Gas J 56:99 My 12 '58

Investment curbed in Peru by one oil company. Oil & Gas J 56:88 Je 9 '58

Peru prepares for future. E. Adams. il map Pet Eng 30:A22-7 Ap '58

Peru trades opportunity for capital: interview with F. Saravia Martin. il Pet Eng 30:A18-21 Ap '58

Peru's production edges up. C. N. Griffiths. il Pet Eng 30:B111+ Ap '58

Petroleum panorama: clay pots, trust busting, and subsol rights. il Oil & Gas J 56:74 S 8 '58

Puerto Rico

Oil rules are changed to encourage exploration in Puerto Rico. map Oil & Gas J 56:72 Ju 13 '58

Puerto Rico draws exploration. map Oil & Gas J 56:109 Ap 21 '58

Rumania

Reds make oil deal with Brazil. Oil & Gas J 56:70 Jl 21 '58

Russia

New Soviet map points to big changes in producing, refining. map Oil & Gas J 56:100-1 F 24 '58

Russia eyes major oil-exporter role. E. M. Brandes. Oil & Gas J 56:62-3+ Ar 25 '58

Russian oil men look to Baku again. il map Oil & Gas J 55:86-7 O 28 '57

Soviet 1958 plans for oil and gas. Pet Eng 30:E6 My '58

USSR oil industry to try decentralization. C. L. Adams. Pet Eng 29:E 15 N '57

What are the Russians doing in oil drilling and production? diag Oil & Gas J 56:106-11 My 26 '58

South America

Petroleum developments in South America and Caribbean area in 1957. E. W. Clark. bibliog maps Am Assn Pet Geologists Bul 42:1537-88 Jl '58

World-wide oil report. maps Oil & Gas J 56:123-31 D 30 '57

South Dakota

Developments in Montana, North Dakota and South Dakota in 1957. S. H. Harris and H. D. Hadley. map Am Assn Pet Geologists Bul 42:1340-9 Je '58

Southeastern states

Developments in southern states in 1957. E. R. Hines, Jr. and G. T. Thomas. bibliog maps Am Assn Pet Geologists Bul 42:1327-33 Je '58

Southern states

Dixie salt domes. J. C. McCaslin. map Oil & Gas J 56:242 Ap 7 '58

Sumatra

Caltex opening port in central Sumatra to move crude from growing fields. Oil & Gas J 56:89 Je 23 '58

Sumatra oil moves to Japanese refinery. Oil & Gas J 56:89 Je 23 '58

Syria

Syrian field impressive. map Oil & Gas J 56:83-4 My 5 '58

Tennessee

Tennessee's '57 score is 32. H. C. Milhous. map Oil & Gas J 56:154-5 Ap 28 '58; Same. Am Assn Pet Geologists Bul 42:1180-1 Je '58

Texas

Bids low in Texas at big lease sale. Oil & Gas J 56:84-5 Mr 17 '58

Developments in east Texas in 1957. D. A. Mabry, Jr. and G. D. Gardner. map Am Assn Pet Geologists Bul 42:1289-98 Je '58

Developments in north Texas in 1957. D. R. Cooley. map Am Assn Pet Geologists Bul 42:1259-67 Je '58

Developments in south Texas in 1957. W. J. Hendy and others. maps Am Assn Pet Geologists Bul 42:1279-88 Je '58

Developments in Texas and Oklahoma Panhandles in 1957. R. M. Lilly. maps Am Assn Pet Geologists Bul 42:1234-47 Je '58

Developments in upper Gulf coast of Texas in 1957. K. L. Cockerham, Jr. bibliog map Am Assn Pet Geologists Bul 42:1299-307 Je '58

Developments in west-central Texas in 1957. R. P. Norris. map Am Assn Pet Geologists Bul 42:1268-78 Je '58

Developments in west Texas and southeastern New Mexico in 1957. S. L. Smith and others. bibliog map Am Assn Pet Geologists Bul 42:1248-58 Je '58

Duval county still holds top spot in oil activity. map Oil & Gas J 55:156-7 N 25 '57

Floods seen as solution in Spraberry. R. J. Enright. map Oil & Gas J 56:163-5 My 5 '58

Import cut no cure-all for Texas oil producers. M. V. Carson. Jr. Oil & Gas J 56:87 Mr 24 '58

Pickton units join. Oil & Gas J 56:100 Mr 24 '58

75 years of Texas oil: tables. C. A. Warner. Oil & Gas J 56:70 S 29 '58

Texas bears brunt of U.S. cutback. Oil & Gas J 56:103 Ap 7 '58

There's more oil around Spindletop. N. Williams. map Oil & Gas J 56:106-7 Ap 7 '58

Three Texas floods approved. Oil & Gas J 56:103 My 19 '58

Unit plan to give Seallgion new zip. il Oil & Gas J 55:126-7 N 11 '57

What eight days will mean to Texas. il Oil & Gas J 56:47-9 Mr 31 '58

Thailand

Thailand plans shale project. map Oil & Gas J 56:88 Je 23 '58

Trinidad

Trinidad eyes oil for money. Oil & Gas J 55:120 D 30 '57

Trinidad test drilling. map Oil & Gas J 55:132 N 11 '57

PETROLEUM industry and trade—Continued

Tunisia

Tunisia awards acreage to Conorada petroleum corp. map Oil & Gas J 56:88 My 5 '58

United States

Crude production gained but barely, 1957; with tables, map Oil & Gas J 56:156-7 Ja 27 '58
Domestic refining capacity is leveling off. G. Weber. il Oil & Gas J 56:88-91 Mr 24 '58
Future productive capacity and probable reserves of the U.S. W. Davis, bibliog flow diag il diags Oil & Gas J 56:105-19 F 24 '58; Discussion, 56:112+ My 19 '58
Half of U.S. rigs idled. C. L. Vickers and others. Oil & Gas J 56:84-5 Je 2 '58
Oil can ride out an economic upset. Oil & Gas J 55:61-2 O 28 '57
Oil looks ahead; forecast of trends through '65. Oil & Gas J 55:135-42 N 11 '57

Foreign properties

Oil interests move abroad. L. M. Fanning. map Chem & Eng N 36:24-5 My 12 '58

See also

Petroleum—Concessions

Imports problem

Canada to make big issue of imports. Oil & Gas J 55:51-2 Ja 13 '58
Congress may change imports plan. Oil & Gas J 56:68-9 F 10 '58
Drastic change in import plan is due. Oil & Gas J 56:101-2 S 1 '58
Fight opens for West Coast controls. Oil & Gas J 55:62-3 D 2 '57
Fresh assault on imports. Oil & Gas J 56:65 Mr 3 '58
Gas price freedom is more important to oil industry than import restrictions. H. B. Hiltz. Gas Age 121:38 Ap 17 '58
How oil imports will be controlled during the months ahead; interview with M. V. Carson. Oil & Gas J 55:84-6 N 4 '57
How President's order cuts imports. Oil & Gas J 56:50-1 Mr 31 '58
Ikard bill leads pack for restricting imports. Oil & Gas J 56:66 Ap 14 '58
Ikard bill to touch off import battle. Oil & Gas J 56:101-2 Ap 7 '58
Import ban tested by eastern states. Oil & Gas J 56:65 Je 16 '58
Import clause written by Senate finance committee to include finished products; with text of new security clause. Oil & Gas J 55:51 J1 21 '58
Import ideas show rift in industry ranks. Oil & Gas J 56:46 S 29 '58
Import lawsuit argued by Eastern States in bid for jet fuel contract. Oil & Gas J 56:102 J1 28 '58
Import plan attacked in Congress and the courts. Oil & Gas J 56:74 J1 14 '58
Import plan draws fire from Texaco. Gulf. J. W. Foley. Oil & Gas J 56:58 S 22 '58
Import plan enforced by military agency. Oil & Gas J 56:105 Ap 21 '58
Import plan upheld in Eastern States test. Oil & Gas J 56:50 Ag 25 '58
Import policy forming. Oil & Gas J 56:94-5 Mr 10 '58
Import problems continue to grow. Oil & Gas J 56:51 F 3 '58
Import revisions due to stiffen voluntary controls. Oil & Gas J 56:80 My 12 '58
Import victory claimed. Oil & Gas J 56:52-3 Ag 4 '58
Importing ranks growing. Oil & Gas J 56:87 Ja 20 '58
Imports: administration view; voluntary plan is working. M. V. Carson, Jr. Pet Eng 30:E3-4 Je '58
Imports hurting conservation. Oil & Gas J 55:83 D 9 '57
Imports: oil producer's view; Ikard bill will be effective. J. J. O'Brien. Pet Eng 30:E 12 Je '58
Imports plan challenged by Eastern States. Oil & Gas J 56:44 Je 30 '58
Imports review planned. Oil & Gas J 55:119 N 11 '57
Imports symposium. Pet Eng 30:E2-13+ Je '58
Imports take first drop. Oil & Gas J 55:76 O 28 '57
Imports: Tipro's view; voluntary plan not on target. W. E. Turner. Pet Eng 30:E 11 Je '58
Imports touch low point in Nov. Oil & Gas J 55:32 D 23 '57
July crude imports show sharp drop. Oil & Gas J 56:72-3 S 8 '58

Long-range oil import plan offered. Chem & Eng N 36:36 S 22 '58
New import controls may be on way. Oil & Gas J 56:64-5 F 17 '58
New importer signs deal with Indonesian government for north Sumatran crude. Oil & Gas J 56:84 Ja 6 '58
New imports order confusing. Oil & Gas J 56:67-7 Je 16 '58
New imports policies will be considered by cabinet committee. Oil & Gas J 55:84 D 9 '57
New storm brews over imports plan. Oil & Gas J 56:123-4 Ja 27 '58
No exports credit will be allowed importers to get them under their quotas. Oil & Gas J 56:83 Je 23 '58
Odds are against mandatory controls. Oil & Gas J 56:77-8 Mr 17 '58
Oil imports problem; TIPRO panel discussion. Oil & Gas J 56:98-9 My 19 '58
One last chance seen for Ikard bill. Oil & Gas J 56:74 J1 7 '58
Pressure forcing import policy change. Oil & Gas J 56:84-5 F 24 '58
Problem that can't quit. Pet Eng 29:E 12+ D 2 '58
Producers due imports relief soon. Oil & Gas J 56:96-7 Mr 24 '58
Product curbs sought by coal men and oil independents. Oil & Gas J 56:105 Ag 18 '58
Something was done about imports. Oil & Gas J 56:188-9 Ja 27 '58
Texas lawmakers slap at importers. Oil & Gas J 55:64-5 O 28 '57
Three importers rapped for exceeding allotments; abstract. M. V. Carson, Jr. Oil & Gas J 55:137 N 18 '57
Tough import plan fading in Congress. Oil & Gas J 56:74 My 5 '58
Two refiners question quotas. Oil & Gas J 56:84 Ja 6 '58
Unfinished oil, gasoline placed under imports program. Oil & Gas J 56:64-5 Je 9 '58
Unfinished products curbed by new import order. M. V. Carson, Jr. Oil & Gas J 56:57 J1 21 '58
U.S. asks heavy import cutbacks for West coast. Oil & Gas J 55:108-9 D 30 '57
Voluntary import plan 97 per cent effective. M. V. Carson, Jr. Oil & Gas J 56:75 My 6 '58
What the imports-control plan means; with company comments. Oil & Gas J 56:104-7 S 15 '58

Utah

Navajos get record bids in Four Corners. Oil & Gas J 55:63 D 16 '57
Oil and gas developments in Utah and Nevada in 1957. G. S. Campbell, bibliog maps diag Am Assn Pet Geologists Bul 42: 1360-74 Je '58

Venezuela

Advance management course in Caracas. Pet Eng 29:E8-9 N '57
Barinas crude moves to port. Oil & Gas J 55:103 N 4 '57
Boscan region humming. Oil & Gas J 55:76 D 2 '57
Brighter outlook for Barinas. il Oil & Gas J 55:77 D 2 '57
Classification of hazardous areas for electrical installations on barges employed in drilling operations in Lake Maracaibo. J. C. K. Muhlenberg, bibliog il plans diags Pet Eng 29:E 143-4 N '57
Contract drilling gains favor. Pet Eng 29:B 12-14 N '57
Educators comment on Venezuelan visit. Pet Eng 29:E3-4 N '57
Imports; Venezuelan view; trade agreements are the answer. E. A. Acosta H. Pet Eng 30:E7-4 Je '58
Independent looks at Venezuelan oil; interview with C. V. Hasen. Pet Eng 30:B26-8 Ja '58
Keys to Venezuela; interview with E. L. Cabello. il Pet Eng 29:A 18-20 N '57
New Maracaibo oil marketed. Oil & Gas J 56:105 Mr 24 '58
Oil rides out Venezuelan upheaval. Oil & Gas J 56:82-3 F 3 '58
Path in Venezuela to get rougher. Oil & Gas J 56:82-3 Je 16 '58
Pilot water flood successful in Tucupido field. S. L. Chu and E. L. Baldwin. il maps Pet Eng 29:B43-4+ N '57
Production started by new group on Maracaibo holdings. Oil & Gas J 56:79 Ap 28 '58
San Jacinto well has big flow. map Oil & Gas J 55:78 D 16 '57
Shell pushes Boscan projects. map Oil & Gas J 55:88 D 9 '57

PETROLEUM industry and trade—Venezuela—

- Continued*
 Sun group hits again on Lake Maracaibo. map Oil & Gas J 56:70 Ja 13 '58
 Superior hits Jackpot in Lake Maracaibo. D. Taylor, map diags Pet Eng 29:B53+ N '57
 Twin strikes in Venezuela. map Oil & Gas J 55:157 N 13 '57
 Venezuela has best year, 1957. Oil & Gas J 56:142 Ja 27 '58
 Venezuela rejects Talon deal. Oil & Gas J 56:87 JI 7 '58
 Venezuela today: calm, busy, thriving. O. B. Irizarry, map Oil & Gas J 56:66-9 Mr 3 '58
 Venezuelan know-how. H. A. Franklin and W. D. Miller, maps Oil & Gas J 56:76-9 F 3, 132+ F 24 '58
 Well data hard to come by. Pet Eng 29:B 188 N '57
 Who got new concessions and what they cost. N. R. VanMiddlesworth. Pet Eng 29:E6-7 N '57
 World-wide oil report. maps Oil & Gas J 55:124-6 D 30 '57

West Virginia

- Oil and gas developments in West Virginia in 1957. R. C. Tucker. Am Assn Pet Geologists Bul 42:1167-71 Je '58

Western states

- Bigger things ahead for booming Four Corners. J. Cooper and others. II maps diags Pet Eng 29:B21-33+ D '57
 Four-Corners crude ready to move. map Oil & Gas J 56:56-7 Mr 31 '58
 Playing the Four Corners by the rules. C. R. Graham, map Pet Eng 30:B30+ Ja '58
 West in market for better oil. W. F. Kirk. Oil & Gas J 56:50 S 29 '58

Wyoming

- Developments in Wyoming and Idaho in 1957. A. L. Lyth, Jr. and P. R. May, maps Am Assn Pet Geologists Bul 42:1350-9 Je '58
 Wyoming score 257 oil fields. F. J. Gardner, plan Oil & Gas J 55:163 D 16 '57

PETROLEUM institute, American. See American petroleum institute**PETROLEUM laboratories**

- Artist sculpts a geologic symbol; metal sculpture in Ohio oil co.'s new research center. F. J. Gardner. II Oil & Gas J 55:367 N 18 '57
 British Petroleum opens new lab. Pet Eng 30:B 109 JI 15 '58
 Laboratory diagnoses clarify difficult lube (?) problems. R. J. Ronan and others. II Plant 17:50-2 Je '58
 Mobil oil company's laboratories at Coryton. II Engineering 184:583 N 8 '57
 Mobil's technical services laboratory at Coryton. II Chem. & Ind p 1474-5 N 9 '57
 New petroleum research center: Sun oil co. II Anal Chem 30:sup73A-5A S '58
 Sun Oil dedicates new research labs. II Chem Eng Prog 53:sup64 N '57
 Technical services laboratory for oil fuels and lubricants: Mobil oil co. II Engineer 204:643 N 1 '57

Equipment

- Chromatography is a plant workhorse; Humble's Baytown refinery laboratory. J. F. Hickerson. Oil & Gas J 56:119-20 Ap 1 '58
 How gas chromatography works in the laboratory. L. N. Locke. Oil & Gas J 56:120-1 Ap 21 '58
 New apparatus for the determination of octane numbers on small samples. D. B. Chitty. II diags Inst Pet J 44:255-6 Ag '58

PETROLEUM laws and regulations

- Bone up on the legal tools: secondary-recovery project. R. R. Huff. Oil & Gas J 56:124-7 Ap 14 '58
 Gulf defends itself in test case on Oklahoma allowable order. Oil & Gas J 55:48 D 23 '57
 How President's order cuts imports. Oil & Gas J 56:50-1 Mr 31 '58
 Independents hit merger bill. H. M. McClure, Jr. Oil & Gas J 56:76 My 5 '58
 Model form operating agreement, 1957. R. L. Huxthorn. Pet Eng 30:B 113+ Je '58
 No tidelands settlement in sight. B. F. Lutz. Oil & Gas J 56:110 Je 9 '58
 Offshore allowables aren't easy to live with but operators are trying. E. McGhee. II diags Oil & Gas J 56:97-102 Je 9 '58
 Pipelines answer charge of overpaying dividends under 1941 consent decree. Oil & Gas J 56:88-9 Mr 17 '58
 Proposed: uniform oil report forms. H. Wilson. II Oil & Gas J 56:84-7 Mr 10 '58

- Railroad defeated in antitrust case: Northern Pacific railroad co. Oil & Gas J 56:98 Mr 24 '58
 Water-flood oil recovery is lessened by restricting rates. J. F. Buckwalter and others. biblog Oil & Gas J 56:83-99 Je 16 '58

- Water-flood restrictions mean little; abstracts of two papers. W. E. Stiles; B. H. Errebo. Oil & Gas J 56:99 Ap 21 '58

See also

- Interstate oil compact commission

Oil lands**Alabama**

- Conservation story told in Alabama. II Oil & Gas J 56:96-7 Mr 17 '58

Alberta

- Alberta conservation board marks importance of drilling regulations. Pet Eng 30:B 113 Ja '58

California

- Boundary dispute flares; repressuring treatment to stop Wilmington field sinking. Oil & Gas J 56:116-17 S 15 '58
 Subsidence bill passed by California legislature. II Oil & Gas J 56:78 Ap 14 '58

Colorado

- Colorado oil tax upheld. Oil & Gas J 56:92 F 24 '58

- Tax challenged by railroad in suit seeking refund of Colorado's levy. Oil & Gas J 56:47 S 29 '58

Gulf Coast region

- Gulf states unite for common fight to hold tidelands. Oil & Gas J 55:67 D 2 '57

Indonesia

- More control is sought in proposed Indonesian oil law. Oil & Gas J 56:86 Je 23 '58

Louisiana

- Lease sales stopped on Louisiana-owned acreage. W. G. Hellis, Jr. Oil & Gas J 56:104 S 1 '58

New Mexico

- Allowable reduced at bir New Mexico pool as water production climbs. Oil & Gas J 56:94 Mr 17 '58
 Flood proration argued. Oil & Gas J 55:124 N 11 '57
 Water-flood ruling permits top production in test case in New Mexico. Oil & Gas J 55:154 N 18 '57

Oklahoma

- New rules under study. Oil & Gas J 56:67 S 8 '58
 Oklahoma field rules updated and toughened. Oil & Gas J 56:70-2 Ag 11 '58
 Oklahoma lifts restriction on waterfloods. Oil & Gas J 56:53 Mr 31 '58

Pacific coast

- Fight opens for West Coast controls. Oil & Gas J 55:62-3 D 2 '57

Peru

- Peru's petroleum laws invite private capital. Pet Eng 30:A32 Ap '58

Puerto Rico

- Oil rules are changed to encourage exploration in Puerto Rico. map Oil & Gas J 56:72 Ja 13 '58
 Puerto Rico eases leasing regulations. Pet Eng 30:B93 F '58

Texas

- Bigger flow asked for west Texas' Headlee field. Oil & Gas J 56:138 Ja 27 '58
 Headlee allowable kept low. Oil & Gas J 56:83 F 10 '58
 LACT rule asked by Shell in Texas to allow blanket use of systems. Oil & Gas J 56:109 Ap 7 '58
 Nine-day allowable to give Texas a lift. Oil & Gas J 56:69-70 Je 23 '58
 Proration irks Texas. Oil & Gas J 55:82 O 28 '57
 Texas commission approves triple-zone completion. Oil & Gas J 56:48-9 Je 30 '58
 Texas cuts allowable again. Oil & Gas J 56:94 Ap 21 '58
 Texas drilling areas changed. map Oil & Gas J 56:80-1 S 8 '58
 Texas hikes allowable again. Oil & Gas J 56:47 Ak 25 '58
 Texas lawmakers slap at importers. Oil & Gas J 55:64-5 O 28 '57

PETROLEUM laws and regulations—Texas—*Continued*

- Texas outlook brighter for two more producing days. Oil & Gas J 56:116 J1 28 '58
 Texas proration to end. Oil & Gas J 56:76 N 25 '57
 What Texas' pipeline order means. Oil & Gas J 56:69-61 Je 16 '58

United States

- Industry must watch three fronts. Oil & Gas J 56:193-4 J 27 '58
 Playing the Four Corners by the rules. C. R. Graham, map Pet Eng 30:B30+ Ja '58
 Some key issues are before Congress. B. F. Linz. Oil & Gas J 55:106-7 D 30 '57

Venezuela

- Why Venezuelan laws draw outside capital; interview with C. P. de la Cova. Pet Eng 29:A27-9 N '57

PETROLEUM liquefied gas. See Liquefied petroleum gas**PETROLEUM pipe lines**

- Antitrust suits beaten in U.S. court. Oil & Gas J 56:55 Mr 31 '58
 Automatic pipeline moves nearer. Il Oil & Gas J 56:184-5 Ja 27 '58
 Automatic shut-off valves for gas and oil transmission lines. C. S. Beard, il diag Instruments & Automation 31:1373-6 Ag '58
 Big pipeline growth shown in NPC report. Oil & Gas J 56:74 Mr 3 '58
 California bids for Four Corners crude. Oil & Gas J 55:66-7 D 9 '57
 Canada-Chicago line planned. map Oil & Gas J 56:110 My 12 '58
 Crude line finished; Texas-New Mexico pipe line co. Oil & Gas J 56:81 My 12 '58
 How dispatchers can help cut operating costs. F. M. Springer. Oil & Gas J 56:140+ Ap 7 '58
 How uphill and downhill flow affect pressure drop in two-phase pipelines through hilly country. W. E. Brigham and others. bibliog il Oil & Gas J 55:145-6+ N 11 '57; Same. Pet Eng 29:D39-42 N '57; Discussion. O. Baker. Oil & Gas J 55:150+ N 11 '57; Pet Eng 29:D42+ N '57
 Line from Rockies expanding; Service pipe line co. il Oil & Gas J 56:84 Je 23 '58
 Lines rejected again, as essential to defense. Oil & Gas J 56:84 J1 7 '58
 New controller recorder gravitometer makes possible blending crudes automatically. H. A. Brainerd and J. J. Phros, il diag Oil & Gas J 56:78-81 D 2 '57
 Old crude line gets a cleaning. J. F. Stephenson and others. il map Oil & Gas J 55:32-4 N 25 '57
 Outlook for 1958; Prospective good year with some question marks. F. O. Prior and others. Pet Eng 30:D20-8 Ja '58
 Pipeline building has biggest year, 1957, map Oil & Gas J 56:182-3 Ja 27 '58
 Pipeline construction report; who's laying line and where. Oil & Gas J 56:131-6 Ja 6 '58 [cont bl-weekly]
 Pipelines answer charge of overpaying dividends under 1941 consent decree. Oil & Gas J 56:88-9 Mr 17 '58
 Pipelining begins strong rebound. map diag Oil & Gas J 56:146-7 J1 28 '58
 Prediction of surge pressures in oil pipelines. R. D. Kersten and E. J. Waller, bibliog diags Am Soc C E Proc 83 [PL 1 no 11951: 1-22 Mr '57; Discussion. H. M. Fawcett. 83 [PL 3 no 1383]:5-14 S '57; Reply. 84 [PL 1 no 1578]:3-4 Mr '58
 Proposed or planned pipelines. Pet Eng 30:D3+ Ja '58
 Prospects for international pipelines between Canada and the United States. W. R. Connors. Gas Age 121:46-7+ Ag 3 '58; Same. Am Soc C E Proc 84 [PL 2 no 1674]:1-6 Je '58; Abstract. Oil & Gas J 56:70 Mr 3 '58
 Tax action won't lower tariffs. Oil & Gas J 56:33 J1 7 '58
 World-wide oil report; drilling, production, and pipeline. Il Oil & Gas J 55:160-70+ D 30 '57

*See also***Petroleum products pipe lines****Construction**

- Laying pipelines in Colombia is a rugged business. W. N. Gilliat, il map Pet Eng 30:D24-6 F '58
 Pipeline building slows down. Oil & Gas J 56:119 Ap 7 '58
 These are the people who build a pipeline. Il Pet Eng 30:D31 Ag '58
 Tools do the job better. Il Pet Eng 30:D32-3 F '58

- Tough going all the way; line from Griffith, Ind. to Muskegon, Mich. G. Kinney. il Oil & Gas J 56:85-7 F 3 '58

Contractors

- Pipeline contractors' costs; special report. P. Reed and G. Kinney. il Oil & Gas J 56:105-18 Ja 20 '58

Directories

- Directory of pipeline contractors in United States, Canada, and Latin America. Oil & Gas J 56:119-20 Ja 20 '58
 1958 pipeline contractors directory. Pet Eng 30:D44-6+ Ja '58
 Pipeline special services contractors in United States and Canada. Oil & Gas J 56:161-2 Ju 20 '58

Conversion

- Old line reverts, writes new history. Oil & Gas J 56:43 Ag 25 '58

Costs

- Construction cost index for pipelines. W. L. Nelson. Oil & Gas J 56:102 Mr 31 '58
 New index information; pipeline construction cost indexes. W. L. Nelson. Oil & Gas J 56:165-6 Ap 7 '58
 Offshore pipelines and what it costs to build them. G. T. Kinney and L. Resen. map Oil & Gas J 56:108-9 Je 9 '58
 Pipeline contractors' costs; special report. P. Reed and G. Kinney. Oil & Gas J 56:105-18 Ja 20 '58

Bibliography

- References on pipeline costs. Oil & Gas J 56:62 S 29 '58

Design

- How a computer is applied to a specific problem of pipeline design. R. W. Leach and W. P. Redmond. diag Oil & Gas J 56:157-8 S 15 '58

Gathering lines

- Calculate two-phase pressure drop in the gathering systems. R. L. McIntire. Oil & Gas J 56:131 F 17 '58
 Concurrent flow of air, gas-oil, and water in a horizontal pipe. D. P. Sobocinski and R. L. Huntington. bibliog diag A S M E Trans 80:252-5; Discussion. 255-6 Ja '58
 How much mixing occurs in a pipe? O. Levenspiel, diags Pet Refiner 37:191-4 Mr '58
 Kermac buys Gulf lines. Oil & Gas J 55:86 N 4 '57
 Kermac poses new issue; who pays for gathering? D. A. McGee. Oil & Gas J 56:82-3 F 24 '58
 Offshore pipelines and what it costs to build them. G. T. Kinney and L. Resen. map Oil & Gas J 56:108-9 Je 9 '58
 Problems of multiphase pipeline flow. J. M. Campbell. Oil & Gas J 55:151-2 bibliog (72 titles, p 151-2) N 4 '57
 Temperature recorder serves as heater guide. L. Resen, il diag Oil & Gas J 55:189 N 11 '57

Maps

- Flow patterns and capacities of U.S. pipeline systems. maps Oil & Gas J 56:supp Mr 10 '58

Protection

- New valve guards against pressure. Il Oil & Gas J 56:151 Je 2 '58
 Protective coatings for buried pipelines. V. M. Liss and P. Fetko. il Oil & Gas J 56:93-6 Je 2 '58

Pumping stations

- Cooling-system maintenance pays off. D. Haack. il Oil & Gas J 55:163-4+ N 4; 251-3 N 18 '57
 Fuel supply handy for Aramco's new pumping station on crude pipeline. Oil & Gas J 56:118 My 19 '58
 Gas turbines in the Arabian desert; Trans-Arabian pipe line co. W. E. Locher and others. il map plans Mech Eng 80:81-4 Ap '58
 Intermediate gas turbine pumping units of Trans-Arabian pipe line co. R. P. Nibley and A. Y. Hillman, jr. il map diags Elec Eng 77:158-62 F '58
 Pressure surges can be tamed by using a pulsation dampener. H. M. Wyatt, jr. il Oil & Gas J 56:183-4 Mr 17 '58
 Service Pipe Line looks at pump stations. J. L. Callahan. il Oil & Gas J 56:170-1+ S 15 '58
 What is this NPSH (net positive suction head)? and what is its relation to centrifugal pump performance? V. Lobanoff. il diags Oil & Gas J 56:121-4 F 24 '58

PETROLEUM pipe lines—Continued

Pumping stations, Electric

- Automatic and remote flow control: Wabash pipe line co.'s products-line system. F. A. Moore and J. S. Lavender, Jr. map diag Oil & Gas J 56:176-7 S 15 '58
- Automatic control of Diesel-driven centrifugal pumps in parallel: Trans mountain oil pipe line co. in western Canada. K. L. Hall, il diag Oil & Gas J 56:150-1 S 15 '58
- Automation in custody transfer and trunk-line operation, plus pressure reduction to feature Four Corners pipeline. R. W. Guthrie, Jr. map Oil & Gas J 56:113-14 My 5 '58
- Automation pays off at pipeline terminal. D. Sandford, il map diag Oil & Gas J 56:113-17 S 8 '58
- Centralized control improves pipeline operation. il Diesel Power 36:14-16 Mr '58
- Emergency power for microwave stations. W. E. Freese, Oil & Gas J 56:225-7 Ag 18 '58
- Engines operate unattended during the night. M. U. Bagwell, il Oil & Gas J 56:99-100 Ap 14 '58
- First new long pipeline to be operated completely by remote control: Four Corners pipe line, il diag Oil & Gas J 56:92-6 Jl 14 '58
- Here's operation of feedback controls on crude and product-pipeline pumping stations. W. M. Bliss, diag Oil & Gas J 56:100-2 Ag 4 '58
- How to protect pipeline stations against lightning and power-line switching. E. B. Turner, il diag Oil & Gas J 56:103-7 Ja 13 '58
- One station controls entire system's operation: Evangelical Products System, M. U. Bagwell, il Pet Eng 30:D27-9 F '58
- Remote control and gaging, automatic blending, with microwave providing voice and supervisory control channels: Magnolia pipe line co. G. J. Dorris, Jr. and G. A. Lundberg, il map diag Oil & Gas J 56:132-3-4 S 15 '58
- Transient protection conditions in pipeline stations. E. B. Turner, il diag Applications & Ind p85-90 My '58
- Unattended turbine stations on Tapline change Middle East pipeline economics. W. E. Locher and others, il map diag Oil & Gas J 56:125-32 Ap 7 '58; Pet Eng 30:D35-8 My '58
- Union goes automatic on its new Junction-Oleum project. S. D. Taber and L. E. Jones, il map Oil & Gas J 56:87-90 S 23 '58
- What Great Lakes has learned in three years about remote control of internal-combustion-engine stations. P. R. Madden, il diag Oil & Gas J 56:97-102 Jl 14 '58

Terminals

- Safer loading-rack operations at pipeline terminals. C. H. Scruggs and D. L. Hope, il diag Oil & Gas J 56:109-7 O 23 '57

Trans-Arabian line

- Arbiters to settle row over Tapline profits. Oil & Gas J 55:78 D 16 '57
- Controlling external corrosion on the Trans-Arabian pipeline. F. M. Maasry, il map plans diag Corrosion 14:100-4 Mr '58
- Gas turbines in the Arabian desert: Trans-Arabian pipe line co. W. E. Locher and others, il map plans Mech Eng 80:81-4 Ap '58
- Intermediate gas turbine pumping units of Trans-Arabian pipe line co. P. P. Nibley and A. Y. Hillier, Jr. il map diag Elec Eng 77:153-62 F '58
- Unattended turbine stations on Tapline change Middle East pipeline economics. W. E. Locher and others, il map diag Oil & Gas J 56:125-32 Ap 7 '58; Pet Eng 30:D35-8 My '58

Africa

- Line laid with latest methods: Accra tank farm on west coast of Africa, il Oil & Gas J 56:88 Je 9 '58

Alberta

- Canada's got a big one in north-central Alberta, map Oil & Gas J 56:66-7 Ap 28 '58

Algeria

- French finance temporary line, map Oil & Gas J 55:87 O 28 '57
- Green light given to Sahara desert pipeline. Oil & Gas J 56:89 Ap 14 '58
- Jointer due first trip abroad: crude line from Algeria, Oil & Gas J 56:116 My 19 '58

- New Sahara line planned. B. Bender, Oil & Gas J 56:87 Ja 6 '58
- Sahara, crude moves to coast. Oil & Gas J 56:119 D 30 '57
- Sahara crude moving to Mediterranean, map Oil & Gas J 56:100 Ja 20 '58
- Sahara oil is headache because of rebel attacks on pipeline and railroad, il Oil & Gas J 56:81 F 17 '58
- Troops guard pipeline being laid in Sahara desert by two French companies, map Oil & Gas J 56:84 Je 16 '58

Argentina

- Argentine pipeline bids opened. Oil & Gas J 56:79 Ap 28 '58
- Argentine pipelines started, il Oil & Gas J 56:83 S 8 '58

California

- New west Texas money backs oil line to California, Oil & Gas J 56:88-9 Ja 13 '58

Canada

- Canada starts probe, Oil & Gas J 55:71 O 28 '57
- Crude line to Montreal, Oil & Gas J 56:68 D 9 '57
- Steel for Canadian pipelines; discussion, bibliog Mech Eng 80:117-21 My '58
- World's biggest crude line is proposed for Canada, map Oil & Gas J 56:64-5 Jl 14 '58

Chile

- Andean oil line ordered, map Oil & Gas J 55:78 N 25 '57

Colombia

- Colombia's pipeline network expanding. W. Bellon, il map Pet Eng 30:D20-3 F '58

Europe

- New group studies trans-Europe line, Oil & Gas J 56:87 Ag 11 '58

Germany

- German line laid, Oil & Gas J 56:121 Jl 28 '58

Iran

- Bankers back Iran line, Oil & Gas J 55:134 N 11 '57
- Contract awarded for big Iran project, Oil & Gas J 55:120 D 30 '57

Kansas

- Kansas pipeline starting, Oil & Gas J 56:110 Ag 18 '58

New Mexico

- New boon for Four Corners, a pipeline to the East, M. U. Baxwell and L. Resen, il map Oil & Gas J 56:139-41 Jl 7 '58

Russia

- Russia starts work on huge crude line to Asia, il Oil & Gas J 56:90 Je 23 '58

Texas

- Magnolia's new line is ready, il Oil & Gas J 56:76 F 17 '58
- Texas producer-pipeline ruling near, Oil & Gas J 55:39 D 23 '57
- What Texas' pipeline order means, Oil & Gas J 56:59-61 Je 16 '58

Tunisia

- Tunisia approves crude line, Oil & Gas J 56:120 Jl 28 '58

Venezuela

- Barinas pipeline nears completion, il map Pet Eng 29:D22-4 N '57
- Creole line nears completion, il map Oil & Gas J 56:87 Je 9 '58
- Pipeline designed for viscous crude, R. W. Leach, il map Pet Eng 29:D25-7 N '57
- Shell line planned on east shore of Maracaibo, Oil & Gas J 56:105 Mr 24 '58
- Venezuela; more pipelines in the offing, F. H. Love, Pet Eng 29:D20-1 N '57
- Venezuelan pipeline nears completion, il Oil & Gas J 56:89 Ap 14 '58
- Venezuela's corrosion problem is a special one, C. R. Landers, il Pet Eng 29:D28-31 N '57

Wyoming

- Wyoming line laid, Oil & Gas J 56:79 S 8 '58

PETROLEUM products

- Character or base of crude-oil products; tables, W. L. Nelson, Oil & Gas J 55:118 D 2 '57
- Demand lower than expected, Oil & Gas J 56:66 My 5 '58

PETROLEUM products—Continued

Laboratory and plant-scale experiments on the generation and prevention of static electricity. A. Klinkenberg. *bibliog Oil & Gas J* 55:204+ N 18 '57
 New naphtha specialties plant onstream; Imperial Oil's Sarnia unit. *il Can Chem Process* 42:38 Ag '58
 Rustproofing oils for processing. E. R. Slaby. *Iron & Steel Eng* 35:102-3 Ja '58
 Shallow and deep catalytic dehydrogenation of petroleum Cs-aromatic fraction. B. B. Corson and others. *Ind & Eng Chem* 50: 621-2 Ap '58
 Static electricity in petroleum products. D. T. Rogers and others. *bibliog diags Oil & Gas J* 55:166+ N 18 '57
 Unfinished products curbed by new import order. M. V. Carson. *jr. Oil & Gas J* 56:57 JI 21 '58
See also
 Lubricating greases
 Naphtha
 Naphthenic acids
 Paraffin
 Petroleum chemicals
 Petroleum coke

Analysis

Automatic titration of peroxides in petroleum products; abstract. J. S. Matthews and J. F. Patchan. *Pet Refiner* 37:205 My '58
 Combustion-ampereometric titration of traces of halogens in petroleum products. L. J. Cali and others. *bibliog diags Anal Chem* 30:74-7 Ja '58
 Determination of acids and basic nitrogen compounds in petroleum products. I. Kukin. *bibliog il Anal Chem* 30:1114-17 Je '58
 Determination of pyrrolic nitrogen in petroleum distillates. M. A. Muhs and F. T. Weiss. *bibliog(38 ref)* *Anal Chem* 30:259-66 F '58
 Determination of trace quantities of nitrogen in petroleum fractions. O. I. Milner and others. *bibliog Anal Chem* 30:1528-30 S '58
 Photometric titrator and method for the determination of bromine numbers with electrogenerated bromine; abstract. J. W. Miller and others. *Pet Refiner* 37:205 My '58
 Wet ash spectrochemical method for determination of trace metals in petroleum fractions. J. Hansen and C. R. Hodgkins. *bibliog diags Anal Chem* 30:368-72 Mr '58

Blending

Automation in refinery product blending. L. Lowy. *il diags Pet Eng* 29:C50+ S; C53-4+ O; C50+ D '57

Manufacture

Synthol process; M. W. Kellogg co. flow diag *Pet Refiner* 36:282 N '57

Measurement

New turbine-type meters for custody transfer of crude petroleum and petroleum products. A. R. Dunlop and C. A. McCutcheon. *il Oil & Gas J* 56:83-5 S 22 '58

Standards

ASTM and the refining industry. H. W. Ferguson. *ASTM Bul* p24-6 My '58

Statistics

Demand will hit 9.47 million barrels; with forecast of supply and demand, by quarters. *Oil & Gas J* 55:186-7 Ja 27 '58
 For 1958; moderate gains in demand. V. B. Guthrie. *Pet Eng* 30:C7-10 Ja '58
 Light-product imports increase 119%. *Oil & Gas J* 56:142 JI 28 '58
 Second-half demand will show rise. *Oil & Gas J* 56:136-7 JI 28 '58

Testing

Methods of finished-product testing. *Oil & Gas J* 55:129 O 28; 161 N 4; 193 N 11 '57
 Test methods for petroleum products and intermediates. V. A. Kalichevsky. *bibliog il Pet Eng* 29:C25-30 D '57

See also

Petroleum laboratories

Transportation

See also
 Petroleum products pipe lines

PETROLEUM products pipe lines

Automatic and remote flow control: Wabash pipe line co.'s products-line system. F. A. Moore and J. S. Lavender, jr. *map diag Oil & Gas J* 56:176+ S 15 '58

Automatic emergency shutoff safeguards against spills at products pipeline terminal. W. B. Anderson and R. R. Hancox. *il diags Oil & Gas J* 56:217-18+ S 15 '58
 Automatic pipeline moves nearer. *il Oil & Gas J* 56:184-5 Ja 27 '58
 Cherokee double capacity. *map Oil & Gas J* 56:60 F 3 '58
 Colombia's pipeline network expanding. W. Bellon. *il map Pet Eng* 30:D20-3 F '58
 Delaware River crossing takes 24-in. products line closer to its destination. *il Oil & Gas J* 56:102-3 S '58
 Dual-purpose pipeline designed for both transport and storage of high-purity ethylene. *il Oil & Gas J* 56:100+ F 10 '58
 First ethylene pipeline built for interstate shipments. *il Pet Eng* 30:D42-4 F '58
 Flow patterns and capacities of U.S. pipeline systems. *maps Oil & Gas J* 56:supp Mr 10 '58
 Great Lakes transports its billionth barrel. *il Oil & Gas J* 56:98 Ja 20 '58
 Here's operation of feedback controls on crude and product-pipeline pumping stations. W. M. Bliss. *diags Oil & Gas J* 56:100-2 Ag 4 '58
 Laying pipelines in Colombia is a rugged business. W. N. Gilliat. *il map Pet Eng* 30:D24-6 F '58
 Little Big Inch delivers LPG to Ohio terminal. *Oil & Gas J* 56:115 JI 28 '58
 Little Inch makes final haul. *Oil & Gas J* 55:117 D 30 '57
 New Cherokee line completed. *il Oil & Gas J* 56:52 JI 21 '58
 Old line reverts, writes new history. *il Oil & Gas J* 56:43 Ag 25 '58
 One station controls entire system's operation; Evangeline Products System. M. U. Bagwell. *il Pet Eng* 30:D27-9 F '58
 Outlook for 1958; prospective good year with some question marks. F. O. Prior and others. *Pet Eng* 30:D20-3 Ja '58
 Pipeline building slows down. *Oil & Gas J* 56:119 Ap 7 '58
 Proposed or planned pipelines. *Pet Eng* 30:D3+ Ja '58
 Standard of Indiana reports on 19 years of products pipelining. N. F. Tietze. *il map Oil & Gas J* 56:132-4+ S 16 '58
 Tough ditching slowed progress through rocky Osage hills on Cherokee project. G. Kinney. *il Oil & Gas J* 56:86-8 S 22 '58

PETROLEUM refineries

Administration building at Stanlow refinery. *il Engineer* 206:496-7 S 26 '58
 Aminol plans refinery in Kuwait. *Oil & Gas J* 56:89 My 5 '58
 Argentina to expand refinery. *diag Oil & Gas J* 56:84 F 17 '58
 Beaumont refinery expands; Magnolia petroleum co. *il Oil & Gas J* 56:126 Je 23 '58
 Canada's refining capacity soars. J. P. O'Donnell. *il Oil & Gas J* 56:197-8+ Ag 18 '58
 Colombian refinery on stream at Cartagena bay. *il Oil & Gas J* 55:79 D 16 '57
 Computer + men equals profit; abstract. L. D. Stewart. *Oil & Gas J* 56:57 Mr 31 '58
 Construction boxscore; refineries, natural gasoline and petrochemical plants. *Pet Refiner* 37:234+ Ja; 232+ Ap; 205-6+ JI '58
 Coordinating a master building plan; how Universal Oil's add-a-building plan worked out. *il Plant Eng* 12:113-14 My '58
 Dual plant delayed in the Middle East. *Oil & Gas J* 56:82 Ap 14 '58
 Economics of refining in the Penn Grade crude area. J. J. Schanz, jr. and R. C. Barwick. *il map Pet Eng* 30:C23-6 F '58
 El Paso completes plant in northwestern New Mexico. *Oil & Gas J* 55:50 D 23 '57
 El Paso ready for competition. *il Oil & Gas J* 56:76 JI 14 '58
 Finland's first refinery on stream. *il Pet Refiner* 37:182+ F '58
 Finns proud of modern plant. *il Oil & Gas J* 56:140 Ja 27 '58
 Greek oil refinery. *Engineer* 205:149 Ja 24 '58
 Guatemala getting first refinery in Central America at Puerto Barrios. *Oil & Gas J* 56:52 S 29 '58
 Here's how Sohio designed and justified a pinup; proposed integrated plant. D. O. Maxwell. *il diags Pet Eng* 30:C16-22 Ja '58
 Imperial oil ltd. *il Chem & Ind* p 1057-8 Ag 16 '58
 Inventory of new plants and facilities; petroleum and natural gas products. *Chem Eng* 64:154+ Mid-N '57
 Japan's \$47-million refinery designed to meet future market conditions. *il Oil & Gas J* 56:82-3 Je 16 '58

PETROLEUM refineries—Continued

- Lion expanding and gaining flexibility in El Dorado refinery project. Oil & Gas J 56:81 S 8 '58
- More capacity for Chile refinery soon. diag Pet Refiner 37:223-4 Ap '58
- New plant construction planned and underway; tables. Il Pet Eng 30:C24-5+ Ja '58
- New refinery for Philippines. Oil & Gas J 56:119 S 15 '58
- Organization and equipment in cooling-tower water treatment. W. J. Gosson and J. O. Johnson. Il diags Oil & Gas J 56:91-5 D 9 '57
- Plan before you start experimenting. H. F. Smith. bibliog diags Pet Refiner 37:201-8 Mr '58
- Pontiac Eastern up with Purvis plant. flow chart Il Pet Refiner 37:240+ Mr '58
- Pontiac solves tough problem; new refinery. Il Oil & Gas J 56:98 F 24 '58
- Refiners had to adjust in '57; with survey of refinery growth. map Oil & Gas J 56:170-1. 173-5 Ja 27 '58
- Refinery-building boom goes abroad. G. Weber. Oil & Gas J 56:103-5 D 30 '57
- Refinery construction report. maps Oil & Gas J 56:209-2+ Mr 24; 115 Ap 28; 115-16 My 26; 96 Je 30; 100 Ag 25; 60 S 29; 101 O 27 '58 (to be cont.)
- Refinery expansion programme; Isle of Grain refinery. Il Ind Chem 34:337-9 Je '58
- Small business in oil; big refiners dominate but small plants hold their own. Il Oil & Gas J 56:202-4 N 18 '57
- Sohio's new Toledo refinery. Il plan diags Oil & Gas J 56:95-112, cover Je 23 '58
- Unattended liquids recovery unit onstream. W. T. Lawler. Il diags Pet Eng 30:C 16-17 Ag '58
- Use graphs to simplify footing design. J. B. Grant and R. J. Smith. diags Pet Refiner 36:130-2 D '57
- Venezuela completes refinery. Il Oil & Gas J 56:74 F 3 '58

Accidents

- Accidents, what do they really cost? Pet Refiner 37:198+ Ag '58

Accounting

- New cost-control methods are now practical for refining operations. J. W. Dayle and P. P. Entrikin. diags Oil & Gas J 56:140+ Ja 20 '58

Blowdown systems

- Blowdown systems at La Gloria. L. Resen. Il diags Oil & Gas J 56:125-6 Je 23 '58
- How Esso is experimenting with flares and blowdown systems. L. Resen. Il diags Oil & Gas J 56:123-4 My 12 '58

Cleaning

- Case of the scaled-up reforming unit. J. D. Hudson. diags Pet Refiner 37:170-2 Ja '58
- Cleaning fouled residuum cooler. R. B. Tschupp. Pet Eng 30:C40 Ja '58
- Dipping vat for parts cuts cleaning man-hours. E. W. Cooper. diag Pet Refiner 37:248 My '58
- How to prepare for chemical cleaning. I. Bielek. diags Pet Refiner 37:155-8 Ja '58
- Planning a chemical-cleaning program. L. Resen. flow sheets diags Oil & Gas J 56:67-70 S 29 '58

Construction

- European refinery construction booming! W. Sekules. Il map Pet Eng 30:C7-11 J1 '58
- Refinery construction manual. H. M. Noel. flow plan Il Pet Eng 30:C 11-13 Je; C21-2+ J1; C20-1+ Ag '58
- Watch the weather when building. W. R. Chalker and A. B. Boyer. Il Pet Refiner 37:193-6 Ap '58
- Why prestressed concrete cuts costs. J. Makaretz. diags Pet Refiner 37:343-5 S '58

Control equipment

- Automation, it's still down the road. Oil & Gas J 56:72-4 D 9 '57
- Automation today (cont.). T. J. Williams. bibliog diags Pet Refiner 36:305-8 N '57
- Complete automation of a process plant. I. C. Techtold. bibliog diags Oil & Gas J 56:115+ Je 9 '58
- Conditional probability computer; Wales oil refinery. Wireless World 64:439 S '58
- Electro-hydraulic control; how well does it work installed on a catalytic cracker? C. D. Gingrich. Il diags Pet Eng 30:C6-10 Ag '58; Abstract. Oil & Gas J 56:64-5 J1 7 '58
- Electronic system monitors new cat reformer. Oil & Gas J 56:124 My 12 '58

- Engineering aspects of a Houdrifiow pilot plant; Sun oil co. R. B. Ledley, Jr. and W. B. Patterson, Jr. Il diags Chem Eng Prog 54:71-3 S '58
- Experienced industry looks at automation. R. E. Spahrland. Automation 5:109-10 J1 '58
- First computer-run unit is planned by Texaco for Port Arthur refinery. Oil & Gas J 56:74 D 9 '57
- Industrial telemetry gaining ground; Aurora gasoline co.'s Muskegon (Mich.) refinery. Anderson. Control Eng 5:31-2 J1 '58
- Instrument panels made for easier operation. J. D. Yanak. diags Pet Refiner 37:224-8 Mr '58
- Must know instruments and process; petroleum refining. L. Hall. Il diag Can Chem Process 42:39-100 S '58
- New trends in the instrumentation of refinery processes. S. W. J. Wallis and D. S. Townsend. bibliog Il diags first Pet J 44:29-37; Discussion. 37-40 F '58
- Oxygen analyzer installed in flue-gas system of a fluid cat cracker. D. H. Stormont. Il diag Oil & Gas J 56:129-30 J1 7 '58
- Progress and trends in chemical and petroleum instrumentation; symposium. Control Eng 5:23 Ap '58
- Refinery equipment; instrumentation and control. Il Pet Eng 30:C28-33+ J1 16 '58
- Sohio's new Toledo refinery; control is lodged in nerve center and satellites. Il Oil & Gas J 56:108-9 Je 23 '58
- Texaco to use first process-control computer. J. S. Worden. Instrument & Automation 30:2192 D '57
- Texaco tries computing-control for tricky refining process. J. S. Worden. Control Eng 5:44 Ja '58
- What's new in fractionator control; Phillips petroleum company's ewing refinery. T. C. Wherry and L. R. Devor. bibliog Il diags Pet Refiner 37:219-24 My '58

Corrosion

- Cathodic protection may boost corrosion! could be harmful to exchanger tubes. C. Breckon. Il Pet Refiner 37:189-90 Mr '58
- Close look at fillfouls. Corrosion. J. D. Sudbury and others. bibliog flow diag Il diags Oil & Gas J 56:118-19+ S 8 '58
- Compilation and correlation of high temperature catalytic reformer corrosion data. G. Sorell. bibliog Corrosion 14:33-44 Ja '58
- Corrosion experience in catalytic reformers with naphtha pretreaters. E. B. Backensto and R. W. Manuel. bibliog flow diag Il Oil & Gas J 56:131-5 My 19 '58; Abstracts. Pet Refiner 37:182 My '58; Pet Eng 30:C62 Je '58
- Corrosion; T-52 whips it; abstract. J. D. Sudbury. Oil & Gas J 56:132 My 19 '58
- Electrical resistance method of corrosion monitoring in refinery equipment. A. J. Freedman and others. flow diag Il Corrosion 14:29-32 Ap '58; Abstract. Pet Eng 30:C42-4 Je '58
- Epoxy resin compound can help solve corrosion problems. A. Morrison. Il Oil & Gas J 56:104 F 3 '58
- High-temperature hydrogen sulfide corrosion of stainless steels. E. B. Backensto and others. bibliog Il Corrosion 14:45-9 Ja '58
- How oxides can simplify maintenance. D. R. Seegin and H. W. Howard. Il Pet Refiner 37:152-4 Ja '58
- How 31 refineries condition cooling-water systems. J. D. Helwig and H. F. McConomy. Oil & Gas J 56:101-2 D 2 '57
- How to combat high-sulfur fuel corrosion. W. L. Nelson. Oil & Gas J 56:61-2 S 29 '58
- Internal refinery corrosion; special report. K. R. Nolvest and others. bibliog Il diags Pet Refiner 37:99-113 J1 '58
- Lab inhibitor stops diethanolamine corrosion. J. D. Sudbury and others. Il diag Pet Refiner 37:183-4 My '58
- Mechanism of the iron-hydrogen sulfide reaction at elevated temperature; abstract. E. Hürkl and others. Pet Refiner 37:182 My '58
- Methods of fighting corrosion are adopted by refiners. J. S. Connors and C. L. Sever. flow diag Il Oil & Gas J 56:83-6 J1 21; 176-7+ J1 28 '58; Same abr. Pet Refiner 37:177-82 My '58
- Use lead to control refinery corrosion. E. J. Mullarkey. bibliog Il Pet Refiner 37:301-6 Ap '58

Costs

- Air pollution control; with cost data. Il diags Oil & Gas J 56:87-102 F 17 '58
- Cost indexes of heat exchangers. W. L. Nelson. Oil & Gas J 56:133 O 28 '57

PETROLEUM refineries—Costs—Continued

- Cost of fractionation systems. W. L. Nelson. Oil & Gas J 56:133 J 9 '58
- Cost of refinery chemicals. W. L. Nelson. Oil & Gas J 56:128-7 F 17 '58
- Cost-procedure slide rule speeds preparation of an estimate. diag Oil & Gas J 55:169 D 23 '57
- Cost-inating (cont.). W. L. Nelson. Oil & Gas J 56:129 Ja 6; 373 Ja 27; 165-6 Ap 7; 143 J 1 '58
- Curves for rapid estimation of gasoline plant investment. R. T. Brady and R. L. Korschach. Pet Eng 30:47-8 Ap '58
- Effect of crude gravity on refining costs. W. L. Nelson. Oil & Gas J 56:140 Ap 21 '58
- Figure cost of getting cranes. W. J. Service and others. biblog flow diag Pet Refiner 37:151-8 Ap '58; Same abstr. Oil & Gas J 56:90-8 Ap 14 '58
- From flow sheet to cost estimate. W. R. Hand. Pet Refiner 37:31-4 S '58
- How complexity boosts refinery costs. W. L. Nelson. Oil & Gas J 55:157-8 D 9 '57
- Process cost estimating. W. L. Nelson. biblog Oil & Gas J 56:144 F 24; 167-8 Mr 3; 197 Mr 10; 196-7 Mr 17; 211 Mr 24; 99 Mr 31; 170 Ap 10; 129-30 Ap 14; 17-18 Ap 22; 115 Ap 28; 124 My 5; 141 My 12; 151 My 19; 114 My 26; 159 Jc 4; 125 Jc 16; 137-8 Jc 23; 105 Jc 30; 131 J1 14; 168 J1 21; 187 J1 28; 123 Ac 14; 221 Ac 18; 102 Ac 25; 126 S 8; 214 S 15; 118 S 22 '58
- Refinery construction index. W. L. Nelson. Published in the first issue of each month of Oil and Gas Journal
- Special report on costs, flow sheet & diag Pet Refiner 37:121-70 Jc '58
- Tabulated values of construction cost index: refinery construction cost index (since 1926). W. L. Nelson. Oil & Gas J 55:245-6 N 18 '57
- Uniformity: the cost data. Oil & Gas J 56:122 My 12 '58
- What does a refinery estimate cost? T. W. Bean. Pet Refiner 37:163-6 J1 '58

Design

- Calculate pipe stresses efficiently. K. H. Heiso. diag Pet Eng 30:444-6-7 My; C26-7-4 Jc '58 (to be cont.)
- Engineering design on a computer. E. J. Higgins and others. diag Ind & Eng Chem 50:112-18 My '58
- How good design reduces maintenance. H. P. Evans and D. Brownley. Pet Refiner 37:124-8 Ja '58
- Role of the project engineer in plant design and construction. H. F. Kase. diag Pet Eng 30:49-10 Ap '58
- Scheduling design work. H. T. Campbell. Pet Refiner 36:213-14 '57
- Scheduling engineering design: a vital force in refinery operations. H. T. Campbell. Pet Eng 30:411-13 Ap '58
- Short cut to circular cantilever design. H. D. Fabrikman. diag Pet Refiner 37:179-82 Jc '58
- Solo's new Toledo refinery: integrated design means lower costs per barrel. Oil & Gas J 56:199-100 Jc 23 '58

Electric equipment

- Capacitance measurement is valuable for process stream analysis. F. E. Moore. diag Oil & Gas J 56:96-9 S 8 '58
- Design tips for your motor circuits. J. P. Chamberlain. diag Pet Refiner 37:219-23 Mr 159 '58 Ap '58
- Explosion-proof electrical systems. R. P. Northrup. Pet Refiner 37:159-62 Ja '58
- Planning electrical maintenance: freshwater oil co. A. J. Sullivan. Pet Refiner 37:119-31 Ja '58
- Refinery eases corrosion, corrosion. M. L. Watts. Oil & Gas J 56:159-61, cover My 12 '58

Employees

- As a supervisor, how good are you? R. D. Stevens. Pet Refiner 37:402-4 S '58
- Aurora strike settled. Oil & Gas J 56:108 S 1 '58
- Craft lines disappear in Bayonne refinery's maintenance and construction crews. Oil & Gas J 56:72 Jc 9 '58
- Craft unions on rise in refineries. Oil & Gas J 56:75 Jc 16 '58
- Creative thinking added to Southwest executive program: University of Houston. D. A. Stoneberger. Pet Eng 30:1335 Ac '58
- Disaster planning: training for disaster. Pet Refiner 36:169-14 D '57
- Do you need a labor-meter? how Shell does it. E. D. Macy. Pet Refiner 37:137-40 Ja '58
- Do you use work simplification? R. D. Stevens. diag Pet Refiner 37:206-7 F '58

- Esso cuts payroll at Bayonne plant. Oil & Gas J 56:72 Ja 6 '58
- Esso reduces manpower at Bayonne refinery. Pet Eng 30:1328-9 '58
- Firms say no to union. Oil & Gas J 56:76 Jc 23 '58
- Fit war isn't so bad. Oil & Gas J 55:114 D 30 '57
- How retirement plans are working. J. F. Self. Oil & Gas J 56:154-7 F 3 '58
- How to determine training needs. C. M. White. Pet Refiner 37:211-12-4 F '58
- How well do you handle new employees? Pet Refiner 37:266-7 Mr '58
- Human relations can be dangerous. Pet Refiner 37:277-8-9 My '58
- Kettle cuts expansion costs: Atlantic refining co. Oil & Gas J 56:107-8 J1 23 '58
- Local defies OCAW. Oil & Gas J 56:107-8 J1 23 '58
- Locals leery of OCAW plan. Oil & Gas J 56:67 Ap 28 '58
- Man most likely: system which will assure you of being a resounding flop. M. E. Stansbury. Pet Refiner 37:235-6-7 J1 '58
- More people, more pay in petroleum in 1957. Pet Eng 30:1324-5 Jc '58
- New training program allows employees to advance on merit. Oil & Gas J 55:116 N 11 '57
- Off on the right foot. E. Whitmore. Pet Eng 30:128-3 Ac '58
- OCAW rebels defeated in Detroit court decision: strike threat for Chicago grows. Oil & Gas J 56:68 Ac 11 '58
- Pay hikes resisted in Canada. N. Reimer. Oil & Gas J 56:92 My 12 '58
- Personnel man in safety. G. H. Thompson. Pet Refiner 37:263-4 Ja '58
- Production-sharing plan outlined by OCAW: stock-investment trust. Oil & Gas J 56:33 Mr 10 '58
- Quick school for the bosses: Sturay's supervisory staff training. Oil & Gas J 56:72 Jc 16 '58
- Recognition and management of problem cases in refinery personnel. J. J. Thorpe. Pet Refiner 37:292-3 My '58
- Record pay helps explain low-pressure talks in '58. Oil & Gas J 56:146-7 J1 23 '58
- Severance pay plan aimed at layoffs. Oil & Gas J 56:63 Ap 14 '58
- Shift-labor requirements from the literature. W. L. Nelson. biblog Oil & Gas J 56:244 S 15 '58
- Single contract sought for all Socony refineries by OCAW. Oil & Gas J 56:53 Mr 24 '58
- Solo talks slow down at processing plants. Oil & Gas J 56:80 S 8 '58
- Survey can reveal needs of supervisor training. C. M. White. Pet Refiner 37:260-7 Ap '58
- Teach your supervisors human relations. C. M. White. Pet Refiner 37:244-4 J1 '58
- Texas strike ends. Oil & Gas J 56:32 Jc 23 '58
- Train for fast promotion: Esso standard oil co. S. Everett. Mass. refinery. F. Lewis. Oil & Gas J 56:102-107-9 Ja '58
- Training program up grades craftsmen: men at Esso refinery learn more, earn more. Oil & Gas J 56:132-4 Ja '58
- 200 return to Phillips jobs. Oil & Gas J 56:30 Jc 16 '58
- Union changes strategy in oil-industry negotiations. Oil & Gas J 56:78 J1 14 '58
- Union eyes layoffs. O. A. Knight. Oil & Gas J 56:39 F 10 '58
- Union to study shorter week. Oil & Gas J 56:50 D 23 '57
- Union wants (and based on production). O. A. Knight. Oil & Gas J 56:64 Ja 13 '58
- Upgrade your maintenance personnel. G. O. Virts and L. H. O'Donnell. diag Pet Refiner 37:129-31 Ja '58
- Wages for various craftsmen. W. L. Nelson. Oil & Gas J 56:86 D 23 '57

Equipment

- Application of gas/liquid cyclones in oil refining. J. R. J. Van Dornen and A. J. Ter Linden. diag A S M E Trans 80:245-9; Discussion. 249-50; Reply. 250-1 Ja '58
- Automatic computing for process-unit operating guides. H. E. Moore. diag Eng J 11:57-9 F '58
- Automation in refinery product blending. L. Lowy. diag Pet Eng 29:C50-4 S; C53 (1); C; C50-1 D '57
- Basis for the design and retirement of petroleum heater tubes. J. J. Heller. biblog diag A S M E Trans 80:511-16 Ap '58
- Better lubrication at lower cost: Phillips petroleum co. J. B. Mallow. Oil & Gas J 56:101-2 Ap 28 '58

PETROLEUM refineries—Equipment—Cont.

Bright new horizons in process equipment. L. F. Scheel. *il* *diags* *Pet Eng* 30:C23-8 J1 '58

British petroleum co. is spending \$84 million on 21 processing units at Kent refinery. *il* *Oil & Gas J* 56:102-3 Mr 10 '58

British Petroleum's Kent refinery. *il* *plan Engineering* 185:794-6 Je 20 '58

Cartagena refinery: the new look in overseas plants. J. H. Baumgartner and A. Donado. *flow plan* *il* *map* *Pet Eng* 30:C7-9 F '58

Castable refractories know-how. L. J. Cormack. *diag* *Pet Eng* 30:C42 Ja '58

Cat cracker sets challenges: Tidewater Oil's giant Orthoflow fluid catalytic cracking unit; process flowsheet. C. H. Chilton. *il* *Chem Eng* 65:120-3 O 6 '58

Catalyst erosion in cat crackers; case histories of its control. L. Resen. *diags* *Oil & Gas J* 56:101-3 D 9; 61-3 D 23 '57; 56:106-9 Ja 6; 61-5 Ja 13 '58

Californian. *diag* *Pet Eng* 30:C47-8 Ja '58

Charts make cat cracker balance easier. O. A. Wunderlich and F. E. Ivey, jr. *diag* *Pet Refiner* 37:135-42 F '58

Coker-cracker combo solves refining riddle; Pontiac eastern corp. *il* *diag* *Chem Eng* 65:64+ Ap 21 '58

Compressors in the refinery. *diags* *Oil & Gas J* 56:153 Ja 20; 109 F 3; 123 F 10; 135 F 17; 143 F 24; 179 Mr 17 '58

Cooling tower has innovation. *il* *Oil & Gas J* 56:55 S 22 '58

Design details of Socony eductor mixers for mixing liquids in fixed-roof tanks. R. E. Meny and R. B. Velykis. *diags* *Oil & Gas J* 55:82-92 O 28 '57; Same cond. *Pet Eng* 29:C314- D 57

Design your piping to cut maintenance costs. W. A. Weiss. *il* *diags* *Pet Refiner* 37:141-6 Ja '58

Electrical probes monitor corrosion. A. Dravnieks and A. J. Freedman. *il* *diag* *Pet Refiner* 37:107-10 J1 '58

Extensions to Mina-Al-Ahmad refinery. E. L. Lomax. *il* *map* *Engineer* 205:763-4 My 23 '58

For thick wall vessels reduce thickness by overstrain? S. M. Jorgensen. *biblog* *il* *Pet Refiner* 37:163-9 F '58

Gas chromatographer versatile analytical tool in refining-petrochemical operations. G. K. Chadd and G. White. *Pet Eng* 30:C44 Ja '58

Giant vessel goes up in one piece in a hurry. *il* *Oil & Gas J* 56:80 Ap 14 '58

How gasoline plants are using gas chromatography. A. J. Miller. *il* *diag* *Oil & Gas J* 56:88-91 Mr 3 '58

How to design finned tube shell and tube heat exchangers. E. H. Young and D. J. Ward. *biblog* *il* *Pet Eng* 29:C 18-24 D 57

How transport data accuracy affects design. L. Friend and S. B. Adler. *Pet Refiner* 37:191-3 Ja '58

Instruments for heater-oil production. S. F. Kapf and J. C. Rhodes. *flow diag* *diag* *Oil & Gas J* 56:100-2 Je 16 '58

Jacks and dolly handle five-ton elbows. *il* *Pet Refiner* 37:247 My '58

Lab assembly adds solids to vessel under pressure. C. M. Finigan. *diag* *Pet Refiner* 37:178+ J1 '58

Lubrication in the refinery. *diags* *Oil & Gas J* 55:244 N 13; 117 D 2; 141 D 9; 183 D 16; 218 D 30 '57

Magnolia expands data processing section. *il* *Pet Eng* 30:E6 Ja '58

Meter station for pipeline-refinery custody transfer. F. E. Pyeatt. *ir* *diag* *Oil & Gas J* 56:148-9 S 15 '58

Modernization of Imperial Oil refinery at Halifax. C. M. Stewart. *flow diag* *il* *Eng J* 41:70-6 J1 '58

New agitator absorber for CO₂. A. S. Moore and S. Katell. *flow diag* *diag* *Pet Refiner* 37:163-8 Mr '58

New control-valve actuator. *il* *diag* *Oil & Gas J* 56:59 S 29 '58

New graphical method speeds design of multi-component distillation towers. R. J. Hengstebeck. *biblog* *diags* *Pet Eng* 29:C6-12 N '57

Operations of compressors. *diag* *Oil & Gas J* 56:175 Ap 7; 131 Ap 14; 119 Ap 23; 143 My 12; 122 Je 9; 99 J1 21; 105 Ag 4 '58

Oscilloscope is a key unit in immersed ultrasonic testing of welded carbon-steel tubing. *il* *Oil & Gas J* 56:106 F 3 '58

Perforated trays designed this way. C. J. Huang and J. R. Hodson. *biblog* (34 ref.) *diags* *Pet Refiner* 37:103-13 F '58

Piping; special report. *flow diag* *il* *diags* *Pet Refiner* 37:135-61 Mr '58

Plastics in refining and petrochemicals plants. R. B. Seymour. *il* *Pet Eng* 30:C46+ F '58

Portable furnace speeds Atlantic's flanging operation. *il* *Pet Refiner* 37:214 Ap '58

Propane chiller cuts acid losses at California HF alkyl unit. D. H. Stormont. *flow chart* *Oil & Gas J* 55:72 N 11 '57

Pure oil co. refinery has found two ways to distribute lube oil. L. Resen. *il* *diag* *Oil & Gas J* 56:140 Mr 3 '58

Refining engineer's buyer's guide, 1958. *Pet Eng* 30:C20-2+ Ap '58

Role of the process engineer in developing equipment specifications. C. H. Brooks. *Pet Eng* 30:C 14 Ap '58

Selection of furnace tubes for refinery and petrochemical service. T. M. Krebs. *biblog* *il* *Pet Eng* 30:C54-5+ F; C36-7+ Mr '58

So you've decided to install air-cooled heat exchangers? E. M. Cook and P. S. Otten. *il* *diags* *Oil & Gas J* 56:106-8+ Je 2 '58

Sohio's new Toledo refinery; reformer features compact reactor furnace layout. *il* *plan* *diag* *Oil & Gas J* 56:10-11 Je 23 '58

Survey reveals most popular analyzer types. B. W. Thomas. *I S A J* 5:46-7 F '58

Tips on welding thick-walled vessels. *il* *Iron Age* 180:162-4 N 14 '57

Trainer built for Toledo cat cracker. *il* *Oil & Gas J* 56:71 Ap 28 '58

Trolley-roller conveyor moves drums; Shell oil co. *il* *Mod Materials Handling* 13:112-13 O '58

Try methyl isobutyl ketone in your wax deoiling unit. J. G. Warnecke and P. S. Backlund. *biblog* *diags* *Pet Refiner* 37:189-92 Ap '58

Vise stand gets mechanic away from crowded bench. J. O. Evans. *diags* *Pet Refiner* 37:248+ My '58

What to do about corroding isomerization units. J. F. Mason, Jr. and C. M. Schillmoller. *il* *Pet Refiner* 37:103-6 J1 '58

What's new in equipment, and manufacturers literature. Published in monthly numbers of Petroleum Refiner

World's largest powerformer takes shape at Esso's Baton Rouge refinery. *il* *Oil & Gas J* 56:74-5 Ja 6 '58

Experimental plants

Automatic pilot plant: Esso standard oil co. *il* *Chem & Eng* N 36:53 F 17 '58

Automatic pilot plant: Esso's Micro-Plant. *Control Eng* 5:23+ Mr '58

Automatic pilot plant to aid oil research. *il* *Ind Lab* 9:98 Mr '58

Computer-controlled pilot plant speeds research on processes. *il* *Instruments & Automation* 31:378 Mr '58

Computer use in pilot plant calculations. L. S. Stanton and others. *flow chart* *diags* *Ind & Eng Chem* 50:719-20 My '58

Data logger tested in pilot work; Sohio's Process and product development division laboratory. J. J. Arendt and J. Savoy. *flow diags* *il* *Pet Refiner* 37:175-8 Je '58

Engineering aspects of a Houdrifiow pilot plant; Sun oil co. R. E. Ledley, jr. and W. B. Patterson, jr. *il* *diags* *Chem Eng Prog* 54:71-3 S '58

New pilot plant in miniature; Esso research and engineering co. *I S A J* 5:80 Mr '58

Tiny research refinery for Esso. *il* *Oil & Gas J* 56:78-9 F 10 '58

Explosions

Destruction of a large refining unit by gaseous detonation at Whiting, Ind. R. B. Jacobs and others. *biblog* *flow diag* *il* *plan* *diag* *Chem Eng Prog* 53:567-8 D '57

Effects of gaseous detonations upon vessels and piping. P. N. Randall and others. *il* *diags* *Chem Eng Prog* 53:574-80 D '57

Fires and fire protection

Hancock plant is recovering from fire. *il* *Oil & Gas J* 56:80 Mr 3 '58

Include your neighbors in your disaster plans. L. E. Stewart. *il* *diag* *Power* 102:112-17 Ag '58

Rebels boast of refinery fire in Cuba. *Oil & Gas J* 56:86 F 10 '58

Two fires cripple refinery; Ingram oil & refining co. *il* *Oil & Gas J* 56:67 D 16 '57

Flare stacks

Design of smokeless, nonluminous flares. P. D. Miller, Jr. and others. *flow diag* *il* *diags* *Oil & Gas J* 56:136-8+ My 19 '58; Same abr. *Pet Refiner* 37:148-52 My '58; Abstract. *Pet Eng* 30:C66 Je '58

How Esso is experimenting with flares and blowdown systems. L. Resen. *il* *diags* *Oil & Gas J* 56:123-4 My 12 '58

PETROLEUM refineries—Continued

Fuel

- Fuel and steam required in average U.S. refinery. W. L. Nelson. Oil & Gas J 56:177 Ap 21 '58
- Fuel-bill savings for Sohio; burning carbon monoxide from catalytic cracking units. Oil & Gas J 56:96 Mr 10 '58
- Heating values of refinery fuels. W. L. Nelson. Oil & Gas J 56:197 Mr 10 '58
- Process costimating; fuel and steam required by major process units. W. L. Nelson. bibliog Oil & Gas J 56:129-30 Ap 14; 124 My 5; 141 My 12 '58
- Process costimating; fuel; price and cost at average U.S. refinery. W. L. Nelson. Oil & Gas J 56:190-1 Mr 17 '58
- Pulverized coke fires clean in first refinery use. J. Bandler. Oil & Gas J 55:142-3 N 4 '57
- Refinery fuel costs throughout the world. W. L. Nelson. Oil & Gas J 56:99 Mr 31 '58

Layout

- Lower maintenance costs using suggested practices for unit layout. J. V. Marancik. diags Pet Refiner 37:339-42 S '58
- Sohio's new Toledo refinery; designing the plant layout. Oil & Gas J 56:101-3 Je 23 '58

Lighting

- Let there be light. J. B. Crosby. Oil & Gas J 56:172-3 Ap 21 '58

Maintenance and repair

- Casting weldments in a petroleum refinery. J. Bland and others. Oil & Gas J 56:739-95 Ag '58
- Centralize your spare parts program. C. M. Masters, jr. Pet Refiner 37:151-4 F '58
- Chameleon-like paint shows hot spots. Oil & Gas J 37:209 Ja '58
- Custom weed control gets the job done better and cheaper. D. Evans. Oil & Gas J 56:144-5 Ja 20 '58
- Data processing systems cut preventive maintenance costs. J. Weinberger. diags Pet Refiner 37:335-8 S '58
- Hard facings cut maintenance costs. F. Robinson. Pet Refiner 36:332+ N '57
- How Esso measures maintenance department performance. Pet Eng 30:C53+ Mr '58
- Hydraulic jet cleans topping unit condensers. L. E. West. diags Pet Eng 29:C60 N '57
- Limitations to great expectations in planning and scheduling maintenance work. C. C. Carmine. Pet Eng 30:C 11-15 F '58
- Lower maintenance costs using suggested practices for unit layout. J. V. Marancik. diags Pet Refiner 37:339-42 S '58
- Lubrication in the refinery. diags Oil & Gas J 55:244 N 18; 117 D 2; 141 D 9; 133 D 16; 218 D 30 '57; 56:114 Ja 13 '58
- Maintenance report, 1958. Oil & Gas J 37:121-72 Ja '58
- Modern maintenance program for process instrumentation. W. H. Matthews. Oil & Gas J 55:38-41 My '58
- Preventive maintenance cuts motor maintenance costs. J. W. Samelius and R. F. Woll. Oil & Gas J 37:183-90 Je '58
- Successful welding for maintenance. R. M. Kolb. diags Pet Refiner 37:207-10 My '58
- These plant modifications can boost service. L. Resen. diags Oil & Gas J 56:100-1 Mr 31 '58
- Today's new preventive maintenance tool, ultrasonics. R. N. Hafemeister. Oil & Gas J 37:155-7 Ag '58
- Trouble-shooting delayed-coking units. N. A. Weill and F. S. Rapasky. Pet Refiner 37:202-3 My '58
- Ultrasonic inspection used to detect hydrogen attack. J. Bland. Oil & Gas J 37:115-18 J1 '58
- Visual aids speed turnaround. L. Resen. flow chart Oil & Gas J 56:159-60 S 1 '58

Management

- Authorship and company policy. S. Nicholson. Pet Eng 30:E 11+ Ag '58
- Communications can be improved and here's how. H. E. Turber. Pet Refiner 37:239-42 Je '58
- Craft lines disappear in Bayonne refinery's maintenance and construction crews. Oil & Gas J 56:72 Je 9 '58
- Disaster planning—special report. Oil & Gas J 56:101-20 D '57
- Do you need a labor-meter? how Shell does it. R. D. Macy. Pet Refiner 37:137-40 Ja '58
- Do you use word magic? J. E. Bedford. Pet Refiner 37:193-4+ Ag '58

- Flow sheet plans your shutdown. Pet Refiner 37:136 Ja '58
- How to set up a five-year program. L. B. McKnight. Pet Eng 30:E7-8 Ag '58
- Limitations to great expectations in planning and scheduling maintenance work. C. C. Carmine. Pet Eng 30:C 11-15 F '58
- Modernize your maintenance planning; Esso standard oil co. H. J. Knowlton. Pet Refiner 37:147-8 Ja '58
- Refinery management is improving. W. L. Nelson. Oil & Gas J 56:123 Ja 6 '58
- Scheduling engineering design; a vital force in refinery operations. H. T. Campbell. Pet Eng 30:C 11-13 Ap '58
- Sohio's new Toledo refinery; tight planning schedule met. Oil & Gas J 56:95-9 Je 23 '58
- These factors affect project success; special report on costs. J. Tielrooy. Pet Refiner 37:164-70 Je '58
- What it takes to bargain with labor. H. R. Shepherd. Pet Refiner 37:282+ My '58
- Yardstick for decision makers. Pet Refiner 36:201-3 D '57

Models

- Building from models will save time. Oil & Gas J 56:64 Mr 3 '58
- Models, a new maintenance tool. H. Kershaw and A. F. Hollowell. Oil & Gas J 37:132-5 Ja '58
- Sohio's new Toledo refinery; models were used as design tools. Oil & Gas J 56:107-8 Je 23 '58
- Speed process-unit design; scale model provides photographed drawings. G. Weber. Oil & Gas J 56:222-4 S 15 '58

Power

- Byproduct electricity or power? W. L. Nelson. Oil & Gas J 56:131 J1 14 '58
- CO boiler of standardized design; effective answer to economic recovery of refinery waste heat. T. J. Harvey and P. C. Trounce. flow diag Oil & Gas J 37:34-9 Ag '58
- Case study of drives for petrochemical compressors; Sarnia refinery of Imperial oil limited. B. Birrell. diags Can J Chem Eng 36:59-68 Ap '58
- Cost of refinery power. W. L. Nelson. Oil & Gas J 56:123 Ag 11 '58
- Economics of gas turbine drivers in the refinery. C. R. Apitz. Oil & Gas J 29:C 11-14 D '57; Oil & Gas J 56:88-90+ F 3 '58
- Effect of crude gravity on steam and power requirements. W. L. Nelson. Oil & Gas J 56:111 Ap 28 '58
- Electric motors gradually supplanting steam in petroleum refineries. Power Eng 61:80 N '57
- Fuel and steam required in average U.S. refinery. W. L. Nelson. Oil & Gas J 56:177 Ap 21 '58
- How to make a steam condensate reboiler. C. E. Wilson. diags Pet Refiner 37:218+ Je '58
- Linden generating station; exchange between Public service electric and gas co. of New Jersey and the Esso standard oil co. diags Mech Eng 80:88-9 Je '58
- Process costimating; cost of electrical power; various regions. W. L. Nelson. bibliog Oil & Gas J 56:114 My 26 '58
- Process costimating; cost of steam varies widely. W. L. Nelson. bibliog Oil & Gas J 56:137-8 Je 23 '58
- Process costimating; fuel and steam required by major process units. W. L. Nelson. bibliog Oil & Gas J 56:129-30 Ap 14; 124 My 5; 141 My 12 '58
- Process costimating; steam and electrical requirements since 1926 in average U.S. refineries; tables. W. L. Nelson. Oil & Gas J 56:181 My 19 '58
- Would a CO boiler pay off in your plant? W. H. Alexander and R. L. Bradley. Pet Eng 30:C 15-18 J1 '58; Same abr. diags Pet Refiner 37:107-12 Ag '58

Records

- Centralize your spare parts program. C. M. Masters, jr. Pet Refiner 37:151-4 F '58

Safety measures

- Do you motivate safety habits? Pet Refiner 37:257-8 Mr '58
- Guard against detonation hazards. E. L. Ghormley. bibliog diags Pet Refiner 37:185-90 Ja '58
- Make blind corners safe with mirrors. Oil & Gas J 37:162 Ag '58
- Personnel man in safety. G. H. Thompson. Pet Refiner 37:268+ Ja '58

PETROLEUM refineries—Safety measures—*Continued*

Safety in the chemical industry; safety in plant operation and maintenance (petroleum). D. A. Yowse. Chem & Ind p272-4; **Discussion, 274-5 Mr 8 '58**

Supervisors can control accidents. J. A. Gavin. Pet Refiner 37:227-30+ JI '58

Statistics

Midyear report on plant construction; refining, petrochemical and field processing in United States and Canada. Oil & Gas J 56:166+ JI 28 '58

Process costimating; steam and electrical requirements since 1926 in average U.S. refineries; tables. W. L. Nelson. Oil & Gas J 56:181 My 19 '58

Refinery runs barely top 1955's. map Oil & Gas J 56:135 JI 28 '58

Survey of refineries in United States and Canada as of Jan. 1, 1958; tables. Oil & Gas J 56:159+ Mr 24 '58

Waste

Air pollution control; with cost data. II diag Oil & Gas J 56:87-102 F 17 '58

Determination of oil in refinery effluent waters. Anal Chem 30:36-40 Ja '58

Foul condensate treatment and disposal; oil refining industry action committee of the Ohio River valley water sanitation commission. Sewage & Ind Wastes 30:185-90 F '58

How Shell treats refinery wastes; Anacortes refinery. G. J. Reno and others. flow diag II Pet Refiner 37:153-60 My '58

Investigations to detect the atmospheric conversion of sulfur dioxide to sulfur trioxide; abstract. A. L. Chaney. Pet Eng 30:C68 Ja '58

Keeping ahead of waste water disposal problems. Pet Eng 30:C32+ Mr '58

Laboratory evaluation can aid disposal of water-borne wastes. C. K. Rice. bibliog Oil & Gas J 56:144 My 12; 137 Je 2; 126 Je 16; 104 Ag 4; 119 Ag 11 '58

Modern waste-disposal facilities at Shell's Anacortes refinery. E. D. Neumann and others. bibliog II diag Oil & Gas J 56:124-30 My 19 '58

Observation and measurement on refinery wastes. F. J. Ludezak and others. bibliog Sewage & Ind Wastes 30:662-8 Mr '58

Oxycat burner handles flue gases; Stanotex El Paso plant. L. Resen. II diag Oil & Gas J 56:110-11 Ja 6 '58

Pollution control at Ferndale, Wash.; abstract. R. K. Daniels and others. Pet Refiner 37:152 My '58

Pollution control at Shell Oil refineries. L. C. Burroughs and G. E. Sample. flow diag diag Sewage & Ind Wastes 30:57-64 Ja '58

Solids waste disposal. S. O. Brady. flow diag II Oil & Gas J 56:125-6+ Mr 3 '58

Sun, Fluor offer new process; treating waste water, and reusing it. II Oil & Gas J 56:62 F 3 '58

Treat wastes with dissolved air; chemical flocculation and dissolved-air flotation. W. J. Katz. diag Pet Refiner 37:211-13 My '58

Waste and water systems cut cost at Atlantic refining co. R. G. Merman and E. R. Roth. bibliog flow diag II Power Eng 62:80-1 O '58

Bibliography

Review of the literature of 1957 on sewage, waste treatment, and water pollution; petroleum processing wastes. Sewage & Ind Wastes 30:727-9 Je '58

Water supply

See Water supply for petroleum industry

PETROLEUM refineries laboratories. See Petroleum laboratories**PETROLEUM refining**

API Division of refining annual meeting, Los Angeles, May 12-15, abstracts of papers. Oil & Gas J 56:119-22 My 19 '58

API Division of refining 23d midyear meeting; abstracts of papers. Pet Eng 30:C7-10+ Je '58

ASTM and the refining industry. H. W. Ferguson. A S T M Bul p24-6 My '58

Applied hydrocarbon thermodynamics. W. C. Edminster. bibliog diag Pet Refiner 37:173-8 Ja; 123-30 F; 183-8 Mr; 173-9 Ap; 227-33 Mr; 195-208 Je; 153-62 JI; 113-22 Ag '58

Catalyst loss cut. Oil & Gas J 56:105 Ap 7 '58

Continuous contact filtration; Filtril corp. flow diag Pet Refiner 37:293 S '58

Electrical distillate treating; Howe-Baker engineers, inc. flow diag Pet Refiner 37:301 S '58

Electrolytic mercaptan; American development corp. flow diag Pet Refiner 37:302 S '58

Fluid catalyst design data. F. A. Zenz. bibliog II diag Pet Refiner 36:173-8 Ap; 281-5 My; 133-42 Je; 176-83 JI; 147-55 Ag; 305-8 S; 162-70 O; 321-8 N '57

Fresh look at crude-oil values. N. R. Adams and R. C. Kersten. flow diag Oil & Gas J 56:125-8+ F 24 '58

Gas chromatography; powerful new tool for chemical analysis. H. H. Hausdorff and N. Brenner. bibliog II diag Oil & Gas J 56:73-5 Je 30; 122-4+ JI 14; 86-8 JI 21; 89-90+ Ag 4 '58

Growing trend in refining; more downstream processing. L. Resen. Oil & Gas J 56:74-5 Ag 11 '58

Introducing; Alkar and Butamer; new processes developed by Universal oil products co. H. W. Grote. flow diag Oil & Gas J 56:73-6 Mr 3 '58

Job improvement for the process foreman (cont). Oil & Gas J 56:161 N 4; 193 N 11 '57

New way to determine chlorides in charge to catalytic reformer. C. Petty and R. Kung. diag Oil & Gas J 56:94-5+ Ag 25 '58

Now separate by membrane permeation. R. C. Binning and F. E. James. diag Pet Refiner 37:214-15 My '58; Same, Oil & Gas J 56:104-5 My 26 '58; Same, Pet Eng 30:C 14-15 Je '58

Nuclear technology in the chemical and petroleum industries; symposium. bibliog flow sheet II plan diag Ind & Eng Chem 50:137-220 F '58

Process handbook, 1958. flow diag II diag Pet Refiner 37:209+ S '58

Refiners moving in on aromatics. Oil & Gas J 56:44-8 Ag 25 '58

Refining team uses radiation; abstract. F. T. Barr and others. Oil & Gas J 56:117 S 1 '58

Sohio's new Toledo refinery; dual gas-recovery system is used. II diag Oil & Gas J 56:103-5 Je 23 '58

Solvent decarbonizing. M. W. Kellogg co. flow diag Pet Refiner 37:279 S '58

Solvent refining; treating processes, and other refining processes. Pet Refiner 37:271 S '58

Useful tips on refining problems; panel discussion. Oil & Gas J 56:85-9 Mr 31; 157-8+ Ap 7; 115-22 My 8; 129-31+ My 12 '58

World wide oil report; refining highlights. II Oil & Gas J 56:151-9 D 30 '57

See also

Gasoline—Manufacture

Lubricating oils

Petroleum distillation

Western petroleum refiners association

Bibliography

Reviewing new books. Published in monthly numbers of Petroleum refiner

By-products

Light hydrocarbon recovery processes. flow diag Pet Refiner 37:314-15 S '58

Test methods for petroleum products and intermediates. V. A. Kalichevsky. bibliog II Pet Eng 29:C25-30 D '57

Udex process; Universal oil products co. H. W. Grote. flow diag II diag Chem Eng Prog 54:43-8 Ag '58

See also

Petroleum chemicals

Petroleum coke

Contracts

What you should know about refinery contracts. E. W. Mounce and R. D. Stevens. Pet Refiner 37:259+ Mr '58

Nitrogen removal

Better yields after nitrogen removal. C. K. Viland. II Pet Refiner 37:197-200 Mr '58

How much nitrogen in crudes from your area? J. S. Ball and W. J. Wenger. bibliog map Pet Refiner 37:207-9 Ap '58

Patents

Patents were invented to protect the interests of individuals. A. A. Kalichevsky. II Pet Eng 29:C48-8+ N '57

Process; costimating; royalties or research? W. L. Nelson. Oil & Gas J 56:170 Ap 7 '58

Salt removal

Chemical desalting. flow diag Pet Refiner 37:292 S '58

Electric desalting; Petreco div. Petrolite corp. flow diag Pet Refiner 37:299 S '58

Electrical desalting; Howe-Baker engineers, inc. flow diag Pet Refiner 37:300 S '58

PETROLEUM refining—Continued

Sulfur removal

- Autofining; British petroleum co. flow diag
Pet Refiner 37:232 S '58
- Bender; Petreco div., Petrolite corp. flow
diag Pet Refiner 37:291 S '58
- Commercial unilining of distillates and gas
oils; abstract, C. F. Gerald and L. O.
Stines, Pet Refiner 37:176 My '58
- Copper sweetening; Linde co., div. of Union
carbide corp. flow diag Pet Refiner 37:294
S '58
- Desulfurizing; Husky oil co. flow diag Pet
Refiner 37:233 S '58
- Distillate treating; Petreco div., Petrolite
corp. flow diag Pet Refiner 37:295 S '58
- Dualayer distillate process; Magnolia pe-
troleum co. flow diag Pet Refiner 37:291
S '58
- Girbotol; Girdler construction div. of Cheme-
tron corp. flow diag Pet Refiner 37:303 S
'58
- Gulf HDS; Gulf research and development
co. flow diag Pet Refiner 37:284 S '58
- H-Oil; Hydrocarbon research, inc. flow diag
Pet Refiner 37:247 S '58
- Hydrodesulfurization; M. W. Kellogg co. flow
diag Pet Refiner 37:281 S '58
- Hydrofining; Esso research and engineering
co. flow diag Pet Refiner 37:286 S '58
- New method for regeneration of alkaline
solutions used in extracting mercaptans
from petroleum distillates. B. C. Phenix,
in Oil & Gas J 56:89-91 S '58
- Removing sulfur from oil; R. S. Birmingham.
flow diag Oil & Gas J 55:139 D 9 '57
- Separation of sulfur compounds from min-
eral oil fractions. J. L. Jezl and A. P.
Stuart. Ind & Eng Chem 50:943-6 Je '58
- Sulfur removal now gives better products;
desulfurization unit at Compagnie fran-
caise de raffinage's Provence refinery. il
Pet Refiner 37:268+ My '58
- Trickle hydrodesulfurization; Shell develop-
ment co. flow diag Pet Refiner 37:287 S '58
- Ultrafining; Standard oil co. (Indiana). flow
diag Pet Refiner 37:288 S '58
- Unifining; Union oil co. of California and
Universal oil products co. flow diag Pet
Refiner 37:289 S '58
- Unisol mercaptan extraction; Universal oil
products co. flow diag Pet Refiner 37:309
S '58
- Useful tips on refining problems; cat re-
forming and desulfurization; panel dis-
cussion. diags Oil & Gas J 56:115-22 My 5
'58
- Vapor-phase hydrodesulfurization; Shell de-
velopment co. flow diag Pet Refiner 37:
290 S '58

Tables, calculations, etc.

- Automatic pilot plant; Esso's Micro-Plant.
Control Eng 5:28+ Mr '58
- Charts make cat cracker balance easier.
O. A. Wunderlich and P. E. Ivey, jr. diag
Pet Refiner 37:135-42 F '58
- Cost of refinery power. W. L. Nelson. Oil &
Gas J 56:123 Ag 11 '58
- Data processing systems cut preventive
maintenance costs. J. Weinberger. diags
Pet Refiner 37:335-8 S '58
- Elements of fluid processing; calculation of
enthalpy. J. M. Campbell. diag Oil &
Gas J 56:101-2 F 3; 111 F 17; 97-8 Mr 31;
104-5 My 5 '58
- Find viscosity index by nomograph. D. S.
Davis. Pet Refiner 37:330 S '58
- Flow conversion chart; converting units of
volume flow. M. H. Green. Pet Refiner
37:232 Mr '58
- How to design static adsorption beds. W. A.
Johnston and C. D. Laughlin. Pet Refiner
37:131-4 F '58
- How to develop a refinery-simulation pro-
gram with a medium-size digital computer.
J. S. Bonner and others. bibliog diag Oil
& Gas J 56:183-5 Mr 10 '58
- Locate tower nozzles quickly by using these
charts and tables. B. D. Wooley. diags
Pet Refiner 37:143-52 J1 '58
- Nomogram for tower packing height. L. T.
Fan. Pet Refiner 37:346 S '58
- Optimizing a catalytic cracking operation by
the method of steepest ascents. R. W.
Schrage. diags Op Res 6:498-515 J1 '58
- Optimum nonlinear gasoline blending on the
IBM 650 computer. W. R. Dornham and
B. T. Borgerson. bibliog diag Oil & Gas J
56:91-7 My 26 '58
- Optimum pressure for vacuum-plant opera-
tion. W. L. Nelson. Oil & Gas J 56:107 Ag
4 '58

Predicting convergence pressure. J. M.
Lenoir and G. A. White. bibliog(46 ref)
diags Pet Refiner 37:173-81 Mr '58

Pvt behavior for similar gases. S. R. Darin
and others. bibliog Oil & Gas J 56:105-6
Je 16 '58

Use these equations when testing centrifugal
compressors. F. C. Koenig. Pet Eng 30:C
11-16 Ag '58

Wax removal

- Propane dewaxing and deoiling; M. W.
Kellogg co. flow diag Pet Refiner 37:277
S '58
- Solvent dewaxing; Texaco development co.
flow diag Pet Refiner 37:280 S '58

PETROLEUM research

- Age-dating rocks from wildcat wells. W. J.
Yost. Oil & Gas J 55:212-16 N 18 '57
- A.P.I. petroleum composition research; a soul
searching. H. W. Field and C. E. Heading-
ton. Oil & Gas J 55:163-5 N 18 '57
- Analytical research; symposium. Pet Refiner
37:204-6 My '58
- Application of machine computation to pe-
troleum research; symposium. diags Anal
Chem 30:874-85 M 15 '58
- Application of machine computation to petro-
leum research; symposium. bibliog flow
chart diags Ind & Eng Chem 50:712-40 My
'58 (reprints \$1)
- Application of research. H. Gershinowitz. J
Pet Tech 10:11-12 Ag '58
- Big role in atoms played by the oil industry.
Oil & Gas J 56:60 F 3 '58
- College men attack waterflood problem. il
Pet Eng 30:13 J1 15 '58
- Dynamometer for petroleum research. il Engi-
neering 186:116 J1 25 '58
- Effective compressibility of reservoir rock
and its effects on permeability. A. S.
McLachrie and others. bibliog diags J Pet
Tech 10:49-51 Je '58
- Fee dispute in Universal Oil Products sale
continues but profits still aid research. Oil
& Gas J 56:86-7 Ja 20 '58
- 50 per cent recovery by fire drive; situ
combustion. V. S. Swaminathan. il Oil &
Gas J 56:129+ Je 2 '58
- Laboratory evaluation of prospective en-
riched gas-drive projects. D. M. Kehn
and others. J Pet Tech 10:45-8 Je '58
- Laboratory studies of five-spot waterflood
performance; abstract. L. A. Rapoport
and others. J Pet Tech 10:Trans 131A Je
'58
- Laboratory study of laminar and turbulent
flow in heterogeneous porosity limestones;
abstract. C. R. Stewart and W. W. Owens.
J Pet Tech 10:Trans 131A Je '58
- Magnolia's 20 years of research. Pet Eng
30:B72+ My '58
- Miscible fluid displacement in porous media.
J. W. Lacey and others. bibliog flow diag
J Pet Tech 10:75-9 Ap '58
- New technique for study of fluid flow and
phase distribution in porous media. O. K.
Kimber and B. H. Caudle. il diags Oil &
Gas J 55:85-8 D 16 '57
- Petroleum research fund grants for funda-
mental research in the petroleum field.
Chem & Eng N 36:85 S 8 '58
- Petroleum study project at Cal Tech covers
fundamentals. B. H. Sage and W. H. Lacey.
diags Chem Eng Prog 54:86-7 My '58
- Porphyrin research and origin of petroleum.
H. N. Dunning and J. W. Moore. bibliog
Am Assn Pet Geologists Bul 41:2403-12 N
'57
- Research, it's picking up. Oil & Gas J 56:121
My 19 '58
- Research on use of radioactive waste to
break up large crude oil molecules in res-
ervoirs. G. W. Crawford. Chem & Eng N
36:34-5 Mr 24 '58
- Research paying off. H. W. Field and C. E.
Headington; abstract. Oil & Gas J 55:143
N 18 '57
- Static electricity in petroleum products. D. T.
Rogers and others. bibliog diags Oil & Gas J
55:166+ N 18 '57
- Why information research? E. L. d'Ouville
and others. bibliog Pet Refiner 37:259-62
Ja '58
- See also
Gasoline research
Petroleum laboratories
Universal oil products company
- PETROLEUM shipping terminals
Big terminal opened in Indonesia. il map
Oil & Gas J 56:67 J1 21 '58
- Caltex opening port in central Sumatra to
move crude from growing fields. Oil &
Gas J 56:89 Je 23 '58

PETROLEUM shipping terminals—*Continued*
Esso engineers have come up with a new way to measure product in slack lines. diags Oil & Gas J 56:93-91 S 8 '58
Fuel oil terminal at Poplar. il Engineer 206: 460-1 S 19 '58
Japan now able to unload super-supertanks. il Oil & Gas J 56:122 Ap 7 '58
Maracaibo's new gateway to the sea; Puerto Miranda terminal means eastern map Oil & Gas J 56:131+ Je 23 '58
Sea terminal would cut costs at Lake Maracaibo. diags Oil & Gas J 56:101 Mr 10 '58
Speedy terminal loads tanker; Gulf refining co. il Oil & Gas J 56:118 S 1 '58
Two offshore fields served by Shell's giant central terminal facilities. J. E. Kastrop. il Pet Eng 30:B74+ F '58

PETROLEUM storage
Plastic blankets for summer wear; plastics in petroleum fixed-roof storage tanks reduce evaporation losses. il Ind & Eng Chem 50:sup26A+ JI '58

PETROLEUM supply
Cyclical fluctuations and black oil demand, an introduction. G. Chandler and D. A. Lindsell. Inst Pet J 44:109-18; Discussion. 118-23 My '58
Finding oil tomorrow; where are our future reserves coming from? panel discussion. Pet Eng 30:B21-4 Ja '58
Fluid injection means more reserves. Oil & Gas J 56:46-7 Je 30 '58
Fuel reserves of the future. L. G. Weeks. Am Assn Pet Geologists Bul 42:431-8 F '58
Independent key suppliers of crude. Pet Refiner 37:263+ Je '58
Nomenclature speeds data curve analysis. R. Harrell. Pet Eng 30:B36-7 Ja '58
Recession cuts into demand. J. E. Warren. Oil & Gas J 56:80 Ap 14 '58

United States

Crude reserves fall below '57 figures. Oil & Gas J 56:80-2 Mr 17 '58
Domestic reserves and the need for an excess producing capacity for national security. E. O. Thompson. Oil & Gas J 55:240+ N 18 '57
Future productive capacity and probable reserves of the U.S. W. Davis. bibliog flow diag il diags Oil & Gas J 56:105-19 F 24 '58; Discussion. 56:112+ My 19 '58
Liquid reserves 39.67 billion barrels. 1957; with tables. Oil & Gas J 56:160-2 Ja 27 '58
Oil looks ahead; forecast of trends through '65. Oil & Gas J 56:135-42 N 11 '57
U.S. oil producing capacity reaches 9,867,000 bbl daily. L. F. McCollum. Pet Eng 29:B 140 N '57
Where the Nation's oil is stored; tables by states. Oil & Gas J 56:163-8 Ja 27 '58

PETROLEUM waste
Clay pipe with PVC couplings handles salt water waste in oil fields. il Pub Works 39: 168 My '58
Oil-well lining reduces county's maintenance. il Roads & Sts 101:69 Ag '58

PETROLEUM waxes
Odor of petroleum wax; TAPPI suggested method T654 sm-58. Tappi 41:sup 127A-8A Ja '58
Percolation filtration: Minerals & chemicals corp. of America. flow diag Pet Refiner 37: 306 S '58
Try methyl isobutyl ketone in your wax de-oiling unit. J. G. Warnecke and P. S. Backlund. bibliog diags Pet Refiner 37:189-92 Ap '58
Wax fractionation: Texaco development corp. flow diag Pet Refiner 37:281 S '58
See also

Paraffin
Petroleum refining—Wax removal

Testing

Laboratory waxing machine. F. Walter and others. il A S T M Pul 58-9 Ja '58
Needle penetration of petroleum waxes; revision of T 639 sm-55. diags Tappi 41:sup 132A-4A My '58

PETROLEUM workers
Drilling crews again target of labor. Oil & Gas J 55:63-4 D 9 '57
Engineers now do engineering; Atlantic refining co. trains engineering aids. il Oil & Gas J 56:106 My 19 '58
More people more pay in petroleum in 1957. Pet Eng 30:E24-5 Je '58
NLRB raps union for illegally organizing offshore drilling crews. Oil & Gas J 56:81 Ja 6 '58

Personnel man in safety. G. H. Thompson. Pet Refiner 37:268+ Ja '58
Surray plans to grow its own bosses. B. Bachman. Oil & Gas J 55:64-6 D 2 '57
Upgrading personnel to keep pace with mechanization. K. Curtis. Oil & Gas J 55: 219-24 N 18 '57

See also

Oil, chemical and atomic workers international union
Petroleum refineries—Employees

Training

Drilling clinic solves problems. N. S. Morrisey. Oil & Gas J 56:115 F 17 '58

Texas

Union is defeated twice in Permian basin. Oil & Gas J 55:62 D 16 '57

Venezuela

Education on the oil front; University of Zulia at Maracaibo. il Pet Eng 29:E 12-13 N '57
Here's what you'll find if you're going to work in Venezuela. il Pet Eng 29:B50-2 N '57

PETROLOGY. *See* Rocks

PETTER engine

Petter engine tests of Diesel lubricating oils. R. Tourret and R. W. Bale. il Inst Pet J 43:273-81 O '57
Petter's new PC line of engines. il Diesel Power 35:46-7 D '57

PETTINOS, George

Philosophy of G. Pettinos, industrial sand pioneer. J. N. Bell. ports Rock Prod 61: 72-5+ Ap '58

PFIZER, Charles, and company

Career opportunities. il Chem & Eng N 36: 52-3 pt 2 Ja 27 '58
Pfizer sets up new division. Chem & Eng N 36:22-3 Ja 27 '58

PHANTASTRON (delay circuits)

Phantastron, diag Instruments & Automation 31:1050-1 Je '58

Print timer controls density and contrast of photographic prints. J. D. Weir. il diags Electronics 31:108-9 F 14 '58

Pulse-cross modification of tv receivers. H. E. O'Kelley. il diags Electronics 31:54-5 F 23 '58

PHANTOM circuits. *See* Electronic circuits

PHARMACEUTICAL laboratories

Ciba's new pharmacy research and development building. J. Cooper. il plan Drug & Cosmetic Ind 82:25-7+ Ja '58

Ciba's new production building at Horsham. il Manuf Chem 29:319-21 Ag '58

Delicately screened factory; Stuart co. plant and office building, Pasadena. il plan Arch Forum 108:124-7 Ap '58

Design and construction of three new laboratories; the R. and D. laboratory of Ciba pharmaceutical products inc. il plan Manuf Chem 29:140-3 Ap '58

Splendor in the factory; Stuart co., Pasadena. il plans Arch Rec 123:161-8 Ap '58

PHARMACEUTICAL research

Dance hall becomes modern food and drug research lab. il plans Ind Lab 9:76-8 JI '58

Drug research stretches your dollars. il Chem & Eng N 35:48 N 18 '57

PHARMACOLOGY

Problems resulting from the use of habituating drugs in industry; pharmacology of habituating drugs. H. F. Fraser. bibliog Am J Pub Health 48:561-70 My '58

Quantitative methods in human pharmacology and therapeutics; symposium; abstracts of papers. Chem & Ind p870-2 Ag 2 '58

PHARMACOPOEIAS

New British pharmacopoeia; a book of contrasts. S. J. Hopkins. Manuf Chem 29:162 Ap '58

PHARMACY

Modern analytical chemistry in the service of pharmacy and medicine; abstract. G. E. Foster. Ind Chem 34:549 O '58

See also

Drugs

PHASE adjusters

Circuit shifts phase 360 degrees. W. Bacon. diags Electronics 31:94+ Je 6 '58

Direct-coupled phase-splitter. C. Billington. diags Electronic Eng 30:480-2 Ag '58

Less-than-minimum phase shift network. R. F. Decibelle and others. diags Electronic Ind & Tele-Tech 15:60-1+ S '56; Discussion.

J. H. Levine. Electronic Ind 17:36+ JI '58

Linear variable phase shifter. W. B. Conover. diags Electronic Ind 17:supO 4+ F '58

PHASE adjusters—Continued

- Magnetic inverter uses tubes or transistors. C. H. R. Campling, *il* diags Electronics 31: 158-61 Mr 14 '58
- New isodyne phase splitter. E. F. Worthen, *diags* Audio 42:26-7 Ag '58
- New technique in ferrite phase shifting for beam scanning of microwave antennas. F. Reggia and E. G. Spencer, *bibliog il* diags Inst Radio Eng Proc 45:1510-17 N '57
- Phase shifter range exceeds 180°. W. G. Shepard, *diags* Electronics 31:96+ My 9 '58
- Simple phase shifter. R. Chidambaram, *diag* Electronic & Radio Eng 35:335 O '58
- Small uhf ferrite unit shifts phase 360 deg. *il* *diag* Electronics 31:102 Ag 15 '58
- Synchro resolver as a shaft position transducer; synchro is part of phase shifting unit. M. B. Wood, *bibliog* diags Electronic Eng 30:366-70 Je '58
- Theory of nonreciprocal ferrite phase shifters in dielectric-loaded coaxial line. K. J. Button, *diags* J Ap Phys 29:998-1000 Je '58
- X-band phase shifter without moving parts. W. H. Hewitt, Jr. and W. H. von Aulock, *bibliog il* diags Electronics 31:56-8 Ji 4 '58

Design

- Simplifying phase equalizer design. W. J. Judge, *diags* Electronic Ind 17:76-7 Ap '58

PHASE indicators

- High-frequency phase detector, *diag* Electronics 31:50 Ag 22 '58
- Measurement of small phase shifts with a phase sensitive voltmeter. D. J. Collins and J. E. Smith, *diags* Electronic Eng 30:146-7 Mr '58
- Precision phase measurement. M. Hoberman, *R Sci Instr* 29:72-3 Ja '58
- Simple 60 cps phase meter. R. K. Dickey, *diag* Control Eng 5:119 Ja '58
- Some methods of phase measurement used in transfer function analysis. D. J. Collins and J. E. Smith, *diags* Electronic Eng 30:182-6 Ap '58
- You can measure phase shift. T. Jaski, *il* diags Radio-Electronics 29:100+ S '58

PHASE meters

- Coincident slicer measures phase directly. Y. P. Yu, *diags* Electronics 31:99-101 S 12 '58
- How to measure midfrequency phase shift. A. Nirenburg, *il* diags Electronics 31:46-7 Ag 29 '58
- Phase-shift at microwave frequencies; measurements on waveguide components. M. H. N. Potok, *bibliog* diags Electronics & Radio Eng 35:382-6 O '58

PHASE rule and equilibrium

- Beta-alumina-type structure in the system lanthana-alumina. R. S. Roth and S. Hasko, *bibliog* Am Cer Soc J 41:146 Ap 1 '58
- Controller for phase-equilibrium studies. *il* Elec Eng 77:858 S '58
- Correlation of vapor-liquid equilibrium data. J. W. Tierney, *bibliog* Ind & Eng Chem 50:707-10 Ap '58
- Equilibria between titanium metal and solutions of titanium dichloride in fused magnesium chloride. K. Komarek and P. Herasymenko, *diag* Electrochem Soc J 105:210-15 Ap '58
- Equilibria between titanium metal and solutions of titanium dichloride in fused sodium chloride. K. Komarek and P. Herasymenko, *bibliog* Electrochem Soc J 105:216-19 Ap '58
- Equilibria in the niobium-hydrogen system. W. M. Albrecht and others, *bibliog il* *diag* Electrochem Soc J 105:219-23 Ap '58
- Equilibrium between titanium metal, TiCl_3 , and TiCl_4 in NaCl-KCl melts. W. C. Kreye and H. H. Kellogg, *bibliog* *diag* Electrochem Soc J 104:504-8 Ag '57; Discussion. K. Griethelm, *il* *diag* 35:384-5 Je '58
- Figure flash equilibrium easier, quicker this way. F. J. Lockhart and R. J. McHenry, *diag* Pet Refiner 37:209-12 Mr '58
- Incomplete equilibrium in dilute solutions of a cationic soap by the foam density method. T. Nash, *bibliog* *diag* J Ap Chem 8: 440-4 Ji '58
- Mechanics of mass transfer. J. O. Osburn, *diags* Chem Eng 65:161-4 Ap 21 '58
- Phase equilibria and fluorescence in a portion of the system $\text{ZnO-MnO-P}_2\text{O}_5$. F. A. Hummel and F. L. Katnack, *bibliog* diags Electrochem Soc J 105:528-33 S '58
- Phase equilibria at high temperatures in iron silicate systems. A. Muan, *bibliog* Am Cer Soc Bul 37:81-4 F 15 '58
- Phase equilibria in binary and multicomponent systems; modified van Laar-type equation. C. Black, *bibliog* (38 ref) diags Ind & Eng Chem 50:403-12 Mr '58

- Phase equilibria in natural gas systems; apparatus with windowed cell for 800 p.s.i.g. and temperatures to -320°F. L. W. Brandt and L. Stroud, *bibliog il* diags Ind & Eng Chem 50:849-52 My '58
- Phase equilibria in the alkali fluoride-uranium tetrafluoride fused salt systems; systems LiF-UF_4 and NaF-UF_4 . C. J. Barton and others, *bibliog il* *diag* Am Cer Soc J 41:63-9 F 1 '58
- Phase equilibria in the system $\text{BaTiO}_3\text{-SrTiO}_3$. J. A. Basmajian and R. C. DeVries, *bibliog* Am Cer Soc J 40:373-6 N 1 '57
- Phase equilibria in the system $\text{ZnO-P}_2\text{O}_5$. F. L. Katnack and F. A. Hummel, *diags* Electrochem Soc J 105:125-33 Mr '58
- Phase equilibrium relationships at liquidus temperatures in the system $\text{FeO-Fe}_2\text{O}_3\text{-Al}_2\text{O}_3\text{-SiO}_2$. A. Muan, *bibliog* diags Am Cer Soc J 40:420-31 D 1 '57
- Phase equilibrium studies in the system $\text{CaO-Cr}_2\text{O}_3\text{-SiO}_2$. F. P. Glasser and E. F. Osborn, *bibliog* diags Am Cer Soc J 41: 358-67 S 1 '58
- Phase separation in metal-ammonia solutions. K. S. Pitzer, *bibliog* Am Chem Soc J 80: 5046-7 O 5 '58
- Reactions between iron oxides and alumina-silica refractories. A. Muan, *Am Cer Soc J* 41:275-86 Ag 1 '58
- Relative volatility and enthalpy data for the systems C hydrocarbons-acetone-water developed from vapor-liquid equilibria. J. E. Ewanogyna and C. L. H. Bridges, *bibliog* diags Can J Chem Eng 36:19-36 F '58
- Shape of the liquidus surface as a criterion of stable glass formation. E. H. Hamilton and G. W. Cleek, *bibliog* J Res Nat Bur Stand 60:593-6 Je '58
- Solidus, subsolidus, and subsolidation phase equilibria in the system Fe-Al-O . L. M. Atlas and W. K. Sumida, *bibliog* Am Cer Soc J 41:150-60 My 1 '58
- Structural interpretation of immiscibility in oxide systems. E. M. Levin and S. Block, *bibliog* diags Am Cer Soc J 40:95-106, 113-18, 41:49-54 Mr 1-Apr 1 '58; F 1 '58; Abstract, Glass Ind 39:55-6 Mr '58
- Studies in lithium oxide systems. B. S. R. Sastry and others, *bibliog il* diags Am Cer Soc J 41:7-17, 88-92 Ja 1, Mr 1 '58
- Study of the equilibria in acidic chromium(III) chloride solutions. H. S. Gates and E. L. King, *bibliog* Am Chem Soc J 80:5011-15 O 5 '58
- Ternary liquid equilibria. R. Jagannadha Rao and others, *bibliog* J Ap Chem 7:435-9, 659-66 Ag, D '57
- Ternary systems $\text{BaO-TiO}_2\text{-ShO}_2$ and $\text{BaO-TiO}_2\text{-ZrO}_2$. G. H. Jonker and W. Kwestrow, *bibliog* Am Cer Soc J 41:390-4 O 1 '58
- Ternary vapour-liquid equilibria; system acetone-ethyl methyl ketone-cyclohexane. K. V. Kurmanadha Rao and others, *bibliog* (26 ref) J Ap Chem 7:535-43 O '57
- Ternary vapour-liquid equilibria; system ethyl methyl ketone-benzene-cyclohexane. P. Dakshinamurthy and G. Venkata Rao, *bibliog* J Ap Chem 7:654-9 D '57
- Theory of ion exchange and development of charge in kaolinite-water systems. W. G. Lawrence, *bibliog* diags Am Cer Soc J 41: 136-40 Ap '58
- Tributyl phosphate, hydrocarbon systems; orkanizing equilibrium data. J. W. Coddington and others, *bibliog* *diag* Ind & Eng Chem 50:145-52 F '58
- Vapor-liquid equilibria; microsampling technique applied to a new variable-volume cell. P. J. Rigas and others, *il* diags Ind & Eng Chem 50:1297-300 S '58
- Vapor phase imperfections in vapor-liquid equilibria; semiempirical equation. C. Black, *bibliog* (55 ref) Ind & Eng Chem 50:391-402 Mr '58
- Vapor-liquid equilibria of ethyl acetate-trichloroethylene system. M. Raja Rao and others, *bibliog* *diag* J Ap Chem 7:666-71 D '57

PHASE space

- Geometric properties of mature drainage systems and their representation in an E_d phase space. M. A. Melton, *J Geol* 66:35-56 Ja '58
- Use of phase space in transient stability studies. S. T. Bow and J. E. Van Ness, *bibliog* diags Applications & Ind p 187-91 S '58; Abstract, Elec Eng 77:601 Ji '58

PHASE transitions

- Infrared absorption method for measuring phase transitions of waxes. J. M. Martin, Jr. and others, *bibliog* diags Anal Chem 30:1005-6 My '58
- Obtaining rate thermal curves by a capacitor method. B. Gregory and G. Bullock, *diags* J Sci Instr 36:228-9 Je '58

PHASE transitions—Continued

- Phase transitions in collagen and gelatin systems. P. J. Flory and R. R. Garrett. bibliog diag Am Chem Soc J 80:4836-45 S 20 '58
- Solid phase transitions in the $\text{UO}_2\text{-ZrO}_2$ system. G. M. Wolten. bibliog Am Chem Soc J 80:4772-5 S 20 '58
- Study of phase transitions in WO_3 with a high-temperature X-ray diffractometer. J. A. Perri and others. bibliog diags J Ap Phys 28:1272-5 N '57

PHASES (chemistry)

- Inter-phase exchange of material; abstract. M. L. Hellnick. Ind Chem 34:151-2 Mr '58
- New technique for study of fluid flow and phase distribution in porous media. O. K. Kimbler and B. H. Caudle. II diags Oil & Gas J 55:85-8 D 16 '57
- Phase analysis of Alnico V based on temperature effects. R. K. Tenzer and K. J. Kronenberg. bibliog diag J Ap Phys 29:302-3 Mr '58
- Phase relations and specific salt effects in soap solutions. T. Nash. Chem & Ind p590 My 17 '58
- X-ray survey of certain transition-metal systems for sigma phases. A. G. Knapton. bibliog diag Inst Metals J 87:28-32 '58-59

PHENANTHRENE

- Reduction of phenols; new synthesis of oxyhexahydro-3-ketophenanthrenes by cyclodehydration of 4-(8-arylethyl)-1,3-cyclohexandiones. G. N. Walker. bibliog Am Chem Soc J 80:645-52 F 5 '58

PHENANTHRIDINE

- Alkaloids of the amaryllidaceae; the structures of alkaloids derived from 5,10b-ethanophenanthridine. W. C. Wildman. bibliog Am Chem Soc J 80:2567-75 My 20 '58
- Novel ring closure involving a nitro group; preparation of phenanthridine-5-oxide. C. W. Muth and others. bibliog Am Chem Soc J 79:6500-4 D 20 '57

PHENANTHROLINE

- Mechanism of racemization of complex ions; effect of added large ions upon the rates of dissociation and racemization of tris-(1,10-phenanthroline)-iron(II) ion. A. Jensen and others. bibliog Am Chem Soc J 80:2354-8 My 20 '58
- Tervalent iron complexes of 1,10-phenanthroline. C. M. Harris and T. N. Lockyer. Chem & Ind p 1231 S 20 '58

PHENAZASILINE

- New synthesis of phenazasiline derivatives. H. Gilman and E. A. Zuech. Chem & Ind p 1227-8 S 20 '58

PHENAZINE

- Direct preparation of some dihydro and other phenazine derivatives. H. Gilman and J. J. Dietrich. Am Chem Soc J 79:6178-9 D 5 '57

PHENOL

- Analysis of phenol-containing volatile oils. M. I. Blake. bibliog Anal Chem 30:400-2 Mr '58
- Phenol recovery by use of isopropyl ether. N. H. Kirchreissner. bibliog flow diags Sewage & Ind Wastes 30:191-8 F '58
- Synthetic phenol from benzene halides. Ind & Eng Chem 49:sup27A N '57
- Unsaturated phenols; the reaction of isoprene with phenol. A. R. Bader and W. C. Bean. Am Chem Soc J 80:3073-5 Je 20 '58
- Variations in phenol coefficient testing. L. S. Stuart and others. Soap & Chem Spec 34:79+ O '58

Manufacture

- Phenol and acetone via cumene hydroperoxide. P. W. Sherwood. bibliog Pet Eng 30:C32+ Je '58 (to be cont)
- Phenol from cumene. flow diag(p272) Pet Refiner 36:273 N '57
- Promoted air oxidation of benzene to phenol in the gas phase. M. B. Donald and M. E. Darlington. bibliog diag Ind Chem 34:18-15 Ja '58

PHENOL condensation products

- Blower wheels; new field for phenolics. II diag Mod Plastics 35:118-19 My '58
- Preparation of high-ortho novolak resins. D. A. Fraser and others. bibliog diag J Ap Chem 7:676-700; 8:478-85 D '57, Ag '58
- Properties of materials; phenolics. Materials in Design Eng 43:154-7 Mid-O '58
- Sulfur not needed; U.S. Rubber steps up heat resistance of butyl rubber, with phenolic condensation polymer. Chem & Eng N 38:36 Je 9 '58

See also**Resinous products****Testing**

- Comparison of phenolic and polyester premix materials. J. J. Colao and M. M. Gurvitch. Product Eng 29:C 12-15 Mid-S '58
- Curing process in phenolic resin; electron-microscopic analysis. R. A. Spurr and others. bibliog II Ind & Eng Chem 49:1839-42 N '57
- Curing process in phenolic resin; X-ray diffraction analysis. R. A. Spurr and others. Ind & Eng Chem 49:1838-9 N '57

PHENOL ethers. See Ethers**PHENOLS**

- Advances in phenolic materials and processes during 1957. R. A. P. Landall. bibliog II Plastics Tech 4:353-4+ Ap '58
- Alkylation of phenols; abstract. R. Stroh and others. Ind Chem 34:206-7 Ap '58
- cis-trans* equilibria in *o*-halophenols. A. W. Baker. Am Chem Soc J 80:3598-600 JI 20 '58
- Effect of *m*-dichloro and *m*-dibromo groups on the dissociation and ultraviolet spectra of *p*-dimethylsulfonophenols. S. Oae and C. C. Price. bibliog Am Chem Soc J 80:4938-41 S 20 '58
- Effects of dimethylsulfonio and trimethylammonio groups on the dissociation of substituted phenols. S. Oae and C. C. Price. bibliog Am Chem Soc J 80:3425-7 JI 5 '58
- Enzymic oxidation of polyphenols to benztropolones. E. A. H. Roberts and M. Old-school. bibliog Chem & Ind p99-100 Ja 25 '58
- Factors controlling position of alkylation of alkali metal salts of phenols, benzyl and allyl halides. D. Y. Curtin and others. bibliog Am Chem Soc J 80:1391-7 Mr 20 '58
- Functionality of phenols by bromination. A. K. Ingberman. bibliog Anal Chem 30:1003-4 Mr '58
- Highlights of research in sanitary engineering; Mellon institute of industrial research; origin of tastes and odors in drinking water. R. D. Hoak. Pub Works 88:83-5 D '57
- Identification and estimation of phenolic fungicides in mildewproof materials. C. L. Hilton. bibliog Textile Res J 28:263-6 Mr '58
- Inactivation of pectic enzymes by fruit phenolics. A. Pollard and others. bibliog Chem & Ind p952 JI 26 '58
- O*-alkylation accompanying the direct formation of diazonium salts from phenols in alcoholic solution. J. M. Tedder and G. Theaker. Chem & Ind p 1485 N 9 '57
- Peroxies boost Grignards; new path to alcohols, phenols, and ethers. Chem & Eng N 36:50 S 22 '58
- Phenol extraction. W. Kellogg co. flow diag Pet Refiner 37:275 S '58
- Phenolic compounds for rheumatic fever; abstract. N. E. Clarke and others. Drug & Cosmetic Ind 83:217 Ag '58
- Plant polyphenols; the isolation of a new ellagitannin from the peltice of the walnut. L. Jurd. Am Chem Soc J 80:2249-52 My 5 '58
- Polymerization of 4-*t*-butyl-2-cyclohexylaminomethylphenol. W. J. Burke and others. bibliog Am Chem Soc J 80:3438-43 JI 5 '58
- Preparation of high-ortho novolak resins; the use of substituted phenols. D. A. Fraser and others. bibliog J Ap Chem 8:478-85 Ag '58
- Reaction of acyl peroxides with phenols. C. Walling and R. B. Hodgdon, jr. bibliog Am Chem Soc J 80:228-33 Ja 5 '58
- Reduction of phenols; new synthesis of oxyhexahydro-3-ketophenanthrenes by cyclodehydration of 4-(8-arylethyl)-1,3-cyclohexandiones. G. N. Walker. bibliog Am Chem Soc J 80:645-52 F 5 '58
- Solvolysis of alkyl borates; catalysis by amines and phenols. C. L. Denson and T. I. Crowell. bibliog Am Chem Soc J 79:5656-8 N 5 '57
- Substituted styrenes; the syntheses and some chemical properties of the vinylphenols. W. J. Dale and H. E. Hennis. bibliog Am Chem Soc J 80:3645-9 JI 20 '58
- Syntheses by free-radical reactions; the reaction of 2,6-di-*t*-butyl-4-methylphenol and 2,6-di-*t*-butyl-4-isopropylphenol with chloroprene. W. R. Hatcher. bibliog Am Chem Soc J 80:3640-2 JI 20 '58
- Treatment of water-borne wastes from steel plants; with cost data. R. Nebolsine. flow sheet Iron & Steel Eng 34:141-5 D '57
- Unsaturated phenols; crotlyphenols. A. R. Bader. bibliog Am Chem Soc J 79:6164-7 D 5 '57
- Unsaturated phenols; the reaction of isoprene with phenol. A. R. Bader and W. C. Bean. Am Chem Soc J 80:3073-6 Je 20 '58

PHENOLS—Continued

Analysis

- Analysis of polyhydric phenol mixtures. W. Beckering and W. W. Fowkes. *bibliog Anal Chem* 80:1336-8 Ag '58
- Detection of polynuclear hydrocarbons and phenols with benzal and piperonal chlorides. E. Sawicki and others. *bibliog Anal Chem* 80:1130-3 Je '58
- Identification and determination of low-boiling phenols in low temperature coal tar. C. Karr, Jr. and others. *bibliog Anal Chem* 80:1413-16 Ag '58
- Laboratory evaluation can aid disposal of water-borne wastes; how to find phenolic, settleable solids in industrial waste water. C. K. Rice. *bibliog Oil & Gas J* 56:104 Ag 4 '58

Manufacture

- Bisphenol A. flow diag Refiner 36:222 N '57
- PHENOLSULFONIC acid**
New procedure for rapid determination of nitrate and a study of the reparation of the phenolsulfonic acid reagent. K. R. Middleton. *bibliog J Ap Chem* 8:505-9 Ag '58
- PHENOXAZINE**
Metalation of phenoxazine and some of its derivatives. H. Gilman and L. O. Moore. *bibliog Am Chem Soc J* 80:2195-7 My '58
- PHENOXY compounds**
 α -Ketoethers: the reaction of α -phenoxyacetophenone with sodium and with sodium amide. P. Yates and others. *bibliog Am Chem Soc J* 80:196-201 Ja '58
- PHENYL acetate**
Imidazole catalysis: the reaction of substituted imidazoles with phenyl acetates in aqueous solution. T. C. Bruce and J. L. Schmir. *bibliog Am Chem Soc J* 80:148-56 Ja '58
- PHENYLACETIC acid**
Aminomethylation reaction: preparation of *m*- and *p*-aminomethylphenylacetic acids. H. E. Zaugg and B. W. Horrom. *bibliog Am Chem Soc J* 80:4317-19 Ag 20 '58
- Studies of stereospecificity in the α -phenylethylation of phenylacetoneitrile and phenylacetic acid and of epimerization of the alkylation products. C. R. Hauser and others. *bibliog Am Chem Soc J* 80:4345-8 Ag 20 '58
- PHENYLACETONITRILE**
Studies of stereospecificity in the α -phenylethylation of phenylacetoneitrile and phenylacetic acid and of epimerization of the alkylation products. C. R. Hauser and others. *bibliog Am Chem Soc J* 80:4345-8 Ag 20 '58
- PHENYLALANINE**
Biosynthesis of gliotoxin: incorporation of phenylalanine-1- and -2- C^{14} . R. J. Suhadolnik and R. G. Chenoweth. *bibliog Am Chem Soc J* 80:4391-2 Ag 20 '58
- α -Chymotrypsin-catalyzed hydrolysis of α -N-benzoyl- β -(4-pyridyl-1-oxide)-L-alanine methyl ester and of α -N-(nicotinyl-1-oxide)-L-phenylalanine methyl ester. R. L. Bixler and C. Niemann. *bibliog Am Chem Soc J* 80:2716-19 Je '58
- PHENYLAZULENE**
4- and 5-phenylazulenes. E. D. Bergmann and R. Ikan. *bibliog Am Chem Soc J* 80:3135-9 Je 20 '58
- PHENYLBUTENE**
Catalytic hydrogenation of 3-phenyl-1-butene-2- C^{14} . W. A. Bonner and others. *bibliog Am Chem Soc J* 80:4732-6 S 5 '58
- PHENYL compounds**
Effect of radiation on polyphenyls. Nucleonics 16:1224 S '58
- Mass spectra and relative sensitivities of some polyphenyls. P. Bradt and F. L. Mohler. *J Res Nat Bur Stand* 60:143-5 F '58
- Separation of isomeric polyphenyls by adsorption chromatography. M. Hellman and others. *bibliog Anal Chem* 30:1206-10 Jl '58
- Spectra**
- Infrared spectra of crystalline polyphenyls. J. E. Stewart and M. Hellman. *bibliog J Res Nat Bur Stand* 60:125-36 F '58
- PHENYLCYCLOHEXANE**
Separation of mixtures of biphenyl, cyclohexylbenzene, and bicyclohexyl by vapour-phase chromatography. W. J. Hendriks and others. *Inst Pet J* 43:288-91 '57
- Stereochemistry of ketonization: decarboxylation of 2-phenylcyclohexane-1,1-dicarboxylic acid. H. E. Zimmerman and T. W. Cutshall. *bibliog Am Chem Soc J* 80:2893-6 Je '58

PHENYLCYCLOPROPANE

Synthesis of a series of substituted *trans*-2-phenylcyclopropanecarboxylic acids. E. N. Trachtenberg and G. Odian. *bibliog Am Chem Soc J* 80:4015-18 Ag 5 '58

PHENYL ether

ortho-Claisen rearrangement; the effect of substituents on the rearrangement of allyl *p*-X-phenyl ethers. W. N. White and others. *bibliog Am Chem Soc J* 80:3271-7 S 5 '58

PHENYLGLYXYLATES

Asymmetric induction studies with optically active biphenyls; the reactions of phenylglyoxyates of the phenyldihydrothebaine series with methylmagnesium iodide. J. A. Ebers and M. A. Greenbaum. *bibliog Am Chem Soc J* 80:445-51 Ja 20 '58

PHENYL group

Addition of silyllithium compounds containing methyl and phenyl groups to benzophenone in tetrahydrofuran. H. Gilman and G. D. Lichtenwalter. *bibliog Am Chem Soc J* 80:607-3 F 5 '58

Benzyl tosylates: the effects of phenyl as a substituent. G. S. Hammond and C. E. Reeder. *bibliog Am Chem Soc J* 80:573-5 F 5 '58

Further data on the free radical phenylation of 2,4-dinitrotolubenzene. R. J. Convery and J. C. Price. *Am Chem Soc J* 80:4101 Ag 5 '58

Reactivity of the phenyl cation in solution. E. S. Lewis. *bibliog Am Chem Soc J* 80:1371-3 Mr 20 '58

PHENYLGUANIDINE

Condensation of monophenyl- and diphenylguanidine with malonates and α -alkyl- α -carboxy- γ -butyrolactones. G. S. Skinner and others. *bibliog Am Chem Soc J* 79:6207-9 D 5 '57

PHENYLHYDRAZONES

Fischer indole synthesis. 2-carboxy-4,7-dimethylindole from ethyl pyruvate 2,6-dimethylphenylhydrazones. R. E. Carlin and others. *bibliog Am Chem Soc J* 79:5712-17 N 5 '57

PHENYL isocyanate

Kinetic studies of the reaction of phenyl isocyanate with alcohols in various solvents. S. Ephraim and others. *bibliog Am Chem Soc J* 80:1326-8 Mr 20 '58

PHENYL ketone. See Benzophenone

PHENYLLITHIUM

Reaction of 9-chloromethylene-fluorene with butyl- and phenyl-lithium. D. Y. Curtin and others. *bibliog Chem & Ind p* 1453-4 N 2 '57

PHENYLMAGNESIUM bromide

Proximity effects; the reaction of phenylmagnesium bromide with methyl cyclooctene-1-carboxylate. A. C. Cope and M. Brown. *bibliog Am Chem Soc J* 80:2859-64 Je '58

Reaction of enolic β -ketoesters and β -diketones with phenylmagnesium bromide. J. P. Freeman. *bibliog Am Chem Soc J* 80:1926-30 Ap 20 '58

PHENYLPENTENYNOL

5-Phenyl-2-penten-4-yn-1-ol and related compounds. T. L. Jacobs and others. *bibliog Am Chem Soc J* 80:3864-6 F 20 '58

PHENYLPROPENE

Reactions of phenylpropene derivatives with nitrous acid. C. Zioudrou and J. S. Fruton. *bibliog Am Chem Soc J* 79:5951-3 N 20 '57

PHENYLSILANES. See Silanes

PHENYLTHIOUREA

Some phenylthiourea derivatives and their antituberculous activity. L. Doub and others. *bibliog Am Chem Soc J* 80:2205-17 My 5 '58

PHENYLENEDIAMINE

Palladium complexes of *N*:*N*:*N*:*N*'-tetra-methyl-*O*-phenylenediamine. F. H. C. Stewart. *Chem & Ind p* 264 Mr 1 '58

PHEOPHYTINS

Determination of the conversion of chlorophyll to pheophytin. *Food Tech* 12:428 Ag '58

PHILADELPHIA

Bowing to progress: old Philadelphia area a redevelopment target. *Eng N* 160:43 Je 5 '58

See also
Housing—Philadelphia

Hospitals

Philadelphia grand jury probes hospital cracks: Philadelphia's General hospital. *Arch Forum* 108:12 F '58

PHILADELPHIA—Continued

Rapid transit

Rapid transit at wholesale; Camden-Philadelphia area. Eng N 160:24 Je 5 '58

Schools

Franklin Institute and Central high school in their early days. J. S. Hepburn. bibliog Franklin Inst J 265:43-8 Ja '58

Water supply

Automation developments in Philadelphia. V. A. Appleyard. maps Am Water Works Assn J 50:7-14 Ja '58

PHILIPPINE ISLANDS

See also

Chemical industries—Philippine Islands

Engineering—Philippine Islands

Hydroelectric plants—Philippine Islands

Petroleum—Philippine Islands

PHILIPS, N. V., gloeilampenfabrieken

Engineering firms in the free trade area. Engineering 184:525-6 O 25 '57

PHILOSOPHY

See also

Architecture—Philosophy

PHILOSOPHY and science

Science and philosophy of the community concept. C. H. Muller. Am Scientist 46:294-308 S '58

PHLOGOPITE

Weathering studies; a note on the conversion of phlogopite to septechlorite. R. Roy and F. A. Mumpton. J Geol 66:324-6, pl 1 My '58

PHONOGRAPH

Home music sales to rise; tv, radio and phonograph designs. Electronics 31:17 S 5 '58

Improving radio and phono amplifiers. N. H. Crowhurst. diags Radio-Electronics 29:40-2 S '58

Radio show review; sound receivers and reproducers. il Wireless World 64:480-3 O '58

See also

Radio receiving apparatus—Phonograph combinations

High fidelity systems

Audio. E. T. Canby. Published in monthly numbers of Audio

Hi-fi pickup arms. J. D. Hirsch. il diags Radio-Electronics 29:60-1+ Ja; 50-2 F '58

Manufacture

Manufacture of a high-quality cartridge. R. E. Carlson. il diags Audio 42:30-2+ Ag '58

Pickup

Connoisseur magnetic phono pickup. il Audio 42:36+ F '58

Crystal gives low-cost stereo. diags Electronics 31:102+ S 26 '58

ESL C-60 series moving-coil phonograph cartridge. il Audio 42:32 p '58

Garrard TPA-10 adjustable arm. E. T. Canby. Audio 42:50-1 F '58

Hi-fi pickup arms. J. D. Hirsch. il diags Radio-Electronics 29:60-1+ Ja; 50-2 F '58

How to make a stereo phono pickup. C. G. McPrond. il diags Audio 42:17-19+ F '58

Low impedance pickups. R. E. Flory. diags Electronic Ind 17:supp 20 Ap '58

Magnetodynamic pickup. C. Brown. il diags Wireless World 64:142-4 Mr '58

Manufacture of a high-quality cartridge. R. E. Carlson. il diags Audio 42:30-2+ Ag '58

Phono cartridge uses reverse generator movement; nonmetallic ferrites. il diags Machine Design 30:38 Ap '58

Phonograph cartridge uses ferrite armature. il diags Elec Manuf 61:151-2 My '58

Pickup to track at two grams. W. E. Glenn. diags Wireless World 64:40 Ja '58

Rewire your Garrard for stereo cartridges. il Audio 42:32 My '58

Seeing-eye pickup. A. H. Taylor. il diags Radio-Electronics 29:46 Mr '58

Stereo phono cartridges. J. D. Hirsch. il diags Radio-Electronics 29:37-9 S; 48-50 O; 83+ N '58

Stereo pickup review; with specification chart. il Audio 42:90-1 Ag '58

Universal phonograph reproducer. H. A. Henning. il Audio 42:40+ Mr '58

Record changers

Convert your Collaro to stereo. S. G. Neufeld. il diags Audio 42:42 Ag '58

Glaser Steers changer. E. T. Canby. Audio 42:43-50 F '58

Glaser-Steers GS-77 record changer. il Audio 42:39+ Ap '58

New Miracord XS-200 record changer. il Audio 42:34 Je '58

Rewire your Garrard for stereo cartridges. il Audio 42:32 My '58

Take your pick; changer or turntable. H. Burstein. il Radio-Electronics 29:48-9 Je '58

Turntables

Electronic drive turntable. E. T. Canby. Audio 42:56-9 Ap '58

Take your pick; changer or turntable. H. Burstein. il Radio-Electronics 29:48-9 Je '58

PHONOGRAPH cabinets

Hi-fi console sales rise. Electronics 31:27 Ja 10 '58

Putting the finish on tv and hi fi cabinets. C. S. Hudson. il Ind Finishing 34:62-4+ D 5 '58

PHONOGRAPH needles

Chronostat clocks your phono needle. M. Hoberman. il I S A J 5:59 Mr '58

PHONOGRAPH records

Jazz and all that. C. A. Robertson. Published in monthly numbers of Audio

New records. Radio-Electronics 29:120-2 Ja; 129-30 F '58

Pile of lps. E. T. Canby. Audio 42:12+ Je '58

Record care. A. A. Hundley. Radio-Electronics 29:30-1 Jl '58; Discussion. 29:47 O '58

Record revue. E. T. Canby. Published in monthly numbers of Audio

Cleaning

Lektrostat record cleaner. il Audio 42:30 Jl '58

Standards

Standards for stereo disc records. Wireless World 64:259 Je '58

Stereophonic records

CBS stereo, a layman's look. E. T. Canby. diags Audio 42:12+ My '58

Compatibility and the stereo disc. N. H. Crowhurst. bibliog diags Radio-Electronics 29:35-8 Ag '58

Compatible stereophonic record. P. C. Goldmark and others. diags Audio 42:26+ My '58

Disc stereo channel rides on fm carrier. J. B. Minter. Electronic Ind 17:5 Mr '58

How the stereo disc works. N. H. Crowhurst. il diags Radio-Electronics 29:26-9, cover Jl '58; Discussion. 29:17-18+ O '58

Improving performance of stereophonic disc playback systems. B. B. Bauer. diags Audio 42:34+ Ag '58

New approach to stereo records. M. Weil. diags Audio 42:28+ Je '58

New discs and stereo tapes reviewed. C. Santon. Radio-Electronics 29:41 Mr; 43 Ap; 46-7 My; 43 Je; 35 Jl; 38-9 Ag; 45 S; 51 O '58

New stereo disk uses f-m carrier. Electronics 31:14 F 28 '58

Single-groove stereo discs. N. H. Crowhurst. il diags Radio-Electronics 29:54-7 Ja '58

Standards for stereo disc records. Wireless World 64:259 Je '58

Stereo record releases. Audio 42:38-9+ Ag; 78-9 S '58

Stereophony from discs; editorial. F. L. Devereux. Wireless World 64:153 Ap '58

Stereophony on disc. H. A. M. Clark. Engineering 185:448 Ap 4 '58

Tracing distortion in stereophonic disc recording. M. S. Corrington and T. Murakami. diags RCA R 9:216-31 Je '58

PHOSPHATE coating

How grit blasting improves phosphate coatings. J. Knanishu. il Metal Finishing 56:57-62 Mr '58

New phosphate process development reduces fixed operating costs; Sersal process. D. A. Paul. il Automotive Ind 118:23+ Mr 1 '58

Phosphoric acid treatments for steel: the nature of coatings produced by the action of phosphoric acid on steel. M. Donovan and others. bibliog J Ap Chem 8:87-96 F '58

Some current applications of phosphate coatings. E. P. Koeckritz, jr. il Plating 45:248-51 Mr '58

Spray cleaning, pickling and phosphating. A. J. Steiger. diags Metal Finishing 56:48-51 Mr '58

Volvo mechanizes its phosphating line. il diags Steel 143:100-1 Ag 25 '58

Patents

Phosphating treatments; a comprehensive patent literature survey. Metal Finishing 56:71-4 Ap; 97-100 My; 72-5+ Je; 66-9+ Jl; 70-2 Ag; 71-3 S; 72-3+ O '58

PHOSPHATE rock

Anomalous behaviour of carbonate in phosphate rock, H. Feilchenfeld and C. Eden. *bibliog J Ap Chem* 8:358-63 Je '58

By-product fluorine, II J Agri & Food Chem 6:258-9 Ap '58

Effect of ball mill grinding on acidulation of phosphate rock, R. R. Rounsley and D. R. Boylan. *bibliog flow sheet II plan diag J Agri & Food Chem* 6:677-84 S '58

Effect of flooding on plant availability of phosphorus from various phosphate rocks, R. E. Shapiro and W. H. Armiger. *J Agri & Food Chem* 6:453-5 Je '58

Effect of particle size on availability to plants of phosphorus in phosphate rock from various sources, W. H. Armiger and M. Fried. *J Agri & Food Chem* 6:539-43 J1 '58

New mining company and industrial minerals, C. W. Sweetwood. *II Min Cong J* 44:42-5 J1 '58

Phosphate, 1957, C. V. O. Hughes. *Eng & Min J* 159:160-1 F '58

Phosphate, 1957, S. T. Keel. *II Min Cong J* 44:106-7+ F '58

Rock or superphosphate? rock phosphate argument in Illinois catches ACP in cross-fire, *J Agri & Food Chem* 6:260 Ap '58

See also

Phosphorite

Florida

How Coronet uses belt concentrators, flow sheet *II Eng & Min J* 158:81-3 D '57

PHOSPHATES

Air agitation helps keep a uniform phosphate mix, *diag Oil & Gas J* 56:89 Mr 31 '58

Anomalous hydrolysis of some derivatives of 2-aminoethyl diphenyl phosphate, G. J. Durant and others. *Chem & Ind p* 157-8 F 8 '58

Crystalline pentanopolyphosphate, J. R. Van Wazer. *bibliog Am Chem Soc J* 80:1010 F 20 '58

Deflocculation of kaolinite by alkali polyphosphates, A. S. Michaels. *bibliog diags Ind & Eng Chem* 50:951-8 Je '58

Distribution of fatty acids between *n*-heptane and aqueous phosphate buffer, D. S. Goodman. *bibliog Am Chem Soc J* 80:3887-92 Ag 5 '58

Electrode potential studies on iron in dilute phosphate-chromate solutions, R. N. Ride. *bibliog J Ap Chem* 8:175-83 Mr '58

Evaluation of the use of polyphosphates in the water industry, T. E. Larson. *Am Water Works Assn J* 49:1581-6 D '57

Fluoroacetyl phosphate; preparation and properties, A. Marcus and W. B. Elliott. *bibliog Am Chem Soc J* 80:4287-91 Ag 20 '58

Inositol phosphates; pinitol 4-phosphate and (-)-inositol 3-phosphate, G. L. Kilgour and C. E. Ballou. *bibliog Am Chem Soc J* 80:3956-60 Ag 5 '58

Kinetics of the ferrous iron-oxygen reaction in acidic phosphate-pyrophosphate solutions, J. King and N. Davidson. *bibliog Am Chem Soc J* 80:1642-5 Ap 5 '58

Molecular dimensions and interactions of long-chain polyphosphates in sodium bromide solutions, U. P. Strauss and P. L. Wineman. *bibliog Am Chem Soc J* 80:2366-71 My 20 '58

New inorganic chemicals; phosphorus chemicals, J. R. Van Wazer. *Ind & Eng Chem* 49:sup54A-5A N '57

Organic phosphates; hydrobenzoin cyclic phosphate, a new phosphorylation reagent, T. Ukita and others. *bibliog Am Chem Soc J* 80:1373-6 Mr 20 '58

Pegmatite phosphates and their problems, D. J. Fisher. *II Am Mineralogist* 43:181-207, 609-10 Mr-May '58

Phosphate availability studies with the ash of unidentified growth factor supplements, H. M. Edwards, Jr. and others. *bibliog J Nutrition* 65:305-16 Je '58

Phosphate bonded castable refractories; abstract, H. D. Sheets and others. *Glass Ind* 38:688-9 D '57

Phosphate slurry thinner used at Keystone Portland's bath plant, J. P. Allen and J. W. Lyons. *II plan Pit & Quarry* 51:135-44 J1 '58

Polyphosphates and some of their applications in the food industry; abstract, R. G. Stilton. *Chem & Ind p379; Discussion*. 379-80 Mr 29 '58

Protection of cooked meats with phosphates, M. J. Tims and B. M. Watts. *bibliog Food Tech* 12:240-3 My '58

Separation of uranium from other metals in sulphate solution by fractional hydrolysis; precipitation in the presence of phosphate, arsenate and silicate, T. V. Arden and others. *J Ap Chem* 8:151-9 Mr '58

Soil properties and phosphate retention; abstract, E. G. Williams. *Chem & Ind p* 1533; Discussion. 1534-5 N 23 '57

Stability of condensed phosphates in very dilute solutions, E. Kari-Kroupa and others. *bibliog Ind & Eng Chem* 49:2061-2 D '57

Swelling effect of polyphosphates on meat; abstract, J. R. Bendall. *Chem & Ind p379; Discussion*. 379-80 Mr 29 '58

Synthesis of alkyl aryl phosphates from aryl phosphorochloridates, H. D. Orloff and others. *Am Chem Soc J* 80:727-33 F 5 '58

Temperature dependence of fluorescence of tin-activated orthophosphates, R. W. Moonney. *bibliog diag Electrochem Soc J* 105:456-61 Ag '58

Water-soluble steroid phosphates, G. I. Poos and others. *bibliog Chem & Ind p* 1260-1 S 27 '58

See also

Ammonium phosphates

Apatite

Barium phosphates

Calcium phosphates

Crandallite

Gorceixite

Lithium phosphates

Manganese phosphate

Monazite

Rare earth phosphates

Tributyl phosphate

Triphosphates

Analysis

Ascending chromatography of polyphosphates, G. G. Berg. *bibliog Anal Chem* 30:213-16 F '58

Determination of small amounts of pyrophosphate in soluble orthophosphates, W. E. Chess and D. N. Bernhart. *Anal Chem* 30:111-12 Ja '58

Rapid determination of water-soluble phosphorus pentoxide in superphosphate and total phosphorus pentoxide in dicalcium phosphate, S. Harel and others. *bibliog J Agri & Food Chem* 6:589-91 Ag '58

Manufacture

Development of a one-step process for production of granular triple superphosphate, A. B. Phillips and others. *bibliog II J Agri & Food Chem* 6:584-7 Ag '58

Effect of ball mill grinding on acidulation of phosphate rock, R. R. Rounsley and D. R. Boylan. *bibliog flow sheet II plan diag J Agri & Food Chem* 6:677-84 S '58

How Coronet uses belt concentrators, flow sheet *II Eng & Min J* 158:81-3 D '57

Rock or superphosphate? rock phosphate argument in Illinois catches ACP in cross-fire, *J Agri & Food Chem* 6:260 Ap '58

PHOSPHATIDES

Biosynthesis of phospholipids, E. P. Kennedy. *bibliog Am J Clinical Nutrition* 6:216-19; Discussion. 219-20 My '58

Role of choline in the turnover of phospholipids, D. B. Zilversmit and N. R. DiLuzio. *bibliog Am J Clinical Nutrition* 6:235-40; Discussion. 240-1 My '58

Analysis

Estimation of serum phospholipid and total phosphorus using chloric acid, J. F. C. Gwyn and others. *bibliog Anal Chem* 30:1097-9 Je '58

PHOSPHINE

Alkyl diphosphines; abstract, A. J. Leffler and E. G. Teach. *Chem & Eng N* 36:51-2 Ap 21 '58

Dimethylaminodimethylphosphine, A. B. Burg and E. J. Slota, Jr. *bibliog Am Chem Soc J* 80:1107-9 Mr 5 '58

Lower hydrides of phosphorus; the decomposition of biphosphine in liquid ammonia, E. H. Street, Jr. and others. *bibliog Am Chem Soc J* 80:1819-22 Ap 20 '58

Phosphine oxides; intra- and intermolecular association, C. D. Miller and others. *bibliog diag Am Chem Soc J* 80:1562-5 Ap 5 '58

Reaction of phosphine methylenes with boron hydrides, M. F. Hawthorne. *Am Chem Soc J* 80:3480-1 J1 5 '58

Reactions of phosphorus and antimony chlorides with trimethylamine, triethylamine and trimethylphosphine, R. R. Holmes and E. F. Bertaut. *bibliog Am Chem Soc J* 80:2980-3 Je 20 '58

PHOSPHINE—Continued

- Synthesis of cyclic trimeric and cyclic tetrameric diphenylphosphinic nitride, C. P. Haber and others, bibliog Am Chem Soc J 80:2116-17 My '58
- Trialkyl phosphines reduce octane-requirement buildup, A. V. Mrstik and R. B. Payne, S A E J 66:71-3 Ja '58

PHOSPHINEMETHYLENE

- Phosphinemethylenes; a new class of azo dyes containing phosphorus, F. Ramirez and S. Levy, bibliog Am Chem Soc J 79:6167-72 D 5 '57

PHOSPHINE oxide

- Cotton gets a new finish; tris(1-aziridinyl) phosphine oxide, Chem & Eng N 36:39 O 13 '58

PHOSPHINIC acids

- Synthesis of phosphinic acids, P. Biddle and others, Chem & Ind p 1481-2 N 9 '57

PHOSPHITES

- Continuous process for preparing dialkyl phosphites, C. H. Campbell and others, bibliog diag Ind & Eng Chem 49:1371-4 N '57
- Preparation of dialkyl alkylphosphonates by addition of dialkyl phosphites to olefins, A. E. Stiles and others, Am Chem Soc J 80:714-16 F 5 '58
- Reaction of neutral esters of trivalent phosphorous acids with inorganic acid chlorides; the reaction of trialkyl phosphites with sulfuryl chloride, A. C. Poshkus and J. E. Herweh, bibliog Am Chem Soc J 79:6127-9 D 5 '57
- Reaction of neutral esters of trivalent phosphorous acids with inorganic acid chlorides; the reaction of triphenyl phosphite with acid chlorides of sulfur acids, A. C. Poshkus and others, bibliog Am Chem Soc J 80:5022-7 O 5 '58

PHOSPHOLIPIDS. See Phosphatides**PHOSPHOMOLYBDATES**

- Thermolysis of oxine molybdophosphate, W. W. Wendlandt and J. A. Brabson, Anal Chem 30:61-2 Ja '58

PHOSPHONAMIDIC acid

- Study of the hydrolysis of phosphonamides; aromatic phosphonamides, J. D. Chanley and E. Peageson, bibliog Am Chem Soc J 80:2688-91 Je 5 '58
- Syntheses of metal-complexing polymers; phosphonamide and α -aminophosphonate polymers, J. Kennedy and G. E. Ficken, bibliog J Ap Chem 8:465-8 Jl '58

PHOSPHONATES

- Biological activity of several O,O-dialkyl alpha-acyloxyethyl phosphonates, B. W. Arthur and J. E. Casida, bibliog J Agri & Food Chem 6:360-5 My '58
- Phosphorus derivatives of fatty acids; trialkyl α -phosphonates, B. Ackerman and others, bibliog Am Chem Soc J 79:6524-6 D 20 '57
- Preparation of dialkyl alkylphosphonates by addition of dialkyl phosphites to olefins, A. E. Stiles and others, Am Chem Soc J 80:714-16 F 5 '58
- Structures of the dialkyl phosphonates and some of their salts, L. W. Daasch, bibliog Am Chem Soc J 80:5301-3 O 5 '58
- Syntheses of metal-complexing polymers; phosphonamide and α -aminophosphonate polymers, J. Kennedy and G. E. Ficken, bibliog J Ap Chem 8:465-8 Jl '58

PHOSPHONIC acids

- γ -Ketophosphonic acid derivatives in the indole series, J. Szmuszko, bibliog Am Chem Soc J 80:782-7 Jl 20 '58
- Solution properties of a styrene-vinylphosphonic acid copolymer, C. L. Arcus and R. J. S. Matthews, Chem & Ind p890-1 Jl 12 '58

- Syntheses of metal-complexing polymers; polymers containing α -hydroxyphosphonic acid and related groupings, E. S. Lane, bibliog J Ap Chem 8:687-90 O '58

PHOSPHONITRILE chloride

- Chromatographic separation of phosphonitrilic chlorides by vapour phase techniques, F. G. R. Gimblett, Chem & Ind p365-6 Mr 22 '58

PHOSPHONIUM compounds**Analysis**

- Colorimetric determination of tetramethylphosphonium ion, J. Kolmeren and J. Epstein, Anal Chem 30:1536-7 S '58

PHOSPHONOFLUORIDATES

- Kinetics of some metal ion-catalyzed hydrolyses of isopropyl methylphosphonofluoridate (GB) at 25°, J. Epstein and D. H. Rosenblatt, bibliog Am Chem Soc J 80:3596-8 Jl 20 '58

PHOSPHOPEPTONES

- Phosphopeptides obtained from α -, β - and γ -casein by partial hydrolysis with pepain, M. L. Groves and others, bibliog Am Chem Soc J 80:716-18 F 5 '58
- Separation and amino acid composition of a pure phosphopeptide prepared from β -casein by the action of trypsin, R. F. Peterson and others, bibliog Am Chem Soc J 80:35-9 Ja 5 '58

PHOSPHORAMIDES

- Phosphoramidates build cells; new route to nucleoside diphosphates; abstract, R. W. Chambers, Chem & Eng N 36:45 Ap 21 '58

PHOSPHORAMIDIC acids

- ym*-diphenylpyrophosphordiamidic acid; a new substrate for the colorimetric estimation of enzymes, E. Boger and O. M. Friedman, bibliog Am Chem Soc J 80:2583-4 My 20 '58

- Nucleoside polyphosphates; the use of phosphoramidic acids in the synthesis of nucleoside-5' pyrophosphates, R. W. Chambers and H. G. Khorana, bibliog Am Chem Soc J 80:3749-52 Jl 20 '58

PHOSPHORIC acid

- Exchange of oxygen between phosphoric acid and water, E. Keisch and others, bibliog Am Chem Soc J 80:4778-82 S 20 '58
- Fluorescence and absorption spectra of some corticosteroids in sulfuric and phosphoric acids, J. W. Goldzieher and P. K. Besch, bibliog Anal Chem 30:962-7 My '58
- Gelation from a liquid poly catalyst, E. D. Kane and G. E. Langlois, diag Pet Refiner 37:173-6 My '58
- Phosphoric acid of high concentration, M. M. Striplin, Jr. and others, bibliog flow diag J Agri & Food Chem 6:298-303 Ap '58
- Polyphosphoric acid as a reagent in organic chemistry; cyclization, H. R. Snyder and M. S. Konecky, bibliog Am Chem Soc J 80:4388-90 Ag 20 '58
- Solid phosphoric acid condensation; Universal oil products co. flow diag Pet Refiner 37:270 '58
- Transference number of phosphoric acid by the e.m.f. method, M. Kerker and W. F. Espenschied, bibliog Am Chem Soc J 80:776-9 F 20 '58
- Use of phosphoric acid for brightness control of book paper containing calcium carbonate, J. H. Dinius, bibliog Tappi 41:93-6 F '58

Manufacture

- Corrosion problems in the manufacture of phosphoric acid from elemental phosphorus, J. C. Barber, bibliog flow diag Ind Eng Chem 44:21-6 Ag '58
- Thermal phosphoric acid processes, 1932, Ind & Eng Chem 50:sup32A F '58

PHOSPHORITE

- Relation of phosphorites to ground water in Beaufort county, N.C., P. M. Brown, bibliog Ind maps diag Econ Geol 53:85-101 Ja '58

PHOSPHOROCHLORIDATES

- Synthesis of alkyl aryl phosphates from aryl phosphorochloridates, H. D. Orloff and others, Am Chem Soc J 80:721-39 F 5 '58

PHOSPHOROTHIONATE

- Isomerization of O-O-diethyl O-diethylaminoethyl phosphorothionate, T. R. Fukuto and E. M. Stafford, bibliog Am Chem Soc J 79:6083-5 N 20 '57

PHOSPHORS. See Luminescence**PHOSPHORUS**

- Bond refractions and the nature of phosphorus-oxygen bonds, R. G. Gillis and others, bibliog Am Chem Soc J 80:2999-3002 Je 20 '58
- Chemical properties of the reaction product of cyclohexene with phosphorus and oxygen, C. Walling and others, Am Chem Soc J 80:4546-9 S 5 '58
- Effect of phosphorus and manganese on temper brittleness in chromium-nickel steel; abstract, N. V. Tolstoguzov and A. D. Kramarov, Metal Prog 73:172-4 My '58
- Reaction of olefins with oxygen and phosphorus, C. Walling and others, bibliog Am Chem Soc J 80:4543-6 S 5 '58
- Reactions of phosphorus and antimony chlorides with trimethylamine, triethylamine and trimethylphosphine, R. R. Holmes and E. F. Bertaut, bibliog Am Chem Soc J 80:2980-3 Je 20 '58
- Reduction of phosphorus and antimony chlorides by trimethylarsine and trimethylstibine, R. R. Holmes and E. F. Bertaut, bibliog Am Chem Soc J 80:2983-5 Je 20 '58

See also**Ferrophosphorus**

PHOSPHORUS—Continued

Analysis

- Colorimetric determination of phosphorus in gasolines containing tritoly phosphate. F. F. Hoffman and others. *Anal Chem* 30: 1334-6 Ag '58
- Detection of urea, melamine, isocyanate, and urethane resins; rapid group test for nitrogen, silicon, phosphorus, and titanium in coating materials. M. H. Swann and G. C. Esposito. *Anal Chem* 30:107-9 Ja '58
- Determination of phosphorus in organic compounds; rapid micro and semimicro method. K. D. Fleischer and others. *Anal Chem* 30: 152-4 Jm '58
- Estimation of serum phospholipide and total phosphorus using chloric acid. J. F. Goodwin and others. *bibliog Anal Chem* 30:1097-9 Jm '58
- Indirect ultraviolet spectrophotometric determination of phosphorus. C. H. Lueck and D. F. Boltz. *bibliog Anal Chem* 30: 183-5 F '58
- Spectrophotometric determination of phosphorus in polyethylene terephthalate. G. Telep and R. Ehrlich. *bibliog Anal Chem* 30: 1146-8 Je '58

Isotopes

- Effects of radioactive materials on anaerobic digestion; radiophosphorus. W. N. Grune and others. *Sewage & Ind Wastes* 30:1123-50 bibliog(p 1148-50) S '58

Manufacture

- How Victor Chemical's safety program reduces accidents, cuts costs. *Ind Eng & Min J* 158:116-17+ N '57

Nuclear reactions

- Simplified P_2 approximation method for calculating thermal utilization. E. M. Page and R. L. Murray. *diag Nucleonics* 16:114-15 Mr '58

PHOSPHORUS acids

- Reaction of neutral esters of trivalent phosphorus acids with inorganic acid chlorides. A. C. Poshkus and J. E. Herweh. *bibliog Am Chem Soc J* 79:6127-9 D 5 '57
- Reaction of neutral esters of trivalent phosphorus acids with inorganic acid chlorides; the reaction of triphenyl phosphite with acid chlorides of sulfur acids. A. C. Poshkus and others. *bibliog Am Chem Soc J* 80:5022-7 O 5 '58

PHOSPHORUS compounds

- Acidic phosphorus compounds as soil stabilizers. A. S. Michaels and others. *bibliog Ind & Eng Chem* 50:389-94 Je '58
- Addition compounds of metal halides with POXa compounds. J. C. Sheldon and S. Y. Tyree. *bibliog Am Chem Soc J* 80:4775-8 S 20 '58
- Bovine metabolism of organophosphate insecticides; subacute feeding studies with O,O'-dimethyl 1-carbomethoxy-1-propen-2-yl phosphate. J. E. Casida and others. *bibliog J Agri & Food Chem* 6:658-62 S '58
- Bovine metabolism of organophosphorus insecticides; metabolic fate of O,O'-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate in rats and a cow. F. W. Piapp and J. E. Casida. *bibliog J Agri & Food Chem* 6:662-7 S '58
- Complexes of organic phosphorus compounds with peroxymolybdic acids. E. K. Fields. *bibliog Am Chem Soc J* 80:2358-62 My 20 '58
- Fluorocarbon-phosphorus-nickel carbonyls. A. B. Burg and W. Mahler. *Am Chem Soc J* 80:2334 My 5 '58

- In vivo effects of paired combinations of five organic phosphate insecticides. M. W. Williams and others. *bibliog J Agri & Food Chem* 6:514-16 JI '58

- Kinetics and mechanism of chlorination of triethylphosphorothiolate in dilute aqueous media at 25°. N. G. Lordi and J. Epstein. *Am Chem Soc J* 80:509-15 F 5 '58

- Organic phosphorus compounds; isomeric alkyl phosphoro- and phosphonothioates. F. W. Hoffmann and T. R. Moore. *bibliog Am Chem Soc J* 80:1150-4 Mr 5 '58

- Organic phosphorus compounds; O,O'-dialkyl alkylphosphonothioates and O-alkyl alkylphosphonochloridothioates. F. W. Hoffmann and others. *bibliog Am Chem Soc J* 80: 3945-8 Ag 5 '58

- Reaction of trivalent organophosphorus compounds with polyhalomethanes. F. Ramirez and N. McKelvie. *Am Chem Soc J* 79:5829-30 N 5 '57

- Safety in the chemical industry; safety aspects in the design of an organic insecticide plant. K. M. Curwen. *plan diags Chem & Ind p 1096-101 Ag 23 '58*

- Stereochemistry of asymmetric phosphorus compounds; stereospecificity in the irreversible inactivation of cholinesterases by the enantiomorphs of an organophosphorus inhibitor. H. S. Aaron and others. *bibliog Am Chem Soc J* 80:456-8 Ja 20 '58

- Stereochemistry of asymmetric phosphorus compounds; the resolution of O-ethyl ethylphosphonothioic acid. H. S. Aaron and others. *bibliog Am Chem Soc J* 80:107-10 Ja 5 '58

- Surface ignition control by phosphorus fuel additives. J. B. Hinkamp and J. A. Warren. *bibliog diag Ind & Eng Chem* 50:251-6 F '58

See also

Phosphates

Analysis

- Analysis of toxic phosphorus compounds. D. N. Kramer and R. M. Gamson. *il Anal Chem* 29:sup21A-3A+ D '57
- Determination of phosphorus in organic compounds; rapid micro and semimicro method. K. D. Fleischer and others. *Anal Chem* 30:152-4 Ja '58
- Determination of 2,3-p-dioxanedithiol S,S-bis(O,O'-diethyl phosphorodithioate). C. L. Dunn. *bibliog il J Agri & Food Chem* 6: 203-9 Mr '58
- X-ray powder diffraction patterns of phosphorus compounds with nitrogen. A. H. Herzog and M. L. Nielsen. *bibliog Anal Chem* 30:1490-6 S '58

Physiological effect

- Anticholinesterase activity; recognition and detection in the field and hospital. H. H. Golz. *bibliog A M A Archives Ind Health* 18:138-41 Ag '58

PHOSPHORUS fluorides

- Addition reaction of phosphorus trifluoride with chlorine. J. N. Wilson. *Am Chem Soc J* 80:1338 Mr 20 '58

PHOSPHORUS in the body

- Loss of calcium, phosphorus, iron, and nitrogen in hair from the scalp of women. F. A. Johnston and others. *bibliog Am J Clinical Nutrition* 6:136-41 Mr '58
- Phosphate availability studies with the ash of unidentified growth factor supplements. H. M. Edwards, Jr. and others. *bibliog J Nutrition* 65:305-16 Je '58

PHOSPHORUS oxides

- Phase equilibria and fluorescence in a portion of the system ZnO-MnO-P₂O₅. F. A. Hummel and F. L. Katnack. *bibliog diags Electrochem Soc J* 105:528-33 S '58
- Phase equilibria in the system ZnO-P₂O₅. F. L. Katnack and F. A. Hummel. *diags Electrochem Soc J* 105:125-33 Mr '58

Analysis

- Rapid determination of water-soluble phosphorus pentoxide in superphosphate and total phosphorus pentoxide in dicalcium phosphate. S. Harel and others. *bibliog J Agri & Food Chem* 6:589-91 Ag '58

PHOSPHORUS pentoxide. See Phosphorus oxides

PHOSPHORUS sulfides

- New inorganic chemicals; phosphorus chemicals. J. R. Van Wazer. *Ind & Eng Chem* 49: sup54A-5A N '57

PHOSPHORYL compounds

- Compounds related to α -glycerophosphoric acid, phosphorylcholine and phosphoryl-ethanolamine. A. F. Rosenthal and E. P. Geyer. *bibliog Am Chem Soc J* 80:5240-1 O 5 '58

- Hydrogen bonding of phosphoryl compounds with chloroform and other solvents. M. W. Hanson and J. B. Bouck. *Am Chem Soc J* 29:5631-2 N 5 '57

PHOSPHORYLASES

- Reaction of sodium borohydride with muscle phosphorylase. E. H. Fischer and others. *bibliog Am Chem Soc J* 80:2906-7 Je 5 '58

PHOSPHORYLATION

- Complexing of hexavalent uranium with phosphorylated reagents. J. Kennedy. *bibliog Chem & Ind p850-1 JI 26 '58*
- Formation of a phosphorylated derivative of mevalonic acid. T. T. Tchen. *bibliog Am Chem Soc J* 79:6344-5 D 5 '57
- Organic phosphates; hydrobenzoin cyclic phosphate, a new phosphorylation reagent. T. Ukita and others. *bibliog Am Chem Soc J* 80:1373-6 Mr 20 '58

PHOSPHORYLATION—Continued

Phosphorylated sugars. R. S. Wright and others. *bibliog Am Chem Soc J* 80:1994-2004 Ap 20 '58

Phosphorylation of serine in rat liver. M. Nemer and D. Elwyn. *bibliog Am Chem Soc J* 79:5564-5 D 20 '57

Role for coenzyme A in phosphorylations associated with electron transport. W. C. McMurray and H. A. Lardy. *bibliog Am Chem Soc J* 79:5563 D 20 '57

Syntheses of metal-complexing polymers; phosphorylated polymers. J. Kennedy and others. *bibliog J Ap Chem* 8:4559-64 J1 '58

PHOSPHOTUNGSTIC acids

Molecular weight of the phosphotungstic acids by light scattering. M. Kerker and others. *bibliog diags Am Chem Soc J* 80:1539-42 Ap 5 '58

PHOTOCHEMISTRY

Conversion in a continuous photochemical reactor. R. F. Gaertner and J. A. Kent. *bibliog diags Ind & Eng Chem* 50:1223-6 S '58

Diffusion and hot radical kinetics in the photolysis of methyl iodide in cyclohexane. R. F. Pottier and others. *bibliog Am Chem Soc J* 80:4224-30 Ag 20 '58

Effect of solvents on the liquid phase photolysis of alky esters. P. Ausloos. *Am Chem Soc J* 80:1310-13 Mr 20 '58

Further study of the flash photolysis of iodine. D. L. Bunker and N. Davidson. *bibliog diags Am Chem Soc J* 80:5085-90 O 5 '58

High intensity photolysis of acetone. J. L. Roebber and others. *bibliog Am Chem Soc J* 80:265-61 O 20 '58

Kinetics of the vapor phase photochlorination of trifluorochloroethylene. D. L. Bunbury and others. *bibliog Am Chem Soc J* 80:5104-7 O 5 '58

Photochemical decomposition of the halides of tri-(ethylendiamine)-cobalt(III) in the solid state. D. Klein and others. *bibliog Am Chem Soc J* 80:265-9 Ja 20 '58

Photochemical formation of air contaminants from automobile exhaust vapors; effects of different motor fuels. P. F. Mader and others. *bibliog Ind & Eng Chem* 50:1173-4 Ag '58

Photochemical isomerization of azobenzene. G. Zimmerman and others. *bibliog Am Chem Soc J* 80:3528-31 J1 20 '58

Photochemical isomerization of isodrin. R. C. Cookson and E. Crundwell. *Chem & Ind p* 1004 Ag 9 '58

Photochemical reactions of ketones in solution. N. C. Yang and D. D. H. Yang. *bibliog Am Chem Soc J* 80:2913-14 Je 5 '58

Photochemical studies; isopropyl iodide. G. R. McMillan and W. A. Noyes Jr. *bibliog Am Chem Soc J* 80:2108-11 My 5 '58

Photochemistry of complex ions; some photochemical reactions of aqueous $\text{PtBr}_2^{2-}\text{Mo}(\text{CN})_6^{4-}$ and various Co(III) and Cr(III) complex ions. A. W. Adamson and A. H. Sporer. *bibliog Am Chem Soc J* 80:3865-70 Ag 5 '58

Photochemistry of prednisone acetate in neutral solution. D. H. R. Barton and W. C. Taylor. *bibliog Am Chem Soc J* 80:244-5 Ja 5 '58

Photolysis and pyrolysis of 2-pentanone. 1,1,1,3,3,3-*ds*. J. R. McNesby and A. S. Gordon. *bibliog Am Chem Soc J* 80:261-4 Ja 20 '58

Phototenderization by anthraquinone 2,6-disulfonic acid of cotton duck before and after weathering. A. D. Baskin and A. M. Kaplan. *bibliog Textile Res J* 28:554-9 J1 '58

Reactions of alkoxy radicals; photolysis of ethyl propionate. M. H. J. Wijnen. *bibliog Am Chem Soc J* 80:2394-400 My 20 '58

Relation of the effect of resins on light fading and the tendering action of photosensitive vat dyes. *bibliog Am Dyestuff Rep* 47:39-48 Ja 27 '58

Solvent effects in the reactions of free radicals and atoms; effects of solvents in the competitive photochlorination of hydrocarbons and their derivatives. G. A. Russell. *bibliog Am Chem Soc J* 80:4997-5001 S 20 '58

Studies on aminoanthraquinone compounds; photochemistry in the solid state. G. S. Egerton and A. G. Roach. *bibliog Soc Dyers & Col J* 74:415-20 My '58

Studies on aminoanthraquinone compounds; photochemistry of dyed polymer films. G. S. Egerton and A. G. Roach. *bibliog Soc Dyers & Col J* 74:408-14 My '58

Thermocouple method of studying oxidation reactions; photosensitized oxidation of cyclohexene. J. C. Robb and M. Shahin. *bibliog diags Inst Pet J* 44:283-90 S '58

Vapor-phase photochemistry of *trans*-methyl propenyl ketone. R. S. Tolberg and J. N. Pitts, Jr. *bibliog Am Chem Soc J* 80:1304-9 Mr 20 '58

Vapor phase photolysis of (+)-2-methylbutanal-iodine mixtures at wave length 3130 Å. A. T. Gruver and J. G. Calvert. *bibliog Am Chem Soc J* 80:3524-7 J1 20 '58

See also

Chlorophyll

Photosynthesis

Phototropy

PHOTOCOMPOSING machines

Editors aim at composition costs; ACS studies the Photon machine; abstract. J. H. Kliney and others. *il Chem & Eng N* 36:102-3 S 22 '58

Photo composing electrical diagrams. P. E. DeLawter. *il diags Machine Design* 30:22-4 Ag 21 '58

PHOTCONDUCTIVITY

Differential method of lag compensation in photoconductive devices. H. Borkan and P. K. Weimer. *il diags RCA R* 19:62-76 Mr '58

Electronic imaging and intensification. J. Lempert. *diags Westinghouse Eng* 18:82-7 My '58

Maximum performance of high-resistivity photoconductors. R. W. Redington. *bibliog diags J Ap Phys* 29:189-93 F '58

Noise in semiconductors and photoconductors. K. M. van Vliet. *diags Inst Radio Eng Proc* 46:1004-18 bibliog(p) 1017-18 Je '58

Radiation discrimination with photoconductive crystals. Y. T. Sihvonen and D. R. Boyd. *bibliog diags J Ap Phys* 29:35-8 Ja '58

PHOTOCOPIER. See Photographic reproduction and projection

PHOTOELASTICITY

Contact stresses under combined pressure and twist. M. Hetényi and P. H. McDonald. *il diags J Ap Mech* 25:396-401 S '58

High speed photoelasticity. D. A. Senior. *bibliog il diags Engineering* 186:248-54 Ag 22 '58

Photoelastic determination of stress concentration factors caused by a single U-notch on one side of a plate in tension. A. G. Cole and A. F. C. Brown. *diags Roy Aeronautical Soc J* 62:597-8 Ag '58

Photo-elastic investigation of stresses in the heads of thick pressure-vessels. H. Fessler and R. R. Rose. *bibliog diags Inst Mech Eng Proc* 171 no 20:633-43; Discussion. 644-5; Reply. 646 '57

Photoelastic techniques in materials studies. Elec Manuf 61:12 Mr '58

Photoelasticity; fast solution to practical design problems; abstracts of two ASME annual meeting papers. *Product Eng* 28:103-5 D 9 '57

Photostress analysis. B. Sutton. *il Instruments & Automation* 31:468-9 Mr '58

Stress distributions around hydrostatically loaded circular holes in the neighborhood of corners. A. J. Durelli and A. S. Kobayashi. *bibliog il diags J Ap Mech* 25:178-83 Je '58

Three dimensional photoelasticity and its application in machine design. M. M. Leven and A. M. Wahl. *il diags Machine Design* 30:150-4 Mr '58

PHOTOELECTRIC cells

Hunting self steering truck. *diags Engineering* 185:797 Je 20 '58

Narrow base germanium photodiodes. D. E. Sawyer and R. H. Rediker. *bibliog diags Inst Radio Eng Proc* 46:1122-30 Je '58

Photocell-powered receiver; generator for operating a transistor set from light energy. R. C. T. Stead. *il Wireless World* 64:426-8 S '58

Photocells; including some recent semiconductor devices. *diags Wireless World* 64:391-4 Ag '58

Safety ohmmeter: Wheatstone bridge energized by selenium photocell. *il Electronic & Radio Eng* 35:33 Ja '58

Sensitive photocell; cadmium sulphide photocell. I. Queen. *diags Radio-Electronics* 29:118 Ja '58

To speed traffic and stabilize mild conditions, try automatic doors; Schwarzenbach Huber co. *il Textile Ind* 122:143-4 Ap '58

What makes your exposure meter tick? *il Mod Phot* 22:82 J1 '58

See also

Solar batteries

PHOTOELECTRIC cells—Continued

Control uses

- Automatic sorting technique slashes handling costs; photoelectric cells and microswitches; Lever Brothers' process lines, E. F. Hanford, *il diag Plant* 18:45-7 O '58
- Complete system for registration control, diags *Elec Manuf* 61:152 Ap '58
- Direct-drive automatic iris control for 8mm camera, M. W. La Rue, Jr. and others, *il diags SMPTE J* 67:600-4 S '58
- Electronic chopper uses new photocells, R. G. Seed, *diag Electronics* 31:90+ My 23 '58
- Electronic control press guard; Curtain of light, *il Elec Constr & Maint* 57:105 Mr '58
- Electronically controlled flame-cutting machine reduces steel-fabrication costs, *il Marine Eng/Log* 63:66-8 F '58
- Light energizes control in self-setting camera, J. P. Bagby and M. W. LaRue, Jr., *il diags Elec Manuf* 61:101-3+ Ja '58
- Look, no hands; electronic tracer, *il Westinghouse Eng* 18:144-5 S '58
- Mullard-Coventry; electronic measuring system for jig borer, J. D. Cooney and B. K. Ledgerwood, *il diags Control Eng* 5:95-7 Ja '58
- Photocells automate basic weight classifier; Shadograph scales, *il Automation* 6:99-100 Mr '58
- Photosensitive relay system; patent, *Elec Manuf* 61:11 My '58
- Phototube control sets printed page, *Electronics* 31:13 My 9 '58
- Rotating torque switch operable by light yarns, R. L. Pocock, *il J Sci Instr* 34:459-60 N '57
- Star sensors for automatic navigation, R. B. Horsfall, *diags Aviation Age* 29:150-2+ Ap '58
- Transistorized magnetic and photoelectric input circuits for motion picture projectors, S. F. Bushman, *il diags Audio Eng Soc J* 6:4-9 Ja '58
- Try these photocell circuits, E. Bohr, *il diags Radio Electronics* 29:86+ S '58

Industrial applications

- Colour printing; electronics applied to block-making, *il diags Electronic & Radio Eng* 35:26-8 Ja '58
- Detector-ejector designed to speed magazines, books; Meredith publishing co., *il Inland Ptr* 141:64-5 S '58
- Digiveter, a digital readout converter, H. L. Finney, *il diag Instruments & Automation* 31:1038 Je '58
- Electronic reader sorts mail, A. I. Tersoff, *diags Electronic Ind* 17:56-60 Jl '58
- Frame-rate checker for motion-picture cameras, C. Owlett, *il diags Electronics* 31:88-9 S 12 '58
- Photo scanner lessens fabric losses, A. B. Morgan, *il Elec World* 150:112 Jl 14 '58
- Photocell length detector rejects in-process defectives; Meredith publishing co., *il diag Automation* 5:56-6 Ag '58
- Photocells size cars for automatic garage, *Control Eng* 5:25 S '58
- Sensitive defocusing photo-electric pressure transducer, J. R. Geer, *biblog il diags Electronic Eng* 30:436-9 Jl '58
- Solid-state photocell sees through haze, P. Weisman and S. L. Ruby, *il diags Electronics* 31:62-3 Je 20 '58
- Testing firing circuits, *il Engineering* 184:585 N 8 '57

Measurement uses

- Fuel consumption measurement, *il plan Automobile Eng* 48:312-13 Ag '58
- High-precision photoelectric polarimeter, E. J. Gillham, *diags J Sci Instr* 34:435-9 N '57
- Optical gearing indicates shaft angle, *il diag Electronics* 31:96+ Je 20 '58
- Photocell measures raindrop size, *Electronics* 31:88 My 23 '58
- Removal of signal fluctuations in a photo-electric polarimeter, A. R. Downie, *J Sci Instr* 35:114 Mr '58
- Simple phase sensitive rectifier for use with radiation detectors, J. C. S. Richards, *diag J Sci Instr* 35:285-6 Ag '58

See also

Photometers, Photoelectric

Multiplier tubes

- Activation of silver-magnesium and copper-beryllium dynodes, A. H. Sommer, *J Ap Phys* 29:598-9 Mr '58
- Millimicrosecond photomultiplier tests with oscilloscope light pulses, J. E. Draper, *R Sci Instr* 29:179-80 F '58

New tube for nuclear research; photomultiplier, G. A. Morton, *Franklin Inst J* 265: 361-2 Ap '58

Pulsing of photomultipliers, U. Farnelli and R. Malvano, *il diags R Sci Instr* 29:699-701 Ag '58

Spectral effects in the comparison of scintillators and photomultipliers, R. K. Swank and others, *biblog diags R Sci Instr* 29:279-84 Ap '58

What's new in photomultipliers? abstracts of four papers, *il diag Nucleonics* 16:58-9 Je '58

Scientific applications

- Instruments for the determination of potassium in sodium chloride, G. H. Laycock, *diags J Sci Instr* 35:171-3 My '58
- Photoelectric indicator for precision setting in co-ordinate measurements on photographic plates, E. Djurle and G. Gran, *il diag J Sci Instr* 35:304-5 Ag '58
- Photoformer solves sound barrier problems, R. W. Maloy, *il diags Electronics* 31:78-80 My 23 '58
- Reversible photoelectric fringe counting, R. L. Elsner, *biblog diags R Sci Instr* 29:521-3 Je '58

PHOTOELECTRIC effect

- Comparison of the semiconductor surface and junction photovoltages, E. O. Johnson, *biblog diags RCA R* 13:556-77 D '57
- Continuous measurement and recording of variable magnetic fields by the p.m.e. effect, H. Mette, *diag R Sci Instr* 28:1096 D '57
- Electrode potential of germanium in aqueous solutions and the effect of illumination, W. W. Harvey and H. C. Gatoss, *J Ap Phys* 29:1267-8 Ag '58
- Measurement of minority carrier lifetimes with the surface photovoltage, E. O. Johnson, *diags J Ap Phys* 28:1349-53 N '57
- Photoelectric flow birefringence instrument of high sensitivity, B. H. Zimm, *diags R Sci Instr* 29:350-7 My '58

PHOTOELECTRIC photometers. See Photometers, Photoelectric

PHOTOELECTRIC spectrometers. See Spectrometers, Photoelectric

PHOTOELECTRICITY

See also

Photoelectric cells

PHOTOENGRAVING

- Colour printing; electronics applied to block-making, *il diags Electronic & Radio Eng* 35:26-8 Ja '58
- Precision photoengraving of carbon steel machine parts, A. L. Rock and J. E. Cooper, *il Ind Phot* 7:36+ My '58

PHOTOFLASH electric lamps. See Electric lamps, Photoflash

PHOTOLOGY

- Cut exploration costs with photogeology, K. N. Isaacs, *biblog il map Min Eng* 10:466-9 Ap '58
- Finger-print pattern on certain calcareous soils, W. F. Tanner, *il Am Assn Pet Geologists Bul* 42:438-40 F '58; Discussion, K. A. W. Crook, 42:5001 D '58
- Here's a new oil-finding tool; it's aerial color photography, *il Oil & Gas J* 56:122-4 Mr 17 '58
- Mining photogeology, T. W. Mitcham, *il map Min Cong J* 43:66-7+ N '57
- Photogeologic fracture-trace mapping in Appalachian plateau, L. H. Latimer and R. P. Nickelsen, *biblog il map diags Am Assn Pet Geologists Bul* 42:2238-45 '58
- Photogeology finds a place in the Four Corners, L. E. Bogart, *il Pet Eng* 29:B53+ D '57
- Photogeology; it cuts time in surface mapping and is aiding exploration in western Canada, P. Fuenning and A. J. Broscoe, *il maps Oil & Gas J* 56:179-80+ Ag 18 '58
- Photogeology provides oil hunter with valuable data and fast, E. M. Shearer, *il Oil & Gas J* 56:145 Ja 13 '58
- Systems in photogeology, R. R. Hartman and K. N. Isaacs, *biblog il Am Assn Pet Geologists Bul* 42:1083-93 My '58

PHOTOGRAMMETRY

- Air survey gives birds-eye view of proposed store sites, *il Arch Rec* 124:247 S '58
- 11 miles of interstate designed in 16 weeks; Indiana state highway department, *il plan Eng* N 161:42-4+ S 25 '58
- Fast, new highway locating aids; profiles plotted by radar, photogrammetry shortcut, H. A. Radzikowski and S. E. Ridge, *Roads & Sts* 101:140-2 Ag '58; Same, *Pub Works* 89:194 O '58; Excerpts, *Civil Eng* 28:555 Jl '58

PHOTOGRAMMETRY—Continued

- It takes computer data from air photos; Terrain data translator. *Il Eng N* 161:116 S 18 '58
- Mapping a highway 3,000 miles away in Columbia, S.A. Pub Works 89:215 S '58
- Mapping and measuring in 3-D. D. Allison. *Il maps* diags Arch Forum 108:120-5 Je '58
- Michigan state highway department saves time and money by getting the most out of photogrammetry. C. A. Weber and J. E. Meyer. *Il Civil Eng* 28:104-7 F '58
- "Oscar" can cut road costs by millions; AUSCOR (automatic scanning correlator). *Il Eng N* 160:23-4 Je 19 '58
- Photogrammetry developments for highway engineering. R. H. Sheik. Am Soc C E Proc 84 [SU 2 no 1720]:1-4 J1 '58
- Photogrammetry, a few questions answered. R. A. Kelsey. *Il diags Civil Eng* 28:646-9 S '58
- Photo-reading technique aids fight against muskies. Eng N 159:50-4 D 28 '57
- Pipeline route survey by photogrammetry. M. E. Fuller. Gas Age 122:33-5 J1 10 '58
- Pipeline route survey by photogrammetry. M. E. Fuller. *Il Pet Eng* 30:D28-31 J1 '58

See also

American society of photogrammetry
Mapping, Aerial
Surveying, Aerial

Study and teaching

Education in surveying and photogrammetry in Europe. G. Gracie and H. Karara. Am Soc C E Proc 84 [SU 2 no 1720]:1-5 J1 '58

PHOTOGRAPHERS

Discovery. P. Caulfield. Published in monthly numbers of Modern photography

PHOTOGRAPHIC chemistry*See also*

Photographic emulsions

PHOTOGRAPHIC emulsions

- Emulsion swelling technique. F. C. Gilbert. R Sci Instr 29:318-19 Ap '58
- Gap length analyzer for nuclear emulsion tracks. S. C. Bloch. *diag R Sci Instr* 29:789-90 S '58
- New approach to increasing the efficiency of photographic emulsions. L. E. Varden. Mod Phot 22:32-3 J1 '58
- Nuclear-track technique for low-level Pu in urine. L. C. Schwendiman and J. W. Healy. *Il diags Nucleonics* 16:78-4 Je '58
- Range of 14-mev protons in nuclear emulsion. F. C. Gilbert and others. *bibliog R Sci Instr* 29:404-5 My '58
- Semiautomatic gap counter for nuclear emulsions. M. V. Klein. *diags R Sci Instr* 28:964-5 N '57
- Twinning in tabular photographic grains. J. F. Hamilton and L. E. Brady. *Il J Ap Phys* 29:94 Je '58
- Ultimate limit to photographic emulsion speed. L. E. Varden. Mod Phot 22:112-13 My '58
- PHOTOGRAPHIC films.** See Moving picture films; Photography—Films
- PHOTOGRAPHIC filters.** See Light filters
- PHOTOGRAPHIC laboratories**
Ilford's Ramsden laboratory. *Il Chem & Ind p* 14-15 Ja 4 '58
- Photographic film research; Ilford Ltd, laboratories. *Il Manuf Chem* 29:25-7 Ja '58

See also

Moving picture laboratories

Equipment

Acoustic cavity detects breaks in film. E. L. Wilney and R. G. Seed. *Il diag Electronics* 31:60-1 Mr 28 '58

PHOTOGRAPHIC lenses. See Lenses, Photographic

PHOTOGRAPHIC murals

Giant photomural involved taking 150 photos from low-flying helicopter. *Il Ind Phot* 7:33 Je '58

PHOTOGRAPHIC optics

Optics of the lenticular color-film process. R. Kingslake. *bibliog diags SMPTE J* 67: 8-13 Ja '58

See also

Resolving power (optics)

PHOTOGRAPHIC paper

Quality black-and-white prints from color negatives, with Kodak's new Panalure paper. N. Rothschild. Mod Phot 22:22-4 Ap '58

PHOTOGRAPHIC plates. See Photography—Plates

PHOTOGRAPHIC records

- Cameras record vital flight data. *Il Ind Lab* 9:79 J1 '58
- Drum camera, best way to put motion on record. K. Maier. *Il diags Product Eng* 29: 78-80 J1 21 '58
- Photographic method of brightness recording. C. Marsh and E. Marsh. *Il illum Eng* 53: 35-7 Je '58
- Underwater data recording is made easy by special camera; Navy underwater sound laboratory. J. F. Selvidio. *Il Ind Phot* 7:39-4 Je '58

See also

Microfilm records

PHOTOGRAPHIC reproduction and projection

- Cut costs with a photocopier. *Il Eng N* 160:62 Ap 24 '58
- Photocopier makes quick documents. *Il Elec World* 149:60 Mr 31 '58
- Photocopier swings to plastics. *Il Mod Plastics* 36:108-9-4 S '58
- Polaroid print copier. *Il Mod Phot* 22:104-4 J1 '58
- Printer duplicates microfilm files. *Il diag Product Eng* 28:94 N 11 '57
- Regular camera equipment converted for copy work. R. E. Goode. *Il Ind Phot* 7:27-4 Ak '58

See also

Microfilms

PHOTOGRAPHIC supplies industry**Directories**

Directory of ultra-long lenses for missile or Sputnik tracking. Ind Phot 7:64-5, 80 F '58

PHOTOGRAPHIC surveying. See Photogrammetry

PHOTOGRAPHS

- Are you getting the most from your normal lens? portfolio of H. Cartier-Bresson's photographs. Mod Phot 22:46-51 Je '58
- Chrysler photographer produces a 360° angle big picture; obtains depth of focus comparable to that of human eye. *Il Ind Phot* 7:28-9 Ag '58
- Panel design by pin up. A. J. Waldron. *Il I S A J* 5:48-51 F '58
- Recording photographs magnetically; Ampex Faxtape machine. *Il Engineering* 185:358 Mr 21 '58
- 201 picture markets; magazines, syndicates and picture agencies who will buy your photos. *Il Mod Phot* 22:62-78 My '58
- What constitutes a good photograph? A. Feininger. Mod Phot 22:26 Ja; 34-4 F; 26-4 Mr; 32 Ap '58

See also

Advertisements, Pictorial—Photographs

Trimming, mounting, etc.

Get the most from your 2½" when to crop. *Il Mod Phot* 22:60-1-4 My '58

PHOTOGRAPHS, Composite. See Montage

PHOTOGRAPHS as evidence

Medicob photography in court. J. F. Vetter. *Il Ind Phot* 7:34 F '58

PHOTOGRAPHY

- Graphic viewpoints. E. Stanton. Published in monthly numbers of Industrial photography
- Ingenius practices. *Il Published in monthly numbers of Industrial photography*
- Motion in art and photography. *Il Mod Phot* 22:56-7 S '58
- New look at snow; Erich Angenendt's techniques. *Il Mod Phot* 22:62-3 Mr '58
- Photography 99 years ago. *Il Mod Phot* 22: 80-1-4 S '58
- Pictures at home! illustrations with text. D. Jackson and P. Caulfield. Mod Phot 22:66-81 Ja '58
- Pictures in a minute; Polaroid photography. J. Wolbarst. *Il Published in monthly numbers of Modern photography*
- Review of progress in photographic materials and processes. L. E. Varden. Ind Phot 7: 58-60 F '58
- Standardisation of photographic exposures in metallurgical microscopy. L. E. Samuels and others. *Il Metallurgia* 57:207-12 Ap '58
- Texture, key to three dynamic pictures. *Il Mod Phot* 22:68-9 Ap '58
- 35mm. J. Wolbarst. Published in monthly numbers of Modern photography
- Ways and means. A. Rothstein. Published in monthly numbers of Modern photography
- What's ahead? L. E. Varden. Published in monthly numbers of Modern photography

PHOTOGRAPHY—Continued

Where I find my pictures; nine photographers tell you where they search for pictures. *il Mod Phot 22:75-87 F '58*

See also

Astronomical photography
Blueprints
Camera clubs
Color photography
Graininess (photography)
Masking (photography)
Microfilms
Montage
Moving picture photography
Photogrammetry
Photographs
Photolithography
Photomicrography
Photostat

Apparatus and supplies

Automatic film processor aids engineering photography. *il Ind Lab 9:36-7 F '58*
Darkroom in a suitcase. *il Mod Phot 22:62-3, 94 F '58*
Fit your slide projector and screen to your needs. N. Rothschild. *il Mod Phot 22:32 Je '58*
Flash at home! electronic units to solve your lighting problems. *il Mod Phot 22:60-1+ Ja '58*
Flash in your pocket! folding flash, midgeet bulbs. N. Rothschild. *il Mod Phot 22:82-3 Ja '58*
For reflex viewing; seven housings for view/rangefinder cameras. *il Mod Phot 22:61 F '58*
Here's Modern's complete Chicago equipment report. *il Mod Phot 22:104+ Je '58*
Inexpensive photographic timer; simple compensation for variations in enlarger-lamp supply voltage. J. H. Jowett. *il diags Wireless World 64:35-7 Ag '58*
It projects as it photographs as it develops; Kelvin and Hughes limited. Engineering 185:310 Mr 7 '58
Life goes to a tri-color party; Simmon Omega tri-color computer. R. Selitzer. *il Ind Phot 7:26+ Ar '58*
Modern tests first transistor flash unit! C. Hellman and E. Meyers. *il diags Mod Phot 22:62-3 Ja '58*
Modern tests; the newest cameras, the latest films, important accessories. *il Mod Phot 22:132-4 My; 80-1+ Je; 72-3+ Ji; 74-5+ Ag; 88-9+ S; 102-3+ O; 92-3+ N; 136-41+ D '58*
Modern's exclusive dictionary of 250 accessories. N. Rothschild. *Mod Phot 22:70-86 Mr '58*
New equipment and materials. *il Published in monthly numbers of Industrial photography*
New products. *il Published in monthly numbers of Modern photography*
Photo equipment design. B. D. Ross. *Machine Design 30:22-5 Ap 3 '58*
Plant planned for automatic molding. L. A. Ulmschneider. *il diags Mod Plastics 35:120-4 Je '58*
Print timer controls density and contrast of photographic prints. J. D. Weir. *il diags Electronics 31:108-9 F 14 '58*
Rollei accessories include many unusual useful items. *il Mod Phot 22:85 My '58*
Very special handbook; Sandia corp. Implant publication of photo-instrumentation aids. I. Lenz. *il Ind Phot 7:20-1 F '58*
What's in a name; pointers on ordering supplies. H. Croix. *Ind Phot 7:116-17 Mr '58*

See also

Camera shutters
Cameras
Moving picture photography—Apparatus and supplies
Photography—Films

Bibliography

New photo books. Published in monthly numbers of Modern photography
Related reading. Published in monthly numbers of Industrial photography

Competitions

Monthly contest. Published in monthly numbers of Modern photography

Composition

See Composition (photography)

Developing and developers

Agitation over agitation, or; theory, logic and practical developing collide heavily. J. Wolbarst. *il diags Mod Phot 22:116+ Ja '58*
Combinations of 35mm films and developers. J. Wolbarst. *Mod Phot 22:60-5 Je '58*

Darkroom in a suitcase. *il Mod Phot 22:62-3, 94 F '58*
New photographic system based on light-sensitive dyes and pressure development. L. E. Varden. *Mod Phot 22:86 S '58*
One-shot developers. J. Wolbarst. *Mod Phot 22:100-1 Je '58*
Preparation or regeneration of a silver bleach solution by oxidizing ferrocyanide with persulfate. B. A. Hutchings and L. E. West. SMPTE J 66:764-8 D '57
Processing your own ultraminiature films. J. D. Cooper. *Mod Phot 22:34 Ji '58*

Enlarging

Fine detail enlarging. *il diags Engineering 186: 366 S 19 '58*
Low magnification thin section photography. F. W. Atchley. *bibliog Am Mineralogist 43:997-1000 S '58*
35mm print quality tested: enlargements from small camera negatives compared with larger negatives. B. Vance. *il Ind Phot 7: 28-9 Je '58*

Equipment

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Exhibitions

New York photoshow better than ever; 12th annual national photographic show, Feb. 17-23. *il Mod Phot 22:102 My '58*
What's new? just 37 cameras! National photo dealers' and finishers' trade show and convention, Chicago. *Mod Phot 22:82 Je '58*

Exposure

Are all official exposure indexes wrong? C. Hellman. *il Mod Phot 22:46-9+ Ji '58*
Bellows controls camera exposure. *diag Product Eng 23:80 F 17 '58*
Controversial Lvs; system of exposure control. J. Wolbarst. *il Mod Phot 22:38+ F; 34+ Ap '58*
How to expose for close-ups. *Mod Phot 22:94 Ji '58*
How to use superfast films. Y. E. Satow. *il Mod Phot 22:54-9 Ap '58*
Is there only one perfect exposure? *il Mod Phot 22:70-1 Ap '58*
Oscilloscope camera-positioning for multiple sweep exposures. P. L. Kerley. *il diags Electronic Ind 17:70-1 Ag '58*
Photo demonstration clinches the argument; tracer lights and time exposures show motion savings made possible for housewives by pre-cooked foods. M. Badler. *il Ind Phot 7:24 Ap '58*
Simple steps to basic exposure; illustrations with text. *Mod Phot 22:50-1 Ji '58*
Time exposures record water current movements; Waterways experiment station hydraulic models. F. B. Gauthier. *il Ind Phot 7:20-1 Mr '58*
Timer shutters crt for single frame photos. A. A. Tarnowski and K. G. Lisk. *il diags Electronics 31:83-5 Ap 11 '58*
Which exposure would you use? C. Hellman and P. Caulfield. *il Mod Phot 22:52-9 Ji '58*
Why long exposure? W. Prather. *il Mod Phot 22:58-60+ Ag '58*

See also

Exposure meters
Moving picture photography—Exposure
Photography—Sensitometry

Films

Are you using the right color film? N. Rothschild. *il Mod Phot 22:66-71 Ji '58*
Brantham film base factory flow diag *il Chem & Ind p 1222-4 S 20 '58*
Case for slow films. Y. E. Satow. *il Mod Phot 22:52-5+ Ag '58*
Combinations of 35mm films and developers. J. Wolbarst. *Mod Phot 22:60-5 Je '58*
Emphasis on solvent recovery at film base plant; Bexford ltd. *il Manuf Chem 29:353 Ag '58*
How to use superfast films. Y. E. Satow. *il Mod Phot 22:54-9+ Ap '58*
Ideal color film; Super Anscochrome, tungsten type. *il Mod Phot 22:50-3 Mr '58*
Improper unloading procedure causes film scratches; ways to avoid such trouble. *Mod Phot 22:22 Ar '58*
Modern tests Ansco's new Super Hypan. Y. E. Satow. *il Mod Phot 22:52-3 Ap '58*
Modern tests; the newest cameras, the latest films, important accessories. *il Mod Phot 22:132-4 My; 80-1+ Je; 72-3+ Ji; 74-5+ Ag; 88-9+ S; 102-3+ O; 92-3 N; 136-41+ D '58*
New film to take close look at Mars; Kodak spectroscopic film, type IV-G. *Ind Lab 9:13 Ji '58*

PHOTOGRAPHY—Films—Continued

- Power groove lamps provide 10,000 foot-candles for sunlight tests; Eastman Kodak co. *il* diags Elec Constr & Maint 57:77-9 S '58
- Production of photographic film base; Bexford Ltd. *il* Ind Chem 34:445-6 A⁺ '58
- Radiation monitoring with ordinary film. Safety Maint 14:39-40 N '57
- Report on Ektacolor type L. A. Rothstein. *Mod Phot* 22:38 Je '58
- There's a new, improved Polaroid land film. J. Wolbarst. *Mod Phot* 22:102 A⁺ '58
- 35 mm Kodacolor. *il* *Mod Phot* 22:42-5+ A⁺ '58
- Triacetate film production by solvent casting. *il* diag Brit Plastics 31:307 J1 '58
- See also*
Moving picture films

Focusing

- Depth of field. E. Meyers. *il* *Mod Phot* 22:64-73+ A⁺ '58
- Eight ways to hold your 2½ reflex. *il* *Mod Phot* 22:116-17+ M '58
- Get the most from your 2½; odd angles. *il* *Mod Phot* 22:54-5 M '58
- It's compact, it's fast; try 2½ at eye level. M. Thompson. *il* *Mod Phot* 22:86-7+ M '58
- Licked! Polaroid close-up problems! J. Wolbarst. *il* *Mod Phot* 22:54-7 Ja '58
- New viewpoint; 18 inches to three feet. *il* *Mod Phot* 22:64-7 Mr '58
- Resolution chart aids tv camera focusing. G. Southworth. *il* Electronics 31:100-1 F '58
- View/rangefinder 35mm cameras make a comeback! B. Sherman and J. Wolbarst. *il* diags *Mod Phot* 22:50-5+ F '58
- Your normal lens; are you getting full depth? P. Caulfield. *il* *Mod Phot* 22:56-7 Je '58

High speed

- Camera assembly uses ultrahigh-speed shutter. *il* Machine Design 30:10 M '58
- Camera shows how parts burst at high speeds; Allison div., General Motors corp. R. H. Eshelman. *il* Iron Age 181:116-18 Ap 17 '58
- High-speed photography in naval research. W. D. Chesterman. bibliog *il* Research 11:301-9 A⁺ '58
- High speed photography in the rubber industry; apparatus, techniques, applications. G. L. Hall and others. bibliog *il* diag Rubber Age 53:289-95 M '58
- Industrial high speed photography. Research 11:79-80 F '58
- Photographing cathode-ray tube images. R. Samuel. *il* Radio-Electronics 29:40-2 F '58
- Progress committee report for 1957; high-speed photography. *il* SMPTE J 67:310-11 M '58
- Shock wave photography of large subjects in daylight. H. E. Edgerton. *il* diag R Sci Instr 29:171-2 F '58; Ind Lab 9:6-8 J1 '58
- Spectrograph attachment for high speed cameras. D. P. C. Thackeray. bibliog *il* diags J Sci Instr 35:248-52 J1 '58
- See also*
Photography of projectiles

Industrial applications

- At Hughes tool company, a 35mm camera surveys well casing. R. Sandall. *il* Ind Phot 7:18-19 Mr '58
- Blast furnace interiors inspected photographically; Colorado fuel & iron corp. F. M. Genty. *il* Ind Phot 7:22-3+ M '58
- Camera checks furnace linings; Colorado fuel & iron corp. *il* Steel 142:74 Je 2 '58
- Camera in the conduit helps to untangle installation problem. W. Carroll. *il* Ind Phot 7:31 M '58
- Camera shows inside of blast furnace. *il* Iron & Steel Eng 35:132+ Ap '58
- Check for accuracy of printed circuit transparencies. C. J. Taylor. *il* diags Elec Manuf 62:123-5 S '58
- Construction photography on St Lawrence power project. A. Mellett. *il* Civil Eng 28:251-3 Ap '58
- Electronically controlled flame-cutting machine reduces steel-fabrication costs. *il* Marine Eng/Log 63:66-8 F '58
- Film tells flame temperature. *il* diags Chem Eng 65:64+ Ja 27 '58
- How to see inside a blast furnace; photographing stock line armor. *il* Iron Age 181:79 Mr 6 '58
- Let photography speed your drafting. G. P. Hammond and R. C. Kinstler. *il* diags Chem Eng 65:161-5 M '58
- Make way for photo-drawings. J. Hughes. *il* Ind Phot 7:34+ Je '58

- Neps measured by standard photos. G. Nordhammar and K. E. Erickson. *il* Textile Ind 122:103-10 Ap '58
- New technique for study of fluid flow and phase distribution in porous media. O. K. Kimbler and B. H. Caudle. *il* diags Oil & Gas J 55:35-8 D 15 '57
- Snapshots guide growth of better crystals. *il* diag Chem Eng 65:58+ Je 30 '58
- Some uses of photography in engineering. W. C. Foulke. bibliog *il* diag Combustion 29:43-8 F '58; Abstract. Machine Design 30:139 Ja 9 '58
- Speed process-unit design; scale model provides photographed drawings. G. Weber. *il* Oil & Gas J 56:222-4 S 15 '58
- Wind-tunnel photography aids aircraft design; James Forrestal research center. S. Hight. *il* Ind Phot 7:20-1+ Ap '58

Landscapes

- How to get view camera results with 35mm. M. Thompson. *il* *Mod Phot* 22:60-1+ Ap '58

Lighting

- Are arc lamps reliable? abstract. R. N. Norman and W. L. Rhodes. Ind Phot 7:70-1 Jm '58
- Full color process using only red and white light. L. E. Varden. *Mod Phot* 22:20+ F; 44+ Mr '58
- Ideal color film; Super Ansochrome. tungsten type. *il* *Mod Phot* 22:50-3 Mr '58
- Photo demonstration clinches the argument; tracer lights and time exposures show motion savings made possible for housewives by pre-cooked foods. M. Badler. *il* Ind Phot 7:24 Ap '58

- See also*
Photography—Exposure
Photography, Flashlight

Medical applications**See Photography, Medical****Negatives**

- Ten ways to eliminate dust, scratches on 35mm negatives. N. Rothschild. *Mod Phot* 22:128 Je '58

Patents

- Patents. L. W. Siple. diags Ind Phot 7:44+ J1: 29+ A⁺ '58

Plates

- Photoelectric indicator for precision setting in co-ordinate measurements on photographic plates. E. Djurle and G. Gran. *il* diag J Sci Instr 35:304-5 A⁺ '58
- Spectroscopic plates zero in satellite stations. W. F. Swann. Elec Eng 77:506 Je '58

Portraits

- Get the most from your 2½; portraits. P. Caulfield. *il* *Mod Phot* 22:50-3 M '58
- People; the real challenge. H. Keppler. *il* *Mod Phot* 22:70-5 Je '58
- This is my family. S. Robino. *il* *Mod Phot* 22:58-61 Mr '58
- Your normal lens; it's fine for portraits. H. Keppler. *il* *Mod Phot* 22:58-9 Je '58

Printing processes

- Flash exposures for controlling print contrast. A. Rothstein. *il* *Mod Phot* 22:25-6 Ap '58
- Life goes to a tri-color party; Simmon Omega tri-color computer. R. Selitzer. *il* Ind Phot 7:26+ A⁺ '58
- Multiplex reduction printer. Franklin Inst J 266:151 A⁺ '58
- Quality black-and-white prints from color negatives with Kodak's new Panalure paper. N. Rothschild. *Mod Phot* 22:22+ Ap '58
- Some considerations of Eastman color print film dye stability. P. Horowitz and W. R. Veller. *il* SMPTE J 67:401-4 F '58
- What you should know about custom photo-finishing. M. Thompson. *Mod Phot* 22:129 Je '58

See also

- Moving picture photography—Printing processes

Scientific applications

- Crystal ball photography; model of Canada's Fraser River. J. Hughes. *il* Ind Phot 7:32-4 J1 '58
- Drum camera, best way to put motion on record. K. Maier. *il* diags Product Eng 29:78-80 J1 21 '58
- Flash photograph of a deep field of view of Wilson cloud chamber. F. D. Barros and others. *il* diags J Sci Instr 35:123-31 Ap '58
- High-speed photography in naval research. W. D. Chesterman. bibliog *il* Research 11:301-9 A⁺ '58

PHOTOGRAPHY—Scientific applications—Cont.

- New landscape. G. Kepes. Review, by H. Keppler. *il Mod Phot* 22:72-5+ Ap '58
- Optigraph system makes in-flight study of airplane flexibility. *il Ind Phot* 7:22-3+ Mr '58
- Photographic science and instrumentation. Published in monthly numbers of *Industrial photography*
- Photographs shock waves in broad daylight. *il Machine Design* 30:14 Je 12 '58
- Shock wave photography of large subjects in daylight. H. E. Edgerton. *il diag R Sci Instr* 29:171-2 F '58; *Ind Lab* 9:6-8 JI '58
- Time exposures record water current movements; Waterways experiment station hydraulic models. F. B. Gauthier. *il Ind Phot* 7:20-1 Mr '58
- Two-camera technique for measuring fall velocities of freely falling drops. R. H. Magarvey. bibliog diags *J Sci Instr* 34:508-9 D '57

See also

Photography of projectiles

Sensitometry

Devices for making sensitometric exposures on embossed kinescope recording film. E. M. Crane and C. H. Evans. *il diags SMPTE J* 67:13-16 Ja '58

Study and teaching

Photography at Rochester institute of technology. H. J. Hall. *SMPTE J* 66:784-5 D '57

PHOTOGRAPHY, Aerial

- Aerial photography is a low cost aid for tax equalization work. S. H. Christopher. *il Pub Works* 89:106-8 Mr '58
- Aerial photos in color; two views of their worth. D. R. Lueder; K. E. Hunter. *Eng N* 160:34-5 Ap 10 '58
- Aerial war against cereal crop disease. R. M. Austin. *il Ind Phot* 7:38-40 Ag '58
- Application of aerial photographic interpretation to engineering soils studies. D. R. Lueder. *Pub Works* 89:179-81 My '58
- Engineering uses of Sonne strip photography. J. H. Wolvin. diags *Am Soc C E Proc* 84 [PL 2 no 1668]:1-5 Je '58
- Flying camera stations; photographing surveyed ground markers with one aerial camera. F. A. Kinder. *il diags SMPTE J* 67:234-7 Ap '58
- Giant photomural involved taking 150 photos from low-flying helicopter. *il Ind Phot* 7:33 Je '58
- Multiplex reduction printer. *Franklin Inst J* 266:151 Ag '58
- Sonne photography for pipeliners. J. H. Wolvin. *il diags Pet Eng* 30:D27-8 My '58
- Up-in-the-air photography. W. X. Brennan. *il Ind Phot* 7:30-1+ Je '58

See also

Photogeology

Surveying, Aerial

PHOTOGRAPHY, Architectural. See Photography of buildings and structures

PHOTOGRAPHY, Artistic

See also

Composition (photography)

PHOTOGRAPHY, Color. See Color photography

PHOTOGRAPHY, Commercial. Pictures by the millions; GM photographic's commercial photography dept. *il Ind Phot* 7:22-3+ Je '58

PHOTOGRAPHY, Flashlight

- Flash at home! electronic units to solve your lighting problems. *il Mod Phot* 22:60-1+ Ja '58
- Flash in your pocket! folding flash, midjet bulbs. N. Rothschild. *il Mod Phot* 22:82-3 Ja '58
- Flash photography of a deep field of view of Wilson cloud chamber. F. D. Barros and others. *il diags J Sci Instr* 35:129-31 Ap '58
- Flashes forever! rechargeable nickel-cadmium batteries. E. Meyers. *il Mod Phot* 22:64 Ja '58
- Method of flash synchronization for high-speed cinematography. J. D. Lewis and G. T. Peck. *il diags J Sci Instr* 35:338-40 S '58
- Modern tests first transistor flash unit! C. Hellman and E. Meyers. *il diags Mod Phot* 22:62-3 Ja '58
- Tiny, amazing new flashbulbs. J. Wolbarst. *Mod Phot* 22:114+ My '58
- PHOTOGRAPHY, High speed.** See Photography—High speed

PHOTOGRAPHY, Infrared

Barnes far infrared camera captures invisible thermal levels. *il Chem Eng* 64:196+ D '57

- Camera detects hot spots; Barnes far infrared camera. *il Steel* 141:157 N 13 '57
- Camera maps temperatures. *il diags Product Eng* 28:86 D 9 '57
- Infrared camera. *il diag Electronic Ind* 16:67 D '57
- Infrared camera. *il diag Electronics* 30:184+ D 1 '57
- Infrared camera uses radiation to take heat pictures. *il Ind Lab* 9:24-5 Ap '58
- Measuring temperatures by photography. *Gas* 34:15 Ap '58
- Now, heat pictures do your trouble shooting. S. Elonka. *il diag Power* 102:124-5 Ap '58
- Thermal camera utilizes infrared radiations. R. E. Barnes. *il diag Elec Eng* 76:1109-11 D '57
- Thermal photography. *il diag Mech Eng* 80:67 Ja '58

PHOTOGRAPHY, Journalistic

Bruce Davidson; new eye on old subjects. P. Caulfield. *il Mod Phot* 22:46-51+ Ag '58

PHOTOGRAPHY, Medical

- Medical photography. *Franklin Inst J* 266:253-4 S '58
- Medical photography in court. J. F. Vetter. *il Ind Phot* 7:34 F '58
- Tiny medical flash camera snaps photos inside stomach. *il Machine Design* 30:14-15 Ag 21 '58

PHOTOGRAPHY, Stereoscopic

- Contouring ocean waves; Woods Hole experiment in stereo photography. W. Marks. *il Ind Phot* 7:40+ My '58
- Engineering uses of Sonne strip photography. J. H. Wolvin. diags *Am Soc C E Proc* 84 [PL 2 no 1668]:1-5 Je '58
- Sonne photography; for pipeliners. J. H. Wolvin. *il diags Pet Eng* 30:D27-8 My '58

See also

Photomicrography, Stereoscopic

PHOTOGRAPHY, Submarine

Camera analyzes model ships on model oceans; Stevens institute of technology. H. Derolain. *il Ind Phot* 7:26-7+ My '58

PHOTOGRAPHY, Time-lapse

- General purpose electronic timer particularly suitable for time-lapse kinemicrography. D. McNish and R. B. Trotman. bibliog diags *J Sci Instr* 35:309-10 Ag '58
- Time-lapse cinematography; Armstrong cork company's Research and development center. J. H. Widmyer. *il Ind Phot* 7:26-7+ F '58
- Time-lapse movie check on gear hobbing machine; Sperry Gyroscope. J. N. Bannister. *il Ind Phot* 7:32+ My '58

PHOTOGRAPHY, X ray. See Radiography**PHOTOGRAPHY in industry**

- Audio-visual briefing; transparency-in-the-camera film solves sales education problem. A. C. Hart. *il Ind Phot* 7:32 F '58
- Camera, professional safety tool; abstract. E. S. Greene. *Textile Ind* 122:95 Je '58
- Color photography, a new technical language. *il Product Eng* 29:34-7 My 5 '58
- Here is GM photographic. *il Ind Phot* 7:20-7+ Je '58
- Industrial workshop. D. B. Elsendrath, Jr. Published in monthly numbers of *Industrial photography*
- Interior photography of sewers. *il diag Sewage & Ind Wastes* 29:1398-405 D '57
- It's all done with mirrors; simultaneous front and back view photography. J. J. Barton. *il Ind Phot* 7:24-5 F '58
- Photographic diagnosis, or what's wrong inside the well casting? *il Plant Eng* 12:108-10 S '58
- Photography does many jobs. *Steel* 142:88-9 Ap 14 '58
- Photography in accident prevention. E. R. Wallace. *il Tappi* 40:sup42A+ D '57
- Photo record of wheel speeds repair work. J. Landis. *il Ind Phot* 7:30 Ja '58
- Proving a point; photograph of California's steel alley when the Kaiser plant was shut down. *Ind Phot* 7:48+ JI '58
- Saving it with photos; restaurant supplier wins customer good will with photographs of new installations. *il Ind Phot* 7:36 F '58
- Why not make better use of photography? interview with James R. Bright. *Mod Materials Handling* 13:116-18 Ap '58

PHOTOGRAPHY of animals

- For a new world of pictures, climb under the fence. *il Mod Phot* 22:54-7 Mr '58
- How to shoot a movie of your pets. *il Mod Phot* 22:90-1+ S '58

PHOTOGRAPHY of automobiles

Pictures by the millions; GM photographic's commercial photography dept. *il Ind Phot* 7:22-3+ Je '58

PHOTOGRAPHY of buildings and structures
Camera architecture; abstract. P. E. Borchers, jr. Arch Forum 108:163 Ap '58

PHOTOGRAPHY of children

Family movie camera; how to shoot a baby's day. M. A. Matzkin. *il Mod Phot* 22:94-5-6 My '58
Family movie camera; how to shoot a birthday party. M. A. Matzkin. *il Mod Phot* 22:82-3-4 Ap '58
Family movie camera; how to shoot a Little League movie. M. A. Matzkin. *il Mod Phot* 22:78-9-4 Ag '58

PHOTOGRAPHY of infants. See Photography of children

PHOTOGRAPHY of moving objects

Get the most from your 24; for action. *il Mod Phot* 22:56-7 My '58
Picture action with your camera. J. Balish. *il Mod Phot* 22:62-77 S '58
What should you know to shoot action? *il Mod Phot* 22:58-61 S '58

PHOTOGRAPHY of projectiles

Atmospheric limitations on missile photography. S. Q. Duntley. *SMPTE J* 67:231-3 Ap '58

Atmospheric optics. H. C. Schepler. *il SMPTE J* 67:225-7 Ap '58

Cine-theodolite control system used on guided missile ranges. R. J. Garvey. *il diags Electronic Eng* 30:128-34 Mr '58
Design and operational philosophy for an ultra-precision tracking mount system for a missile test range. J. A. Clemente. *diags SMPTE J* 67:242-5 Ap '58

Diode counter calibrates missile testing camera. S. E. Dorsey. *il diags Electronics* 31:93-5 F 14 '58

Direct digital read-out of missile roll from film records. O. J. W. Christ and B. B. Small. *il Jet Propulsion* 28:496-9 Je '58

High-speed photography in naval research. W. D. Chesterman. *bibliog il Research* 11:301-9 Ag '58

Long-range ballistic missiles photographed by new optical system; ROTI (recording optical tracking instrument). R. M. Scott. *il Elec Eng* 77:109-10 Ja '58

New field for photo firm; Bell & Howell's missile scoring pod. *il Steel* 141:31 D 30 '57

Optical tracking instrumentation. A. H. Schendel. *il diags SMPTE J* 67:237-41 Ap '58

Photo check on fire power. *il Ind Phot* 7:28-4 F '58

Photographic instrumentation at the Air proving ground center. H. C. Schepler. *il SMPTE J* 67:246-8 Ap '58

Photographing bullets without a camera. *il Ind Phot* 7:44 Ag '58

Radar bore-sight camera system at U.S. naval ordnance test station. F. H. Heymaker and J. H. Pennington. *il Ind Phot* 7:28-9-4 My '58

Target simulator tests beam-rider missiles. G. E. Hendrix. *il diags Electronics* 31:32-5 Ja 31 '58

Visibility; detection and recording of objects against a sky background. E. P. Martz, jr. *diags SMPTE J* 67:228-31 Ap '58

PHOTOGRAPHY of sports

Family movie camera; how to shoot a golf movie. M. A. Matzkin. *il Mod Phot* 22:80-1-4 J1 '58

Family movie camera; how to shoot a Little League movie. M. A. Matzkin. *il Mod Phot* 22:78-9-4 Ag '58

PHOTOGRAPHY of water

Contouring ocean waves; Woods Hole experiment in stereo photography. W. Marks. *il Ind Phot* 7:40-4 My '58

Ernst Wild makes a prize-winning amateur film based on the poetic images of water. M. A. Matzkin. *Mod Phot* 22:86 Ag '58

PHOTOGRAPHY on metals

GM photo dept. simplifies reproductions on metal. F. Smith. *il Ind Phot* 7:36 Ag '58

Let's see your photo license! photographed onto aluminum plate. *il Ind Phot* 7:48 Je '58

PHOTOLITHOGRAPHY

Transistors are made by photolithography. J. R. Nall and J. W. Lathrop. *il diags Electronics* 31:142-4 F 14 '58

PHOTOLYSIS. See Photochemistry

PHOTOMECHANICAL processes

Blueprints by the millions; General Electric. *il diags Am Mach* 102:99-100 Mr 10 '58

Goodbye to hand-lettering; GM photographic's Typographic preparation dept.; Chartmaster process. *il Ind Phot* 7:26-7 Je '58

In-plant printing department. B. E. Arpag. *Ind Phot* 7:48-49 My: 32-4 Ag '58

Intermediates knit Ford plants together; Ford motor co.'s hardware and accessories group closely coordinated by photographic techniques. *il Mach* 64:136-8 Mr '58

Photoetching produces thin metal parts without dies. G. R. Hockmeyer. *il Mach* 64:129-31 Mr '58

Printed circuits on irregular surfaces; photographic technique. E. P. Purgura. *il Ind Phot* 7:18-19 F '58

Production of printed circuits; photosensitive resist method. W. P. VanDeusen. *il Plating* 45:151-6 F '58

Scale model layout copying. L. H. Will. *il plans Plant Eng* 12:86-3 Ag '58

Type stretched or squeezed to suit Warwick customers; Flex-Set process. *il Inland Ptr* 140:60-1-4 D '57

See also

Photocomposing machines

Photoengraving

Photolithography

Photostat

Xerography

PHOTOMETERS

Automated universal distribution photometer; Paudget; abstract. J. S. Franklin. *diags il Illum Eng* 53:470-1 S '58

Automatic photometer for street lighting and other luminaires; abstract. G. A. Horton and others. *il Illum Eng* 53:472-3 S '58

Chart calibration of a photographic recording microphotometer. M. Gadsden. *diags J Sci Instr* 35:186-7 My '58

Determination of carbon dioxide in automotive exhaust by means of infrared filter photometer. J. L. Parsons and others. *il diags Anal Chem* 30:108-7 Je '58

Hand flicker photometer. P. L. Walraven and H. J. Leebeck. *il diags R Sci Instr* 29:320-1 Ap '58

I.E.S. guide for photometric testing of outdoor fluorescent luminaires. *bibliog il Illum Eng* 53:1-11 F '58

I.E.S. guide for photometric testing of searchlights. *bibliog il diags Illum Eng* 53:155-62 Mr '58

Photometer detects ion impurities. *il Elec World* 150:71 S 29 '58

Photometer for measurement of effective intensity of condenser-discharge lights. C. A. Douglas. *diags Illum Eng* 53:205-8 Ag '58

Photometer method for studying quartz grain orientation. J. D. Martinez. *bibliog il map diags Am Assn Pet Geologists Bul* 42:588-608 Mr '58

See also

Densitometers

Spectrophotometers

PHOTOMETERS, Photoelectric

Alnico brightness meter. W. M. Ackerman. *il diags Tappi* 41:sup 157A-8A My '58

Black widow bleaching control system. D. N. Obenshain. *il diags Tappi* 41:1-9 Ja '58

Current integrator for astronomical photoelectric photometry. R. H. Weitbrecht. *bibliog diags R Sci Instr* 28:883-8 N '57

Studies on daylight availability. R. A. Boyd. *bibliog il Illum Eng* 53:321-30 Je '58

PHOTOMETRY

Accuracy of quantitative paper chromatography in amino acid determination using direct photometry. H. R. Roberts and M. G. Kolor. *bibliog Anal Chem* 29:1800-2 D '57

Automatic processing of photometric test data for street lighting luminaires. G. A. Horton and P. A. Zaphyr. *flow chart il Illum Eng* 53:341-9; Discussion. 349-51 Je '58

Averaging screen-illumination readings. A. J. Hill. *diags SMPTE J* 67:144-8 Mr '58

Determination of calcium in wolframite ore. J. E. Mathers and others. *Anal Chem* 30:1412-13 Ag '58

Determining salt in crude oil. K. G. Stoffer. *Oil & Gas J* 56:115 Ja 13; 111 F 3; 129 F 10; 133 F 17 '58

Direct flame photometric determination of boron in organic compounds. E. E. Buell. *bibliog Anal Chem* 30:1514-17 S '58

Hazards and pitfalls in footcandle calculations. E. Balogh. *Illum Eng* 53:217-19 Ag '58

I.E.S. guide for measuring and reporting daylight illumination. *bibliog diags Illum Eng* 53:213-16 Ap '58

Measurement of light and color. D. B. Judd. *bibliog Illum Eng* 53:61-70; Discussion. 70-1 F '58

Measurement of spectral line intensities by microphotometry of the photographic plate. D. R. Curry. *bibliog Metallurgia* 57:162-3 Mr '58

Photometric determination of beryllium. U. T. Hill. *Anal Chem* 30:521-4 Ap '58

PHOTOMETRY—Continued

- Photometric determination of chromium in electronic nickel. C. L. Luke. *Anal Chem* 30:359-61 Mr '58
- Photometric determination of color and turbidity of water. A. T. Palin. *bibliog diag Water & Sewage Works* 104:492-5 N '57
- Photometric determination of ironiazid and related compounds. R. J. Colarusso and others. *bibliog Anal Chem* 30:62-5 Ja '58
- Photometric determination of traces of boron in silicon after separation by a hydrothermal refining technique. C. L. Luke and S. S. Flaschen. *diags Anal Chem* 30:1406-9 Ag '58
- Photometric determination of tungsten in steel and titanium alloys with dithiol. L. A. Machian and J. L. Hague. *bibliog il J Res Nat Bur Stand* 59:415-20 D '57
- Photometric determination of zinc oxide in rubber products; absorptiometric and turbidimetric methods using sodium diethyl dithiocarbamate. K. E. Kress. *bibliog Anal Chem* 30:432-40 Mr '58
- Recommended practice for reporting photometric performance of incandescent filament lighting units used in theatre and television production. *diags Illum Eng* 53:516-20 S '58; Same. *SMPTE J* 67:606-10 S '58
- Use of perchloryl fluoride in flame photometry. G. E. Schmauch and E. J. Serfass. *Anal Chem* 30:1160-1 Je '58
- See also
- Measuring instruments, Optical
- Spectrophotometry

Standards

- Illuminating engineering nomenclature and photometric standards. *Illum Eng* '52:600-8 N '57

PHOTOMETRY, Astronomical

- Current integrator for astronomical photoelectric photometry. R. H. Weitbrecht. *bibliog diags R Sci Instr* 28:833-8 N '57

PHOTOMICROGRAPHY

- Automatic camera microscope. *il Engineer* 206:74 J1 11 '58
- Best prints in ceramographic exhibit. *il Am Cer Soc Bul* 37:419 S 15 '58
- Electronic flash facilities. *photomicrography*. C. H. Coles. *il Ind Phot* 7:69-70+ Ap '58
- Standardisation of photographic exposures in metallurgical microscopy. L. E. Samuels and others. *il Metallurgia* 57:207-12 Ap '58
- Use giant lantern slides for refractories study. *Ind Lab* 9:46 My '58
- See also
- Electron microscope

PHOTOMICROGRAPHY, Stereoscopic

- 3-D photomicrographs; reports on gas turbine fuel studies augmented. J. S. Pasman. *il Ind Phot* 7:22-3 Ja '58

PHOTOMULTIPLIERS. See Photoelectric cells**PHOTOMURALS. See Photographic murals****PHOTONS**

- Energy spectra of cascade electrons and photons. C. A. Olson and L. V. Spencer. *bibliog J Res Nat Bur Stand* 60:85-96 F '58
- Iodine-vapor-filled ultraviolet photon counter. R. T. Brackmann and others. *bibliog diag R Sci Instr* 29:125-8 F '58
- Nature of the photosensitivity of Geiger counters. H. O. Albrecht and C. E. Mandeville. *bibliog diag Franklin Inst* 265:473-81 Je '58
- Radionuclides arranged by gamma-ray energy; data sheet. C. V. Smith and D. R. Farnelo. *Nuclonics* 16:80-1 F '58
- Total-absorption Cerenkov counter for photons of about 100 mev energy. J. Moffatt and M. W. Stringfellow. *bibliog diag J Sci Instr* 35:18-20 Ja '58

PHOTONUCLEAR reactions. See Nuclear reactions**PHOTO-OFFSET. See Printing, Offset****PHOTOOXIDATION. See Oxidation****PHOTOPROTONS. See Protons****PHOTORADIOGRAPHY. See Radiography****PHOTOSTAT**

- Modified photostat aids surveying. *il Ind Phot* 7:36-4 J1 '58

PHOTOSYNTHESIS

- Light conversion efficiency in photo synthetic oxygenation; abstract. W. J. Orwald. *Water & Sewage Works* 105:305 J1 '58
- Photosynthesis of galactolipids. A. A. Benson and others. *bibliog Am Chem Soc J* 80:4740 S '58

PHOTOTROPY

- Phototropic effects in oxides; white oxides in general. J. Bear and F. K. McTaggart. *J Ap Chem* 8:72-6 Ja '58

PHOTOTYPESETTING machines

- New ATF typesetter demonstrated. L. H. Allen. *il Inland Ptr* 141:54-6 Ap '58

PHOTOVOLTAIC effect. See Photoelectric effect**PHREATOPHYTES**

- Importance of phreatophytes in water supply. C. B. Thompson. *il maps Am Soc C E Proc* 84 [IR 1 no 15021:1-17 bibliog(p 15-17) Ja '58

PHTHALATES

- Family plot of retention volumes for alkyl ketones on dinonyl phthalate. J. R. Young. *bibliog Chem & Ind* p594-5 My 17 '58
- Properties of materials; diallyl phthalate. *Materials in Design Eng* 48:147 Mid-O '58
- Vinyl epoxy plasticizers; epoxyhexahydrophthalates. F. P. Greenspan and R. J. Gall. *bibliog Ind & Engng Chem* 50:865-7 Je '58
- See also
- Methoxyphthalates

PTHHALEINS

- New colour reactions of phthaleincomplexone. R. Belcher and others. *Chem & Ind* p 128-9 F 1 '58

PTHALIC acid

- Preparation of terephthalic acid from phthalic or benzoic acid. Y. Ogata and others. *bibliog Am Chem Soc J* 79:6005-8 N 20 '57

Analysis

- Detection of phthalic acid isomers and benzoic acid in alkylid resins by infrared-absorption spectrometry. M. L. Adams and M. H. Swann. *Anal Chem* 30:1322-4 Ag '58

PTHALIC anhydride

- Amoco slashes phthalic. *Chem & Eng* N 36:21 Ag 5 '58
- More phthalic coming. *Chem & Eng* N 36:21 O 27 '58
- More phthalic near. *Chem & Eng* N 36:25 Ap 21 '58
- No problem for phthalic makers; plenty of coal tar naphthalene to meet expected demand. *Chem & Eng* N 36:24 My 19 '58
- Phthalic anhydride price drop seen. *Chem & Eng* N 36:32 F 3 '58
- Relief in sight for domestic phthalic? *il Can Chem Process* 42:33-4 J1 '58

Manufacture

- Phthalic anhydride; California research corp. flow diag *Pet Refiner* 36:274 N '57

PTHALOCYANINES

- Conductivity and energy gap measurements of some relatives of phthalocyanine. W. Felmayer and I. Wolf. *bibliog diags Electrochem Soc J* 105:141-5 Mr '58
- Polymeric phthalocyanines. C. S. Marvel and J. H. Rassweiler. *Am Chem Soc J* 80:1197-9 Mr 5 '58

PHYGON. See Dichloronaphthoquinone**PHYSICAL apparatus and instruments**

- Easily mounted aluminum oxide foils for windows and backings. U. Hauser and W. Kerler. *bibliog il diags R Sci Instr* 29:380-2 My '58
- Inexpensive Boyle's law apparatus. D. E. Moe. *diag Am J Phys* 26:35 Ja '58
- Leybold apparatus for measuring the velocity of light by means of a rotating mirror. E. D. Thompson. *il diag Am J Phys* 26:44-5 Ja '58; Discussion. M. N. Mainardi. 26:504 O '58
- Some high-pressure, high-temperature apparatus design considerations; equipment for use at 100 000 atmospheres and 3000°C. H. T. Hall. *bibliog il diags R Sci Instr* 29:267-75 Ap '58
- Study of apparatus for the teaching of physics; report of the AAPT committee on apparatus for educational institutions. W. C. Kelly. *Am J Phys* 26:311-15 My '58
- See also
- Cyclotron
- Electric instruments
- Extensometers
- Goniometers
- Scientific apparatus and instruments
- Scleroscope
- Sound—Apparatus

Exhibitions

- Physical society exhibition, 42d. *il diag Engineer* 205:470-1. 500-1 Mr 28-Apr 4 '58; *Engineering* 185:373-4. 388-90 Mr 21-28 '58
- Physical society exhibition, London. March 24-27. *Aircraft Eng* 30:151 My '58
- Physical society's exhibition, London. March 24-27. *Chem & Ind* p352-5 Mr 22 '58; *Ind Chem* 34:241-4 My '58
- PHYSICAL chemistry. See Chemistry, Physical and theoretical

PHYSICAL constants

New physical constants from dimensional analysis. A. T. Gresky. bibliog Franklin Inst J 265:85-95 F '58

Simple geometric model for the effect of porosity on material constants. F. Euler. bibliog diag J Ap Phys 28:1342-5 N '57

See also

Boiling points
Specific volume

PHYSICAL examinations

Cardiac in New York city's transit system. J. L. Oberman and others. bibliog Ind Med 26:499-505 N '57

Do periodic health appraisals pay dividends? C. B. Martin and M. J. Hanley. Ind Med 27:461-5 S '58

Executive health examinations. R. Clyne. A M A Archives Ind Health 17:602-9 Je '58

Faculty health appraisal. University of Michigan. C. J. Tupper and M. B. Beckett. bibliog Ind Med 27:328-32 Ji '58

Periodic evaluation of health. N. J. Roberts. Ind Med 27:153-8 Mr '58

Periodic health examinations in the hotel industry. F. P. Guidottl. bibliog Ind Med 26:506-10 N '57

Physical examinations for executives. L. Wade. A M A Archives Ind Health 17:175-9 Mr '58

Pre-employment cardiac examination. A. C. Kerkhof. Ind Med 27:241-3 My '58

Pre-employment X-ray survey of the lumbosacral spine in bus drivers. L. Reiner. bibliog Ind Med 27:15-17 Ja '58

Preoperative evaluation for major surgery. R. D. Williams. bibliog diag Ind Med 27:75-8 F '58

Safeguarding executive health: what industry is doing. L. Strong. Ind Med 27:109-14 F '58

Study of periodic school medical examinations. A. Yankauer and others. bibliog Am J Pub Health 45:71-8; 46:1553-62; 47:1421-9 Ja '55, D '56, N '57

Twenty-one years' experience with rejections for employment. A. F. Mangelsdorff. A M A Archives Ind Health 17:104-10 F '58

See also

Eye—Examination

PHYSICAL geography

Geological geomorphology. R. J. Russell. maps Geol Soc Bul 69:1-21 bibliog(p 19-21) Ja '58

Lake Michigan dune development: plants as agents and tools in geomorphology. J. S. Olson. bibliog diag J Geol 66:345-51, pl 1-3 Ji '58

See also

Drainage (physical geography)
Paleogeography
Topography

Statistical methods

Measurement of drainage-basin outline form. M. Morisawa. bibliog diags J Geol 66:587-91 S '58

Hong Kong

Weathering of granite and associated erosional features in Hong Kong. B. P. Ruxton and L. Berry. bibliog maps diags Geol Soc Bul 68:1263-91, pl 1 O '57

PHYSICAL instruments. See Physical apparatus and instruments**PHYSICAL laboratories**

Canadian high-altitude station at Sulphur mountain. S. A. Korff. Il Phys Today 11:24-5 F '58

Introductory physics laboratory. L. Nedelsky. Am J Phys 26:51-9 F '58

See also

Great Britain—National physical laboratory, Teddington

Equipment

Do-it-yourself measurement of surface tension. E. P. Clancy. diag Am J Phys 26:341-2 My '58

Elliptic polarimeter for the student laboratory: specimens of elliptically polarized light. T. B. Brown. diags Am J Phys 26:183-7 Mr '58

New apparatus for Snell's law. C. V. Bertsch and B. A. Greenbaum. Il Am J Phys 26:340 My '58

Study of apparatus for the teaching of physics; report of the AAPT committee on apparatus for educational institutions. W. C. Kelly. Am J Phys 26:311-15 My '58

PHYSICAL measurements

Observations in relation with a new system of units. M. Bornes. bibliog Am J Phys 26:40-1 Ja '58

Preparation of pure sulphur for physical measurements. R. J. Berry. bibliog J Sci Instr 35:223-4 Je '58

See also

Dimensional analysis
Doppler effect
Electric measurements
Temperature—Measurement
Vibration—Measurement
Viscosity—Measurement

PHYSICAL research

Our universities' research-associate positions in physics. J. H. McMillen. Phys Today 11:14-15 Ag '58

PHYSICAL therapists

Auxiliary personnel in medical practice. J. L. Caughey, jr. Am J Pub Health 48:1049-53 Ar '58

PHYSICIANS

See also

American medical association

PHYSICIANS as witnesses

Privileged communications; editorial. Ind Med 27:543-4 O '58

Testimony of the doctor in court. J. Frenkil. Ind Med 27:281-4 Je '58

PHYSICIANS' offices

Physicians' private offices at hospitals. C. R. Rorem. Am J Pub Health 48:874-9 Ji '58

See also

Medical buildings

PHYSICISTS

Advice to young physicists. W. Bothe. Phys Today 11:26-7 S '58

Anniversaries in 1958 of interest to physicists. E. S. Barr. Am J Phys 26:104-21 F '58

Engineer, the physicist, and gravitation. L. Witten. Aero/Space Eng 17:45-8 Je '58

Visiting physicists from abroad; recipients of US government grants under the Fulbright and Smith-Mundt acts. Phys Today 11:19-21 F '58

See also

Buchta, J. W.
Hertz, Heinrich
McFarlan, Ronald L.
Planck, Max

PHYSICS

Approximate nature of physical symmetries. P. Morrison. bibliog diags Am J Phys 26:358-68 S '58

Causality and chance in modern physics. D. Bohm. Review, by J. R. Newman. Sci Am 198:111-12-4 Ja '58

Humanization of some physics problems. C. Adler. Am J Phys 26:42 Ja '58

Innovations in physics. F. J. Dyson. diags Sci Am 199:74-82 S '58

Physics and medical research. H. D. Bruner. Am J Phys 26:307-10 My '58

Physics in a toy auto. J. S. Miller. Am J Phys 26:132 F '58

Physics in a toy boat. J. S. Miller. Am J Phys 26:199 Mr '58

Physics of the cathode. L. S. Nergaard. bibliog(54 titles) RCA R 18:486-511 D '57

Physics of the dunking duck. J. S. Miller. Am J Phys 26:42-3 Ja '58

Problems in the physics of meteors. E. J. Öpik. bibliog(28 ref) Il Am J Phys 26:70-9 F '58

Recent advances in physics. D. Park. bibliog(91 ref) diags Am J Phys 26:210-34 Ap '58

Solid-state physics unveils atomic mysteries. M. Ference, jr. diags S A E J 66:36-41 My '58

Use of the notion probability in physics. T. Ehrenfest-Afanassjewa. Am J Phys 26:388-92 S '58

See also

American institute of physics
Atoms
Ballistics
Compressibility
Cosmic physics
Cyclotron
Diffusion
Dimensional analysis
Dynamics
Elasticity
Electricity
Electromagnetic theory
Electrons
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Floating bodies
Fluids
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Force and energy
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Gravitation
Gravity

PHYSICS—See also—Continued

Heat
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Inertia (mechanics)
Ionization, Gaseous
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Kinematics
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Matter
Mechanics
Meteorology
Molecules
Neutron
Nuclear physics
Particles, Elementary
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Reflection (optics)
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Steam
Temperature
Thermodynamics
Thermometers and thermometry
Turbulence
Uncertainty principle
Velocity
Viscosity
Vortex motion
Wave mechanics
Work function

Bibliography

Book reviews. Published in monthly numbers of American journal of physics
Book reviews. R Sci Instr 29:185-9 F '58
Books. Published in monthly numbers of Physics today
Books reviewed. Published in monthly numbers of Journal of applied physics
Study of collisions; a survey of the periodical literature. G. Barnes. bibliog diag Am J Phys 26:5-8 Ja '58

Examinations

Distribution of scores in examinations of finite length. R. W. Christy. Am J Phys 26:324-6 My '58

Experiments

Acoustic behavior of a rubber string. I. M. Freeman. Am J Phys 26:369-71 S '58
Automatic Cartesian diver. R. S. Mackay. Am J Phys 26:403-4 S '58
Breakfast egg. J. Satterly. Am J Phys 26:341 My '58
Classification of collisions; elastic collisions on a macroscopic scale. G. Barnes and others. diags Am J Phys 26:122-7 F '58
Determination of g by a bouncing ball. J. G. Dodd. Am J Phys 26:268 Ap '58
Experiment for measuring the coefficient of restitution. F. W. Van Name, jr. diags Am J Phys 26:386-8 S '58
Experiments with condensers. S. W. Leifson. diags Am J Phys 26:239-44 Ap '58
Increase of surface tension of certain solutions when brought into contact with hot gases. N. Skogen. diags Am J Phys 26:25-7 Ja '58
Inexpensive apparatus for the experiment on centripetal force. L. B. Ham. diag Am J Phys 26:401-2 S '58
Modification of Ruchardt's experiment. R. W. Christy and L. M. Rieser, jr. diags Am J Phys 26:37-8 Ja '58
Simple pendulum equivalent to spring-mass system. J. W. Dewdney. diag Am J Phys 26:340-1 My '58
Sophomore experiment in thermoelectricity. J. H. Noon and B. J. O'Brien. diags Am J Phys 26:373-5 S '58
Surface tension experiment. G. Barnes and J. R. Grammer. Am J Phys 26:190-1 Mr '58
Two improved methods for determining Young's modulus. R. E. Green. diags Am J Phys 26:258-9 Ap '58
Unwinding a spool. C. M. Martin. diags Am J Phys 26:194-5 Mr '58
Weightlessness of a freely-falling body. R. J. Stephenson. Am J Phys 26:404-5 S '58

See also

Nuclear physics—Experiments

International aspects

International cooperation in physics. bibliog Am J Phys 26:275-80 My '58

Study and teaching

Aristotle and the physics student. J. K. Wood. bibliog Am J Phys 26:176-8 Mr '58
Basic undergraduate physics preparation. G. Q. Lefler. Am J Phys 26:39-40 Ja '58
Chicago public schools television instruction experiment in high school physics. M. D. Engelhart and others. Am J Phys 26:347-9 S '58
Concept of energy as the theme of a general education course in physics. R. B. Lindsay. Am J Phys 26:290-6 My '58
Describe physics faculty at Moscow university. R. E. Stockwell. II Ind Lab 9:37-9 Jl '58
Do college students benefit from high school laboratory courses? S. C. Brown. Am J Phys 26:334-7 My '58
Education in the Soviet Union; emphasis on science. II (cover) Phys Today 11:12-16 Ja '58
Evaluating laboratory instruction by use of objective-type tests. H. Kruglak. Am J Phys 26:31-2 Ja '58
Experiment in individualization of teaching. J. A. Day. Am J Phys 26:267-8 Ap '58
Graphic aids for teaching Coriolis force. M. J. Walker. diags Am J Phys 26:392-5 S '58
High school physics enrollments in the Chesapeake area. B. B. Watson. Am J Phys 26:327-9 My '58
Introductory physics laboratory. L. Nedelsky. Am J Phys 26:51-9 F '58
Physics for secondary schools. H. P. Knauss. bibliog Am J Phys 26:373-80 S '58
Physics goes Nation-wide via tv. II Chem & Eng N 36:132+ O 6 '58
Spirit giveth life. P. F. Bartunek. diags Am J Phys 26:296-300 My '58
Teaching of elementary physics. W. C. Michels. II diags Sci Am 198:56-62-1 Ap '58
Teaching of standing waves. J. Rekveld. Am J Phys 26:159-63 Mr '58
Unified approach to physics at the university level. J. R. Shepanski and others. bibliog Am J Phys 26:179-82 Mr '58
Visiting scientists program in physics. W. C. Kelly. II Phys Today 11:21-5 S '58

See also
Electrostatics—Study and teaching

Terminology

Deposition, a proposed antonym for sublimation. J. E. McDonald. Am J Phys 26:131-2 F '58
Why not massor? L. Cintra do Prado. Am J Phys 26:405 S '58

Textbooks

Study of collisions; survey of the textbooks. G. Barnes. bibliog diags Am J Phys 26:9-12 Ja '58

PHYSICS, Mathematical. See Mathematical physics

PHYSICS, Medical

Physics and the medical student. P. A. Stewart. Am J Phys 26:304-6 My '58
Physics and the premedical student. R. Lagemann. Am J Phys 26:301-4 My '58

PHYSICS laboratories. See Physical laboratories

PHYSICS teachers

Teacher shortage in physics. Phys Today 11:42 Ar '58

PHYSICS teachers, American association of. See American association of physics teachers

PHYSIOLOGICAL apparatus

Measurement of uterine forces in obstetrical labor; tokodynamometers. T. I. Marx and C. A. Hunter, jr. diags R Sci Instr 29:585-7 Jl '58

Versatile peristaltic action micropump. P. B. Hamilton. diag Anal Chem 30:1017-18 My '58

Versatile stimulator for neurophysiological research. R. H. Kay and others. diags Electronic Eng 30:575-8 O '58

See also

Electrocardiograph
Electrophysiology—Apparatus
Oxygen apparatus

PHYSIOLOGICAL chemistry

See also

Biochemistry
Fat
Radioactive substances in the body

Bibliography

Abstracts of current literature. Published in bi-monthly numbers of American journal of clinical nutrition

PHYSIOLOGICAL oxidation. See Oxidation.

Physiological

PHYSIOLOGICAL research

Measuring human effort. *L. Brouha. bibliog*

il Mech Eng 80:81-3 Je '58

See also

Space flight—Physiological aspects

PHYSIOLOGY

See also

Brain

Digestion

Electrophysiology

Fatigue

Growth

Metabolism

Radioactivity—Physiological effect

Stress (physiology)

Temperature—Physiological effect

Temperature, Animal and human

PHYTIC acid

Ion exchange now yields phytic acid. flow

sheet *il Chem Eng 65:61-2 Ja 27 '58*

PI (π)

Pieces on π . *D. C. Gazis and R. Herman.*

bibliog Am Scientist 46:sup 124A+ Je '58

PIANO

Kimball piano finish. *W. J. Soto. il Ind*

Finishing 34:94-8 Jl '58

PICKLES

Effect of sucrose and type of spicing on the

quality of processed dill pickles. *R. M.*

Pangborn and others. bibliog Food Tech 12:

144-7 Mr '58

Lindane residue changes during the fermenta-

tion and processing of pickles. *M. R.*

Johnston. bibliog Food Tech 12:281-3 Je

'58

Needling aids pickling: Albro packing co. *il*

Food Eng 30:79 Jl '58

PVC piping proves maintenance-free in

pickle plant operation. *L. J. Turney. il*

Heating-Piping 30:88-90 Jl '58

See also

Cucumbers

PICKLING (metals)

Acid recovery from spent pickle liquor: Blaw-

Knox co. *T. F. Barnhart. flow diag diag*

Sewage & Ind Wastes 30:296-300 Mr '58

Cast stainless stands up to pickle liquor. *il*

Steel 142:141 Ap 14 '58

Dollars and sense of pickle-liquor treatment.

J. S. Joseph and E. T. Culver. bibliog il

Diags Iron & Steel Eng 35:112-20; Discussion.

120-2 Mr '58

How to treat pickle liquors in a small

plant: crystallization-regeneration unit. *il*

Vulcan rivet & bolt corp. E. W. Lang.

flow diag Metal Prog 73:93-6 My '58

Influence of pickling additions on embrittle-

ment: abstract. *A. Keller. Metal Finish-*

ing 56:81 Mr '58

Pickle liquor disposal made practical: *A. O.*

Smith corp.; byproduct for land fill. il

diag Steel 143:76-7 Jl 28 '58

Pickling metals to remove scale. *W. E. Mc-*

Fee. il Steel 141:103-4+ N 25 '57

Pin down titanium pickling variables. *M. E.*

Komp and D. Evers. Steel 142:94-5 Je 23

'58

Rome Cable institutes hot pickling. *il Elec*

World 150:88 S 8 '58

Spray cleaning, pickling and phosphating.

A. J. Steiger. diags Metal Finishing 56:

48-51 Mr '58

Toughest waste problem beaten: recovering

pickling acid cheaper than treating it;

Ruthner process. Eng N 160:25 My 23 '58

Waste pickle liquor disposal. *G. A. Howell.*

Sewage & Ind Wastes 29:1278-81 N '57

PICKUP. See Photograph—Pickup

PICOLINIC acid

Chelate compounds of nickel(II) with picolinic

acid. *R. W. Green. bibliog Am Chem*

Soc J 79:5608-11 N 5 '57

PICRATES

Determination of naphthalene in town gas by

the picrate method. *R. A. Mott and I.*

Moulson. bibliog J Ap Chem 7:546-62 O '57

Thermodynamics of ion pair dissociation;

tetrabutylammonium picrate in chloro-

benzene, *o*- and *m*-dichlorobenzene. *P. H.*

Flaherty and K. H. Stern. bibliog Am Chem

Soc J 80:1034-8 Mr 5 '58

PICRIC acid

Determination of naphthalene in gas; the

solubility of picric acid in water and the

dissociation of naphthalene picrate. *A. B.*

Densham and L. A. Ravalid. bibliog J Ap

Chem 8:267-70 Ap '58

Partition of picric acid between 0.5N aqueous

perchloric acid and chlorobenzene; the molec-

ularity of picric acid in chlorobenzene. *J.*

W. Bayles and A. Chetwyn. Chem &

Ind p 1204-5 S 13 '58

PICTURES

See also

Photographs

PIDGEON, Lloyd Montgomery

Biographical appreciation of an eminent liv-

ing metallurgist. *H. J. Roast. por Metal*

Prog 73:104-5 F '58

PIERS

Harbor facilities without a harbor. *J. D.*

Lewin. il Civil Eng 28:101-3, cover F '58

Heat exchanger prevents ice damage to piers.

Air Cond Heat & Ven 55:98 My '58

Look at old and new in methods and mate-

rial: Pier A. Key West naval station. *Fla.*

J. W. Schwartz. il Eng N 160:44-5 Je 5

'58

New pier is second of ten: New York-New

Jersey harbor. *il Eng N 161:20 S 18 '58*

New retractable marine ferry system. *P. W.*

Roberts. il diag Am Soc C E Proc 84 [WW 1

no 15131:1-8 Ja '58

New Zealand port eyes ship hangar. *D. E. S.*

Mason. il Eng N 160:93-4 Ap 17 '58

Sheetpile cells and sand make a pier: U.S.

naval construction battalion center, Davis-

ville, R.I. *il Eng N 160:62-3 Ap 17 '58*

See also

Fenders, Dock

Ore docks

Wharves

PIERS (foundations)

Anchorages for large Tainter gates. *A. H.*

Kenigsberg. il diags Am Soc C E Proc 82

[WW 5 no 11191:1-13 D '56; Discussion.

83 [WW 3 no 13811:3-4 S '57; Reply. 84

[WW 1 no 15231:3-5 Ja '58

See also

Bridges—Foundations and piers

PIERS, Concrete

They precast concrete docks that float; Fibre-

crete corp. *il Concrete 66:32-3 F '58*

PIES, Frozen

Makes pies thirty per cent faster; Libby.

McNeill & Libby. il Food Eng 30:80-1 Je

'58

Time-temperature tolerance of frozen foods;

turkey dinners and turkey pies. *H. L. Han-*

son and L. B. Fletcher. bibliog Food Tech

12:40-3 Ja '58

PIEZOELECTRIC crystals. See Crystals, Piezo-

electric

PIEZOELECTRICITY

Apparatus for measuring the piezoresistivity

of semiconductors. *R. F. Potter and W. J.*

McKean. bibliog il diags J Res Nat Bur

Stand 59:427-30 D '57

Apparatus for piezoresistance measurement.

M. Pollak. bibliog diags R Sci Instr 29:639-

41 Jl '58

Piezobirefringence in silicon. *A. A. Giardini.*

bibliog diags Am Mineralogist 43:249-62 Mr

'58

Piezoelectric and dielectric characteristics of

single-crystal barium titanate plates. *A. H.*

Meitzler and H. L. Stadler. bibliog diags

Bell System Tech J 37:719-38 My '58

Simple apparatus for the direct determina-

tion of the charge output of piezoelectric

materials at high forces. *D. S. Schwartz.*

diags R Sci Instr 29:321-3 Ap '58

See also

Oscillators, Crystal

Piezoelectricity

PIG iron

Experimental electric smelting of manganese

ores; production of iron, silico-spiegel-ore,

and portland cement from a low-grade ore.

R. A. Campbell and others. bibliog diag

Can Min & Met Bul 51:288-93 My '58

Feed alloy pigs in packaged form. *il Iron*

Age 181:101 Mr 20 '58

Influence of slag properties on pig-iron com-

position. *A. J. Burgess and B. G. Baldwin.*

bibliog Iron & Steel Inst J 186:227-35 Je

'57; Discussion. 188:360-4 Ap '58

Mills use more hot metal in steelmaking. *A.*

Adams. il Iron Age 180:88-9 N 21 '57

New process yields quality pig. *A. de Sy. il*

diags Iron Age 182:92-4 S 18 '58

See also

Iron founding

Patents

Production of pig iron; patent. *diag Iron &*

Steel Eng 34:21-2 N '57

PIGMENTS

Action of lead pigments and lead soaps on

aluminum. *M. J. Pryor and others. bibliog*

diags Electrochim Acta 3:59-17 Ja '58;

Discussion. 105:784-6 D '58

Alphabetical list of new products developed

since Nov. 1956. *Am Dyestuff Rep 46:904-14*

D 2 '57

PIGMENTS—Continued.

- DuPont family of red pigments makes debut with new tech lab. *Product Eng* 29:25 Je 9 '58
- Grind pigments with sand. *Chem & Eng N* 35:61 N 25 '57
- Manufacture of coated fabrics; the processes used and their bearing on the choice of pigments. H. Shepherd. *diags Soc Dyers & Col J* 74:449-57 Je '58
- New family of red pigments; Monastral reds. *il Paper Ind* 40:295 Ag '58
- New rheological classification for pigment suspensions in polymer solutions. L. Dintenfuss. *J Ap Chem* 8:349-51 Je '58
- Open first Canadian Ti pigment plant. *il Light Metal Age* 15:6+ O '57
- Pore sizes and pore size distribution in reinforcing pigment particles. A. Voet. *bibliog diags Rubber World* 139:63-74, 232-6 O-N '58
- Red pigments are now durable. *il Chem & Eng N* 36:48 Je 2 '58
- Science for the coatings technologist; green pigments. E. S. Beck. *il Metal Finishing* 56:50-5 N '57
- Science for the coatings technologist; metallic pigments. E. S. Beck. *il Metal Finishing* 56:52-5+ Ap; 89-92 My '58
- Swelling behavior of rubbers compounded with reinforcing pigments. B. E. S. T. Boonstra and E. M. Dannenberg. *bibliog Rubber Age* 82:835-46 F '58

See also

Dyes and dyeing
Titanium oxides

PIGMENTS, Biological

- Biochemistry of myoglobin; production and identification of a green pigment formed during irradiation of meat extracts. J. B. Fox, Jr. and others. *bibliog J Agri & Food Chem* 6:692-6 S '58
- Cacao bean pigments and their behaviour during fermentation. J. A. R. Maclean. *bibliog Chem & Ind p* 1597-8 D 7 '57
- Cercosporin; a pigment of cercosporina *Ki-kuchii* Matsumoto et Tomoyasu. S. Kuyama and T. Tamura. *bibliog Am Chem Soc J* 79:5725-9 N 5 '57
- Pigments from a red strain of *Pseudomonas aeruginosa*. F. G. Holliman. *Chem & Ind p* 1468 D 28 '57

See also

Carotenoids
Chlorophyll
Flavonoids
Gossypol
Homovitamin
Porphyrins

PILE drivers

- How good are the Diesel-powered pile hammers? E. M. Young, Jr. *il diags Eng N* 160:54-6+ My 15 '58
- Pile hammer of closed design gives more blows per minute. *il Machine Design* 29:28-9 O 31 '57

PILE fabrics

- Bedspreads join carpets as profitable tufted textiles. *Textile World* 108:93-4 F '58
- Call the plays electrically; tufting pattern control. J. O. Erwin and W. Hammel, Jr. *il diag Textile Ind* 122:106-8+ F '58
- How Minette mills makes woven and tufted bedspreads. *il Textile World* 108:54-5 S '58
- How to use metallic yarns in tufted fabrics. *diags Textile Ind* 122:145-4 F '58
- Improved machines and yarns put tufted carpets on top. *Textile World* 108:64-5 O '58
- Making tufted bedspreads with fast automatic machines. *il Textile World* 108:111-12 F '58
- March of the tufteds. *il Textile Ind* 122:104-5+ Je '58
- Solution-dyed yarns increase tufted-carpet sales. *il Textile World* 108:76-7+ Je '58
- Ten ways to knit pile fabrics. J. H. Blore. *il Textile World* 108:66-7+ S '58
- Tufted bedspreads; an old home craft gives way to big industry. *il Textile World* 108:110 F '58
- Tufters used 18 per cent more yarn, 14 per cent more fabric in '57. *Textile Ind* 122:76 J1 '58
- Why not print your tufted carpets? P. Abbenheim. *Textile Ind* 122:117+ Je '58

See also

Terry fabrics

PILES and pile driving

- Broken-back friction piles will underpin building; California bank building in Los Angeles. *il diag Eng N* 161:33-9 Ar 21 '58
- Channels make H-pile sleeve. *il Eng N* 161:117-18 S 11 '58

Computer checks as-driven pile groups. P. T. Gavarris. *diag Eng N* 160:54 My 22 '58

Easier pile driving; tests show electric current eases pile-driving friction. *Eng N* 160:72 Ap 17 '58

- Frictional resistance of steel H-piling in clay. E. Vey. *bibliog diags Am Soc C E Proc* 83 [ISM 1 no 1160]:1-31 Ja '57; Discussion. 83 [ISM 2 no 1228]:49-52 Ap; [ISM 3 no 1319]:25-30 J1; [ISM 4 no 1430]:15-17 N '57; Reply. 84 [ISM 2 no 1657]:7-8 My '58
- Horizontal piles brace cofferdam wall. *il diag Eng N* 160:55+ Ap 24 '58
- How to be sure of treated wood piling. A. P. Richards. *il Eng N* 161:51-3 J1 24 '58
- Illinois toll highway; piles double as columns on tollway structures. M. Van Buren. *il diags Civil Eng* 28:420-2 Je '58
- Model study of a dynamically laterally loaded pile. R. D. Gaul. *bibliog il diags Am Soc C E Proc* 84 [ISM 1 no 1535]:1-33 F '58; Discussion. 84 [ISM 4 no 1828]:13-19 O '58
- Norway experience with steel pile foundations. Roads & Sds 101:67 Ag '58
- Resistance to overturning of single, short piles. E. Czerniak. *bibliog diags Am Soc C E Proc* 83 [ST 2 no 1188]:1-25 Mr '57; Discussion. 83 [ST 5 no 1382]:63-71 S '57; Reply. 84 [ST 2 no 1576]:9-14 Mr '58
- Soils studies for piles. G. Wheeler. *Pub Works* 89:117 My '58
- What happens when hammer hits pile; electronic digital computers are solving the wave equation. E. A. Smith. *Eng N* 159:46-3 S 5 '57; Discussion. 159:6+ D 19 '57; Reply. 160:8+ Ap 24; 10+ Je 19 '58

See also

Concrete piling
Groins
Pile drivers
Sheet piling

Testing

- Testing a bearing pile; with cost data. M. Quinn. *diags Pub Works* 89:110-11 My '58

PILOT California company

- Career opportunities. *il Chem & Eng N* 36:51 pt 2 Ja 27 '58

- PILOT plants.** See Clay products plants—Experimental plants; Metal working plants—Experimental plants; Paper and pulp mills—Experimental plants; Petroleum refineries—Experimental plants; Sewage disposal plants—Experimental plants; Steel works—Experimental plants; Waterworks—Experimental plants

- PILOTLESS airplanes.** See Airplanes, Pilotless

PIMARIC acid

- Stereochemistry of the pimaric acids. E. Wenkert and J. W. Chamberlin. *Am Chem Soc J* 80:2812-13 Je 5 '58

PIMELIC acid

- By-products from the alkaline cleavage of 3-cyclohexen-1-carbonitrile to pimelic acid. J. W. Lynn and L. W. Newton. *Chem & Ind p* 159-60 F 8 '58

- PINACOL rearrangement.** See Molecular rearrangements

PINE

- Effect of site and spacing on the specific gravity of wood of plantation-grown red pine. B. A. Jayne. *bibliog Tappi* 41:162-6 Ap '58
- Experimental control of environmental factors and their effect upon some aspects of wood anatomy in loblolly pine. J. P. van Buitenen. *bibliog Tappi* 41:175-8 Ap '58
- Natural variation in wood specific gravity of loblolly pine, and an analysis of contributing factors. B. J. Zobel and R. L. McElwee. *bibliog map diags Tappi* 41:158-61 Ap '58
- Relationship between pulp quality and alkali concentration. C. B. Christiansen and G. W. Legg. *bibliog diag Tappi* 41:216-23 My '58
- Studies on the nitration of eucalyptus rostrata and pinus halepensis. M. Lewin and A. Epstein. *bibliog Tappi* 41:240-5 My '58
- Uronic acid fragments from slash pine (pinus elliotti) and their behavior in alkaline solution. R. L. Whistler and G. N. Richards. *bibliog Am Chem Soc J* 80:4888-91 S 20 '58
- Variation in the specific gravity of slash pine wood and its genetic and silvicultural implications. T. O. Perry and W. C. Wu. *bibliog Tappi* 41:175-80 Ap '58
- Variation of cellulose in loblolly pine. B. J. Zobel and R. L. McElwee. *Tappi* 41:167-70 Ap '58

PINE oil

See also

Tall oil**PINEAPPLE Juice, Dried**
Pineapple juice powder, G. K. Nottter and others, bibliog Food Tech 12:363-6 J1 '58**PINENE**Liquid phase catalytic isomerization of α -pinene, V. P. Wystrach and others, bibliog Am Chem Soc J 79:5786-90 N 5 '57**PINOCEMBRIN**

Chemistry of rosewood; isolation and identification of cotoin and pinocebrin, O. R. Gottlieb and W. B. Mors, bibliog Am Chem Soc J 80:2263-5 My 5 '58

PINONIC acid

Reaction of hydrozoic acid with pinonic acid and homoterpenyl methyl ketone, B. A. Parkin and G. W. Hedrick, bibliog Am Chem Soc J 80:2899-902 Je 5 '58

PINS

Carbide tooling improves pin making, il Wire & Wire Prod 33:422+ Ap '58

PINS, Machinery

Design of pin keys; data sheet, J. Paull, diags Machine Design 30:153-4 Ap 3 '58

Mechanical fasteners for military electronic equipment; rivets and pins, G. H. Lines, diags Elec Manuf 61:120-2 Je '58

Novel method for producing small pins, C. McLaughlin, diags Mach 64:117-18 Ag '58

Pin fasteners, L. F. Spector, il diags Machine Design 29:122-31 N 14; 166-72 D 12 '57

Production man's guide to fastening devices; pins, J. J. Dwyer, jr, diags Am Mach 102:108 S 8 '58

Taper pins; 17 ways to retain them positively, F. Strasser, diags Product Eng 28:122-3 N 11 '57

Standards

Standard grooved pins; reference book sheet, diags Am Mach 101:133+ D 2 '57

PINS POTTER, See Bowling alleys—Equipment**PIONS**, See Mesons**PIPE**, See Pipes**PIPE bending**

See also

Tube bending**PIPE bends**

Examination of the theories for calculating the stresses in pipe bends subjected to in-plane bending, C. E. Turner and H. Ford, bibliog diags Inst Mech Eng Proc 171 no 15:513-25 '57

True combination angles for pipeline bends by spherical trigonometry, J. H. Reagan, plan diags Oil & Gas J 55:145+ S 15 '58

PIPE coating

Electrical insulation of underground pipelines, G. B. McComb, bibliog il diags Pet Eng 29:D38+ J1; D45-9 O '57; 30:D42a-45 Mr '58

High density asphalt mastic coating; Southern natural gas co. N. L. Brown, Gas Age 120:37+ N 28 '57; Same, il Gas 34:132+ Mr '58

How Natural Gas Pipeline hot-coats pipe on its Texas-Oklahoma transmission line, P. Reed, il Oil & Gas J 55:117-18+ Ja 13 '58

Look at today's asphalt pipe enamels, L. F. Bramble, il Gas 34:19+ Mr; 27+ Ap '58

Plant coats pipe in hurry, il Oil & Gas J 56:35 My 12 '58

Possible reduction of costs through use of thin wall pipe, adequate coating and wrapping, J. C. Stirling, il Pet Eng 29:D27-32 D '57

Protective coatings for buried pipelines, V. M. Liss and F. Fekko, il Oil & Gas J 56:93-6 Je 2 '58

Southern Natural specifies new coating for water construction, P. Reed and G. Kinney, il Oil & Gas J 56:129-31 S 15 '58

Tentative recommended specifications for asphalt-type protective coatings for underground pipe lines, Corrosion 14:37-8 Ag '58

Thin-film coatings finding greater use on pipelines; coal tar-epoxy resin coatings, N. T. Shideler and F. C. Whittier, Oil & Gas J 56:135 My 12 '58

Three kinds of pipe protection are being applied on NGP's major project, P. Reed, il map Oil & Gas J 55:98-100 D 9; 134+ D 16; 223-4+ D 30 '57

See also

Pipe lining**Testing**

Coating evaluation testing program, E. R. Allen, Jr, Gas 34:23 Je '58

Long term tests with various coating materials, H. W. Wahlquist, il Gas 34:69-74 Mr '58

Microbiological deterioration of buried pipe and cable coatings, E. E. Kulman, bibliog il Corrosion 14:23-32 My '58
Tests for external pipeline coatings; abstract, E. A. Allen, jr, Oil & Gas J 56:145+ Je 2 '58**PIPE coating, Plastic**

Effect of flow rate on paraffin accumulation in plastic, steel, and coated pipe, F. W. Jessen and J. N. Howell, bibliog il diag J Pet Tech 10:80-4 Ap '58

Plastic-coated pipe branches out, G. J. McManus, Iron Age 181:65 Mr 20 '58

Plastic coated steel pipe, being tested by utilities, il Gas 34:75-6 Mr '58

Plastic coated steel pipe developed, il Gas Age 120:36+ N 28 '57

Plastic linings and coatings for steel water pipe, G. E. Burnett and C. E. Selander, bibliog Am Water Works Assn J 50:1065-75 Ag '58

Plastic tape pays off for A-L on large-diameter pipe laying, N. E. Miley, Gas Age 120:48-51 N 14 '57

Tough new coating; Transcontinental gas pipe line corp, il diags Oil & Gas J 55:70-2 D 16 '57

PIPE coils, See Coils, Pipe**PIPE coverings**

Special glass insulation for underground pipe, il Materials in Design Eng 47:186+ Mr '58

See also

Steam pipe coverings

Testing

Microbiological deterioration of buried pipe and cable coatings, F. E. Kulman, bibliog il Corrosion 14:23-32 My '58

PIPE elbows

Cover piping bends with aluminum elbows, il Elec World 149:56 Je 30 '58

Easy way to fabricate elbows, C. A. Lee, diags Chem Eng 65:125-6 J1 28 '58

How to find equivalent lengths of elbows in rectangular ducts; chart; data sheet, J. T. Eubanks, diag Heating-Piping 29:119-20 D '57

PIPE fitting

Steam piping connections; detail sheet, diags Air Cond Heat & Ven 55:77 Je '58

See also

Pipe hangers

Plumbing

PIPE fittings

Inventory of new equipment and accessories; pipe, fittings and valves, il Chem Eng 64:369-72+ Mid-N '57

Losses in pipe and fittings, R. J. S. Pigott, bibliog A S M E Trans 79:1767-81; Discussion, 1781-3 N '57

Losses in tap-off fittings in high velocity duct systems, N. S. Shataloff, diags Air Cond Heat & Ven 55:63-4 Ag '58

New space-saving expansion loops made with ball joint fittings, il diags Power Eng 61:73 D '57

Pressure drop through pipe fittings, D. S. Davis, Power Ind 74:23 Ag '58

Resistance coefficients for laminar and turbulent flow through one-half-inch valves and fittings, C. P. Kittredge and D. S. Rowley, bibliog plan diags A S M E Trans 79:1759-64; Discussion, 1764-6 N '57

Spinning operation thickens thin-walled pipe to required tapping depth, diag Air Cond Heat & Ven 55:100 Mr '58

Use of pipe, fittings, valves and pumps in the pulp and paper industry, R. L. Allen, jr, Paper Ind 40:24-6, 86-8+, 161-2+, 232-4, 292-3+, 360-1 Ap-S '58

Vacuum or low-pressure seal utilizing modified standard refrigeration-type, flare tube fittings, E. H. Hodder, il diag J Sci Instr 35:182 My '58

See also

Pipe joints

Standards

Development of standards in the valve and fittings industry, W. E. Kliment, il diag Mag of Stand 29:134-7 My '58

Tables, calculations, etc.

Handy tables for pipefitters, B. Noe, comp. diags Power Eng 62:98 Ja '58

PIPE fittings, Aluminum

Glant Al fitting, il(cover) Light Metal Age 15:21 O '57

PIPE flanges

Flanges and subplates, J. J. Pippenger, il Ap Hydraulics 11:87 My '58

PIPE handling

Magnets help lift heavy pipe. *il Oil & Gas J* 56:119 Ag 18 '58
Two pipe handling and storage tips. *il Gas Age* 122:16-17 Ag 21 '58

PIPE hangers

How to space supports for steel pipe; data sheet. G. Metry. *Heating-Piping* 30:197-8 Ja '58

Protection saddles prove important piping addition. G. W. Hauck. *il Heating-Piping* 30:191 Ja '58

Save on pipe support foundations. S. H. Fistedis. *bibliog diags Pet Refiner* 37:150-4 Mr '58

What's the best way to support steam piping in tunnels? answers, *diags Power* 102:128-9 My '58

PIPE joints

Arc welding of pipe butt joints without backing ring. *diags Mach* 64:114 Je '58

Automation scores in double jointing; new technique for inside and outside welding. P. Reed. *il Oil & Gas J* 55:32-4 D 16 '57

Ball joints can cope with thermal expansion of piping. *diags Plant* 13:55 Jl '58

Ball joints help solve severe piping problems; A. E. Staley manufacturing co. *il Plant* 18:42-3 S '58

Development of tubing joints for high-pressure gas service; abstract. W. M. Frame and W. F. Franz. *diags Oil & Gas J* 55:128 Q 28 '57

Fabrication of small piping by welding and brazing. A. N. Kugler. *il Air Cond Heat & Ven* 55:53-8 Ag '58

High frequency induction butt weld process passes field test. *il Gas Age* 121:20-1 Je 26 '58

High-temperature piping problems solved with new expansion joint design. *il Power Eng* 62:32 Ag '58

Hilyn self-sealing swivel joint for pipes. *diag Engineer* 206:306-7 Ag 22 '58

Joint for cast iron pipes. *diags Engineer* 206:39 Jl 11 '58

Know your expansion joints. K. S. Roberts. *il diags Power* 102:113-15+ Jl '58

New joint design fills the bill for making root pass welds in steel and stainless steel pipe butt joints. L. C. Lemon and W. R. Smith. *il diags Heating-Piping* 29:135 N '57

New joint design is needed in pipeline welding; Northern natural gas co. field tests. L. J. Cunningham. *il Oil & Gas J* 56:144-5+ Mr 10 '58

New space-saving expansion loops made with ball joint fittings. *il diags Power Eng* 61:73 D '57

Production man's guide to joining welded steel tubing; illustrated instructions. Am Mach 101:149-64 S 9 '57; Excerpts. *Product Eng* 29:G 12-15 Mid-S '58

Reducing worm holes in welded pipe joints. *il Engineering* 186:223 Ag 15 '58

Repair sealing bell and spirok joints with rubber base sealants. *il Gas* 34:59-61 F '58

Sealed flexible air duct joint; patent. *diags Aviation Age* 28:86-7 F '58

Slip-on joint pipe; Tyton. F. C. Amsbary. *il Water & Sewage Works* 105:153-6 Ap '58

Stress and deflexion studies of pipeline expansion bellows. G. E. Turner and H. Ford. *bibliog il diags Inst Mech Eng Proc* 171 no 15:526-44; Discussion. 544-50; Reply. 551-2 '57

Swivel joints may work where nothing else can. G. M. Eagnard. *il diags Product Eng* 29:40-3 Ag 4 '58

Torque requirements for rotary shouldered connections. A. P. Farr. *il diag Oil & Gas J* 55:108-14 D 2 '57

See also

Pipe elbows
Piping (power plants)

PIPE Joints, Plastic

Clay pipe with PVC couplings handles salt water waste in oil fields. *il Pub Works* 89:168 My '58

PIPE Joints, Rubber

Flexible joints resist acids. *il diag Eng N* 161:65 Jl 17 '58

Rubber joints overcome weather conditions on sewer line construction. *il Pub Works* 88:146 N '57

Single-rubber-gasket joints for cast-iron pressure pipe. T. F. Wolfe. *il diag Am Water Works Assn J* 50:1227-30 S '58

PIPE laying

California line a rugged job. A. E. Garrissere. *il Pet Eng* 29:D 19-21 D '57

Construction of sewers. L. K. Crawford. *diags Water & Sewage Works* 105:389-93 S '58

Dredge makes land for pipelaying project. *il Eng N* 160:40-1 Ja 2 '58

Line laid with latest methods; Accra tank farm on west coast of Africa. *il Oil & Gas J* 56:88 Je 9 '58

Los Angeles enlarges its sewage facilities; two long ocean outfalls constructed. D. L. Narver, Jr. and E. H. Graham, Jr. *il plan diags Civil Eng* 28:6-11 Ja '58

New rig lays heaviest precast pipe; Pipe-mobile. *il Eng N* 160:30-1+, cover Ja 9 '58

Northern Ontario Natural Gas passes halfway mark in linking 32 towns. *il map Gas Age* 122:32-3 S 4 '58

Operating tractors in rocks is different. *il Pet Eng* 30:D 67-8 Ja '58

Pipelayer's puzzle; how to cope with quicksand. C. S. Seabrook. *il diags Eng N* 161:42-4+ Ag 21 '58

Pipeline construction; yesterday, today and tomorrow. J. W. Hall. *il Pet Eng* 30:D 13+ Jl '58

Public acceptance of inconveniences during utility construction in streets. B. S. Grant. *Am Water Works Assn J* 50:1306-10 O '58

Refinery gases used in homes; Shellhaven supplies Romford. *il map Engineering* 185:222-3 F 14 '58

Shellhaven-Romford gas pipeline. *il Engineer* 205:216-17 F 7 '58

Tight-grip coupling speeds work. J. H. Krooss. *il Oil & Gas J* 56:101+ Ap 14 '58

Tough ditching slowed progress through rocky Osage hills on Cherokee project. G. Kinney. *il Oil & Gas J* 56:86-8 S 22 '58

See also

Gas, natural—Pipe lines—Construction
Petroleum pipe lines—Construction
Pipe joints
Water distribution

PIPE laying, Subaqueous

Big dunking; 80 tons of conduit. *il Eng N* 161:25 Ag 28 '58

Brine pipeline crosses Detroit river. *il Eng N* 159:58-9 D 5 '57

Creole lays Super-Inch pipe in Lake Maracaibo. *il Oil & Gas J* 56:38 Ag 11 '58

Creole to lay Big-Inch line. *il Oil & Gas J* 56:66 Mr 31 '58

Cut underwater joining time. *il Eng N* 160:64 F 27 '58

New pipe-launching device lowers pipe gently, guards against damage. L. Resen. *il Oil & Gas J* 55:154-5 N 4 '57

Pipelining on marsh, swamp and open water. W. T. Ivey. *il Civil Eng* 28:640-3 S '58

Pre-assembly of concrete pipe saves time on underwater sewer installation. *il Am Concrete Inst J* 29:sup27-8 Ja '58

Southern Natural specifies new coating for water construction. P. Reed and G. Kinney. *il Oil & Gas J* 56:129-31 S 15 '58

Submarine trenches. S. V. Collins and P. Reed. *il Oil & Gas J* 56:111-12+ Ag 11 '58

Tennessee gas transmission co. sets a standard for marine pipelaying. P. Reed and G. Kinney. *il diags Oil & Gas J* 56:124-8 S 15 '58

See also

Barges, Pipe laying
PIPE line bridge. See Pipe lines—Bridge crossing

PIPE line contractors association

Annual meeting. Boca Raton. Oil & Gas J 56:126-8 Ja 27 '58

What's ahead for the contractors? *Pet Eng* 30:D 29-31 Ja '58

PIPE line contractors association of Canada

Annual meeting. 4th. Victoria, Feb. 19-22. *Pet Eng* 30:D 52-3 Ap '58

PIPE lines

Big year in pipelining forecast. J. P. Neill. *Oil & Gas J* 56:85 Ja 20 '58

Equipment and methods; a working team. F. H. Love. *il Pet Eng* 30:D 19-23 Jl 15 '58

Ethylene jumps state line; interstate pipeline carries high purity ethylene from Lake Charles, La. to Orange, Tex. *il map Chem & Eng N* 35:22-3 D 16 '57

Land surface subsidence and its effect on pipeline systems. W. Johnson. *bibliog il diags Gas Age* 122:31-42 Jl 24 '58

New way to move solids; American gilsonite co. J. H. Henderson, Jr. *Oil & Gas J* 56:127+ Je 16 '58

1957 crop of new ideas. D. M. Taylor. *il diag Pet Eng* 30:D 32-4+ Ja '58

Pipelining is engineered design, construction, maintenance and operation. L. B. Combs. *il Civil Eng* 28:264-7 Ap '58

Some design suggestions for multiphase flow in pipelines. O. Baker. *bibliog diags Gas Age* 121:34-40 Je 12; 42-3+ Je 26 '58

PIPE lines—Continued

Toward lower pressure drop. G. W. Hodgson. Chem & Eng N 36:52-3 S 29 '58
Where to get pipeline movies; list. R. E. Kling. Pet Eng 30:D26 My '58

See also

Aqueducts
Coal pipe lines
Gas, Natural—Pipe lines
Gas distribution
Gas distribution—Long distance lines
Gas pipes
Manholes
Petroleum pipe lines
Petroleum products pipe lines
Pipe joints
Pipe laying
Piping (power plants)
Steam pipe lines
Water hammer
Water pipes

Bridge crossing

Failure loss shared; all parties to Canadian bridge collapse pay. Eng N 160:28 Ap 17 '58
Gas line hops Trinity river. il Oil & Gas J 56:56 Ag 25 '58
Pipeline job short but rugged. il Oil & Gas J 56:85 Je 23 '58
Probers still studying pipeline bridge that collapsed under first load. il Eng N 160:24 F 20 '58
Regarding pipeline bridges. il diags Oil & Gas J 56:159-60+ S 15 '58
Unusual pipeline bridge spans Danube. il Oil & Gas J 56:79 Ap 28 '58

Cathodic protection

Cathodic protection of gas pipelines. T. L. Canfield. Gas Age 121:43+ Mr 6 '58
Cathodic protection of underground steam mains; abstract. J. A. Sheppard, Jr. Air Cond Heat & Ven 55:81 J1 '58
Controlling external corrosion on the Trans-Arabian pipeline. F. M. Maasry. il map plans diag Corrosion 14:100+ Mr '58
Copper sulfate electrode. G. N. Scott. biblog il Corrosion 14:36-40 Mr '58
Effective corrosion control. J. M. Meeker. il Water & Sewage Works 105:R97-100 S 15 '58
Electrical insulation of underground pipelines. G. B. McComb. biblog il diags Pet Eng 29:38+ J1; D45-9 O '57; 30:D42a-45 Mr '58
Impressed current anodes installed and back-filled at depth of 350 ft. J. F. Tatum. il Corrosion 14:98-100 Ap '58

See also

Gas pipes—Cathodic protection

Cleaning*See Pipes—Cleaning***Communication systems**

Communications role in pipeline automation. F. V. Long. Gas 34:153-4 Mr '58
Electropneumatic control system utilizes communication circuits. il plan Automation 5:91 My '58
Line breaks detected by system which sounds alarm at nearest attended station. J. H. Stannard, Jr. Oil & Gas J 56:104 My 19 '58
Linking a widespread system; Transcontinental gas pipe line corp. microwave system. F. Chapman. Gas 34:139 Ap '58
Microwave station that came by airlift. il diag Pet Eng 30:D34-5 Je '58
Microwave system for Four Corners pipe line. il map Oil & Gas J 56:166-70 S 1 '58
New master control system for pipelines. H. S. Wilson. il diags Pet Eng 30:D60+ My '58
Pipeline communication and control; special report. il diags Oil & Gas J 56:89-104+ J1 14 '58
Pipeline microwave reaches 21,000 miles. D. Hale. Pet Eng 30:D50-50a My '58
Preventing dangerous pressure in a pipeline automatically by remote control. S. M. Hammer. il diag Oil & Gas J 56:193-4+ S 15 '58
Remote control and gaging, automatic blending with microwave providing voice and supervisory control channels; Magnolia pipe line co. G. J. Dorris, Jr. and G. A. Lundberg. il map diags Oil & Gas J 56:182-3+ S 15 '58

Corrosion

Venezuela's corrosion problem is a special one. C. R. Landers. il Pet Eng 29:D28-31 N '57

See also

Corrosion and anti-corrosives—Underground corrosion
Gas pipes—Corrosion
Water pipes—Corrosion

Costs

Pipeline learn where to cut costs; API panel discussion. Oil & Gas J 56:124 Ap 7 '58

Design

Digital computers applied to pipeline design. H. E. Thomas. diags Am Soc C E Proc 84 [PL 1 no 1575]:1-8 Mr '58
Prediction of surge pressures in oil pipelines. R. D. Kersten and E. J. Waller. biblog diags Am Soc C E Proc 83 [PL 1 no 1195]:1-22 Mr '57; Discussion. H. M. Paynter. 83 [PL 3 no 1383]:5-14 S '57; Reply. 84 [PL 1 no 1578]:3-4 Mr '58

Detection

Locating underground contacts and open couplings by electrical measurements; abstract. C. L. Woody. Gas 34:19 F '58

Fires and fire protection

Great Lakes employees learn about fire fighting. il Oil & Gas J 56:183+ S 1 '58

Location

Highway engineers and pipeliners can solve mutual problems. C. D. Richardson. plans Am Soc C E Proc 84 [PL 2 no 1666]:1-9 Je '58; Same. Gas Age 122:24+ S 18 '58; Abstract. Pet Eng 30:D24-5 My '58
Pipeline location surveys. E. K. Monteith. Am Soc C E Proc 84 [PL 1 no 1574]:1-5 Mr '58
Pipeline route survey by photogrammetry. M. E. Fuller. Gas Age 122:33-5 J1 10 '58
Sonne photography for pipeliners. J. H. Wolvin. il diags Pet Eng 30:D27-8 My '58

See also

Gas, Natural—Pipe lines—Location

Maintenance and repair

Contracting for pipeline maintenance; panel discussion. Oil & Gas J 56:181+ Ap 7 '58
Divers find, help repair damaged crossings. C. F. Logan. il diags Oil & Gas J 56:106-8+ Ap 28 '58
Pipeline field welding and quality control methods. A. G. Barkow. il diags Am Soc C E Proc 84 [PL 2 no 1673]:1-34 Je '58; Same abr. Oil & Gas J 56:113+ Je 16 '58

Moving

Federal highway program promises boost for economy but more woes for pipeliners. Gas Age 121:40 Mr 20 '58

Protection

Corrosion; maintenance and operation. Pet Eng 30:D36-7+ J1 15 '58
Nitrogen keeps line corrosion-free. il Oil & Gas J 56:107 J1 21 '58
Possible reduction of costs through use of thin wall pipe, adequate coating and wrapping. J. C. Stirling. il Pet Eng 29:D27-32 D '57
Preventing dangerous pressure in a pipeline automatically by remote control. S. M. Hammer. il diag Oil & Gas J 56:193-4+ S 15 '58
Preventive maintenance for pipeline systems; symposium. Gas Age 121:32-5+ Mr 20 '58
Tentative recommended specifications for asphalt-type protective coatings for underground pipe lines. Corrosion 14:37-8 Ag '58

See also

Gas pipes—Protection
Petroleum pipe lines—Protection
Pipe lines—Cathodic protection

Right of way

Problems arising with pipeline rights of way. B. Z. Kastler, Jr. biblog Gas 34:70-4 O '58

River crossing

Delaware River crossing takes 24-in. products line closer to its destination. il Oil & Gas J 56:102-3 S 1 '58
Divers find, help repair damaged crossings. C. F. Logan. il diags Oil & Gas J 56:106-8+ Ap 28 '58
Earth anchors may help you prevent pipe flotation at river crossings or in swamps. W. L. Hollander. il diags Oil & Gas J 56:98-101 My 26 '58

PIPE lines—River crossing—Continued

- Kenora crossing a tough one! L. O. Rowland. *il diag Pet Eng* 30:D24-6 Mr '58
 New design in long-span river crossings. R. N. McManus. *il Gas Age* 121:31-3+ Je 12 '58
 Solving a difficult construction problem. B. E. Payne. *Am Water Works Assn J* 50:60 Ja '58
 Tubing used for drip pipe in submerged river crossing. T. J. Lambeck. *il diags Gas* 34:64-6 Mr '58

Surveying

See **Pipe lines—Location**

Tables, calculations, etc.

- Equation gives friction factor for fluid flow through pipelines. B. Miller. *Chem Eng* 64:253-4 D '57
 Flow formulas for natural gas. M. Brooke. *diag Chem Eng* 64:298 D '57
 How a computer is applied to a specific problem of pipeline design. R. W. Leach and W. P. Redmond. *diag Oil & Gas J* 56:157-8 S 15 '58
 How to cut design hours to computer seconds. flow chart *il diag Pet Eng* 30:D23-30 Ag '58
 How uphill and downhill flow affect pressure drop in two-phase pipelines through hilly country. W. E. Brigham and others. *bibliog il Oil & Gas J* 55:145-6+ N 11 '57; Same. *Pet Eng* 29:D39-42 N '57; Discussion. O. Baker. *Oil & Gas J* 55:150+ N 11 '57; *Pet Eng* 29:D42+ N '57
 Measuring flow efficiencies by ammonia displacement. J. N. White. *diags Pet Eng* 30:D23-31 My '58
 Pipeline analyzer speeds flow computations. P. C. Constant, jr. *il diags Oil & Gas J* 56:82-4 Mr 31; 160-1+ Ap 21 '58
 Solution of Hazen and Williams formula for large capacity lines; nomograph. *Pet Eng* 30:E 1b F '58
 True combination angles for pipeline bends by spherical trigonometry. J. H. Reagan. *plan diags Oil & Gas J* 56:145+ S 15 '58
 What is economic pipe size? C. J. Shelton, jr. *Pet Eng* 30D 19-25 Ap '58

Testing

- Detector warns of pipeline leaks. W. H. Clancy. *diags I S A J* 5:60 Ap '58
 Hydrostatic testing of pipe lines. L. E. Brooks. *Am Soc C E Proc* 83 [PL 3 no 1375]:1-10 S '57; Discussion. 84 [PL 2 no 1691]:3-4 Je '58

Welding

- Butt weld steel pipe faster in the field. *il Elec World* 149:50-1 Je 2 '58
 City pipeline construction is faster with induction-pressure welding. *il Oil & Gas J* 56:110 Ag 11 '58
 Faster butt welding speeds pipelaying. *il Eng N* 161:75 Ag 21 '58
 Field welding made easy; Consolidated Edison co. *il Steel* 143:115 Ag 18 '58
 Fusion welding in pipe fabrication. W. S. Schaefer. *il diag Welding Eng* 43:34-6 F '58
 Magnetographic control of pipeline butt welds. A. S. Falkevich. *il diags Gas* 34:121+ Ag '58
 Manufacture and metallurgy of flash-welded line pipe. M. A. Schell and others. *bibliog flow chart il diags Eng J* 41:60-71 F; 59-71 Mr '58
 Mobile induction welder spurs field piping. *il diag Chem Eng* 65:96+ S 22 '58
 New joint design is needed in pipeline welding; Northern natural gas co. field tests. L. J. Cunningham. *il Oil & Gas J* 56:144-5+ Mr 10 '58
 Pipeline field welding and quality control methods. A. G. Barkow. *il diags Am Soc C E Proc* 84 [PL 2 no 1673]:1-34 Je '58; Same *abr. Oil & Gas J* 56:113+ Je 16 '58; Same *abr. Gas Age* 122:34-9+ S 18 '58; Abstract. *Pet Eng* 30:D32-4 My '58
 Pipeline welding. *il Pet Eng* 30:D32-4+ Ag '58
 Pipeline welding. R. D. Morel. *diags Pet Eng* 30:D35-6+ Ap; D51-3+ My; D42-3 Je '58

PIPE lines, Subaqueous

- CATC gas deal hit by new court ruling. *Oil & Gas J* 56:82 J1 7 '58
 Offshore pipeline system designed for two-phase flow. T. W. Sigler and W. L. McNatt. *il map diag Pet Eng* 29:D46-7+ N '57
 Southern Natural slushes through Louisiana swamps. J. F. Ebdon. *il map diags Gas* 34:87-96+ J1 '58

TGT taps giant offshore reserves. *map Oil & Gas J* 56:114-15 J1 28 '58

See also

Pipe laying, Subaqueous

Maintenance and repair

Device to fix undersea pipe. *il Oil & Gas J* 55:98 N 4 '57

PIPE lines as common carriers

Antitrust suits beaten in U.S. court. *Oil & Gas J* 56:55 Mr 31 '58
 Pipeline transport. *Eng J* 41:86 Ap '58
 Pipelines under fire. *Oil & Gas J* 55:66-7 O 28 '57

PIPE lining

Inside insulation saves cost. R. F. Benenati. *il Chem Eng* 65:148 My 5 '58
 Internal line coating may boost gas flow efficiency; abstracts. R. M. Johnson. *Oil & Gas J* 56:100 Mr 24 '58; *il Gas* 34:19 My '58
 Internal pipe coating; erosion-proof industrial paint; Copon. *il Paint Oil & Chem R* 121:18 Ap 17 '58

See also

Pipe coating

PIPE lining—Plastic

Coating inside surfaces of steel pipe. *il Ind Finishing* 34:94+ Mr '58
 Experience with sweet oil well tubing coated internally with plastic. *Corrosion* 14:33-5 My '58
 Plastic-coated pipe branches out. G. J. McManus. *Iron Age* 181:65 Mr 20 '58
 Plastic linings and coatings for steel water pipe. G. E. Burnett and C. E. Selander. *bibliog Am Water Works Assn J* 50:1065-75 Ag '58
 Reports on thermoplastic coal tar base linings. *Corrosion* 14:35-7 J1 '58

PIPE racks

Portable pipe rack for field use. *il diags Gas Age* 122:30-1 J1 10 '58

PIPE threads

Threads; how to minimize stoplines. O. Koehler. *diags Tool Eng* 40:111-12 Je '58

PIPERAZINE

Steric conformations of nitro- and nitroso-bis-piperazines. M. V. George and G. F. Wright. *bibliog Am Chem Soc J* 80:1200-4 Mr 5 '58

Tertiary carbinols of the piperazine series. H. E. Zaugg and others. *bibliog Am Chem Soc J* 80:2763-74 Je 5 '58

PIPERIDINE

Antihypertensive agents; dialkylaminoalkoxyalkylpiperidines and pyrrolidines. S. L. Shapiro and others. *Am Chem Soc J* 80:2743-5 Je 5 '58

Azo compounds; oxidation of 1,1-disubstituted hydrazines; the synthesis and oxidation of *cis* and *trans*-1-amino-2,6-diphenylpiperidine; a new stereospecific ring closure. C. G. Overberger and others. *bibliog Am Chem Soc J* 79:6430-5 D '57

Biogenesis of the nicotiana alkaloids; the piperidine ring of anabasine. E. Leete. *bibliog Am Chem Soc J* 80:4393-4 Ag 20 '58

Condensation products of cyclic 1,2-diketones with benzylidene-bis-piperidine and their spectral properties. N. J. Leonard and others. *bibliog Am Chem Soc J* 79:6436-42 D 20 '57

Desalting amino acid solutions by displacement with piperidine. D. L. Buchanan. *bibliog Anal Chem* 29:1877-8 D '57

Hypotensive agents; aminoalkyl esters of piperidinecarboxylic acids and their reversed ester derivatives. J. H. Biel and others. *Am Chem Soc J* 79:6184-7 D 5 '57

Piperidine derivatives; 1,4-dialkyl-4-aryl-piperidines. S. M. McElvain and D. H. Clements. *bibliog Am Chem Soc J* 80:5915-23 Ag 5 '58

Strong analgesics; the preparation of some 4-acyloxy-1-aryl-4-phenylpiperidines. B. Elpern and others. *bibliog Am Chem Soc J* 80:4916-18 S 20 '58

Synthetic hypotensive agents; 3- and 4-(3'-aminopropyl)-piperidine derivatives. A. F. Phillips. *bibliog Am Chem Soc J* 79:5754-6 N 5 '57

PIPERIDONE

3-Benzoyl-4-piperidones. E. Van Heyningen. *bibliog Am Chem Soc J* 80:156-8 Ja 5 '58

PIPERONAL

Heliotropin; abstract. A. G. Arend. *Drug & Cosmetic Ind* 82:369 Mr '58

PIPERONAL chloride

Detection of polynuclear hydrocarbons and phenols with benzal and piperonal chlorides. E. Sawicki and others. *bibliog Anal Chem* 30:1130-3 Je '58

PIPERONYL butoxide

Effect of pyrethrins and piperonyl butoxide against the cacao moth *ephestia elutella* Hb. J. P. Brooke, *bibliog Chem & Ind* p387 Mr 29 '58

PIPES

Comparison of experimental information and analytical prediction for laminar entrance pressure drop in ducts with rectangular and triangular cross sections. T. F. Irvine, Jr. and E. R. G. Eckert, *bibliog diag J Ap Mech* 25:288-90 Je '58
Drilling rubber-lined pipe under vacuum. F. Franks, *diags Chem Eng* 65:124 F 24 '58
Experimental velocity and temperature profiles for air in turbulent pipe flow. C. A. Sleicher, Jr., *bibliog* (52 titles) flow diag *il diags A S M E Trans* 80:693-702; Discussion, 702-4 Ap '58

Flat pipe is used in Russia. *Oil & Gas J* 56:99 My 12 '58

Formulation and solution of equations describing non-steady processes. W. Smith, *diag Ind Chem* 34:121-5 Mr '58

Heat transfer in laminar pipe flow with uniform coolant injection. S. W. Yuan and A. B. Pinkelstein, *bibliog diag Jet Propulsion* 28:178-81 Mr '58

Inventory of new equipment and accessories; pipe, fittings and valves. *il Chem Eng* 64: 369-72+ Mid-N '57

Longitudinal mixing of fluids flowing in circular pipes. O. Levenspiel, *bibliog diag Ind & Eng Chem* 50:343-6 Mr '58

Losses in pipe and fittings. R. J. S. Pigott, *bibliog A S M E Trans* 79:1767-81; Discussion, 1781-3 N '57

Non-Newtonian flow. W. L. Wilkinson, *bibliog* (32 ref) *Ind Chem* 34:79-84 F '58

Skin friction experiments on rough walls; Reynolds numbers. G. M. Sacks, *bibliog diag Am Soc C E Proc* 84 [HY 3 no 1664]: 1-19 Je '58

Transition from laminar to turbulent flow in a pipe. M. R. Carstens, *il diags Am Soc C E Proc* 83 [HY 6 no 1450]:1-30 D '57; Discussion, J. M. Robertson, 84 [HY 6 no 1856]:5-11 N '58

Use of pipe, fittings, valves and pumps in the pulp and paper industry. R. L. Allen, Jr. *Paper Ind* 40:24-6+, 86-8+, 161-2+, 232-4, 292-3+, 360-1 Ap-S '58

See also

Air pipes
Gas pipes
Petroleum—Well casing
Petroleum—Well tubing
Petroleum pipe lines
Pipe elbows
Pipe joints
Pipe laying
Pipe lines
Piping (power plants)
Plumbing
Steam pipes
Tubes
Water pipes

Cleaning

Internal in-place pipeline cleaning. F. F. Tracy, *il Oil & Gas J* 56:203+ S 15 '58
New pipeline scraper tested. *il Oil & Gas J* 56:76 S 8 '58

Old crude line gets a cleaning. J. F. Stephenson and others, *il map Oil & Gas J* 55:82-4 N 25 '57

Manufacture

Canadian picture on pipe, tubing, and casing. D. A. Adamson, *il diag Can Min & Met Bul* 51:102-7 F '58

Storage

Two pipe handling and storage tips. *il Gas Age* 122:16-17 Ag 21 '58

Tables, calculations, etc.

Computing pipe stresses. *Engineering* 185:125 Ja 24 '58

Flow measurement by square-edged orifice plates; pipe roughness effects. W. J. Clark and R. C. Stephens, *il Inst Mech Eng Proc* 171 no 33:895-904; Discussion, 905-8; Reply, 908-10 '57

How much horsepower to pipe fluids? charts; reference book sheet. *Product Eng* 29:89+ Ja 6 '58

Speed trial and error solution for pipe diameter. J. P. Tassoney and J. M. Droter, *bibliog Chem Eng* 65:138-40 S 8 '58

PIPES (geology)

Granophyre and hybrid pipes in a dolerite layer of Slieve Gullion. R. W. D. Elwell, *bibliog map diags J Geol* 56:57-71, pl 1-3 Ja '58

PIPES, Aluminum

Improved automatic machine for welding aluminum demonstrated. *il Gas Age* 120: 47, 62 D 12 '57
Welding aluminum pipe by automatic machine. *il Oil & Gas J* 56:283 Ja 27 '58

PIPES, Cast iron

Joint for the cast iron pipes. *diags Engineer* 206:69 JI 11 '58

See also

Water pipes, Cast iron

Maintenance and repair

Cast iron pipe repairs simplified. J. B. Osborn, *diag Elec World* 148:76 N 11 '57

Manufacture

Continuous casting of gray iron. A. Wittmoser, *il diag Metal Prog* 73:83-7 Ja '58

PIPES, Clay. See Pipes, Vitrified clay**PIPES, Concrete**

New rig lays heaviest precast pipe; Pipe-mobile, *il Eng N* 160:30-1+, cover Ja 9 '58

See also

American concrete pipe association
Sewer pipes, Concrete
Sewers, Concrete
Water pipes, Concrete

Manufacture

Machine extrudes concrete conduit. H. C. Persons, *il Concrete* 66:28-32 JI '58

PIPES, Glass

Glass piping solves corrosion problem. *il Ind Lab* 9:40-1 Ap '58

Large glass waste-line installation. *il Ind Chem* 34:194 Ap '58

PIPES, Lead

Lead pipe installation for bathrooms; detail sheet, *diags Air Cond Heat & Ven* 55:83 Mr '58

Lead pipe installation for kitchens; detail sheet, *diags Air Cond Heat & Ven* 55:84 Mr '58

PIPES, Plastic

Application file on reinforced epoxy pipe. H. D. Boggs and E. D. Edmisten, *Corrosion* 14:114+ My '58

Application of Larson-Miller correlation to service test data on high-density polyethylene. W. E. Gloor, *bibliog Mod Plastics* 35:144+ O '58

Big polyethylene pipe. *il Mod Plastics* 35:126-7 D '57

Creep and stress-rupture behavior of rigid PVC pipe. J. H. Faupel, *il Mod Plastics* 35:120+ JI; 132+ Ag '58

Effect of flow rate on paraffin accumulation in plastic, steel and coated pipe. F. W. Jessen and J. N. Howell, *bibliog il diag J Pet Tech* 10:80-4 Ap '58

Extrusion of rigid polyethylene pipe. L. B. Croley and R. Doyle, *il diag Plastics Tech* 4:717-20+ Ag '58

How much plastic piping in use? *il Can Chem Process* 42:61-2+ Ag '58

How to work with rigid PVC plastic piping. J. P. Kelleher and C. L. Mantell, *il diags Chem Eng* 64:300+ D '57

Markets for polyethylene pipe. J. E. Sayre, *Mod Plastics* 35:82-7 J '58

Plastic pipe; characteristics and applications of four principal types. H. M. Englund, *il Air Cond Heat & Ven* 55:67-78 Ag '58

Plastic pipe coming. *Chem & Eng N* 36:25 JI 14 '58

Plastic pipe-corrosion preventive issue. *il diags Gas* 34:55-68 Mr '58

Plastic pipe for shipboard applications. J. A. Thompson, *Marine Eng/Log* 63:78 Mr '58

Plastic pipe in the chemical process industry. R. B. Seymour, *il Plastics Tech* 4:46-50, 59 Ja '58

Plastic piping; installation, use, and comparative costs. H. G. Davis and E. A. Erich, *il Tappi* 41:sup88A+ Je '58

Plastic piping serves portable ice rink. *il Heating-Piping* 30:83 F '58

Plastic soil pipe formed by machine. *il diags Eng N* 160:69 My 15 '58

Polythene pipe installation for wave reduction. *il Brit Plastics* 31:332 Ag '58

PVC piping proves maintenance-free in pickle plant operation. L. J. Turney, *il Heating-Piping* 30:88-90 JI '58

Reinforced plastics pipe progress. H. D. Boggs, *il Mod Plastics* 35:96-101+ Ag '58

D. Christopher, Pet Refiner 37:143-6 Mr '58

PIPING—Tables, calculations, etc.—*Continued*
 Piping design stops pulsating flow. R. James. bibliog diags Pet Refiner 37:185-90 My '58
 Sizing blowdown piping. F. Lipinski. Oil & Gas J 56:128 Ap 14; 129 My 6; 187 My 19 '58

Welding

Butt welder leaves no flash. *Il* Steel 143:84-5 S 22 '58
 Fabrication of small piping by welding and brazing. A. N. Kugler. *Il* Air Cond Heat & Ven 55:53-8 Ag '58
 How to cut welding costs. R. A. Clemens. diags Gas Age 121:40-2+ Mr 6 '58
 New concept solves aluminumized pipe weld problems. K. R. Notvest. *Il* Pet Refiner 37:100-2 J1 '58
 New graphite backing rings hold a solution. H. C. Phelps. *Il* Welding Eng 43:108 Ap '58
 New welder saves firm \$150,000 yearly; Thompson pipe & steel co., Denver. *Il* Steel 142:88-9 Je 9 '58
 New welding process boosts pipe quality; Southern pipe & casing corp. *Il* Elec World 149:86 Je 16 '58
 New welding technique for pressure piping developed by Stone & Webster. *Il* diags Gas Age 120:46 D 12 '57
 No more leaks in this welded pipe. *Il* Welding Eng 43:54+ Mr '58
 Reducing worm holes in welded pipe joints. *Il* Engineering 186:223 Ag 15 '58
 Selection, welding of CrMo alloy steel pipe. J. Bland. *Il* diags Welding Eng 43:34-6 J1; 42-4+ Ag '58
 Submerged arc pipe welding equipment saves labor costs; Mechanical contractors association; panel discussion. Heating-Piping 30:92-4 Ag '58
 When planning a maintenance pipe welding job, ask yourself these questions. R. M. Kolb. diags Heating-Piping 30:122-6 My '58
 Where maintenance welding often entails production problems. *Il* Low chemical co. J. Fairlie. *Il* Welding Eng 43:30-1 J1 '58

PIPING (power plants)

Balloon descension, an old trick with a new twist; man's ingenuity held back the tide when major piping changes were needed at plant Hagood. *Il* diag Power Eng 62:73 Mr '58
 Drips and drains vital to safe, efficient piping systems. G. W. Hauck. diags Heating-Piping 29:138-9 N '57
 How to improve your piping. *Il* Power 101:166 D '57
 Know your expansion joints. K. S. Roberts. *Il* diags Power 102:113-15+ J '58
 Knowing your sealants can save you money. W. M. Langton. *Il* Power 102:103-5 S '58
 Light-wall stainless steel pipe keeps makeup water pure. *Il* Power Ind 74:24-5 Ja '58
 Lightweight stainless steel cuts maintenance costs. *Il* Elec World 149:96-7 Mr 3 '58
 Metallurgical considerations of main steam piping for high-temperature, high-pressure service; abstract. H. Blumberg. Metal Prog 73:138+ Ja '58
 New space-saving expansion loops made with ball joint fittings. *Il* diags Power Eng 61:73 D '57
 Piping systems and metallurgy for nuclear applications. *Il* Power Eng 61:114+ D '57
 Provides for future piping connections. G. W. Hauck. *Il* diag Heating-Piping 29:111 D '57
 Seamless carbon-steel pipe to ASTM spec A-53 grade B and spec A-106 grade B; tables; data sheet. G. C. Halzel. Power 102:111 Mr '58
 Simple, standardized techniques insulate effectively. *Il* diags Combustion 29:38-9 D '57
 Temporary power piping is tool to speed power plant completion. J. A. Donald and others. diag Heating-Piping 30:142-4 My '58
 Thermal expansion of piping steels from 0 to 1400 F; nomograph; data sheet. J. F. Waters. Power 101:127 D '57
 Valve and piping hookups; key to tight seating steam shutoff valves. M. Stein. diags Power 102:106-8 S '58
 What can be done to combat failures in nuclear piping? V. T. Malcolm and S. Low. *Il* Heating-Piping 30:112-14 Je '58

Design

Designing, fabricating pressure piping. J. J. Murphy and others. *Il* Heating-Piping 30:160-4 Ja '58
 Visual qualitative approach to duct design for power plants. M. J. Archbold. *Il* Combustion 29:34-40 Ap '58

Specifications

Alloy-steel pipe to ASTM spec A-335 grade P-1 ($\frac{1}{2}$ per cent moly) and ASTM spec A-335 grade P-2 ($\frac{1}{2}$ per cent CR- $\frac{1}{2}$ per cent moly); tables; data sheet. G. C. Halzel. Power 102:105 Ap '58
 Alloy-steel pipe to ASTM spec A-335 grade P-12 (1 Cr- $\frac{1}{2}$ Mo); data sheet. G. C. Halzel. Power 102:113 Je '58
 Alloy-steel pipe to ASTM spec A-335 grade P-22 (2 $\frac{1}{4}$ Cr-1 Mo); tabulations; data sheet. G. C. Halzel. Power 102:101 J1 '58

Standards

ASME codes and standards workshop; interpretations of 1955 code for pressure piping. Mech Eng 80:142-5 Ap '58
 Interpret pressure piping code. Heating-Piping 29:141 N '57; 30:126-8 Ap '58
 Nuclear power piping codes progress toward standardization. V. T. Malcolm and S. Low. *Il* Heating-Piping 30:132-5 My '58

Tables, calculations, etc.

Automatic calculation of forces and deflections in piping systems. L. G. Peck and others. diags A S M E Trans 80:235-44 Ja '58
 Computers speed pipe-stress studies. *Il* diag Power 102:86-7 S '58
 Fluid mechanics; pipeline problems. J. M. Robertson. diags Power Ind 74:26-32 Ja '58
 Fluid mechanics; similarity and modeling; parameters. J. M. Robertson. Power Ind 74:19-21 F '58
 How to use digital computers to calculate piping flexibility. T. Kolfat and K. E. Knap. *Il* diags Heating-Piping 29:106-8 Ag; 124-7 N '57
 Seamless carbon-steel pipe to ASTM spec; tables; data sheet. G. C. Halzel. Power 102:103 F '58
 Tensor flexibility analysis of closed-loop piping systems. J. W. Soule, bibliog diags J Ap Mech 25:11-16 Mr '58

Welding

Designing, fabricating pressure piping. J. J. Murphy and others. *Il* Heating-Piping 30:160-4 Ja; 87-91 F '58
 How to prevent weld failures in nuclear power piping. V. T. Malcolm and S. Low. *Il* Heating-Piping 30:106-8 Ag '58
 Seek solution to problem of ductility in steam piping. R. W. Emerson and R. W. Jackson. Heating-Piping 30:97-8 F '58
PIPING (refrigerating plants)
 Liquid ammonia recirculation application. W. C. Matthews. Refrig Eng 66:62-3 Ja '58
 Mins of steel piping maintain ice at air temperatures to 55 F; Mark C. Steinberg memorial rink. L. L. Hamig. *Il* diags Heating-Piping 30:116-17 Mr '58

PIRANI gage. See Pressure gages

PISTON gages. See Pressure gages

PISTON pins

Precision pin fitting made easy. A. W. Larson. *Il* Diesel Power 36:33-4+ O '58

PISTON rings

Expander type oil-control rings. *Il* diag Automobile Eng 48:175-6 My '58
 Improve your piston ring performance. C. J. Knepper, jr. *Il* diags Diesel Power 36:48-50+ O '58
 Investigation into the mechanism of oil loss past pistons. P. D. Dykes. diags Inst Mech Eng Proc 171 no 11:413-26; Discussion. 444-57; Reply. 458-60 '57
 Prepare liners, then install rings. *Il* Diesel Power 36:41-2 Ap '58
 Re-ring properly. diags Diesel Power 36:34+ Je '58
 Stellite piston rings. Automobile Eng 48:375 O '58
 Study of piston-ring lubrication. S. Eilon and O. A. Saunders. bibliog diags Inst Mech Eng Proc 171 no 11:427-43 pl 1-6; Discussion. 444:57; Reply. 460-2 '57
 Teflon-based piston rings for nonlubricated applications. R. D. Taber and R. A. Robbins. bibliog diags Mech Eng 79:338-41 S '57; Same cond. Product Eng 29:F7-9 Mid-S '58; Discussion. J. Naab. Mech Eng 80:116-17 My '58

Testing

Piston ring wear. J. H. Deterding and J. R. B. Calow. diags Automobile Eng 48:378-81 O '58
 Radioactivity traces piston-ring wear. J. S. Batzold and others. S A E J 66:81-3 My '58; Abstract. Tool Eng 41:224-5 S '58

PISTON rods

Manufacture

Press for precise assembly; General motors corp. *il* diag Steel 142:108 My 5 '58

PISTONS

Acrylic pistons. *il* Mod Plastics 35:183 Mr '58
Controlled, high energy release by instantaneously changing effective piston area in dual-chamber hydraulic-cylinder design. *il* diags Machine Design 30:115 Mr 6 '58

Fixed piston and moving cylinder in a hydraulic servo-system. *il* diag Machine Design 30:114 Ja 23 '58

Investigation into the mechanism of oil loss past pistons. P. D. Dykes. diags Inst Mech Eng Proc 171 no 11:413-26; Discussion. 444-57; Reply. 458-60 '57

Liquid hydrogen bubble chamber expanded by a piston in the liquid. E. M. Boize and others. bibliog *il* diags R Sci Instr 29:297-9 Ap '58

Solving a hydraulics problem; when pistons need brakes. L. Dodge. diags Product Eng 29:56-60 F 3 '58

Manufacture

Grinds complex form in aluminum pistons. *il* Iron Age 180:156 D 5 '57

Special machine designed to weigh and automatically mill pistons to predetermined weight. *il* Mach 64:176 Ap '58

PITCH

Pitch binder coke yields. S. W. Martin and H. W. Nelson. bibliog *il* diag Ind & Eng Chem 50:33-40 Ja '58

See also

Paper making—Pitch problem

PITCH (sound)

What's the pitch? H. Lawrence. Audio 42:54-6 Ap '58

PITCH-BLENDE

See Uraninite

PITTSBURGH

Money for renewal; abstract. P. H. Martin. Arch Forum 108:171 My '58

Hospitals

Feud between builders and county supervisor mars completion of Pittsburgh hospital. Arch Forum 108:12-13 F '58

Sewerage

Battery-powered locomotives; sewer tunneling operations speeded. R. W. Hopewell. *il* Water & Sewage Works 105:216 My '58

Controlled submergence of deep sewers. J. F. Laboon. map Am Soc C E Proc 84 [ISA 4 no 1171]:1-18 Ji '58

System to get clean sewage; Allegheny county sanitary authority. Eng N 160:28 My 29 '58

Tunnels

Twin highway tunnels are driven from one end only; Port Pitt tunnel. *il* Eng N 160:34-6+ Ja 16 '58

PITTSBURGH award

Powell gets Pittsburgh award. *il* Chem & Eng N 35:58 D 23 '57

PITTSBURGH university

Graduate school of public health

Training in occupational health. *il* Ind Med 27:253-4 My '58

PITTSBURGH university

Mellon institute of industrial research
Evamping to help research; Mellon institute's new organization. Chem & Eng N 35:32+ D 16 '57

PITTSFIELD, Massachusetts

Conservative New England city goes on the air. J. F. Daniels. *il* diag Pub Works 88:116-17+ D '57

PITUITARY body

Hormones

Crystalline human growth hormone. U. J. Lewis and N. G. Brink. bibliog Am Chem Soc J 80:4429-30 Ag 20 '58

PLACEMENT of workers

See Employment agencies

PLACER deposits

Occurrence of uranium in ancient conglomerates. C. F. Davidson. Econ Geol 52:688-93 bibliog(p891-3) S '57; Discussion. 53:489-93. 620-1. 757-9 Je-S '58

PLANCK

Max Karl Ernst Ludwig von
Only hundred birthday celebration. V. F. Weisskopf. por Phys Today 11:16-19 Ag '58
Sketch. E. S. Barr. por Am J Phys 26:113-15 F '58

PLANETARIUMS

London planetarium. *il* diags Engineer 205:420-4. 456-9 Mr 21-28 '58

London planetarium. *il* diags Mech Eng 30:88-9 O '58

Planetarium for London. *il* diags Engineering 185:392-3 Mr 28 '58

PLANETARY gearing. See Gearing, Planetary

PLANETARY mills. See Rolling mills

PLANETS

Magnetic fields between planets. J. A. Simpson. Electronics 30:31 D 10 '57

See also

Jupiter (planet)

Venus (planet)

Spectra

Measurements of planetary radiation at centimeter wavelengths. C. H. Mayer and others. bibliog *il* diag Inst Radio Eng Proc 46:260-6 Ja '58

Planetary and solar radio emission at 11 meters wavelength. J. D. Kraus. bibliog *il* diags Inst Radio Eng Proc 46:266-74 Ja '58

PLANIMETERS

Modifications of a planimeter for the construction of integral curves. M. L. Randolph. *il* R Sci Instr 29:796-7 S '58

PLANING machines

Four pump circuit converts a mechanical planer. J. K. Tufts and J. C. Carpenter. *il* diag Ap Hydraulics 11:74-6 Mr '58

Maintenance men build miller from planer. Iron Age 180:148+ N 7 '57

Metalworking, 1962; planing. G. E. Marx. *il* Am Mach 101:132 N 18 '57

1958 production preview; planing and shaping. *il* Am Mach 102:115 Ja 27 '58

Planer changed to profile cutter; National supply co. *il* diag Ap Hydraulics 11:88 Ji '58

Updating a planer. *il* Steel 141:118 D 2 '57

PLANISHING

See Metal finishing

PLANKTON

Problems connected with the possible use of plankton for human nutrition. E. Geiger. bibliog Am J Clinical Nutrition 6:394-400 Ji '58

Whales, plankton and man. W. E. Pequegnat. diags Sci Am 198:84-6+ Ja '58

PLANNING

Computers move into planning. G. J. McManus. *il* Iron Age 181:90-1 Ap 24 '58

Construction planning and forecasting; Southern counties gas co. J. Davis. Jr. Gas 34:60-3 Je '58

How to plan and organize for new-product development. P. R. Marvin. Machine Design 30:86-90 Ag 7 '58

Industry borrows Polaris planning. Product Eng 29:17-18 Je 16 '58

Launching a new plant; abstract. W. H. Dorrance. Tool Eng 41:155-6 Ag '58

Planned facilities with built-in profits; Westinghouse electric corp. annual facilities planning program. W. C. Allen and T. Daly. Am Mach 101:137-44 D 16 '57

Planning automatic assembly. G. H. Kendall and L. Walter. *il* plans diags Engineering 186:134-5 Ag 8 '58

Pre-development planning; four steps to low-risk products. Product Eng 29:32-3 Ag 11 '58

Process planning; organized methods pay dividends. J. H. Greene. diag Tool Eng 40:119-21 Ap '58

See also

Schedules

PLANNING, Regional. See Regional planning

PLANNING officials, American society of. See American society of planning officials

PLANT engineers, American institute of. See American institute of plant engineers

PLANT growth

Fatty alcohols at work. A. J. Vltos. Chem & Eng N 36:54 S 29 '58

Germination and growth of cress. N. Leys. Research 11:43-4 Ja '58

Gibberellins; commercial success or failure? *il* Can Chem Process 42:88-90+ F '58

Gibberellins for agriculture. J. M. Merritt. *il* J Agri & Food Chem 6:184-7 Mr '58

Herbicides and plant growth. *il* J Agri & Food Chem 6:336-7+ My '58

PLANTING areas

Drainage

Draining the planting area. L. Blendemann. plans diags Air Cond Heat & Ven 55:108-10 F '58

PLANTS

Lake Michigan dune development; plants as agents and tools in geomorphology. J. S. Olson. bibliog diag J Geol 66:345-51, pl 1-3 Ji '58

See also

Sterility in plants

PLANTS—Continued

Alkaloid content

- Alkaloids of banisteria caapi and prestonia amazonicum. F. A. Hochstein and A. M. Paradies. *bibliog Am Chem Soc J* 79:5735-6 N 5 '57
- Total synthesis of oxygenated lupin alkaloids. E. E. van Tamselen and J. S. Baran. *bibliog Am Chem Soc J* 80:4659-70 S 5 '58

Boron content

- Borosilicate glass as a continuing source of boron for alfalfa. E. R. Holden and A. J. Engel. *J Agri & Food Chem* 6:303-6 Ap '58
- Effect of composition and reactivity of borosilicate glass on boron status of alfalfa. E. R. Holden and W. L. Hill. *bibliog J Agri & Food Chem* 6:531-6 J1 '58

Chemical analysis

- Analysis of dried plant material by X-ray emission spectrograph. C. S. Brandt and V. A. Lazar. *bibliog J Agri & Food Chem* 6:506-9 Ap '58
- Condensed direct current arc excitation for spectrochemical analysis of plant materials. H. E. Braun. *bibliog diag Anal Chem* 30:1076-9 Je '58
- Countercurrent distribution of sorghum lipides in leaf and stem extract. M. C. Burnett and others. *bibliog J Agri & Food Chem* 6:374-7 My '58
- Determination of sulfur in plant materials. O. A. Krober and R. W. Howell. *J Agri & Food Chem* 6:591-2 Ag '58
- Measurement of microgram amounts of chlorine in plant materials. C. M. Johnson and others. *bibliog J Agri & Food Chem* 6:114-18 F '58

Chemical composition

- Chlorogenic acids in plant materials; abstracts of papers. *Chem & Ind* p213-17 F 22 '58
- Constituents of casimiroa edulis Llave et Lex; the structure of casimiroin. A. Meisels and F. Sondheimer. *bibliog Am Chem Soc J* 79:6328-33 D 5 '57
- Constituents of ecballium elaterium L. D. Lavie and others. *bibliog Am Chem Soc J* 80:707-14 F 5 '58
- Constituents of helenium species; correlation of helenalin and allositenulin. W. Herz and R. B. Mitra. *bibliog Am Chem Soc J* 80:4876-9 S 20 '58
- Contribution to the structure of absinthin and anabsinthin. L. Novotný and others. *Chem & Ind* p465-6 Ap 19 '58
- Free reducing, acid-hydrolyzable, and total sugars and total available carbohydrates in Ladino clover, nutritionally significant chemical components of forage legumes. H. L. Wilkins and others. *bibliog J Agri & Food Chem* 6:369-73 My '58
- Isolation of a new estrogen from ladino clover. E. M. Bickoff and others. *bibliog J Agri & Food Chem* 6:536-9 J1 '58
- Plant polyphenols; the benzylation of ellagic acid. L. Jurd. *bibliog Am Chem Soc J* 79:6043-7 N 20 '57
- Plant polyphenols; the isolation of a new ellagitannin from the pellicle of the walnut. L. Jurd. *Am Chem Soc J* 80:2249-52 My 5 '58
- Some constituents of takini bark. I. R. C. Bick and P. S. Clezy. *Chem & Ind* p631-2 My 24 '58
- Structure of mangostin. P. Yates and G. H. Stout. *bibliog Am Chem Soc J* 80:1691-700 Ap 5 '58
- Studies on the toxicity of indigofera endecaphylla. E. M. Hutton and others. *bibliog J Nutrition* 64:321-37; 65:429-40 Mr. J1 '58
- Survey of some plant waxes of southern Arizona. E. B. Kurtz, Jr. *bibliog Am Oil Chem Soc J* 35:465-7 S '58

See also

Erythrocentaurin
Swertiamarin

Diseases and pests

- Antibiotics against plant disease; duramycin, a new antibiotic from streptomycetes cinamomeus forma azacoluta. O. L. Shotwell and others. *bibliog Am Chem Soc J* 80:3912-15 Ag 5 '58
- Pectin plugs cause wilts; mechanism of various fungus diseases; abstract. M. A. Stahmann and J. C. Walker. *il Chem & Eng N* 36:47 Ap 21 '58

Metabolism

- Biogenetical and structural relationships of some fungal metabolites. W. B. Whalley. *bibliog Chem & Ind* p 131-2 F 1 '58

Nutrition

- Ca, Mg, S; plant nutrients. *il J Agri & Food Chem* 6:415-17 Je '58

Phosphorus content

- Effect of flooding on plant availability of phosphorus from various phosphate rocks. R. E. Shapiro and W. H. Armiger. *J Agri & Food Chem* 6:453-5 Je '58
- Effect of particle size on availability to plants of phosphorus in phosphate rock from various sources. W. H. Armiger and M. Fried. *J Agri & Food Chem* 6:539-43 J1 '58
- Measurement of fertilizer phosphorus uptake and radiation damage using radio-phosphorus; abstract. E. R. Armitage. *Chem & Ind* p 1533-4; Discussion. 1534-5 N 23 '57

Respiration

See also

Fruit—Respiration

Silicon content

- Microdetermination of silicon in plants. R. J. Volk and R. L. Weintraub. *bibliog Anal Chem* 30:1011-14 My '58

Soilless culture

- Heat pump + hydroponics = grass in six days. *il Elec World* 149:108 My 12 '58

Trace elements

- Frits for the soil. *J Agri & Food Chem* 6:422-3+ Je '58

Translocation

- Movement of 2,3,6-trichlorobenzoic acid from one plant to another through their root systems. P. J. Linder and others. *bibliog J Agri & Food Chem* 6:356-7 My '58

Water requirements

- Crop growth and availability of moisture; abstract. W. C. Visser. *Chem & Ind* p32; Discussion. 33-4 Ja 11 '58
- Importance of phreatophytes in water supply. C. B. Thompson. *il maps Am Soc C E Proc* 84 [IR 1 no 15021:1-17 bibliog(p 15-17) Ja '58
- Some aspects of the irrigation of vegetables; abstract. E. J. Winter. *Chem & Ind* p32-3; Discussion. 33-4 Ja 11 '58

PLANTS, Flowering of

- Flowering process. F. B. Salisbury. *il diag Sci Am* 198:108-10+ Ap '58

PLAQUES

- Perkin memorial plaque at Greenford factory. *il Chem & Ind* p 1488-9 N 9 '57
- Unveiling of the plaque to Dr John Rogers. *il Chem & Ind* p 1496-7 N 16 '57

PLASMALOGEN

- Structure of pig heart plasmalogens. G. V. Marinetti and others. *bibliog Am Chem Soc J* 80:1624-8 Ap 5 '58

PLASMAS, Electron. See Ionization, Gaseous

PLASTER and plastering

- Electric and manual bypass valves give variable output from constant-speed pump; mobile plastering machine. *il diag Machine Design* 30:124 Ap 17 '58
- Failure of white-coat plaster. H. J. Rosen. *Prog Arch* 39:185 S '58
- New York's first machine plastering; Deer-ing-Milliken building. *il Prog Arch* 39:149 Je '58
- Plaster-backed curtain wall adds fireproofing, cuts building costs. *diag Arch Rec* 124:223 Aw '58
- Spray fireproofing on steel floors. *il Eng N* 160:47-8 Ap 3 '58

See also

Mortar

- PLASTER molds. See Molds (for casting)—Plaster molds

- PLASTIC adhesive tape. See Adhesive tape, Plastic

- PLASTIC armor. See Armor, Plastic

- PLASTIC bags. See Bags, Plastic

- PLASTIC bearings. See Bearings, Plastic

- PLASTIC boats. See Boats, Plastic

- PLASTIC bottles. See Bottles, Plastic

- PLASTIC cartridge cases. See Cartridge cases, Plastic

PLASTIC coating

- Aircraft and missile resins protect pump interiors from corrosion and abrasion. *il Plant* 18:42-3 Ag '58

PLASTIC coating—Continued

- Canadian industries ltd., Fabrikoid works and laboratories. *il Chem & Ind p 1049-50 Ag 16 '58*
- Car top tent; vinyl-coated nylon fabric. *il Mod Plastics 36:184 O '58*
- Castor polyols for urethane coatings. H. M. Metz and others. *bibliog diags Paint Oil & Chem R 121:3-12 Ap 17 '58*
- Coating, printing, embossing; coordinated equipment produces vinyl coated fabric with any desired surface finish. *il diags Mod Plastics 35:116-17+ Ap '58*
- Dip-wrap for frozen meat cuts; new plastic coating that permits product visibility. *il Food Eng 30:81-2 F '58*
- Drawing and insulating wire in one tandem operation. J. F. Stoltz. *il diag Wire & Wire Prod 33:763-6+ JI '58*
- Effect of stock temperature on the physical properties of polythene coatings for wire. J. A. Durno. *diags Wire & Wire Prod 33:182-4+ F '58*
- Epoxy-coated phenolic camera parts. *il Plastics Tech 4:457 My '58*
- Epoxy coating improves cameras. *il Mod Plastics 35:89 JI '58*
- Equipment can now do polyethylene coat. *Chem Eng 55:152+ S 8 '58*
- Fluidized polymer deposition; air-agitated plastic powder bed as a means of applying protective coatings and as a general plastic fabrication technique. R. L. Checkel. *bibliog il diag Mod Plastics 36:125-6+ O '58*
- Gage tightens control of wire coating process. *il Iron Age 180:132-3 N 21 '57*
- Heat transfer through coated metal surfaces. R. P. Lee. *diags Corrosion 14:41-2 Ap '58*
- Industrial exhaust system protected by fabricated plastic and plastic coating on metal. E. J. St. Armand. *il diag Air Cond Heat & Ven 55:61-3 Mr '58*
- New deep-tank coating. *il Marine Eng/Log 63:75 My '58*
- Performance of epoxy resin coatings in marine environments. F. A. MacDougall. *il Corrosion 14:93-4+ Mr '58*
- Phenolic camera parts are now epoxy coated. *il Ind Finishing 34:26-8 JI '58*
- Plastic-coated steel; Stelvetite. *il Automobile Eng 48:17-18 Ja '58*
- Plastic coated steel; Stelvetite. *il Metallurgia 57:192 Ap '58*
- Plastic-coated tubing resists acid fumes. *il Materials in Design Eng 46:230+ N '57*
- Plastic-coated wood won't rot. *il Arch Rec 124:232+ Ag '58*
- Plastisol coatings in ventilation systems. W. G. Cryderman. *A M A Archives Ind Health 17:486-8 My '58*
- Polyurethane coatings show big promise for chemical industry use. *Chem Eng Prog 54:144-6 S '58*
- Properties of phenolic, epoxy and vinyl coatings; tabulation; file facts. *Materials in Design Eng 47:163+ Ap '58*
- Storage tanks get a lot of wear out of protective coating. *il Plant Eng 12:132 Je '58*
- Sucrose acetate with unusual properties may be used in coating formulations as a modifying extender; sucrose acetate isobutyrate (or SAIB). W. M. Gearhart. *il Plastics World 16:10-11 S '58*
- Take your choice of coating methods. G. L. Booth. *il diags chart Mod Plastics 36:91-5 S; 90-9 O '58*
- Teflon coatings expand. *Chem & Eng N 36:48-9 O 13 '58*
- TPE electroplates are smooth, nonporous. *il Materials in Design Eng 47:141 Je '58*
- They cover a lot of ground; combinations of plastics and synthetic fabrics are replacing canvas as tarpaulin and shelter material. *il Mod Plastics 36:105-8 207 O '58*
- Thin films of polytetrafluoroethylene resin as lubricants and preservative coatings for metals. V. G. Fitzsimmons and W. A. Zisman. *bibliog il Ind & Eng Chem 50:781-4 My '58*
- Tough spray coating cuts wear, abuse; for office-type equipment, new vinyl coating. *il Iron Age 181:122 Ap 3 '58*
- Triple-threat plastic coatings. *il Product Eng 29:11 Ja 13 '58*
- Use of an improved inert coating for masking corrosion test specimens. G. Butler and E. C. Seabrook. *Chem & Ind p 155-6 F 8 '58*

See also

Nylon coating
Paper coating, Plastic
Pipe coating, Plastic
Plastic lining
Plastic spraying

Analysis

- Method of analyzing wire coatings on copper using standard metallographic practices. D. Myers, Jr. *il Wire & Wire Prod 33:641-2+ Je '58*
- PLASTIC containers. See Containers, Plastic
- PLASTIC dies. See Dies, Plastic
- PLASTIC domes. See Domes, Plastic
- PLASTIC drawers. See Drawers, Plastic
- PLASTIC filaments. See Filaments, Plastic
- PLASTIC films
- Adhesive for transparent plastic films. M. E. Stern. *Plastics World 16:4 Ag '58*
- Arma switches to Stablene for printed circuit layouts. *il Aviation Age 29:80-1+ Ap '58*
- Chemicals spur packaging advances; National packaging exposition, 27th, New York. *il Chem & Eng N 36:20-2 Je 9 '58*
- Clear linear poly film expected to advance film uses; Conolex. *il Plastics World 16:5 Ag '58*
- Developments in plastic film and sheeting processing during 1957. G. S. Laaff. *diags Plastics Tech 4:456-7 My '58*
- Dielectric heat; sealability of films. G. I. Addis and others. *diags Plastics Tech 4:542-4, 560 Je '58*
- Do-it-yourself shelter provides temporary storage. B. Yasný. *diags Mod Materials Handling 13:90-1 JI '58*
- Dry cleaning; big new market for polyethylene film bags; Clopay corp. *il Mod Plastics 35:106-7 Ap '58*
- Effects of radiation on plastic packaging films. H. G. LeClair and W. H. Cobbs, Jr. *bibliog Ind & Eng Chem 50:323-6 Mr '58*
- Electronic heat-sealing; dielectric heating of plastics. R. D. Farkas. *diags Mod Plastics 35:109-11+ Mr '58*
- Evaluation of carbon black dispersions in polyethylene to predict weatherability. R. M. Schuklen, Jr. and others. *bibliog diags Mod Plastic 35:125-8+ Ag '58*
- Eye allure with plastics; plastics eyelashes. *il Mod Plastics 35:86-7 Mr '58*
- Film sparkles at packaging show. R. L. Van Bostirk. *Mod Plastics 35:204+ Ag '58*
- Five basics in choosing boil-bag film. L. M. Berlin. *il Food Eng 30:72 JI '58*
- Fluidized polymer deposition; air-agitated plastic powder bed as a means of applying protective coatings and as a general plastic fabrication technique. R. L. Checkel. *bibliog il diag Mod Plastics 36:125-6+ O '58*
- Four plastics films for packaging uses. *il Materials in Design Eng 48:132+ JI '58*
- Goodyear begins production of Videne polyester film. *il Rubber Age 83:149 Ap '58*
- Heat-seal polyester film laminates to wood, metal. *il Materials in Design Eng 47:141 My '58*
- Heat sealing of polyethylene film. R. M. Knight and W. U. Funk. *diags Mod Plastics 35:133-6+ D '57*
- High-speed overwrapping with polyethylene makes debut. *il Food Eng 30:68-70 Je '58*
- Hot subject, heat sealing; electronic welding of vinyl film and sheet; dielectric heat-sealing. *il diags Mod Plastics 35:85-90+ Ap '58*
- Innovations through skin and blister packaging; guest editorial. D. S. Threlkeld. *Plastics Tech 4:545-6 Je '58*
- Low-cost film bonds sandwich units; elastomer-phenolic adhesive bonds flat metal sheet and plastic film to metals and plastics. *il Iron Age 181:63 Ja 9 '58*
- Meat-wrap problems targeted. J. V. Ziemba. *il Food Eng 29:80-2 D '57*
- Metallic yarns from plastics film. W. B. Davis. *Plastics World 16:5 Ja '58*
- New polyester film in the limelight; Goodyear's new Videne. *il Mod Plastics 35:94-7+ Mr '58*
- New styrene outlet; packaging. *il Chem & Eng N 36:23-4 Je 2 '58*
- Plastics' stake in agriculture. *il Mod Plastics 35:91-3+ Ap '58*
- Polyester laminating film with wide potentials; Videne A. *il Plastics World 16:36 Mr '58*
- Polyethylene bread wrap. *il Mod Plastics 35:118-19+ Je '58*
- Polyethylene film is wrapping it up. *il Chem & Eng Chem N 36:82-5 F 17 '58*
- Polythene film for concrete moulds. *il Brit Plastics 31:72 F '58*
- Preserving documents by lamination. Tappi 41:sup 129A-30A Ag '58
- Press-less laminating. *il Mod Plastics 35:104 My '58*
- Properties of materials. *Materials in Design Eng 48:167-9 Mid-O '58*

PLASTIC films—Continued

Properties of plastics films; file facts. Materials in Design Eng 48:149+ D '57
 Savings in shipping cartons; new shipping system based on polyethylene film. *Il Mod Plastics* 35:108-9 F '58
 Studies on aminoanthraquinone compounds; photochemistry of dyed polymer films. G. S. Egerton and A. G. Roach, *bibliog Soc Dyers & Col J* 74:408-14 My '58
 They cover a lot of ground; combinations of plastics and synthetic fabrics are replacing canvas as tarpaulin and shelter material. *Il Mod Plastics* 36:105-8, 207 O '58
 Two new films trigger competition for polyethylene. *Food Eng* 30:73 S '58
 Vinyl fluoride film is weather resistant. Materials in Design Eng 48:136+ JI '58
 Water soluble plastics film for special packages. *Il Materials in Design Eng* 47:153+ Ja '58
 Wiring board pattern cut to size on film. *Il Electronics* 31:62+ Ag 29 '58
See also

Mylar

Manufacture

Neck-in problem in polyethylene extrusion coating and film casting. D. Lewis and W. F. McDonald, *Plastics Tech* 4:918-19+ O '58
 Resin makers integrate. *Chem & Eng N* 36:28-9 27 '58

Permeability

Moisture-vapor transmission testing. F. M. Corney, *Il Instruments & Automation* 31:1201 JI '58
 Permeability of plastics films to refrigerant 12 and nitrogen. H. M. Parmelee, *bibliog Il Refrig Eng* 66:35-40+ F '58

Testing

Mechanical properties of thin polyethylene film. A. A. Anderson and G. L. Morfitt, *bibliog Il Mod Plastics* 35:139+ Ap '58
 Two-dimensional load-extension tester for fabrics and film. P. B. Checkland and others, *bibliog Il diags Textile Res J* 28:399-403 My '58

PLASTIC flashing. See Flashing, Plastic

PLASTIC flooring. See Flooring, Plastic

PLASTIC furniture. See Furniture, Plastic

PLASTIC gearing. See Gearing, Plastic

PLASTIC houses. See Houses, Plastic

PLASTIC ladders. See Ladders, Plastic

PLASTIC lenses. See Lenses, Plastic

PLASTIC lighting fixtures. See Lighting fixtures, Plastic

PLASTIC lining

Latest in liners; shipping problem materials through use of fabricated and molded plastics liners. *Il Mod Plastics* 36:106-7 S '58
 Modern plastics lead way to improved protective linings. A. T. Baldwin, Jr, *Il Plant* 18:50-2, cover O '58

Simplified method for lining concrete surfaces. W. W. Clarke, *Il Plating* 45:255-6 Mr '58

PLASTIC materials. See Plastics

PLASTIC mesh. See Net fabrics, Plastic

PLASTIC models. See Models, Plastic

PLASTIC murals

Colorful acrylic mural allows outdoor-indoor viewing. *Il Plastics World* 16:5 O '58
 Laminate art, new mural medium. *Il Mod Plastics* 35:92-3+ JI '58
 Plexiglas murals at Polytech. *Il Plastics Tech* 4:555 JI '58

PLASTIC paint

Plastic paints; where they can be used, how to prepare surface and how they're applied. *Il Plant Eng* 12:129-32 Mr '58

PLASTIC patterns. See Pattern making—Plastic patterns

PLASTIC pipe joints. See Pipe joints, Plastic

PLASTIC pipe lining. See Pipe lining, Plastic

PLASTIC pipes. See Pipes, Plastic

PLASTIC printing plates. See Printing plates, Plastic

PLASTIC replicas. See Replica technique

PLASTIC roofs. See Roofs, Plastic

PLASTIC rope. See Rope, Plastic

PLASTIC scintillators. See Counters (electrons, ions, etc.)

PLASTIC sheeting

Acrylic heart for analogue computer. *Il Mod Plastics* 36:195 F '58

Automated extrusion-thermoforming is used to produce large and intricate formed sheet pieces at high speeds in the manufacture of a scale model of the Graf Zeppelin. *Il Mod Plastics* 35:104-7+ F '58

Automated sheet extrusion. F. R. Nissel, *Il Mod Plastics* 35:122-5+ D '57
 Choosing and forming polyethylene sheet. A. G. Rowe, *Il Mod Plastics* 35:113-14+ Ag '58

Circus tent, plastic sheeting helped bridge contractor defied winter. J. R. Cummings, *Il Roads & Sts* 101:68-9+ JI '58

Developments in plastic film and sheeting processing during 1957. G. S. Laaff, *diags Plastics Tech* 4:456-7 My '58

Extrusion and vacuum forming of high density polythene sheet. *Brit Plastics* 31:352 Ag '58

Flooding-roof performance from fixed-roof tanks in reducing evaporation losses. K. C. Bottenberg, *bibliog Il diags Oil & Gas J* 56:100-2+ JI 21 '58

Formolding acrylic sheet. *diags Mod Plastics* 35:137+ F '58

Forms and shapes of materials; thermo-plastic sheet forming methods. Materials in Design Eng 48:314-15 Mid-O '58

Hot subject; heat sealing; electronic welding of vinyl film and sheet; dielectric heat-sealing. *Il diags Mod Plastics* 35:85-90+ Ap '58

How to thermoform plastic sheet. E. F. Bachner, Jr, and J. P. Wright, *Il diags Am Mach* 101:105-20, cover JI 29 '57; Excerpts, *Product Eng* 29:D4-6 Mid-S '58

Plastic blankets for summer wear; plastics in petroleum fixed-roof storage tanks reduce evaporation losses. *Il Ind & Eng Chem* 50:sup26A+ JI '58

Plastic protection for vessel insulation. P. N. Chermisinoff, *Chem Eng* 65:118 Je 30 '58

Plastics sheet used in rockets, missiles. *Il Materials in Design Eng* 47:165-6 Mr '58

Polyester/glass sheet production. *Il diags Brit Plastics* 31:375-7 S '58

Polyethylene sheets make economical pit liner. *Il Plant* 17:34 Je '58

P.V.C. sheet for silo covers. P. P. Birnbaum and A. D. Clarke, *Il Brit Plastics* 31:241 Je '58

Production of polytetrafluoroethylene sheet and solid shapes. E. James, *Il diags Brit Plastics* 31:28-30+ Ja '58

Saroy toughened plastics sheet; film. Engineering 186:38 JI '58

Teflon sheet as a large-area gas seal for gas flow radioactivity counters. K. A. Bargh, *R Sci Instr* 29:536-7 Je '58

U.S. developments in vinyl sheeting; symposium, New York, Dec. 10-11. *diags Brit Plastics* 31:73-6+ F '58

Versatile warehousing. O. S. Hagerman, Jr, *Il Mod Plastics* 35:114-16 D '57

Manufacture

Extrusion of acrylic section. *Il Brit Plastics* 31:396-7 S '58

Testing

Diaphragm behavior of plastic disks. A. G. H. Dietz and E. J. McGarry, *bibliog diag Mod Plastics* 36:135-6+ S '58

Low temperature cracking test for plasticized polyvinyl chloride. D. Wormald, *Il diags Brit Plastics* 31:392-5+ S '58

PLASTIC shuttles. See Shuttles, Plastic

PLASTIC signs. See Signs, Plastic

PLASTIC spraying

Direct-to-steel fireproofing for Portland building; spraying vermiculite acoustical plastic. R. S. Rose, *Il Civil Eng* 28:256-7 Ap '58

Epoxy coating methods shown. *Il Chem & Eng N* 36:45-6 O 27 '58

Flame-spraying plastisols. R. F. McTague, *Plating* 45:245-6 Mr '58

High-speed masking process uses sprayed coating that is stripped off after decorating. Spraylat R. W. Clogg, *Il diag Mod Plastics* 36:123-4 O '58

New compounds protect outdoor storage of bulk materials; Compound SP. Franklin Inst J 286:188 S '58

Now, sprayed reinforced plastics. *Il Product Eng* 29:17+ Ja 13 '58

Spray-up instead of lay-up? *Il Am Mach* 102:85 Ap 7 '58

PLASTIC steel. See Plastics—Metal reinforcement

PLASTIC tableware. See Tableware, Plastic

PLASTIC tanks. See Tanks, Plastic

PLASTIC tools. See Tools, Plastic

PLASTIC toys. See Toys, Plastic

PLASTIC trays. See Trays, Plastic
PLASTIC tubes. See Tubes, Nylon; Tubes, Plastic
PLASTIC valves. See Valves, Plastic
PLASTIC ventilators. See Ventilators, Plastic
PLASTIC wall coverings. See Wall coverings, Plastic
PLASTIC walls. See Walls, Plastic

PLASTICITY

Carrying capacity of an elastic-plastic cylindrical shell with linear strain-hardening. P. G. Hodge, Jr. and S. V. Nardo. *bibliog* diags J Ap Mech 25:79-85 Mr '58
 Compressible elastic, perfectly plastic wedge. D. R. Bland and P. M. Naghdi. *diag* J Ap Mech 25:239-42 Je '58
 Conjugate frame method and its application in the elastic and plastic theories of structures. S. L. Lee. *bibliog* diags Franklin Inst J 266:207-22 S '58
 Demonstrations of plastic behaviour of steel frames. H. M. Nelson and others. *bibliog* il diags Am Soc C E Proc 83 [EM 4 no 1390]: 1-37 O '57; Discussion. Z. Sobotka. 84 [EM 2 no 1619]:9-12 Ap '58; Reply. 84 [EM 4 no 1831]:3 O '58
 Design in the plastic region. J. J. Kerley, Jr. *diags* Machine Design 29:163-8 N 14 '57
 Dynamic elasto-plastic response of rigid frames. F. L. DiMaggio. *diags* Am Soc C E Proc 84 [EM 3 no 1693]:1-29 Ji '58
 Effect of tensile plastic deformation on yield condition. L. W. Hu and J. F. Bratt. *bibliog* J Ap Mech 26:411 S '58
 Elastic criterion for plastic design. H. A. Sawyer, Jr. *bibliog* diags Am Soc C E Proc 84 [ST 2 no 1566]:1-17 Mr '58
 Elastic-plastic analysis of scabbing in materials. S. Kumar and N. Davids. *bibliog* diags Franklin Inst J 265:371-83 My '58
 Experimental study of initial and subsequent yield surfaces in plasticity. P. M. Naghdi and others. *bibliog* il J Ap Mech 25:201-9 Je '58
 Factors involved in plasticity of kaolin-water systems. W. G. Lawrence. *bibliog* Am Cer Soc J 41:147-50 My 1 '58
 Limit analysis of simply supported circular shell roofs. M. N. Flalkow. *bibliog* diags Am Soc C E Proc 84 [EM 3 no 1706]:1-39 Ji '58; Correction. 84 [EM 4 no 1831]:15-16 O '58
 Modified Tresca's yield condition and associated flow rules for anisotropic materials and applications. L. W. Hu. *bibliog* diags Franklin Inst J 265:187-204 Mr '58
 Orthogonal cutting of a work-hardening material, theoretical and experimental investigation. D. G. Christenson and others. *il diags* Engineering 186:113-15 Ji 25 '58
 Plane stress solution of an elastic, perfectly plastic wedge. P. M. Naghdi. *diags* J Ap Mech 25:407-10 S '58
 Plasticity of solids explored by new technique. J. Gilman. *il diags* Gen Elec R 61:9-12 Ji '58
 Torsion and flexure of slender solid sections. W. J. Carter. *diags* J Ap Mech 25:115-21 Mr '58

See also

Creep of materials
 Crystals—Dislocations

PLASTICIZERS

Dibasic acids; routes to a mixture of undecanedioic and dodecanedioic acids. T. R. Steadman and J. O. H. Peterson. *bibliog* Ind & Eng Chem 50:59-62 Ja '58
 Effect of small quantities of plasticizers in PVC compounds. P. Ghersa. *bibliog* Mod Plastics 36:135-6 Je '58
 Effects of plasticizers on the fusion of vinyl plastisols. L. A. McKenna. *bibliog* diags Mod Plastics 35:142-5+ Je '58
 Epoxy plasticizers-stabilizers: symposium. *bibliog* Ind & Eng Chem 50:861-76 Je '58 (reprints \$1)
 Evaluation of new mercaptan type chemical peptizers. M. B. Neuworth. *Rubber Age* 83:79-82 Ap '58
 Identification of mixed plasticizers by a combination of chromatography and infra-red spectroscopy. M. Cachia and others. *J Ap Chem* 8:291-3 My '58
 More plasticizer on way. *Chem & Eng N* 36:22+ Je 9 '58
 Plasticizer migration; abstract. P. Gordon and E. Harmon. *Chem & Eng N* 36:45 My 6 '58
 Plasticizer production and sales, 1957. P. W. Spink and W. F. Waychoff. *Mod Plastics* 36:132-8 S '58
 Plasticizers for P.V.C. plastisols. D. S. Newton and J. A. Cronin. *Brit Plastics* 31:426-31+ O '58

Preparation of pure palmitic acid and a by-product plasticizer from cottonseed oil. C. Magne and others. *Am Oil Chem Soc J* 35:477-9 S '58
 Some N-disubstituted amides of long-chain fatty acids as vinyl plasticizers. F. C. Magne and others. *Ind & Eng Chem* 50:617-18 Ap '58

PLASTICS

ASME Rubber and plastics division annual meeting. New York, Dec. 4-5; with abstracts of papers. *Rubber Age* 82:694 Ja '58; *Rubber World* 137:569-70 Ja '58
 Brussels World's fair: rubber and plastics displays. R. Rowland. *il Rubber Age* 83:448-50 Ar '58
 Business opportunities in packaging. I. Skeist. *Plastics World* 16:8 My '58
 Chemical resistance of thermoplastic materials. J. Pinsky and A. R. Nielsen. *diags* Machine Design 30:125-8 Ag 21 '58
 Close look at new plastics. *Chem & Eng N* 36:64 P 17 '58
 Cold setting plastic now used for metallographic mounting. N. J. Gendron. *il Ind Lab* 9:26-7 Je '58
 Comparisons of materials; hardness of plastics and rubber. *Materials in Design Eng* 48:19 Mid-O '58
 Comparisons of materials; maximum service temperatures of plastics and rubber. *Materials in Design Eng* 48:11 Mid-O '58
 Corrosion problems at an alkali-chlorine plant. Diamond alkali co. J. F. Bosich. *il Ind & Eng Chem* 50:sup69:7-70A Ji '58
 Curo's properties and applications. *Automotive Ind* 117:94 O 15 '57
 Design of plastic towers. P. L. McWhorter. *il diags* Chem Eng 65:164+ Ar 7 '58
 Development of plastic dielectric capacitors; abstract. J. H. Cozens. *Brit Inst Radio Eng J* 48:137 P '58
 Developments in plastic materials, 1957. G. B. Thayer. *Plastics Tech* 4:149-51 F '58
 Forms and shapes of materials; plastic parts. *Materials in Design Eng* 48:311-15 Mid-O '58
 Graft polymerization. *il Mech Eng* 80:88-9 My '58
 How to get more for your plastics dollar. *il diags* Iron Age 181:81-96 Je 26 '58
 Industrial exhaust system protected by fabricated plastic and plastic coating on metal. E. J. St. Amand. *il diags* Air Cond Heat & Vent 55:61-3 Mr '58
 Industry needs new definitions for rubber and plastics; editorial. R. G. Seaman. *Rubber World* 138:247 My '58
 Inventory of new chemicals and materials; resins and plastics. *il Chem Eng* 64:188+ Mid-N '57
 Isotactic polypropylene arrives here. *il diags* Chem Eng 65:92 Ja 13 '58
 Latest developments in plastics food packages. L. C. Barail. *il Plastics World* 16:30 My '58
 Less weight, more room in plastics van; Hupp mobile van. *il Mod Plastics* 35:179 Mr '58
 Luminescence in plastics. *il Plastics Tech* 4:920 O '58
 Materials of construction for chemical engineering. R. B. Seymour. *il Ind & Eng Chem* 50:1470-8 *bibliog* (p 1477-8) pt 2 S '58
 Metalworking, 1952; plastic materials. W. C. Wall. *Am Mach* 101:151 N 18 '57
 New family of light absorbers. *Franklin Inst J* 265:78-9 Ja '58
 New materials. Published in monthly numbers of *Plastics technology*
 New materials that the design engineer should know about; plastics and rubbers. *Mech Eng* 79:727-30 Ar '57; Same. *Am Soc Naval Eng J* 70:151-4 F '58
 New plastic material: Vulkalon. K. A. Pigott. *Franklin Inst J* 266:108 Ar '58
 Our own glossary; guide to fluorine plastics. *Product Eng* 29:17 Ap 21 '58
 Plastic flakes can solve tank leakage. *il Oil & Gas J* 56:184 Mr 17 '58
 Plastic patch seals casing leaks. *il Pet Eng* 30:352 Mr '58
 Plastic phosphor matrix for fast-neutron detection. B. Brown and E. B. Hooper, Jr. *bibliog* *Nucleonics* 16:96+ Ap '58
 Plastic proposals. J. Johansen. *il plans Prog Arch* 39:72-3 Ja '58
 Plastics and resins; annual review 1957. E. E. McSweeney and E. L. Kropp. *il Ind & Eng Chem* 50:sup28A-30A Ja '58
 Plastics applications. Published in monthly numbers of *British plastics*
 Plastics cut costs in machine tools; Ex-Cell-O corp. E. Quastler. *il Mod Plastics* 35:110-11 My '58

PLASTICS—Continued

- Plastics from petroleum chemicals. G. Brown. *Pet Refiner* 36:202-3 N '57
- Plastics in packaging; continuing growth predicted. *Plastics World* 16:9 My '58
- Plastics in refining and petrochemicals plants. R. B. Seymour. *Il Pet Eng* 30:C46+ F '58
- Plastics in the space age. J. H. Lux. *Il Franklin Inst J* 266:21-6 JI '58
- Plastics; properties and applications; including trade name, chemical name, and manufacturer. *Product Eng* 28:C28-30 Mid-O '57
- Plastics properties chart. *Product Eng* 29:C 11 Mid-S '58
- Plastics shine in show. *Il Chem & Eng N* 35:48+ D 16 '57
- Plastics to boom in building. *Il Chem & Eng N* 36:26-7 J 16 '58
- Plasticscope; news and interpretations of the news. R. L. Van Boskirk. Published in monthly numbers of *Modern plastics*
- Polymers in space. *Product Eng* 29:12 Ag 11 '58
- Polyolefin plastics field; present technical status. F. C. McGrew. *diags Mod Plastics* 35:125-6+ Mr '58
- Properties of materials; plastics and rubber. Materials in *Design Eng* 48:142-75 Mid-O '58
- Reprocessing thermoplastic materials; R.H.C. reclamations, ltd. flow chart *Il diag Brit Plastics* 31:198-200 My '58
- Significant trends in plastics applications; developments of 1957. *Il Mod Plastics* 35:106-15+ Ja '58
- Six plastics in new shaver; Chilton Sportsman shaver. *Il Brit Plastics* 31:22-3 Ja '58
- Tomorrow's plastics packages. *Il Mod Plastics* 35:95-101+ My '58
- Trade marks. Published in monthly numbers of *British plastics*
- Use of plastics in protective packaging; abstract. F. A. Paine. *Chem & Ind* p431-2 Ap 12 '58
- Vapor loss is cut by plastic spheres and blankets in storage tanks; abstract. K. C. Bottenberg. *Oil & Gas J* 55:30 My 12 '58
- Widening horizons for thermosetting plastics. J. C. McDonald. *Il Can Chem Process* 42:103-4+ J '58
- Year 1957 in review. bibliog (695 titles) *Il diag Mod Plastics* 35:153-4+ Ja '58
- See also*
- Airplanes—Materials—Plastics
- Automobiles—Materials—Plastics
- Containers, Plastic
- Creep of plastics
- Electric circuits—Plastics embedment
- Electronic circuits—Plastics embedment
- Embossing (plastics)
- Extrusion process (plastics)
- Fatigue in plastics
- Guided missiles—Materials—Plastics
- Molded products
- Molding
- Plastic coating
- Plasticizers
- Plastics engineering
- Printing on plastics
- Resinous products
- Rockets—Materials—Plastics
- Shipbuilding—Materials—Plastics
- Tools, Plastic

Aging

- Heat and ultraviolet aging of poly(vinyl chloride). C. F. Bersch and others. bibliog *J Res Nat Bur Stand* 60:481-3 My '58

Agricultural uses

- Other chemicals for the farm. *Il J Agri & Food Chem* 6:576-7 Ag '58
- Plastics on the farm. *Il Brit Plastics* 31:322-6 Ag '58
- Plastics stake in agriculture. *Il Mod Plastics* 35:91-3+ Ap '58

Analysis

- Development of paper chromatographic techniques. A. D. Clarke and G. Bazill. bibliog *Il Brit Plastics* 31:16-19 Ja '58

Bibliography

- Abstracts of important articles. Published in monthly numbers of *Plastics technology*
- Book reviews. Published in monthly numbers of *Plastics technology*
- Books and booklets. Published in monthly numbers of *Modern plastics*
- Plastics digest. Published in monthly numbers of *Modern plastics*
- Reviews. Published in monthly numbers of *Rubber age*

Coloring

See Color in plastics

Crazing

- Microstructure of crazed plastics. S. B. Newman and J. Wolock. *Il Plastics World* 16:6-7 Je '58
- What makes plastics crack and craze? *Product Eng* 28:14 D 16 '57

Cutting

- Copy milling methods. *Il diags Brit Plastics* 31:11-20 Mr '58
- Corrosion-resisting plastic bar stock for machined parts. *Mach* 64:147 Ap '58
- How to machine laminated plastics. T. R. Silk. *Il Iron Age* 181:77-80 My 1; 106-9 My 8; 82-5 My 15 '58
- Machining TFE resins. H. J. Kipnes. *Il diags Mod Plastics* 35:123-5+ My '58
- Tooling for precision in machining plastics; telephone cable repeaters; Western electric co. H. A. Lamb and R. R. Scherb. *Il diags Mach* 64:136-41 My '58
- Vitrifiable silicate tooling for high-temperature plastics. J. D. Stillman. *Il Tool Eng* 40:104-6 Ap '58

Expansion and contraction

- Molding shrinkage and related effects in a fixed-cavity compression mold. W. R. McGlone and L. B. Keller. bibliog *Il diag Mod Plastics* 35:125-6+ F '57; 117-20+ Mr '58
- Shrink tests developed for tool plastic. O. D. Lascoe. *Il diag Tool Eng* 39:117-21 N '57

Extrusion

See Extrusion process (plastics)

Failure

- Fracture phenomena and molecular weight in polymethyl methacrylate. S. B. Newman and J. Wolock. bibliog *Il J Ap Phys* 29:49-52 Ja '58

Fillers

- Woodflour-filled urea may compete with phenolic. *Il Materials in Design Eng* 47:142-3 Je '58

Finishing

- High-speed masking process uses sprayed coating that is stripped off after decorating. Sprayal. R. W. Clogg. *Il diag Mod Plastics* 35:123-4 O '58
- Improving paint adhesion on phenolic surfaces. *Il Metal Finishing* 66:57+ S '58
- Shave plastics with soft razors. *Il Mill & Factory* 61:99 D '57

Fluidity

- Non-Newtonian flow in annuli. A. G. Fredrickson and R. B. Bird. bibliog *diags Ind & Eng Chem* 50:347-52, 1599-600 Mr, O '58; Discussion. W. R. Wilcox. 50:1600 O '58

Glass reinforcement

- Arty plastics; stained glass embedded in glass fiber-reinforced polyester resin. *Il Ind & Eng Chem* 49:sup37A-8A N '57
- Better cabinets for tv portables; reinforced plastics, either as preform or preformed, are standing up to all tests. *Il Mod Plastics* 36:110-11 S '58
- Biological action of fiberglass-plastic dust. G. W. H. Schepers and others. bibliog *Il plan A M A Archives Ind Health* 18:54-57 JI '58
- Boat mold for mass-production. F. M. Coleman. *Il Mod Plastics* 35:121-2 Ag '58
- Chemical tank trailers of glass-fiber-reinforced polyester. *Il Plastics World* 16:15 O '58
- Epoxide/glass moulds for low-pressure laminates. *Il Brit Plastics* 31:149-51 Ap '58
- Fatigue tests on glass-fibre-reinforced plastics. N. G. Calvert. *diags Engineer* 204:522-3 O 11 '57
- Fibreglass boats. *Il Engineering* 184:602 N 8 '57
- Flexible fume removal system is all plastic. E. A. Barrows. *Il Plant Eng* 12:132 Ap '58
- Fourteen organizations form team to set reliability standards for fiber-reinforced plastics. F. R. Park. *Il diag Product Eng* 29:69-71 F 3 '58
- Glass-polyester welding helmet is easier to make, easier to wear; receives citation in *Materials in design engineering competition*. *Il Materials in Design Eng* 47:156-7 Ap '58
- Glass roving, mat aid surface finish. *Materials in Design Eng* 46:180+ N '57
- Glassed plastics tackle new jobs. *Il Product Eng* 29:13 Ap 7 '58
- Heating element for missile dome; Conolon 506. *Il Plastics Tech* 4:561 Je '58

PLASTICS—Glass reinforcement—Continued

- How and why to use glass-reinforced injection molding compounds. R. Bradt. *II Mod Plastics* 35:100-2+ Mr '58
- Indestructible bus seats. *II Mod Plastics* 35:94-6 Ap '58
- Kaolinite fractions, their effect on physical properties of reinforced plastics. G. F. Larson. *Bibliog II diag Mod Plastics* 35:157-8+ My '58
- Making reinforced plastic parts for automobiles; Molded fiber glass co. *II Automotive Ind* 118:68-70 Je '58
- Modified polyesters are strong at 500 F. R. G. Nelb. *Materials in Design Eng* 47:204+ Ap '58
- Molded reinforced plastic solves design problem for the Regulus II guided missile. *II Materials in Design Eng* 47:10 My '58
- Molten slag's heat doesn't harm panes; fire-retardant glass fiber reinforced polyester resin. *Iron Age* 180:164+ N 21 '57
- New chair concept; reinforced plastics molding method produces one-piece back and seat unit that is flexible. *II Mod Plastics* 36:88 O '58
- New epoxy-glass molding compound. H. J. Doyle and G. F. Mobly. *II Materials in Design Eng* 47:106-9 My '58
- New high-strength molding material; abstract. S. G. Salzinger and H. M. Toellner. *Machine Design* 30:140 My '58
- Non-conductive ladder. *Mod Plastics* 35:216 Je '58
- Now, sprayed reinforced plastics. *II Product Eng* 29:17+ Ja 13 '58
- Parallel glass fiber laminates; key to super strengths; abstract. A. H. Lasday. *Glass Ind* 38:677-8 D '57
- Plastic panel coverings handle tough plant conditions. P. N. Cheremisinoff. *II Chem Eng* 65:152+ My '58
- Plastic panels for architectural use. *II Plastics World* 16:24 F '58
- Plastic panels protect street lights. B. West. *II Pub Works* 89:112 F '58
- Plastic radomes take 500-2,500F. *Electronics* 31:33 Mr '58
- Plastics ahoy! plastics boat business is booming, here's why. *II Mod Plastics* 35:87-95+ F '58
- Plastics, better use of stainless produce lightweight railway car; award of merit in Materials in design engineering competition. *II Materials in Design Eng* 47:140-1 Ap '58
- Plastics form sleeper compartments. *II Product Eng* 29:115 Mr 31 '58
- Polyester/glass for the construction of model research aircraft. W. C. G. Messam. *II Brit Plastics* 31:351 Ag '58
- Polyester/glass in the Twin Pioneer aircraft. *II plan Brit Plastics* 31:25-7 Ja '58
- Polyester/glass lifeboats for S.S. Oriana. *II diag Brit Plastics* 31:415 O '58
- Polyester/glass rocket launchers. *II Brit Plastics* 31:439 O '58
- Polyester/glass sheet production. *II diags Brit Plastics* 31:372-7+ S '58
- Polyester/glass swimming pool. *II Brit Plastics* 31:172 Ap '58
- Prepreg, epoxy molding cut weight and cost of aircraft structure; receives citation in Materials in design engineering competition. *II Materials in Design Eng* 47:149 Ap '58
- Reinforced epoxy spray masks for two-tone painting of shrouds for out-board motors. C. B. Martin. *II Plastics Tech* 4:41-3+ Ja '58
- Reinforced molding with acrylic sirup. J. A. Ross and others. *flow diag II Mod Plastics* 35:109-12+ Ag '58
- Reinforced plastics in outer space. H. T. Douglas, ed. *Plastics Tech* 4:62 Ja '58
- Rocket nozzle uses glass-reinforced phenolic molded in place; receives citation in Materials in design engineering competition. *diags Materials in Design Eng* 47:146-7 Ap '58
- Special glass insulation for underground pipe. *II Materials in Design Eng* 47:186+ Mr '58
- Styrene foam and reinforced plastics joined in tacking dome. *II Mod Plastics* 35:104-6 Ag '58
- Unsaturated polyester resins containing methyl methacrylate monomer. A. L. Smith and J. R. Lowry. *bibliog II Mod Plastics* 35:134+ Mr '58
- Wood decay prevention with reinforced plastics. R. Mark. *II Plastics World* 16:18-19 F '58

Joining

- Adhesive bonding of the newer plastics. M. J. Bodnar and W. J. Powers. *Plastics Tech* 4:721-5 Ag '58
- Bonding of Teflon. E. R. Nelson and others. *bibliog Ind & Eng Chem* 50:329-30 Mr '58
- Designer's guide for spin-welding; new joining technique for thermoplastics. W. E. Ebeling and A. J. Cheney. *II diags Machine Design* 30:128-35 Ap 17 '58
- Dielectric heat; sealability of films. G. I. Addis and others. *diags Plastics Tech* 4:542-4, 560 Je '58
- Electronic heat-sealing; dielectric heating of plastics. R. D. Farkas. *diags Mod Plastics* 35:109-11+ Mr '58
- Heat sealing of polyethylene film. R. M. Knight and W. U. Funk. *diags Mod Plastics* 35:133-6+ D '57
- High-frequency welding of cellular plastics. I. H. Schwartz. *Machine Design* 29:138+ N 28 '57
- Hot subject, heat sealing; electronic welding of vinyl film and sheet; dielectric heat-sealing. *II diags Mod Plastics* 35:85-90+ Ap '58
- Joining and fastening plastics. M. W. Riley. *II Materials in Design Eng* 47:129-44 Ja '58 (reprints 35c)
- Mechanical joining of plastics. A. J. Cheney and W. E. Ebeling. *diags Product Eng* 29:G2-5 Mid-S '58
- New method bonds plastics. *Electronics* 31:24 Ja 24 '58
- Three new adhesives for bonding plastics. *II Materials in Design Eng* 48:142+ JI '58

Joining to metal

- Adhesion using molecular models; adhesion of polyethylene and poly(vinyl chloride) to metals. D. Taylor, Jr. and J. E. Rutzler, Jr. *bibliog II diags Ind & Eng Chem* 50:928-34 Je '58
- Adhesive-mounted medallions. *II diag Mod Plastics* 35:158 JI '58
- Anodized aluminum for molded plastics. *II Mod Plastics* 35:209 Je '58
- Bonding plastics to rubber and metals. Franklin Inst J 264:402 N '57
- Effects of oxidation on adhesion of polyethylene to metals. F. J. Bockhoff and others. *bibliog diag Ind & Eng Chem* 50:904-7 Je '58
- Fine future seen for plastisol-coated metal sheets. *II Mod Plastics* 36:96-8+ S '58
- Forming with epoxy-faced dies. J. Delmonte. *II Tool Eng* 37:84-6 JI '56; Same cond. *Product Eng* 28:D9 Mid-O '57
- Hydrogenated polybutadienes as bonding agents for plastics and metals. D. Wright and N. Parkman. *diag Brit Plastics* 31:255 Je '58
- Mechanical bonding of plastics to metal. *Mod Plastics* 35:209-10 Ap '58
- Metal and plastic join forces; vinyl sheets are continuously bonded to metal sheet by heat and pressure. G. G. Carr. *II Iron Age* 181:56-7 Ap 3 '58
- Moisture monster of metallizing, meets end in trap! J. A. Selsmeyer and H. M. Farrow. *II Mod Plastics* 35:109+ JI '58
- New method for bonding polyethylene to rubber, brass, and brass-plated metals. H. Peters and W. H. Lockwood. *II Rubber World* 138:418-23+ J '58
- Plastic-coated metals ride uptrend; plastic laminations. *II Steel* 142:104-5 Ap 7 '58
- Screw-holding power of polyester laminates. R. R. Dixon. *Product Eng* 28:G22-4 Mid-O '57
- Vinyl-metal laminates up 1800 per cent in two years. V. Bartelmo. *II Mod Plastics* 35:102-5+ Ap '58

Joining to rubber

See Rubber—Joining to plastics

Manufacture

- Inventory of new processes and technology; plastics, resins and rubber. *Chem Eng* 65:133-4 My '58

Metal reinforcement

- For tools and dies, new epoxy-fiber compositions. A. P. Mazzucchelli. *II Tool Eng* 40:99-103 Ap '58; Abstract. *Am Mach* 102:141 F 24 '58
- Here's a better plastic die; treated metal powder and an epoxy liquid. *II Steel* 142:94-5 Mr 17 '58
- How to make plastic steel patterns. D. J. Volk and G. Battis. *II Foundry* 86:196+ Mr '58

PLASTICS—Metal reinforcement—Continued

- Making plastic dies with steel-epoxy compounds. *il* Tool Eng 40:119-20 My '58
- Metal-fiber reinforcement lengthens plastic-die life. *il* diags Mach 64:128-31 My '58
- Metal strengthens epoxies. *il* Chem & Eng N 36:70 F 17 '58
- Plastic steel repairs liner's water side; Public power station, Bahamas electricity corp. *il* Diesel Power 36:26 O '58
- Samsomite products; metal plus plastic. *Ind Finishing* 34:103-4 JI '58
- Steel compound cuts tooling costs. *il* Iron Age 181:156-7 Mr 6 '58

Patents

- Patent digest. Published in monthly numbers of *Plastics technology*
- Recent patents in the plastics field. Published in monthly numbers of *Plastics world*
- U.S. plastics patents. Published in monthly numbers of *Modern plastics*

Perfuming

- Problem of fixation; perfuming of plastics. T. Bassiri. *Am Perfumer & Aromatics* 71:38-41 F '58

Physiological effect

- Biological action of fiberglass-plastic dust. G. W. H. Schepers and others, bibliog *il* plan A M A Archives Ind Health 18:34-57 JI '58
- Health safety of plastics for food-contact applications. D. D. McCollister and W. J. Sauber. *Plastics Tech* 4:812-14+ S '58
- Toxicity of plastics. *Brit Plastics* 31:115 Mr '58

Plating

- New, hard nickel deposited on a plastic sheet. *Steel* 142:115 Ap 28 '58

Preforming

- Custom forming plant; Plastic Artisans. *il* *Plastics World* 16:37 Je '58
- Reinforced plastics preforming without discoloration. R. E. Mollman. *il* *Plastics Tech* 4:636-9 JI '58

Protection

- Ultraviolet absorbers mean new life for plastics. J. A. Weicksel. *il* *Plastics World* 16:8-9 Ag '58

Reinforcement

- Behavior of reinforced plastics at very high temperatures. I. J. Gruntfest and L. H. Shenker. *diags Mod Plastics* 35:155-6+ Je '58
- New reinforced TFE resin has good wear resistance. *il* *Materials in Design Eng* 47:144+ My '58
- Plastic dies get new life; epoxy resin system reinforced with metal or glass fibers. *il* *Steel* 142:76 F 24 '58
- Plastic nose to guard U.S. satellite in flight. *il* *Plastics Tech* 4:142 F '58
- Plastics boats; National motor boat show points to a doubling of the use of reinforced plastics. *il* *Plastics World* 16:6-9 F '58
- Plastics; riding high. *il* *Chem & Eng* N 36:72-7, cover Ag 25 '58
- Properties and applications of reinforced Teflon. F. M. Chapman. *il* *diag Machine Design* 30:148-54 S 18 '58
- Reinforced acrylic for vacuum forming. *Materials in Design Eng* 46:210+ N '57
- Reinforced plastics. H. T. Douglas, ed. *Plastics Tech* 4:62, 248-9, 460, 654+, 840 Ja, Mr, My, JI, S '58
- Reinforced plastics at 3,000 to 25,000 F. M. W. Riley. *il* *Materials in Design Eng* 47:100-4 Je '58
- Reinforced plastics filter plates benefit process industries. *il* *Mod Plastics* 35:93 Ag '58
- Reinforced plastics pipe progress. H. D. Boggs. *il* *Mod Plastics* 35:96-101+ Ag '58
- Reinforced plastics preforming without discoloration. R. E. Mollman. *il* *Plastics Tech* 4:636-9 JI '58
- Reinforced plastics solve heat-strength problems. J. D. Flynt. *il* *Iron Age* 181:94-7 Ap 3 '58
- Resin-silica vs. missile-made heat; Astrolite. *il* *Chem Eng* 65:74+ Ja 27 '58
- SPI Reinforced plastics division 13th annual conference, Chicago, Feb. 4-6, 1958; program. *Mod Plastics* 35:180+ D '57
- Society of the plastics industry Reinforced plastics division 13th annual conference, Chicago, Feb. 4-6. *Automotive Ind* 118:34 Mr 1 '58

- Versatile new reinforcing paper. *il* *Mod Plastics* 35:164 JI '58
- What lies ahead in reinforced plastics. *Plastics World* 16:16-17 F '58
- Whole plastics compete with concrete; transformer vault. *il* *Mod Plastics* 35:102-3 My '58

Shrinkage

- See* Plastics—Expansion and contraction

Stabilizers

- Epoxidized jojoba oil as a stabilizer for vinyl chloride containing plastics. S. F. Fore and others. *bibliog Am Oil Chem Soc J* 35:469-72 S '58
- Epoxy plasticizers-stabilizers; symposium. *bibliog Ind & Eng Chem* 50:861-76 Je '58 (reprints \$1)

Standards

- Guide to materials standards and specifications; plastics and rubber. S. P. Kaidanovsky. *Materials in Design Eng* 47:113-17 Je '58
- International standards for plastics; meeting, Lucerne, Switzerland, July 8-13. *Chem & Ind* p 1450 N 2 '57
- USA selected for international organization for standardization Technical committee 61 plastics meeting. C. H. Adams. *Mag of Stand* 28:14-15 Ja '58

Strength

- Effect of heat on the mechanical properties of certain glass fabric filled laminates. W. J. Read. *il* *Brit Plastics* 31:432-7 O '58
- High molecular weight polymers of ethylene oxide; plastic properties. K. L. Smith and R. Van Cleave. *il* *Ind & Eng Chem* 50:12-16 Ja '58
- Mechanical properties of thin polyethylene film. A. A. Anderson and G. L. Morfitt. *bibliog il* *Mod Plastics* 35:139+ Ap '58
- See also*
- Plastic sheeting—Testing

Temperature effect

- Behavior of reinforced plastics at very high temperatures. I. J. Gruntfest and L. H. Shenker. *diags Mod Plastics* 35:155-6+ Je '58
- Brittleness temperature testing of elastomers and plastics. A. C. Webber. *bibliog diags A S T M Bul* p40-4 Ja '58
- Developing plastics for higher temperatures. *Engineering* 184:654 N 22 '57
- Effect of heat on the mechanical properties of certain glass fabric filled laminates. W. J. Read. *il* *Brit Plastics* 31:432-7 O '58
- Effect of temperature on industrial plastics laminates. N. A. Skow. *il* *Materials in Design Eng* 47:109-11 F '58
- Effects of elevated temperature and erosion on reinforced plastic laminates; abstract. N. B. Miller and E. L. Strauss. *Machine Design* 30:154 My 15 '58
- Elastometer; device for measurement of elastic moduli of plastics at elevated temperatures. R. A. Spurr and others. *il* *diag A S T M Bul* p65-7 JI '58
- Low-temperature brittleness testing of polyethylene. P. N. Bestelink and S. Turner. *il* *diags A S T M Bul* p68-73 JI '58
- Measurement of P.V.C. brittle point. H. O. Williams. *bibliog il* *diag Brit Plastics* 31:107-11 Mr '58
- Mechanical properties of thin polyethylene film. A. A. Anderson and G. L. Morfitt. *bibliog Mod Plastics* 35:139+ Ap '58
- Tensile properties of some plastics at low temperatures. J. Dymond and H. Ziehlend. *bibliog diag J Ap Chem* 8:203-6 Ap '58

Testing

- Determining molecular weights of thermoplastic materials: the Brabender Plastograph. W. T. Blake. *Plastics Tech* 4:909-12+ O '58
- Kaolinite fractions, their effect on physical properties of reinforced plastics. G. P. Larson. *bibliog il* *diag Mod Plastics* 35:157-8+ My '58
- New plastics materials and test methods. *Elec Manuf* 61:12 Ja '58
- Tensile strength of plastics; effects of flaws and chain relaxation. F. Bueche. *J Ap Phys* 29:1281-4 Ag '58
- Thirty years of plastics impact testing. R. F. Westover. *bibliog Plastics Tech* 4:223-7+, 348-52 Mr-Apr '58

Uses

- Brussels 1958; plastics materials at the International exhibition. *il* *diags Brit Plastics* 31:230-6 Je '58

PLASTICS—Uses—Continued

- Falsies are looking up! re-usable plastic eyeglasses. *il* *diags* *Ind & Eng Chem* 50:sup32A-5A Ag '58
- Plastics and mechanical handling. *il* *diag* *Brit Plastics* 31:238-40 Je '58
- Plastics for the gardener. C. Craig. *il* *Brit Plastics* 31:220-7 Je '58
- Plastics in building; symposium. *Brit Plastics* 31:171 Ap '58
- Plastics' stake in building; check list shows where 633 million lb. of plastics are going. *il* *Mod Plastics* 36:99+ S '58
- Pointers to the plastics contribution to building. V. H. Wentworth. *il* *Brit Plastics* 31:161-4 Ap '58
- Polymethyl methacrylate bath. *Engineering* 155:123 Ja 24 '58
- Report on plastics: PVC blower; Bascodur. *il* *Power Eng* 62:82 O '58
- What's in store; plastics for the nursery. C. Craig. *il* *Brit Plastics* 31:366-9 S '58

Wear

- Picking the plastic for abrasion resistance. J. P. Abbat. *il* *Product Eng* 29:105-7 Mr 31 '58

Welding**See Plastics—Joining****PLASTICS, Cellular**

- Application of volatile organic liquids for expanding flexible urethane foam. E. Klesper. *Rubber Age* 84:84-7 O '58
- Cellular plastics in appliance construction; abstract. E. R. Marshall. *Machine Design* 30:160 Ja 23 '58
- Commercial developments of cellular materials in the U.K. *il* *Brit Plastics* 31:6-11 Jn '58
- Dense urethane foam is fastening edge for sandwich panels; receives citation. *il* *Materials in Design Eng* 47:153-4 Ap '58
- Diversification via plastics; Scott Paper enters polyurethane production. *il* *Chem & Eng N* 35:34 D 23 '57
- Economics of flexible urethane and latex rubber foams. P. B. Baker. *il* *Rubber World* 138:733-7 Ag '58
- Engineering applications of rigid foamed plastics. A. Gilmour and C. B. Flindt. *il* *Engineer* 205:204-7 F 7 '58
- Flank attack on polyethers. *il* *Chem & Eng N* 35:60 N 11 '57
- Foamed-plastic fastening. *il* *Machine Design* 30:99 Ji 10 '58
- Foamed plastics for structural functions in electronic equipment. R. Thielman. *il* *diag Elec Manuf* 61:67-73 Ja '58
- Foamed plastics production up. J. R. Morton. *Rubber World* 139:97 O '58
- Foams reduce cost; foamed phenolics can improve product for plywood industry. *Chem & Eng N* 36:28 F 3 '58
- Fragile electronic tubes travel safer when encased in urethane foam. *il* *Mod Plastics* 36:89 O '58
- Glassed plastics tackle new jobs. *il* *Product Eng* 29:113 Ap 7 '58
- High-frequency welding of cellular plastics. I. H. Schwartz. *Machine Design* 29:138+ N 28 '57
- High temperature foam. *Arch Forum* 107:149 D '57
- How polyether foams compare. M. J. Sanger and others. *il* *Materials in Design Eng* 47:101-3 Mr '58
- Indestructible flip-flop lid; urethane foam filling. *il* *Plastics Tech* 4:736 Ap '58
- Isoocyanate foams; panel discussion. *Rubber World* 138:890-2 S '58
- Isoocyanates: amazing means to many ends. *il* *Mill & Factory* 62:105 Mr '58
- Modified urethane foams. *Rubber World* 138:417 Je '58
- New rigid foam challenges urethane, styrene; Estafom. *il* *Chem Eng* 64:174+ D '57
- New uses pop up in urethanes. *Chem & Eng N* 36:38-9 My 26 '58
- Plastic foams; a new textile material. J. E. Lynn. *il* *Mod Textiles Mag* 39:49-52 Ja '58
- Plastics and ceramic foams for electronic applications. W. R. Cuming and P. M. Address. *il* *Elec Manuf* 61:100-4 My '58
- Plastics foam; Foamoprene. *Automobile Eng* 48:214 Je '58
- Polyesters of dimer acids as intermediates for urethane foams. R. D. Aylesworth and others. *bibliog Mod Plastics* 35:145-6+ My '58
- Polyurethane foams. H. K. Frensdorff. *bibliog il* *Rubber Age* 83:812-18 Ag '58

Potential applications for urethane foam in automobiles total over 24 lb. per car. A. W. Shearer. *il* *diag Automotive Ind* 118:28-31 Mr 1 '58

- Properties of cellular plastics. L. Talalay. *Machine Design* 29:175-8 D 12 '57
- Properties of materials: foams. *Materials in Design Eng* 48:179-81 Mid-O '58
- Radiation absorbers; flexible urethane foam loaded with conductive material. *il* *Mod Plastics* 35:200 Ap '58
- Selection and application of epoxy foams. D. D. Scott. *il* *Machine Design* 30:127-9 Je 12 '58
- Selection of urethane plastic foams for packaging electronic equipment. J. A. Meyer and H. Shapiro. *il* *diags Machine Design* 30:147-50 Mr 20 '58
- Shock-absorbing plastic foam; polyurethane foaming. *Franklin Inst* 7 265:384 My '58
- Snap-off foamed styrene board; new version of Styrofoam. *il* *Mod Plastics* 35:214 D '57
- Still more polyethers. *Chem & Eng N* 36:48 O 13 '58
- Strong, light radome is foam polystyrene. H. L. Loucks. *il* *Electronics* 31:101-3 F 28 '58
- Styrene foam and reinforced plastics joined in tracking dome. *il* *Mod Plastic* 35:104-6 Ag '58
- Surfacings for glass fiber and foam thermal insulation. W. P. Ellis. *il* *Heating-Piping* 30:136-9 Ji '58
- Synthetic flexible and rigid foams. *Engineer* 204:799 N 29 '57
- Thermal insulation materials: plastics foams. E. J. Fabian. *il* *Materials in Design Eng* 47:134-6 Mr '58
- Urethane foam with added characteristics. *il* *Plastics World* 16:53 Ja '58

Manufacture

- Non-uniform cellular material; abstract. R. J. Noble. *Rubber World* 139:73 O '58

Testing

- Foamed polyethylene coaxial cables; effects of moisture penetration on cellular dielectrics. C. C. Camillo and G. R. Karlson. *diags Wire & Wire Prod* 33:649-53+ Je '58
- New apparatus for determining the cell structure of cellular materials. W. J. Remington and R. Pariser. *diags Rubber World* 138:261-4 My '58

PLASTICS, Decorative

- Continuous pressure forming of fibrous mat. P. E. Fuerst. *bibliog il* *diags Mod Plastics* 36:115-17+ O '58
- High-speed masking process uses sprayed coating that is stripped off after decorating; *Spraylat*. R. W. Cloger. *il* *diag Mod Plastics* 35:123-3 O '58
- Laminated art, new mural medium. *il* *Mod Plastics* 35:92-3+ Ji '58
- Modern "stained glass" windows. *il* *Mod Plastics* 35:162 Ji '58

PLASTICS, Effect of heat on. See **Plastics—Temperature effect**

PLASTICS, Expanded. See **Plastics, Cellular**

PLASTICS, Irradiated

- Effects of electron irradiation on the electrical properties of mylar. E. L. Brancato and J. G. Allard. *bibliog il* *diags Power Apparatus & Systems* p 1539-45 F '58
- Effects of radiation on plastic packaging films. H. G. LeClair and W. H. Cobbs Jr. *bibliog Ind & Eng Chem* 50:323-6 Mr '58
- Graft copolymers, a new technology? D. J. Metz. *bibliog Nucleonics* 16:73-7 Ap '58
- How radiation affects plastics and rubber. M. Lazar and J. E. Auer. *bibliog Materials in Design Eng* 48:123+ Ag '58
- Irradiated polyethylene insulation systems. K. J. Mackenzie and R. A. Ward. *bibliog il* *Elec Manuf* 61:56-61 Ja '58
- Irradiation of polyethylene; kinetics of unsaturation effects. M. Dole and others. *bibliog diag Am Chem Soc J* 60:1580-8 Ap 5 '58
- Radiation processing of unfilled polyester resins. E. L. Colichman and J. M. Scarborough. *J Ap Chem* 8:219-23 Ap '58; Abstract. *Materials in Design Eng* 47:174+ My '58
- Thermoplastics are thermosetting after irradiation; Hewlett-Packard and Applied radiation corp. G. H. DeGroat. *il* *Am Mach* 101:90-1 D 30 '57

Testing

- Nondestructive test for radiation effects; vibrating-reed mechanism. J. D. Matlack and S. Strella. *il* *Nucleonics* 16:103-5 Ja '58

PLASTICS, Laminated

- Air force gets prefabricated radome constructed of laminated plastic sections. *il Electronics* 31: 19 My '58
- Effect of temperature on industrial plastics laminates. N. A. Skow. *il Materials in Design Eng* 47:109-11 F '58
- Etched wiring grows; copper-clad laminated plastics. *Electronics* 31:30 My '58
- Frisch uses trademark in laminated plastics to gain representative design for walls of restaurants. *il Plastics World* 16:8 S '58
- High-heat resistant laminates for missiles. *Electronics* 31:95-6 F '58
- High-temperature uses seen for composite laminated plastic. *Machine Design* 30:34 S 4 '58
- Laminated art, new mural medium. *il Mod Plastics* 35:92-3+ J1 '58
- Laminated plastic gears for silent operation, high horsepower. G. J. Muller. *il Materials in Design Eng* 45:105-8 S '58
- Laminating makes plastics more versatile. *il diags Iron Age* 181:94-6 Je 26 '58
- Phenolic laminates hold up at 500 F. *il Materials in Design Eng* 47:156+ My '58
- Polyvinyl-alcohol sheet simplifies autoclave bonding. *il Am Mach* 102:112 Ja 13 '58
- Post-formed phenolic laminates. H. Storch. *il diags Product Eng* 29:66-8 F '58
- Post forming decorative laminates. *diags Brit Plastics* 31:422 O '58
- Press-less laminating. *il Mod Plastics* 35:104 My '58
- Properties of materials: high pressure laminates. *Materials in Design Eng* 48:170-5 Mid-O '58
- Versatile new reinforcing paper. *il Mod Plastics* 35:164 J1 '58

See also

Micarta

Plastics—Joining to metal

Glass reinforcement

- Bladder molding forms smooth plastic laminates. J. A. Bagley and F. M. Partridge. *il diags Am Mach* 102:102-3 Ap 7 '58
- Build or repair with epoxy-glass laminates. T. G. Nock and R. A. Coderre. *il Chem Eng* 65:143+ Ja 27 '58
- Continuous pressure forming of fibrous mat. P. E. Fuerst. *bibliog il diags Mod Plastics* 36:115-17+ O '58
- Creep of glass-reinforced plastics; discussion. W. F. Simmons. *A S T M Bul* p65-6 Ap '58
- Disk springs of reinforced plastics make vibratory feeder last longer; receives citation in *Materials in design engineering competition*. *il diags Materials in Design Eng* 47:144-6 Ap '58
- Effect of heat on the mechanical properties of certain glass fabric filled laminates. W. J. Read. *il Brit Plastics* 31:432-7 O '58
- Epoxy radomes made by unique lost wax process. G. Mooring and C. R. Lemons. *il Plastics World* 16:8-9 Ap '58
- Fibers, resin sprayed all at once; Rand three-way spray gun. *il Chem & Eng N* 36:54 Ja 27 '58
- Herald laminated plastic use in planes. *il Product Eng* 29:25 F 24 '58
- Importance of fabrication on the properties of silicone-glass laminates. E. C. Elliott and K. R. Hoffman. *Plastics Tech* 4:235-9 Mr '58
- Influence of resin and process variables on polyester-glass laminate properties; modulus of elasticity, shrinkage, and reactivity. A. L. Smith and W. G. Carson. *bibliog Plastics Tech* 4:805-11 S '58
- Optimum aromatic amine-hardened epoxy-glass laminates. H. Raech, Jr. and F. F. Harris. *bibliog il diags Plastics Tech* 4:448-55 My '58
- Physical properties of prepreg laminates. G. Brown. *Plastics Tech* 4:631-5 J1 '58
- Plastics repair may solve leak problems. *il Oil & Gas J* 56:97-8 J1 21 '58
- Reinforced plastics by sprayup. *il Mod Plastics* 35:119-21+ F '58
- Reinforced plastics-foil roofing panel. *il Mod Plastics* 36:194 S '58
- Screw-holding power of polyester laminates. R. R. Dixon. *Product Eng* 28:G22-4 Mid-O '57
- Significance of second-order transitions of polyester and epoxy resins in glass fiber-reinforced laminates. A. D. Coggeshall. *bibliog Plastics Tech* 4:51-9 Ja '58
- Some problems in the use of glass reinforced laminates in the chemical industry. F. F. Jaray. *bibliog il diags Brit Plastics* 31:342-7 Ag '58

- Spray-up instead of lay-up? *il Am Mach* 102: 85 Ap 7 '58
- Three-way gun for resin-fiber lamination. *il Plastics World* 16:22 F '58
- Two acrylic resins for reinforced plastics; Lucite 201X and 202X. M. S. Ziegler and others. *il Materials in Design Eng* 47:149-50+ Mr '58

Manufacture

- Automatic resin content control in high-pressure laminate manufacture. H. R. Levine. *diags Mod Plastics* 35:133-6+ My '58
- Continuous pressure forming of fibrous mat. P. E. Fuerst. *bibliog il diags Mod Plastics* 36:115-17+ O '58

Reinforcement

- Asbestos-phenolics aid rocket and missile flight. D. V. Rosato. *il Plastics World* 16:4-6 Ap '58
- Effects of elevated temperature and erosion on reinforced plastic laminates; abstract. N. B. Miller and B. L. Strauss. *Machine Design* 30:154 My 15 '58
- Heat resistant laminate for supersonic airborne equipment. F. W. Jahns, Jr. *il Elec Manuf* 61:84-5 Ja '58
- How to machine laminated plastics. T. R. Silk. *il Iron Age* 181:77-80 My 1; 106-9 My 8; 82-5 My 15 '58
- New plastic stays strong at high temperature. *il Iron Age* 181:112 Mr 20 '58
- Nylon, asbestos team up; composite laminate promises high thermal resistance for missile nose cones. *Chem & Eng N* 36:62+ S 8 '58
- Reinforced plastics at 3000 Fahrenheit. N. B. Miller and E. L. Strauss. *Elec Manuf* 61:11-12 Mr '58

Testing

- Creep characteristics of laminated epoxy plastics; effects of cure conditions, hardener content, and additives. J. Delmonte. *bibliog il Plastics Tech* 4:913-16 O '58
- Significance of second-order transitions of polyester and epoxy resins in glass fiber-reinforced laminates. A. D. Coggeshall. *bibliog Plastics Tech* 4:51-9 Ja '58

PLASTICS, Powdered

- Fluidized polymer deposition: air-agitated plastic powder bed as a means of applying protective coatings and as a general plastic fabrication technique. R. L. Checkel. *bibliog il diags Mod Plastics* 36:125-6+ O '58

PLASTICS, Translucent

- Plastic panel coverings handle tough plant conditions. P. N. Cheremisinoff. *il Chem Eng* 65:152+ My 5 '58

PLASTICS, Transparent

- Acrylic model valve solves filling problem. *il Mod Plastics* 36:182 O '58
- Acrylic pistons. *il Mod Plastics* 35:183 Mr '58
- Clear vinyl tubing. *il Mod Plastics* 35:220 My '58
- Colorful acrylic mural allows outdoor-indoor viewing. *il Plastics World* 16:5 O '58
- Earth-sky globe. *il Mod Plastics* 35:204 F '58
- Efficiency of domed acrylic skylights; abstract. D. Linforth. *diags Illum Eng* 53: 475-6 S '58
- Electrical conductivity of Plexiglas. R. J. Munick. *bibliog J Ap Phys* 28:1302-3 N '57
- Huge canopy gives SeaMaster all-around visibility. J. A. Cascio. *il Mach* 64:154-3 J1 '58
- Innovations through skin and blister packaging; guest editorial. D. S. Thekeld. *Plastics Tech* 4:545-6 Je '58
- Lets in light, shuts out sun's heat. *il Plant Eng* 12:118 Ag '58
- Plexiglas - murals at Polytech. *il Plastics Tech* 4:653 J1 '58
- Protection of glass apparatus by embedding in transparent resin. F. Jones. *diags J Sci Instr* 35:71-2 F '58
- Transparent plastics plug for checking sealed rotating parts. C. E. Ellegman. *il diags Elec Manuf* 61:149-50 Mr '58
- Transparent vinyl wall encloses U.S. pavilion at Brussels world's fair. *il Mod Plastics* 35:88 J1 '58
- See also
Lucite
- PLASTICS engineering**
- Automatic blow-loading of inserts. *il diags Mod Plastics* 35:137-9+ D '57
- Designing stiffness into plastics structures. S. Levy. *diags Mod Plastics* 36:123+ S '58
- Engineering forum. *Plastics Tech* 4:61-3, 245-9, 458-60 Ja. Mr. My '58
- New machinery and equipment. *il Published in monthly numbers of Modern plastics*

PLASTICS engineering—Continued

- Plastics engineering, 1956-1957. E. E. McSweeney and R. G. Heiligmann. bibliog(52 ref) Mech Eng 80:57-60 Ap '58
- Polymer processing; new engineering specialty. E. C. Bernhardt and J. M. McKelvey. Mod Plastics 35:154-5 Jl '58
- Society of plastics engineers 14th annual technical conference, Detroit, Jan. 28-31; abstracts of papers. Mod Plastics 35:144+ Ja '58
- Uni-Rotor mixer for rubber and plastics. W. F. Watson and D. Wilson. II diag Rubber Age 82:296-8 N '57

Bibliography

- 1957 highlights; summaries of published contributions to plastics engineering. II diags Mod Plastics 35:117-19+ Ja '58

Study and teaching

- Plastics education in action; editorial. A. G. Serle. Plastics Tech 4:231+ Mr '58
- Russian plastics education. Plastics Tech 4:161 F '58

PLASTICS engineers

- Challenge of reinforced plastics. H. T. Douglas. Plastics Tech 4:840 S '58
- New graduates; new degree; Lowell Tech graduates the first plastic engineers. II Chem & Eng N 36:32-3 Je 16 '58

PLASTICS engineers, Society of. See Society of plastics engineers**PLASTICS federation, British. See British plastics federation****PLASTICS industries**

- Bachner award for outstanding achievement in molded and formed plastics. J. Bachner. Plastics World 16:5 Jl '58
- Linear polyethylene; issuance of new patent to DuPont poses new problems for polyethylene industry. Rubber Age 82:692 Ja '58
- Markets for materials, 1957. map Mod Plastics 35:85-105+ Ja '58
- Plastics boom quiets down. Chem & Eng N 36:22-3 Ag 4 '58
- Plastics industry 1957 gain seven per cent; expects 1958 increase of two per cent. Rubber World 137:734-5 F '58
- Plastics production up in '57, will level off in '58. Materials in Design Eng 47:194+ Mr '58
- Plastics show mixed pattern. Chem & Eng N 35:34-5 N 4 '57
- Plastics up slightly. Chem & Eng N 36:22 My '58
- Plasticscope; news and interpretations of the news. R. L. Van Boskirk. Published in monthly numbers of Modern plastics
- Polyester ingredient; uncertainty. Chem & Eng N 35:24 D 23 '57
- Report from the United States; materials, products and processing. II Brit Plastics 31:334-7, 420-1 Ag, O '58
- Shock troops of the industry; Bachner award. J. Bachner. Plastics Tech 4:653 Jl '58
- Year 1957 in review. bibliog(695 titles) II diag Mod Plastics 35:153-4+ Ja '58
- See also
- Society of plastics engineers
- Society of the plastics industry

Directories

- Directory of the plastics industry; materials, equipment, supplies and services. Plastics World 16:12-20+ S '58

Exhibitions

- SPI national plastics exposition, 8th, Chicago, Nov. 17-21; list of exhibitors, floor plan. Plastics Tech 4:931-5 O '58

History

- Plastics jubilee, 1907-1957; S.C.I. jubilee memorial lecture. G. Dring. Chem & Ind p870-8 Jl 12 '58

Public relations

- Let's tell the people. B. L. Raskin. Plastics Tech 4:917+ O '58

Statistics

- Facts and figures for the chemical process industries. M. Sakind. II Chem & Eng N 36:99-103 S 1 '58
- Mixed-up plastics picture. Ind & Eng Chem 50:sup24A-5A Jl '58
- More plastics sold. Engineering 184:590 N 8 '57
- Over four billion pounds in 1957. Mod Plastics 35:83-4 Ja '58
- Plastics production; tables. Published in monthly numbers of Modern plastics

Canada

- Annual statistical review; primary plastics. Can Chem Process 42:sup 12-13 Je '58
- Primary plastics; polyethylene leads plastics parade. D. Taylor. Can Chem Process 42:sup20A-1A Ja '58

Czechoslovakia

- Plastics in Czechoslovakia. G. Prochazka. II Brit Plastics 31:382-3 S '58

Europe

- European free trade and plastics; common market. II maps Brit Plastics 31:176-87 My '58

Great Britain

- British plastics federation conference, Torquay, Sept. 25-26; papers on problems of plastics industry. Brit Plastics 31:408-14 O '58
- Plastics jubilee, 1907-1957; S.C.I. jubilee memorial lecture. G. Dring. Chem & Ind p870-8 Jl 12 '58
- Plastics production and trends. diags Brit Plastics 31:1-5+ Ja '58
- U.K. plastics output to soar. Chem & Eng N 36:90-1 O 20 '58

Japan

- Japan's place in plastics. J. R. Turnbull. II Mod Plastics 36:109-11+ O '58
- Plastics make headway in Japan. Chem & Eng N 36:68-9 Je 23 '58

Russia

- Plastics experts tour Russia. Plastics Tech 4:940 O '58
- Plastics in the U.S.S.R.; editorial. Brit Plastics 31:219 Je '58
- Reports from Russia. R. L. Van Boskirk. Mod Plastics 36:214+ S '58
- Russian rubber-plastics activities; abstract. H. F. Mark. Rubber Age 83:1011 S '58
- U.S.S.R. plan greatly increased plastics production. N. Kruschev. Brit Plastics 31:263 Je '58
- U.S.S.R. plastics industry report by U.S. team. Rubber World 138:763 Ag '58

PLASTICS machinery

- Continental developments in plastics processing equipment; new machines at the Hannover German trade fair 1958. II Brit Plastics 31:244-8 Je '58

Safety devices

- New safety guard for two-roll mills. D. J. Mills. II diags Brit Plastics 31:308-9 Jl '58

PLASTICS research

- Basic research for the plastics industry. J. L. Formo. Plastics Tech 4:45+ Ja '58
- Research, the key to the plastics crisis. A. E. Gabriel. Plastics Tech 4:315-16+ S '58

PLASTISOLS

- Bonds plastisols to nylon base. Iron Age 180:162 N 7 '57
- Effects of plasticizers on the fusion of vinyl plastisols. L. A. McKenna. bibliog diags Mod Plastics 35:142-5+ Je '58
- Factors affecting plastisol flow. H. E. Frey. bibliog II Mod Plastics 35:164+ D '57
- Flue future seen for plastisol-coated metal sheets. II Mod Plastics 36:96-8+ S '58
- Flame-spraying plastisols. R. F. McTague. Plating 45:245-6 Mr '58
- Keep pace with the plastisols. II Mod Plastics 35:103-8 D '57
- Plasticizers for P.V.C. plastisols. D. S. Newton and J. A. Cronin. Brit Plastics 31:426-31+ O '58
- Plastisol coatings in ventilation systems. W. G. Cryderman. A M A Archives Ind Health 17:486-8 My '58
- Plastisols combine thickness with chemical resistance. F. L. Scott and W. C. Hosford. II Corrosion 14:126+; Discussion. 128+ Ja '58

PLATE glass

- Pittsburgh Plate's new plant highly mechanized. II Am Cer Soc Bul 37:338 Ag 15 '58

PLATES

- Aerodynamic drag of perforated plates at zero incidence. P. Minton and J. R. D. Francis. diag Roy Aeronautical Soc J 62:301-3 Ap '58
- Air under pressure loads parts in oscillating collector plate; illustrations with text. Machine Design 30:154-5 Mr 20 '58
- Bending and vibration of elastically restrained circular plates. C. L. Kantham. bibliog diags Franklin Inst J 265:483-91 Je '58

PLATES—Continued

- Bending of an elastically restrained circular plate under normal loading over a sector. W. A. Bassali and R. H. Dawoud. *bibliog* diag J Ap Mech 25:37-46 Mr '58
- Bending of elastically supported rectangular plates. M. Zaid and M. Forray. *bibliog* diags Am Soc C E Proc 84 [EM 3 no 1718]:1-25 J '58
- Boundary-layer slip solutions for a flat plate. H. Hasimoto. *J Aeronautical Sci* 25:68-9 Ja '58
- Bounds of eigenvalues of a clamped plate in tension. R. K. Kaul and S. G. Tewari. *bibliog* J Ap Mech 25:52-6 Mr '58
- Buckling of a simply supported rectangular plate under compression reacted by shear. V. I. Weingarten. *J Aeronautical Sci* 25:207-8 Mr '58; Discussion. P. Seide. *J Aero/Space Sci* 25:472 J '58
- Buckling of a thin annular plate under uniform compression. N. Yamaki. *bibliog* diags J Ap Mech 25:267-73 Je '58
- Buckling of simply supported plates under arbitrary symmetrical temperature distributions. J. M. Klosner and M. J. Forray. *diag J Aeronautical Sci* 25:181-4 Mr '58
- Compressive buckling of a long simply supported plate on an elastic foundation. P. Seide. *diags J Aeronautical Sci* 25:382-4+ Je '58
- Critical strain approach to creep buckling of plates and shells. G. Gerard and A. C. Gilbert. *bibliog* il J Aero/Space Sci 25:429-34+ J '58
- Deflections of plates on a viscoelastic foundation. E. Reissner. *J Ap Mech* 25:144-5 Mr '58
- Demountable vacuum seal for attaching an end-plate to a glass tube. H. R. Moore. *diag R Sci Instr* 24:737-8 Ag '58
- Effective width of thin rectangular plates. M. Ojalvo and F. H. Hull. *bibliog* il diags Am Soc C E Proc 84 [EM 3 no 1718]:1-30 J '58
- Experiment of flat plate turbulent boundary layer flow; effect of local fluid addition on friction and velocity distribution. H. Barrow. *bibliog* il Roy Aeronautical Soc J 62: 135-8 F '58
- Flame stabilization in the boundary layer of heated plates. R. W. Ziemer and A. B. Cambel. *bibliog* il diags Jet Propulsion 28: 592-9 S '58
- Flow against a vertical plate with large suction. J. R. Foote. *J Aero/Space Sci* 25:462-3 J '58
- Flow against a vertical plate with small suction. J. R. Foote. *J Aeronautical Sci* 25:381-2 My '58
- Forces on cylinders and plates in an oscillating fluid. G. H. Keulegan and L. H. Carpenter. *bibliog* il diags J Res Nat Bur Stand 60:423-40 My '58
- Fundamental solutions for heat transfer from nonisothermal flat plates. D. C. Baxter and W. C. Reynolds. *diag J Aeronautical Sci* 25:403-4 Je '58
- Further large-deflection analysis for a plate strip subjected to normal pressure and heating. M. L. Williams. *bibliog* J Ap Mech 25:251-8 Je '58
- Heat transfer to fluids with low Prandtl numbers for flow across plates and cylinders of various cross section. R. J. Grosh and R. D. Cess. *bibliog* diags A S M E Trans 80:667-76 Ap '58
- Laterally loaded plates. R. Hicks. *bibliog* Engineer 205:350-5 Mr 7 '58
- Levy-type solution for a rectangular plate of variable thickness. H. D. Conway. *diag J Ap Mech* 25:297-8 Je '58
- Nonaxial bending of ring plates of varying thickness. H. D. Conway. *J Ap Mech* 25: 386-9 S '58
- Normal perforation of a thin plate by truncated projectiles. B. Paul and M. Zaid. *il diags Franklin Inst J* 265:317-35 Ap '58
- Photoelastic determination of stress concentration factors caused by a single U-notch on one side of a plate in tension. A. G. Cole and A. F. C. Brown. *diag Roy Aeronautical Soc J* 62:597-8 Ag '58
- Precision microscope for large nuclear plates. I. Kalberg and others. *il diags R Sci Instr* 29:697-8 Ag '58
- Shear flow of a viscoelastic fluid past a flat plate with suction. A. S. Gupta. *J Aero/Space Sci* 25:591-2 S '58
- Similar solutions for free convection from a nonisothermal vertical plate. E. M. Sparrow and J. L. Gregg. *bibliog* diags A S M E Trans 80:378-86 F '58; Discussion. M. Tribus. 80:1180-1 J '58
- Stress distribution around a circular inclusion in a semi-infinite elastic plate. B. M. Saleme. *bibliog* diags J Ap Mech 25:129-35 Mr '58
- Strong cylindrical bending of elastic plates. S. J. Medwadowski and K. S. Pister. *bibliog* Am Soc C E Proc 84 [EM 3 no 1692]:1-11 J '58
- Surface motions of a thick plate. L. Knopoff. *bibliog* il diags J Ap Phys 29:661-70 Ap '58
- Transverse vibrations of rectangular orthotropic plates. N. J. Huffington, jr. and W. H. Hoppmann. 2d. *bibliog* diags J Ap Mech 25:389-95 S '58

Testing

Testing uniformity of sheets and plates. W. J. Youden. *diags Ind & Eng Chem* 49:sup71A-2A Ag '57; Correction. 50:sup90A F '58

PLATES, Steel. See Steel plates

PLATFORMING process. See Gasoline—Manufacture

PLATFORMS

- Boom and platform speed jobs. *il Elec World* 149:70+ My 5 '58
- Lightweight work platforms. *il diags Plant Eng* 12:101-3 Mr '58
- Look, the floor tilts. *il Textile Ind* 122:96 J '58
- Platform cuts ladle relining costs; Timken roller bearing co. *il Steel* 142:88 Je 30 '58
- Revised work platform eases repairs. L. M. Andersen. *diags Eng & Min J* 159:94 Je '58

See also

Boiler plants—Platforms

PLATFORMS, Floating. Floating construction units. *il Engineer* 206: 460 S 19 '58

PLATING

- Plating helps titanium. *il Steel* 142:102+ My 5 '58
- Plating methods; with or without electricity. *il Ind & Eng Chem* 49:sup26A+ N '57

See also

Antimony plating
Cadmium plating
Chromium plating
Copper plating
Electroplating
Galvanizing
Gold plating
Lead plating
Molybdenum plating
Nickel plating
Rhodium plating
Silver plating
Tin plating
Titanium plating
Zinc plating

Bibliography

- Article references. W. Tucker. *Plating* 45: 290-1, 378, 556-8, 620-1, 719, 868-9, 978-9, 1075-6 Mr-O '58
- Books. Published in monthly numbers of *Plating*

Patents

Patent abstracts. Published in monthly numbers of *Plating*

PLATING barrels

Barrel chromium plating continuous bulk processing; International business machines corp.'s electric typewriter plant. H. Mahlstedt. *il diag Metal Finishing* 56:58-60 F '58

PLATING machinery

- Plater unloads automatically; Stanley co. *il diag Steel* 142:83 F 24 '58
- Plating; a swing to automation. *il Iron Age* 181:190 Ap 24 '58
- Plating Ford bumper bars in 700-ft automatic machines. *il Automotive Ind* 118: 70-1+ Ja 15 '58
- Transferring racks automatically between conveyor and plating machine. R. L. Everstine. *il diags Automation* 5:61-3 J '58

Design

Operating mockup cuts design time. *Iron Age* 180:180 N 14 '57

PLATING racks

Plating and anodizing rack design. H. Kraus. *diags Metal Finishing* 56:62-9 Ag '58

PLATING research

- AES research program; a progress report and summaries of research projects. *il Plating* 45:345-8 Ap '58
- Electroplating research at the International nickel co. research laboratories. *il Plating* 45:360-5 Ap '58
- Research on microthrowing power and leveling of plating baths. E. Raub. *bibliog* il diag *Plating* 45:486-92 My '58

PLATING shops

New Japanese hard chromium plant, Y. Hirasawa and M. Rubenstein. *II Metal Finishing* 56:55-7 F '58

See also

Water supply for plating shops

Equipment

Automated barrel plating line combines speed, flexibility in parts handling. *II diag Am Mach* 101:182-3 N 18 '57

Cardboard model selects conveyor, P. C. Noy. *II diag Am Mach* 102:106-7 Ap 7 '58

Cast stainless pump handles corrosive electrolytes. E. A. Schoefer. *II Plating* 45:366-7 Ap '58

Corrosion problem solved by stainless steel pump. *II Elec Manuf* 62:112 J1 '58

Equipment and supplies. Published in monthly numbers of *Plating*

Finishing pointers; design of a plating line. J. E. Mohler. *Metal Finishing* 56:65 J1 '58

Flexibility and labor reduction feature new plating department. D. A. Sigan. *II plan Metal Finishing* 56:65-8 Mr '58

In-plant plating proves economical; Norgren-Stemac, Inc. W. E. Stevens. *II Plating* 45:636-8 Je '58

Industrial exhaust system protected by fabricated plastic and plastic coating on metal. E. J. St Amand. *II diag Air Cond Heat & Ven* 55:61-3 Mr '58

Loader speeds plating line; Eaton mfg. co.'s Cleveland stamping div. *II diag Steel* 141:108+D 2 '57

Heating and ventilation

Finishing pointers; how much air? J. B. Mohler. *Metal Finishing* 56:53 Ag '58

Layout

Plating re-layout trims manhour waste; Emil J. Paldar co. *Steel* 142:124-5 Mr 10 '58

Plating room layout. G. R. Kentta. plans *diags Metal Finishing* 56:52-6 S '58

Waste

How Trans world airlines treats plating shop wastes. R. L. Garrett and others. *II plan Plating* 45:847-50 Ag '58

Recovery or disposal of plating wastes? R. J. Keating. flow *diags II Metal Finishing* 55:46-8 S '58

PLATINOTRON. See Vacuum tubes—Traveling wave tubes

PLATINUM

Anodic polarography with a rotating platinum microelectrode. M. J. Allen and V. J. Powell. *Electrochem Soc J* 105:641-4 S '58

Color and light scattering of platinum in some lead glasses. R. J. Ryder and G. E. Rindone. *bibliog II Am Cer Soc J* 41:415-22 Q 1 '58

Effect of gamma irradiation on the potential behavior of platinum and stainless steel electrodes. W. E. Clark. *bibliog Electrochem Soc J* 105:483-5 Ag '58

Pilot plant fermentor with continuous platinum electrode potential measurement. R. W. Squires and P. Hosler. *diag Ind & Eng Chem* 50:1263-6 S '58

Platinum anode aids corrosion control for small, steel-hulled boats. *II Iron Age* 182:47 S 18 '58

Use of chlorine in the attack of noble metals; quantitative recovery of micro amounts of platinum, ruthenium, and osmium. A. D. Westland and P. E. Beamish. *bibliog diags Anal Chem* 30:414-18 Mr '58

Analysis

Separation of platinum, palladium, rhodium, and iridium by paper electrochromatography. W. M. MacNevin and M. L. Duntion. *bibliog diags Anal Chem* 29:1806-9 D '57

Spectrophotometric determination of rhodium and platinum in plutonium. M. E. Smith. *Anal Chem* 30:912-13 My '58

Nuclear reactions

Influence of platinum nucleation on crystallization of a lithium silicate glass. G. E. Rindone. *bibliog II Am Cer Soc J* 41:41-2 Ja 1 '58

PLATINUM alloys

Automatic temperature programming and recording for platinum-rhodium furnace. J. M. Cutler and R. Derry. *diag J Sci Instr* 35:26-7 Ja '58

PLATINUM compounds

Acid hydrolysis (aquation) of the trichloroammineplatinate(II) ion. T. S. Elleman and others. *Am Chem Soc J* 80:536-41 F 5 '58

Preparation of Zeise's salt and ethylene platinum II chloride. W. MacNevin and others. *diags Chem & Ind* p567 My 10 '58

PLATINUM fluorides

Platinum hexafluoride. B. Weinstock and others. *Am Chem Soc J* 79:5832 N 5 '57

PLATINUM hydride

Influence of ligands on the Pt-H stretching frequency in a series of complex hydrides of platinum (II); a complex hydride of palladium. J. Chatt and others. *bibliog Chem & Ind* p559-60 J1 5 '58

PLATINUM metals

Chemical analysis of iridosmines and other platinum-metal minerals. A. D. Westland and F. E. Beamish. *bibliog Am Mineralogist* 43:503-16 My '58

Platinum metals, 1957. J. P. Ryan. *Eng & Min J* 159:146-7 F '58

PLATINUM plating

Ductile platinum electroplates withstand 2000 F indefinitely. *II Materials in Design Eng* 48:126 J1 '58

PLAYGROUNDS

Planning the playground. N. R. Miller. *II diags Pub Works* 88:104-6 N '57

Rapid color changes and 35 per cent saving in paint cost; painting playground equipment. R. Feigenbaum. *II Ind Finishing* 34:56-8+ Ag '58

Storybook characters become real for retarded children; playground at Utah state training school for the mentally retarded. M. B. Bennett. *II Concrete* 65:23 D '57

Safety measures

Have fun with safety is Niagara Falls slogan. W. J. Duchaine. *II Pub Works* 89:127-8 My '58

Surfaces

Rubberized playground surface gives bounce instead of bump. T. A. Johnson. *II Pub Works* 89:110 F '58

PLEISTOCENE period. See Geology, Stratigraphic-Pleistocene

PLENUM chambers, Acoustical. See Sound—Absorption

PLEXIGLAS. See Plastics, Transparent

PLICACETIN. See Antibiotics

PLIOCENE period. See Geology, Stratigraphic—Pliocene

PLOWS

Here's how, whenever plowshares must be hardfaced. *II Welding Eng* 43:38-9 My '58

PLUMBING

All about pipes. *II Engineering* 185:288 F 28 '58

Piping and plumbing. L. Blendemann. Published in monthly numbers of Air conditioning, heating and ventilating Prefab plumbing systems. R. H. Chittim. *Prog Arch* 39:133 J1 '58

See also

Bathroom
Hot water supply
Pipe fittings
Pipes
Water distribution
Water pipes
Water supply for hospitals

PLUMBING fixtures

See also

Sanitary ware
Water closets

PLUMBING supplies industry

Large building equipment sales potentials favorable for 1958. P. B. B. Andrews. *Air Cond Heat & Ven* 55:41-4 Ja '58

PLUMBING trade

Bid shopping bill dangerous to both contractors, union. P. T. Schoemann. *Heating-Piping* 30:74-5 J1 '58

See also

Plumbing supplies industry

PLUMS

Corrosion of tinplate by Victoria plum syrup. F. W. Salt and J. G. N. Thomas. *bibliog diag Iron & Steel Inst J* 188:36-45 Ja '58

PLUTONIUM

Argonne builds center for plutonium research. *Ind Lab* 9:39 Ag '58

Development of handling techniques for the study of plutonium metal. W. B. H. Lord and M. B. Waldron. *bibliog II plan Inst Metals J* 86:385-92 Ap '58

Fuel for the world's reactors. *diags Nucl* 16:96-100 Ag '58

History of the early British work on plutonium metallurgy. J. G. Ball and W. E. H. Lord. *bibliog II diags Inst Metals J* 86:369-79 Ap '58

PLUTONIUM—Continued

- Kinetics of the disproportionation of plutonium (V). S. W. Rabideau. *bibliog Am Chem Soc J* 79:6350-3 D 20 '57
- Liquid-liquid extraction of uranium and plutonium from hydrochloric acid solution with tri(iso-octyl)amine; separation from thorium and fission products. F. L. Moore. *bibliog Anal Chem* 30:908-11 My '58
- Nuclear-track technique for low-level Pu in urine. L. C. Schwendiman and J. W. Healy. *il diags Nucleonics* 16:78+ Je '58
- Plutonium fuels power reactor. *Chem & Eng N* 36:28 S 1 '58
- Plutonium recycle test reactor. R. M. Fryar. *il Nucleonics* 16:62-3 Ja '58
- Scale-up problems in the plutonium separations program. O. F. Hill and V. R. Cooper. *il diags Ind & Eng Chem* 50:599-602 Ap '58
- Some investigations on plutonium metal. E. Dempsey and A. E. Kay. *bibliog il diags Inst Metals J* 86:379-84 Ap '58
- Specific heat of plutonium metal. D. J. Dean and others. *Inst Metals J* 86:464 Je '58
- Symposium on nuclear energy, fuel processing; abstracts of papers. *bibliog diags Engineering* 185:204-6, 236-8 F 14-21 '58

Analysis

- Analytical chemistry of plutonium. C. F. Metz. *bibliog* (58 ref) *Anal Chem* 29:1748-56 D '57
- Separation and determination of plutonium by liquid-liquid extraction. F. L. Moore and J. E. Huggens, Jr. *bibliog Anal Chem* 29:1767-70 D '57
- Spectrophotometric determination of rhodium and platinum in plutonium. M. E. Smith. *Anal Chem* 30:912-13 My '58

Isotopes

- Neutron multiplication in small spheres of fissionable material. P. J. Bendat and R. E. Peterson. *bibliog diags J Ap Phys* 29:1271-7 S '58
- Radiochemical determination of neptunium-239 and plutonium-239 in homogeneous reactor fuel and blanket solutions. F. L. Moore. *Anal Chem* 30:1368-9 Ag '58

Nuclear reactions

- Fission-product yields from U, Th and Pu; with graphs and tables; data sheet. S. Katcoff. *Nucleonics* 16:78-85 Ap '58

PLUTONIUM oxides

- UO₂-PuO₂ solid solutions. R. N. R. Mulford and F. H. Ellinger. *Am Chem Soc J* 80:2023 Ap 20 '58

PLUTONIUM phosphates

- Preparation of Pu₂(PO₄)₃ and PuPO₄. C. W. Bjorklund. *bibliog Am Chem Soc J* 79:6347-50 D 20 '57

PLYWOOD

- Arts festival features plywood vaulted roofs. *il diag Arch Rec* 122:213 D '57
- Fir plywood exhaust manifolds pay off for cellophane plant. *il Plant* 17:27 F '58
- New buildings use plywood in curved and folded plate designs. *il Eng N* 160:34+ My 1 '58
- Plywood pallets weather cycle longer. *il Concrete* 66:36-7 F '58
- Stressed-skin plywood panels from folded-plate roof for Northeast Tacoma elementary school. *il plans diags Frog Arch* 39:142-3 Ag '58
- Wall shutters with plywood facings. *il Engineering* 186:160 Ag 1 '58
- Wooden cams save money. J. E. Hyler. *il Tool Eng* 40:117-18 Ja '58

PNEUMATIC buildings. See Air pressure support**PNEUMATIC control**

- Air circuit controls water-operated press. R. Guggenheim. *il diags Ap Hydraulics* 11:84-6 Mr '58
- Air controls aid milk pasteurization. *il Comp Air Mag* 63:21 Mr '58
- Air hoists permit precision control; General steel castings corp. *il Comp Air Mag* 62:342-3 N '57
- Air pressure measures machine level, isolates vibration. *il diag Product Eng* 28:101 O 28 '57
- Air pressure times cylinder; foundry core pasting machine. *diags Ap Hydraulics* 11:82 Mr '58
- Applying pneumatic relays to industrial control. H. S. Garrett. *diags Control Eng* 5:103-7 Ja; 94-8 Mr '58
- Basic pneumatics for automation. H. L. Stewart and J. M. Moritz. *il diags Automation* 5:78-81 Mr; 92-6 My; 67-71 JI '58

- Design digest issue; hydraulic and pneumatic equipment. *il diags Product Eng* 28:J 1-29 Mid-O '57
- Dubuque automates new plant with all-pneumatic controls; softening-filtration plant. J. A. Hall and M. W. Williams. *il Water Works Eng* 111:654-5+ JI '58
- How fluid power compares with other machine-tool controls. F. D. Yeaple, Jr. *diags Product Eng* 29:70-1 Ag 18 '58
- How to use pneumatic control relays. R. R. West. *il diags Machine Design* 30:187-9 Ap 3 '58
- Pneumatic control for differential temperature. J. J. Combes. *diag Control Eng* 5:141 My '58
- Pneumatic control system provides engine speed control, safety shutdown; Patoka, Ill. station. Texaco-Cities service pipe line co. J. T. Howard. *il diag Pet Eng* 29:D43-5 D '57
- Pneumatic jet nozzle control. J. M. Stephenson. *diags Aircraft Eng* 30:44-5 F '58
- Pneumatic lathe mandrel compensates for component variations. G. R. Tindale. *diags Mach* 64:181 Ja '58
- Pneumatic variable-speed pump control. E. R. Fornal and W. R. Jensen. *il diags I S A J* 5:336-9 Mr '58
- Pneumatics; valve with a memory handles logic circuits. R. J. Cameron. *diags Product Eng* 29:76-8 My 26 '58
- Receiver-controller transmitter systems applications. C. S. Beard. *il diags Gas* 34:145-9 O '58
- Timing an air circuit. M. G. Saake. *diags Ap Hydraulics* 11:100 My '58
- Trouble shooting pneumatic control systems. W. C. Virbila. *il diags I S A J* 5:60-5 Je '58
- Universal excavator with pneumatic control. *il Engineer* 204:573 O 18 '57

See also

- Electropneumatic control
- Hydropneumatic control
- PNEUMATIC conveying**
- Airborne coffee beans; they fly across street from storage to roaster. E. Rasmussen. *il Plant Eng* 12:147 Ja '58
- Airslide conveyor system handles raw materials at AC spark plug plant. *il Automotive Ind* 118:73+ Ap 15 '58
- Coffee beans take to the air. *Comp Air Mag* 63:26 Mr '58
- Delivery by pneumatic tubes speeds foundry tests; Adirondack steel castings co. *il Iron Age* 181:106 Ap 10 '58
- Ebco employs air power for handling granulated cork insulation. *il Plant* 18:50 S '58
- Flexible bulk system speeds handling pneumatic flour unloader; Borden co.'s Lakeshire-Marty div. C. R. Labudde. *il Food Eng* 30:91 Ja '58
- For flake and pellet, a clean, smooth ride; pneumatic conveying setup handles high-purity polyethylene. *il diag Chem Eng* 65:68+ S 8 '58
- Handling system brightens truck future; Sprout Waldron developed a line of bulk carriers with built-in pneumatic handling systems. *il diag Chem Eng* 65:94+ F 10 '58
- High-speed pneumatic conveyor system; methods of insulating and sheathing telephone cable; Western electric co. *il diags Plastics Tech* 4:652+ JI '58
- Machine-to-machine parts handling. A. T. Gaudreau. *il diags Plant Eng* 12:88-91 Ap '58
- New air conveyor system has liquid handling flexibility; applying the systems approach at Phillips Chemical's new poliolefin plant. D. E. Perkins. *il diag Mod Materials Handling* 13:89-93 N '58
- New way to convey small parts; air conveyor system. Lamp div. Westinghouse electric corp. J. E. Woodall. *il diag Mod Materials Handling* 13:98-9 O '58
- Pneumatic handling of bulk materials. *il Foundry* 86:184+ S '58
- Pneumatic handling systems solve problems of moving bulk material. L. G. Weller. *il diags Automation* 5:69-74 Ja '58
- Pneumatics load alumina economically. *il diag Min Cong J* 44:62 My '58
- Practical pneumatic conveyor design. J. Fischer. *il diags Chem Eng* 65:114-18 Je 2 '58
- Pulverized coal transport through pipes. R. C. Patterson. *il diags Combustion* 30:47-57 JI '58

PNEUMATIC gages. See Gages, Pneumatic

PNEUMATIC instruments

Economical safe hand-controlled device for raising small quantities of liquids by compressed air. W. S. Sebborn. *diag J Sci Instr* 35:149 Ap '58

Pneumatic method of measuring cotton fiber staple length. H. M. Brown. *diag Textile Res J* 28:516-20 Je '58; Abstract. *Textile World* 108:93 My '58

PNEUMATIC machinery

Air cylinders make press double acting. B. Kepple and R. Williams. *il Ap Hydraulics* 11:84 Je '58

Air gives 100-lb punch. M. G. Saake. *diags Ap Hydraulics* 11:112-13 Mr '58

Air-operated clamshell for sinking small shafts. J. W. Lower. *il diag Min Eng* 10:773-5 Jl '58

Air-operated press. *il Comp Air Mag* 63:31 Mr '58

Air under pressure loads parts in oscillating collector plate; illustrations with text. Machine Design. 30:154-5 Mr 20 '58

British pneumatic tire automation. *Comp Air Mag* 62:349 N '57

Canned air valves unscramble moving parts. *il diag Ap Hydraulics* 11:88 My '58

Clutch-brake control valving. A. B. Huntington. *diags Automation* 5:146-50+ Mr '58

Compressed air has role in mucking innovations. *il Comp Air Mag* 63:19-20 Mr '58

Design digest issue; hydraulic and pneumatic equipment. *diags Product Eng* 29:J 1-54 Mid-S '58

Fail-safe electric control for air-powered cutter. *il diag Ap Hydraulics* 11:96-7 Je '58

Ideas for machine tools. *il diags Ap Hydraulics* 11:63-70+ Jl '58

Improving the dynamics of pneumatic positioners. C. L. Mamzic. *diags I S A J* 5:38-43 Ag '58

Pneumatic mold pusher speeds casting handling. H. Green. *il diag Ap Hydraulics* 11:80 F '58

Pneumatically-operated aerial mast. *il Wireless World* 64:349 Jl '58

Pneumatics; safeguarding the air supply. E. L. Holbrook. *diags Product Eng* 29:48-50 S 29 '58

Riveting machine operates on shop air lines. *il Steel* 142:93 Ja 27 '58

Shuttleless loom blows at 320 ppm. P. Abbenheim. *il diags Textile Ind* 122:114-16 Ap '58

Updating the K-factor formula for pressure drops in air valves. B. Dahls and C. Miller. *diags Product Eng* 29:74-8 Ap 14 '58

Lubrication

Design for air lubrication. E. H. Brauer. *il diags Ap Hydraulics* 11:63-4 Ag '58

Maintenance and repair

Designing for fluid maintenance; special report. *il diags Ap Hydraulics* 11:61-72+ Ag '58

PNEUMATIC tools

Air powered tools for door installations at Ford's Kansas City plant. *il Automotive Ind* 117:64 D 1 '57

Cutting foundry costs with air tools and hoists. A. C. Ringer. *il Foundry* 86:317-18+ My '58

De-rusting, de-scaling pistol; chisels, needles, compressed air do safe job. *il Plant Eng* 12:113 O '58

Five ways to use air tools; illustrations with text. *Am Mach* 102:114-15 F 10 '58

Industrial know-how handbook. *il Mill & Factory* 62:MW24 My '58

Lightweight pneumatic tools. *il Engineering* 185:168 F 7 '58

Mobile compressed air unit reduces driving time for rods. *il Roads & Sts* 101:66 Mr '58

Pneumatic tools. *il Engineer* 205:296 F 21 '58

To build a better mower; torsion bar impact tools. *il Comp Air Mag* 63:24-5 Ja '58

PNEUMATIC tools, Portable

Portable drill feeds automatically. *il diag Tool Eng* 40:97 Ja '58

Maintenance and repair

Getting more from your portable air tools. H. L. Whitehouse. *il plan Mach* 64:141-6 N '57

PNEUMATIC transmission

Air circuitry powers automatic weighing. A. A. Fischer and R. Springer. *il diag Ap Hydraulics* 11:104+ My '58

Armortube reduces the cost of installing instrumentation. *il Power Eng* 62:94-5 Je '58

Compact heavy-duty pneumatic/hydraulic ram. *diag Engineering* 186:37 Jl 11 '58

Dynamic study of an experimental pneumatic process-pressure transmitter. E. F. Hochschild. *bibliog diags A S M E Trans* 80:497-504 F '58

High pressure air-driven pump. D. D. Fredrick and R. L. Porter. *il diags Ind & Eng Chem* 49:1959-61 D '57

How to stop air cylinders smoothly. E. F. Heiser. *diags Ap Hydraulics* 11:74-5 Je '58

Metalworking, 1962; hydraulics and pneumatics. J. J. Pippenger. *diag Am Mach* 101:133-40 18 '57

1958 production preview; parts and materials. *il diag Am Mach* 102:250-64 Ja 27 '58

Pneumatic transmission line frequency response. R. P. Sandell and N. H. Ceaglske. *diag Product Eng* 28:J2-5 Mid-O '57

Pneumatic weigh cells improve automatic weighing and blending. E. E. Milligan. *diags Automation* 5:94-6 Mr '58

Three air circuits for packaging, assembling, measuring. *diags Ap Hydraulics* 11:94-5 Je '58

See also

Airplanes—Pneumatic equipment
Airplanes—Military—Pneumatic equipment

PNEUMATICS**See also**

Compressed air

PNEUMOCOCCI

Cross reactions of polyglucoses in anti-pneumococcal sera; precipitation of type VIII and type III antisera by β -glucans. M. Heidelberger and P. A. Rebers. *bibliog Am Chem Soc J* 80:116-18 Ja 5 '58

Immunological specificities involving multiple units of galactose. M. Heidelberger and others. *bibliog Am Chem Soc J* 80:113-18 Ja 5 '58

Precipitation of the specific polysaccharide of cryptococcus neoformans A by types II and XIV antipneumococcal sera. P. A. Rebers and others. *bibliog Am Chem Soc J* 80:1135-7 Mr 5 '58

PNEUMOCOCCIOSIS. See Lungs—Dust diseases

POCKET radio. See Radio receiving apparatus, Portable

PODOCARPIC acid

Partial degradation and reconstitution of podocarpic acid; a novel method of hydrolysis of highly sterically hindered esters. E. Wenkert and B. G. Jackson. *bibliog Am Chem Soc J* 80:217-19 Ja 5 '58

PODZOL soils. See Soils, Podzol

POISON gases. See Gases, Asphyxiating and poisonous

POISON ivy

New trend in poison ivy treatment. M. Halperin. *Safety Maint* 116:37 Jl '58

Oral antiken preparation in the prevention of poison ivy dermatitis; results in 455 cases of ivy sensitivity. E. R. Gross. *bibliog Ind Med* 27:142-4 Mr '58

Poison ivy dermatitis; abstract. A. M. Kligman. *Drug & Cosmetic Ind* 82:522 Ap '58

Poison ivy palliative. *Ind Med* 27:512 O '58

POISONOUS plants**See also**

Conium maculatum

Poison ivy

POISONOUS wood

Toxic properties of some timber woods. C. P. McCord. *bibliog Ind Med* 27:202-4 Ap '58

POISONS

Morbidity and mortality from economic poisons in the United States. B. E. Conley. *diags A M A Archives Ind Health* 18:126-33 Ag '58

Pesticides can be humanicides. B. E. Conley. *il Safety Maint* 115:36-9 F '58

See also

Curare

Fish poisons

Food poisoning

Gases, Asphyxiating and poisonous

Lead poisoning

Plastics—Physiological effect

Solvents—Physiological effect

Toad poisons

Venom

POISONS, Industrial

Boron is a toxicity problem. W. H. Schechter. *il Chem & Eng N* 35:54-5 D 2 '57

Influence of physical activity on the toxicity of aerosols and vapors. C. L. Punte and others. *bibliog A M A Archives Ind Health* 17:34-7 Ja '58

Threshold and toxic limits of some amino and nitro compounds. I. Pacséri and others. *bibliog A M A Archives Ind Health* 18:1-8 Jl '58

Threshold limit values for 1958. A M A Archives Ind Health 18:178-82 Ag '58

POISONS, Industrial—Continued

Toxic area semi-works. C. J. Prizer and A. S. West. *il plans Chem Eng Prog* 54:49-53 Ja '58

See also

Beryllium poisoning
Boron hydrides—Physiological effect
Lead poisoning
Mercury poisoning
Solvents—Physiological effect
Thorium poisoning
Uranium poisoning

POISSONS ratio

Lateral extensometer for the determination of Poisson's ratio of rock. E. R. Leeman and C. Grobbelaar. *diags J Sci Instr* 34: 503-5 D '57

Method of measuring Poisson's ratio of fibers. F. I. Frank and A. L. Ruoff. *diags Textile Res J* 28:213-17 Mr '58

POLAND

See also subdivision Poland under special subjects, e.g.
Chemical engineering
Chemical industries
Electronics industry
Machine tool industry
Medical service. Industrial

POLAR exploration. *See* Antarctic exploration

POLARIMETERS. *See* Polariscopes

POLARIMETRY. *See* Polariscopes

POLARIS. *See* Guided missiles

POLARISCOPE

Cornell radio polarimeter. M. H. Cohen. *bibliog diags Inst Radio Eng* Proc 46:183-90 Ja '58

Elliptic polarimeter for the student laboratory; specimens of elliptically polarized light. T. B. Brown. *diags Am J Phys* 26: 183-7 Mr '58

High-precision photoelectric polarimeter. E. J. Gillham. *diags J Sci Instr* 34:435-9 N '57

Polarimeter in the microwave region. K. Akabane. *il diags Inst Radio Eng Proc* 46: 194-7 Ja '58

Removal of signal fluctuations in a photoelectric polarimeter. A. R. Downie. *J Sci Instr* 35:114 Mr '58

Rouy method for photoelectric polarimetry. B. Carroll and others. *diags Anal Chem* 30: 1099-101 Je '58

Time-sharing polarimeter at 200 mc. S. Suzuki and A. Tsuchiya. *il diags Inst Radio Eng Proc* 46:190-4 Ja '58

See also

Saccharimeters

POLARITY

Methylene derivatives as intermediates in polar reactions; isopropoxyfluoromethylene. J. Hine and K. Tamabe. *bibliog Am Chem Soc J* 80:3002-7 D '58

Polarity of a model for reduced pyridine nucleotides. G. Cilento and others. *bibliog Am Chem Soc J* 80:4472-4 S '58

Swelling and solution of synthetic fibre-forming polar polymers in liquids. W. R. Moore. *bibliog diag Soc Dyers & Col J* 73:500-6 N '57

POLARIZATION (electricity)

Corrosion of mild steel in alkaline pulping liquids. R. B. Kesler and J. F. Bakken. *bibliog Tappi* 41:97-109 Mr '58

POLARIZATION (light)

Clear view through the foggy-foggy dew: polarizing technique developed at New York university's College of engineering for the air force. *Product Eng* 29:38 Ap 28 '58

Elliptic polarimeter for the student laboratory; specimens of elliptically polarized light. T. B. Brown. *diags Am J Phys* 26: 183-7 Mr '58

Panels which polarize light. *il diags Arch Forum* 109:136-8 S '58

Polarized light sees through fog. A. Nathan. *il Safety Maint* 115:13 Je '58

POLARIZATION, Dielectric

Determination of atomic polarizations and dipole moments for slightly polar liquid hydrocarbons. A. J. Petro and C. P. Smyth. *bibliog Am Chem Soc J* 80:73-6 Ja '58

Phenomenological theory of polarization reversal in BaTiO₃ single crystals. C. F. Pulvari and W. Kuebler. *bibliog diags J Ap Phys* 29:1315-21 S '58

Simplified approach to spin in Dirac theory. H. Mendlowitz. *bibliog Am J Phys* 26:17-24 J '58

Some theoretical considerations on induced polarization. J. H. Henkel. *bibliog diag Geophysics* 23:399-504 Ap '58

Theoretical study of induced electrical polarization; discussions. J. R. Wait and others. *Geophysics* 23:144-53 Ja '58

Ultra-low-velocity component of spontaneous polarization in BaTiO₃ single crystal. K. Husimi. *diag J Ap Phys* 29:1379-80 S '58

Ultrasonic measurement of polarization switching processes in barium titanate single crystal. K. Husimi and K. Kataoka. *diags J Ap Phys* 29:1247-51 Ag '58

POLARIZATION, Electrolytic

Anodic polarization as a possible rapid method of deciding whether a given solution is corrosive or inhibitive. F. Hancock and J. E. O. Mayne. *bibliog diag J Ap Chem* 7:700-8 D '57

Anodic polarization behaviour of aluminium. P. J. Anderson and M. E. Hocking. *bibliog diag J Ap Chem* 3:352-3 Je '58

Anodic polarization of titanium. J. B. Cotton. *Chem & Ind* p83-9 Ja 18 '58

Anodic polarization of titanium in nonaqueous base etching solutions. M. Eisenberg and R. E. DeLaRue. *il diag Electrochem Soc J* 105:162-9 Mr '58

Corrosion of anodically and cathodically polarized magnesium in aqueous media. G. R. Hoey and M. Cohen. *bibliog(32 ref) il diag Electrochem Soc J* 105:245-50 My '58; Discussion. 105:757-8 D '58

Effect of amines on polarization of iron electrodes. A. F. Schram and L. R. Burns. *bibliog diag Electrochem Soc J* 105:241-5 My '58

Electric properties of macromolecules; a study of electric polarization in polyelectrolyte solutions by means of electric birefringence. C. T. O'Konski and A. H. E. Hiltner. *bibliog Am Chem Soc J* 79:5634-49 N '57

Electrochemical polarization. M. Stern and A. L. Geary. *bibliog(30 ref) Electrochem Soc J* 104:56-63, 559-63, 645-50 Ja, S, N '57

Further aspects of anodic polarization of titanium. J. B. Cotton. *il Chem & Ind* p492-3 Ap 26 '58

Impedance and polarization measurements in fused lithium chloride-potassium chloride. H. H. Laitinen and H. C. Gaur. *bibliog diags Electrochem Soc J* 104:730-7 D '57; Correction. 105:433 J '58

Isolation of the diffusion layer at an electrode and the determination of concentration polarization. T. Yannakopoulos and A. Brenner. *bibliog il diag Electrochem Soc J* 105:521-8 S '58

Mechanisms of hydrogen producing reactions on palladium; the deuterium-palladium system. S. Schuldiner and J. P. Hoare. *bibliog diag Electrochem Soc J* 105:273-84 My '58

Polarization capacity at solid electrodes and true surface area values. R. J. Brodd and N. Hackerman. *bibliog diags Electrochem Soc J* 104:704-9 D '57

Surface area relationships in polarization and corrosion. M. Stern. *Corrosion* 14:43-6 J '58

POLARIZATION of particles
Analysis of a multiple state separator and focuser for polarizable molecules. F. O. Vonbun. *bibliog diags J Ap Phys* 29:632-6 Ap '58

Production of beams of polarized protons by the acceleration of protons derived from polarized hydrogen molecules. R. L. Garwin. *diag R Sci Instr* 29:374-6 My '58

POLARIZATION of radio waves. *See* Radio waves—Polarization

POLAROGRAPH
Polarograph with direct recording of electrode potential. D. L. Sawyer and others. *bibliog il diags Anal Chem* 30:481-4 Ap '58

Square-wave polarograph. R. E. Hamm. *bibliog diags Anal Chem* 30:350-4 Mr '58

POLAROGRAPHIC analysis
Analyzing radionuclides quickly and accurately; abstract. D. L. Love. *Chem & Eng N* 36:53-4 Ap 28 '58

Automatic determination of uranium in process streams. H. W. Bertram and others. *bibliog flow diag diags Anal Chem* 30:354-9 Mr '58

Gas by polarography; abstract. D. T. Sawyer and R. S. George. *il Chem & Eng N* 36:58+ Ap 28 '58

Polarographic determination of hydrogen peroxide, formaldehyde, and acetaldehyde in mixtures. S. Sandler and Y. H. Chung. *bibliog Anal Chem* 30:1262-5 J '58

Polarographic determination of small amounts of tin. S. Kallmann and others. *bibliog diag Anal Chem* 30:435-7 Ap '58

Polarographic determination of tin in zirconium alloys. J. T. Porter. *2d. Anal Chem* 30:484-5 Ap '58

Polarographic estimation of starch and its application in flotation. S. C. Sun and others. *bibliog Anal Chem* 30:1074-6 Je '58

POLAROGRAPHIC analysis—Continued

- Polarographic estimation of sulphydryl and disulfide groups in wool. J. P. E. Human. *bibliog diags Textile Res J* 28:647-54 Ag '58
- Polarographic estimation of tetracene. A. M. Wild. *Chem & Ind* p 1543 N 23 '57
- Polarographic estimation of thiophenes and aromatic sulfides in petroleum. H. V. Drushel and J. R. Miller. *bibliog Anal Chem* 30:1271-80 JI '58
- Polarographic study of thiourea complexes of cadmium and lead in aqueous media. T. J. Lane and others. *Am Chem Soc J* 80:315-18 Ja 20 '58
- Review of fundamental developments in analysis; organic polarography. S. Wawzonek. *Anal Chem* 30:661-74 *bibliog*(p670-4) pt 2 Ap '58
- Review of fundamental developments in analysis; polarographic theory, instrumentation, and methodology. D. N. Hume. *Anal Chem* 30:675-81 *bibliog*(p679-81) pt 2 Ap '58
- POLAROGRAPHY**
- Alternating current polarography; determination of transfer coefficient of electrochemical processes. H. H. Bauer and P. J. Elving. *bibliog diags Anal Chem* 30:341-6 Mr '58
- Alternating current polarography; improved experimental arrangement, examination of theory, and study of cadmium(II) reduction. H. H. Bauer and P. J. Elving. *bibliog diags Anal Chem* 30:334-41 Mr '58
- Anodic polarography with a rotating platinum microelectrode. M. J. Allen and V. J. Powell. *Electrochem Soc J* 105:541-4 S '58
- Application of a theory of irreversible polarographic waves to the reduction of nitroalkanes in non-aqueous solvents. A. F. Finkelstein, Jr. and T. De Vries. *Am Chem Soc J* 80:797-8 F 20 '58
- Carbon paste electrodes. *Anal Chem* 30:1576 S '58
- Concerning the effect of surface-active substances on polarographic currents. R. W. Schmid and C. N. Reilley. *bibliog Am Chem Soc J* 80:2087-94 My 5 '58
- Controlled current polarography at the dropping mercury electrode. I. M. Kolthoff and Y. Okinaka. *bibliog Am Chem Soc J* 80:4452-3 S 5 '58
- Diarylodonium salts; polarography of substituted diphenyliodonium salts. H. E. Bachofner and others. *bibliog Am Chem Soc J* 80:4274-8 Ag 20 '58
- Dibromamine; ultraviolet absorption spectra and polarographic studies. J. K. Johanneson. *Chem & Ind* p 97-8 Ja 25 '58
- Industrial applications of a.c. polarography. R. L. Faircloth and D. J. Ferrett. *bibliog diags Brit Inst Radio Eng J* 18:143-9 Mr '58
- Influence of inert cations on the reduction of complex anions; polarography of the cadmium EDTA complex. R. W. Schmid and C. N. Reilley. *bibliog Am Chem Soc J* 80:2101-5 My 5 '58
- Instrumental methods of derivative polarography. M. T. Kelley and D. J. Fisher. *bibliog diags Anal Chem* 30:929-32 My '58
- Nernst-controlled currents in hanging-drop polarography. W. H. Reinmuth. *bibliog Am Chem Soc J* 79:6358-60 D 20 '57
- Polarographic reduction of some aromatic aldehydes. R. M. Powers and R. A. Day, Jr. *bibliog Am Chem Soc J* 80:808-11 F 20 '58
- Polarographic study of cytotoxic nitrogen mustards. R. Mantsavinos and J. E. Christian. *bibliog Anal Chem* 30:1071-3 Je '58
- Polarographic study of mercuric cyanide and the stability of cyanomercurate ions. L. Newman and others. *bibliog Am Chem Soc J* 80:1814-19 Ap 20 '58
- Polarography at very negative potentials; improvement of polarograms by use of N,N-dimethylformamide and tetrabutylammonium iodide. F. L. Lambert. *bibliog Anal Chem* 30:1018 My '58
- Polarography in acetonitrile; Brønsted acids; amperometric titration of amines with perchloric acid; oxygen. J. F. Coetzee and I. M. Kolthoff. *bibliog Am Chem Soc J* 79:6110-15 D 5 '57
- Polarography in N,N'-dimethylformamide; alkali metal ions, alkaline earth metal ions and certain transition metal ions. G. E. Brown and R. Al-Urfali. *bibliog Am Chem Soc J* 80:2113-15 My 5 '58
- Polarography of histidine complexes of cobalt(II) and cobalt(III). B. Jaselskis. *bibliog Am Chem Soc J* 80:1283-5 Mr 20 '58
- Polarography of metal ions in fused lithium chloride-potassium chloride eutectic. H. A. Laitinen and others. *bibliog Anal Chem* 30:1266-70 JI '58
- Polarography of quinoxaline; 6-substituted derivatives. M. P. Strier and J. C. Cavagnol. *Am Chem Soc J* 80:1565-8 Ap 5 '58
- Polarography of thiourea. C. J. Nyman and E. P. Parry. *bibliog Anal Chem* 30:1255-7 JI '58
- See also*
Reduction, Electrolytic
Voltammetry
- Study and teaching**
- Education in polarography; meeting, Birmingham, March 20. *Chem & Ind* p850-2 JI 5 '58
- POLAROID photography.** *See* Photography
- POLE figures.** *See* Metallography
- POLES**
- Finding depth of footing for a pole subject to lateral load. I. M. Nelidov. *diag Civil Eng* 28:196 Mr '58
- New pole-office building. S. M. Sutton. *il Bell Lab Res* 33:329 S '58
- Pole embedment to resist lateral load. D. Patterson. *diag Civil Eng* 28:527 JI '58
- See also*
Electric lines—Poles and towers
- Testing**
- ASTM wood pole research program. A S T M Bul p 12-13 My '58
- POLICE**
- See also*
Radio telephone—Police uses
- POLIOMYELITIS**
- Influence of natural and artificially induced immunity on alimentary infections with polioviruses. J. P. Fox and others. *bibliog Am J Pub Health* 48:1181-92 S '58
- Use of a portable tissue culture laboratory in a field study of tropical poliomyelitis. J. L. Melnick. *bibliog Am J Pub Health* 48:1170-80 S '58
- Vaccines**
- Antibody response to poliomyelitis vaccine administered by jet injection. M. J. Lipson and others. *bibliog Am J Pub Health* 48:599-603 My '58
- Attitudes of Californians toward poliomyelitis vaccination. M. H. Merrill and others. *bibliog Am J Pub Health* 48:146-52 F '58
- Study of the public's acceptance of the Salk vaccine program. M. A. Glasser. *Am J Pub Health* 48:141-6 F '58
- Study of the serologic response to ultraviolet-formalin inactivated poliomyelitis vaccine. J. G. Molner and others. *bibliog Am J Pub Health* 48:590-8 My '58
- POLIOMYELITIS virus.** *See* Poliomyelitis
- POLISHING**
- Buffing setup increases output, saves space. H. Chase. *il Iron Age* 181:78-9 Ja 23 '58
- Chemical polishing. L. F. Spencer. *bibliog*(39 ref) *Metal Finishing* 56:52-6 Mr; 62-7 Ap '58
- Distorted layers in silicon produced by grinding and polishing. W. C. Dash. *diags J Ap Phys* 29:228-9 F '58
- Improved diffusion boundary junctions in silicon due to scratch-free polishing. F. Keywell. *il J Ap Phys* 29:871-2 My '58
- Mold polishing. A. W. Logozzo. *il Plating* 45:628-30 Je '58
- Roller burnishing, a low-cost method of producing smooth surfaces. C. R. Morris. *il Mach* 64:115-17 Je '58
- See also*
Abrasives
Glass—Polishing
Grinding
Grit blasting
Toning
Shot blasting
Tumbling barrels
- POLISHING, Electrolytic**
- Electrolytic polisher. *diag Engineer* 204:762 N 22 '57
- Electrolytic polishing; new equipment. *il diag Metallurgia* 57:107-8 F '58
- Electropolishing copper, brass and aluminum. K. F. Lorking. *bibliog Metal Finishing* 56:64-4 Mr '58
- Electropolishing silicon in hydrofluoric acid solutions. D. B. Turner. *bibliog diag Electrochem Soc J* 105:402-8 JI '58
- Electropolishing; what, how and why. J. F. Jumer. *il diag Metal Finishing* 56:44-7 Ag; 60-3 S; 67-4 O '58

POLISHING machines

See also

Lapping machines

POLISHING materials

Liquid vs. bar buffing compound. E. T.

Candee, *il* diags Plating 45:35-8 Ja '58Polyethylene in specialty polishes. R. Rosenbaum and R. F. Bock, *il* Soap & Chem Spec 34:103+ Mr '58

See also

Floor wax

Analysis

Infrared analysis of emulsion polishes. J. E.

Murphy and W. C. Schwemer, bibliog Anal Chem 30:116-26 Ja '58

POLLENMethod for determining removal of pollen from air, *il* Air Cond Heat & Ven 54:66 N '57

Pollen; new biological principle in cosmetology. H. Luzuy, Am Perfumer & Aromatics 71:27-30 F '58

POLONIUM

Effect of oxygen on ferric ion yields in aqueous solutions containing polonium. C. N. Trumbore, bibliog Am Chem Soc J 80:1772 Ap 5 '58

POLYACETAL resin. See Resinous products**POLYACRYLONITRILE. See Acrylonitrile****POLYAMIDES. See Amides****POLYAMINES. See Amines****POLYBUTADIENE. See Butadiene****POLYCARBONATES. See Carbonates****POLYCHROMATOR. See Spectrograph****POLYELECTROLYTES. See Electrolytes****POLYESTERS. See Esters****POLYETHERS. See Ethers****POLYETHYLENE**Additives check oxidation; Bell laboratories, *il* Chem & Eng N 36:58-9 F 24 '58Adhesion using molecular models; adhesion of polyethylene and poly(vinyl chloride) to metals. D. Taylor, Jr. and J. E. Rutledge, Jr. bibliog *il* diags Ind & Eng Chem 50:928-34 Je '58Big polyethylene pipe, *il* Mod Plastics 35, 126-7 D '57

Bonding plastics to rubber and metals. Franklin Inst J 264:402 N '57

Choosing and forming polyethylene sheet. A. G. Rowe, *il* Mod Plastics 35:113-14+ Ar '58Clear linear poly film expected to advance film uses; Conalex, *il* Plastics World 16:5 Ag '58

Continuous oxygen-initiated ethylene polymerization. F. N. Grimsby and E. R. Gilliland, bibliog diags Ind & Eng Chem 50: 1049-52 JI '58

Determination of moisture permeation rate through polyethylene cable glands. D. W. Glover and A. J. Cleaver, diags Brit Plastics 31:105-6 Mr '58

Dielectric strength and voltage life of polyethylene. G. H. Hunt and others, *il* Power Apparatus & Systems p25-8 Ap '58; Excerpts, Elec Eng 77:631 Ag '58; Machine Design 30:156 Mr '58

Diffusion in ethylene polymers; effects of temperature and pressure. D. W. McCall and W. P. Slichter, bibliog Am Chem Soc J 80:1861-3 Ap 20 '58

Discontinuity in the flow curve of polyethylene. E. B. Bagley and others, *il* J Appl Phys 29:109-10 Ja '58

Discover antioxidants for polyethylene. Ind Lab 9:110 Mr '58

Do-it-yourself shelter provides temporary storage. P. Yasnay, diags Mod Materials Handling 13:90-1 JI '58

Dry cleaning; big new market for polyethylene film bags; Clopay corp. *il* Mod Plastics 35:106-7 Ap '58Dry coloring high density polythene, *il* diags Brit Plastics 31:254 Je '58Dry-coloring methods for injection molding of polyethylene. J. N. Scott and others, *il* diags Plastics Tech 4:552-5 Je '58

Du Pont gets patent on linear polyethylene. Materials in Design Eng 47:247-8+ Ap '58

Easy-to-open polyethylene-wrapped packages. *il* Mod Plastics 35:180 Ar '58

Effect of stock temperature on the physical properties of polythene coatings for wire. J. A. Durno, diags Wire & Wire Prod 33: 182-4+ F '58

Effects of oxidation on adhesion of polyethylene to metals. F. J. Bockoff and others, bibliog diags Ind & Eng Chem 50:904-7 Je '58

End linking polyethylene. T. F. Williams and others, *il* Chem & Eng N 36:42 My 5 '58

Evaluation of carbon black dispersions in polyethylene to predict weatherability. R. M. Schuiken, Jr. and others, bibliog diags Mod Plastics 35:126-8+ Ag '58

Extrusion and forming of high-density polyethylene blown tubing. R. Doyle, *il* Mod Plastics 35:137+ My '58

Extrusion and vacuum forming of high density polythene sheet. Brit Plastics 31: 352 Ag '58

Extrusion of rigid polyethylene pipe. L. B. Croley and R. Doyle, *il* diags Plastics Tech 4:717-20+ Ag '58For flake and pellet, a clean, smooth ride; pneumatic conveying setup handles high-purity polyethylene, *il* diags Chem Eng 65: 66+ S 8 '58

Heat sealing of polyethylene film. R. M. Knight and W. U. Funk, diags Mod Plastics 35:133-6+ D '57

High-density polyethylene. Mech Eng 80:56 JI '58

High-density polyethylene shampoo containers, *il* Mod Plastics 35:156 JI '58High density polythene electric kettle, *il* Brit Plastics 31:148 Ap '58High density polythene plant in U.S.A.; Polymer chemicals div. of W. R. Grace & co, *il* Brit Plastics 31:34 Ja '58High-speed pneumatic conveyor system; methods of insulating and sheathing telephone cable; Western electric co. *il* diags Plastics Tech 4:652+ JI '58How to slush mold polyethylene, *il* Mod Plastics 35:112-14 My '58

Inhibition of crystallization in polyethylene subsequent to gamma irradiation. T. F. Williams and others, Am Chem Soc J 80: 2595-6 My 20 '58

Insulated power cables. N. Peach, *il* diags Power 102:73-9 Ap '58

Interrelationship between density and dielectric strength of high pressure polyethylene for high voltage applications in insulated wires. A. S. Silver, bibliog Wire & Wire Prod 33:70-2+ Ja '58

Irradiated polyethylene insulation systems. K. J. Mackenzie and R. A. Ward, bibliog *il* Elec Manuf 61:56-61 Ja '58

Irradiation of polyethylene; kinetics of unsaturation effects. M. Dole and others, bibliog diags Am Chem Soc J 80:1580-3 Ap 5 '58

Low molecular weight polyethylene in rubber compounding; abstract. T. A. Bulifant, Rubber World 138:110 Ap '58

Man-made fibers; a review of synthetic textile fibers now produced in the United States. Mod Plastics 16:15-16 Mr '58

Marblehead uses polyethylene cable, *il* Elec World 150:65 JI 7 '58

Markets for polyethylene pipe. J. E. Sayre, Mod Plastics 35:32-7 JI '58

Mechanical properties of thin polyethylene film. A. A. Anderson and G. L. Morritt, bibliog *il* Mod Plastics 35:139+ Ap '58Moderator is polyethylene, *il* diags Mod Plastics 35:90-1 JI '58Mold design for high-density polyethylene. A. Spaak, bibliog *il* diags Plastics Tech 4: 537-41, 560 Je '58Mold design technology for polyethylene. R. W. VanSickle, bibliog *il* diags Plastics Tech 4:35-40 Ja '58Molding dry-colored polyethylene. C. L. Weir, *il* diags Mod Plastics 35:197-9+ JI '58Molding linear polyethylene. A. Spaak and C. L. Weir, bibliog *il* Mod Plastics 35:122+ Ap '58

More variety in polyethylene; high-density; low-pressure; reinforced film. Mod Plastics 36:43+ O '58

Neck-in problem in polyethylene extrusion coating and film casting. D. Lewis and W. F. McDonald, Plastics Tech 4:918-19+ O '58

New bonding process permits joining of polyethylene to rubber, *il* Rubber Age 82:603 D '57

New developments in Hi-fac coverings for wire and cable; high density polyethylene. W. P. Acton and W. O. Bracken, Wire & Wire Prod 33:174-5+ F '58

New method for bonding polyethylene to rubber, brass, and brass-plated metals. H. Peters and W. H. Lockwood, *il* Rubber World 138:418-23+ Je '58

New plastic output soars. Electronics 31:28 F 7 '58

New plastic protects tubing, *il* Oil & Gas J 56:76 JI 7 '58

New polyethylene plant for bakelite at Institute, West Virginia. Pet Refiner 37:225+ Je '58

POLYETHYLENE—Continued

- New polyethylenes. M. W. Riley. bibliog. *il* *diag* *Materials in Design Eng* 48:98-102 J1; 96-100 Ag '58
- New polyethylenes have higher resistance to thermal and environmental stress cracking and improved long-term load-carrying ability. *Chem & Eng N* 36:47 My 12 '58
- New protectants for polyethylene; suppressing thermal oxidation. F. H. Winslow. *il* *Bell Lab Res* 36:318-22 S '58; *Abstract. Rubber World* 139:31 O '58
- New sunlight resistant polyethylene; Reevon. V. L. Erlich. *Mod Textiles Mag* 39:41-2 Je '58; *Discussion. C. T. Kennedy. 39:66 O '58*
- New technique for deep draw vacuum forming polyethylene. *il* *diags* *Plastics World* 16:30-1 Ja '58
- New techniques for molding linear polyethylene. D. A. Jones. *plan diags* *Plastics Tech* 4:547-51 Je '58
- New techniques in moulding high density polyethylene. D. A. Jones. *diags* *Brit Plastics* 31:152-44 Ap '58
- Patent awarded to Du Pont for developing linear-type polyethylene. *Oil & Gas J* 55:42 D 23 '57
- Polyethylene bottle remains rigid after boiling. *il* *Plastics World* 16:17 Ja '58
- Polyethylene bread wrap. *il* *Mod Plastics* 35: 118-19+ Je '58
- Polyethylene-butyl rubber flame-retardant cable sheath. *Elec Manuf* 62:10 S '58
- Polyethylene covers up. *Chem & Eng N* 36: 44 J1 14 '58
- Polyethylene filaments stabilized to ultraviolet rays; Reeves brothers, inc. *Plastics World* 16:30 Ap '58
- Polyethylene film is wrapping it up. *il* *Chem & Eng N* 36:82-5 F 17 '58
- Polyethylene film protects printed circuits. *il* *Elec Manuf* 62:107 Ag '58
- Polyethylene for marine applications; bilge pump and boat fender. *il* *Mod Plastics* 35: 94-5 Ag '58
- Polyethylene in specialty polishes. R. Rosenbaum and R. F. Bock. *il* *Soap & Chem Spec* 34:103+ Mr '58
- Polyethylene oxide gums in toilet goods. L. Osipow and L. D. Berger. *jr. il* *Drug & Cosmetic Ind* 82:166-7+ F '58
- Polyethylene resin made in four types. *il* *Materials in Design Eng* 46:172+ D '57
- Polyethylene tape for pipeline protection. P. Reed. *il* *Oil & Gas J* 55:223-4+ D 30 '57
- Polyethylene sheets make economical pit liner. *il* *Plant* 17:34 Je '58
- Polyolefin fibers; the current position. C. T. Kennedy. *il* *Textile Ind* 122:107-10 Ag '58
- Polythene film for concrete moulds. *il* *Brit Plastics* 31:72 F '58
- Polythene filters for laboratory use. E. G. Heath. *Chem & Ind p* 1111-12 Ag 23 '58
- Polythene one-piece shoe base. *il* *Brit Plastics* 31:24 Ja '58
- Polythene pipe installation for wave reduction. *il* *Brit Plastics* 31:332 Ag '58
- Production, use of new polyethylene up. R. S. Arles. *Materials in Design Eng* 46:250+ N '57
- Properties of materials; polyethylenes. *Materials in Design Eng* 48:159 Mid-O '58
- Rigid polyethylenes ready to roll. *il* *Product Eng* 28:17 N 18 '57
- Sealing strength of wax-polyethylene blends. D. S. Brown and others. *bibliog* *diags* *Tappi* 41:295-300 Je '58
- Slush moulding of polythene. *il* *Brit Plastics* 31:237 Je '58
- Solid catalysts in ethylene polymerization. E. F. Peters and others. *bibliog* *Ind & Eng Chem* 49:1879-82 N '57
- Termite control with polyethylene pipe. *il* *Mod Plastics* 36:176 O '58
- Thermal antioxidants for polyethylene. *il* (cover) *Bell Lab Res* 36:78 F '58; *Same. Franklin Inst J* 265:357 Ap '58
- Thermodynamics of crystallization in high polymers; poly(ethylene). F. A. Quinn, Jr. and L. Mandelkern. *bibliog* *Am Chem Soc J* 80:3178-82 J1 5 '58
- Thermoplastics are thermosetting after irradiation; Hewlett-Packard and Applied radiation corp. G. H. DeGroat. *il* *Am Mach* 101:90-1 D 30 '57
- Treeing in polyethylene as a prelude to breaking down. W. Kitchin and O. S. Pratt. *il* *Elec Eng* 77:218-23 Mr '58; *Same. Power Apparatus & Systems p* 180-5; *Discussion. 185-6 Je '58*
- Two plastics gain ease-of-use, new markets; new Teflon and polyethylene products. *il* *Chem Eng* 55:84+ My 5 '58
- Use polyethylene components for laboratory venting system. *il* *Ind Lab* 9:74 Ja '58
- Users of polyethylene should know materials. J. A. Neumann. *Ind Lab* 9:99 Ap '58
- Vaporizer in high-density polyethylene. *il* *Mod Plastics* 36:100-1 O '58
- What's happening to linear polyethylene? *Chem Eng* 55:86+ S 22 '58
- When you want polyethylene, know what you want. *il* *Mod Plastics* 36:83-7+ O '58 (to be cont)
- Which polyethylene is best? J. W. Haun. *Pet Refiner* 36:121-3 D '57
- Why low-molecular-weight polyethylene? K. F. Koch and J. Peck. *il* *Mod Plastics* 35: 109-12 D '57

Manufacture

- Automated, high density polyethylene plant using Phillips process; Polymer chemicals div. W. R. Grace & co. *il* *Plastics World* 16:31 Mr '58
- Bombshell drops in polyethylene. *Chem & Eng N* 35:17-18 D 30 '57
- Grace puts plant on stream. *il* *Oil & Gas J* 55:82 D 9 '57
- High density polyethylene on stream. *il* *Ind Chem* 34:249 My '58
- More plastic from new Grace plant in Baton Rouge. *il* *Pet Refiner* 37:219 Ja '58
- More Ziegler-type polyethylene. *il* *Chem & Eng N* 36:30 Ap '58
- New catalyst system for ethylene polymers. *Chem Eng Prog* 54:162+ My '58
- Organometallics in ethylene polymerization. H. N. Friedlander and K. Oita. *bibliog* *diags* *Ind & Eng Chem* 49:1885-90 N '57
- Pilot plant development of a polyethylene process. M. R. Cines and others. *il* *Chem Eng Prog* 54:95-8 F '58
- Plant for high density polyethylene on stream for Ziegler type resins; Bakelite co. *il* *Plastics World* 16:18 Mr '58
- Polyethylene and polypropylene (low pressure-Ziegler). flow sheet *Pet Refiner* 36:278 N '57
- Polyethylene (high pressure-ICI). flow diag *Pet Refiner* 36:276 N '57
- Polyethylene (low pressure-slurry-solution process). flow diag *Pet Refiner* 36:277 N '57
- Polyethylene shifts into higher gear. *il* *Chem & Eng N* 35:30-1 D 9 '57
- Promoted molybdena-alumina catalysts in ethylene polymerization. E. Field and M. Feller. *Ind & Eng Chem* 49:1883-4 N '57
- Soluble catalyst helps properties; improved linear polyethylene. *Chem & Eng N* 36: 56 J1 21 '58
- Supported oxide catalysts in the production of polythene. E. G. Curphey. *bibliog* *flow diag* *Brit Plastics* 31:63-5 F '58

Patents

- Linear polyethylene; issuance of new patent to DuPont poses new problems for polyethylene industry. *Rubber Age* 82:692 Ja '58

Testing

- Application of Larson-Miller correlation to service test data on high-density polyethylene. W. E. Gloor. *bibliog* *Mod Plastics* 36: 144- O '58
- Brittleness in polyethylene. I. L. Hopkins. *il* *diags* *Bell Lab Res* 36:5-8 cover Ja '58
- Creep and stress-rupture behavior of polyethylene resins. R. H. Carey. *bibliog* *il* *diag* *Ind & Eng Chem* 50:1045-8 J1 '58
- Creep of low density polythene. E. A. W. Hoff and others. *bibliog* *il* *diag* *Brit Plastics* 31:384-9 S '58
- Early detection of weathering damage. J. W. Tambllyn and others. *bibliog* *Plastics Tech* 4:427-32+ My '58
- Foamed polyethylene coaxial cables; effects of moisture penetration on cellular dielectric. C. C. Camillo and G. R. Karlson. *diags* *Wire & Wire Prod* 33:649-53+ Je '58
- Low-temperature brittleness testing of polyethylene. P. N. Bestelink and S. Turner. *il* *diags* *A S T M Bul* p63-73 J1 '58
- Radioactivity of polythene. D. C. Shotton. *il* *diags* *Brit Plastics* 31:249-53+ Je '58
- Rubber-Marlex 50 polyethylene blends; Phillips petroleum co. H. E. Railsback and R. C. Wheat. *bibliog* *Rubber Age* 82:664-71 Ja '58

Uses

- Polyethylene finds uses in radiolotope labs. F. J. Bockhoff. *il* *Ind Lab* 9:62 O '58
- POLYETHYLENE terephthalate**
- Analysis**
- Spectrophotometric determination of phosphorus in polyethylene terephthalate. G. Teipel and R. Ehrlich. *bibliog* *Anal Chem* 30:1146-8 Je '58

POLYGLYCEROPHOSPHATE. See Glycero-phosphates

POLYISOBUTENE. See Isobutylene

POLYMERIZATION

Advances in ionic polymerization of vinyl-type monomers. C. E. Schildknecht. *Ind & Eng Chem* 50:107-14 bibliog(129 ref, p 113-14) Ja '58

Aeration of natural rubber latex; graft polymerization of vinyl monomers with aerated latex rubber. E. C. Sekhac. *bibliog Rubber Chem & Tech* 31:430-5 Jl '58

Bulk acid polymerization; California research corp. flow diag *Pet Refiner* 37:267 S '58

California polymerization; California research corp.; Hydrocarbon research, inc. flow diag *Pet Refiner* 37:269 S '58

Chemical engineering unit processes. A. F. Roche and F. H. Bolton. *Ind & Eng Chem* 50:1393-400 bibliog(p 1396-400) pt 2 S '58

Continuous oxygen-initiated ethylene polymerization. F. N. Grimsby and E. R. Gilliland. *bibliog diag Ind & Eng Chem* 50:1049-52 Jl '58

Continuous recycle copolymerization. A. W. Hanson and R. L. Zimmerman. *bibliog il diags Ind & Eng Chem* 49:1803-6 N '57

Decomposition of peroxycarbamates and their efficiency as initiators in vinyl polymerization. E. L. O'Brien and others. *bibliog Am Chem Soc J* 79:6238-42 D '57

Engineering aspects of emulsion polymerization. S. J. Baum. *bibliog diags Ind & Eng Chem* 49:1797-802 N '57

Formation of a cyclic recurring unit in free radical polymerization. C. S. Marvel and E. D. Vest. *bibliog Am Chem Soc J* 79:5771-3 N '57

Graft copolymers, a new technology? D. J. Metz. *bibliog Nucleonics* 16:73-7 Ap '58

Graft polymerization. *il Mech Eng* 80:88-9 My '58

Graft polymerization with cationic catalysts. P. H. Plesch. *bibliog Chem & Ind* p54 Jl '58

High molecular weight polymers of ethylene oxide; polymerization with alkaline earth carbonate catalysts. F. N. Hill and others. *bibliog il diag Ind & Eng Chem* 50:5-7 Ja '58

High pressure-high temperature reactions; the trimerization of aromatic nitriles. I. S. Bengelsdorf. *bibliog Am Chem Soc J* 80:1442-4 Mr 20 '58

How cis-isoprene polymerizes; abstract. R. S. Stearns and L. E. Forman. *diag Chem & Eng N* 36:52 S 22 '58

Inert gas speeds polymerization; abstract. D. C. Bardwell and others. *Chem & Eng N* 36:55 S 22 '58

Intermolecular-intramolecular polymerization of α -diolefins by metal alkyl coordination catalysts. C. S. Marvel and J. K. Stille. *Am Chem Soc J* 80:1740-4 Ap 5 '58

Ionic polymerization; copolymerization of nuclear and side-chain alkyl-substituted styrene monomers. C. G. Overberger and others. *bibliog Am Chem Soc J* 80:4566-8 S '58

Kinetics and mechanisms of the polymerization of N-carboxy- α -amino acid anhydrides. H. Weingarten. *bibliog Am Chem Soc J* 80:352-5 Ja 20 '58

Lead tetraethyl as initiator for polymerization reactions. C. S. Marvel and R. G. Woolford. *Am Chem Soc J* 80:330-1 F 20 '58

Molecular templates do the trick; abstract. J. F. Brown and D. M. White. *Chem & Eng N* 36:47 Ap 28 '58

Organic disulfides as initiators of polymerization. T. Perington and A. V. Tobolsky. *bibliog Am Chem Soc J* 80:3215-22 Jl 5 '58

Polyco catalytic polymerization; M. W. Kellogg co. flow diag *Pet Refiner* 37:269 S '58

Polymerization. *Pet Refiner* 37:252 S '58

Polymerization of anions; the hydrolysis of sodium tungstate and of sodium chromate. M. L. Freedman. *bibliog il Am Chem Soc J* 80:2072-7 My 5 '58

Polymerization of α -D-glucose in the solid state, in the presence of metaphoric acid. H. W. Durand and others. *bibliog Am Chem Soc J* 80:3691-7 Jl 20 '58

Polymerization of ethylene by lower valent compounds of titanium. D. B. Ludlum and others. *bibliog Am Chem Soc J* 80:1380-4 Mr 20 '58

Polymerization of 4-t-butyl-2-cyclohexylaminomethylphenol. W. J. Burke and others. *bibliog Am Chem Soc J* 80:3438-43 Jl 5 '58

Polymerization through coordination. K. V. Martin. *bibliog Am Chem Soc J* 80:233-6 Ja 5 '58

Polymethylene via ethylene; abstract. J. J. Smith. *il Chem & Eng N* 36:46 Ap 28 '58

Preparation, homopolymerization, and copolymerization of alpha-acyloxyacrylic esters. T. M. Laakso and C. C. Unruh. *bibliog Ind & Eng Chem* 50:119-23 Ag '58

Solid phosphoric acid condensation; Universal oil products co. flow diag *Pet Refiner* 37:270 S '58

Soviet polymer science today. H. F. Mark. *Mod Plastics* 36:111-13+ Jl '58; Excerpts. *Plastics* 16:6 S '58

Stereospecific vinyl polymerization by asymmetric induction. N. Beredjick and C. Schuerch. *bibliog Am Chem Soc J* 80:1933-8 Ap 20 '58

Studies of graft copolymers; methyl methacrylate and acrylamide on polybutadiene; evaluation as elastomeric materials. N. Nikolov and L. A. McLeod. *bibliog Rubber Age* 83:987-92 S '58

Telomerization of ethylene with methyl bromoacetate. W. A. Skinner and others. *bibliog Am Chem Soc J* 79:5790-2 N '57

Viscous behavior of polymerized vegetable oils. R. P. A. Sims. *Am Oil Chem Soc J* 35:257-61 Je '58

See also

POLYMERS

Adhesion of high polymers; a method for determination of the mutual adhesion of high polymers. A. I. Shapovalova and others. *bibliog diags Rubber Chem & Tech* 31:89-97 Ja '58

American chemical society Division of polymer chemistry annual meeting, New York; abstracts of papers of interest to rubber industry. *Rubber Age* 83:31 N '57

Anonymous behavior of rubber solutions; viscosity behavior of rubber solutions at high dilutions. S. L. Kapur and S. Gundiah. *bibliog J Colloid Sci* 13:170-8 Ap '58

Apparatus for the observation of infrared streaming dichroism of polymer solutions. G. R. Bird and others. *bibliog diags R Sci Instr* 29:305-9 Ap '58

Block polymers by high energy radiation; abstract. D. Turner. *Chem & Ind* p955; Discussion. 995-6 Ag 9 '58

Brown-colored oxypolymers of unsaturated fats. A. W. Venolia and A. L. Tappel. *bibliog Am Oil Chem Soc J* 35:135-8 Mr '58

Bulk properties of high polymers. M. Gordon. *bibliog diag Ind Chem* 34:111-15 Mr '58

Canadian high polymer forum, 8th, Montreal, May 12-14. *Rubber Age* 83:692-3 Jl '58; *Rubber World* 138:592-3 Jl '58

Chemical structure of high polymers and their physical behaviour; 49th Kelvin lecture. H. W. Melville. *Inst E E Proc* 105 pt B:397-403 S '58

Concentration dependence of flow birefringence of polymer solutions. J. T. Yang. *bibliog Am Chem Soc J* 80:5139-46 O 5 '58

Control testing and specifications of polymers for use in floor coatings. R. H. Cahill and E. M. Avery, Jr. *flow sheet il Soap & Chem Spec* 34:78-81+ S '58

Derivatives of the hydrogen cyanide tetramer; structure and chemistry. P. S. Robertson and J. Vaughan. *bibliog Am Chem Soc J* 80:2691-3 Je 5 '58

Developments in polyurethanes, unsaturated polyesters, polyvinyl chloride, and acrylonitrile copolymer blends. 1957. W. Cummings and R. L. Knapp. *Plastics Tech* 4:241-4 bibliog(p243-4) Mr '58

Effect of structure on the thermal decomposition of polymers. L. A. Wall and R. E. Fyrrin. *bibliog J Res Nat Bur Stand* 60:451-8 My '58

Emulsion polymers for floor polishes. M. Potash and others. *bibliog diags Soap & Chem Spec* 34:61-4+ Ag '58

Engineering aspects of polymer processes; symposium. *bibliog il diags Ind & Eng Chem* 49:1796-862 D '57

Formation of linear polymers from diene monomers by a cyclic polymerization mechanism; the structure of poly-(diallylammonium halides). G. B. Butler and others. *Am Chem Soc J* 80:3615-18 Jl 20 '58

Grafting cures polymers ills. *Chem & Eng N* 36:51-2 Ag 11 '58

High polymers and their physical behaviour; abstract. H. W. Melville. *Engineer* 205:256 F 14 '58

Isotactic polymers. G. Natta. *bibliog il Chem & Ind* 1520-30 N 23 '57

Mechanical degradation of high polymers. D. J. Angier and others. *Chem & Ind* p593-4 My 17 '58

Modern crystalline high polymers; abstract. C. E. H. Bawn. *Chem & Ind* p 1612 D 14 '57

POLYMERS—Continued

- Mutual solubility of polymers. N. F. Komskaya and G. L. Slonimskii, *bibliog Rubber Chem & Tech* 31:49-57, 244-61 Ja-Ap '58
- New light on crystallinity. P. H. Geil, jr. and others, *il Chem & Eng N* 36:51 Ap 28 '58
- New rheological classification for pigment suspensions in polymer solutions. L. Dintenfuss, *J Ap Chem* 8:349-51 Je '58
- Physical properties of polymers: Society of chemical industry jubilee symposium. *Brit Plastics* 31:206-9+ My '58
- Polymers from oxacyclobutanes. A. C. Farthing; D. J. H. Sandiford, *bibliog J Ap Chem* 8:186-96 Mr '58
- Polymers in space. *Product Eng* 29:12 Ag 1 '58
- Polymers made easily: interfacial polycondensation. *il Chem & Eng N* 36:52-4 S 15 '58
- Recent advances in polymer technology conference. *Brit Plastics* 31:126 Mr '58
- Reversible contractile processes in fibrous macromolecules. L. Mandelkern and others, *bibliog Am Chem Soc J* 80:500 Ja 20 '58
- Role of high polymers in composite solid rocket fuels. J. M. McDermott, *il diag Rubber Age* 83:807-11 Ag '58
- Shear rate dependence of the viscosity and elastic compliance of polymer melts; correspondence with a hydrodynamic theory of viscoelastic flow. R. H. Boyd, *diag J Ap Phys* 29:953-6 Je '58
- Some properties of polymer networks formed from oriented chains of natural rubber. D. E. Roberts and L. Mandelkern, *bibliog Rubber Chem & Tech* 31:469-84 Ji '58
- Studies on the sorption of moisture by polymers; the cellulose-cellulose acetate system. D. K. Beever and L. Valentine, *J Ap Chem* 8:103-7 F '58
- Surface tension of synthetic high polymer solutions. H. L. Frisch and S. Al-Madfa'i, *bibliog diags Am Chem Soc J* 80:361-5, 5613-14 Ji 20, N 5 '58
- Syntheses of metal-complexing polymers. J. Kennedy and others, *bibliog J Ap Chem* 8:459-68, 687-90 Ji, O '58
- Temperatures get hotter; high temperature polymers and fluids. *Chem & Eng N* 35:49 N 18 '57
- Theory of molecular chain crystals and its application to high polymers. W. Brandt, *Ind & Eng Chem* 50:1022 Ji '58
- Thermal syntheses of telomers of fluorinated olefins. M. Hauptschein and others, *bibliog Am Chem Soc J* 80:846-53 F 20 '58
- Use of membranes for the fractionation of high polymers. J. H. S. Green and others, *Chem & Ind* p862-3 Ji 5 '58
- Use of radioactive isotopes and high-energy radiation in polymer chemistry. H. W. Melville, *diags Chem & Ind* p 1633-8 D 21 '57
- Viscoelastic properties of crystalline polymers. K. Nagamatsu and others, *bibliog diag J Colloid Sci* 13:257-65 Je '58
- See also
- Mylar
- Rubber, Artificial
- Silicones
- Styrene (and polymers)

Testing

- Determining molecular weights of thermoplastic materials; the Brabender Plastograph. W. T. Blake, *Plastics Tech* 4:909-12+ O '58

POLYMETHYLENE sulfones. See Sulfones**POLYMORPHISM**

- Derivatives of fluorene; stereoisomerism and polymorphism of N-aryl azomethines. M. E. Taylor and T. L. Fletcher, *bibliog Am Chem Soc J* 80:2246-9 My 5 '58
- Relationship of polymorphism to the texture of margarine containing soybean and cottonseed oils. D. H. Merker and others, *bibliog il Am Oil Chem Soc J* 35:130-3 Mr '58
- Studies in the system $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2\text{-H}_2\text{O}$; new data on the polymorphism of Ca_2SiO_4 and its stability in the system $\text{CaO-SiO}_2\text{-H}_2\text{O}$. D. M. Roy, *bibliog Am Cer Soc J* 41:293-9 Ag 1 '58

POLYNESIA

See also

Inscriptions, Polynesian

POLYNOMIALS

- Chebyshev fitting criterion; method for approximating functions by polynomials. A. Spitzbart and D. L. Shell, *Assn for Computing Mach J* 5:22-31 Ja '58
- Numerical solution of characteristic equations in flutter analysis. J. N. Franklin, *Assn for Computing Mach J* 5:45-51 Ja '58

Polynomial expressions for the specific heat and Prandtl number of air. D. W. Boeker, *J Aero/Space Sci* 25:658-9 O '58

Polynomials replace tables in engineering calculations. J. M. Ryan, *Oil & Gas J* 56:150 Ja 20 '58

Standardised polynomials for curve fitting. M. Fine, *Roy Aeronautical Soc J* 62:212-16 Mr '58

SWAC experiments on the use of orthogonal polynomials for data fitting. M. Ascher and G. E. Forsythe, *bibliog Assn for Computing Mach J* 5:9-21 Ja '58

POLYOLEFIN. See Olefins

POLYOLS. See Alcohols

POLYOX. See Resinous products

POLYOXYETHYLENE

- Composition of polyoxyethylene (8) stearate. R. L. Birkmeier and J. D. Brandner, *bibliog J Agri & Food Chem* 6:471-5 Je '58
- Fat emulsions; effect of polyoxyethylene and alkyl content of emulsifiers on stability to sterilization. W. S. Singleton and others, *bibliog Am Oil Chem Soc J* 35:265-70 Je '58

POLYPHENYLS. See Phenyl compounds

POLYPHOSPHATES. See Phosphates

POLYPROPYLENE

- Activity on the polypropylene front. R. L. Van Boskirk, *Mod Plastics* 36:41+ O '58
- First polypropylene plant. *Oil & Gas J* 55:78 D 9 '57
- Injection molding and extrusion of Moplen. A. Bosoni, *Plastics Tech* 4:556-9 Je '58
- Isotactic polypropylene resin. *Plastics Tech* 4:76 Ja '58
- Polypropylene, a new plastic. E. W. Cronin, *il Mech Eng* 80:72-3 O '58
- Polypropylene, a promising new plastic. C. Crespi, *il Materials in Design Eng* 47:110-14 Ja '58
- Polypropylene arrives. *Electronics* 31:24 Ja 24 '58
- Polypropylene moves up; Humble's decision to build plant at Baytown. *Oil & Gas J* 55:50 Ag 25 '58
- Polypropylene; new linear thermoplastic. *il Plastics World* 16:18 Ja '58
- Polypropylene properties. *Chem & Eng N* 35:55-6 My 26 '58
- Polypropylene. U.S. style. *Chem & Eng N* 35:55+ D 2 '57
- Polypropylene's place in plastics. M. L. Ottolenghi, *Plastics World* 16:7 Ap '58
- Properties of materials; acetal, polycarbonate and polypropylene. *Materials in Design Eng* 48:166 Mid-O '58
- Properties of polypropylene. *Materials in Design Eng* 48:164+ D '57
- U.S.-produced polypropylene has good heat resistance. *Materials in Design Eng* 47:155 F '58
- What's with polypropylene? a new family of thermoplastics has been created by a new approach to the production of polymer structures. M. Ottolenghi and C. Crespi, *il Mod Plastics* 35:89-92 Mr '58

Manufacture

- Polyethylene and polypropylene (low pressure-Ziegler), flow sheet *Pet Refiner* 36:278 N '57
- Some new developments in propylene chemistry; process for manufacture of terephthalic and isophthalic acids and isotactic polypropylene. J. M. Goppel and R. L. Mettievier-Meyer, *flow diags il diag Research* 11:339-44 S '58
- POLYPROPYLENE yarn
- Polypropylene yarn for rope, fabrics, fibers. *il Materials in Design Eng* 48:130 S '58
- POLYSACCHARIDES
- Alkaline degradation of periodate-oxidized polysaccharides. D. O'Meara and G. N. Richards, *bibliog Chem & Ind* p40 Ja 11 '58
- Hydrolysis products from methylated arabinoxyloglycan and arabinogalacto-mono-O-methylglucuronoxylglycan of corn cobs. R. L. Whistler and G. E. Lauterbach, *bibliog Am Chem Soc J* 80:1987-90 Ap 20 '58
- Occurrence of 2-O-methyl-L-fucose as a constituent of plum leaf polysaccharides. J. D. Anderson and others, *bibliog Chem & Ind* p 1453 N 2 '57
- Polysaccharides of white birch (*Betula papyrifera*); determination of composition and identification of 2-O-(4-O-methyl-p-glucopyranosyluronic acid)-D-xylopyranose. C. P. J. Glaudemans and T. E. Timell, *bibliog Am Chem Soc J* 80:941-3 F 20 '58
- Polysaccharides of white birch (*Betula papyrifera*); the constitution of the hemicellulose. C. P. J. Glaudemans and T. E. Timell, *bibliog Am Chem Soc J* 80:1209-13 Mr 5 '58

POLYSACCHARIDES—Continued

Precipitation of the specific polysaccharide of *Cryptococcus neoformans* A by types II and XIV antipneumococcal sera. P. A. Rebers and others. *bibliog Am Chem Soc J* 80: 1135-7 Mr 5 '58

Reaction of periodate-oxidized polysaccharides with alcoholic hydrogen chloride. I. J. Goldstein and F. Smith. *Chem & Ind* p40-2 J 11 '58

Structure of pachyman, the polysaccharide component of *poria cocos* Wolf. S. A. Warsi and W. J. Sheelan. *bibliog Chem & Ind p* 1573 N 30 '57

Synthetic polysaccharides. P. T. Mora and others. *bibliog diags Am Chem Soc J* 80: 685-99 F 5 '58

Synthetic polysaccharides; polyglucose sulfates. J. W. Wood and P. T. Mora. *bibliog Am Chem Soc J* 80:3700-2 JI 20 '58

See also

Glycogen

Oligosaccharides

Trisaccharides

POLYSTYRENE. See Styrene (and polymers)

POLYSULFONES. See Sulfones

POLYTETRAFLUOROETHYLENE. See Tetrafluoroethylene

POLYURETHANE. See Urethans

POLYURETHANE rubber. See Rubber, Artificial

POLYVINYL alcohol. See Vinyl alcohol

POLYVINYL chloride. See Vinyl chloride

POMPEII

Pompeii. A. Maiuri. *il map plan Sci Am* 198: 63-74+ p '58

PONDS, Sewage. See Sewage lagoons

PONTOONS

Standardized pontoon and ferrying units; Unifote unit. *il Engineering* 136:368 S 19 '58

POOLS, Garden. See Garden pools

POPULATION

See also

Metropolitan districts

Estimates

Problems and techniques in population forecasting. P. M. Reid. *Am Water Works Assn J* 50:655-60 My '58

Statistics

Properties of the exponential distribution of exponential populations. P. L. Copeland and B. P. DeLany. *bibliog diag Franklin Inst J* 265:451-62 Je '58

PORCELAIN

True porcelain, smart merchandising: this dinnerware maker gets bigger every year. Winfield china div. of American ceramic products, inc. *il Cer Ind* 71:92-3+ O '58

PORCELAIN, Insulating

Dielectric ceramics with zero firing shrinkage. E. R. Eichbaum. *Elec Manuf* 61:110-11 Mr '58

Porcelain-to-aluminum seal. *Elec Manuf* 62: 9-10 Ar '58

Porcelain-to-aluminum seal is simple but powerful. *il Product Eng* 29:18 Je 30 '58

Use of nepheline syenite in electrical porcelain bodies. L. E. Oberschmidt, jr. *Am Cer Soc Bul* 36:464-5 D 15 '57

PORCELAIN enamel. See Enamel and enameling

PORCELAIN enamel Institute

Annual meeting, 26th, White Sulphur Springs, W. Va. Oct. 3-5. *Cer Ind* 69:80-2+ N '57

Annual shop practice forum; abstracts of papers. *Cer Ind* 69:70-3+ D '57

Founders honored at 26th annual meeting. *Am Cer Soc Bul* 37:106 F 15 '58

PEI expands in design engineering; issues reference file. *Cer Ind* 71:114-15 S '58

PEROLON. See Resinous products

PORIA cocos. See Fungi

PORK

Absorption by immature and adult rats of amino acids from raw and autoclaved fresh pork. P. Wheeler and A. P. Morgan. *bibliog J Nutrition* 66:137-50 Ja '58

PORK products

See also

Bacon

POROSITY

Control of porosity in high-nickel-alloy welds. G. R. Pearce and others. *bibliog il Welding J* 37:sup354-60 Ag '58

Corrosion studies with nickel-chromium plate; influence of the porosity pattern and thickness of the chromium plate. H. Brown and others. *bibliog il diags Plating* 45:144-50 F '58

Effects of porosity on mild-steel welds. W. L. Green and others. *diags Welding J* 37:sup 206-9 My '58

Effects of steel-making practice on submerged-arc weld porosity. J. T. Lapsley, jr. *il diag Welding J* 37:sup 169-78 Ap '58

Evaluation of porosity derivation from neutron logs. R. H. Widmyer and G. M. Wood. *diags J Pet Tech* 10:57-60 My '58

Nature, cause and effect of the porosity in electrodeposits; abstract. F. Ogburn. *Plating* 45:348 Ap '58

Pore sizes and pore size distribution in reinforcing pigment particles. A. Voet. *bibliog diags Rubber World* 139:63-7+, 232-6 O-N '58

Porosity balance verifies water saturation determined from logs. M. P. Tixier. *diags J Pet Tech* 10:Trans 161-9 JI '58

Porosity determinations from neutron logs. A. B. Brown and B. Bowers. *Pet Eng* 30: B30-4 My '58

Porosity in aluminum-alloy welds. F. R. Collins. *il Welding J* 37:599-93 Je '58

Simple geometric model for the effect of porosity on material constants. F. Euler. *bibliog diag J Ap Phys* 28:1342-5 N '57

What to do about porosity in aluminum castings. J. Obrebski. *il diags Iron Age* 181: 71-4 My 15 '58

See also

Steel—Gas content

Textile fabrics—Permeability

POROUS materials

Analysis of porous thermal insulating materials; discussion. *bibliog Ind & Eng Chem* 49:1936 N '57

Diffusion of gases in porous media. R. F. Dye and M. Dallavalle. *bibliog diags Ind & Eng Chem* 50:1195-200 Ag '58

Measurements of the total absorptivity for solar radiation of several engineering materials. R. C. Birkebæk and J. P. Hartnett. *il diags A S M E Trans* 80:373-8 F '58

Porous plate filter bottom and now of age. F. C. Roe. *bibliog il diags Water & Sewage Works* 105:157-63 Ap '58

See also

Permeability

POROUS metals. See Metals, Porous

PORPHINE

Effect of X-rays and β -irradiation on $\alpha,\beta,\gamma,\delta$ -tetraphenylporphine; syrupy phosphoric acid, concentrated sulfuric acid and 49 per cent sulfuric acid as solvents. A. Szutka and others. *bibliog Am Chem Soc J* 80: 3016-19 Je 20 '58

PORPHYRINS

Porphyrin research and origin of petroleum. H. N. Dunning and J. W. Moore. *bibliog Am Assn Pet Geologists Bul* 41:2403-12 N '57

Researchers take to the hills; Monadnock research institute. *il Chem & Eng N* 36:324-4 Ar 25 '58

Vanadium, nickel, and porphyrins in thermal geochemistry of petroleum. G. W. Hodgson and B. L. Baker. *bibliog Am Assn Pet Geologists Bul* 41:2413-26 N '57

PORPHYRY. See Rocks, Igneous

PORT HUENEME, California

Harbor

Corrosion rates in Port Hueneme harbor. C. V. Brouillette. *il Corrosion* 14:16-20 Ar '58

PORT of New York authority

Waterfront structure design for varying conditions. W. C. Stevens and J. S. Wilson. *il plan diags Am Soc C E Proc* 84 [WWW no 16391:1-31 My '58]

PORTABLE air compressors. See Air compressors, Portable

PORTABLE asphalt plants. See Asphalt plants, Portable

PORTABLE atomic power plants. See Atomic power plants, Portable

PORTABLE buildings. See Buildings, Portable

PORTABLE cement plants. See Cement plants, Portable

PORTABLE concrete plants. See Concrete plants, Portable

PORTABLE electric generator sets. See Electric generator sets, Portable

PORTABLE electric generators. See Electric generators, Portable

PORTABLE electric substations. See Electric substations, Portable

PORTABLE electric tools. See Electric tools, Portable

PORTABLE electric transformers. See Electric transformers, Portable

PORTABLE electric welding machines. See Electric welding machines, Portable

PORTABLE freezers. See Freezers, Portable
PORTABLE furnaces. See Furnaces, Portable
PORTABLE meteorological stations. See Meteorological stations, Portable
PORTABLE pneumatic tools. See Pneumatic tools, Portable
PORTABLE power plants. See Power plants, Portable
PORTABLE pumping machinery. See Pumping machinery, Portable
PORTABLE radio stations. See Radio stations, Portable
PORTABLE radio telephone. See Radio telephone, Portable
PORTABLE radio transmitters. See Radio transmitters, Portable
PORTABLE sand and gravel plants. See Sand and gravel plants, Portable
PORTABLE scaffolding. See Scaffolding, Portable
PORTABLE tools. See Electric tools, Portable
PORTABLE towers. See Towers, Portable
PORTABLE washing machines. See Washing machines, Portable
PORTABLE wind tunnels. See Wind tunnels, Portable
PORTLAND, Oregon

Streets

Urban net to cost \$235 million; expressway loop. map Eng N 180:24 My 22 '53

Water supply

Watershed research. N. Bethlehem and H. K. Anderson. *il Am Water Works Assn J* 50:110-14 Ja '58

PORTLAND cement association

Laboratory

New Portland cement association laboratory is a huge testing machine for concrete. *il diag Eng N* 181:24-5 S 11 '58
 Portland cement association structural lab unveiled. *il Chem & Eng N* 36:34-5 S 29 '58
 PCA's new structural laboratory, a huge testing machine. *il diag Concrete* 66:28-31 O '58
 Portland Cement opens structural laboratory. *il Ind Lab* 9:133 O '58
 Tour of world's largest cement research lab. H. C. Persons. *il Rock Prod* 60:76-9+ S; 120-1+ O; 100-3+ N; 66-9+ D '57
 Unique structural laboratory; Portland cement association Research and development laboratories. *il Am Concrete Inst J* 30:sup 10-11 O '58

PORTRAITS

See also

Photography—Portraits

PORTS

Changing site requirements for port operations. P. Engelmann. *Am Soc C E Proc* 84 [WW 4 no 1769]:1-6 S '58
 Louisiana's new ocean-river port 225 miles from the Gulf; Baton Rouge. J. D. M. Luttman-Johnson. *il Civil Eng* 28:12-15 Ja '58
 Opening of the port of Stuttgart. *il plan Engineer* 205:826-7 My 30 '58
 Optimistic outlook by U.S. ports spurs record expansion programs. *il Marine Eng/Log* (Yearbook no) 63:79-80+ My 31 '58

See also

Chicago—Harbor
 Docks
 Harbors
 Terminals

Traffic control

Radar for port of London. map Engineer 206:305 Ag 22 '58
 Southampton port operation service. *il map Engineer* 205:133-5 Ja 24 '58
 Watching the ships go by. *il map Engineering* 185:156-7 Ja 31 '58

PORTUGAL

See also

Hydroelectric plants—Portugal

POSITIONERS, Welding

Gantry manipulator speeds tank welding. *il Mach* 64:127-8 Mr '58
 Manipulator for automatic welding. H. S. Powell. *il diag Welding J* 37:359-61 Ap '58
 Same cond. *Tool Eng* 40:109-11 My '58
 More work for welding positioners. *il Steel* 141:120-1 D 18 '57
 These devices turn tilts into dollars. *il Steel* 142:104-6 My 26 '58

POSITIONING equipment

Accurate hydraulic positioning system uses air-actuated transducers for sensing. *il diags Machine Design* 29:88-90 D 26 '57

Applying magnetostrictive actuation for precise linear positioning. L. Torn. *il diags Automation* 5:73-6 Ap '58

Cards control machine as transformers sense table position. *il diags Automation* 5:78-81 My '58

Control simplifies loading; Ford motor co. stamping plant. *il Steel* 143:89 S 29 '58

Electronic control system permits one drill-press to do work of five; Digimatic model C-202 point positioner. *il Am Mach* 101:167 D 16 '57

Expanding mandrel aligns parts. *il Steel* 143:79 J1 7 '58

Feeder positions screws for assembly. *il Iron Age* 180:70 O 31 '57

Four-spindle boring machine controlled by punched tape. *il Mach* 64:150-1 Ja '58

Improve job-lot production with numerical positioning. S. C. Clark, Jr. *il diags Automation* 5:60-8 Ap '58

Improving the dynamics of pneumatic positioners. C. L. Mamzic. *diags I S A J* 5:38-43 Ag '58

1958 production preview: tools and accessories. *il diags Am Mach* 102:160-3 Ja 27 '58

Non-linear transistor compensation in high-gain servo. *il diags Elec Manuf* 62:86-9 S '58

Numerical positioning control for small-lot machine tools. *il diag Automation* 5:45-7 Ag '58

Positioning drive uses two-winding a-c motor. T. C. Jones. *il Elec Manuf* 61:157-8 Je '58

Positioning pistons on an air transfer machine; Hole engineering service. H. Satterthwaite. *il diag Ap Hydraulics* 11:86 J1 '58

Punched-tape positioning controls Britain's newest wind tunnel. D. Barlow. *il diags Control Eng* 5:81-5 Ap '58

Tape-controlled positioner designed with cascaded selsyns for feedback accuracy. *il diags Machine Design* 30:114-15 F 6 '58

Vacuum-lift transfer unit positions heavy plate; combined vacuum lift and gantry crane unit. *il Iron Age* 181:70-1 Ja 9 '58

POSITRONS

Double-ray spectrometer for coincidence counting of positrons. J. W. Weale. *bibliog diag J Sci Instr* 35:297-9 Ag '58

POST offices

Post office department reports its biggest building year. *Arch Rec* 123:368 Mr '58

Equipment

\$5 million for postal research and engineering. Electronics 30:15-16 D 20 '57
 Post office mechanization; letter facing machine. *il Engineering* 185:62 Ja 10 '58

See also
 Mail handling

Lighting

Lighting public space in a post office; lighting data sheet. J. F. Finn. *il Illum Eng* 52:577-8 N '57

POSTAGE stamps

Small-scale honor for big jobs. *il Eng N* 160:36-7 Je 26 '58

POSTAL service

See also
 Mail handling

POSTERS, Safety. See Safety posters

POTASH

Measurement of damage in wool materials; a modification of the Krals-Markert-Viertel (K.M.V.) test; the supercontraction of keratin fibres in solutions of caustic potash. J. W. Bell and others. *Soc Dyers & Col J* 74:85-8 F '58

New Lone Star Gas treating plant will use hot potash-amine method. *diag Gas Age* 121:39+ F 20 '58

Potash in 1957. C. A. Arend, Jr. *il Min Cong J* 44:104-6 F '58

POTASH industry and trade

Potash. 1957. N. C. White. *Eng & Min J* 159:159-60 F '58

Potash outputs gain. *Chem & Eng N* 36:30 Ag 25 '58

Trend; more potash. *il J Agric & Food Chem* 6:257-8 Ap '58

POTASH mines and mining

New Mexico

Operating experience with steel cable-supported conveyors; International minerals & chemical corp. potash mine in New Mexico. E. C. Skinner. *il Min Cong J* 43:38-40+ N '57

POTASH mines and mining—Continued

Saskatchewan

Canadian potash developments; Potash company of America and International minerals and chemical corp. il map Min Eng 10:568-72 My '58

POTASSIUM

Effect of zinc and potassium in the nutrition of tenebrio molitor, with observations on the excretion of a carnitine deficiency. G. S. Fraenkel. bibliog J Nutrition 65:361-95 J1 '58

Effects and geologic significance of potassium fixation by expandable clay minerals derived from muscovite, biotite, chlorite, and volcanic material. C. E. Weaver. Am Mineralogist 43:839-61 bibliog(p359-61) S '58
Mixture proves dangerous. L. D. Rampino. Chem & Eng N 36:62-3 Ag 11 '58

Analysis

Determination of microgram quantities of potassium by X-ray emission spectroscopy of ion exchange membranes. F. D. Zemany and others. bibliog Anal Chem 30:299-300 F '58

Instrument for the determination of potassium in sodium chloride. G. H. Laycock. diags J Sci Instr 35:171-3 My '58

POTASSIUM benzoate

Mechanism of the thermal rearrangement of potassium phthalate and of the carboxylation of potassium benzoate. F. Sorm and J. Ratusky. Chem & Ind p294-5 Mr 8 '58

POTASSIUM borohydride

Heat content of sodium borohydride and of potassium borohydride from 0° to 400°C. T. B. Douglas and A. W. Harman. bibliog J Res Nat Bur Stand 60:117-24 F '58

POTASSIUM bromide

Preparation and use of large KBr discs for absorption spectroscopy. C. J. Timmons. diags Chem & Ind p 1110 Ag 23 '58

Quantitative application of sample dispersion in potassium bromide for infrared analysis of steroids. H. Rosenkrantz and others. bibliog il Anal Chem 30:975-7 My '58

POTASSIUM iodide

Further studies on the isomerization of polyunsaturated fatty acids by potassium tertiary butoxide. B. S. Sreenivasan and J. B. Brown. Am Oil Chem Soc J 35:89-93 F '58

POTASSIUM carbonates

Costs favor hot carbonate process for bulk removal of acid gases. A. G. Eickmeyer. diags Chem Eng 65:113-16 Ag 25 '58

How CO₂ is removed by the hot potassium carbonate process. flow diags Oil & Gas J 56:98-9 F 10 '58

Investigate the hot potassium carbonate process for acid gas removal. R. A. Graff. bibliog diags Pet Eng 30:C24-4 My '58

Petrochem has designed a commercial hot potassium carbonate plant for CO₂ removal from natural gas. B. O. Buck and A. R. S. Leitch. bibliog flow diags Oil & Gas J 56:99-100-1 S 22 '58

POTASSIUM chloride

Elastic constants by the ultrasonic pulse echo method, single-crystal KCl and NaCl. S. Eros and J. R. Reitz. il diags J Ap Phys 29:683-6 Ap '58

Electromotive force series in molten lithium chloride-potassium chloride eutectic. H. A. Laitinen and C. H. Liu. bibliog Am Chem Soc J 80:1015-20 Mr 5 '58

Equilibrium between titanium metal, TiCl₃, and TiCl₂ in NaCl-KCl melts. W. C. Kreye and H. H. Kellogg. bibliog diags Electrochem Soc J 104:594-8 Ag '57. Discussion. K. Grjotheim. 105:864-5 Je '58

Graphite crucibles give pure potassium chloride; abstract. A. B. Scott and W. J. Fredricks. Chem & Eng N 36:57 Ap 23 '58

Impedance and polarization measurements in fused lithium chloride-potassium chloride. H. A. Laitinen and H. C. Gaur. bibliog(27 ref) diags Electrochem Soc J 104:730-7 D '57

Polarography of metal ions in fused lithium chloride-potassium chloride eutectic. H. A. Laitinen and others. bibliog Anal Chem 30:1266-70 J1 '58

Recovery of potassium chloride; abstract. H. Autenreith and others. Ind Chem 34:205-6 Ap '58

Solubility of water in molten mixtures of LiCl and KCl. W. G. Eukhard and J. D. Corbett. bibliog Am Chem Soc J 79:661-3 D 20 '57

Thermal analysis of the ferrous chloride-potassium chloride system. H. L. Pinch and J. M. Hirshon. Am Chem Soc J 79:6149-50 D 5 '57

POTASSIUM compounds

Heat of formation at 25° of the crystalline hydrides and deuterides and aqueous hydroxides of lithium, sodium and potassium. S. R. Gunn and L. G. Green. bibliog Am Chem Soc J 80:4782-6 S 20 '58

POTASSIUM cyanide

Cleavage of 3-tropanyl chloride with potassium cyanide. S. Archer and others. bibliog Am Chem Soc J 80:958-62 F 20 '58

POTASSIUM ferrocyanide

Reaction between potassium ferrocyanide and iodine in aqueous solutions. W. L. Reynolds. bibliog Am Chem Soc J 80:1830-6 Ap 20 '58

POTASSIUM hydroxide

Corrosion of the zinc electrode in the silver-zinc-alkali cell. T. P. Dirksen and F. De Haan. bibliog Electrochem Soc J 105:311-15 Je '58

POTASSIUM in the body

Metabolism of cesium and potassium in swine as indicated by cesium-134 and potassium-42. F. R. Mraz and others. J Nutrition 64:541-8 Ap '58

POTASSIUM iodide

Components of charge and potential in the non-diffuse region of the electrical double layer: potassium iodide solutions in contact with mercury at 25°. D. C. Grahame. bibliog Am Chem Soc J 80:4201-10 Ag 20 '58

POTASSIUM niobate

Method for growing single crystals of potassium niobate. C. E. Miller. diags J Ap Phys 29:233-4 F '58

Reactions of the group VB pentoxides; thermal, density and X-ray studies of the systems KNbO₃-NaNbO₃ and KTaO₃-KNbO₃. A. Reisman and E. Banks. bibliog Am Chem Soc J 80:1877-82 Ap 20 '58

POTASSIUM nitrate

Equivalent conductivities of AgNO₃-KNO₃ mixtures. F. R. Duke and R. A. Fleming. Electrochem Soc J 105:412 J1 '58

Mobilities of the ions in fused KNO₃-AgNO₃ mixtures. F. R. Duke and B. Owens. bibliog Electrochem Soc J 105:476-7 Ag '58

POTASSIUM oleate

Trans-isomerization of oleic acid and potassium oleate by ionizing radiation. H. P. Pan and others. bibliog Am Oil Chem Soc J 35:1-5 Ja '58

POTASSIUM oxide

Infrared-transmitting glasses in the system K₂O-Sb₂O₃-Sb₂S₃. B. W. King and G. D. Kelly. il diags Am Cer Soc J 41:367-71 S 1 '58

Viscosity, density, and electrical resistivity of molten alkaline-earth borate glasses with three mole per cent of potassium oxide. L. W. Coughanour and others. bibliog Am Cer Soc J 41:324-9 Ag 1 '58

POTASSIUM perchlorate

Low-temperature explosions of mixtures of potassium perchlorate with some combustible substances. J. Grodzinski. bibliog J Ap Chem 8:523-8 Ag '58

POTASSIUM permanganate

Reactions of highly fluorinated organic compounds; the oxidation of fluoro-olefins by potassium permanganate in acetone. J. Burdon and J. Tatlow. bibliog J Ap Chem 8:293-6 My '58

POTASSIUM phthalate

Mechanism of the thermal rearrangement of potassium phthalate and of the carboxylation of potassium benzoate. F. Sorm and J. Ratusky. Chem & Ind p294-5 Mr 8 '58

POTASSIUM rhodizonate

Separation of strontium from calcium with potassium rhodizonate; application to radiochemistry. H. V. Weiss and W. H. Shipman. Anal Chem 29:1764-6 D '57

POTASSIUM silicate

Sedimentation volumes of a phosphor powder in potassium silicate and potassium silicate-barium acetate settling media. J. F. Hazel and L. Florio. diags Electrochem Soc J 105:57-3 Ja '58

POTASSIUM tantalate

Reactions of the group VB pentoxides; thermal, density and X-ray studies of the systems KNbO₃-NaNbO₃ and KTaO₃-KNbO₃. A. Reisman and E. Banks. bibliog Am Chem Soc J 80:1877-82 Ap 20 '58

POTASSIUM titanate

Insulate with titanate. il Chem & Eng N 36:54-5 O 27 '58

POTASSIUM uranyl vanadate

Potassium uranyl vanadate, KUO₂VO₄; crystallographic data. M. J. de Abeledo and others. il diags Anal Chem 30:452-3 Mr '58

POTATO chips

Composition and control of potato chip frying oils in continuing commercial use, D. Melnick and others. *bibliog Am Oil Chem Soc J* 35:271-7 Je '58

Development and evaluation of potato chip bars, R. B. Treadway and others. *Food Tech* 12:479-82 S '58

POTATO starch

Potato starch users reply. *Textile Ind* 122: 153+ Ap '58

POTATOES

After-cooking discoloration in potatoes, E. C. Bate-Smith and others. *bibliog Chem & Ind* p627-8 My 24 '58

Determination of end point in extraction of free amino acids from potatoes, E. A. Talley and others. *bibliog J Agri & Food Chem* 6:608-10 Ag '58

Analysis

Chlorogenic acid in the potato; abstract, J. C. Hughes. *Chem & Ind* p214-15 F 22 '58

Diseases and pests

Urea formaldehyde concentrate-85, a promising control for potato scab, J. F. Bartz and K. C. Berger. *bibliog J Agri & Food Chem* 6:675-7 S '58

Storage

Evaporative cooling safeguards potatoes in storage, R. S. Ash. *il diags Air Cond Heat & Ven* 55:79-82 Je '58

POTENTIAL, Electric

Apparatus for measurement of thermal e.m.f. in semi-conductors, J. C. Brice and H. C. Wright. *diag J Sci Instr* 35:146-7 Ap '58

Application of the potential analog in multi-cavity klystron design and operation, S. V. Yadavalli. *bibliog diag Inst Radio Eng Proc* 45:1286-7 S '57

Bridge and emf measurements via the resistance bridge indicator, E. E. George. *il diags Instruments & Automation* 30:2061-3 N '57

Cascade potential transformers, G. Camilli and others. *il diags Power Apparatus & Systems* p425-30; Discussion, 430-1 Ag '58

Centrifugal electromotive force; the transference numbers of lithium, rubidium and cesium iodides; the iodide-iodine complex, E. R. Ray and others. *bibliog diag Am Chem Soc J* 80:1029-34 Mr 5 '58

Characteristics of potential-time curves for painted non-ferrous metals, J. H. Greenblatt. *bibliog J Ap Chem* 8:229-32 Ap '58

Components of charge and potential in the non-diffuse region of the electrical double layer; potassium iodide solutions in contact with mercury at 25°. D. C. Grahame. *bibliog Am Chem Soc J* 80:4201-10 Ag 20 '58

Contact potential measurements on graphite, A. B. Fowler. *J Ap Phys* 29:1132 JI '58

Correlation of contact angles, adsorption density, zeta potentials, and flotation rate, D. W. Fuerstenau. *bibliog Min Eng* 9:Trans 1365-7 D '57

Determination of a thermodynamic stability constant for the cadmium citrate (CdCit⁻) complex ion at 25° by an e.m.f. method, W. B. Treumann and L. M. Ferris. *bibliog Am Chem Soc J* 80:5050-2 O 5 '58

Development of the redox probe field technique, F. E. Costanzo and R. E. McVey. *il diags Corrosion* 14:26-30 Je '58

Effect of gamma irradiation on the potential behavior of platinum and stainless steel electrodes, W. E. Clark. *bibliog Electrochem Soc J* 105:483-5 Ag '58

Effect of solvent change on the standard chemical potential of electrolytes; comparison of vapor pressure and e.m.f. data for HCl, NaOH and K₂ in the system dioxane-water, G. Baughman and E. Grunwald. *bibliog Am Chem Soc J* 80:3844-6 Ag 5 '58

Effect of solvent change on the standard chemical potential of electrolytes, from precision measurement of the activities of the solvent components; the system NaCl-dioxane-water, E. Grunwald and A. L. Bacarella. *Am Chem Soc J* 80:3840-4 Ag 5 '58

Electrode potential of germanium in aqueous solutions and the effect of illumination, W. W. Harvey and H. C. Gatos. *J Ap Phys* 29:1267-8 Ag '58

Electrode potential studies on iron in dilute phosphate-chromate solutions, R. N. Ride. *bibliog J Ap Chem* 8:175-83 Mr '58

Electromotive force measurements in cerium-cerium chloride liquid systems, S. Senderoff and G. W. Mellors. *bibliog il diag Electrochem Soc J* 105:224-8 Ap '58

Electromotive force series in molten lithium chloride-potassium chloride eutectic, H. A. Laitinen and G. H. Liu. *bibliog Am Chem Soc J* 80:1015-20 Mr 5 '58

Electrostatic potential in crystals; discussion, W. B. Nottingham. *il Am J Phys* 26:33-5 Ja '58

Hydrogen overpotential on electrodeposited Ni in NaOH solutions, I. A. Ammar and S. A. Awad. *bibliog Electrochem Soc J* 104: 686-90 N '57

Improved electrical differentiation of retarding potential measurements, L. B. Leder and J. A. Simpson. *bibliog diags R Sci Instr* 29:571-4 JI '58

Mass spectrometric appearance potential study of isotopically labeled diboranes, W. S. Koski and others. *bibliog Am Chem Soc J* 80:3202-7 JI 5 '58

Measurement of small dc potentials from low-power sources, M. Ferreira de Souza and S. Mascarenhas. *diag Am J Phys* 26:193-4 Mr '58

-0.77 volt electric potential protects steel cathodically. *diag Water Works Eng* 111: 572 Je '58

Polarograph with direct recording of electrode potential, D. T. Sawyer and others. *bibliog il diags Anal Chem* 30:481-4 Ap '58

Potential of an electrode of a voltaic cell; a new definition with justification for the use of two sign conventions, J. B. Ramsay. *bibliog Electrochem Soc J* 104:255-60 Ap '57; Discussion, 105:359-60 Je '58

Potentiostat technique for studying the acid resistance of alloy steels, C. Balaescu. *bibliog diag Iron & Steel Inst. J* 138:122-32 F '58

Present status of cerium(IV)-cerium(III) potentials, E. Wadsworth and others. *bibliog Anal Chem* 29:182-5 D '57

Redox potentials in sludge digestion, W. N. Grune and T. H. Lotze. *bibliog diags Water & Sewage Works* 105:37-41 Ja '58

Redox potentials in waste treatment; laboratory experiences and applications, W. N. Grune and C. F. Chueh. *bibliog il diag Sewage & Ind Wastes* 30:479-500; Discussion, W. W. Eckenfelder, Jr. 500-2 Ap '58

Reversible chlorine electrode for the measurement of electromotive force in molten salt cells, S. Senderoff and G. W. Mellors. *bibliog R Sci Instr* 29:152-2 F '58

Semimicrocal potential energy functions; generalization for ionic molecules and the inclusion of London forces, A. A. Frost and J. H. Woodson. *bibliog Am Chem Soc J* 80:2615-18 Je 5 '58

Sewage chlorination control through use of the oxidation-reduction potential, F. M. Weir. *Sewage & Ind Wastes* 30:952-4 JI '58

Stoichiometric numbers and hydrogen overpotential, A. C. Makrides. *bibliog Electrochem Soc J* 104:677-81 N '57; Discussion, 105:366-7 Je '58

Value of the electromotive force of a voltaic cell; a magnitude without sign, J. B. Ramsey. *Electrochem Soc J* 104:691-2 N '57

POTENTIAL dividers. See Voltage dividers

POTENTIOMETERS

Applications of the recording potentiometer, G. A. Rutledge. *il diag Instruments & Automation* 31:850 My '58

Data plotter; multipoint recording potentiometer, R. H. Müller and F. D. Lonadier. *diags Anal Chem* 30:891-3 My '58

Digital recording system for measuring the electrical properties of semi-conductors, R. H. A. Carter and others. *diag J Sci Instr* 35:115-16 Mr '58

Film pots; over 500 C. Electronics 31:34 F 21 '58

Malal oxide film potentiometers; abstract, G. V. Planer. *Brit Inst Radio Eng J* 18:177 Mr '58

New data-handling system uses a digital potentiometer, S. Meyer and M. Blynn. *il diags Instruments & Automation* 30:2270-2 D '57

New kit modifies wire wound pots. *il diags Electronics* 31:202+ Mr 14 '58

Potentiometers; selection and application, *diags Product Eng* 28:1 6a-6f Mid-O '57

Precision ac potentiometer. *il diags Electronics* 31:90 JI 4 '58

Quick-change potentiometer instrument has time-saving plug-in unit. *il Plant Eng* 12: 121 S '58

Resistance potentiometers as function generators, R. W. Williams and H. Marchant. *diags Electronic Eng* 30:579-85 O '58

POTENTIOMETERS—Continued

Failure

Liquid-filled pots enhance reliability. *Il Electronics* 31:138+ F 14 '58

Manufacture

Where is it? applying cements, bonding compounds, and plastic coaters. *Il Electronic Ind* 17:90+ J1 '58

Testing

Analogue comparator for production testing of potentiometer-type pressure-sensing instruments. C. N. Boode and C. B. Calohan. *Il diags Electronics* 31:47-9 Mr 28 '58

Potentiometer tester; location and measurement of high-resistance contacts. S. Morleigh. *diags Wireless World* 64:450-2 S '58

POTENTIOMETRIC titration. See Volumetric analysis

POTOMAC river

Nation's capital enlarges its sewerage system; abating pollution of Potomac river. C. F. Johnson. *Il maps Civil Eng* 28:428-31 Je '58

POTTERIES

See also

Sanitary ware

Electric equipment

Electrical distribution equipment in a ceramic plant. E. M. Cobb. *Il diags Am Cer Soc Bul* 37:259-61 Je 15 '58

Equipment

New milling process; how to produce better whiteware with high intensity clay dispersion. R. E. Gould and others. *Il diags Cer Ind* 71:124-31 S '58

Management

Management's philosophy of design. C. W. Planje. *Am Cer Soc Bul* 37:287-8 Je 15 '58

POTTERS association. See United States potters association

POTTERY

American ceramic society Whiteware division, annual meeting, Bedford, Pa.; with abstracts of papers. *Cer Ind* 69:90-1+ N '57

Good design is not enough; consumer preference studies needed. J. R. Gulden. *Am Cer Soc Bul* 37:416 S 15 '58

See also

American ceramic society

Ceramic materials

Ceramics

Clay

Enamel and enameling

Glazes

New York state ceramic association

Tableware

Tiles

United States potters association

Decoration

Avoid these pitfalls in overglaze firing. *Il Cer Ind* 71:72 J1 '58

Design

Management's philosophy of design. C. W. Planje. *Am Cer Soc Bul* 37:287-8 Je 15 '58

Manufacture

How to control variables in slip casting. *Il Cer Ind* 71:52-3 Ag '58

How's and why's of firing whitewares. *Il Cer Ind* 70:100+ Je '58

See also

Tableware—Manufacture

Opacity

Simple, inexpensive method for translucency measurements. C. F. Shaw. *bibliog Il Am Cer Soc Bul* 37:448-51 O 15 '58

POTTERY (arts and crafts)

30 second ideas for the art potter. H. Bollman. *Cer Ind* 69:112 N; 96 D '57; 70:80 F; 80 Mr; 80-1 My; 71:75 J1; 87 Ag '58

POTTERY research

Laboratory development of dunt resisting bodies containing ten per cent petalite. C. H. Commons, Jr. and P. J. Romano. *Il diags Am Cer Soc Bul* 37:353-6 Ag 15 '58

Practical methods for the rapid evaluation of large numbers of related body compositions. W. C. Mohr. *Am Cer Soc Bul* 37:280-2 Je 15 '58

POULTRY

Toxicity of ozone for young chicks. J. J. Quilligan, Jr. and others. *bibliog Il A M A Archives Ind Health* 18:16-22 J1 '58

Diseases and pests

See also

Psittacosis

Feeding

Absorption of radiolysine by the chick as affected by penicillin administration. H. H. Draper and C. Lowe. *bibliog J Nutrition* 64:33-42 Ja '58

Acceleration of vitamin E deficiency in the chick by torula yeast. J. G. Eleri and others. *bibliog J Nutrition* 64:113-26 Ja '58

Activated citrus sludge; vitamin content and animal feed potential. M. H. Dougherty and R. R. McNary. *bibliog Sewage & Ind Wastes* 30:1151-5 S '58

Comparison of metabolizable energy and productive energy determinations with growing chicks. F. W. Hill and D. L. Anderson. *bibliog J Nutrition* 64:587-603 Ap '58

Cytopathologic changes in liver cord cells of arginine-deficient chicks. E. L. Jungherr and others. *bibliog Il J Nutrition* 66:281-92 Je '58

Effect of dietary energy concentration and age on the lysine requirement of growing chicks. H. G. Schwartz and others. *bibliog J Nutrition* 65:26-37 My '58

Evidence for an unidentified factor necessary for maximum egg weight in chickens. L. S. Jensen and others. *bibliog J Nutrition* 65:219-33 Je '58

Exudative diathesis in chicks. B. G. Creech and others. *bibliog J Nutrition* 64:55-65 Ja '58

Nutritional studies with glycine, amino-ethanol and related compounds in the chick. R. L. Wixom and others. *J Nutrition* 64:13-31 *bibliog* (63 titles, p28-31) Ja '58

Phosphate availability studies with the ash of unidentified growth factor supplements. H. N. Edwards, Jr. and others. *bibliog J Nutrition* 65:305-16 Je '58

Potentiation of liveweight gain in chicks by trimethylalkylammonium stearate. A. N. Worden. *bibliog Chem & Ind p* 1115-16 Ag 23 '58

Significance of dietary zinc for the growing chicken. B. L. O'Dell and others. *bibliog J Nutrition* 65:503-23, pl 1-2 Ag '58

Studies of amino acid diets for the chick. M. R. S. Fox and others. *bibliog J Nutrition* 64:475-82 Mr '58

Studies of the metabolizable and productive energy of glucose for the growing chick. D. L. Anderson and others. *J Nutrition* 65:561-74 Ag '58

Studies on arginine deficiency in chicks. H. M. Edwards, Jr. and others. *bibliog J Nutrition* 64:271-9 F '58

Studies on the nutritive effects of selenium for chicks. M. C. Nesheim and M. L. Scott. *bibliog J Nutrition* 65:601-18 Ag '58

Studies on zinc deficiency in the chick. A. B. Morrison and H. S. Sarett. *bibliog J Nutrition* 65:267-80 Je '58

Studies related to vitamin B₁₂. W. H. Ott and others. *bibliog J Nutrition* 64:525-31 Ap '58

POULTRY, Frozen

Effect of various freezing methods on quality of poultry meat. W. W. Marion and W. J. Stadelman. *bibliog Food Tech* 12:267-9 J1 '58

Factors affecting freezing rate and appearance of eviscerated poultry frozen in air. L. van den Berg and C. P. Lentz. *bibliog Food Tech* 12:133-5 Ap '58

Freezes poultry on dairy-type unit. *Il Food Eng* 30:92 Ag '58

Immersion freezing of poultry. E. L. Hulland. *Refrig Eng* 66:60-1 Ja '58

Strides in immersion-freezing of poultry. J. D. Mitchell and others. *Food Eng* 30:102 Je '58

POULTRY as food

Effect of packaging materials and techniques on shelf life of fresh poultry meat. F. E. Wells and others. *bibliog Food Tech* 12:425-7 Ag '58

Influence of re-using chill tank slush ice on market quality of eviscerated broilers. D. Fromm. *Food Tech* 12:257-9 My '58

Simultaneous determination of total count and fluorescent pseudomonads in fresh meat and poultry. J. H. Siliker and others. *bibliog Food Tech* 12:255-7 My '58

Studies on microbiological methods for predicting shelf-life of dressed poultry. W. L. Mallmann and others. *bibliog Food Tech* 12:122-6 Mr '58

Preservation

Effect of certain bacterial inhibitors on shelf-life of fresh fryers. R. J. McVicker and others. *bibliog Food Tech* 12:147-9 Mr '58

POULTRY hatcheries

Mass production of chicks. *il Research* 11: 77-9 F '58

POULTRY industry and trade

See also
Institute of American poultry industries

POULTRY processing plants**Employees**

Poultry plant dermatitis. *Safety Maint* 116:31 Ag '58

Equipment

Display new machines; show of Institute of American poultry industries. *il Food Eng* 30:117-4 Ap '58

Influence of re-using chill tank slush ice on market quality of eviscerated broilers. D. Fromm. *Food Tech* 12:257-9 My '58

Waste

Combined treatment of poultry and domestic wastes. J. M. Roberts. *Sewage & Ind Wastes* 30:1186-9 S '58

Problems in handling poultry wastes. A. J. Kaplovsky. *Food Tech* 12:180-2 Ap '58

POUR points

What about oil pour point? here's why flow at low temperature may not be enough. R. B. Purdy. *il Plant Eng* 12:116-17-4 F '58

POWDER, Face

Perfumes for cosmetics; face powders. V. Vasic. *bibliog Manuf Chem* 29:287-9 JI '58

POWDER-lancing. *See Concrete—Cutting*

POWDER metallurgy. *See Metal powders*

POWDER patterns (X ray diffraction). *See X rays—Diffraction*

POWDERED aluminum. *See Aluminum, Powdered*

POWDERED copper. *See Copper, Powdered*

POWDERED iron. *See Iron, Powdered*

POWDERED lead. *See Lead, Powdered*

POWDERED metals. *See Metal powders*

POWDERED nylon. *See Nylon, Powdered*

POWDERED plastics. *See Plastics, Powdered*

POWDERED soap. *See Soap, Powdered*

POWDERED steel. *See Steel, Powdered*

POWDERED titanium. *See Titanium, Powdered*

POWDERS

Cracking in powder compacts. W. M. Long. *diags Engineering* 185:254-5 F 21 '58

Measurement of the specific surface area of fine powders; a comparison of the gas adsorption and a permeability methods. D. H. Mathews. *bibliog J Ap Chem* 7:610-13 N '57

Particle-sizing method for aerosols and fine powders. R. L. Dimmick and others. *bibliog diag A M A Archives Ind Health* 18:23-9 JI '58

Pilot-plant production of ground serratia marcescens. V. F. Pfeifer and others. *bibliog flow sheet il Ind & Eng Chem* 50:1143-8 Ag '58

Propylene oxide for sterilizing powders. W. W. Myddleton. *Manuf Chem* 29:338-9 Ag '58

Solid proof of solid state reactions. *Chem & Eng N* 36:56-7 S 22 '58

See also

Metal powders

Particles

Pulverizers

POWDERS, Metal. *See Metal powders*

POWELL, Alfred R.

Powell gets Pittsburgh award. *por Chem & Eng N* 35:58 D 23 '57

POWER (mechanics)

Coal; source of Canadian energy. C. L. O'Brian. *bibliog map Can Min & Met Bul* 51:3-15 Ja '58

Energy resources and our future. H. G. Rickover. *Combustion* 29:47-50 JI '57

Here's a handy chart for energy conversion. M. H. Green. *Pet Refiner* 37:244 My '58

Power basics for today's industry. J. M. Robertson; J. F. Lee. *diags Power Ind* 74:26-32 Ja; 19-21 F; 24-5 Mr; 22-4 Ap '58

Power engineering takes to space. *il Power Eng* 61:67-9 D '57

Power picture for 1983. M. S. Oldacre. *diags Power Ind* 74:12-13-4 Ag '58

Science gives us more ideas, new materials for still greater power field development. C. R. Earle. *il plan diags Power Eng* 62:58-61 Ja '58

Scientific progress and world power development. *il map Power Eng* 62:50-3 Ja '58

Storage of energy. R. G. Voysey. *Engineering* 186:380-2 S 19 '58

See also

Atomic power

Compressed air

Electric power

Force and energy

Horsepower

Power plants

Power transmission

Servomechanisms

Ship propulsion

Solar power

Steam

Wind power

also subdivision Power under special sub-

jects, e.g.

Aluminum works

Cement plants

Chemical plants

Coal mines and mining

Metallurgical plants

Packing houses

Paper and pulp mills

Paper board mills

Petroleum refineries

Rolling mills

Steel works

POWER brushes. *See Brushes, Industrial*

POWER cartridge

Explosives become portable power packs.

A. R. Gardner. *il diags Product Eng* 29:56-60 Ja 6 '58

High strength metals formed by explosives. Materials in Design Eng 47:168-4 Ja '58

POWER cost*See also*

Steam plants—Costs

Waste fuel

POWER engineering (periodical)

Power Engineering editors promoted. *Power Eng* 62:65 Ja '58

POWER engineers, National association of.

See National association of power engineers

POWER factor

Doble telecasts oil power factor tests. *Elec World* 149:73 F 24 '58

Power factor of rectifiers. A. Schmidt, Jr. Applications & Ind p53-7 My '58

Power factor related with corrective capacitor. L. B. Stein, Jr. *Elec World* 150:54 Ag 11 '58

POWER groove fluorescent lamps. *See Electric lamps, Fluorescent***POWER plants**

Allocation of heat in an industrial power plant. R. J. Martin. *diags Mech Eng* 79:743-6 Ag '57; Discussion. 80:123-4 Mr '58

Controlled vibration in blasting at close quarters; modernization of power plant of New York city transit system. R. Samuels. *il plans Civil Eng* 28:3-5 Ja '58

How to organize your new power plant (cont). D. Swift. *Power* 102:84-5-4 Ja; 93-9-4 F; 98-9-4 Mr; 92-3-4 My; 96-7-4 S '58

1957 modern plant survey. *Power* 101:79-102 D '57

Power engineering handbook. Published in monthly numbers of *Power engineering*

Science gives us more ideas, new materials for still greater power field development. C. R. Earle. *il plan diags Power Eng* 62:58-61 Ja '58

So you're ready to begin operating that new industrial power plant. P. N. Garay. *il diag Power Eng* 62:69-71 Ja '58

Technical briefs; latest engineering developments for busy power men. Published in monthly numbers of *Power*

See also

Atomic power plants

Boiler plants

Coal mines and mining—Power

Electric generator sets

Factories—Electric equipment

Hydroelectric plants

Steam plants

Water supply for power plants

Waterworks—Power

Accounting

Figure your industrial steam costs accurately. *Power Eng* 62:74 My '58

Cleaning

Central vacuum cleaning system. I. D. Singles. *il Power Eng* 62:79-80 F '58

Control equipment

ISA annual power conference, 1st, New York, May 21-23. I S A J 5:66-7 JI '58

POWER plants—Continued

Costs

Automatic lubrication cuts hazards and can chop 90 per cent from coal-handling costs. L. M. Livingston. *il* Power 102:104-5 My '58

Bring power plant cost estimates up-to-date. Power Ind 74:32 Mr '58

Power plant extensions, Nebraska, \$131 per hp; unit prices. Eng N 160:89 Ap 24 '58

What it costs to modernize small industrial power plants. H. G. Fisher. *il* diags Power Eng 61:82-4 My; 92-4 Je; 49-50 Jl; 84-7 Ag; 96-7 O; 86-7 N '57

See also

Atomic power plants—Costs

Hydroelectric plants—Costs

Steam turbines—Cost of operation

Damage from floods

You can hold flood damage in line. *il* diags Power 102:109-15 Ap '58

Design

Industrial plant capacity grows; 1957 design survey; typical industrial, institutional plants; charts and tables. Power 101:88-95 D '57

See also

Atomic power plants—Design

Electric plants (central stations)—Design

Hydroelectric plants—Design

Steam plants—Design

Diesel engine plants

Diesel-fuel-cleaning system with a two-stage centrifuge and wash solution; U.S. navy's power plant at Subic bay. D. M. Landis and E. C. Bahret. *il* diags Power 102:87-9 Mr '58

Gunnar makes power all year 'round. *il* diags Eng & Min J 158:100-1+ D '57

Employees

How we train men for an industrial power plant. J. S. Dickey. *il* Power Eng 62:66-8 My '58

Power engineer defines his job. J. S. Cole. Power Eng 61:57 N '57

RCA trains for power maintenance. J. S. Cole. *il* Power Eng 62:80-2 Ag '58

Equipment

Armortube reduces the cost of installing instrumentation. *il* Power Eng 62:94-5 Je '58

Automatic lubrication cuts hazards and can chop 90 per cent from coal-handling costs. L. M. Livingston. *il* Power 102:104-5 My '58

Butterfly valve controls condenser siphon; power plant of the St Joseph lead co. T. H. Seitz. *il* diags *il* Power Eng 62:82-4 Mr '58

Deterioration for power plant. R. F. Schaub. *il* Power 102:118-19 Ap '58

Electronic computers; their power-field future looks bright. H. P. Kallen. *il* diags Power 102:71-7 Ja '58

Equipment news. Published in monthly numbers of Power engineering

Method of comparison and evaluation of power plant equipment when competing for capital dollars; panel discussion. Tappi 41: sup 166A-7A Ap '58

Operation skylift remodels 50-cycle plant. S. Blue. *il* Power Eng 62:104-6 Ag '58

Plant equipment news. Published in monthly numbers of Power

Power for a sugar refinery; Westburn sugar refineries. *il* Engineer 206:63 Jl '58

Select the right ratings and sealers for power services. B. W. Schultz. *il* Power 102:101-3 My '58

Simple and inexpensive coal sampler automatic in operation. A. H. Gesell. diags Power Eng 62:91 F '58

Smartly engineered plant services trim \$100,000 from initial costs; General Electric's distribution transformer plant. W. R. Atkinson. *il* diags Power 101:100-2 N '57

Ten-kw germanium rectifier for automatic power plants. E. A. Hake. *il* diags Applications & Ind 36:61-6 Ja '58

Today, aluminum jacketing protects your insulation. S. Elonka. *il* Power 101:134-5 D '57

Tools and stores you need to run that new industrial power plant. P. N. Garay. *il* Power Eng 61:83-5 D '57

Treat your chemical feed pumps right. E. R. Franklin. *il* Power 102:112-15 F '58

200,000 lb. cyclone-fired boiler compactness with high efficiency; Kynoch works of Imperial chemical industries, limited. *il* diags Engineering 184:688-9 N 29 '57

What it costs to modernize small industrial power plants. H. G. Fisher. *il* diags Power Eng 61:82-4 My; 92-4 Je; 49-50 Jl; 84-7 Ag; 96-7 O; 86-7 N '57

What's new in equipment. *il* Published in monthly numbers of Plant

See also

Atomic power plants—Equipment

Coal handling

Condensers (steam)

Steam plants—Equipment

Fires and fire protection

Burn pulverized coal? here's how to prevent fires in the system. Power Eng 61:92+ N '57

How to use CO₂ for coal bunker fire protection. H. V. Williamson. flow diag *il* Power Eng 62:78-80 Jl '58

Fuel

Fuels; a look ahead. B. G. A. Skrotzki. *il* diags Power 102:75-80 '58

Handling of coal in industrial plants. A. J. Stock. *il* diags Power 102:85-7 My '58;

Abstract. Combustion 29:64-5 My '58

How do you inventory your coal? F. M. Reiter. diags Power Eng 61:72-5 N '57

Stretch coal dollars. J. S. Cole. diags Power Ind 74:11-12+ My '58

United saves by burning marginal fuels. E. J. Miller. flow diag *il* Power Eng 61:81-2 N '57

See also

Electric plants (central stations)—Fuel

Gas turbine plants

Economics of gas turbine drivers in the refinery. C. R. Apitz. *il* Pet Eng 29: C 11-14 D '57; Oil & Gas J 56:38-90+ F 3 '58

First steel-mill gas turbine in Britain. P. C. Secretan. *il* diags Power 102:102-3+ Ag '58

Gas turbines for process applications. D. F. Bruce. *il* diags Mech Eng 80:76-8 Mr '58

Operating experience with 750/1000-kw gas turbines. E. B. R. Felden and T. P. Latimer. *il* diags Combustion 29:47-52 Mr '58

Sturgeon Lake power plant. Eng J 41:92 Mr '58

Why a combined steam and gas turbine plant? J. O. Stephens. *il* diags Power Eng 62:97-9 Ag '58

Maintenance and repair

Let's look at honing your latest maintenance tool. S. Elonka. diags Power 102:118-19 Ag '58

Nondestructive testing. S. Elonka. *il* diags Power 102:116-37 Mr '58

Now, heat pictures do your trouble shooting. S. Elonka. *il* diags Power 102:124-5 Ap '58

RCA trains for power maintenance. J. S. Cole. *il* Power Eng 62:80-2 Ag '58

Silent sound; smart approach to tomorrow's maintenance. R. Reynolds. *il* diags Power 101:131-3 D '57

So you've begun operating that new industrial power plant. P. N. Garay. *il* diags Power Eng 62:76-8 F '58

Up-to-date practical ideas to lick some of your operation and maintenance problems. *il* diags Power 101:152-4+ D '57

Piping

See Piping (power plants)

POWER plants, Outdoor

See also

Steam plants, Outdoor

POWER plants, Portable

Brush Electrical Engineering mobile power plant. *il* Engineering 186:229 Ag 22 '58

Diesel-electric portable winding engine. *il* Engineering 184:617 N 15 '57

Mobile generating plant. *il* Engineer 206:266 Ag 15 '58

Mobile light and power for street maintenance and civil defense. B. R. Paris. *il* Pub Works 89:178 Ag '58

Mobile power houses. *il* Engineer 204:940 D 27 '57

Mobile units, first on the job; power project at Chute des Passes, Que. *il* Diesel Power 36:66 Ap '58

Mobile units for power-hungry Mexico. *il* Diesel Power 36:19 Mr '58

Portable emergency mine winding engines. *il* Engineer 204:682 N 3 '57

Transportable power, an asset utility operation. *il* diags Diesel Power 36:28-9 Je '58

POWER pools. See Electric plants—Interconnection

POWER roll forming. See Metal work

POWER transmission

- Conveyor drives, R. G. Zilly, *il* diags Mod Materials Handling 13:92-7 J1; 102-5 Ag; 123-8 S '58 (reprints \$1)
- Design digest issue; power transmission, *il* diags Product Eng 28:E 1-96 Mid-O '57
- Design digest issue; power transmission, *il* diags Product Eng 29:E 1-66 Mid-S '58
- How to send energy by compressed air, B. G. A. Skrotzki, *il* diags Power 101:112-15+ D '57
- Industrial know-how handbook; power transmission, *il* diags Mill & Factory 62:PT3-50+ My '58
- Power dividing transmissions, D. L. Beddingfield, *diag* Engineering 185:123 Ja 24 '58

See also

- Bearings
Belting
Chain gear
Clutches
Compressed air
Couplings
Electric distribution
Electric driving
Electric transmission
Gearing, Worm
Gearmotors
Hydraulic transmission
Joints, Universal
Pneumatic transmission
Power (mechanics)
Servomechanisms
Shafting
Speed variation
Torque converters
also subdivision Transmission under special subjects, e.g.
Automobiles
Motor trucks
Motor trucks, Industrial
Motor vehicles
Tractors

Tables, calculations, etc.

- Nomograph for relating values of force-speed-torque-horsepower, L. Fiderer, *Product Eng* 28:E23 Mid-O '57

POWERFORMING process. See Gasoline—Manufacture**POZZOLANA.** See Pozzuolana**POZZUOLANA**

- Lost opportunity in mortar cements, N. C. Rockwood, *Rock Prod* 61:17+ Ap '58
- Native aggregates, natural pozzolan used in Priest Rapids Dam concrete, H. F. Utley, *il* Pit & Quarry 50:156-8 Ja '58

PRANDTL number

- Best methods for Prandtl number, W. R. Gambill, *bibliog* Chem Eng 65:121-4 Ag 25 '58
- Friction and heat transfer in a rough tube at varying Prandtl numbers, R. C. Hastrup and others, *diag* Jet Propulsion 28:259-63 Ap '58
- Generalized Prandtl relation, R. S. Ong, *J Aeronautical Sci* 25:209-10 Mr '58
- Heat transfer in laminar boundary-layer flows of liquids having a very small Prandtl number, G. W. Morgan and others, *J Aeronautical Sci* 25:173-80 Mr '58
- Heat transfer to fluids with low Prandtl numbers for flow across plates and cylinders of various cross section, R. J. Grosh and R. D. Cess, *bibliog* diags A S M E Trans 80:667-76 Ap '58
- Heat transmission to fluids with low Prandtl numbers for flow through tube banks, R. D. Cess and R. J. Grosh, *bibliog* diags A S M E Trans 80:677-82 Ap '58
- Polynomial expressions for the specific heat and Prandtl number of air, D. W. Boeckemeier, *J Aero/Space Sci* 25:653-9 O '58
- Summary of low-Prandtl-number heat-transfer results for forced convection on a flat plate, E. M. Sparrow and J. L. Gregg, *J Aeronautical Sci* 24:852-3 N '57

PRASEODYMIUM

- Thermodynamic properties of neodymium hydroxide $\text{Nd}(\text{OH})_3$, in acid, neutral and alkaline solutions at 25°; the hydrolysis of the neodymium and praseodymium ions, Nd^{3+} , Pr^{3+} , R. S. Tobias and A. B. Garrett, *bibliog* Am Chem Soc J 80:3532-7 J1 20 '58

PRE-CAMBRIAN period. See Geology, Stratigraphic—Pre-Cambrian**PRECESSION**

- Precession, A. E. Benfield, *diags* Am J Phys 26:396-7 S '58

PRECESSION camera. See Cameras**PRECIOUS metals**

- Alloys for precious metal jewelry, R. H. Atkinson, *il* Metal Prog 72:107-11 N '57
- Investment casting of precious metal jewelry, R. H. Atkinson, *il* diags Metal Prog 73:97-101 F '58
- Organic deposits on precious metal contacts, H. W. Hermance and T. F. Egan, *bibliog* *il* diags Bell System Tech J 37:739-76 My '58
- Properties of materials, Materials in Design Eng 48:114-15 Mid-O '58
- Use of chlorine in the attack of noble metals; quantitative recovery of micro amounts of platinum, ruthenium, and osmium, A. D. Westland and F. E. Beamish, *bibliog* diags Anal Chem 30:414-13 Mr '58

See also

Platinum metals**PRECIOUS stones**

See also

Sapphires**PRECIPITATION (chemistry)**

- Carrier precipitation of trace elements; radio-isotope evaluation of efficiency, E. E. Pickett and B. E. Hankins, *bibliog* Anal Chem 30:47-50 Ja '58
- Effect of conditions of preparation on the forms of alumina; precipitation and subsequent calcination of products in the system aluminium sulphate-sodium aluminate-water, J. A. Lewis and C. A. Taylor, *bibliog* J Ap Chem 8:223-8 Ap '58
- Lifetime and nickel precipitation in silicon, W. J. Shattles and H. A. R. Wegener, *il* J Ap Phys 29:366 Mr '58
- Magnetic measurements on some precipitation systems, A. E. Berkowitz and P. J. Flanders, *J Ap Phys* 29:314-16 Mr '58
- Nucleation and growth in a photosensitive glass, R. D. Maurer, *bibliog* *il*(cover) J Ap Phys 29:3-8 Ja '58
- Precipitation and magnetic annealing in a copper-cobalt alloy, J. J. Becker, *J Ap Phys* 29:317-18 Mr '58
- Precipitation of cadmium sulfide from acid solutions by thioacetamide, D. F. Bowersox and E. H. Swift, *Anal Chem* 30:1238-9 J1 '58
- Precipitation of sulphite spent liquors by means of metal hydroxides; theory and practice, R. Boršček and V. Stanfk, *bibliog* diags Tappi 41:sup 188A-94A My '58
- Preparation of a crystalline high explosive of controlled particle size by precipitation with water from acetone solution, A. M. Pennie, *flow sheet* diags Can J Chem Eng 36:73-81 Ap '58
- Relation between colloid pattern and permanent magnet precipitate during the magnetization reversal in Inico V, J. Kronenberg and R. K. Tenzer, *bibliog* *il* J Ap Phys 29:299-301 Mr '58
- Separation of uranium from other metals in sulphate solution by fractional hydrolysis; precipitation in the presence of phosphate, arsenate and silicate, T. V. Arden and others, *J Ap Chem* 8:151-9 Mr '58
- Solubility product and ore precipitation, N. Street, *Econ Geol* 53:617-18 Ag '58
- Study of precipitate particles in Cu-Co employing ferromagnetic resonance, D. S. Rodbell, *bibliog* J Ap Phys 29:311-12 Mr '58
- Surface properties of precipitated alumina; samples prepared from aluminium propoxide, M. R. Harris and K. S. W. Sing, *bibliog* J Ap Chem 8:586-9 S '58

See also

Liesegang rings**PRECIPITATION, Electric.** See Electric precipitation**PRECIPITATORS, Electric.** See Electric precipitators**PREDNISOLONE**

- Cyclic 16 α ,17 α -ketals and acetals of 9 α -fluoro-16 α -hydroxy-cortisol and -prednisolone, J. Fried and others, *Am Chem Soc J* 80:2338-9 My '58

PREDNISONE

- Photochemistry of prednisone acetate in neutral solution, D. H. R. Barton and W. C. Taylor, *bibliog* Am Chem Soc J 80:244-5 Ja '58

PREFABRICATED bridges. See Bridges, Prefabricated**PREFABRICATED buildings.** See Buildings, Prefabricated**PREFABRICATED electric substations.** See Electric substations, Prefabricated**PREFABRICATED houses.** See Houses, Prefabricated

PREFERRED numbers

Design of air flow test chambers; preferred numbers system for the determination of calibrated nozzle test chambers. K. A. Merz. *diag Refrig Eng* 66:49-50+ Ja '58

PREFORMING of plastics. See Plastics—Preforming**PREGNANCY**

Amines may upset pregnancy; abstract. M. X. Sullivan and J. A. Rivera. *Chem & Eng N* 36:50 S 15 '58

Pregnancy hormone. *Drug & Cosmetic Ind* 82:377 Mr '58

Tryptophan-niacin relationships in pregnancy. A. W. Vertz and others. *J Nutrition* 64: 339-53 bibliog(p352-3) Mr '58

See also

Abortion**PREGNANTRIOL**

Critical analysis of methods for measurement of pregnane-3-alpha, 17-alpha, 20-alpha-triol in human urine. A. M. Bongiovanni and W. R. Eberlein. *Biblog Anal Chem* 30:388-93 Mr '58

PREGNEDIONE

Synthesis of 5 α -pregn-2-ene-1:20-dione. W. Schütt and C. Tamm. *Biblog Chem & Ind* p42-3 Ja 11 '58

PRE-MAKEREADY. See Printing, Practical—Presswork

PREMATURE infants. See Infants, Premature

PRENDERGAST, John J.

Obituary. *por Ind Med* 26:569 D '57

PREPACKAGING

See also

Meat—Prepackaging

PRESS brake. See Sheet metal working machinery

PRESS tools

Presses speed assembly; Washington steel products inc. *il Steel* 142:96 Je 30 '58

Speeding up press tool design. *il Engineering* 185:691 My 30 '58

PRESSED metal

Pressing can make complex shapes. C. C. Higgins. *il Product Eng* 29:62-3 Ja 6 '58

PRESSES

Air cylinders make press double acting. B. Kepple and R. Williams. *il Ap Hydraulics* 11:84 Je '58

Air-operated press. *il Comp Air Mag* 63:31 Mr '58

Automatic conveyor press. *il Engineer* 206: 17 J 4 '58

Automatic press for wall tile production; Sheepbridge C. & O. press. R. S. Harding and A. N. Gilson. *il diags Am Cer Soc Bul* 37:405-8 S 15 '58

Bending normal press movement round-the-corner. F. Strasser. *diags Mach* 64:90-3 Ag '58

Blanking press has a capacity of 400 tons. *il Steel* 142:93 Ja 27 '58

Bliss double knuckle joint press features large 48 x 84-in. bed. *il Am Mach* 102:152 F 24 '58

Bliss electronic drive for press and die-handling machine. *il Mach* 64:194 Je '58

Conveyorized press line increases productivity by 17 per cent. L. J. Kevitt and A. Weigl. *il diag Am Mach* 102:74-5 Ag 25 '58

Flying press speeds short runs. *il Iron Age* 181:129 Je 5 '58

4500 ton hot plate press installation; Darling-ton works of Whessoe, Ltd. *il Engineer* 206: 171-3 Ja 31 '58

Gap press stands long service. *il Iron Age* 180: 184-6 N 14 '57

Haller press is simplified. *il Steel* 142:63 Mr 3 '58

How automatic pressing boosts production; interview with D. G. Cameron. *il Cer Ind* 70:106-11 Je '58

Liquid extraction press with automatic conveyor. *il Engineering* 186:92 J 18 '58

Mechanical press has a capacity of 1000 tons. *il Steel* 142:85 Ja 20 '58

Metal files through high-speed press. *il Tool Eng* 39:151 N '57

Metal powder compacting presses provide more uniform part density. *il Am Mach* 101:125 D 30 '57

Metalworking, 1962; pressworking. J. I. Karash; J. K. Wingard. *Am Mach* 101:133-4 N 18 '57

More than 200 presses in Cadillac's plant four. J. Geschelin. *il Automotive Ind* 118: 64-8 F 15 '58

Niagara high production presses feature extra-heavy construction. *il Am Mach* 101:166 D 16 '57

1958 production preview; forming, forging, casting. *il Am Mach* 102:179-201 Ja 27 '58

No springback in titanium-alloy parts hot formed in Hufford press. *il Am Mach* 102: 136 S 22 '58

Powder metal press sets uniform density in odd shapes. *il Iron Age* 180:56-7 D 26 '57

Press for precise assembly; General motors corp. *il diags Steel* 142:103 My 5 '58

Presses offer integral drive units and new clutch and brake design. *il Am Mach* 102: 109 Je 30 '58

Presses will expand with body designs. *Iron Age* 180:158 N 7 '57

Production nuggets; information from American machinist and other publications; developments to watch; pressworking, mold-

ing, casting. *il diag Am Mach* 102:D 1-5 Mid-S '58

Quenching press has automatic loader and un-loader. *il Steel* 141:217 N 18 '57

Reinforcement of press foundations by post-tensioning. F. Kramrich. *plan diags Am Concrete Inst J* 29:961-3 My '58

Second five-roll gives double-duty press. *il diag Product Eng* 29:41 S 1 '58

Stock fed into lamination press at 2500 inches a minute. *il diags Mach* 64:154-5 F '58

Transfer unit uses press power. *il diag Tool Eng* 40:93 Je '58

Welded frame weighs less, costs less. *il diag Product Eng* 28:64 O 28 '57

See also

Dies**Extrusion machines****Forging machinery****Hydraulic presses****Molding machines (for plastics)****Printing presses****Punching machinery****Control**

Clutch-brake control valving. A. B. Huntington. *diags Automation* 5:146-50+ Mr '58

Press cushion pressure control attachment. *il Engineer* 206:147 J 1 25 '58

Moving

Cranes move presses into position at Federal Pacific where machines are taken to the work. *il Steel* 143:76-7 J 1 21 '58

Painting and finishing

Painting 1000-ton presses. P. C. Bardin. *il Ind Finishng* 34:68-8 Je '58

Safety devices

CSA standards for punch press operation. *il diags Product Eng* 29:112-13 Mid-S '58

Electro-magnetic protective device for automatically-fed power presses. D. Stevenson. *il diags Brit Inst Radio Eng J* 18:229-31 Ad '58

Light curtain safeguards pressmen. *il Tool Eng* 40:237-8 Ap '58

PRESSES, Forging. See Forging machinery

PRESSES, Hydraulic. See Hydraulic presses

PRESSURE

Abnormally high detonation pressures in a shock tube. L. Ginsburgh. *J Ap Phys* 29: 1381-2 S '58

Calculate two-phase pressure drop in the gathering systems. R. L. McIntire. *Oil & Gas J* 56:131 F 17 '58

Calculation of drawing force and die pressure in wire drawing. P. W. Whitton. *Biblog Inst Met* 86:417-21 My '58

Cells at high pressure. D. Marsland. *il diags Sci Am* 199:36-43 O '58

Comparison of experimental information and analytical prediction for laminar entrance pressure drop in ducts with rectangular and triangular cross sections. T. F. Irvine, Jr. and E. R. G. Eckert. *biblog diag J Ap Mech* 25:288-90 Je '58

Contact stresses under combined pressure and twist. M. Hetényi and P. H. McDonald. *il diags J Ap Mech* 25: 336-401 S '58

Continuous high pressure synthesis of 3-aminopropionitrile. E. M. Smolin and L. C. Beegle. *biblog flow diag Ind & Eng Chem* 50:1115-13 Ag '58

Convection heat transfer and pressure drop of air flowing across in-line tube banks. C. E. Jones and others. *biblog il diags A S M E Trans* 80:18-34; Discussion. 34-5 Ja '58

Conversion chart; pressure to pressure level. L. S. Goodfriend. *Noise Control* 4:58 J '58

Criterion for flow of a Bingham plastic between two cylinders loaded by torque and pressure gradient. P. R. Paslay and A. Silbar. *diags J Ap Mech* 25:234-5 Je '58

PRESSURE—Continued

- Cyanogen-oxygen flame under pressure. J. B. Conway and A. V. Grosse. bibliog diag Am Chem Soc J 80:2972-6 Je 20 '58
- Determining viscosity of liquefied gaseous hydrocarbons at low temperatures and high pressures. G. W. Swift, and others. *diags Chem Eng Prog* 54:47-50 Je '58
- Diffusion in ethylene polymers; effects of temperature and pressure. D. W. McCall and W. P. Slichter. bibliog Am Chem Soc J 80:1861-8 Ap 20 '58
- Effect of hydrostatic pressure and temperature on the magnetic properties of a nickel-zinc ferrite. C. Q. Adams and C. M. Davis, jr. *J Ap Phys* 29:372-3 Mr '58
- Effect of pressure on rock drillability. J. R. Eckel. *il diag J Pet Tech* 10:Trans 1-6 Ja '58
- Effect of temperature, pressure, acidity and solvent on an aquo ion exchange reaction. H. R. Hunt and H. Taube. bibliog Am Chem Soc J 80:2642-6 Je 5 '58
- Empirical method of predicting pressure drop in gas-condensate pipelines. A. L. Berry and B. L. Moreau. *diags Oil & Gas J* 56:108-10 F 17 '58
- Estimate low-pressure gas viscosity. W. R. Gambill. bibliog Chem Eng 65:169-72 S 22 '58
- Experimental and theoretical pressures and velocity fields for various lead extrusions. E. G. Thomson and J. Frisch. bibliog *il diags A S M E Trans* 80:117-22; Discussion. 122-3 Ja '58
- Experimental study of dc corona at high temperatures and pressures. J. B. Thomas and E. Wong. bibliog diag J Ap Phys 29:1226-30 Ag '58
- Further large-deflection analysis for a plate strip subjected to normal pressure and heating. M. L. Williams. bibliog J Ap Mech 25:261-8 Je '58
- Gassing of liquid dielectrics under electrical stress; influence of voltage and pressure. H. Basseches and M. W. Barnes. bibliog *diags Ind & Eng Chem* 50:959-66 Je '58
- General instability of ring-stiffened cylindrical shells subject to external hydrostatic pressure; a comparison of theory and experiment. G. D. Galletly and others. bibliog *il diags J Ap Mech* 25:259-66 Je '58
- High pressure chemistry. A. Gilchrist. *Ind Chem* 34:423-30, 545-9 bibliog (p547-9) Ag, O '58
- High pressure; symposium. bibliog *il diags Ind & Eng Chem* 49:1945-2050 D '57
- High-pressure techniques. D. M. Warschauer and W. Paul. bibliog *il diags R Sci Instr* 29:675-9 Ag '58
- Influence of pressure and temperature on oil viscosity in thrust bearings. E. Sternlicht. *diags A S M E Trans* 80:1108-12 Ji '58
- Influence of pressure on the combustion of liquid spheres. G. A. Agoston and others. bibliog *il diag Jet Propulsion* 28:181-8 Mr '58
- Influence of strain hardening on the dilation of cylinders under internal pressure. E. Voce. *Engineering* 185:756-9 Je 13 '58
- Mechanism of chemisorption: hydrogen on nickel at elevated pressures. L. Vaska and P. W. Selwood. *diags Am Chem Soc J* 80:1331-5 Mr 20 '58
- Optimum pressure for vacuum-plant operation. W. L. Nelson. *Oil & Gas J* 56:107 Ag 4 '58
- Predicting convergence pressure. J. M. Lenoir and G. A. White. bibliog (45 ref) *diags Pet Refiner* 37:173-81 Mr '58
- Pressure drop for parallel flow through rod bundles. B. W. Le Tournau and others. bibliog *il A S M E Trans* 79:1761-6; Discussion. *diags* 1756-7; Reply. 1757-8 N '57
- Pressure drop through bubble caps. H. T. Welch. bibliog *Pet Refiner* 37:127-32 Ag '58
- Pressure for indenting material resting on a rough foundation. W. Johnson and D. M. Woo. bibliog *diags J Ap Mech* 25:64-6 Mr '58
- Pressure relief system tames Florida boil; grit structure of Northeast sewage treatment plant for St Petersburg. B. J. Prugh. *il diag Civil Eng* 28:582-4 Ag '58
- Pressure-viscosity effect; background. H. A. Hartung. bibliog A S M E Trans 80:1097-8 Ji '58
- Pressure-volume relations in solids. G. E. Duvall. *Am J Phys* 26:235-8 Ap '58
- Pressure-volume-temperature properties of fluorobenzene. D. R. Douslin and others. bibliog *diags Am Chem Soc J* 80:2031-8 My 5 '58
- Sea bottom pressure fields produced by yawed vessels. P. M. Fitzpatrick. *diag Am Soc C E Proc* 84 (EM 1: no 1496):1-12 Ja '58
- Seals for pressures to 10 000 atmospheres. W. B. Daniels and A. A. Hruschka. *diags R Sci Instr* 28:1058-9 D '57
- Sizing blowdown piping. F. Lipinski. *diag Oil & Gas J* 56:128 Ap 14; 129 My 6; 187 My 19 '58
- Solubility of quartz in supercritical water as a function of pressure. G. J. Wasserburg. bibliog *J Geol* 66:559-78 S '58
- Some high-pressure, high-temperature apparatus design considerations; equipment for use at 100 000 atmospheres and 3000°C. H. T. Hall. bibliog *il diags R Sci Instr* 29:267-75 Ap '58; Abstract. *Chem & Eng N* 36:41 My 5 '58
- Speed pressure drop calculations. N. H. Chen. bibliog *Chem Eng* 65:150-2 S 22 '58
- Stress distributions around hydrostatically loaded circular holes in the neighborhood of corners. A. J. Durelli and A. S. Kobayashi. bibliog *il diags J Ap Mech* 25:178-83 Je '58
- Study of heat transfer and pressure drop under conditions of laminar flow in the shell side of cross-baffled heat exchangers. F. L. Test. *diags A S M E Trans* 80:593-9; Discussion. B. E. Short. 599-60 Ap '58
- Tips for high-pressure piping. E. E. Ludwig. bibliog *il Pet Refiner* 37:155-61 Mr '58
- Toward lower pressure drop. G. W. Hodgson. *Chem & Eng N* 36:52-3 S 29 '58
- Updating the K-factor formula for pressure drops in air valves. B. Dahle and C. Miller. *diags Product Eng* 29:74-8 Ap 14 '58
- Viscosity-pressure effect on friction and temperature in a journal bearing. S. J. Needs. A. S. M. E. Trans. 80:1099-102; Discussion. H. A. Hartung. 1102-3 Ji '58
- See also
- Vapor pressure
- Wind pressure
- PRESSURE gages**
- Constant-pressure leak-rate gauge. K. W. Ehlers. *R Sci Instr* 29:72 Ja '58
- Elastic distortion error in the dead-weight piston gage. D. P. Johnson and others. bibliog *il diag Ind & Eng Chem* 49:2046-50 D '57
- Feedback controlled Pirani gauge. J. H. Leck. *diags J Sci Instr* 35:107-8 Mr '58
- New high pressure technique; the controlled-clearance principle. D. H. Newhall. *diags Ind & Eng Chem* 49:1993-5 D '57
- Null-point pressure indicator for use at high temperature. P. E. Liley. *diag J Sci Instr* 35:308-9 Ag '58
- Piezoelectric detector for low-pressure shock waves. H. T. Knight. *diag R Sci Instr* 29:174-5 F '58
- Piezo-electric pressure bar gauge. D. H. Edwards. bibliog *il diags J Sci Instr* 35:346-9 S '58
- Pressure gage elements. R. J. Church. *il Machine Design* 30:150-2 Ap 17 '58
- Strain-gage transducer for Bourdon tubes. L. E. Bollinger. *diags I S A J* 5:37-9 Ap '58
- Thermal compensator for Bourdon gauges. O. W. Heise. *il diag Instruments & Automation* 31:473 Mr '58
- See also
- Anemometers
- Ionization gages
- McLeod gage
- Manometers
- Vacuum gages
- Costs**
- Guide to equipment costs for industrial pressure measurement. H. R. Kalbfleisch. *diags Control Eng* 6:91-3 Mr '58
- PRESSURE measurement**
- Apparatus for pressures of 27 000 bars and temperatures of 1400°C. F. Birch and others. bibliog *diags Ind & Eng Chem* 49:1965-6 D '57
- Constant pressure method for determining p - v - t relations of gases. L. Luft. bibliog *diags Ind & Eng Chem* 49:2035-9 D '57
- Deceleration probe for measuring stagnation pressure and velocity of a particle-laden gas stream. J. L. Dussourd and A. H. Shapiro. bibliog *il diags Jet Propulsion* 28:24-34 Ja '58
- Direct detection of pressure ratio changes. *il diag Engineering* 186:124 Ji 25 '58
- Dynamic study of an experimental pneumatic process-pressure transmitter. E. F. Hochschild. bibliog *diags A S M E Trans* 80:497-504 F '58
- Heise Bourdon new compensator aids pressure measurements. *Ind Lab* 9:21 Mr '58
- Instrument unit measures pressure. *diag Oil & Gas J* 56:221 S 15 '58

PRESSURE measurement—Continued

- Laboratory pressure measurement requirements for evaluating the air data computer. A. J. Eberlein. *diag Aeronautical Eng R* 17:53-7 Ap '58
- Method of obtaining accurate relative pressures in the range 20 to 200 mm of mercury. G. A. Bottomley. *bibliog diags J Sci Instr* 35:254-7 J1 '58
- New pressure pickup saves wind tunnel test time; abstract. J. F. L. Aldrich and S. Tripoli. *diags S A E J* 36:107 Ag '58
- New pressure-sensing device. R. H. Müller. *Anal Chem* 29:sup62A-D '57
- Pressure distribution within a vacuum arc furnace. J. W. Suiter. *bibliog diag Electrochem Soc J* 105:44-6 Ja '58
- Pressure drop through pipe fittings. D. S. Davis. *Power Ind* 74:23 Ag '58
- Pressure drops for steam through valves and fittings; nomograph. D. S. Davis. *Power Ind* 74:29 O '58
- Pressure drops for water through valves; nomograph. D. S. Davis. *Power Ind* 74:31 O '58
- Pressure measurement in molten metals. R. J. Ingham and R. C. DuBois. *il diags I S A J* 5:47-9 Je '58
- Pressure scanning system. F. Michaels and P. Straight. *il diags Instruments & Automation* 31:1366-7 Ag '58
- Pressure-sensitive diaphragm-type null detector. D. White and J. Hilsenrath. *bibliog il diags R Sci Instr* 29:648-51 J1 '58
- Recent advances in dynamic pressure measurement technique. F. F. Liles and T. W. Berwin. *bibliog(40 titles) Jet Propulsion* 28:83-5+ F '58
- Recording of pressure distributions in porous media during fluid flow experiments. T. O'Donnell and others. *diag J Sci Instr* 35:63-4 F '58

See also

- Gas, Natural—Well pressure
Manometers

- Petroleum—Well pressure

PRESSURE regulation

- Pressure reducing valve hookups; detail sheet. *diags Air Cond Heat & Ven* 55:64 J1 '58

PRESSURE regulators

- Breather pipe to outdoors vents valve air pocket. S. R. Lewis. *diag Heating-Piping* 30:134 Je '58
- Fast build-up. AikResearch engineers test rig. *diag Product Eng* 29:12 Ap 7 '58
- Flexibility, automation in regulator station design. E. Roark. *il map diag Gas* 34:73-5 Ap '58
- Guide to pressure generators. *il diags Ap Hydraulics* 11:77-93 Ap '58
- Logic circuit that tells correct controller action. R. A. Denning. *diags Control Eng* 5:123+ Je '58
- Manostat for high-pressure operations. H. H. Reamer and E. H. Sage. *diags R Sci Instr* 29:709-12 Ag '58
- Mishandled regulator blows up. *diag Air Cond Heat & Ven* 55:44 Ja '58
- New material for valves, regulators and meters? Rellianite, a ductile iron. *il Gas* 34:34-7 Je '58
- Regulation pitfalls. W. L. Masheter. *diags Instruments & Automation* 31:1060-1 Je '58
- Rocket test stand pressure controller design. G. E. Click and R. G. Halliday. *diags Aero/Space Eng* 17:72-7 My '58
- Safety and relief valves. F. D. Marton and C. S. Beard. *il diags Instruments & Automation* 30:2249-54 D '57
- Safety cuts maintenance in regulating stations. E. Grafe. *diags Safety Maint* 114:29-30 O '57; Same abr. *Heating-Piping* 30:122-3 Je '58
- Safety-relief valves; where they are needed and why. *diags Instruments & Automation* 31:479-81 Mr '58
- Self-actuated pressure regulators. G. W. Gale. *il diags Control Eng* 5:124-8 My '58
- 12 points to consider when selecting pressure regulators. J. P. O'Connor, Jr. *il diags Plant Eng* 12:109-12+ Mr '58
- Understanding and use of gas appliance pressure regulators. H. J. Evans. *Gas Age* 121:20-2 My 15 '58
- Vacuum; regulators, pump governors, breakers, and relief valves. F. D. Marton and C. S. Beard. *il diags Instruments & Automation* 31:867-70 My '58
- Very fast flow control techniques. R. W. Ellison. *il diags Ind & Eng Chem* 49:1996-8 D '57

See also

- Valves, Hydraulic

PRESSURE vessels

- APDA's fast-breeder reactor vessel for the Enrico Fermi atomic power plant. *il Com-bustion* 29:53-4 My '58
- Closure of high-pressure vessels; a hydraulic high-torque torque wrench. E. Whalley and others. *diag J Sci Instr* 35:113-14 Mr '58
- Effect of heat treatment on the microstructure and low-temperature properties of pressure-vessel steels. J. H. Gross and others. *il Welding J* 37:sup 160-8 Ap '58
- Electrical lead for high-pressure apparatus. I. Simon. *diag R Sci Instr* 28:963-4 N '57
- Electrical lead-in for pressure vessel. F. J. Edeskuty and R. H. Chrisman. *diag R Sci Instr* 29:178 F '58
- Pressure vessels for manufacture. *il diags Engineering* 185:17-19 Je 6 '58
- Research and development; catalyst of steel and petroleum progress; abstract. C. L. Huston, Jr. *Pet Refiner* 37:202 My '58
- Spherical containment shell of the Dresden station. L. P. Zick and others. *il diags Am Soc C E Proc* 84 [PO 2 no 160]:1-26 Ap '58
- Stainless steel reactor vessel for Enrico Fermi atomic power station. *il diag Engineering* 206:34-7 J1 4 '58
- Stress concentration in heavy-walled cylindrical pressure vessels. J. H. Faupel and D. B. Harris. *bibliog diags Ind & Eng Chem* 49:1979-86 D '57
- Trouble-shooting delayed-cooking units. N. A. Well and F. S. Kapasky. *Pet Refiner* 37:202-3 My '58

See also

- Boilers
Kettles, Steam jacketed

Design

- Bursting pressures and safety factors for thin-walled vessels. N. A. Well. *bibliog diags Franklin Inst J* 266:97-116 F '58
- Design of bolted, flanged joints of pressure vessels. G. F. Lake and G. Boyd. *bibliog diags Inst Mech Eng Proc* 171 no31:843-58; Discussion. 859-68; Reply. 870-2 '57
- Design of prestressed cylinders with non-metallic linings. G. D. Galletly and E. G. Chilton. *diags Ind & Eng Chem* 50:sup65A-8A Ag '58
- For thick wall vessels reduce thickness by overstrain? S. M. Jorgensen. *bibliog il Pet Refiner* 37:168-9 F '58; Same. A. S. M. E. Trans 80:681-7 Discussion. 588-70 Ap '58
- New high pressure technique; the controlled-clearance principle. D. H. Newhall. *diags Ind & Eng Chem* 49:1993-5 D '57
- Photo-elastic investigation of stresses in the heads of thick pressure-vessels. H. Fessler and R. T. Rose. *bibliog diags Inst Mech Eng Proc* 171 no 20:633-43; Discussion. 644-5; Reply. 646 '57
- Pressure-flange design extended; reference book sheet. G. P. Staats. *diags Product Eng* 28:117-20 D '57
- Pressure vessels. let the tubes support the tube sheet. G. D. Galletly and C. R. Garrett. *bibliog diags Ind & Eng Chem* 50:1227-30 S '58
- Reinforced opening design simplified. R. Chuse. *diag Pet Refiner* 37:146 F '58
- Reinforcement of openings in pressure vessels. E. O. Waters. *bibliog diags Welding J* 37:sup277-88 Je '58
- Safeguards aspects of reactor vessel design. D. R. Miller and W. E. Cooper. *bibliog Welding J* 37:sup22-6 F '58; Same. *il Am Soc Naval Eng J* 70:367-73 My '58
- Strength of cylinders. W. R. D. Manning. *bibliog(26 ref) diags Ind & Eng Chem* 49:1969-78 D '57
- Stresses in a pressure vessel with circumferential ring stiffeners. E. W. Catudal and R. W. Schneider. *diags Welding J* 36:sup550-2 D '57

Failure

- Bursting pressure of cylindrical and spherical vessels. N. L. Svensson. *J Ap Mech* 25:89-96 Mr '58
- Effects of gaseous detonations upon vessels and piping. P. N. Randall and others. *il diags Chem Eng Prog* 53:574-80 D '57
- Fabrication and service factors involved in failure of welded steam receivers. A. J. Babecki and P. P. Pazak. *il diags Welding J* 37:sup320-5 J1 '58

Manufacture

- Common job cost this firm too many dollars; fabrication of two fully-jacketed reactor vessels and two tube-type heat exchangers. R. H. Hoefler. *il Welding Eng* 43:52-3 Ap '58
- Consumable weld insert for thick pressure vessel wall. Franklin Inst J 266:76-7 J1 '58

PRESSURE vessels—Manufacture—Continued

- Forming of flanged and dished heads. H. S. Beers. *Il diags Iron & Steel Eng* 35:110-13; Discussion. 113-14 My '58
- How the CANEL project test chamber was made. *Il Iron Age* 181:106-7 F 27 '58
- How to weld thick closures from one side. *Il diags Iron Age* 181:102-3 Mr 20 '58
- Ingenuity defeats stumbling block; difficult joining job on a nuclear reactor pressure vessel. *Il Welding Eng* 43:68-9 Je '58
- Makes better weld; nuclear reactor pressure vessel. *Il Steel* 142:159 My 19 '58
- On-the-spot stress relief; tank stress relieved on the welding fixture. W. C. O'Brien. *Il Am Mach* 102:141 My 19 '58
- Pressure vessel fabricated in less than 30 days; Hahn & Clay corp. L. F. Megow. *Il diags Welding Eng* 43:58-9 Mr '58
- Tips on welding thick-walled vessels. *Il Iron Age* 180:122-4 N 14 '57
- Tough welding jobs simplified; tripod and pendulum setup is big time saver. R. A. Butler. *diag Plant Eng* 12:124-5 Ja '58
- Welding and stress relieving facilities. *Il Engineering* 186:254 Ag 22 '58

Raising

- Lift for a tall tank. *Il Eng N* 160:26 My 1 '58

Safety measures

- Safety at high pressure. R. W. Kiefer. *Il Ind & Eng Chem* 49:2017-18 D '57

Standards

- Proposed revisions and addenda to boiler and pressure vessel code (cont). *Mech Eng* 80: 121-2 F; 126-7 Ap; 119-22 Je; 100-3 Ag; 102-9 O '58

Testing

- Investigations of the impact properties of vessel steels; abstract. F. B. Hamel. *Pet Refiner* 37:201 My '58
- Stresses in a cylindrical pressure vessel on a cylindrical support. R. Hicks. *diags Engineer* 205:274-7 F 21 '58

- PRESSURIZED containers.** See Containers, Dispensing—Pressurized containers

- PRESSWORK.** See Printing, Practical—Presswork

PRESTONIA amazonicum

- Alkaloids of banisteria caapi and prestonia amazonicum. F. A. Hochstein and A. M. Paradis. *biolog Am Chem Soc J* 79:5735-6 N 5 '57

- PRESTRESSED concrete.** See Concrete—Pre-stressing

- PREVENTIVE medicine.** See Medicine, Preventive

PREVOST reaction

- O-18 tracer study of the wet and dry Prevost reactions. K. B. Wiberg and K. A. Saegre-barth. *biolog Am Chem Soc J* 79:6256-61 D 5 '57

PRICE cutting**See also**

- Gasoline—Price cutting

PRICE discrimination**Patman law**

- Good-faith price cuts upheld by Supreme court in second ruling in Detroit case. *Oil & Gas J* 56:70 F 3 '58
- Price discrimination in wholesale and retail sales. A. W. Gray. *Audio* 42:60-1 F '58

PRICE fixing**See also**

- Gasoline—Price fixing

PRICE fixing, Resale

- Why General Electric dropped fair trade. W. H. Sahloff. *Elec World* 149:72 Mr 10 '58

PRICE policies

- Price determination theory in the pharmaceutical industry. J. D. McEvilla. *biolog Drug & Cosmetic Ind* 82:34-5+ Ja '58

PRICES

- What constitutes the total price of a purchase. R. C. Haws. *Ind Quality Control* 14:24-7 F '58

See also

- Price policies
also subdivision Prices under special subjects, e.g.
Aluminum
Building materials
Ceramic materials
Chemicals
Coal
Copper
Gasoline
Lead

Lubricating oils

- Metals
Oil fuel
Paper
Road materials
Steel
Transistors
Uranium

PRIESTLEY medal

- Ernest H. Volwiler received medal. *Chem & Eng N* 36:99 Ap 28 '58
- Priestley medalist; Ernest H. Volwiler. *Chem & Eng N* 36:122 Ja 6 '58

PRINCETON university

- Housing by Breuer; Institute for advanced study. Princeton, N.J. *Il plans diags Arch* Rec 123:157-64 Mr '58

PRINCIPLE of uncertainty. See Uncertainty principle

- PRINT-out machine.** See Calculating machines—Print-out equipment

- PRINTED circuits.** See Electric circuits—Printed circuits; Electronic circuits—Printed circuits

PRINTERS**See also**

- International association of printing house craftsmen

PRINTING

- Almanac of 75 years of U.S. printing progress. V. Strauss. *Il Inland Ptr* 141:66-70 My '58

See also

- Color printing
Labels—Printing
Lithography
Newspapers—Printing
Packaging materials—Printing
Paper boxes—Printing
Photomechanical processes
Printing machinery
Silk screen printing
Textile printing
Xerography

Bibliography

- Books for the printer. Published in monthly numbers of Inland printer

Prize contests

- Fine printing and lithography gallery presents awards to West Coast printers. *Inland Ptr* 140:68 D '57

Specimens

- Specimen review. J. L. Frazier. Published in monthly numbers of Inland printer

Typography

- Are printers losing control in selection of type? A. Lawson. *Inland Ptr* 141:70-1 Je '58
- Attempt to end type classification controversy. A. Lawson. *Il Inland Ptr* 140:84-5+ Mr '58
- International typographic design seminar, 1st, Silvermine, Conn. and New York. *Inland Ptr* 141:31 Je '58
- Typography has seen many changes in 75 years. A. Lawson. *Il Inland Ptr* 141:110-11 My '58
- What type faces go together? perennial problem. A. Lawson. *Inland Ptr* 140:68-9 N '57

PRINTING, Offset

- Electronics concern uses photo-offset techniques in do-it-yourself publishing; Sanders associates, Inc. J. Fallon. *Il Ind Phot* 7:18-19 Ja '58

- Graphic arts processes; letterpress and offset. G. W. Bassett. *Tappl* 40:sup 167A-9A N '57
- How to handle presensitized plates in your offset plant. G. P. Madan. *Il diags Inland Ptr* 141:50-3 Ap; 94-5 My '58

- Improved method for the determination of the lowering of the surface tension of dampening fluids caused by surface active substances present in offset paper. J. H. Bitter. *Tappl* 41:433-7 Ag '58

- Indiana weekly newspaper adopts web offset process. R. D. Walker. *Il Inland Ptr* 141:86-8 My '58

- Labels by offset balance seasonal automotive work; Calvert lithographing co. *Il Inland Ptr* 140:54-5 Ja '58

- New litho offset plate procedure; abstract. J. J. Rheinfrank and others. *Ind Phot* 7:71-4 Ja '58

- Offset. Published in monthly numbers of Inland printer

- Offset or letterpress for your publications? H. H. Mullen. *Il Inland Ptr* 141:43-9 Je '58

- PIA Web offset section annual meeting. Chicago, June 5-6. *Inland Ptr* 141:57 JI '58

PRINTING, Offset—Continued

- Setting up an in-plant offset department. E. Stanton. Ind Phot 7:44+ My '58
Two-colour offset litho press. *il Engineer* 206; 143 J1 25 '58
Typed cards and photo-offset, solve publishing problem; technique perfected by R. R. Bowker co. S. Hochman. *il Ind Phot* 7:20-1 My '58
Web offset press now producing Deere publication. *il Inland Ptr* 141:57 S '58
Web offset presses have many advantages. O. E. Freedman. *il Inland Ptr* 141:53-6+ S '58
Which is better no-offset mix; liquid or powder? J. A. West. *il Inland Ptr* 140:50+ Ja '58

See also
Photolithography

Study and teaching

- New offset program begun at South Dakota State. R. Honner. *il Inland Ptr* 141:58-9 S '58

PRINTING, Practical

- See also
Paper—Printing properties
Printing presses
Proofreading
Type and type founding
Typesetting

Layout

- Modern type display (cont). J. L. Frazier. *Inland Ptr* 138:58-9 Ja; 74-5 F; 86-7 Mr; 139:86-7 Ap; 76-7 My; 72-3 Je; 52+ Ag; 96-7 S; 140:58-9 O; 84-5 N '57

Makeready

See Printing, Practical—Presswork

Presswork

- Greater precision needed in preparing press forms. *Inland Ptr* 141:78-9 Ag '58
Hints on how to speed up offset premakeready and makeready. *Inland Ptr* 140:80 F '58
Minnesota mining and manufacturing co. conducts letterpress makeready study. *il Inland Ptr* 140:112 Mr '58
Pressroom. G. M. Halpern. Published in monthly numbers of *Inland printer*

PRINTING, Specialty

- Specialty printer. Published in monthly numbers of *Inland printer*

PRINTING, Textile. See Textile printing**PRINTING, associations**

- See also
International association of printing house craftsmen
Lithographers national association

PRINTING, house craftsmen, International association of. See International association of printing house craftsmen**PRINTING industry of America**

- Annual meeting, 71st, Chicago, Oct. 14-17. *Inland Ptr* 140:54-5 N '57

PRINTING machinery

- Goodbye to ammonia fumes in the print plant. H. Johnson. *il diag Product Eng* 29:74-5 J1 21 '58
New developments in printer slotters. L. J. Baudis; H. W. Moser. *Tappi* 40:sup 189A-92A N '57

See also

- Linotype
Photocomposing machines
Phototypesetting machines
Printing presses

PRINTING, offices

- Oil and gas journal completes new headquarters. *il Oil & Gas J* 56:88-9 F 24 '58
\$1 million investment in the future; Gulf publishing and Gulf printing companies move into larger quarters. *il Pet Refiner* 37:256-8 Ap '58
600 plants serve Detroit metropolitan area. *il Inland Ptr* 141:49-51 Ag '58

Air conditioning

- How air conditioning solves printing plant problems; abstract. R. H. Porter. *Heating-Piping* 29:139 N '57

Composing rooms

- Composing room. A. Lawson. Published in monthly numbers of *Inland printer*

Electric equipment

- Flexible distribution ends relocation; Graphic arts finishing co., Baltimore. L. Robl. *il Elec World* 149:106 My 12 '58

Electronic equipment

- Electronics grows in printing. *il Electronics* 31:16-16. cover J1 11 '58

Employees

- Training today builds master pressmen tomorrow. G. M. Halpern. *il Inland Ptr* 140:70-1 F '58

Equipment

- Conveyor system eases screen printing problem; Tech-Graphic, inc. *il Inland Ptr* 141:65 J1 '58
Home-made slugger speeds proofreading production. N. Krum. *il Inland Ptr* 141:57+ Ap '58
How Meredith publishing co. will speed modernization. *il Inland Ptr* 140:47+ F '58
Printer finds electric trucks safer, more economical; Lord Baltimore press, Baltimore. J. A. Devereux. *il Elec World* 149:114 Je 9 '58
Vancouver's Evergreen press in new plant. *il plan Inland Ptr* 140:48-51 F '58
What's new in equipment and supplies. Published in monthly numbers of *Inland printer*

Layout

- Vancouver's Evergreen press in new plant. *il plan Inland Ptr* 140:48-51 F '58

Lighting

- Lighting trims inventory needs; Paragon press' new Salt Lake City plant. W. F. Mulcock. *il Elec World* 14:90 F 3 '58

Maintenance and repair

- High book output depends on maintenance; Kingsport press. G. B. Arthur. *il Mill & Factory* 62:98-101 Je '58

Management

- Gaining production control in small offset plant. L. W. Mahaffey. *Inland Ptr* 141:52+ J1 '58

Noise

- Printing machine insulation. L. N. Miller and I. Dyer. *il diags Noise Control* 4:21-3+ J1 '58

Quality control

- Graininess and print quality affect quality control. G. W. Jorgensen. *Inland Ptr* 140:56-7 N '57

PRINTING on metal

- Aluminum foil printing requires careful handling. J. T. Trousdale. *Inland Ptr* 141:82-3 S '58

- Shops print aluminum finishes. *il Iron Age* 182:90+ Ag 7 '58

PRINTING on plastics

- Coating, printing, embossing; coordinated equipment produces vinyl coated fabric with any desired surface finish. *il diags Mod Plastics* 35:116-17+ Ap '58

PRINTING plates

- Here are ten ways you can ruin good offset plate on your press. C. W. Latham. *Inland Ptr* 140:59 F '58

- How electronic engravings speed letterpress. D. Saltman. *il map Inland Ptr* 140:50-2 N '57

- How to handle presensitized plates in your offset plant. G. F. Madan. *il diags Inland Ptr* 141:50-3 Ap; 94-5 My '58

- New litho offset plate procedure; abstract. J. J. Rheinfrank and others. *Ind Phot* 7:71+ Ja '58

Cleaning

- Speeds cleaning of printing press plates; water immersion heaters. H. Fisler. *il Elec World* 149:70 Ja 6 '58

PRINTING plates, Plastic

- Du Pont to make photosensitive plastic engravings in three types. *il Inland Ptr* 140:54-5 F '58

- Printing with plastics. *il Brit Plastics* 31:58-62 F '58

PRINTING presses

- Amsterdam introduces four Italian presses. *il Inland Ptr* 141:83 Ap '58

- C&EN joins the rotary club; new high speed rotary press means later news deadlines, earlier deliveries of weekly issues. *il Chem & Eng N* 36:74-5+ Je 2 '58

- Committee guides design of the Samuel M. Langston co.'s type 241 printer-slotter. *il diag Product Eng* 28:66 O 28 '57

- First Miehle 19½x25 offset press to be demonstrated in Chicago. *il Inland Ptr* 140:78 Ja '58

PRINTING presses—Continued

- Gripper fingers control paper. *il* diag Product Eng 28:74 D 23 '57
- Hamilton dry offset 17x25 perfecting press. *il* Inland Ptr 141:72 J1 '58
- Harris-Seybold single-color job offset press. *il* Inland Ptr 141:76 Je '58
- Litho printing press. *il* Mech Eng 80:97 My '58
- Offset pressmen should be familiar with diverse functions of bearers. *Inland Ptr* 141:55 S '58
- Small offset press, its field and its potential. G. W. Bassett, diag *Inland Ptr* 140:64-6 D '57
- Two-colour offset litho press. *il* Engineer 206:143 J1 25 '58
- Web offset press now producing Deere publication. *il* Inland Ptr 141:57 S '58
- Web offset presses have many advantages. O. E. Freedman, *il* Inland Ptr 141:53-6+ S '58
- What's ahead for printing presses? D. W. Pease, *Inland Ptr* 141:84-5 My '58

See also

- Printing, Offset
- Printing machinery

Cleaning

- Proper cleaning of press will gain production time. G. M. Halpern. *il* Inland Ptr 140:70-1 J '58

Control

- Interlock monitors paper register. diag Product Eng 29:80 F 17 '58

Lubrication

- Life of your press depends upon good lubrication. G. M. Halpern. *il* Inland Ptr 140:52-4 Mr '58
- Proper press lubrication leads to smooth production. G. M. Halpern, *Inland Ptr* 140:76-7+ D '57

Models

- Condé Nast builds plywood press mockup to eliminate press installation disorder. *il* Inland Ptr 140:67 N '57

- PRINTING processes, Photographic.** See Photography—Printing processes

PRINTING research

See also

- Lithographic technical foundation

PRINTING supplies industry**Directories**

- Inland Printer's annual directory of equipment and supplies. *Inland Ptr* 140:105-52 D '57

PRISONS**Air conditioning**

- Condition jail for health, security. *il* Heating-Piping 30:85 J1 '58

Heating and ventilation

- Prison's heating, ventilating systems meet maximum security needs; reformatory at Millbrook, Ontario. J. H. Ross. *il* Heating-Piping 30:110-11 Je '58

PRIVATE brands

- Private-label selling. Drug & Cosmetic Ind 83:180-1 Ag '58
- Private labels climb into key marketing positions; Topco associates, inc. J. V. Ziembra. Food Eng 30:52-4 J1 '58

- PRIVATE wire systems.** See Telegraph—Private wire systems

PRIZE contests

- East Ohio gas co. welcomes Mrs America of 1959. *il* Gas Age 121:9 Je 12 '58
- Facial tissue scorch test wins Robertshaw-Fulton automatic range top contest. Gas Age 121:23 F 6 '58
- Industry ambassadors is from Ohio; Mrs Helen Giesse, the new Mrs America. *il* Am Gas Assn Mo 40:2-8 Je '58
- This promotion was a beauty; North shore gas co. queen contest for local county fair. *il* Am Gas Assn Mo 40:17 Ja '58

See also

- Printing—Prize contests

- PRIZES.** See Rewards, prizes, etc.

PROBABILITIES

- Books; Probability and scientific inference. G. S. Brown. Review, by E. Nagel. Sci Am 197:155-6+ D '57
- Conditional probability computer. Electronic Eng 30:435 J1 '58
- Conditional probability computer; Wales oil refinery. Wireless World 64:439 S '58
- Details of outage probability calculations. A. L. Miller, diag Power Apparatus & Systems p551-6; Discussion, 556-7 Ag '58

- Digital computer aids economic-probabilistic study of generation systems. M. K. Brennan and others, bibliog how diag Power Apparatus & Systems p564-77 Ag '58
- Economic choice of generator unit size. L. K. Kirchmayer and A. G. Mellor, diag A S M E Trans 80:1015-23; Discussion, 1023-6 J1 '58

- Error probabilities for binary symmetric ideal reception through nonselective slow fading and noise. G. L. Turin, bibliog diag Inst Radio Eng Proc 46:1603-19 S '58

- Fluctuations of random noise power. D. Slepian, bibliog diag Bell System Tech J 37:163-34 Ja '58

- How to pick a winner; some statistical guides to an ancient experimental problem. W. J. Youden. Ind & Eng Chem 50:sup 81A-2A Je '58

- Loss formulas for homogeneous gradings of the second order in telephone switching employing random hunting. J. Kruthoff, diag Elec Com 35 no 1:57-68 '58

- Nonparametric definition of the representativeness of a sample; with tables. M. Sobel and M. J. Huyett, bibliog diag Bell System Tech J 37:135-61 Ja '58

- Periodic property of pseudo-random sequences. E. Bofinger and V. J. Bofinger, bibliog Assn for Computing Mach J 5:261-5 J1 '58

- Power-spectrum equation for stationary random gusts, including a sample problem. K. D. Saunders, bibliog diag J Aeronautical Sci 25:295-300 My '58

- Probability applied to assembly fits. G. D. Phell, diag Product Eng 28:38-9 N '55 '57

- Probability calculations for system generation reserves. C. Kist and G. J. Thomas, bibliog diag Power Apparatus & Systems p515-20 Ag '58

- Radial distribution of the center of gravity of random points on a unit circle; problem of random walks. F. Scheid, bibliog J Res Nat Bur Stand 60:307-8 Ap '58

- Random methods for seeking maxima. S. H. Brooks, bibliog U Res 6:244-51 Mr '58

- Reliability evaluation of the human component in man-machine systems. H. L. Williams, bibliog Elec Manuf 61:78-82 Ap '58

- Runs determined in a sample by an arbitrary cut. P. S. Olmstead, bibliog Bell System Tech J 37:55-82 Ja '58

- Statistical aids to decision making; direct application of probability concepts. C. A. Bicking. Ind Quality Control 15:7-12 Ag '58

- Statistical description of coincidences among random pulse trains. S. Stein and D. Johansen, diag Inst Radio Eng Proc 46:827-30 My '58

- Treatment of hydro capability duration curves in probability calculations. K. L. Hicks. Power Apparatus & Systems p577-80 Ag '58

- Use of a digital computer in a generator reserve requirement study. H. E. Brown, flow diag Com & Electronics p82-5 Mr '58

- Use of probability methods in the economic justification of interconnecting facilities between power systems in south Texas. A. P. Jones and A. C. Mierow, map Power Apparatus & Systems p520-6; Discussion, 526-8; Reply, 528-30 Ag '58

- Use of the notion probability in physics. T. Ehrenfest-Afanassiewa. Am J Phys 26:388-92 S '58

See also

- Chi square test
- Frequency distribution (statistics)
- Games, Theory of
- Least squares
- System simulation

PROBABILITY paper

- How binomial probability solved five wool problems; Argonne worsted co. A. J. Gagnon, Jr. Textile World 108:72-3+ Ag '58
- Plotting experimental data on normal or log-normal probability paper. E. B. Ferrell, Ind Quality Control 15:12-15 J1 '58

PROCTER and Gamble company

- Cloning hearing on the Federal trade commission's complaint against Procter & Gamble co. Soap & Chem Spec 33:127+ D '57
- Port Ivory is 50 years old. *il* Soap & Chem Spec 33:44-7 N '57

PRODUCER gas. See Gas, Producer**PRODUCERS, Gas.** See Gas producers**PRODUCERS council**

- Producers council, an old friend of architects in a new era. E. Mickel. Arch Rec 123:28+ Ja '58

PRODUCTION

- Ingenious production and maintenance cost-cutting case studies. Published in monthly numbers of Mill and factory

PRODUCTION—Continued

What the designer should know about production. *Il* *diags* *Mach* 65:165-72 S; 158-62 O '58

What's wrong with industrial productivity? T. Metaxas. *Mill & Factory* 62:79-84 Ap '58

See also

Efficiency, Industrial
Factory management
Labor productivity
Labor requirements (for production)
Quantities (in production)

PRODUCTION control

Balancing the output of a segmented production line. *Il* *plan* *Mach* 64:87-9 Ag '58

Computer keeps an eye on spare parts. S. E. Parks. S A E J 66:34-8 Ag '58

Control of a job-shop machine floor. W. R. Elmendorf. *diag* *Mech* Eng 80:61-4 O '58

Control system directs and records all production from central point. *Il* *Am Mach* 102:130-4 Ap 7 '58

Controlling production; control panel of a system produced by the Control systems co. *Il* *Mech* Eng 80:91 Je '58

Data-logger for piecework tightens production control. J. D. Cooney. *Il* *Control* Eng 5:25-6 My '58

Hancock telecontrol. *Il* *Automobile* Eng 48:321-3 Ag '58

Hard look at production control; panel discussion. *Control* Eng 5:35-6 Je '58

How to streamline production flow. E. R. Sims. *jr* *diags* *Mill & Factory* 61:100-3 D '57

Joint optimization of long-range planning and short-range programming; ceramics firm that manufactures refractory heat-resistant products. M. Verhulst. *diags* *Op Res* 6:580-90 Ji '58

Keeping tabs on production; Convairst's Fort Worth plant. K. Anderson. *Il* *Control* Eng 5:35-6+ Ja '58

Model production control setup benefits small firm; Formsprag co. R. H. Eshelman. *Il* *Iron* Age 131:83-5 Ja 23 '58

Practical production controls. C. E. Andres. *flow* *chart* *Il* *Foundry* 85:91-3 D '57

Production scheduling in a canning plant. C. T. Shewell and H. C. Edwards. *Ind Quality* *Control* 15:20-1 Ag '58

Simple production system keeps machine shop humming; Sandusky foundry & machine co. J. F. Welch. *Il* *Mill & Factory* 62:134-5 Mr '58

System keeps lab on production; production control system called Telecontrol. *Il* *Steel* 142:160-1 Ap 14 '58

Textile companies eye computers for production control. F. Ridgeway. *Control* Eng 5:38+ My '58

What's the best production control system? *Mill & Factory* 63:102-3 Ag '58

See also

Schedules

PRODUCTION engineering research association Britain cuts research corners. E. J. Egan. *jr* *Iron* Age 182:65 S 4 '58

Production engineering research association. D. D. Morgan. *Il* *Metallurgia* 56:224-8 N '57

Production research; a brief survey of activities in 1957. *Il* *Automobile* Eng 48:74-6 F '58

Research for production engineers; PERA's progress. *Il* *Engineering* 186:88-9 Ji 13 '58

PRODUCTION standards

How to set production standards for pouring, shifting, shakeout. J. E. Keith. *Foundry* 86:85-9 Ji '58

PRODUCTIVITY of labor. See Labor productivity

PRODUCTS, Agricultural. See Agricultural products

PRODUCTS, Diversified

See also

Diversification in industry

PRODUCTS, Improved

Catalyst for a better product; GE's value-analysis seminars. R. E. Abbott. *Il* *Product* Eng 28:30-1 D 2 '57

Trends in appearance design in France. J. Vienot. *Il* *Product* Eng 29:34-5 S 8 '58

Trends in appearance design; redesign of the Montgomery Ward & co. line of garden equipment and supplies. *Il* *Product* Eng 29:20-1 Je 2 '58

PRODUCTS, Laminated. See Laminated products

PRODUCTS, Miniature

Army gets first miniaturization award. *Il* *Ind* Lab 9:97 My '58

Design and selection of miniature sliding contacts. F. W. Wood. *jr* *Il* *diags* *Elec* *Manuf* 61:144-7+ My '58

Metalworking's brain surgeons operate to 0.00010 inch; Reeves instrument co. miniature gyros; illustrations with text. N. R. Blumenstock. *Il* *Am Mach* 101:120-1 N 4 '57

Miniaturization of electronic parts. *Il* *Elec* *Manuf* 61:154 Ap '58

Miniaturization; when is it needed and what is it? *Il* *Steel* 143:44-5 Ji 28 '58

Missile parts machined in jeweler's lathes. *Il* *Mach* 64:154 Ja '58

Seek patent on new pinhole coil winder. *Il* *Ind* Lab 9:66 My '58

Smaller transistors, smaller missiles. *Il* *Production* Eng 28:20 D 16 '57

Tiny transistor wins big award; first annual Miniaturization award. *Il* *Iron* Age 181:68 Mr 27 '58

PRODUCTS, Molded. See Molded products**PRODUCTS, New**

Are you adding product lines? B. Lester. *Mach* 64:194 My '58

Case for process engineering. F. D. Seaman. *diag* *Product* Eng 29:118 Mr 31 '58

Don't let salesmen plan your products. I. P. Sharpe. *Product* Eng 29:35 Ap 21 '58

How to combine research + engineering + markets to gain profitable new products. P. R. Marvin. *Machine* *Design* 30:128-33 F 20 '58

How to determine new-product costs. D. W. Karger. *Machine* *Design* 30:128-35 S 18 '58

How to measure progress in new-product pioneering. P. R. Marvin. *Machine* *Design* 30:124-30 Ap 3 '58

How to plan and organize for new-product development. P. R. Marvin. *Machine* *Design* 30:86-90 Ag 7 '58

How you can buy time. R. McCullough. *Product* Eng 29:32-3 Ap 7 '58

New product ideas from the old world. *Product* Eng 28:21-2 D 2 '57

New product planning needs manufacturing team for automation. D. J. Yomine. *Automation* 5:34-7 Ag 5 '58

Operations research aids in birth of new products; abstract. K. Foreman. S A E J 66:108 Ag '58

Pre-development planning; four steps to low-risk products. *Product* Eng 29:32-3 Ag 11 '58

Process evaluation. W. S. Gilfoil and E. L. Morgan. *diag* *Chem* *Eng* *Prog* 54:62-4 Mr '58

Projecting the profitability of new products. T. T. Miller. *Chem* *Eng* *Prog* 54:56-60 Je '58

Team approach to process development. E. J. Brazil. *diag* *Ind* *Quality* *Control* 14:21-4 F 5 '58

Who should have responsibility for new-product planning? points of view. *Product* Eng 29:34-5 Mr 24 '58

See also

Diversification in industry

PRODUCTS, Quality of. See Quality of products

PROFESSIONAL education

See also

Engineering education

Scientific education

PROFESSIONAL engineers, National society of.

See National society of professional engineers

PROFESSIONAL ethics

Professional ethics of geologists. E. Y. Dougherty. *Econ* *Geol* 53:496-9 Je '58

See also

Engineering ethics

PROFESSIONAL workers

Chemist as independent professional. S. M. Cantor. *Chem & Eng* N 36:73-6 pt 2 Ja 27 '58

Professional side. Published in monthly numbers of Industrial and engineering chemistry

See also

Chemists

Engineers

Research workers

Technical workers

PROFESSIONS

Some aspects of multidisciplinary professions. L. J. Reed. *Am J Pub Health* 48:1-4 Ja 53 '58

See also

Chemists

Engineers

Lawyers

PROFILING machines

Automatic flame profiling of steel plate. *Il* *Engineering* 184:774 D 20 '57

Direct-drive motor designed for stepless wide speed range. *Il* *diags* *Elec* *Manuf* 61:96-9 My '58

Pratt & Whitney Magnespark vertical profiler. *Il* *Mach* 64:142 Ag '58

PROFILING machines—Continued**Control**

- Ex-Cell-O Numeri-Trol profiling machines. *il* Mach 65:172-3 O '58
 Ex-Cell-O numerically controlled 3-D profilers machine around axis of workpiece. *il* Am Mach 102:127 S 8 '58

PROFIT

- How to balance company profit areas. S. A. Tucker. *Am Mach* 102:135-9 Mr 10 '58

PROFIT sharing

- Union wants fund based on production. O. A. Knight. *Oil & Gas J* 56:64 Ja 13 '58

See also

Bonus system

PROFIT sharing trusts. See Employees trusts**PROGESTERONE**

- Progestone. A. Csapo. *il* diags *Sci Am* 198: 40-6 Apr '58

PROGESTERONE, Analogs of

- Anthasteroid rearrangement; the preparation of an analog of progesterone. W. R. Nes and others. *bibliog Am Chem Soc J* 80:5230-2 O 5 '58

PROGRAM control. See Numerical control**PROGRESS**

- Progress, a matter of incentives. C. F. Rassweiler. *Chem & Eng N* 36:104-9 S 22 '58

PROJECTILES

- Ionization by ultra-speed pellets. C. D. Hendricks, Jr. *bibliog diags J Ap Phys* 28:1339-41 N '57

- Ionization in the trail of high-velocity pellets. W. S. Partridge and L. D. Harris. *il* diag *J Ap Phys* 28:1269-71 N '57

- Normal perforation of a thin plate by truncated projectiles. E. Paul and M. Zaid. *il* diags *Franklin Inst J* 265:317-35 Ap '58

- Time lag between high-speed pellets and the ionization in their trails. R. A. Davidson and W. S. Partridge. *diags J Ap Phys* 28: 1304-8 N '57

See also

Ballistics

Photography of projectiles

Rockets

Torpedoes

Testing

- Hypersonic gun; projectiles will be driven through 100 ft long, three in gun barrel into test chambers at velocities of up to 20,000 ft per sec. *il* *Engineering* 186:349 S 12 '58

PROJECTILES, Photography of. See Photography of projectiles**PROJECTION, Axonometric**

- Design it in 3-D. H. J. Reinig. *diags Product Eng* 29:22-4 Ag 25 '58

PROJECTION apparatus

- Coarseness of pulp fibers by projection; new suggested method T-234 sm. *Tappi* 41:sup 175A-7A Je '58

- Fiber length of pulp by projection; revision of suggested method T-232 sm-53. *diags Tappi* 41:sup 179A-81A Je '58

- Naval tactical trainer. *il* *diags Engineer* 205: 813-19 My 30 '58

- Optical projectors for engineering, research, development. J. Stolp. *diags Product Eng* 29:A5-10 Mid-S '58

- Projector simulates helicopter flight. *il* *diags Product Eng* 28:92-3 N 11 '57

- Simulating helicopter flight. *il* *Engineering* 184:500-1 O 18 '57

See also

Planetariums

Slide films—Projectors

Television projection

PROJECTION rooms. See Moving picture theaters—Projection rooms**PROJECTORS, Moving picture. See Moving picture machines****PROLINE**

- Enzymatic conversion of D-allohydroxyproline to L-glutamate. E. Adams. *bibliog Am Chem Soc J* 79:6338-9 D 5 '57

PROOFREADING

- Home-made slugger speeds proofreading production. N. Krum. *il* *Inland Ptr* 141:57-+ Ap '58

- Need for proofreaders in future assured. F. Cremonesi. *Inland Ptr* 141:61 Je '58

- Proofroom. J. Evans. Published in monthly numbers of *Inland printer*

PROPANE

- Chromatograph has quick payout at Snyder plant. B. Denny. *diag Oil & Gas J* 56:117-18 Ap 21 '58; Same. *il* *Pet Eng* 30:C 17-18 My '58

- Continental oil co.'s new Short Junction plant. J. C. Reidel. *il* *diags Oil & Gas J* 55:113-+ O 28 '57

- Direct oxidation of propane-butane: Celanese corporation of America. *flow diags*(p232) *Pet Refiner* 36:233 N '57

- Low-cost alky-system depropanizer. W. O. Webber. *flow diags il Oil & Gas J* 56:139-+ F 24 '58

- McMahon plant complex; light-hydrocarbon fractionation. C. R. Hetherington. *flow diag Oil & Gas J* 56:104-5 Jl 7 '58

- Nitration of propane in a fused salt reactor. D. C. Coldiron and others. *bibliog diags Ind & Eng Chem* 50:991-2 Jl '58

- Nylon molding compound solves propane seal problem. *Air Cond Heat & Ven* 54:120 D '57

- Propane chiller cuts acid losses at California HF alky unit. D. H. Stormont. *flow chart Oil & Gas J* 55:172 N 11 '57

- Propane deasphalting and fractionation; M. W. Kellogg co. *flow diag Pet Refiner* 37:276 S '58

- Propane dewaxing and deolting; M. W. Kellogg co. *flow diag Pet Refiner* 37:277 S '58

- Propane system boosts gas supply; Caterpillar tractor co. W. W. Norton. *il* *diag Mill & Factory* 63:94-5 S '58

- Reactions of methylene; ethylene, propane, cyclopropane and n-butane. H. M. Frey and G. B. Kistiakowsky. *bibliog Am Chem Soc J* 7:6373-9 D 20 '57

- Thermal conductivity of propane. D. E. Leng and E. W. Comings. *bibliog diag Ind & Eng Chem* 49:2042-5 D '57

Prices

- Propane price up. *Oil & Gas J* 55:112 D 30 '57

Storage

- Spherical tanks used for propane in Venezuela; use of steel alloy Carilloy. G. Esmal. *il* *diag Pet Eng* 29:C 13-15 N '57

- Underground storage to provide standby reserve for Cincinnati; 9.3 million gallon L-P storage cavern. *il* *diag Gas Age* 122:23-5 O 16 '58

- World's largest underground tank propane storage. D. L. White and C. E. Reedy. *il* *map Gas Age* 121:25-+ My 15 '58

PROPANEDIOL. See Propylene glycol**PROPARGYL aldehyde. See Propiolaldehyde****PROPELLANTS**

- Anhydrous hydrogen peroxide as a propellant. R. Bloom, Jr. and N. J. Brunsdold. *bibliog il* *diags Chem Eng Prog* 58:541-7 N '57

- Boron-containing rocket propellents. *Engineering* 185:264 F 28 '58

- Boron rocket fuels. R. Parry. *Franklin Inst J* 265:436-7 My '58

- Brining on tomorrow's rocket fuels. B. D. Brising. *il* *diags Machine Design* 30:28-31 Ja 9 '58

- Burning of double-base propellants at low pressures. H. K. Acharya and V. M. Khanna. *Chem & Ind* p557-8 My 10 '58

- Calculated viscosity of a solid propellant rocket exhaust gas mixture. W. Gin. *bibliog Jet Propulsion* 28:127-8 F '58

- Chemical engineers and missiles. *il* *Chem Eng Prog* 54:133-5 Ja '58

- Combustion instability in solid propellant rocket motors. E. W. Price and J. W. Softeris. *il* *diags Jet Propulsion* 28:190-2 Mr '58

- Dilution of cryogenic liquid rocket propellants during pressurized transfer; conditions affecting the dilution of liquid oxygen with nitrogen and ways of preventing it. S. Greenfield. *il* *diags Aircraft Eng* 30:210-12 Jl '58

- Effect of high altitude conditions on atomization phenomena. C. C. Miesse. *bibliog Jet Propulsion* 28:335-7 My '58

- Effect of radical recombination kinetics on specific impulse of high temperature systems. K. A. Wilde. *bibliog Jet Propulsion* 28:119-20 F '58

- Erosive burning of a colloidal solid propellant. J. A. Vandekerckhove. *bibliog diag Jet Propulsion* 28:599-603 S '58

- Exotic fuels, now commercial scale. *il* *Chem & Eng N* 36:15-16 My 19 '58

- Factors which influence the suitability of liquid propellants as rocket motor regenerative coolants. D. R. Bartz. *bibliog*(35 ref) *Jet Propulsion* 28:46-53 Ja '58

- Fluorine to replace O₂? *Chem & Eng N* 36:32 S 8 '58

- For rockets, tried tactics win solid fuel; process flowsheet. C. H. Chilton. *il* *Chem Eng* 65:126-9 Ap 21 '58

PROPELLANTS—Continued

- Free radicals for high energy fuels. D. E. Carr and others. *diags Space/Aeronautics* 30:22-34 O '58
- Free radicals for propulsion. Y. C. Lee and S. T. Demetrescu. *S A E J* 66:60-2 Ag '58; *Abstract, Aircraft Eng* 30:237 Ag '58
- High energy fuels. G. Corfield. *Gas* 34:15 Ja '58
- High-energy fuels for aviation. R. A. Wells. *bibliog J Mech Eng* 80:55-9 S '58
- High-energy solid rocket fuels. *Engineering* 185:74 Ja 17 '58
- How about rocket fuels for gas turbines. C. C. Miesse and P. Lieberman. *diags Power Eng* 62:69 J1 '58
- How many new fuels? *Jl diag Product Eng* 29:14 F 24 '58
- How to estimate solid propellant rocket performance. S. Dobrin. *diags Aviation Age* 28:70-3 F '58
- Ignition of electrolytic monopropellants by submerged electrical discharge. M. W. Evans and others. *Jl diag Jet Propulsion* 28:255-6 Ap '58
- Liquid or solid propellants for ICBMs? W. Reinhardt. *Aviation Age* 28:200-1 Mr '58
- Liquid propellant rocket engine for Redstone. *Jl Elec Eng* 77:190-1 F '58
- Liquid rockets best for low cost drone propulsion. D. W. Childs. *Jl diags Space/Aeronautics* 30:48-54+ O '58
- Liquids vs solids; \$64,000 question of rocket development. K. R. Stehling. *Jl diags Aviation Age* 29:22-3, 90-1+ Je '58
- Market managers get ready for new sales outlets as metallic fuels become vital. *Steel* 142:95 Ap 14 '58
- Missiles; solid fuels win; abstract. W. M. Holaday. *Oil & Gas J* 66:121 My 19 '58
- Nike Ajax propellants. R. B. Canright. *S A E J* 66:40 Mr '58
- Nitrogen tetroxide characteristics; with tables and charts. *Aviation Age* 30:63-4 S '58
- Optimization of the N-step rocket with different construction parameters and propellant specific impulses in each stage. M. Subotowicz. *Jet Propulsion* 28:460-3 J1 '58
- Our part in exotic fuels; editorial. *Pet Refiner* 37:129+ Ap '58
- Oxygen as a propellant; abstract. S. T. Demetriades. *Jl Chem & Eng N* 36:48 Ap 21 '58
- Partners in propulsion; Stauffer and Aerojet, Calvery and Thiokol, Phillips and North American. *Jl Chem & Eng N* 36:28-9 Ja 20 '58
- Phillips Petroleum shoots for reliability and low cost propellant production. *Jl Stambler* *Jl Aviation Age* 28:112-16 F '58
- Possible fuels for Sputnik II. *Engineering* 184:64 N 22 '57
- Power engineering takes to space. *Jl Power Eng* 61:67-9 D '57
- Practical mathematical approach to grain design. M. W. Stone. *diags Jet Propulsion* 28:236-44 Ap '58
- Preparation and properties of unsymmetrical dimethylhydrazine. W. G. Strunk. *Jl Chem Eng Prog* 54:45-8 J1 '58
- Propellant explosives classification and the effect on field handling of missiles. W. F. Haite. *diag Jet Propulsion* 28:489-91 J1 '58
- Rocket fuels; solid or liquid? *Jl Product Eng* 29:23-4 Mr 10 '58
- Rocket propellant safety shower. *Jl Safety Maint* 115:41-2 Ja '58
- Rocket propellants. E. J. Thompson, Jr. *Jl Chem & Eng N* 36:62-7 Je 23 '58
- Role of high polymers in composite solid rocket fuels. J. M. McDermott. *Jl diag Rubber Age* 83:807-11 Ag '58
- Search for more powerful missile fuels. R. L. Noland. *Jl diags Chem Eng* 65:153-60 My 19 '58
- Shock tube as a tool for solid propellant ignition research. M. Summerfield and R. F. McAlevy. *3d, bibliog Jl diags Jet Propulsion* 28:478-81 J1 '58
- Solid and liquid rockets; a comparison. G. S. Sutherland. *diags S A E J* 66:48-54 J1 '58; *Abstract, Aircraft Eng* 30:238-9 Ag '58
- Solid-propellant rocket engine. C. R. Voris. *Jl diags S A E J* 66:45-6 My '58
- Solid propellants vie with liquids for rockets. H. W. Ritchey. *Jl Chem & Eng N* 35:78-82, cover N 11 '57
- Solid propellants X-rayed. *Chem & Eng N* 36:94 Mr 3 '58
- Some effects of charge configuration in solid propellant combustion. L. Green, Jr. *bibliog diags Jet Propulsion* 28:483-5 J1 '58
- Some properties of a simplified model of solid propellant burning. L. Green, Jr. *bibliog diag Jet Propulsion* 28:386-92 Je '58

- Studies of the decomposition mechanism, erosive burning, sonance and resonance for solid composite propellants; abstract. R. Schultz and L. Green, Jr. *Aircraft Eng* 30:235 Ag '58
- Unsymmetrical dimethylhydrazine in missile spotlight. *Jl Chem & Eng N* 36:30 S 1 '58
- What is the future for LOX? R. S. Kraemer. *Aviation Age* 29:196-7 My '58
- What powered Sputnik II? *Pet Eng* 29:E2-3 D '57

Testing

- Develop X-ray inspection for solid fuel. *Product Eng* 29:25 Mr 10 '58
- Some effects of oxidizer concentration and particle size on resonance burning of composite solid propellants. L. Green, Jr. *bibliog Jl Jet Propulsion* 28:159-64 Mr '58

PROPELLERS

- Cycloidal Voith-Schneider propulsion. E. C. Goldsworthy and A. B. Brown. *diags Am Soc Naval Eng J* 70:453-70 Ag '58
- Development of high-tensile aluminum-bronze alloys for marine propellers. F. Hudson. *Jl diags Am Soc Naval Eng J* 70:374-80 My '58
- Natural frequencies of shaft struts. S. R. Heller, Jr. *diags Am Soc Naval Eng J* 70:137-43 F '58
- Navy develops propeller for super-speed craft. *Jl Product Eng* 29:41 S 15 '58
- See also
- Airplane propellers

Bearings

- How stainless bearings are built-up. R. Schuster. *Jl Marine Eng/Log* 63:83 Mr '58

Maintenance and repair

- Old welding process cheats the sea; oxy-acetylene welding in the reconditioning and rebuilding of manganese-bronze marine propellers. L. L. Walker, Jr. *Jl Welding J* 37:225-30 Mr '58

Manufacture

- Cast large propeller with CO₂ process. *Jl Foundry* 86:96-4 Je '58
- Propeller casting speeded by new process; CO₂ process for quick hardening of mold sand. *Jl Marine Eng/Log* 63:70-1 My '58

Testing

- Effect of surface roughness on the performance of a model propeller; discussion. J. M. Ferguson. *Engineer* 205:575 Ap 18 '58

PROPIOLACTONE

- Debenzylation of S-benzyl-N-phthaloyl-L-cysteine chloride with aluminum halides; preparation of L- α -phthalimido-8-propiolactone. D. L. Smith and others. *bibliog Am Chem Soc J* 80:4654-7 S 5 '58

PROPIOLALDEHYDE**Spectra**

- Near ultraviolet absorption spectrum of propargyl aldehyde. J. A. Howe and J. H. Goldstein. *bibliog Am Chem Soc J* 80:4846-9 S 20 '58

PROPIONIC acid

- Absolute configuration of 8-hydroxy-8-phenylpropionic acid. R. Lukeš and others. *bibliog Chem & Ind* 95:27-8 My 3 '58
- Esters of 8-diazopropionic acid; a new synthesis of 8-aryloxypropionic acids. L. L. Braun and J. H. Looker. *bibliog Am Chem Soc J* 80:359-63 Ja 20 '58
- Reduction and benzylation by means of benzyl alcohol; a new synthesis of α , β -diarylpipronic acids and the corresponding nitriles. M. Avramoff and Y. Sprinzak. *bibliog Am Chem Soc J* 80:493-6 Ja 20 '58
- Separation of halogenated acetic and propionic acids by paper chromatography. J. W. Chittum and others. *bibliog Anal Chem* 30:1213-14 J1 '58
- Synthesis of propionic anhydride and propionic acid. R. E. Brooks and others. *bibliog diag Ind & Eng Chem* 49:2004-7 D '57

PROPIONIC anhydride

- Synthesis of propionic anhydride and propionic acid. R. E. Brooks and others. *bibliog diag Ind & Eng Chem* 49:2004-7 D '57

PROPIONITRILE

- Reduction and benzylation by means of benzyl alcohol; a new synthesis of α , β -diarylpipronic acids and the corresponding nitriles. M. Avramoff and Y. Sprinzak. *bibliog Am Chem Soc J* 80:493-6 Ja 20 '58

PROPORTIONING equipment

- A.B.C. Mankato's automatic batching control system. *Jl Concrete* 66:38-40 F '58
- Automatic coal proportioning system. *Jl diags Min Cong J* 44:65-6 J1 '58

PROPORTIONING equipment—Continued

Here are latest machines for updating your plant; proportioning. *il Food Eng* 30:71 U '58

New integrated chemical proportioner. *Franklin Inst J* 264:431 N '57

Probable accuracy in proportional pacing systems. *F. Russo, diags Am Water Works Assn J* 50:884-8 J1 '58

Treat your chemical feed pumps right. *El. R. Franklin, il Power* 102:112-15 F '58

PROPRIETARY association

Meeting. *Drug & Cosmetic Ind* 82:732-3+ Je '58

PROPYL iodide. See Iodopropane

PROPYLENE

Bromine number of propylene and butylene polymers. *J. C. S. Wood, bibliog Anal Chem* 30:372-5 Mr '58

Compressibility factors at low pressures. *H. W. Pfennig and J. J. McKetta, bibliog Pet Refiner* 36:309-12 N '57

High purity propylene. *J. A. Sherred and J. R. Fair, Chem & Eng N* 36:34 Ap 28 '58

Propylene cracks the polymer market. *J. W. Bradley and others, Chem Eng* 65:88+ F 24 '58

Propylene purity stressed. *Oil & Gas J* 56: 97 Ap 21 '58

Manufacture

Ethylene and propylene; Lummus co. flow diag *Pet Refiner* 36:245 N '57

Propylene tetramer; Universal oil products co. flow diag *Pet Refiner* 36:279 N '57

PROPYLENE carbonate

Quaternization kinetics; di-tertiary amines with butyl bromide in propylene carbonate. *L. Y. Chow and R. M. Fosse, bibliog Am Chem Soc J* 80:1095-100 Mr 5 '58

Solvent effects in the reactions of N-bromosuccinimide with toluene, fluorene and acenaphthene; evidence for a polar mechanism in propylene carbonate. *S. D. Ross and others, bibliog Am Chem Soc J* 80:4327-30 Ag 20 '58

PROPYLENE glycol

Stereochemistry and mechanism of reversible polymerization of 2,2-disubstituted 1,3-propanediol carbonates. *S. Sarel and L. A. Pohoryles, bibliog Am Chem Soc J* 80:4596-9 S 5 '58

PROPYLENE oxide

Propylene oxide for sterilizing powders. *W. W. Myddleton, Manuf Chem* 29:333-9 Ag '58

PROPYLENE

Ionization and dissociation of allene, propyne, 1-butyne, and 1,2- and 1,3-butadienes by electron impact; the $C_2H_2^+$ ion. *J. Collin and F. P. Lossing, Am Chem Soc J* 79: 5848-53 N 20 '57

Mass spectra of propyne and propyne- d_3 , and the appearance potentials of $C_2H_2^+$, $C_2H_3^+$ and equivalent deuterated ions. *J. Collin and F. P. Lossing, bibliog Am Chem Soc J* 80:1568-70 Ap 5 '58

PROSPECTING

Cut exploration costs with photogeology. *K. N. Isaacs, bibliog il map Min Eng* 10: 466-9 Ap '58

Heavy metal concentration in streams in North Angola. *D. J. Atkinson, bibliog maps Econ Geol* 52:652-67 S '57

History of mining exploration. Bathurst-Newcastle district, New Brunswick. *G. S. MacKenzie, bibliog map Can Min & Met Bul* 51:156-61 Mr '58

Metal mining geology; annual review. *E. H. Wissen, ed, bibliog (31 ref) il Min Eng* 10: 239-43 F '58

Mining geology in 1957. *P. J. Shenon, il Min Cong J* 44:60-3 F '58

Organization for exploration; geology department in a small mining company. *J. P. Pollock, il Min Cong J* 44:43-6 M '58

Use of leachable uranium in geochemical prospecting on the Colorado plateau. *H. D. Holland and others, bibliog maps diags Econ Geol* 52:546-69; 53:190-209 Ag '57, Mr '58

See also

Gas, Natural—Prospecting

Magnetic surveying

Mines and mineral resources

Petroleum—Prospecting

Water, Underground—Prospecting

Engineering applications

Bucket drill pinpoints aggregates in deposit for Glen Canyon dam. *J. M. Wells, il Rock Prod* 61:86-8+ J1 '58

Geophysical methods

Case history of the Juniper prospect; aerial electromagnetic prospecting. *S. H. Ward and R. A. Barker, bibliog maps diags Min Eng* 10:7 Ja '58

How aeroplanes speed mining progress; application of the aeroplane to exploration and mining. *il maps Eng & Min J* 159:77-83 Ja '58

How scientific exploration found Pima mine; Pima mining co. *J. B. Hutt, flow sheet Eng* 10:7 Eng & Min J 159:100-6 Mr '58

Prospecting by use of natural alternating magnetic fields of audio and sub-audio frequencies. *S. H. Ward and others, bibliog il diags Can Min & Met Bul* 51:487-94 Ag '58

Research and progress in exploration. *H. F. Dunlap and C. H. Johnson, il map diags Geophysics* 23:267-84 Ap '58

Response of dyke to oscillating dipole. *J. P. Wesley, bibliog diag Geophysics* 23:128-43 Ja '58

Role of geophysics in exploration in New Brunswick. *S. H. Ward, diags Can Min & Met Bul* 51:162-6 Mr '58

Tracing ore boulders as a prospecting method in Canada. *A. Dreimanis, bibliog (38 titles) maps Can Min & Met Bul* 51:73-80 F '58

See also

Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

See also

Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

See also

Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

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Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

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Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

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Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

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Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

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Petroleum—Prospecting—Geophysical methods

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Petroleum—Prospecting—Geophysical methods

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Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

See also

Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

See also

Petroleum—Prospecting—Geophysical methods

War, Underground—Prospecting—Geophysical methods

PROTEINS—Continued

- Electrophoresis and ultracentrifuge studies of milk proteins. H. Klostergaard and R. A. Pasternak, *bibliog diags Am Chem Soc J* 79:1671-6 N 5 '57
- Fractionation studies on the proteins of the groundnut (arachis hypogaea). W. E. F. Naismith and H. M. R. McDavid, *bibliog diags J Ap Chem* 8:605-10 S '58
- Heavy-atom dyes for crystallographic studies of proteins; a bis-azomethine complex of uranyl. M. V. King and V. H. Weil, *bibliog Am Chem Soc J* 80:2342-3 My 5 '58
- How lysine ups protein value of cereal foods. C. Felberg and C. P. Hetzel, *bibliog J Food Res* 30:110-11 Mr '58
- Incorporation of the amino acid moieties of amino acid-adenylic acid anhydrides into proteins. P. Castellfranco and others, *bibliog Am Chem Soc J* 80:2335 My 5 '58
- Influence of carboxylate on the utilization of rations containing soybean alpha-protein. U. D. Register and E. W. Peterson, *bibliog J Nutrition* 64:483-91 Mr '58
- Interactions of proteins with disulfide compounds; some implications for electron transport in proteins. I. M. Klotz and others, *bibliog diags Am Chem Soc J* 80:2132-41 My 5 '58
- Metal protein interactions in buffer solutions. M. S. N. Rao and H. Lal, *bibliog Am Chem Soc J* 80:3222-35 J1 5 '58
- Nutrition of salmonoid fishes; protein requirements of chinook salmon at two water temperatures. D. C. DeLong and others, *bibliog J Nutrition* 65:589-99 Ag '58
- Nutritional adaptation to low dietary intakes of calories, proteins, vitamins, and minerals in the tropics. C. I. Pathak, *Am J Clinical Nutrition* 6:151-8 *bibliog* (38 titles, p 157-8) Mr '58
- Nutritive value of bread flour proteins as affected by practical supplementation with lactalbumin, nonfat dry milk solids, soybean proteins, wheat gluten and lysine. H. W. Howard and others, *bibliog J Nutrition* 64:151-65 Ja '58
- Osmotic pressure, protein solutions and active transport. T. Hill, *Am Chem Soc J* 80:2923-6 Je 20 '58
- Oxidized fatty acid-protein complexes. K. A. Narayan and F. A. Kummerow, *bibliog Am Oil Chem Soc J* 35:52-6 Ja '58
- Protein digestion in vivo. J. D. Gupta and others, *bibliog J Nutrition* 64:447-56 Mr '58
- Protein metabolism in chronic infantile malnutrition (kwashiorkor). J. Craviotto, *bibliog Am J Clinical Nutrition* 6:495-503 S '58
- Raman spectra of amino acids and related compounds; various amino acids derived from proteins and creatine. D. Garfinkel, *bibliog Am Chem Soc J* 80:3227-31 Ag 5 '58
- Reactivity of sulfhydryl and disulfide in proteins; reactivity disulfide as related to viscosity and optical rotation in denatured bovine serum albumin. I. M. Klotz and others, *bibliog Am Chem Soc J* 80:3235-40 J1 5 '58
- Relationship of protein level to the minimum lysine requirement of the rat. R. Bressani and E. T. Mertz, *bibliog J Nutrition* 65:481-91 J1 '58
- Solubility and mechanism of dye-uptake in protein-dye salts. D. B. Wetlaufer and M. A. Stammann, *bibliog Am Chem Soc J* 80:1493-500 Mr 20 '58
- Some possible biological effects of an electric field acting on nucleic acids or proteins. T. L. Hill, *bibliog Am Chem Soc J* 80:2142-7 My 5 '58
- Steroid-protein interactions; comparison of spectrophotometric and equilibrium-dialysis procedures for determination of binding constants. U. Westphal and others, *bibliog Am Chem Soc J* 80:5135-8 O 5 '58
- Studies on the protein from groundnut protein spinning solutions. W. E. F. Naismith, *bibliog diags J Ap Chem* 8:518-22 Ag '58
- Study of the nutritive value of proteins from different sources in the feeding of African children. E. M. DeMaeyer and H. Vanderborght, *bibliog J Nutrition* 65:335-52 J1 '58
- Supplementation of diets with proteins and amino acids. N. W. Flodin, *bibliog diags Am J Pub Health* 48:1315-22 O '58
- Three Schiff base types formed by amino acids, peptides and proteins with pyridoxal and pyridoxal-5-phosphate. H. N. Christensen, *bibliog Am Chem Soc J* 80:99-105 Ja 5 '58

Weak electrolyte moving boundary systems analogous to the electrophoresis of two proteins. J. C. Nichol and others, *bibliog Am Chem Soc J* 80:2610-15 Je 5 '58

See also

Albumin
Casein
Collagen
Cystine
Gelatin
Hemoglobin
Keratin
Lipoproteins
Myoglobin
Myosin
Nucleoproteins
Thyropoteins

Analysis

- Determination of total protein in cerebrospinal fluid by an ultramicro-Kjeldahl nitrogen procedure. W. W. Tourtellotte and others, *bibliog diags Anal Chem* 30:1563-6 S '58
- Identification of selenomethionine in the proteins of *Escherichia coli* employing the chromatographic fingerprint method. T. W. Tuve and H. H. Williams, *Am Chem Soc J* 79:5830-1 N 5 '57
- Quantitative determination of serum proteins by paper electrophoresis. K. M. Formosa and others, *bibliog J Anal Chem* 29:1816-20 D '57

Denaturation

- Acid denaturation of the proteins of the groundnut (arachis hypogaea). W. E. F. Naismith and K. O. Kelly, *bibliog diags J Ap Chem* 8:598-605 S '58
- Kinetic and equilibrium measurements of the regeneration of acid-denatured horse ferrihemoglobin. J. Steinhart and others, *bibliog Am Chem Soc J* 80:4634-44 S 5 '58
- Pilot-plant development of the alkali-cooking process for cottonseed meals; quantitative effect of cooking variables on solubility of meal nitrogen. W. H. King and others, *bibliog Am Oil Chem Soc J* 35:46-9 Ja '58
- Reactivity of sulfhydryl and disulfide in proteins; oxidation with ferricyanide of sulfhydryl in native and denatured bovine serum albumin. I. M. Klotz and A. Anastasi, *bibliog Am Chem Soc J* 80:4248-50 Ag 20 '58

PROTOLICHESTERINIC acid

- Synthesis of di-protolichesterinic acid. E. E. van Tamelen and S. R. Bach, *bibliog Am Chem Soc J* 80:3079-86 Je 20 '58

PROTON synchrotron. See Synchrotron**PROTONS**

- Apparatus for measuring the energy spectra of mass-selected particles in coincidence with fission. R. E. Stokes and others, *bibliog diags R Sci Instr* 29:61-4 Ja '58
- Determination of proton affinity and bond dissociation energy by ion impact method. V. L. Talrose and E. L. Frankevitch, *Am J Chem Soc J* 80:2344-5 My 5 '58
- For surface studies reflected protons give a new look at chemical composition of surfaces. *J Ind & Eng Chem* 50:sup37A-8A+ Ag '58
- Magnetic resonance. G. E. Pake, *diags Sci Am* 199:58-64+ Ag '58
- Magnetic value redetermined; gyromagnetic ratio of the proton. *Electronics* 31:27 S 19 '58
- Photoproton scintillation spectrometer. A. Whetstone and others, *diags R Sci Instr* 29:415-19 My '58
- Proton serves as probe in magnetic field measurement. *J Machine Design* 30:10 S 4 '58
- Range of 14-mev protons in nuclear emulsion. F. C. Gilbert and others, *bibliog R Sci Instr* 29:404-5 My '58
- Stereochemistry of proton transfer reactions. H. E. Zimmerman and B. S. Thyagarajan, *bibliog Am Chem Soc J* 80:3060-4 Je 20 '58

See also

Neutrons

Beams

- Cosmotron external beam monitor. C. Brand and C. Swartz, *J diags R Sci Instr* 29:247-8 Mr '58
- Production of beams of polarized protons by the acceleration of protons derived from polarized hydrogen molecules. R. L. Garwin, *diags R Sci Instr* 29:374-6 My '58

PROTOPLASM

See also

Microsomes

PROTOZOA

Synthesis of some 2-amino-4-hydroxy-6-polyhydroxyalkyl pteridines which are active in supporting the growth of the protozoan crithidia fasciculata. E. L. Patterson and others. *bibliog* Am Chem Soc J 80:2018-20 Ap 20 '58

PROUSTITE

Synthetic proustite, Ag_3AsS_3 ; crystallographic data. J. H. Wernick and others. *Anal Chem* 30:303 F '58

PROVINCIAL associations of professional engineers

Engineering institute of Canada and the Provincial associations of professional engineers. *Eng J* 41:104-14 Mr '58

PROXIMITY limit switch. See Electric switch-gear**PSEUDOCUMENE**

Synthesis of durene from pseudocumene. J. G. Hendrickson and F. T. Wadsworth. *bibliog* Ind & Eng Chem 50:877-8 Je '58

PSEUDOMONAS

Effect of selected antibiotics on *Pseudomonas fluorescens*, *Pseudomonas fragi*, and *Pseudomonas putrefaciens*. C. D. Heather and C. Vanderzant. *Food Tech* 12:263-4 My '58

Pigments from a red strain of *Pseudomonas aeruginosa*. F. G. Holliman. *Chem & Ind* p 1668 D 28 '57

Production of calcium 2-ketogluconate by fermentation with species of *Pseudomonas*. V. F. Pfeifer and others. *bibliog* flow sheet *il Ind & Eng Chem* 50:1009-12 JI '58

Simultaneous determination of total count and fluorescent *Pseudomonads* in fresh meat and poultry. J. H. Silliker and others. *bibliog* Food Tech 12:255-7 My '58

PSEUDOMORPHS

Dahlite pseudomorphs after pyrite concretions from Big Horn basin, Wyo. R. S. Mitchell and W. C. Sherwood. *il Am Mineralogist* 43:600-3 My '58

PSEUDOSAPOGENINS

Steroidal sapogenins; effect of side chain isomerism on rate of conversion to pseudosaogenins. M. E. Wall and S. Serota. *bibliog* Am Chem Soc J 79:6481-3 D 20 '57

PSEUDOWAVELLITE. See Crandallite**PSEUDOWOLLASTONITE**

Uranium distribution in pseudowollastonite slag. E. Young and Z. S. Altschuler. *bibliog* *il Ind & Eng Chem* 50:793-6 My '58

PSITTACOSIS

Public health significance of psittacosis. F. K. Laurentz. *Ind Med* 27:175-6 Ap '58

PSORIASIS

Conference, New York. Drug & Cosmetic Ind 82:669 My '58

PSYCHIATRIC clinics

Evaluation of psychiatric consultation service for a public agency. L. Eisenberg. *bibliog* Am J Pub Health 48:742-9 Je '58

PSYCHIATRY, Industrial

Practical application of psychiatric techniques in industry. R. T. Collins. A M A Archives Ind Health 17:260-3 Je '58

Practical psychiatry in industry. R. H. Felix. A M A Archives Ind Health 17:614-19 Je '58

PSYCHOLOGICAL tests. See Ability tests**PSYCHOLOGISTS**

Role of the psychologist in industry. L. T. Robertson. A M A Archives Ind Health 18:110-12 Ag '58

PSYCHOLOGY

See also

Ability
Anxiety
Attitude (psychology)
Behavior (psychology)
Child study
Learning, Psychology of
Thought and thinking

PSYCHOLOGY, Experimental

Some applications of experimental psychology; abstract and discussion. N. H. Mackworth. *Chem & Ind* p456-8 Ap 19 '58

See also

Stimulus and response**PSYCHOLOGY, Industrial**

Case of the bad mixer. Z. M. T. Tarkowski. *bibliog* *diag Engineering* 185:11-12 Ja 3 '58

Place of psychology in operations research. G. D. Creelman and R. W. Wallen. *bibliog* Op Res 6:116-21 Ja '58

Proposed technique for assessing adjustment at work. J. G. Hipps. *Ind Med* 27:520-3 O '58

Psychologist in industry; role as seen by the psychiatrist in industry. J. MacIver. A M A Archives Ind Health 18:118-19 Ag '58

Psychologist looks at supervision; abstract.

J. W. Rohrer. *Tool Eng* 39:215-16 N '57

Psychology helps make good executives better. W. G. Loftin. *Elec Power Ind* 150:64-5 Ag 4 '58

Role for psychology in industry. J. C. Conant. A M A Archives Ind Health 18:113-17 Ag '58

PSYCHOLOGY of eating. See Eating, Psychology of

PSYCHROMETRIC charts. See Humidity

PTERIDINE

Incorporation of the C^{14} of adenine into a pteridine derivative by *eremothecium ashbyi*. W. S. McNutt and H. S. Forrest. *bibliog* Am Chem Soc J 80:951-2 F 20 '58

Isolation of a new pteridine from *eremothecium ashbyi* and some observations on its structure. H. S. Forrest and W. S. McNutt. *bibliog* Am Chem Soc J 80:739-43 F 5 '58

Pteridines; a synthesis of 2-aminopyrazine-3-carboxamides by reductive ring cleavage of 3-hydroxy-1-pyrazolo[5,1-b]pyrazines. E. C. Taylor and others. *bibliog* Am Chem Soc J 80:421-7 Ja 20 '58

Synthesis of some 2-amino-4-hydroxy-6-polyhydroxyalkyl-pteridines which are active in supporting the growth of the protozoan crithidia fasciculata. E. L. Patterson and others. *bibliog* Am Chem Soc J 80:2018-20 Ap 20 '58

PTEROYLGLUTAMIC acid. See Folic acid

PUBLIC buildings

Eisenhower proposals create new interest in federal lease-purchase program. Arch Forum 108:9 Mr '58

Public use; award citations. *il plans diag Prog Arch* 39:116-19 Ja '58

What kind of architecture for public buildings? Public buildings service of the General services administration. *il Arch Rec* 122:12-1 N '57

See also

Community centers
Courthouses
Embassy buildings
Hospitals
Municipal buildings
Municipal centers
Park buildings
Post offices

Air conditioning

Central heating-cooling system saves costs for group of nine buildings; Civic center buildings in Los Angeles. J. Joseph. *il diag Power Eng* 61:67-9 N '57

Here's how steam powers air conditioning in new City Hall. W. G. Moses. *il Heating-Piping* 29:113-16 N '57

Finance

Death blow for lease-purchase? no funds allotted for 1959. Arch Rec 123:386-7 My '58

Interest in federal lease-purchase program reviving as GSA accepts 4.74 to 5 per cent financing offers. Arch Forum 108:9-14 Je '58

Lease-purchase fails; GSA's revised program fails to attract bidders. Eng N 159:25 D 19 '57

Lease-purchase of federal office buildings halted, but Post Office plans a \$40 million program. Arch Forum 108:8-9 My '58

Maintenance and repair

Maintenance and operation of government buildings. C. A. Betts. Pub Works 83:106-8 Ag '58

PUBLIC health

Chemicals in food as a public health problem; editorial. Am J Pub Health 48:1066-8 Ag '58

Communicable disease and the public health; abstract. R. J. Anderson. Am J Pub Health 48:781-2 Je '58

Environmental health aspects of future metropolitan area complexes. M. D. Hollis. Am J Pub Health 48:484-8 Ap '58

Ferment in public health. J. W. Knutson. Am J Pub Health 47:1487-92 D '57

Growth of public services since 1932. N. Sinal. Am J Pub Health 48:993-5 Ag '58

Guns for residences in public health. Am J Pub Health 48:1407-11 O '58

Mutual goals of public health and occupational medicine. L. E. Burney. A M A Archives Ind Health 17:571-6 Je '58

Potential role of the dental hygienist in public health programs. M. H. Fales. Am J Pub Health 48:1054-8 Ag '58

Public health significance of psittacosis. F. K. Laurentz. *Ind Med* 27:175-6 Ap '58

PUBLIC health—Continued

Public philosophy in public health. J. S. Prince. bibliog Am J Pub Health 48:903-12 JI '58

Radiation, a major public health problem. E. F. Mattison. Am J Pub Health 48:5-8 Ja '58

Residues of pesticides in foodstuffs; pesticide residues and public health. E. F. Edson. bibliog Chem & Ind p694-9 Je 14 '58

Some aspects of multidisciplinary professions. L. J. Reed. Am J Pub Health 48:1-4 Ja '58

See also

Air pollution

Dental service

Health education

Infectious diseases

Influenza

Insurance, Health

Insurance, Life—Health conservation service

Lasker, Albert and Mary, foundation

Medical service

Mental diseases

Mortality—Statistics

Mosquitoes—Extermination

Refuse disposal

Safety devices and measures

Sanitary engineering

Sanitation

Sedgwick memorial award

Sewage disposal

United States—Public health service

Water pollution

Water purification

Watersheds—Protection

World health organization

Bibliography

Selected public health bibliography with annotations. R. S. Patterson. Published in monthly numbers of American journal of public health

International aspects

Future of health education in the light of the concept of the interdependence of nations. T. H. Butterworth. Am J Pub Health 48:1031-6 Ag '58

Maternal and child health in the developing countries; progress, problems and promise. J. M. Bierman. bibliog Am J Pub Health 48:388-97 JI '58

Medical care programs in other countries; symposium. bibliog Am J Pub Health 48:425-53 Ap '58

Retreat of the mass diseases; editorial. Am J Pub Health 48:232-4 F '58

World-wide malaria eradication. F. Russell. bibliog Ind Med 27:378-83 Ag '58

Bibliography

Bookshelf on international health. J. J. Hanlon. Am J Pub Health 48:413-24 Ap '58

Statistics

Applications of order statistics to health data. B. G. Greenberg and A. E. Sarhan. bibliog Am J Pub Health 48:1388-94 O '58

Study and teaching

Contribution of the graduate school of public health; plans for the future. E. L. Stebbins. Am J Pub Health 47:1608-12 D '57

Boston

Prenatal care in metropolitan Boston. L. S. Rosenfeld and A. Donabedian. bibliog Am J Pub Health 48:1115-24 S '58

British Guiana

Use of a portable tissue culture laboratory in a field study of tropical poliomyelitis. J. L. Melnick. bibliog Am J Pub Health 48:1170-80 S '58

California

Attitudes of Californians toward poliomyelitis vaccination. M. H. Merrill and others. bibliog Am J Pub Health 48:146-52 F '58

California resolves jurisdictional problems in occupational health. A. C. Blackman and H. R. James. A M A Archives Ind Health 17:188-91 Mr '58

Canada

Problem in voluntary insurance; some answers from the Windsor experience. B. J. Darsky and others. Am J Pub Health 48:971-8 Ag '58

China

Outbreak of influenza-like disease in the Chinese army medical college in 1941. C. P. Li. bibliog Am J Pub Health 48:760-4 Je '58

Colorado

Prevalence of heart disease in relation to some population characteristics of Colorado school children. H. J. Dodge and others. Am J Pub Health 48:62-70 Ja '58

Reciprocal benefits from combining academic pediatrics with the child health programs of a health department. J. A. Lichty. bibliog Am J Pub Health 48:898-902 JI '58

Cuba

Nutrition status survey of the sixth grade school population of Cuba. N. Jolliffe and others. map J Nutrition 64:355-98 bibliog(p396-8) Mr '58

Great Britain

Milk hygiene in Great Britain. H. Burrow. Am J Pub Health 48:454-7 Ap '58

Public health administration in the United States and England; Baltimore and Birmingham compared. H. Paul. Am J Pub Health 47:1399-404 N '57

Idaho

ECHO viruses from Idaho and Montana. R. A. Ormsbee and E. J. Bell. bibliog(30 titles) Am J Pub Health 47:1405-13 N '57

Israel

Incidence of abortion among Jewish women in Israel. H. S. Halevi and A. Brzezinski. bibliog Am J Pub Health 48:615-21 My '58

Japan

Silicosis in Japan; history and tradition. M. Suzuki. bibliog Ind Med 27:172-4 Ap '58

Mexico

Progress toward malaria eradication in the Americas with special reference to Mexico. D. J. Pletsch. Am J Pub Health 48:713-16 Je '58

Montana

ECHO viruses from Idaho and Montana. R. A. Ormsbee and E. J. Bell. bibliog(30 titles) Am J Pub Health 47:1405-13 N '57

New York (city)

Comparison of coronary artery disease (arteriosclerotic heart disease) deaths in health areas of Manhattan. A. P. Kent and others. Am J Pub Health 48:200-7 F '58

Comparison of prematurity and perinatal mortality in a general population and in the population of a prepaid group practice, medical care plan. S. Shapiro and others. Am J Pub Health 48:170-87 F '58

New York (state)

Knowledge and utilization of health resources by public assistance recipients; study made in Syracuse. I. J. Brightman and others. Am J Pub Health 48:188-99, 319-27 F-Mr '58

Social stratification and health practices in child-bearing and child-rearing. A. Yanikauer and others. bibliog Am J Pub Health 48:732-41 Je '58

North America

Current views on the North American arthropod-borne virus problem. M. Schaeffer and others. bibliog maps Am J Pub Health 48:336-43 Mr '58

North Carolina

Sampling and screening problems in a rheumatic heart disease case-finding study. E. A. Gehan. Am J Pub Health 48:1335-41 O '58

Ohio

How Ohio is solving the alfalfa dust problem. R. D. Schafer. diag A M A Archives Ind Health 17:67-9 Ja '58

Panama

Valerio's story; special picture story. Am J Pub Health 48:498-502 Ap '58

Puerto Rico

Epidemic of typhoid fever in Ponce, Puerto Rico; abstract. A. T. Masi and R. A. Timothee. Am J Pub Health 48:787-8 Je '58

Russia

Public health in foreign periodicals. G. Rosen. Am J Pub Health 48:373-6 Mr '58

Public health in foreign periodicals; Soviet public health and medicine in the fifth Five-year plan. G. Rosen. Am J Pub Health 48:795-7 Je '58

Public health inside the U.S.S.R. T. Parran. Am J Pub Health 48:610-14 My '58

PUBLIC health—Continued

United States

- Arthropod-borne encephalitis in the U.S.A. A. W. Donaldson. bibliog Am J Pub Health 48:1307-14 O '58
- Concept of illness in the household interview for the U.S. national health survey. T. D. Woolsey. Am J Pub Health 48:703-12 Je '58
- Morbidity and mortality from economic poisons in the United States. B. E. Conley. diags A M A Archives Ind Health 18:126-33 Ag '58
- Self-analysis and change in public health; editorial. Am J Pub Health 48:230-2 F '58
- Should the premarital blood test be compulsory? A. W. Hedrich and C. Silverman. bibliog Am J Pub Health 48:126-32 F '58
- Tetanus in the United States; a review of the problem. N. W. Axnick and E. R. Alexander. bibliog (34 titles) map Am J Pub Health 47:1493-501 D '57

PUBLIC health, Rural

- Contract public health services for rural counties; a new approach to an old problem. J. C. Dement and G. F. O'Brien. Am J Pub Health 47:1414-20 N '57
- Research program at the Institute of agricultural medicine, University of Iowa medical school; abstract. R. A. Tjalma. Am J Pub Health 48:790-1 Je '58
- Zoonoses in their relation to rural health; abstract. K. F. Meyer. Ind Med 27:401 Ag '58

PUBLIC health administration

- Administrative phases of a child amputee program. C. Dean. Am J Pub Health 48:750-3 Je '58
- Attitudes and reactions of the public to health programs. S. M. Wishik and others. Am J Pub Health 48:139-52 F '58
- Critique of community public health services. bibliog Am J Pub Health 47:1-48 pt 2 N '57
- Public health administration in the United States and England; Baltimore and Birmingham compared. H. Paul. Am J Pub Health 47:1399-404 N '57
- Research and public health practice. E. G. McGavran. Am J Pub Health 48:348-52 Mr '58

See also

- Public health departments
- Sanitary districts
- United States—Public health service
- PUBLIC health association. American. See American public health association
- PUBLIC health departments
- Dental manpower and the public's health; the role of the state health agency. W. O. Young. Am J Pub Health 48:46-50 Ja '58
- Program planning for radiological health. H. E. Hilleboe and A. Rihm, jr. Am J Pub Health 48:965-70 Ag '58
- Televise that annual report; make it an educational tool for health department and the community. S. R. Christensen. Am J Pub Health 48:918-21 J '58

Records

- Development, application, and evaluation of the Wayne county public health nursing record system, with an analysis of the statistical method used. A. G. Krause and I. R. Vaughn. II Am J Pub Health 48:1364-75 O '58
- Role and use of codes for compiling service statistics. J. J. Freysinger and F. M. Hemphill. Am J Pub Health 48:1359-63 O '58
- PUBLIC health education
- Consistencies in the preparation and work of public health educators. R. A. Bowman. bibliog Am J Pub Health 48:219-28 F '58
- Manpower problem in health work; ten years of WHO training activities. M. G. Candau. Am J Pub Health 48:555-60 My '58

See also

- Public health—Study and teaching
- PUBLIC health laboratories
- Does the public health laboratory have a role in mental illness? L. Buchbinder and A. R. Ferguson. Am J Pub Health 48:473-83 bibliog (p481-3) Ap '58
- PUBLIC health laws
- See also
- Milk supply—Laws and regulations
- Water laws and regulations
- Waterworks—Laws and regulations
- PUBLIC health nurses and nursing. See Nurses and nursing, Public health

PUBLIC health research

- Bacteriological and epidemiological studies of pulmonary diseases associated with atypical acid-fast bacilli. A. V. Hardy and others. Am J Pub Health 48:754-9 Je '58
- Committee on research policy. bibliog Am J Pub Health 48:503-7 Ap '58

- Health department research in community mental health. J. C. Glidewell and H. R. Donke. bibliog Am J Pub Health 48:362-8 Mr '58
- Removing some roadblocks to mental health research; editorial. Am J Pub Health 47:1569-70 D '57
- Research and public health practice. E. G. McGavran. Am J Pub Health 48:348-52 Mr '58

- Research by local health departments; problems, methods, results. G. James. bibliog Am J Pub Health 48:353-61 Mr '58
- Research in human reproductive wastage; implications for public health. J. Whitridge, jr. bibliog Am J Pub Health 48:22-8 Ja '58
- Research in reproductive wastage. G. W. Anderson. bibliog (56 titles) Am J Pub Health 47:1542-51 D '57

- PUBLIC health service. See United States—Public health service

PUBLIC health surveys

- Community survey to determine the need for a child health conference. A. Jensen. Am J Pub Health 48:765-70 Je '58
- Concept of illness in the household interview for the U.S. national health survey. T. D. Woolsey. Am J Pub Health 48:703-12 Je '58

- Follow-up in community chest film surveys. H. Bauer. Am J Pub Health 48:344-7 Mr '58
- Sampling and screening problems in a rheumatic heart disease case-finding study. E. A. Gehan. Am J Pub Health 48:1335-41 O '58

- Social stratification and health practices in child-bearing and child-rearing. A. Yankauer and others. bibliog Am J Pub Health 48:732-41 Je '58

- X-ray case-finding programs in tuberculosis control. Ind Med 27:298-9 Je '58

PUBLIC health workers

- Interpersonal relations institute in mental health education; method and evaluation. H. M. Forstenzer and others. bibliog Am J Pub Health 48:837-43 J '58
- Manpower; the Achilles' heel in public health. H. Ennes. Am J Pub Health 47:1390-8 N '57

See also

- Nurses and nursing, Public health
- PUBLIC lands
- See also
- Oil reserves (United States navy)
- PUBLIC officials
- Businessmen; go to Washington. Chem & Eng N 36:36 Je 2 '58
- PUBLIC opinion polls
- This is you! findings of the Purdue opinion panel show that teenagers see scientists in this light. Power Ind 74:11-4 Ap '58
- PUBLIC power association. American. See American public power association

PUBLIC relations

- Agricultural public relations; Nitrogen division of Allied chemical corp. J. D. Waugh. J Agri & Food Chem 6:436-9 J '58
- Industrial public relations in pollution abatement. W. F. Bixby. Sewage & Ind Wastes 30:921-7 J '58
- Mr & Mrs Public are watching your safety program! S. M. MacCutcheon. Safety Maint 115:13-4 Ap '58
- Selling your company and your industry. Coal Age 63:74-82+ Mr '58
- Three sides to the public relations triangle; Riegel textile corp. M. B. Eubanks. Am Dyestuff Rep 47:157-9 Mr 10 '58

See also

- Advertising; Institutional
- Architects—Public relations
- Chemical industries—Public relations
- Gas companies—Public relations
- Oil companies—Public relations
- Petroleum industry and trade—Public relations
- Sand and gravel plants—Public relations
- PUBLIC roads. Bureau of. See United States—Public roads. Bureau of
- PUBLIC speaking
- Can you furnish a speaker? II Chem & Eng N 35:85-7 D 30 '57
- Let them see what you're talking about. L. P. Murphy. II Chem & Eng N 36:67-70 Ja 20 '58

- To sell a plant engineering project, speak effectively. B. W. Wombacher. Plant Eng 12:90-2 J '58

PUBLIC utilities

- See also
- Electric utilities
- Gas, Natural—Pipe lines
- Gas companies
- Petroleum pipe lines
- Pipe lines as common carriers
- Telephone
- Waterworks

PUBLIC utilities—Continued**Accounting**

Electronic accounting in public utilities. F. Twohy. *Am Water Works Assn J* 50:537-43 Ap '58

Mechanized utility accounting brings simplified, accurate results. E. B. Talcott. *Il Pub Works* 89:116-17 Je '58

See also

Electric utilities—Accounting
Gas companies—Accounting
Telephone companies—Accounting
Waterworks—Accounting

Advertising

98 utilities win PUAA awards. *Gas Age* 122:41 Jl 10 '58

See also

Electric utilities—Advertising
Gas industry—Advertising

Appliance selling

See also
Electric utilities—Appliance selling
Gas companies—Appliance selling

Costs

See also
Electric utilities—Costs
Gas companies—Costs

Equipment and supplies

See also
Motor trucks in repair service

Finance

See also
Electric utilities—Finance
Gas companies—Finance

Laws and regulations

California regulations for red lights on utility vehicles. S. K. Martin. *Am Water Works Assn J* 50:495-6 Ap '58

Responsibility for utility relocation during improvements and expansions of highway systems. R. P. Heywood. *Water & Sewage Works* 105:371-3 S '58

See also

Electric utilities—Laws and regulations
Eminent domain
Gas, Natural—Laws and regulations
Waterworks—Laws and regulations

Management

See also
Electric utilities—Management
Gas companies—Management
Waterworks—Management

Public relations

See also
Electric utilities—Public relations
Electric utilities—Service
Gas companies—Public relations
Waterworks—Public relations

Rates

See also
Electric rates
Gas, Natural—Rates
Water rates

Securities

See also
Electric utilities—Securities

Taxation

See also
Electric utilities—Taxation

Missouri

Suit challenging Missouri anti-strike law under advisement by state court. *Gas Age* 121:20 Mr 20 '58

PUBLIC welfare

Knowledge and utilization of health resources by public assistance recipients; study made in Syracuse. I. J. Brightman and others. *Am J Pub Health* 48:188-99, 319-27 F-Mr '58

PUBLIC works

Equipment and materials for your public works program. Published in monthly numbers of Public works

Planned public works reservoir computed at \$1 billion. J. C. Hazeltine. *Arch Rec* 124:358-9 S '58

Public works engineering data. Published in monthly numbers of Public works

See also

American public works association
Aqueducts
County engineering
Earthquakes and public works
Highway departments
Sewage disposal

Bibliography

Books in brief. Published in monthly numbers of Public works

Federal aid

Advances for public works planning. J. C. Hazeltine. *Pub Works* 89:148-9 My '58

Congress battles an economic downturn. *Eng N* 160:21-2 Mr 27 '58

Congress fills construction's till. *Eng N* 161:21-2 Ag 28 '58

Federal construction outlays may be cut. *Eng N* 161:23 Ag 21 '58

Federal public works spending speeded. *Arch Forum* 108:47 Ap '58

How much will U.S. use public works construction as anti-recession tool? *Arch Rec* 123:32-4 Ap '58

It's public works vs. tax cuts with construction debated as recession cure. *Eng N* 160:21-2 Mr 20 '58

Public works loans hit new high. *Eng N* 161:24 Ag 14 '58

Sputnik, Muttink to crimp public works. *Eng N* 159:23 N 21 '57

White House role in public works; Gen. John S. Bragdon, first special assistant to coordinate public works planning. *Eng N* 161:21-2 Ag 21 '58

Finance

Budget message: decreasing emphasis on federal aid and credit programs. E. Mickel. *Arch Rec* 123:30 F '58

Eisenhower budget calls for federal construction outlays to rise 15 per cent. *Arch Forum* 108:43-4 F '58

\$614 million in bonds okayed by voters; with table. *Eng N* 159:29-30 N 14 '57

See also

Roads—Finance
Sewerage—Finance
Waterworks—Finance

Laws and regulations

Legal aspects of public works. M. Nord. Published in monthly numbers of Public works

Statistics

Construction forecast, 1958; even higher dollar volume. Concrete 66:22-6-4 F '58

Top public works volume offset by private totals; 1957 showing declines. *Pit & Quarry* 50:42 F '58

Canada

Government works; federal, provincial, municipal. *Il Eng J* 41:129-32 Ap '58

PUBLIC works association, American. *See* American public works association

PUBLIC works departments

Fire prevention and fire fighting for the public works department. D. E. Magness. *Pub Works* 89:168-9 F '58

Radio communication

Conservative New England city goes on the air. J. F. Daniels. *Il diag Pub Works* 88:116-17-4 D '57

New F.C.C. ruling eases municipal radio problems. *Il Pub Works* 89:186 Ag '58

Two-way radio saves time and money for Public works dept. P. Hirsch. *Il Pub Works* 89:105-6 My '58

PUBLICITY

How public relations helps sell Bristol-Myers products. J. L. MacWithey. *Il Drug & Cosmetic Ind* 82:325-4 Mr '58

Mort control public relations program under way. *Il Soap & Chem Spec* 34:131-3-4 My '58

PUBLISHING

See also

Book industry and trade
PUBLISHING buildings

Electric equipment

Ways to squeeze in more electric power; McGraw-Hill building. N. Peach. *Il diag Power* 101:81-3 N '57

PUERTO RICO

See also subdivision Puerto Rico under special subjects, e.g.

Electronics industry
Hygiene, Industrial
Metal working industries
Petroleum industry and trade
Petroleum laws and regulations
Technical education

PULFRICH, Carl

Sketch. E. S. Barr. *por Am J Phys* 26:116-17 F '58

PULLERS

How to use hydraulic puller. *il Power* 102:142
Ja '58

PULLEYS

Variable-speed pulley. *diag Engineering* 186:
165 Ag 8 '58
See also
Sheaves

PULP. See Wood pulp

PULP and paper industry. Technical association of the. See Technical association of the pulp and paper industry

PULP mills. See Paper and pulp mills

PULPWOOD. See Wood pulp

PULPWOOD holding grounds. See Lumber handling

PULSE code modulation. See Radio pulse code modulation

PULSE generators

Analysis of nonresonant charging circuit for magnetic pulse generator. N. L. Weinberg. *bibliog diags Com & Electronics* p271-7 J '58

Apparatus for the measurement of the velocities of sonic pulses in flawed materials. R. F. Seaborn and N. B. Terry. *bibliog il diags Brit Inst Radio Eng J* 18:371-80 Je '58

Magnetic pulse generators. J. E. Sunderlin and M. L. Weinberg. *il diags Elec Manuf* 61:139-43 My '58

Magnetic pulse generators; abstract. D. W. R. Sewell. *Brit Inst Radio Eng J* 18:135 F '58

Millimicrosecond pulse generator; equipment for transient tests on wide-band networks. O. H. Davie. *il diags Electronic & Radio Eng* 35:332-5 S '58

Millimicrosecond pulses in the millimeter wave region. C. A. Burrus. *bibliog il diags R Sci Instr* 28:1062-5 D '57

Neon pulser for the computer laboratory. R. L. Ives. *diags Electronic Ind* 17:98-100 Ap '58

Pulse-and-bar waveform generator for testing television links. I. F. Macdiarmid and B. Phillips. *bibliog il diags Inst E E Proc* 105 pt B:440-8 S '58

Pulse generator based on high shock demagnetization of ferromagnetic material. R. W. Kulterman and others. *diags J Ap Phys* 29:500-1 Mr '58

Pulse modulator works into variable load. R. S. Ringland. *il diag Electronics* 31:102-3 S 12 '58

Pulsed X-ray may aid cancer fight. R. W. Trellarne and others. *il Electronics* 31:58+ Ja '58

Saturable reactors fire radar magnetrons. H. E. Thomas. *il diags Electronics* 31:72-5 My 9 '58

Transistor monostable multivibrators for pulse generation. J. J. Suran. *il diags Inst Radio Eng Proc* 46:1260-71 Je '58

Transistor pulse generators for time-division multiplex. R. W. Cattermole. *diags Inst E E Proc* 105 pt B:471-9; Discussion. 479-81; Reply. 481-2 S '58

Versatile pulse pattern generator. P. H. Cutler and L. R. Peters. *il diags Electronic Eng* 30:39-42 Ja '58

PULSE techniques (electronics)

Accurate measurement of a time interval. A. E. Cawwell and H. Ristad. *diags Electronic Eng* 30:502-3 Ag '58

Analysis of current pulses; application to rectifiers and class C amplifiers. R. G. Heymann. *diags Electronic & Radio Eng* 35:165-7 My '58

Apparatus for producing and measuring high-energy electrical discharges. W. E. Richardson. *bibliog il diags R Sci Instr* 29:99-104 F '58

Cathoguard; wideband amplifier of improved rise time. L. G. White. *il diags Wireless World* 64:312-13 J '58

Converting pulse and coded data into usable output signals. H. W. Mergler. *bibliog diags Control Eng* 5:146-52 S '58

Duplexer for sweep-frequency pulse transmitters. R. Silberstein. *diags Electronic Ind & Tele-Tech* 16:supp 2-3+ O '57

Electrical pulses meter engine fuel. *diag Machine Design* 29:99 O 31 '57

Ergometer measures bursts of energy. L. A. Rosenthal. *il diags Electronics* 31:79-81 J 6 '58

Fast gray wedge analyzer for high input rates. J. T. Flynn and F. A. Johnson. *diags R Sci Instr* 28:867-74 N '57

High-speed microwave switching of semiconductor. R. V. Garver and others. *diags J Ap Phys* 28:1335-8 N '57

High-speed pulse amplitude discriminator in fast counting systems. F. J. M. Farley. *diags R Sci Instr* 29:595-6 J '58

Influence of wall losses on pulse propagation in wave guides. R. Gajewski. *il J Ap Phys* 29:32-4 Ja '58

Latching counters. W. P. Anderson and N. A. Godel. *diags Electronic & Radio Eng* 35:362-7, 425-36 O-N '58

Measurement of transistor voltage-current characteristics using pulse techniques. B. J. Cooper. *diag Electronic Eng* 30:440-1 J '58

Method for measuring rise and decay times. T. A. Harwood and O. E. Kruse. *diag Am J Phys* 26:191-2 Mr '58

Millimicrosecond photomultiplier tests with oscilloscope light pulses. J. E. Draper. *R Sci Instr* 29:179-80 F '58

Nuclear resonance pulse apparatus; nuclear spin relaxation times measured. J. C. Buchta and others. *bibliog diags R Sci Instr* 29:55-60 Ja '58

Positive-ion effects in pulsed electron beams. J. T. Senise. *bibliog diags J Ap Phys* 29:839-41 My '58

Production of millimicrosecond pulses by radio-frequency sweeping of the ion beam in the terminal of an electrostatic accelerator. C. M. Turner and S. D. Bloom. *bibliog il diags R Sci Instr* 29:480-7 Je '58

Propagation of a pulse across a coast line. J. T. Wait. *diag Inst Radio Eng Proc* 45:1550-1 N '57

Pulse counter f.m. receiver. M. G. Scroggie. *diags Wireless World* 64:181-3 Ap '58

Pulse-type frequency measurement; apparatus for the checking of crystal oscillators. J. C. Muller. *diags Wireless World* 64:83-5 F '58

Pulsed-voltage method for 2-25 mev neutron spectroscopy. J. E. Draper. *bibliog diags R Sci Instr* 29:137-42 F '58

Pulsing of photomultipliers. U. Farinelli and R. Malvano. *il diags R Sci Instr* 29:699-701 Ag '58

Room-top-target tubes pulse X-rays. E. F. Weller. *diags Electronics* 31:138-9 Mr 14 '58

Sampling oscilloscope for statistically varying pulses. R. Sugarman. *bibliog il diags R Sci Instr* 28:933-8 N '57

Sensitive measurement of pulse-amplifier gain. K. McCollum and others. *diags Nucleonics* 16:74-6+ Ja '58

Simplified design of pulse-forming networks; reference sheet. K. H. Recorr. *diag Electronics* 31:94 Ag 1 '58

Statistical description of coincidences among random pulse trains. S. Stein and D. Johansen. *diag Inst Radio Eng Proc* 46:827-30 My '58

Transistorized vehicle speedmeter. D. R. Ollington. *il diag Electronic & Radio Eng* 35:322-4 S '58

Versatile stimulator for neurophysiological research. R. H. Kay and others. *diags Electronic Eng* 30:575-8 O '58

Word generator for digital testing. R. R. Hartel. *il diag Electronics* 31:71 F 28 '58

See also

Chronotron

Phantatron (delay circuit)

PULSE time modulation. See Radio pulse time modulation

PULVERIZED coal firing. See Boilers—Pulverized coal firing

PULVERIZED coke firing. See Boilers—Pulverized coke firing

PULVERIZERS

Air-stream pulverizers. *diag Comp Air Mag* 63:22 Mr '58

Grind pigments with sand. *Chem & Eng N* 35:61 N 25 '57

Mill rounds out vendor's line; Strong-Scott's new unit pulverizer. *diags Chem Eng* 64:190 D '57

One half micro milling; Sturtevant mill co. *il Drug & Cosmetic Ind* 82:213+ F '58

Size reduction of dried pellets containing serrata marcescens; high-speed centrifugal mill pulverizes dried microorganisms used in aerosol production and testing. V. F. Pfeiffer and others. *bibliog il diags Ind & Eng Chem* 50:627-32 Ap '58

When you crush and pulverize coal. U. B. Yeager. *il Power Eng* 62:61-4+ J '58

See also

Ball mills

PUMICE

Pumice firm builds on solid base; Central Oregon pumice co. *il Rock Prod* 60:96+ D '57

PUMPING

Kneading motion of cam-driven fingers to produce positive pumping action, *il* diags Machine Design 29:119 N 14 '57

See also

Petroleum—Pumping
Pumping stations
Pumps
Sewage pumping

Tables, calculations, etc.

Comparing pump power requirements, S. Ellis, *diags* *Ap Hydraulics* 11:100+ *Ap* '58

PUMPING machinery

Auxiliary water pumping units, *Water Works* Eng 111:663+ *Jl* '58

Electric and manual bypass valves give variable output from constant-speed pump; mobile plastering machine, *il* *diag* Machine Design 30:124 *Ap* 17 '58

Hydraulic pumping ram, *diag* *Water & Sewage Works* 103:1331 S 15 '58

Mobile pumping units assure water while lines are laid, *il* *Pub Works* 89:132 *Je* '58

Pumping plant provides last link in floodwall at Louisville, H. J. Meeker, *il* *Pub Works* 89:80-8 *F* '58

Supercooling pump, *il* *Steel* 142:100 *My* 5 '58

See also

Gasoline pumps
Petroleum—Pumping
Petroleum pipe lines—Pumping stations
Pumping stations
Pumps
Sewage pumping
Vacuum pumps

Control

Flying signals control remote pumps; microwave radio system, *Olin Mathieson chemical corp.*, *il* *Plant* Eng 12:122-3 *Mr* '58

Microwave controls supply of plant water; *Olin Mathieson chemical co.*, *il* *diag* *Chem* Eng 65:68+ *Ap* 7 '58

Telemetering and remote control by the Long Island water corp., S. C. McLendon and M. Zihal, *diag* *Am Water Works Assn J* 49: 1371-7 N '57

Safety measures

Adding a factor of safety to water pumping capacities, K. R. Knowlton, *il* *map* *Water Works* Eng 111:658-60+ *Jl* '58

Hollow plungers are dynamite, J. B. Murphy, *il* *diag* *Power* 101:122-3 N '57

PUMPING machinery, Electric

Alternative sources of power for water utility pumping stations, E. Farmer, *Am Water Works Assn J* 50:1297-305 *O* '58

Automatic refuse pumping, *il* *diags* *Coal Age* 62:72-3 N '57

Canned motor, pump works well for boiler circulation duty, J. R. Slack, *il* *Elec* *World* 148:78 D '57

Close-coupled pump-motor, J. A. Morrison, *il* *Ap Hydraulics* 11:94+ *Ap* '58

Holman high performance pump, *il* *Engineering* 185:133 *Ja* 31 '58

How to organize your new power plant; starting and running your condenser's circulating-water system, D. Swift, *Power* 102:84-5+ *Ja* '58

Modern trends in waterworks pumping machinery, T. I. Hudson, *il* *diags* *Inst Mech* Eng Proc 171 no 21:647-56, pl 1-6; Discussion, 657-65; Reply, 666-7 '57

Removing water hyacinths from settling tank by pumping, *il* *Pub Works* 88:134 N '57

Selecting motors for fans and centrifugal pumps; nomogram, C. G. Veinott, *Product* Eng 28:H8-9 Mid-O '57

Two-mile cooling-water circuit avoids recirculation at Memphis, D. H. Kregg and S. J. Weston, *il* *diag* *Power* 102:100-1 *Mr* '58

See also

Petroleum—Pumping, Electric
Petroleum pipe lines—Pumping stations, Electric
Pumps, Submersible

Control

Electrical supervisory controls, M. H. Schroeder, *il* *Water & Sewage Works* 104:512-13 N '57; Same cond. *Am Water Works Assn J* 49:1387-8 N '57; Same cond. *Pub Works* 89:109 *F* '58

Special control for pumping station, *il* *diag* *Elec Constr & Maint* 57:136+ *O* '58

Telemeter controls operate 23-well system, *il* *Pub Works* 88:111-12 N '57

PUMPING machinery, Portable

Portable pumps save money, *il* *Oil & Gas J* 56:103 *Mr* 24 '58

PUMPING stations

Modern trends in waterworks pumping machinery, T. I. Hudson, *il* *diags* *Inst Mech* Eng Proc 171 no 21:647-56, pl 1-6; Discussion, 657-65; Reply, 666-7 '57

Pumping requirements for leveled agriculture areas; with cost data, H. W. Adams, *Am Soc C E Proc* 83 (IR 1 no 12361:1-23 *My* '57; Discussion, G. R. Williams, 83 (IR 2 no 13771:3-4 S '57; Reply, 84 (IR 2 no 16151:3-4 *Ap* '58

Telemeter controls operate 23-well system, *il* *Pub Works* 88:111-12 N '57

Telemetering and remote control by the Long Island water corp., S. C. McLendon and M. Zihal, *diag* *Am Water Works Assn J* 49: 1371-7 N '57

See also

Petroleum pipe lines—Pumping stations
Sewage pumping
Waterworks

Design

Flow characteristics of a multiple-cell pump basin, W. L. Dornaus, *bibliog* *il* *diags* *A S M E Trans* 80:1129-36; Discussion, 116-7 *Jl* '58

Pumping plant, a look ahead in '29 pays off in '58, *il* *Eng* N 160:34-5 *F* 20 '58

Electric equipment

Automatic control of pumping stations, J. S. Williams, *plans* *Water & Sewage Works* 104:540-5 *D* '57

Special control for pumping station, *il* *diag* *Elec Constr & Maint* 57:136+ *O* '58

Variable-speed control as applied to water pumping, M. H. Owen, *il* *Am Water Works Assn J* 50:639-44 *My* '58

Equipment

Ashford Common filtration works, *il* *plan* *diag* *Engineer* 206:171-5 *Ag* 1 '58

Grand Rapids modernizes water treatment, pumping and distribution, E. A. Schewe, *il* *Pub Works* 89:120-4 *My* '58

Hydraulically backwashed stationary screens for surface water, E. W. Whittle and R. D. Mitchell, *diags* *Am Water Works Assn J* 50:1337-42 *O* '58

Low-cost automation for water treatment and pumping plants, W. E. Hooper, *il* *Am Water Works Assn J* 50:646-9 *My* '58

Fires and fire protection

Fire protection for pump stations, *diag* *Safety* Maint 114:45 *D* '57

Power

Alternative sources of power for water utility pumping stations, E. Farmer, *Am Water Works Assn J* 50:1297-305 *O* '58

PUMPING stations, Floating

Floating pump house; Ford motor co. *il* *Water & Sewage Works* 104:561 *D* '57

Floating pumping station cuts conventional cost in half, *il* *Power* Eng 62:75 *Je* '58

PUMPKIN seed meal

Evaluation of pumpkin seed meal as a source of protein for swine using a depletion-repletion technique, H. Zucker and others, *J* Nutrition 65:327-34 *Je* '58

PUMPS

Adjustable fluid-flow control in fixed-stroke piston pump, *diags* *Machine Design* 30:96 *J* 26 '58

Aircraft hydraulic pumps, *il* *diags* *Ap Hydraulics* 11:128-8 *Ap* '58

Automatic compensation for viscosity changes in a constant-pressure pump by nylon spacer, *diags* *Machine Design* 30:117 *Mr* 6 '58

Automatic transfer valve in hydraulic gear pump provides unidirectional flow, *il* *diags* *Machine Design* 30:116 *Mr* 6 '58

Balanced-vane pump for 2000-psi hydraulic service, *il* *Product* Eng 29:103 *Mr* 17 '58

Bullows-Binks pogo materials handling pump, *il* *Automobile* Eng 48:315 *Ag* '58

Case for kcm pump ratings, E. W. Johns, *Ap Hydraulics* 11:122 *Ap* '58

Cast stainless pump handles corrosive electrolytes, E. A. Schoefer, *il* *Plating* 45: 366-7 *Ap* '58

Cast stainless pumps for corrosive electrolytes; copper plating of steel wire, *il* *Eng J* 41:89 *Mr* '58

Compensated pump reduces heat in a surface grinder, F. Krafft, *il* *diags* *Ap Hydraulics* 11:96-6 *My* '58

Components for water hydraulics, A. E. Morris, *il* *diags* *Ap Hydraulics* 11:64-7 *F* '58

PUMPS—Continued

- Constant volume pump for low flow-rates. M. C. Corfield and others, *diag J Sci Instr* 35:226 Je '58
- Corrosion problem solved by stainless steel pump, *il Elec Manuf* 62:122 Jl '58
- Die cast zinc rotor lengthens life of washer-drier pump; award of merit in Materials in design engineering competition, *il Materials in Design Eng* 47:139 Ap '58
- Ductile iron in use for chemical pumps, R. R. Rhodes, *il Chem Eng Prog* 54:116 S '58
- English pump adapts Archimedes' screw, *il Eng N* 160:56 My 8 '58
- Expansion of hollow piston provides sealing; pump developed by Simplex engineering co. *diag Machine Design* 29:120 N 14 '57
- Four 70-gpm variable pumps power piercing tools, *il diags Ap Hydraulics* 11:74-5 My '58
- Glass circulating pump for obtaining noble gases of high purity, W. R. Bennett, jr. *diags R Sci Instr* 28:1092-3 D '57
- High pressure air-driven pump, D. D. Frederick and R. L. Porter, *il diags Ind & Eng Chem* 49:1959-61 D '57
- How a microscope helps build a better pump, I. McNeil, *diag Ap Hydraulics* 11:84+ My '58
- How to pick your process pumps, R. L. Rorschach, *Ind & Eng Chem* 50:sup47A-8A Mr '58
- Hydraulic materials transporting equipment; Hyjector ejector pump for pumping a mixture of solids and water through a pipeline, *il diag Engineer* 206:224 Ag 8 '58
- Hydraulic pump data, D. B. Nickerson, S. A. B J 66:82-4 Ja '58
- Hydraulic pump selection, *il diags Ap Hydraulics* 11:79-84 Ap '58
- Hydraulically driven pumps, D. H. Newhall, *bibliog il diags Ind & Eng Chem* 49:1949-54 D '57; *Correction*, 50:1074 Jl '58
- Industrial know-how handbook; pumps and hydraulic systems, *il Mill & Factory* 62:B 16-17 My '58
- Installation, operation, and maintenance of water pumps, D. L. Gallagher, *Am Water Works Assn J* 50:441-8 Mr '58
- Inventory of new equipment and accessories; pumps, blowers and compressors, *il Chem Eng* 64:449-50+ Mid-N '57
- Investigating the dielectric pump, P. L. Auer and A. H. Sharbaugh, *il diag Gen Elec R* 61:37-8 Jl '58
- Liquid nitrogen pumps and vaporizer, G. A. Blevie, jr. and others, *il diags Ind & Eng Chem* 49:1955-8 D '57
- Matching pumps to frequency response, P. E. Straight, *il Ap Hydraulics* 11:106+ Ap '58
- New pump for high pressures, *il Oil & Gas J* 56:116 S 1 '58
- Nonmagnetic, vibrationless, constant delivery pump for biological solutions, A. S. Brill and others, *diags R Sci Instr* 29:242-3 Mr '58
- Plastics and rubber materials now used in industrial pumps, *il Materials in Design Eng* 48:12+ S '58
- Polyethylene for marine applications; bilge pump and boat fender, *il Mod Plastics* 35:94-5 Ar '58
- Pump meters small flow on a honing machine; Barnes drill co. F. Reynolds, jr. *il diags Ap Hydraulics* 11:68-9 Jl '58
- Pump-turbine story, F. E. Jaski, *il Elec Eng* 77:598-600 Jl '58
- Pumping coal and refuse, P. Levin, *il Min Cong J* 44:38-41 Jl '58
- Pumps for molten metals and salts, *il Engineering* 184:522 O 25 '57
- Right material cuts pump corrosion, F. R. Drahos, *il Chem Eng* 65:162+ Mr 10 '58
- Selecting coolant systems and pumps for machine tools, J. A. Lord, *il diags Mach* 64:106-11 Je '58
- Self-mixed forming-gas; sealing miniature vacuum tubes, *il diag Electronic Ind* 17:97 Ar '58
- Seven ways to unload a pump, A. T. Smith, *diags Ap Hydraulics* 11:82-3 My '58
- Stainless sump pumps tackle corrosive liquids, *il Plant Eng* 12:126 F '58
- Treat your chemical feed pumps right, E. R. Franklin, *il Power* 102:112-15 F '58
- Use of pipe, fittings, valves and pumps in the pulp and paper industry, E. L. Allen, jr. *Paper Ind* 40:24-6+, 292-3+, 360-1 Ap, Ag-S '58
- Vane pumps do auto transmission job, *il diag Product Eng* 29:74 Je 23 '58
- Versatile peristaltic action micropump, P. B. Hamilton, *diag Anal Chem* 30:1017-18 My '58
- Vertical pumps, J. F. Cannon and J. A. Lundquist, *il Chem Eng* 65:139-42 Mr 10 '58
- See also*
- Gasoline pumps
- Heat pump
- Mine pumps
- Oil pumps
- Pumping machinery
- Pumping stations
- Pumps, Centrifugal
- Sewage pumps
- Vacuum pumps

Bearings

- Bearings for aircraft hydraulic pumps, W. S. Bobier, jr. and C. R. Potter, *il diag Ap Hydraulics* 11:108-10 My '58

Corrosion

- Aircraft and missile resins protect pump interiors from corrosion and abrasion, *il Plant* 18:42-3 Ar '58

Design

- New pump design promises low weight per horsepower, J. W. Houser, *il diags Ap Hydraulics* 11:65-7 My '58
- Water-hammer design criteria, J. Parmakian, *Am Soc C E Proc* 83 [PO 2 no 1216]:1-8 Ap '57; *Discussion*, 83 [PO 4 no 1346]:13-14 Ag '57; 84 [PO 1 no 1538]:3-6 F '58

Lubrication

- Lubrication in the refinery; pumps thrive on regular oiling, *diags Oil & Gas J* 55:117 D 2 '57

Maintenance and repair

- How a petrochemical plant developed improved mechanical seals for nonlubricating hydrocarbons, A. L. Decker, *diags Oil & Gas J* 56:93-6 Ja 6 '58
- How to get economy through proper pump maintenance, *Power Eng* 61:90 N '57
- Positive displacement high-pressure purging, *il I S A J* 5:40 Ja '68

Priming

- Goodyear Archimedeian pump, *diag Manuf Chem* 29:118-19 Mr '58
- Holman lightweight high efficiency pumps, *il diags Engineer* 205:183 Ja 31 '58

Specifications

- How far to go in preparing pump specifications, I. J. Karassik, *Plant* 18:38-9 S '58

Testing

- Contamination control for cleaner, more reliable pumps, J. H. Ballantoni and A. E. Billet, *il diag Aviation Age* 29:134-3 Ja '58
- How to test low voltage motor-pumps, G. F. Young, *il Ap Hydraulics* 11:114+ Ap '58
- Transparent plastics plug for checking sealed rotating parts, C. B. Hilgeman, *il diags Elec Manuf* 61:149-50 Mr '58

PUMPS, Centrifugal

- Centrifugal magnetic circulating pump for a totally enclosed diffusion cell, F. Bond, *diags J Sci Instr* 34:73 F '57; *Discussion*, 35:70 F '58
- Centrifugal pump selection, I. J. Karassik and R. Carter, *Product Eng* 28:J 17-19 Mid-O '57
- Centrifugal pumps, recognizing and preventing air entrainment, E. Schwandt, *diags Plant Eng* 12:112-13 Ap '58
- Components for water hydraulics, A. E. Morris, *il Ap Hydraulics* 11:67-8 F '58
- Electric tank method for study of centrifugal machines, S. Matsunaga, *diags J Aeronautical Sci* 25:202-3 Mr '58
- Experimental study of centrifugal-pump impellers, A. J. Acosta and R. D. Bowerman, *bibliog il diags A S M E Trans* 79:1821-39 N '57
- How system changes affect operation of pumps in parallel, P. N. Garay, *diags Power Eng* 62:91-3+ Ap '58
- How to get what you need in pumps, J. A. Cable, *il diags Plant Eng* 12:120-3 F: 140+ Mr: 150+ My '58
- Let's learn more about centrifugal pumps; questions and answers, I. J. Karassik, *il diags Plant* 17:42-4 F: 32-3 Ap: 38-40 Mr: 43-4 Je '58
- Rocke pumps have reached high efficiency, K. R. Stehling, *il diags Aviation Age* 29:32-3+ Ap '58

PUMPS, Centrifugal—Continued

Selecting centrifugal chemical pumps. R. B. Wooster. *Il Power* 102:88-91+ J1 '58
 What is this NPSH (net positive suction head)? and what is its relation to centrifugal pump performance? V. Lobanoff. *Il diags Oil & Gas J* 56:121-4 F 24 '58

See also

Pumps, Feed water

Control

Automatic control of Diesel-driven centrifugal pumps in parallel; Trans mountain oil pipe line co. in western Canada. K. L. Hall. *Il diags Oil & Gas J* 56:150+ S 15 '58

Design

Why fight valve Δ P in pump discharge? design it! J. Conison. *Instruments & Automation* 31:483-5 Mr '58

Efficiency

Centrifugal pumps must be perfect fits. H. W. Vine. *Il Plant* 18:39-41 Ag '58
 Pump efficiencies of centrifugal pumps. H. E. Beckwith. *diags Water & Sewage Works* 105:107-11 Mr '58

Installation

Installation of centrifugal pumps. I. J. Karassik and R. Carter. *Il diags Air Cond Heat & Ven* 55:47-51 J1: 81-5 Ag '58

Maintenance and repair

How to maintain centrifugal pumps; the stuffing box. J. A. Cable and O. M. Kristy, Jr. *Il Power Eng* 62:98+ O '58
 Maintenance checklist keeps centrifugal pumps running. P. C. Ziemke. *Textile World* 108: 128 Ag '58

Noise

Control of vibration and noise from centrifugal pumps. L. M. Evans. *diags Noise Control* 4:28-31+ Ja '58

Standards

Pump standards are in sight. *Chem & Eng N* 36:58+ Ja 20 '58

Testing

Field testing of centrifugal pumps. F. W. Beltz, Jr. *Il diags Water & Sewage Works* 105:275-80 J1 '58 (to be cont.)
 How to field test your centrifugal pumps. F. W. Beltz, Jr. *Il diags Power* 101:136-45 D '57
 Hydraulic testing of centrifugal pumps. M. Mann. *biblog Il diags Pub Works* 89:97-100 Je '58
 Measuring pump efficiencies by thermometry. J. V. H. Holt. *Engineering* 185:501 Ap 18 '58

Vibration

Control of vibration and noise from centrifugal pumps. L. M. Evans. *diags Noise Control* 4:28-31+ Ja '58

PUMPS, Feed water—date on boiler feed pump warm-up methods? T. W. Edwards and E. F. Wright. *diags Power Eng* 62:102-3 Ag '58

Boiler feed pump motor provides vertical ventilation. E. Jernberg and E. Carlson. *Il Elec World* 150:62 J1 '58

Boiler feed pumps for supercritical pressure. H. Gartmann. *biblog flow diag Il diags Mech Eng* 80:51-4 Ja '58

Canned motor pump works well for boiler circulation duty. J. R. Slack. *Il Elec World* 148:78 D 9 '57

High temperature condensate systems reduce steam costs. R. J. Lundrigan. *Il diag Plant* 18:42-3 O '58

How do you get correct NPSH on a pump? I. J. Karassik. *diag Power Eng* 61:83-4 N '57

How system changes affect operation of pumps in parallel. P. N. Garay. *diags Power Eng* 62:91-3+ Ap '58

Should we switch from jam type packing to mechanical seals? answers. *diags Power* 102:124-5 J1 '58

Split pump versus single pump. R. W. Haywood. *diags Combustion* 29:49-54 O '57

Steam power plant clinic; the boiler feed pump; questions and answers. I. J. Karassik. *Il diags Combustion* 30:41-2 Ag; 43-5 S; 55-6 O '58

Steam turbine returns to drive boiler-feed pumps at Huley, replacing motors. R. P. Moore. *diag Elec World* 148:68-9 Mr 17 '58

Thermodynamic study of the number and positioning of the feed pumps in the feed train of a regenerative steam cycle. R. W. Haywood. *diags Inst Mech Eng Proc* 171 no 25:747-53; Discussion. 753-4; Reply. 754-6 '57
 Turbines gain as boiler-feed pump drives for large units but motors still hold the lead. L. M. Olmsted. *diags Elec World* 149:68-71 Mr 17 '58

PUMPS, Fuel

Injection pump improvements pace engine development. *Il diags Diesel Power* 36:30+ F '58

Positive petrol distribution. *Il diags Engineer* 205:666-9 My 2 '58

Rocket pumps have reached high efficiency. K. R. Stehling. *Il diags Aviation Age* 29: 32-3+ Ap '58

Testing

Refrigeration system needed for simulated flight testing. *Refrig Eng* 65:64 N '57

Test motors submerged in high octane fuel; performance of aircraft fuel pump motors. *Il Ind Lab* 9:26-7 Mr '58

PUMPS, Sewage. See Sewage pumps

PUMPS, Submersible

Enterprising designers turn leaking gas into lubricant; submersible pump. L. E. Staak and M. J. Carroccio. *Il diag Gen Elec R* 61:14-17 My '58

Gasoline-submersible motor designed for compactness. E. C. Briggs. *Il Elec Manuf* 61:156-7 Je '58

Ten-stage submersible pump supplies test cell cooling water. J. Stewart. *Il diag Plant Eng* 12:126-7 Ap '58

PUMPS, Turbine

Better turbopump design ups aircraft range. J. Bendersky. *Il diag Aviation Age* 29:72-5+ Je '58

PUMPS, Vacuum. See Vacuum pumps

PUNCHED card system

Analytical laboratory operation and control; utilizing business machine punched card procedures. L. M. Addison and others. *flow sheets Il Anal Chem* 30:885-91 My '58

Aperture cards file microfilm; illustrations with text. *Electronic Ind & Tele-Tech* 16: 82 N '57

Automated reversing rougher; programmed digital automatic control. E. H. Browning. *Il diag Instruments & Automation* 31:286 F '58

Automatic multiple switch programmed by punched card. *Il Automation* 5:9 Ag '58

Automatic selection of voltages with punched plastic cards; illustrations with text. *Machine Design* 30:132-3 Ja 23 '58

Automatically recording tube-life data. A. T. Ross. *Il diags Bell Lab Rec* 36:176-8 My '58

Blooming mill screwdown control. K. R. Thompson. *Il diags Control Eng* 5:166-8 S '58

Calculating measurement charts; El Paso natural gas co. applied punched-card accounting machines and methods. W. E. McDowell. *diags Am Gas Assn Mo* 40:31-3 F '58

Card-controlled feed mixing. J. F. Sharp. *Il diag Control Eng* 5:181 S '58

Card-operated multiple switch; illustrations with text. *Elec Manuf* 61:164 Je '58

Card control machine as transformers sense table position. *Il diags Automation* 5:78-81 My '58

Cleveland instrument co.; angular positioning of Omnidisc indexing tables. J. D. Cooney and B. K. Ledgerwood. *Il diags Control Eng* 5:112-14 Mr '58

Component testing with punched cards. *Il Electronics* 31:94-5 F 28 '58

Computer controls steel mill; illustrations with text. *Electronic Ind* 17:115 Mr '58

Convert engineering drawings to microfilm mounted in punched cards. *Il Ind Lab* 9:40 Ag '58

Data processing machines in daily report of inventory condition; Fulton bag & cotton mills. *Il Textile Ind* 122:92-6+ S '58

Design of simple punched card systems with reference to geochemical problems. I. A. Breger. *diags Econ Geol* 53:325-33 My '58

Design trends; card programs function generator; illustrations with text. *Electronics* 31:142 F 14 '58

Dimensional stability problems in converting and processing punched cards. J. L. Morton. *Il diags Tappi* 41:124-8 Mr '58

Ekco electronics, ltd. J. D. Cooney and B. K. Ledgerwood. *Il diag Control Eng* 5:110-11 Mr '58

PUNCHED card system—Continued

- Hands-off inventory control; Elwell-Parker electric co. *il* Mill & Factory 62:131 Mr '58
- High-speed continuity checker; W. D. Bell. *il* diags Control Eng 5:178-9 S '58
- Jig borer picks its tools; controlled by punched cards. *il* Steel 141:119 D 16 '57
- Keeping tabs on production; Conval's Fort Worth plant, K. Anderson. *il* Control Eng 5:35-6+ Ja '58
- Marginal punched cards for a reference file in the field of electronics; W. G. Hoyle. *il* diags Eng J 41:61-6 Je '58
- New developments in program controllers. E. J. Kompass. *il* diags Control Eng 5:122-7 S '58
- No-hands control for mill; card programming system. *il* Steel 142:39 Ja 27 '58
- Preflight calibration makes cards for data reduction. W. Usim. *diags* Control Eng 5:135 My '58
- Punch-card system speeds case handling, cuts costs; Pillsbury Mills' warehouse. *il* Food Eng 30:67-3 F '58
- Punch cards aid quality control; Allis-Chalmers mfg. co. *il* Steel 142:122-3 Mr 10 '58
- Punch cards control jig borer. *il* Iron Age 180:54-5 D 26 '57
- Punch cards program rolling mill. *il* diags Iron Age 181:92-3 D '58
- Punched card calendar. P. A. Peck. *il* Research 11:sup 13-14 Ap '58
- Punched-card methods for studying fiber-yarn relationships. H. Wakeham and L. Steward. *bibliog* diags Textile Res J 28:431-41 My '58
- Punched card storage of gas chromatographic data. C. F. Spencer and J. F. Johnson. *bibliog* Anal Chem 30:893-4 My '58
- Punched-card system helps this knitting mill; Lisle mills, inc. A. H. Wishner. *il* Mod Textiles Mag 39:33-4 My '58
- Punched cards, answer to wiring woes. D. W. Melville. *il* diags Product Eng 29:58-60 Ja 20 '58
- Punched cards control steel production; Prodac system. *il* Electronics 31:170 Mr 14 '58
- Punched cards run warehouse; Brunswick drug co., Los Angeles. *il* plan Control Eng 5:20-2+ Mr '58
- Puncher transcribes computer output. J. E. Palmer and others. *il* diags Electronics 30:164-7 D 1 '57
- Push-button steel; hot strip steel rolled by full-automatic control. A. C. Adams. *il* I S A J 5:66-7 F '58
- Richfield taps a well-data gold mine. *il* Oil & Gas J 58:54-6 Ja 13 '58
- Rubber compounding information; sources, indexing, retrieving. K. S. Rostler. *bibliog* *il* diags Rubber Age 82:678-86 Ja '58
- Selecting punched tape or punched card equipment for program control. L. H. Young. *il* Control Eng 5:128-33 S '58
- Technical data on border-punched cards. G. Cohn. *diags* Franklin Inst J 266:133-4 Ag '58
- Therm billing becomes routine with punched card system. C. V. Griffith. *il* Gas 34:66+ F '58
- Trouble recorder. M. Salzer. *il* diags Bell Lab Rec 36:257-60 Ji '58
- Water meter record cards aid system operation and planning. *il* Water Works Eng 111:864-5 Ji '58
- Westinghouse electric corp. positioning system for drilling machines. J. D. Cooney and B. K. Ledgerwood. *diags* Control Eng 6:105-6 Mr '58
- What's the best production control system? Mill & Factory 63:102-3 Ag '58

See also

Information storage and retrieval systems

Numerical control

Study and teaching

- Electronic teacher uses challenging principles; SAKI (the Sign-on Automatic Keyboard Instructor). *il* Machine Design 30:34 Ji 24 '58
- Punch-card operators taught keyboard automatically. Elec Eng 77:570 Je '58
- PUNCHED tape**
- Automatic digital system bills telephone calls. R. C. P. Hinton. *il* diags Electronics 31:96-9, cover F 14 '58
- Automatic printer light selector for Bell & Howell models D and J printers. L. Wargo and others. *il* diags SMPTE J 67:78-80 F '58
- Automatic program control for television broadcasting. A. C. Angus. *il* diags SMPTE J 66:746-9 D '57

- Automatic setting of the flexible walls of a large wind tunnel. T. Barnes and C. R. Dunham. *il* diags Inst E E Proc 105 pt A:218-28; Discussion. 223-32 Je '58
- Automatic signaling on the Northern line. *il* Engineer 205:96-7 Ja 17 '58
- Automatic tape control slashes milling bottle-necks. *il* Iron Age 181:103-5 Ap 17 '58
- Cleveland Instrument co.; angular positioning of Omnidex indexing tables. J. D. Cooney and B. K. Ledgerwood. *il* diags Control Eng 5:112-14 Mr '58
- Electromechanical light valve for motion-picture printers. F. P. Herrnfeld. *il* diags SMPTE J 67:27-8 Ja '58
- Electronic control systems, inc.; point-positioning system. *il* diags Control Eng 5:115-17 F '58
- Electrosystems, inc. control packages for drilling machines and stretch-forming machines. J. D. Cooney and B. K. Ledgerwood. *il* diags Control Eng 5:107 Mr '58
- Error-checking for five-channel telegraphic tape. R. A. Barbeau. *flow* chart diags Com & Electronics p 190-3 My '58
- Ferranti, ltd.; point-to-point positioning of a small drilling machine. *il* diags Control Eng 5:117-18 F '58
- First US tape-control line goes into production at Hughes-El Segundo. *il* Am Mach 102:93 Mr 24 '58
- Fuji Tsushinki mfg. co.; punch selection and two-axis positioning on Wiedemann turret punch presses. *il* diags Control Eng 5:100-2 F '58
- Integrated data processing yields six-figure savings; integrating production information, clerical automation; routing with Flexo-writer tapes, Azograph duplication. H. Rodenfels. *il* Mill & Factory 62:120-2 Mr '58
- Japanese government mechanical lab.; system for positioning a precision jig bore. *diags* Control Eng 5:104-7 F '58
- Laboratory for electronics, inc. *il* diags Control Eng 5:120-2 F '58
- Modern engineering service co.; Jacy precision index and pierce machine. J. D. Cooney and B. K. Ledgerwood. *il* diags Control Eng 5:100-1 Mr '58
- National automatic tool co. positioning control for drilling machines. J. D. Cooney and B. K. Ledgerwood. *il* diags Control Eng 5:104-5 Mr '58
- New developments in program controllers. E. J. Kompass. *il* diags Control Eng 5:122-7 S '58
- Norden-Ketay corp. point-to-point positioning systems for machines. J. D. Cooney and B. K. Ledgerwood. *diags* Control Eng 5:108-9 Mr '58
- Puncher-tape circuit analyzer. H. J. Kirschnick and B. D. Hrybyk. *il* diags Control Eng 5:176 S '58
- Punched-tape positioning controls Britain's newest wind tunnel. D. Barlow. *il* diags Control Eng 5:81-5 Ap '58
- Punched-tape units control new type transfer line. *il* Iron Age 181:106-8 Mr 20 '58
- Reeves instrument corp.; Auto-Set positioner for drilling machines, horizontal jig borers. J. D. Cooney and B. K. Ledgerwood. *diags* Control Eng 5:102-3 Mr '58
- Selecting punched tape or punched card equipment for program control. L. H. Young. *il* Control Eng 5:128-33 S '58
- Tape controlled diffractometer. W. A. Wooster. *il* diags Control Eng 5:165 S '58
- Two-dimensional pulse-height analyzer. M. Birki and others. *bibliog* diags R Sci Instr 29:203-9 Mr '58
- Wang laboratories, inc.; punched paper tape system. *diags* Control Eng 5:102-3 F '58
- Warner & Swasey research corp. positioning system is a packaged control designed for linear and rotary motions. J. D. Cooney and B. K. Ledgerwood. *il* Control Eng 5:109 Mr '58
- Westinghouse electric corp. positioning system for drilling machines. J. D. Cooney and B. K. Ledgerwood. *diags* Control Eng 5:105-6 Mr '58

See also

Numerical control

PUNCHES

- Calculating a punch dimension. W. W. Johnson. *diags* Mach 64:202 D '57
- Nomogram for punch length; reference book sheet. R. Gruenberg. *Am Mach* 102:93+ Ji 28 '58
- 200 times the punch life with metallized moly; illustrations with text. *Am Mach* 101:77 D 30 '57

PUNCHES—Continued

Manufacture

Heat treating, an important step in punch and die manufacture. J. H. Bockrath. *II* *diags* Tool Eng 39:96-9 D '57

PUNCHING

Air jets improve die action with thin stock. L. G. Pangburn. *II* *Am Mach* 102:101 Ap 7 '58

Grid layout cuts hole punching time. *II* *Steel* 142:130 F 3 '58

Pilots for progressive dies. F. Strasser. *diags* *Mach* 65:146-50 S '58

PUNCHING machinery

Air gives 100-lb punch. M. G. Saake. *diags* *Ap Hydraulics* 11:112-13 Mr '58

Computers in production; programming for turret punchpresses pays off; Allis Chalmers mfg. co. A. H. Knable and R. Stowe. *diags* *Am Mach* 102:116-17 Mr 24 '58

Four 70-spm variable pumps power piercing tools. *II* *diags* *Ap Hydraulics* 11:74-5 My '58

Kenco eight-ton punchpress has extra safety features. *II* *Am Mach* 102:166 Mr 10 '58

One turret punch press saves \$2252.68 a month; Control div., Reliance electric & engineering. W. J. Nemeth. *II* *Steel* 143:62-3 Ag 11 '58

Turret press and auxiliaries punch odd shapes rapidly. *II* *diag* Tool Eng 39:92-3 N '57

Turret punch press controlled by optical locator. *II* *Mach* 64:139 Ag '58

Turret punchpress works from full size, non-dimensional drawing. *II* *Am Mach* 102:127 Je 16 '58

See also

Dies

Control

Complete system for registration control. *diags* *Elec Manuf* 61:152 Ap '58

Fuji Tsushinki mfg. co.; punch selection and two-axis positioning on Wiedemann turret punch presses. *II* *diags* *Control Eng* 5:100-2 F '58

Static input devices for punch press; abstract. A. M. Magazna. *II* *Elec Manuf* 62: 65 Jl '58

PUPIN, Michael Idvorsky

Sketch. E. S. Barr. *por* *Am J Phys* 26:117-18 F '58

PURCHASED power. See Electric plants—

Isolated plants vs. purchased power

PURCHASING

Computer simplifies purchasing decisions. C. S. Knox. *S A E J* 66:29-31 Je '58

Controlling costs on plant orders; seven forms keep accurate check on material and cost estimates. R. J. Detuno. *Plant Eng* 12: 88-94 J1 '58

How we buy machine tools. W. W. Kuyper. *II* *Steel* 142:116-17 Ap 28 '58

Partnerships in standardization; purchasing, engineering, and design; panel discussion. *Mag* of *Stand* 28:862-3 D '57

Trends in purchasing. R. S. Smith. *Min Eng* 10:81 Ja '58

See also

Consumers

Electric utilities—Purchasing

Textile mills—Purchasing

Waterworks—Purchasing

Supplier relations

Missiles seriousness and complexity vendor rating system. S. J. Wilson. *bibliog* *Ind Quality Control* 14:15-20 Je '58

PURCHASING, Government

Manufacturers concerned U.S. buying policy. *Elec World* 149:78-9 May 5 '58

See also

Contracts, Government

PURCHASING agents

Buying is a science. R. Brassica. *Textile Ind* 122:87-8 F '58

Purchasing agent buys safety. G. H. Reinier. *II* *Safety Maint* 115:11-13 Ms '58

PURE and applied chemistry, International

union of. See International union of pure and applied chemistry

PURINES

Kinetic study of the ultraviolet decomposition of biochemical derivatives of nucleic acid; purines. M. J. Kland and L. A. Johnson. *bibliog* *Am Chem Soc J* 79:6187-92 D 5 '57

Potential purine antagonists. R. N. Prasad and R. K. Robins. *bibliog* *Am Chem Soc J* 79:6401-15 D 20 '57

Potential purine antagonists; synthesis of some 9-aryl(alkyl)-2,6-disubstituted purines. H. C. Koppel and R. K. Robins. *bibliog* *Am Chem Soc J* 80:2751-5 Je 5 '58

Purine N-oxides. M. A. Stevens and others. *bibliog* *Am Chem Soc J* 80:2755-62 Je 5 '58

Synthesis and properties of some 6-substituted purines. A. Giner-Sorolla and A. Bendich. *bibliog* *Am Chem Soc J* 80:3932-7 Ag 5 '58

Synthesis of potential anticancer agents. J. A. Montgomery and others. *bibliog* *Am Chem Soc J* 80:404-11 Ja 20 '58

Synthesis of potential anticancer agents: ribosides of 6-substituted purines. J. A. Johnson, Jr. and others. *bibliog* *Am Chem Soc J* 80:699-702 F 5 '58

Synthesis of potential anticancer agents; ribonucleosides of 2-substituted purines. H. J. Schaeffer and H. J. Thomas. *bibliog* *Am Chem Soc J* 80:4896-9 S 20 '58

Synthesis of potential anticancer agents: ribosides of 2,6-disubstituted purines. H. J. Schaeffer and H. J. Thomas. *bibliog* *Am Chem Soc J* 80:3738-42 Jl 20 '58

Thiation of nucleosides; synthesis of 2-amino-6-mercapto-9- β -D-ribofuranosylpurine (thioguanosine) and related purine nucleosides. J. J. Fox and others. *bibliog* *Am Chem Soc J* 80:1669-75 Ap 5 '58

PYROMYCIN

Structure of the antibiotic pyromycin. P. W. Lynch and others. *bibliog* *Am Chem Soc J* 80:2736-40 Je 5 '58

PUTTY

Putty edges of doors for kitchen cabinets. *Ind Finishing* 34:86-7 Jl '58

PYCNOMETERS

Determination of the apparent density of hydraulic cement in water using a vacuum pycnometer. C. L. Ford. *bibliog* *diag* *A S T M Bul* p81-4 Jl '58

PYLUTERIN. See Antibiotics

PYRAMID lake, Nevada

Hypothesis regarding the origin of thimolite tufa. D. H. Radbruch. *bibliog* *map diags* *Geol Soc Bul* 68:1683-7, pl 1 D '57

PYRANOSIDE

Synthesis of the four possible methyl 3-amino-3-deoxy-D-xylosides; a novel ring expansion of a furanoside to a pyranoside. R. E. Schaub and M. J. Weiss. *bibliog* *Am Chem Soc J* 80:4683-92 S 5 '58

PYRAZINE

Pteridines; a synthesis of 2-aminopyrazine-3-carboxamides by reductive ring cleavage of 3-hydroxy-1-pyrazolo[4,5-b]pyrazines. E. C. Taylor and others. *bibliog* *Am Chem Soc J* 80:421-7 Ja 20 '58

PYRAZOLIDINE

Animal creakers; butazolidin (3,5-dioxo-1,2-diphenyl-4-n-butyl-pyrazolidine) a veterinary pharmaceutical. *Ind & Eng Chem* 49: sup80A+ D '57

PYRENE

Syntheses of aryl ω -dimethoxyethyl sulphides; synthesis of thieno-(2:3-b,5:4-b')-dithiophene, and thieno-(3:4-b')-pyrene. L. J. Pandya and B. D. Tilak. *bibliog* *Chem & Ind* p981-2 Ag '58

Analysis

Detection of pyrene, benzo[a]pyrene, and other polynuclear hydrocarbons. E. Sawicki and R. L. Miller. *bibliog* *Anal Chem* 30:109-10 Ja '58

PYRENE company

First Pyrene fire extinguisher. *Comp Air* *Mag* 63:34 F '58

PYRETHRINS

Effect of pyrethrins and piperonyl butoxide against the cacao moth *ephestia elutella*. Hb. J. P. Brooke. *bibliog* *Chem & Ind* p387 Mr 29 '58

Isolation and purification of (+)-pyrethrolone from pyrethrum extract; reconstitution of pyrethrins I and II. M. Elliott. *bibliog* *Chem & Ind* p685-6 Je 7 '58

PYRIDAZINE

3-Sulfanilamido-6-alkoxy-pyridazines and related compounds. J. H. Clark and others. *bibliog* *Am Chem Soc J* 80:980-3 F 20 '58

PYRIDINE

Amino boranes. M. F. Hawthorne and E. S. Lewis. *bibliog* *Am Chem Soc J* 80:4291-9 Ag 20 '58

Complexes of pyridinaldazine with iron(II) and nickel(II). W. J. Stratton and D. H. Busch. *bibliog* *Am Chem Soc J* 80:1286-9, 3191-5 Mr 20 '58

Cyanocarbon chemistry; pyridines from tetra-cyanopropenes. E. L. Little, Jr. and others. *Am Chem Soc J* 80:2832-8 Je 5 '58

Dealkylation of alkyl aromatic hydrocarbons; the dealkylation of alkylpyridines. W. D. Betts and F. Popper. *J Ap Chem* 8:613-18 Ag '58

PYRIDINE—Continued

- Elbs peroxydisulfate oxidation in the pyridine series; a new synthesis of 2,5-dihydroxypyridine. E. J. Behrman and B. M. Pitt. *bibliog Am Chem Soc J* 80:3717-18 J1 20 '58
- Fungitoxicity of some substituted pyridines and quinolines related to 8-quinolinol (oxine). A. B. Durkee. *bibliog J Agri & Food Chem* 6:194-6 Mr '58
- Metabolite analogs; syntheses of some imidazopyridines and pyridotriazoles. H. G. Boyes and A. E. Day. *bibliog Am Chem Soc J* 79:6421-6 D 20 '57
- Microwave absorption and molecular structure in liquids; dielectric relaxation times and molecular shapes of some substituted benzenes and pyridines. A. J. Petro and C. P. Smyth. *bibliog Am Chem Soc J* 79:6142-7 D 5 '57
- Microwave absorption and molecular structure in liquids; relaxation times, viscosities and molecular shapes of substituted pyridines, quinolines and naphthalenes. R. W. Rampolla and C. P. Smyth. *bibliog Am Chem Soc J* 80:1057-61 Mr '58
- Novel reaction of alkylpyridines. Z. Földi. *Chem & Ind* p84-5 Je 7 '58
- Ozonolysis; the effect of pyridine on the ozonolysis of 4,22-stigmastadien-3-one. G. Olomp. Jr. and J. L. Johnson. *bibliog Am Chem Soc J* 80:315-21 F 20 '58
- Pyridine-alkali reactions in the analysis of pesticides containing active halogen atoms. H. P. Burchfield and P. H. Schuldt. *bibliog (40 ref) J Agri & Food Chem* 6:106-11 F '58
- Pyridine-4-sulphonic acid. J. Angulo and A. M. Municio. *Chem & Ind* p 1175-6 S 6 '58
- Restricted rotation in aryl amines; N-benzenesulfonyl - N-carboxymethyl-3-amino-2,4,6-trimethylpyridine and its N-oxide. R. Adams and J. E. Dunbar. *Am Chem Soc J* 80:3649-51 J1 20 '58
- Triphenylsilyllithium as a selective nucleophile towards pyridine. D. Wittenberg and H. Gilman. *bibliog Chem & Ind* p390-1 Mr 29 '58
- Analysis**
- Determination of alkylpyridines by infrared spectroscopy; rapid methods of analysis. K. L. Bohon and others. *bibliog (27 ref) Anal Chem* 30:245-51 F '58
- Ultraviolet spectrophotometric determination of total pyridines and quinolines in low temperature coal-tar distillates. T. C. L. Chang and C. Karr. *jr. bibliog Anal Chem* 30:371-2 My '58
- PYRIDINEMETHANOL**
- Properties of some phenylpyridylmethanols in sulfuric acid solution. H. A. Smith and C. W. Hooley. *bibliog Am Chem Soc J* 80:3714-16 J1 20 '58
- PYRIDINIUM compounds**
- Relationship of structure to properties of diphosphopyridine nucleotide and other pyridinium compounds. M. R. Lamborg and others. *bibliog Am Chem Soc J* 79:6173-7 D 5 '57
- Some pyridine derivatives. B. M. Ferrier and N. Campbell. *bibliog Chem & Ind* p 1089-90 A 16 '58
- Analysis**
- Semimicro-Kjeldahl procedure for pyridinium halide and oxyhalide salts. V. B. Fish and E. R. Collier. *bibliog Anal Chem* 30:151-2 Ja '58
- PYRIDINOL**
- 2-Methyl-3-pyridol and 2-acetylpyrrole from 2-acetylfuran. H. Sugisawa and K. Aso. *bibliog Chem & Ind* p887-8 J1 12 '58
- PYRIDOL**. See Pyridinol
- PYRIDOTRIAZOLE**
- Alkylation of organic acids with pyridotriazole. J. H. Boyer and L. T. Wolford. *bibliog Am Chem Soc J* 80:2741-3 Je 5 '58
- PYRIDOXAL**
- Three Schiff base types formed by amino acids, peptides and proteins with pyridoxal and pyridoxal-5-phosphate. H. N. Christensen. *bibliog Am Chem Soc J* 80:99-105 J 5 '58
- PYRIDYL compounds**
- Determination of traces of uranium with 1-(2-pyridylazo)-2-naphthol. K. L. Cheng. *bibliog Anal Chem* 30:1027-30 Je '58
- PYRIMIDINE**
- Electrolytic reduction of 2-amino-4-chloropyrimidine, 2-amino-4-chloro-6-methylpyrimidine, and 2-aminopyrimidine. K. Sugino and others. *diag Electrochem Soc J* 104:867-72 N '57

- New factors in pyrimidine biosynthesis. L. L. Weed. *bibliog Am Chem Soc J* 80:505-6 Ja 20 '58
- Oxygen glycosides from the Hilbert-Johnson pyrimidine nucleoside synthesis. P. Newmark and I. Goodman. *bibliog Am Chem Soc J* 79:6446-50 D 20 '57
- Potential purine antagonists; further studies of some 4,6-disubstituted pyrazolo[3,4-d]pyrimidines. R. K. Robins. *bibliog Am Chem Soc J* 79:6407-15 D 20 '57
- Pyrimidine nucleosides; the synthesis of 1,8-d-lyxofuranosylthymine. J. J. Fox and others. *bibliog Am Chem Soc J* 80:5156-60 O 5 '58
- Studies on condensed pyrimidine systems; a new synthesis of pyrido[2,3-d]pyrimidines; the condensation of 1,3-diketones and 3-ketoaldehydes with 4-hydroxypyrimidines. R. K. Robins and G. H. Hitchings. *bibliog Am Chem Soc J* 80:3449-57 J1 5 '58
- PYRIMIDINONE**
- Synthesis of 1-(aminodeoxy-3-d-ribofuransyl)-2-pyrimidinones; new 3- and 5-amino nucleosides. H. M. Kissman and M. J. Weiss. *bibliog Am Chem Soc J* 80:2575-83 My 20 '58
- PYRITE**
- Dahlite pseudomorphs after pyrite concretions from Big Horn basin, Wyo. R. S. Mitchell and W. C. Sherrin. *il Am Mineralogist* 43:600-3 My '58
- Efflorescence resulting from pyrite in clay raw materials. W. E. Brownell. *il Am Cer Soc J* 41:261-6 J1 1 '58
- Geology and metamorphism of the Nairne pyrite formation, a sedimentary sulfide deposit in South Australia. B. J. Skinner. *bibliog il maps diag Econ Geol* 53:546-62 A 1 '58
- Leaching of manganese from pyrolusite ore by pyrite. G. Thomas and B. J. P. Whalley. *bibliog Can J Chem Eng* 36:37-43 F '58
- PYRITES**
- Fluid bed roasting of pyrites; abstract. H. Chwalibog. *Ind Chem* 34:99-4 F '58
- See also*
Pyrrhotite
- PYROCATECHOL violet**
- Microdetermination of zirconium in sulfuric acid solutions with pyrocatechol violet. J. P. Young and others. *bibliog Anal Chem* 30:422-5 Mr '58
- PYRO CERAM**
- Ceramics from glass go commercial. J. H. Mauer. *il Product Eng* 29:37-41 Mr '58
- High strength in crystalline material. *il Elec Eng* 77:566-7 Je '58
- New material combines virtues of metals and ceramics. *il Iron Age* 181:126-7 Mr 6 '58
- Pyroceram; a family of crystalline materials made from glass; abstract. S. D. Stookey. *Glass Ind* 38:685-6 D 5 '57
- Pyroceram, a new family of glass-ceramics. W. W. Shaver and S. D. Stookey. *S A E J* 66:34-6 J1 '58
- PYROELECTRICITY**
- Primary pyroelectricity in barium titanate ceramics. T. A. Fersl and others. *bibliog il J Appl Phys* 29:1297-302 S '58
- PYROHYDROLYSIS**. See Hydrolysis
- PYROLUSITE**
- Leaching of manganese from pyrolusite ore by pyrite. G. Thomas and B. J. P. Whalley. *bibliog Can J Chem Eng* 36:37-43 F '58
- PYROLYSIS**
- Chemical engineering unit processes; pyrolysis of coal and shale. C. H. Friauf and M. Perch. *bibliog il Ind & Eng Chem* 50:1401-5 pt 2 S '58
- Elimination reactions; a *trans* Chugaev elimination. F. G. Bordwell and P. S. Landis. *bibliog Am Chem Soc J* 80:2450-3 My 20 '58
- Flash pyrolysis. *il Chem & Eng N* 36:55 S 29 '58
- Formation of benzene in the pyrolysis of acetylene. W. W. Robertson and others. *bibliog J Appl Chem* 8:401-2 J1 '58
- Formation of styrenes by pyrolysis of aromatic or heterocyclic aldehyde-aliphatic acid anhydride mixtures over Morden bentonite. L. Levi and R. V. Nicholls. *bibliog Ind & Eng Chem* 50:1005-8 J1 '58
- Hexafluorobenzene from the pyrolysis of tribromofluoromethane. M. Hellmann and others. *bibliog Am Chem Soc J* 79:5654-6 N 5 '57
- Improved instrument for the measurement of linear pyrolysis rates of solids. M. K. Barsh and others. *il diags R Sci Instr* 29:392-5 My '58
- Infrared spectra of thermally degraded poly (vinyl chloride). R. R. Stromberg and others. *bibliog J Res Nat Bur Stand* 60:147-52 F '58

PYROLYSIS—Continued

- Photolysis and pyrolysis of 2-pentanone-1,1,1-3,3-ds. J. R. McNesby and A. S. Gordon. *bibliog Am Chem Soc J* 80:261-4 Ja 20 '58
- Production of oct-2-ene and oct-3-ene by the dehydration of octan-1-ol and by pyrolysis of *N*-octyl diphenylboronite. E. W. Abel and others. *Chem & Ind p* 158-9 F 8 '58
- Pyrolysis accounts for disappearance of burning hydrocarbons, ketones, and alcohols. S. R. Smith and A. S. Gordon. *Chem & Eng N* 36:44-4 Je 2 '58
- Pyrolysis of aroclorics and related heterocycles. J. J. Madison and R. M. Roberts. *bibliog diag Ind & Eng Chem* 50:237-50 F '58
- Pyrolysis of polyamides. S. Straus and L. A. Wall. *bibliog J Res Nat Bur Stand* 60:39-45 Ja '58
- Pyrolysis of pyruvic acid hydrazones. J. H. Boyer and L. R. Morgan, jr. *bibliog Am Chem Soc J* 80:3012-15 Je 20 '58
- Pyrolysis of recarborane. H. C. Beachell and J. F. Haugh. *bibliog Am Chem Soc J* 80:2939-42 Je 20 '58
- Pyrolysis of *p*-terphenyl: separation and identification of the thermal products. L. Silverman and others. *bibliog J Ap Chem* 8:616-24 S '58
- Reactions of amines: pyrolysis of *N*-alkylacetamides. H. E. Baumgarten and others. *bibliog Am Chem Soc J* 80:4588-93 S 5 '58
- Separation of fluoride from inorganic compounds by pyrolysis. R. H. Powell and O. Menis. *bibliog diag Anal Chem* 30:1546-9 S 6 '58
- Thermogravimetry of soils. I. Hoffman and others. *Chem & Ind p* 61 Mr 1 '58

PYROMAGNETIC effect. See Magnetization

PYROMETERS and pyrometry

- Cellulose packing material cuts shipping damage. *il Elec Manuf* 62:120-1 J '58
- Compact radiation unit monitors process heating; multi-frequency radiation system. *il Food Eng* 30:143 My '58
- High-temperature measurements at the National bureau of standards; measuring, generating high temperatures and determining high temperature properties of materials. *bibliog il Glass Ind* 39:480-1-4 S '53
- Infrared controls heating of titanium. *il Steel* 142:130 F 3 '58
- Measure fabric temperature with a radiation pyrometer. B. B. Ritchey. *il diag Textile World* 108:39-41 Je '58
- Recording sodium-line reversal pyrometer. W. M. Brobeck and others. *bibliog diag Jet Propulsion* 28:249-52 Ap '58
- Transistor operated self-balancing radiation pyrometer. D. W. Birstingl. *il diag Electronic Eng* 30:189-91 Ap '58
- Venturi pneumatic pyrometer. A. M. Godridge and others. *bibliog il diag J Sci Instr* 35:81-8 Mr '58

See also

Temperature—Measurement
Thermocouples

Standards

- International comparison of high-temperature standards. *Glass Ind* 39:334 J '58

PYROMETRIC cones

- Experimental cone series designed for use in pottery decorating kilns and enameling furnaces. L. E. Shipley. *bibliog Am Cer Soc Bul* 37:9-11 Ja 15 '58

PYRONE

- General method for the synthesis of symmetrical 2,6-disubstituted tetrahydro-thia-pyrones. V. Horák and others. *Chem & Ind p* 1113 Ag 23 '58
- Isolation and structure proof of 3,4-dimethyl-6-carboxy- α -pyrone as a bacterial degradation product of riboflavin. P. Z. Smyrniotis and others. *bibliog Am Chem Soc J* 80:2541-5 My 20 '58
- Some further reactions of 2,6-dimethyl-4-pyrone. L. L. Woods. *Am Chem Soc J* 80:1440-2 Mr 20 '58

PYROPHOSPHATES

- Complexes of magnesium ion with pyrophosphate and triphosphate ions. S. M. Lambert and J. I. Watters. *bibliog Am Chem Soc J* 79:5606-3 N 5 '57
- Kinetics of the ferrous iron-oxygen reaction in acidic phosphate-pyrophosphate solutions. J. King and N. Davidson. *bibliog Am Chem Soc J* 80:1542-5 Ap 5 '58
- Nucleoside polyphosphates: the use of phosphoric acid in the synthesis of nucleoside-5' pyrophosphates. R. W. Chambers and H. G. Khorana. *bibliog Am Chem Soc J* 80:3749-52 J 20 '58

- Solubility relationships in hydrogen peroxide solutions containing pyrophosphate and stannate inhibitors. G. C. Hood and others. *Ind & Eng Chem* 50:121-12 Ag '58

Analysis

- Determination of small amounts of pyrophosphate in soluble orthophosphates. W. B. Chess and D. N. Bernhart. *Anal Chem* 30:111-12 Ja '58

PYROPHYLLITE

- Resources and utilization of North Carolina pyrophyllite. J. L. Stuckey. *bibliog il Min Eng* 10:Trans 97-9 Ja '58

PYROTECHNICS, Military. See Fireworks, Military

PYRRHOTITE

- Geology and metamorphism of the Nairne pyritic formation, a sedimentary sulfide deposit in South Australia. B. J. Skinner. *bibliog il maps diag Econ Geol* 53:546-62 Ag '58

PYRROLE

- 2-Methyl-3-pyridol and 2-acetylpyrrole from 2-acetylfuran. H. Sugisawa and K. Aso. *bibliog Chem & Ind p* 887-8 J 12 '58
- Reaction of *N*-benzylpyrrole with acetylenedicarboxylic acid; a Diels-Alder addition to a pyrrole. L. Mandell and W. A. Blanchard. *bibliog Am Chem Soc J* 79:6198-201 D 5 '57
- Studies on allylpyrroles and related pyrrole derivatives. P. A. Cantor and C. A. Vanderwerf. *bibliog Am Chem Soc J* 80:370-3 F 20 '58
- Universal molecule of living matter. M. D. Kamen. *diag Sci Am* 199:77-8+ Ag '58

Analysis

- Determination of pyrrolic nitrogen in petroleum distillates. M. A. Muhs and F. T. Weiss. *bibliog (38 ref) Anal Chem* 30:269-66 F '58

PYRROLIDINE

- Antihypertensive agents; dialkylaminoalkoxyalkylpiperidines and pyrrolidines. S. L. Shapiro and others. *Am Chem Soc J* 80:2743-5 Je 5 '58

- Biogenesis of nicotine: new precursors of the pyrrolidine ring. E. Leete. *bibliog Am Chem Soc J* 80:2162-4 My 5 '58

PYRROLIDINEDIONE

- 1,5-Diaryl-2,3-pyrrolidinediones; observations on synthetic methods and the effect of 4-substituents on chemical properties. W. R. Vaughan and I. S. Covey. *bibliog Am Chem Soc J* 80:2197-201 My 5 '58

PYRROLIDINETRIONE

- 4-Substituted-2,3,5-pyrrolidinetriiones. E. G. Howard and others. *bibliog Am Chem Soc J* 80:3324-3 Ag 5 '58

PYRROLIDONE

- Relationship between pyrrolidonecarboxylic acid and an off-flavor in beet puree. R. S. Shallenberger and J. C. Moyer. *bibliog J Agril & Food Chem* 6:604-6 Ag '58

PYRROLINONE

- Rearrangement of a hydroxypyrrolinone. A. Queen. *Chem & Ind p* 196 F 15 '58

PYRUVATES

- Fischer indole synthesis; 2-carbethoxy-4,7-dimethylindole from ethyl pyruvate 2,6-dimethylphenylhydrazones. R. B. Carlin and others. *bibliog Am Chem Soc J* 79:5712-17 N 5 '57

- Formation of keto-pyruvate in the dehydrogenation catalyzed by yeast lactic oxidase. A. Marcus and B. Vennesland. *bibliog Am Chem Soc J* 80:1123-5 Mr 5 '58

PYRUVIC acid

- Investigations on lignins and lignification; the mode of incorporation of *p*-hydroxyphenylpyruvic acid into lignin. S. N. Acerbo and others. *bibliog Am Chem Soc J* 80:1990-2 Ap 20 '58

- Pyrolysis of pyruvic acid hydrazones. J. H. Boyer and L. R. Morgan, jr. *bibliog Am Chem Soc J* 80:3012-15 Je 20 '58

Q

QUADRATURES, Gaussian. See Gaussian quadratures

QUALITY control

- Automating the quality control function. W. S. Tandler. *il Automation* 5:116-7 My '58
- Criterion to limit inspection effort in continuous sampling plans. R. B. Murphy. *bibliog Bell System Tech J* 37:115-34 Ja '58

QUALITY control—Continued

- Know why, guarantees quality control: VISIrecord, inc. *il* Mill & Factory 62:96-7 Ap '58
- Problems department, T. A. Budne and P. C. Clifford, eds. *Ind Quality Control* 14:29-31+ Ja '58
- Product quality, keynote of drive systems engineering. E. H. Browning and L. F. Stringer. *il* diags Iron & Steel Eng 34:114-23; Discussion, 123-4 D '57
- Professional work of the quality control engineer. A. V. Feigenbaum. *diag* *Ind Quality Control* 14:5-8 F '58
- Quality control and the consumer. *Ind Quality Control* 14:28-30 Ap '58
- Quality control as an administrative aid. C. A. Bickling. *Ind Quality Control* 14:36-9+ My '58
- Quality control at the crossroads. E. C. Burkhardt. *bibliog* *Ind Quality Control* 15:12-20 Ag '58
- Quality control for large highway projects. [HW 2 no 16261]-1-10 My '58; Discussion, 84 [HW 3 no 18291]-7-8 O '58
- Quality control; is it a management service? A. F. Cowan. *Ind Quality Control* 14:12-14 Ja '58
- Statistical method and the quality problem in the Soviet Union. J. A. Gwyer. *Ind Quality Control* 14:9-13 *bibliog*(p 12-13) F '58
- Technical aspects of quality control. C. A. Bickling. *bibliog* *Ind Quality Control* 14:5-8 Mr '58
- What is quality control? C. C. Craig. *Ind Quality Control* 15:5-7 JI '58
- See also*
- American society for quality control
- Control charts
- Inspection
- also* subdivision Quality control under special subjects, e.g.
- Airplane factories
- Automobile factories
- Chemical plants
- Clay products plants
- Drug factories
- Electric utilities
- Electric welding, Arc
- Factory management
- Flour mills
- Food factories
- Foundry management
- Glass factories
- Guided missile factories
- Hosiery mills
- Job work
- Knitting mills
- Machine shop management
- Machine works
- Metal working plants
- Paper and pulp mills
- Printing offices
- Rubber factories
- Textile mills
- Woolen and worsted mills

Bibliography

- Book reviews. W. D. Baten, ed. *Ind Quality Control* 14:38-9 Mr '58

QUALITY of products

- Certain uses of the analysis of variance with standard product specifications. H. Smith, Jr. and T. F. Waters. *Am Oil Chem Soc J* 35:246-9 My '58
- Nature and origin of standards of quality. W. A. Shewhart. *Bell System Tech J* 37:1-22 Ja '58
- Reliability requirements for tomorrow's competition. H. T. Hallowell, Jr. *Tool Eng* 40:71-4 Je '58

See also

Inspection

Products, Improved

QUANTITIES (in production)

- Acceptance sampling of lots by the median, quasi-range method, diags *Ind Quality Control* 15:8-11 JI '58
- Automation applied to small-lot production. C. O. Herb. *il* Mach 64:191-3 My '58
- Determining economic lot size. F. J. Langier. *Tool Eng* 40:116-18 F '58
- How to pick the economic lot size. E. C. Varnum. *Tool Eng* 37:85-8 N '56; Same cond. *Product Eng* 28:A2-3 Mid-O '57
- Mechanical lot plot template. E. W. Ellis. *il* *Ind Quality Control* 14:15-18 Mr '58
- Operations research shows how to find the best lot size. I. Heitner. *Am Mach* 102:114-15 Ag 11 '58
- Optimum lot sizes for parts used in aircraft production. J. C. Chambers and others. *diag* *Op Res* 6:385-98 My '58

QUANTUM mechanics. *See* Wave mechanics**QUANTUM theory**

- Physics and philosophy: the revolution in modern science. W. Heisenberg. *Review*, by V. F. Weisskopf. *Sci Am* 199:215-16+ S '58

See also

- Dirac equation
- Photoelectric effect
- Radiation
- Wave mechanics

QUARLES, Donald A.

- D. A. Quarles, honorary member presentation. W. J. Barrett. *por Elec Eng* 77:787-8 S '58

QUARRIES and quarrying

- Monumental and structural marble production; Tate quadrangle. *il* *Min Eng* 9:1344 D '57
- Ripping stone pays off for Florida lime producer. *il* *Pit & Quarry* 50:185+ My '58

See also

Stone, Crushed

Electric equipment

- Electric plant for limestone products. *il* *Roads & Sts* 101:118 Mr '58
- Electric power boosts quarry production. F. A. Bewley. *il* *Elec World* 148:88 N 11 '57

Equipment

- Bigger quarry equipment boosts output, cuts costs. *il* *Diesel Power* 36:26 Je '58
- New machinery and equipment. Published in monthly numbers of *Pit and Quarry*
- New York Trap Rock reduces operating costs through haulage revisions. *il* *Pit & Quarry* 50:96+ My '58
- Stone plant meets twin needs. R. Day. *il* *Rock Prod* 61:90-2+ JI '58
- Waiting: 10,000,000 tons of limestone and Warner co.'s going after it with stope mining methods and belt conveyors. E. Meschter. *il* *diag* *Rock Prod* 61:132-4+ Jm '58

Safety measures

- National safety council Cement, quarry and mineral aggregates section meeting, Chicago, Oct. 21-25. *Rock Prod* 60:99 D '57
- National safety council Cement, quarry and mineral aggregates section meeting, Chicago, Oct. 21-25. *Pit & Quarry* 50:89 F '58

India

- Problems in mechanization in primitive countries. J. V. Thompson. *il* *Min Eng* 10:858-63 Ar '58

QUARTZ

- Correlation of contact angles, adsorption density, zeta potentials, and flotation rate. D. W. Fuerstenau. *bibliog* *Min Eng* 9:Trans 1365-7 D '57
- Crystals' frequency is cleanliness test. E. B. Lewis. *il* *Electronics* 31:118+ Ag 1 '58
- Dependence of dissolution on the presence of vacancies in the quartz lattice. J. A. Wadams. *bibliog* *Research* 11:370-2 S '58
- Direct quartz crystal control of a low-level Pound-Knight-Watkins spin magnetometer. R. J. Blume. *bibliog* *diags* *R Sci Instr* 29:574-7 JI '58
- High-frequency quartz filter crystals. R. Bechmann. *bibliog* *Inst Radio Eng Proc* 46:617-18 Mr '58
- High Q quartz crystals at low temperatures. D. L. White. *il* *J Ap Phys* 29:856-7 My '58
- Magic crystal. R. A. Sykes. *il* *Mag of Stand* 29:160-2 Je '58
- Magnetic susceptibility of neutron-irradiated quartz. D. K. Stevens and others. *J Ap Phys* 29:66-8 Ja '58
- Muscovite, biotite, and quartz fabric reorientation. C. E. Grampton. *bibliog* *diags* *J Geol* 66:28-34 Ja '58
- New method for orienting electron microscope replicas applied to twinned quartz. R. V. Rice and A. J. Cohen. *bibliog* *il* *diag* *Am Mineralogist* 43:25-33 Ja '58
- Oxidation-reduction reactions at silica surfaces. E. Richardson and C. D. Poucher. *bibliog* *Research* 11:247-8 Je '58
- Photometer method for studying quartz grain orientation. J. D. Martinez. *bibliog* *il* *map diags* *Am Assn Pet Geologists Bul* 42:588-608 Mr '58
- Piezoelectric pressure bar gauge. D. H. Edwards. *bibliog* *il* *diags* *J Sci Instr* 35:346-9 S '58
- Porphyritization in Destor and Duparquet townships, Atibi West county, Quebec, Canada. R. B. Graham. *bibliog* *il* *map Econ Geol* 53:737-53 S '58
- Quartz cubes, rods formed by forging. *il* *Materials in Design Eng* 47:168+ Je '58

QUARTZ—Continued

- Quartz helix magnetic susceptibility balance using the Curri-Cheneveau principle. F. D. Semfite and others. *il diag R Sci Instr* 29: 429-32 Mr '58
- Quartz-to-metal seal; patent. *diag Glass Ind* 38:704 D '57
- Relationship between O^{18}/O^{16} ratios in coexisting quartz, carbonate, and iron oxides from various geological deposits. R. N. Clayton and S. Epstein. *bibliog diags J Geol* 66:352-73 Jl '58
- Relationships among impurity contents, color centers and lattice constants in quartz. A. J. Cohen and G. G. Sumner. *bibliog Am Mineralogist* 43:58-68 Ja '58
- Solubility of quartz in supercritical water as a function of pressure. G. J. Wasserburg. *bibliog J Geol* 66:559-78 S '58
- Thermodynamic behavior of quartz and other forms of silica in pure water at elevated temperatures and pressures with conclusion on their mechanism of solution; discussion. K. Jasmund. *bibliog J Geol* 66:595-6 S '58

See also

Chalcedony
Crystals, Piezoelectric

Bibliography

Radiation effects in quartz, a bibliography. R. Bechmann. *Nucleonics* 16:122+ Mr '58

QUARTZ fibers. See Silica, Fibrous

QUARTZITE

- Ignacio quartzite of southwestern Colorado. F. H. T. Rhodes and J. H. Fisher. *bibliog il map Am Assn Pet Geologists Bul* 41:2508-18 N '57
- Lowercase quartzite problem. M. F. Norton and R. F. Giese, jr. *map Geol Soc Bul* 68:1577-80, pl 1 N '57

QUATERNARY ammonium compounds. See Ammonium compounds

QUATERNARY ammonium hydroxide. See Ammonium compounds

QUATERNARY period. See Geology, Stratigraphic—Quaternary

QUEBEC (province)

See also subdivision Quebec (province) under special subjects, e.g.

Electricity supply
Geology
Hydroelectric plants
Iron mines and mining
Iron ores
Mines and mineral resources

QUEBRACHO

- Prototypes of quebracho tannins. D. G. Roux. *bibliog Chem & Ind* p 161-2 F '58
- Prototypes of quebracho tannins. T. White and H. G. C. King. *bibliog Chem & Ind* p291 Mr '58

QUENCHING

- Air quench tank made from old heat treating furnace. *Allyl Chalmers mfg. co. H. B. Michowski. diag Plant Eng* 12:130+ Je '58
- Direct chill casting of large aluminum ingots. A. T. Taylor and others. *il diag Metal Prog* 72:70-4 N '57
- Gleason quenching press; automatic loader and unloader. *il Mach* 64:191-2 Ja '58
- Magnetic device tests quenching liquids. *il Elec Manuf* 61:156 F '58
- Measurements of quenching stresses in a bearing ring by interference fringes. T. Mura and H. Yoshimoto. *bibliog il diags J Ap Phys* 29:15-19 F '58
- Mechanism of the influence of preliminary quenching of white cast iron on the formation of graphite nuclei; abstract. A. F. Landa and V. D. Yakhnina. *Metal Prog* 73:152-3 Je '58
- Morphological and phase changes during quenching of ferrite containing carbon and nitrogen; abstract. G. Lagerberg and B. S. Lement. *Metal Prog* 72:204+ N '57
- Quenching press has automatic loader and unloader. *il Steel* 141:217 N 18 '57
- Some properties of quenched magnesium ferrites. D. J. Epstein and B. Frackiewicz. *bibliog J Ap Phys* 29:376-7 Mr '58
- Sub-zero quench tames formed aluminum. R. J. Delaney. *il Am Mach* 102:106-7 Je 16 '58

QUENCHING of flames. See Flames

QUENCHING of steel. See Steel, Quenching of

QUENON, Eugene E.

Coal men win Department of interior awards. *por Coal Age* 63:32 Mr '58

QUERCETIN

Fine chemical from fir bark. *il Chem & Eng N* 36:58 F 17 '58

QUEUEING theory

- Approach to a class of queueing problems. G. Swenson. *bibliog diags Op Res* 6:276-92 Mr '58
- Discrete-time queueing theory. T. Meisling. *bibliog Op Res* 6:96-105 Ja '58
- Effect of population mobility on the location of communal shelters. M. N. Alexander and others. *bibliog maps diag Op Res* 6:207-31 Mr '58
- New approach to conventional coal mining problems; queue theory. E. Koenigsberg and S. R. Neuberger. *diags Min Cong J* 44: 64-8 Mr '58
- Nonstationary queueing probabilities for landing congestion of aircraft. H. P. Gallilher and R. C. Wheeler. *Op Res* 6:264-75 Mr '58
- Queueing with preemptive priorities or with breakdown; study of waiting-line situations. H. White and L. S. Christie. *bibliog Q Res* 6:73-35 Ja '58
- Traffic dynamics; studies in car following. R. E. Chandler and others. *bibliog il Op Res* 6:165-85 Mr '58
- Two queues under preemptive priority with Poisson arrival and service rates. F. F. Stephan. *bibliog Op Res* 6:339-418 My '58

QUICKSAND

Pipelayer's puzzle; how to cope with quicksand. C. S. Seabrook. *il diags Eng N* 161: 42-4+ Ag 21 '58

QUINIC acid

p-coumaryl-quinic acid from apple fruit. A. H. Williams. *Chem & Ind* p 1200 S 13 '58

QUINOL

Chemistry of esters of leuco vat dyes; the oxidation of the meno- and di-sulphuric esters of quins of hydroquinone and of 1:4-naphthaquinol with acidic hydrogen peroxide. A. Johnson and M. L. Rahman. *bibliog Soc Dyers & Col J* 74:291-6 Ap '58

QUINOLINE

- Chemical microscopy; metal chloride-quinoline compounds. J. M. Mutchler and H. B. Bradley. *bibliog il Anal Chem* 30:1371-4 Ag '58
- 5- and 8-bromination of quinoline in concentrated sulphuric acid. P. B. D. de la Mare and others. *bibliog Chem & Ind* p361 Mr 22 '58
- Fungitoxicity of some substituted pyridines and quinolines related to 8-quinolinol (oxine). A. B. Durkee. *bibliog J Agri & Food Chem* 6:194-6 Mr '58
- Further observations on the mechanism of sulfur-carbon bonds; the chlorinolysis of 4-benzylthio-7-chloroquinoline. H. Kwart and L. J. Miller. *bibliog Am Chem Soc J* 80:384-7 F 20 '58
- Microwave absorption and molecular structure in liquids; relaxation times, viscosities and molecular shapes of substituted pyridines, quinolines and naphthalenes. R. W. Ramapolla and C. P. Smyth. *bibliog Am Chem Soc J* 80:1057-61 Mr 15 '58
- Reaction of Reissert compounds and related 1-acyl-1,2-dihydroquinoline derivatives. R. F. Collins and T. Henshall. *bibliog Am Chem Soc J* 80:159-61 Ja 5 '58

See also

Bromoquinoline
Vioform

Analysis

Ultraviolet spectrophotometric determination of total pyridines and quinolines in low temperature aqueous distillates. L. Chang and C. Karr, jr. *bibliog Anal Chem* 30:371-2 My '58

QUINOLINOL

- Determination of bis-(beta-chloroethyl) amines and related compounds with 8-quinolinol. E. G. Trams. *bibliog Anal Chem* 30:256-9 F '58
- Fungitoxicity of some substituted pyridines and quinolines related to 8-quinolinol (oxine). A. B. Durkee. *bibliog J Agri & Food Chem* 6:194-6 Mr '58
- Nature of uranyl 8-quinolinolate. E. P. Bullwinkel and P. Noble, jr. *bibliog Am Chem Soc J* 80:2955-8 Je 20 '58
- New titrimetric determinations of magnesium and aluminum oxinates. R. M. Powers and others. *bibliog Anal Chem* 30:254-6 F '58
- Niobium and tantalum 8-quinolinolates. H. A. Szymanski and J. H. Archibald. *bibliog Am Chem Soc J* 80:1811-12 Ap 20 '58
- Spectrophotometric studies of chelates of 8-quinolinol in some water-miscible organic solvents. W. G. Boyle, jr. and R. J. Robinson. *bibliog Anal Chem* 30:358-61 My '58
- Thermolysis of oxine molybdophosphate. W. W. Wendlandt and J. A. Brabson. *Anal Chem* 30:61-2 Ja '58

QUINOLIZINE

Synthetic oxytocics; synthesis and reactions of 3-indolyl-2'-pyridylcarbinols and of 2,3-(2',3'-indolo)-hexahydroquinolizines. H. Bader and W. Oroshnik. *bibliog Am Chem Soc J* 79:5686-9 N 5 '57

QUINOLIZINIUM compounds

Acridizinium ion chemistry; the Diels-Alder reaction. C. K. Bradsher and T. W. G. Solomons. *bibliog Am Chem Soc J* 80:933-4 F 20 '58

Aromatic cyclodehydration; alkoxyl derivatives of the acridizinium ion. C. K. Bradsher and J. H. Jones. *bibliog Am Chem Soc J* 79:6033-4 N 20 '57

QUINONE

Dipole moment of *p*-benzoquinone. L. Paoloni. *bibliog Am Chem Soc J* 80:3879-83 Ag 5 '58
Quinone iron tricarbonyl complex and its significance in organic synthesis; abstracts. H. W. Sternberg and others. *bibliog Am Chem Soc J* 80:1009-10 F 20 '58; *Chem & Eng N* 36:43-4 My 5 '58

QUINONE imines

Quinone imides; the addition of heterocyclic active methylene compounds to *p*-benzoquinone dimides. R. Adams and others. *Am Chem Soc J* 80:3291-3 JI 5 '58

QUINONES

Benzo[d]pyrido[a]benzimidazole-4,9-quinone. P. Truitt and others. *bibliog Am Chem Soc J* 79:5708-10 N 5 '57

Coenzyme Q. D. E. Wolf and others. *Am Chem Soc J* 80:4752-3 S 5 '58

Coenzyme Q, a new group of quinones. R. L. Lester and others. *bibliog Am Chem Soc J* 80:4751-2 S 5 '58

Coenzyme Q debuts; new quinone compound is an electron carrier in the citric acid cycle. *Chem & Eng N* 36:48-50 S 8 '58

Ubiquinone. R. A. Morton and others. *bibliog Chem & Ind p* 1649-50 D 21 '57

Ubiquinone, an active component of the respiratory chain. A. M. Pumphrey and others. *bibliog Chem & Ind p* 978-9 Ag 2 '58

QUINOXALINE

Polarography of quinoxaline; 6-substituted derivatives. M. P. Strier and J. C. Cagnavol. *Am Chem Soc J* 80:1565-8 Ap 5 '58

Quinoxaline-2,3-dithiol as a colorimetric reagent; determination of nickel in ammoniacal solutions. D. A. Skoog and others. *Anal Chem* 30:365-8 Mr '58

QUOTA problems. See Job assignment**R**

RACE. See Electronic data processing

R-N process. See Iron metallurgy

RABBITS

Organ, urine and feces vitamin B₁₂ content of normal and starved rabbits. H. L. Rosenthal and L. Cravitz. *bibliog J Nutrition* 64: 281-90 F '58

RABBITT, John Charles

Memorial. E. S. Larsen, 3d. *por Am Mineralogist* 43:307-9 Mr '58

RACE tracks

Madrid racecourse. E. Torroja. *il diags Arch Rec* 123:307-9 Je '58

More than a race track; Toronto's Woodbine Park. J. C. Smith. *il Arch Rec* 122:40 D '57

Roofs are top attractions at new race track in Caracas. T. Y. Lin. *il Eng N* 160:66+ Ap 24 '58

RACEMIZATION

Mechanism of racemization of complex ions; effect of added large ions upon the rates of dissociation and racemization of tris-(1,10-phenanthroline)-iron(II) ion. A. Jensen and others. *bibliog Am Chem Soc J* 80:2354-8 My 20 '58

Racemization and exchange of sodium mandelate in alkaline H₂O and D₂O. Y. Focker. *bibliog Chem & Ind p* 1117-18 Ag 23 '58

Racemization by the dicyclohexylcarbodiimide method of peptide synthesis. G. W. Anderson and P. M. Callahan. *bibliog Am Chem Soc J* 80:2902-3 Je 5 '58

Racemization of lysine by proteus vulgaris. H. T. Huang and others. *Am Chem Soc J* 80:1006-7 F 20 '58

Synthesis of the fourth racemate of a flavan-3,4-diol. M. D. Kashikar and A. B. Kul-karni. *bibliog Chem & Ind p* 1084-5 Ag 16 '58

RACING

See also

Automobile racing

RACKETEERING

FTC cracks down on real estate confidence racket. *Arch Forum* 108:11 Je '58

RACKS

Conduit racks solve storage problem; Curry electric co. *il Elec Constr & Maint* 57:102-4 Ag '58

Fiber tubes for racks. G. J. Bevans. *il Plant Eng* 12:103 JI '58

Industrial know-how handbook; bins and racks. *il Mill & Factory* 62:MH27 My '58
1958 equipment buyer's guide; containers, racks and storage equipment. *il Mod Materials Handling* 13:279-306 My '58

Storage rack for active blueprints. *il diags Elec Constr & Maint* 57:187-8+ Ap '58

Titanium-tipped anodizing racks. *il Metal Finishing* 56:65 F '58

Transferring automatically between conveyor and plating machine. R. L. Everstine. *il diags Automation* 5:61-3 JI '58

Truck rack eases handling; Intertype co. *il Steel* 142:117 My 26 '58

See also

Pipe racks

RADAR

Birth of radar. G. R. M. Garratt. *il diags Electronic Eng* 30:140-2 Mr '58

Broad-band amplifier for radar and scatter. J. H. Phillips and E. Maxwell. *il diags Electronics* 31:81-3 S 26 '58

Doppler effect in radio and radar. N. M. Rust. *diags Wireless World* 64:304-7, 373-7 JI-Ag '58

Measurement of the radar cross section of a man. F. V. Schultz and others. *Inst Radio Eng Proc* 46:476-81 F '58

Microwave amplifier may improve radar. *Machine Design* 30:14 Je 12 '58

Proposed technique for the improvement of range determination with noise radar. K. Bourret. *diags Inst Radio Eng Proc* 45: 1744 D '57; Discussion. 46:1652, 1757-8 S-O '58

Radar calculator. Franklin Inst J 265:316 Ap '58

Radar signal enhancement; research project in electronics research laboratories at Columbia university. *il Mech Eng* 80:65 Ja '58

Radar system planning; nomographs; reference sheet. C. W. Young. *Electronics* 31:120-1 F 14 '58

Radio and radar tracking of the Russian earth satellite. A. M. Peterson. *il diags Inst Radio Eng Proc* 45:1553-5 N '57

What's doing in USAF labs. *il Electronics* 31:22-3 Mr 7 '58

See also

Antenna and scanning mechanism

Aerodynamically balancing a radar antenna. P. Slyn. *il diags Electronic Ind* 17:supO 7-8+ Ap '58

Antenna array for studies in meteor and radio astronomy at 13 meters. P. B. Gallagher. *il Inst Radio Eng Proc* 46:89-92 Ja '58

Antenna pattern range speeds counter-measures work. R. H. Cissel and J. Hill. *il Aviation Age* 28:102-5 F '58

Data unit aims radar at moon. *Electronics* 31:16+ Ap 25 '58

Far-field radiation of a cheese aerial. R. F. Kyle. *diags Electronic & Radio Eng* 35: 260-2 JI '58

Fast-scan radar has long range. *Electronics* 31:12 Ja 31 '58

Lapping 4920-pound weldments for radar systems. C. E. Calsbaugh. *il Mach* 64:136-9 JI '58

Marine corps portable tactical early warning line. *il Elec Eng* 77:195-6 F '58

Radar power nomograph. J. E. Allen. *diags Electronics* 31:72 JI 4 '58

Tracking system for moon radar; abstract. O. A. Guzmann. *Franklin Inst J* 265:524-5 Je '58

See also

Countermeasures

Antenna pattern range speeds countermeasures work. R. H. Cissel and J. Hill. *il Aviation Age* 28:102-5 F '58

See also

Interference

Atmospheric angels mimic radar echoes. V. G. Plank. *il diags Electronics* 31:140-4, cover Mr 14 '58

Jamming nomograph; reference sheet. G. Minty. *Electronics* 31:83-4 Je 20 '58

Radar, a dependable defense tool? A. R. Weyl. *diags Space/Aeronautics* 30:146-8+ O '58

RADAR—Continued

Meteorological use

- Airborne weather radar; cutting size and weight without performance loss. B. L. Cordry. *Aviation Age* 28:70-7 Ja '58
- Commercial airborne weather radar. A. W. Vose and F. V. Wilson. *bibliog* *il diags* RCA R 19:187-207 Je '58
- Directional characteristics of meteor propagation derived from radar measurements. V. R. Eshleman and R. F. Miodnosky. *bibliog* *diags* *Inst Radio Eng Proc* 45:1715-23 D '57
- New market in private weather forecasting? A. L. Malcarney and C. I. Rice. *Electronics* 31:16 Ja 17 '58
- Radar in the rain. *il diags* *Electronic & Radio Eng* 35:13-15 Ja '58
- Radar system for tracking and forecasting local weather disturbances; abstract. A. L. Malcarney. *Franklin Inst J* 265:163-4 F '58

Military use

- Aircraft detection systems. E. K. Mack and C. E. McClellan. *il Westinghouse Eng* 17: 173-7 N '57
- Automatic system lands jet aboard carrier. *Elec Eng* 76:1117-18 D '57
- Coordinate data sets for military use; transmission of radar data over ordinary telephone circuits. W. Koenig. *il diags* *Bell Lab Rec* 36:166-70 My '58
- Decoder shows plane number. *il Electronics* 31:12-2 Ag 15 '58
- Four ways to simulate radar targets. J. I. Leskinen. *il diags* *Electronics* 31:82-6 Je 6 '58
- Going up, new line to aid DEW line; ballistic missile early warning system bases. *il Eng N* 161:23-4 J1 17 '58
- Heart of North American air defense; Combat operations center. *il Radio-Electronics* 29:50, cover Mr '58
- Is military radar doomed? editorial. H. Gernsback. *Radio-Electronics* 29:31 S '58
- Marine corps portable tactical early warning line. *il Elec Eng* 77:195-6 F '58
- Missile radar probes Arctic. *il Electronics* 30: 19 D 10 '57
- Navy's new radar; computers in fighter control and early-warning radars. *il Wireless World* 64:261 Je '58
- Portable early warning system will supplement DEW line. *il Machine Design* 30:10 Ja 9 '58
- Radar developments aid defense. *il Electronics* 31:74 J1 4 '58
- Radar device triples range of present systems. *diag Product Eng* 28:26 D 2 '57
- Radar meets space challenge. *il Electronics* 31:15-17, cover Ap 4 '58
- Radar, passive detection system for bombers. J. Holahan. *il diags* *Aviation Age* 30:156-61 S '58
- Radars used to track satellite launching. A. L. Malcarney. *Franklin Inst J* 265:336 Ap '58
- Research tool for ballistic missiles problems. *il Elec Eng* 77:370-1 Ap '58
- Shares and prices; some missile detection system contractors. *Electronics* 31:5 Mr 7 '58
- Target simulator tests beam-rider missiles. G. E. Hendrix. *il diags* *Electronics* 31:32-5 Ja 31 '58

See also

Semi-automatic ground environment system

Patents

- Behind the Blair patent. *il Electronics* 30:21 N 20 '57; Discussion. 31:162 My 9 '58

Physiological effect

- Radar radiation hazards. G. M. Knauf. *Electronics* 31:15 Ap 18 '58

Study and teaching

- Marine radar simulators. *il Electronic Eng* 30:396-7 Je '58
- Marine radar simulators; economical training of radar observers. *il diags* *Wireless World* 64:324-6 J1 '58
- Radar simulator. *Engineer* 205:863 Je 6 '58
- Radar simulators; various methods of analogue computation. L. J. Kennard and C. H. Nicholson. *il diags* *Brit Inst Radio Eng J* 18:17-30; Discussion. 30-1 Ja '58
- Use of radar simulators in the Royal navy. P. Tenger. *diags* *Brit Inst Radio Eng J* 18:33-47 Ja '58

Surveying use

- Distance measurement with the geodimeter and tellurometer. J. S. McCall. *Am Soc C E* Proc 83 [SU 2 no 1445]:1-6 N '57
- Electronic surveyor being tested by army; tellurometer. *Electronic Ind* 17:92 Ag '58
- Fast new highway locating aids; profiles plotted by radar, photogrammetry short-cut. H. A. Radzikowski and S. E. Ridge. *Roads & Sts* 101:140-2 Ag '58; Same. *Pub Works* 89:194 O '58; Excerpts. *Civil Eng* 28:55 J1 '58
- Geodimeter and tellurometer. A. C. Poling. *diags* *Am Soc C E Proc* 84 [SU 1 no 1617]: 1-15 Ap '58
- New radar surveying instrument cuts one-month job to one hour. Tellurometer. *il Machine Design* 28:10-4 D 26 '57
- New surveying method faster and cheaper than triangulation. Tellurometer. *maps* *Roads & Sts* 100:87-9-4 D '57
- Step-by-step with the Tellurometer. *il Roads & Sts* 100:101 D '57
- Surveying instrument uses radar principles; Tellurometer. *il Pub Works* 89:108 F '58
- Tellurometer; mapping instrument measures distances with accuracy up to one in 300,000. *il Pet Eng* 30:350 F '58
- You can build in radar ground mapping resolution. R. H. Laprade and R. S. Timm. *Space/Aeronautics* 30:158-63 O '58

Traffic control use

- New radar speed check; PETA (portable electronic traffic analyser). *il Electronic Eng* 30:556 S '58
- Speed radar uses transistors. *Electronics* 31: 106 Ag 1 '58

RADAR aids to aviation

- Anti-collision system uses weather radar. *il Electronic Ind* 17:5 Mr '58
- Demonstration of civil Doppler navigation system. *Electronic Eng* 30:455 J1 '58
- Doppler radar system for commercial lines. *RADAN, Electronic Ind & Tele-Tech* 16:10 N '57
- Microwave link for radar. *il Engineering* 184: 586 N 8 '57
- Navy planes can land in all weather with the new three zone control system. A. B. Winick and J. L. Loeb. *diags* *S A E J* 66:78-9 Ag '58
- New flight control aid for air traffic; high density air navigation (HIDAN). *Electronic Ind* 17:7 Ag '58
- Radar aids at Farnborough. *Engineering* 186:323 S '58
- Radar information is converted to television signal; SPANRAD system. *il diag Elec Eng* 77:365-6 Ap '58
- Radar system for New Zealand. *il Electronic & Radio Eng* 34:403 N '57
- Radar video rides microwave link to indicator display; airport surface detection equipment. P. G. Holcombe. *il diags* *Aviation Age* 28:78-83 Ja '58
- Radio navigational aids; symposium. *Wireless World* 64:210-11 My '58
- Simplified Doppler ground speed indicator; abstract. J. R. Iverson. *Aircraft Eng* 30:242 Ag '58
- Taxi radar spots planes; New York's International airport. *il Electronics* 31:8 J1 18 '58

See also

Radar apparatus on aircraft

RADAR aids to navigation

- Harbour radar for the port of London. *Electronic Eng* 30:605 O '58
- Military uses more civil radar. *il Electronics* 30:8 D 1 '57
- New shipping control system at Southampton. *Electronic Eng* 30:145 Mr '58
- Radio control at Southampton harbour. *il Wireless World* 64:102-3 Mr '58
- Radio navigational aids; symposium. *Wireless World* 64:210-11 My '58
- Tv receivers substitute for marine radar. C. Barocci. *Electronics* 31:92-4 Ja 3 '58
- Two short low-power ferrite duplexers. R. S. Cole and W. N. Honeyman. *il diags* *Electronic & Radio Eng* 35:282-6 Ag '58

See also

Ports—Traffic control

Radar apparatus on ships

RADAR apparatus on aircraft

- Airborne weather radar; cutting size and weight without performance loss. B. L. Cordry. *il Aviation Age* 28:70-7 Ja '58
- Antenna pattern range speeds countermeasures work. B. H. Ciscel and J. Hill. *il Aviation Age* 28:102-5 F '58
- Commercial airborne weather radar. A. W. Vose and F. V. Wilson. *bibliog* *il diags* RCA R 19:187-207 Je '58

RADAR apparatus on aircraft—Continued

- Electronic unit boosts radar echo. *Electronics* 31:22 Ap 18 '58
 Experimental radar research plane designed. *Elec Eng* 77:662 J1 '58
 Factors in the design of airborne Doppler navigation equipment. E. G. Walker, bibliog diags *Brit Inst Radio Eng J* 18:425-42; Discussion. 442-3; Reply. 444 J1 '58
 Flying saucer radar sweeps skies. *Il Electronics* 31:23 Ap 4 '58
 Light modulator records airborne radar displays using an ultrasonic cell. L. Levi. *Il diags Electronics* 31:80-3 Ag 1 '58
 Liquid cooling for airborne radar. *Engineering* 186:296 S 5 '58
 Marconi Doppler navigator: technical details and a flight demonstration. *Il diag Wireless World* 64:260-1 Je '58
 Multipurpose automatic navigator. B. J. Baron and R. W. Unold. *Il diag Aero/Space Eng* 17:57-8 My '58
 New radar fire control system. *Electronic Eng* 30:472 Ag '58
 New radar test adapter. *Il Electronic Ind* 17:118+ Ja '58
 Radar, a dependable defense tool? A. R. Weyl. diags *Space/Aeronautics* 30:146-8+ O '58
 Sg-band beacon slated for X-15. B. Kovit. *Il diags Aviation Age* 30:116-17 J1 '58
 You can build in radar ground mapping resolution. R. H. Laprade and R. S. Timm. *Space/Aeronautics* 30:158-63 O '58
See also

Airplanes—Radomes

- RADAR apparatus on automobiles**
 Automobile radar seen as market. *Electronics* 31:18 Je 20 '58
 Warning radar for cars. *Mech Eng* 80:57 J1 '58
RADAR apparatus on ships
 Aerodynamically balancing a radar antenna. P. Slysh. *Il diags Electronic Ind* 17:supO 7-8+ Ap '58
 Marine radio navigational aids. B. G. Pressey. *Il map diag Engineering* 186:316-18 S 5 '58
 Ship radar development. *Engineer* 205:184-5 Ja 31 '58
 Undersea radar station: nuclear submarine Triton. *Il Electronics* 31:20 S 19 '58
 Waveguides form ship-radar lens. *Electronics* 31:16 Ag 15 '58

RADAR cabinets

- Sealed cabinets for radar. *Il diag Engineering* 185:731-2 Je 6 '58

RADAR echoes

- Atmospheric angels mimic radar echoes. V. G. Plank. *Il diag Electronics* 31:140-4, cover Mr 14 '58
 Electronic unit boosts radar echo. *Electronics* 31:22 Ap 18 '58
 Radar echo augmentation device (READ) system increases radar range. *Elec Eng* 77:663 J1 '58
 Radar echoes from overdrive meteor trails under conditions of severe diffusion. G. S. Hawkins and D. F. Winter. *diag Inst Radio Eng Proc* 45:1290-1 S '57
 Radar echoes from the moon at a wavelength of 10 cm. B. S. Yaplee and others, bibliog *Il diag Inst Radio Eng Proc* 46:293-7 Ja '58
 Radio observations on the Russian satellites: observations at the Royal radar establishment. J. S. Hey. *Inst E E Proc* 105 pt B:107-8 Mr '58
 Radio observations on the Russian satellites: radar observations of the Russian earth satellites and carrier rocket. J. Davis and others. *Il diag Inst E E Proc* 105 pt B:105-7 Mr '58

RADAR receiving apparatus

- Harmonic amplifier for X-band local oscillator. W. J. Dauksher. *Il diags Electronics* 31:80-2 Je 20 '58
 Logical design of SAGE radar input monitor. B. L. Bair. *Il diags Electronics* 31:76-81 Ag 15 '58
 Ringing amplifier: use in crystal-video transponder receivers. S. Rozenstein and E. Gross. diags *Electronic & Radio Eng* 35:327-32 S '58
See also

Radars cabinets**Noise**

- Cold crystals improve radar. *Il Electronics* Bsns ed 30:32 N 10 '57
 Monitor displays radar noise figures. L. Young. *Il diags Electronics* 31:49-51 Ja 31 '58
 Simple plotter analyzes radar noise rapidly. D. J. Zoll. *Il diags Electronics* 31:162-4 Mr 14 '58

Testing

- New radar test adapter. *Il Electronic Ind* 17:118+ Ja '58

RADAR relay systems

- Microwave link for radar. *Il Engineering* 184:586 N 8 '57

RADAR stations

- Duplexer for sweep-frequency pulse transmitters. R. Silberstein. diags *Electronic Ind & Tele-Tech* 16:supO 2-3+ O '57

Air conditioning

- Air conditioning keeps radar stations cool. Heating-Piping 30:146 My '58
RADIANT heating. See Electric heating—Radiant heating; Heating—Radiant heating; Hot water heating—Radiant heating

RADIATION

- Focusing in collision problems in solids; sputtering and radiation damage of solids. R. H. Silsbee. bibliog *diag J Ap Phys* 28:1246-50 N '57
 Observation of high intensity radiation by satellites 1958 alpha and gamma. J. A. Van Allen and others. diags *Jet Propulsion* 28:588-92 S '58
 Problems of missiles; reducing spurious radiation. A. L. Albin and C. E. Pearlston, jr. diags *Electronic Ind* 17:59-63 S '58
 Radiation from combustion gas. S. Matsunaga. *diag Jet Propulsion* 28:125-6 F '58
 Radiation from slots on dielectric-clad and corrugated cylinders. J. R. Wait and A. M. Conda. diags *J Res Nat Bur Stand* 59:307-16 N '57
 Radiation-tolerant electronic materials. V. DeBast. *Aviation Age* 30:72-4+ Ag '58
See also

Absorption of rays

- Beta rays
 Black body
 Bremsstrahlung
 Cosmic rays
 Diffraction
 Gamma rays
 Heat
 Heat radiation
 Infrared rays
 Irradiation
 Light
 Radioactivity
 Radiochemistry
 Radiography
 Rayleigh radiation
 Relativity (physics)
 Scattering of particles and rays
 Solar radiation
 Spectrum
 X rays

Measurement

- Dosage and biological effects of external radiation sources. J. S. Laughlin. *Il A M A Archives Ind Health* 18:102-5 Ag '58
 Simple phase sensitive rectifier for use with radiation detectors. J. C. S. Richards. *diag J Sci Instr* 35:285-6 Ag '58
 Transistorized radiation survey meter. *Il diag Electronic Ind & Tele-Tech* 16:59+ O '57

Physiological effect

- Clinical approach and laboratory aids in diagnosis and treatment of radiation injury. H. B. Tebrock and others. *Ind Med* 27:513-17 O '58
 Dosage and biological effects of external radiation sources. J. S. Laughlin. *Il A M A Archives Ind Health* 18:102-5 Ag '58
 Hope gains for radiation poisoning survival: chemical treatment may prevent irradiated cells from producing abnormal genes. *Ind & Eng Chem* 50:sup33A My '58
 Radiation cuts life span. *Chem & Eng N* 36:54-5 J1 7 '58

Protection

- Industrial medical problems in an electronic research center. G. M. Knauf. bibliog *A M A Archives Ind Health* 17:383-8 My '58
 New York's experience in administering code on radiation protection. M. Kleinfeld. *A M A Archives Ind Health* 17:87-95 F '58
 Sources of ionizing radiation hazards in naval military medicine. J. A. Brimson. *A M A Archives Ind Health* 18:186-9 S '58
See also
 Radioactivity—Protection
 X rays—Protection

Tables, calculations, etc.

- Radar power nomograph. J. E. Allen. *diag Electronics* 31:72 J1 4 '58

- RADIATION chemistry.** See Radiochemistry
- RADIATION sterilization.** See Food preservation—Radiation sterilization; Sewage disposal—Radiation sterilization
- RADIATION vulcanization.** See Vulcanization
- RADIATORS**
Commercial and industrial finned-tube radiation, *il* diags Air Cond Heat & Ven 54: 71-82 D '57
How should radiators be connected in reverse return system? answers, *diag* Heating-Piping 29:72 D '57
Low heat; ultra-low oil-filled electric radiators, *il* Engineering 184:811 D 27 '57
- RADICALS (chemistry)** free radical formation of alkali metal; induced free radical formation of tetra-substituted hydrazines, E. Lieber and S. Somasekhara, *Chem & Ind* p 1262-3 S 27 '58
Aromatic substitution by a highly selective radical, triphenylmethyl; a case of a free radical reaction in which nitrobenzene is essentially unreactive, R. A. Benkeser and W. Schroeder, *bibliog* Am Chem Soc J 80:3314-22 J1 5 '58
Better look at free radicals, *il* Chem & Eng N 36:42-3 J1 14 '58
Bi-radicals; abstract and discussion, A. F. Trotman-Dickenson, *Chem & Ind* p 1588 D 7 '57
Bridged polycyclic compounds; the addition of *p*-thiocresol to norbornadiene; the question of non-classical free radicals, S. J. Cristol and others, *bibliog* Am Chem Soc J 80:635-40 P 5 '58
Bridged polycyclic compounds; the stereochemistry of the free radical addition of *p*-thiocresol to a bicyclo[2,2,1]heptene and a bicyclo[2,2,2]octene, S. J. Cristol and R. P. Arganbright, *bibliog* Am Chem Soc J 79: 6039-41 N 20 '57
Disproportionation and combination reactions of butyl free radicals, J. W. Kraus and J. G. Calvert, *bibliog* Am Chem Soc J 79: 5921-6 N 20 '57
Effect of radical recombination kinetics on specific impulse of high temperature systems, K. A. Wilde, *bibliog* Jet Propulsion 28:119-20 F '58
Formation of a cyclic recurring unit in free radical polymerization, C. S. Marvel and R. D. Vest, *bibliog* Am Chem Soc J 79: 5771-3 N 5 '57
Free radical addition reactions involving possible rearrangement, J. Weinstock and S. N. Lewis, *bibliog* Am Chem Soc J 79: 6243-7 D 5 '57
Free radical additions of amines to olefins, W. H. Urry and O. O. Juveland, *bibliog* Am Chem Soc J 80:3322-3 J1 5 '58
Free radical displacement processes; reactions of C_2H_5 and CD_3 radicals with crotonaldehyde and with methyl propenyl ketone, J. N. Pitts, Jr. and others, *bibliog* Am Chem Soc J 80:66-70 Ja 5 '58
Free radicals elusive, *Chem & Eng* N 36:22 J1 7 '58
Free radicals for high energy fuels, D. E. Carr and others, *diags* Space/Aeronautics 30: 22-3+ O '58
Free radicals for propulsion, Y. C. Lee and S. T. Demetriades, S A E J 68:60-2 Ag '58; Abstract, *Aircraft Eng* 30:237 Ag '58
Free radicals have an aim, *Chem & Eng* N 36:53-4 S 22 '58
Free radicals put to work, *il* Chem & Eng N 36:44 Ap 21 '58
Free radicals research symposium, Washington, Sept. 18-20, *Phys Today* 11:14-16 F '58
Further data on the free radical phenylation of 2,4-dinitrotribenzene, R. J. Convery and C. C. Price, *Am Chem Soc J* 80:4101 Ag 5 '58
Kinetic study of the reactivity of some dibenzofulvenes toward free radicals, J. L. Kice, *bibliog* Am Chem Soc J 80:348-52 Ja 20 '58
Kinetic study of the thermodynamic properties of the acetyl free radical, J. G. Calvert and J. T. Gruber, *bibliog* Am Chem Soc J 80:1313-17 Mr 20 '58
Microwave spectrometer for the study of free radicals, J. R. Hurle and T. M. Sugden, *bibliog* diags J Sci Instr 33:19-23 S '58
Neophyl-type azo compounds; their decomposition and rearrangement of the neophyl-type free radical, C. G. Overberger and H. Gainer, *bibliog* Am Chem Soc J 80:4561-5 S 5 '58
- Reaction of free radicals with non-benzenoid aromatic hydrocarbons; 6-phenylfulvenes and benzofulvenes, J. L. Kice and F. M. Farham, *bibliog* Am Chem Soc J 80:3792-7 J1 20 '58
Reactions of free radicals in solution; destruction of polymeric molecules by free radicals, S. E. Bresler and others, *bibliog* Rubber Chem & Techn 31:373-85 Ap '58
Reactions of free radicals with aromatics, E. L. Eliehl and others, *bibliog* Am Chem Soc J 80:3303-22 J1 5 '58
Reactions of hydrogen bromide with oleic acid and its esters; free radical addition, E. Jungermann and P. E. Spoor, *bibliog* Am Oil Chem Soc J 35:393-6 Ag '58
Solvent effects in the reactions of free radicals and atoms; effects of solvents on the position of attack of chlorine atoms upon 2,3-dimethylbutane, isobutane and 2-deutero-2-methylpropane, G. A. Russell, *bibliog* Am Chem Soc J 80:4987-96 S 20 '58
Sulphoxides and thiosulphates as inhibitors of autoxidation and other free radical reactions, D. Barnard and others, *Chem & Ind* p918-19 J1 19 '58
Syntheses by free-radical reactions, D. D. Coffman and others, *bibliog* Am Chem Soc J 80:2864-87 Je 5 '58
Synthesis by free radical reactions, W. R. Hatchard and others, *bibliog* Am Chem Soc J 80:3636-42 J1 20 '58
Technical applications of microwave physics, D. J. E. Ingram, *bibliog* *il* diags Research 11:401-7 O '58
Vapor-phase free radical displacement reaction; the reaction of methyl radicals with *trans*-methyl propenyl ketone, J. N. Pitts, Jr. and others, *bibliog* Am Chem Soc J 79: 6370-2 D 20 '57
- RADIO aids to aviation**
Airborne Tacan data-link equipment AN/ARN-26, E. R. Altonji, *il* diags Elec Com 34:228-42 S '57
Automatic system lands jet aboard carrier, *Eng* 16:117-18 D '57
Aviation communications and navigation; today and tomorrow, F. B. Gunter and N. B. Tharp, *il* Westinghouse Eng 17:178-80 N '57
Background and principles of Tacan data link, B. Alexander and R. C. Renick, *il* diags Elec Com 34:160-78 S '57
Data-link airborne instrumentation, M. A. Argenti and F. E. Lind, *il* diags Elec Com 34:264-70 S '57
Dectra, a long-range radio-navigation aid, C. Powell, *diags* Brit Inst Radio Eng J 18: 277-90; Discussion, 291-2 My '58
Dual Tacan-ATC antenna, *diag* Electronic Ind 17:84+ F '58
Electronic system in air-traffic control; Tacan system, P. C. Sandretto, *il* diag Elec Com 34:153-9 S '57
Evaluator and trainer for Tacan data link, W. B. Sudduth and J. F. Sullivan, *il* diags Elec Com 34:273-5 S '57
First commercial Doppler navigation system; Radan, flow *diag* *il* diag Aviation Age 28: 62-3 Ja '58
Flight operations center aids army tactical aircraft, *Elec Eng* 77:865 S '58
History of Tacan data link, R. I. Collin, *bibliog* *diag* Elec Com 34:179-85 S '57
Input and output facilities of data-link surface equipment, G. W. Reich, Jr. and H. J. Mills, *diags* Elec Com 34:209-18 S '57
Naval developments in carrier navigation and traffic control; abstract, A. B. Winick and J. L. Loeb, *Aircraft Eng* 30:240 Ag '58
Operation of AN/URN-6 data-link surface equipment, J. F. Sullivan, *il* diags Elec Com 34:198-208 S '57
Radio aids and aeronautical navigation, C. Williams, *bibliog* maps diags Engineering 186:318-23 S 5 '58
Radio aids for high-speed aircraft; abstracts, J. S. McPetrie, *Engineer* 204:597-8 O 25 '57; *Elec J* 159:1207 O 25 '57
Radio aids to aeronautical and marine navigation; abstracts of papers, *Engineering* 185:466-7 Ap 11 '58
Radio Nav aids for long-range flight, M. Rogoff, *diags* Aero/Space Eng 17:44-9+ My '58
Radio navigational aids; symposium, Wireless World 64:210-11 My '58
Radio-web system, functioning and possibilities; abstract, P. Gaudillere, *Aeronautical Eng* R 16:29 N '57
Reduce lost plane search time, *Product Eng* 28:26 Ap 21 '58
Single sideband aircraft communication, G. L. Grisdale, *diags* Wireless World 64:460-5 O '58

RADIO aids to aviation—Continued

- Some radio aids for high-speed aircraft. J. S. McPetrie. *il Inst E E Proc* 105 pt B:11-13 Ja '58
- Standardization of circuits for data-link surface equipment. H. J. Mills and F. L. Van Steen. *diags Elec Com* 34:219-27 S '57
- Tacan data link for common-system air-traffic control. M. Block. *il diag Elec Com* 34:186-91 S '57
- Techniques developed for airborne Tacan data link. E. R. Altonji and others. *il diags Elec Com* 34:243-53 S '57
- Time division data link automate communications. J. Holahan. *diags Aviation Age* 30: 162-7 S '58
- Vortac data link. R. C. Renick. *il diags Elec Com* 34:192-7 S '57

See also

- Airports—Traffic control
Radar aids to aviation

RADIO aids to navigation

- Boom in small craft; small boat electronics. *Electronics* 31:44 F '58
- New shipping control system at Southampton. *Electronic Eng* 30:145 Mr '58
- Radio aids to aeronautical and marine navigation; abstracts of papers. *Engineering* 185:466-7 Ap 11 '58
- Radio aids to navigation; symposium. *il maps diags Engineering* 186:313-23 S '58
- Radio control at Southampton harbour. *il Wireless World* 64:102-3 Mr '58
- Radio navigational aids; symposium. *Wireless World* 64:210-11 My '58

See also

- Radar aids to navigation
Radio telephone on ships

RADIO antennas

- Aerial feeders for multi-channel links. L. Lewin and J. Payne. *diags Electronic Eng* 30:414-19 Jl '58
- Antenna farmer, that's me. W. R. Carruthers. *diags Q S T* 41:62-3 D '57
- Antenna filters for a military radio system. M. D. Brill and R. M. Jensen. *il diags Bell Lab Rec* 36:142-5 Ap '58
- Antenna hardware. *il Q S T* 41:29 D '57
- Antenna null nomograph; reference sheet. E. Lindeman. *Electronics* 31:102 Ap 11 '58
- Antennas for satellite monitoring on 108 mc. E. P. Tilton. *diags Q S T* 41:19-19 D '57
- Back garden beam aerial. *il Engineering* 185: 64 Ja 10 '58
- Continuously loaded whip antennas. E. F. Harris. *diags Q S T* 42:47-9 My '58
- Determining vhf line-of-sight; nomograph. G. Mather. *Electronic Ind* 17:supo 2 Je '58
- Dual Tacan-ATC antenna. *diag Electronic Ind* 17:84+ F '58
- Earth geometry; a theorem. K. Toman. *diags Inst Radio Eng Proc* 46:495 F '58
- 80-meter loading without harmonics; keeping spurious signals from being radiated. L. G. McCoy. *il diags Q S T* 42:24-6 Ag '58
- End to trap troubles vacuum capacitors for overcoming voltage breakdown. F. L. Mason. *il Q S T* 42:32-5 My '58
- Feeding the simple antenna; basic radiators and their transmission lines. L. G. McCoy. *diags Q S T* 42:33-5 Mr '58
- Ferrite radiators shrink missile antenna systems. H. C. Hanks, jr. *il Electronics* 31: 49-51 Ap 25 '58
- Fixed-station operation with a mobile antenna. R. F. Van Winkle. *Q S T* 42:63 Ag '58
- Four-band dipole with traps. D. P. Shafer. *il diags Q S T* 42:38-40 O '58
- Frequency changing and mobile antennas. B. Goodman. *il diags Q S T* 41:40-1+ D '57
- Half-size ground-plane antenna for ten meters. P. E. Hatfield. *il diags Q S T* 42: 28-9+ Ap '58
- Helical element ground plane; 20-15-10 antenna with 10-meter dimensions. R. Rosenbaum. *il diags Q S T* 42:30-42 O '58
- Improvement of impedance for microwave reflector feed. M. W. Scheidolf. *il diag Inst Radio Eng Proc* 45:1548-9 N '57
- Inexpensive and rugged mechanical construction for cubical quad antennas. F. Kehoe. *il Q S T* 42:62 Ag '58
- Loaded-lens antenna tracks missiles. L. S. Miller. *il diags Electronics* 31:44-6 Mr 28 '58
- Low-frequency annular-slot antenna. J. R. Wait. *diags J Res Nat Bur Stand* 60:59-84 Ja '58
- Magnetic field antenna. W. J. Polydoroff. *diags Electronic Ind* 17:66-8 Mr '58
- Microstrip design for aircraft antenna. B. Josephson. *diags Elec Manuf* 62:11 Ag '58

- Microwave antenna and waveguide techniques before 1900. J. F. Ramsay. *bibliog (27 titles) diags Inst Radio Eng Proc* 46:406-15 F '58
- Miniaturized resonant antenna using ferrites. D. M. Grimes. *J Ap Phys* 29:401-2 Mr '58
- Missile antenna design. H. Estep. *diags Electronics* 31:131-2+ F 14 '58
- New broad-band microwave antenna system. R. W. Friis and A. S. May. *bibliog il diag Com & Electronics* p97-100 Mr '58
- New microwave antenna system. R. W. Friis and A. S. May. *il diag Elec Eng* 77:502-6 Je '58
- New technique in ferrite phase shifting for beam scanning of microwave antennas. F. Reggia and E. G. Spencer. *bibliog il diags Inst Radio Eng Proc* 45:1510-17 N '57
- New wide-band balun. W. K. Roberts. *diags Inst Radio Eng Proc* 45:1628-31 D '57
- Parabolic antenna system characteristics for simple performance calculation; nomographs. R. F. H. Yang. *Aviation Age* 28: 64-5 Ja '58
- Radiation charts for paraboloidal antennas; reference sheet. L. W. Lechtreck. *Electronics* 31:104+ S 12 '58
- Radiation resulting from an impulsive current in a vertical antenna placed on a dielectric ground. C. L. Pekeris and Z. Alterman. *bibliog diag J Ap Phys* 28:1317-23 N '57
- Remotely-controlled switching circuit for coaxial feedlines. R. Tauber. *diags Q S T* 42:58 Mr '58
- Rhombic aerals; design charts for high frequencies. F. J. Norman and J. F. Ward. *bibliog diags Electronic & Radio Eng* 34: 393-403 N '57
- Rolled triangle aerals; abstract. J. R. McDougal and others. *diags Wireless World* 64:330 Jl '58
- Simple antenna matching indicator. J. Zelle. *diags Electronic Ind* 17:supo 5-7 Ja '58
- Simple universal antenna coupler. T. A. Mendes. *diag Q S T* 42:21 F '58
- Space-frequency equivalence. W. E. Kock and J. L. Stone. *Inst Radio Eng Proc* 46:499-500 F '58
- Spherical coil as an inductor, shield, or antenna. H. A. Wheeler. *bibliog diags Inst Radio Eng Proc* 46:1595-602 S '58
- Spiral yagi offers higher gain; illustration with text. *Electronics* 31:106 Ap 11 '58
- Stanford antenna research. *il Electronic Ind* 17:supo 30 Ap '58
- Study of earth currents near a vlf monopole antenna with a radial wire ground system. J. R. Wait. *bibliog Inst Radio Eng Proc* 46:1539-41 Ag '58
- Telescoping antenna mast. H. Vonhof. *il diags Q S T* 42:28-30 Mr '58
- Three-band ground-plane antenna. R. Swanson. *diag Q S T* 42:26 F '58
- Tilt chart for displaced antenna feed. R. B. Macaskill. *Electronics* 31:80+ Jl 4 '58
- Transmission-line matching. H. A. Kampf. *diags Radio-Electronics* 29:58 S '58
- Transmitter hunting on 75 meters; how to make a loop and direction finder. J. Isaacs. *il diags Q S T* 42:38-41 Je '58
- Traveling wave slot makes novel X-band beacon antenna. L. K. DeSize and L. J. Kuskowski. *il diags Aviation Age* 28:188-92 Mr '58
- Two-band halo for v.h.f. mobile. E. P. Tilton. *il Q S T* 42:11-12+ S '58
- Using four-conductor rotator cable in paralleled dipole antennas. S. J. Wysocki. *diag Q S T* 42:50 S '58
- Weather-resistant quad; fiberglass spreaders in a two-band beam. D. R. Weinstock. *diags Q S T* 42:42-3+ Je '58
- Whip antennas track missiles. *Electronics* 31:90 My 23 '58
- Wide-band antenna system for solar noise studies. H. Jasik. *il Inst Radio Eng Proc* 46:135-42 Ja '58
- Zoning problem solved; how K4LMB handled a difficult situation. G. E. Millus, Jr. and E. M. Smith. *Q S T* 42:59-61 S '58

See also

- Radio masts
Radio telescope
Radio towers
Television antennas

Directional antennas

- Adjustable four-element ten-meter beam. J. H. Kuranz. *il diags Q S T* 42:16-19 Ja '58
- Adjustment of gamma-matched parasitic beams. K. Nose. *diags Q S T* 42:44-6 Mr '58
- Beam talk for the layman. L. Jones. *Q S T* 42:35-7 Jl '58

- RADIO antennas**—Directional antennas—Cont. Driven, beast; high gain, rotary for the 10, 11, 15 and 20 meter bands. A. J. F. Clement. *II* diags Q S T 42:11-17+; cover My '58
- Geodetic control for tropospheric scatter antennas**; link between United States and Cuba. M. O. Laird and A. Aguilar. *II* map diags Am Soc C E Proc 84 [SU 1 no 1594]:1-19 Ar '58
- Investigation of periodic rod structures for yagi aerials**. J. O. Spector. bibliog diags Inst E E Proc 105 pt B:38-44 Ja '58
- Optimum stacking spacings in antenna arrays**. H. W. Kasper. diags Q S T 42:40-3 Ap '58
- Simple rotary joint for beam antenna feedlines**. T. F. Snyder. *II* diag Q S T 42:23 Je '58
- Spectrum crowding demands new trends in directional communications**. R. C. Benoit, Jr. and F. Coughlin, Jr. diags Electronic Ind 17:supD 2-4+ My '58
- Suppression of undesired radiation of directional hf antennas and associated feed lines**. H. Brueckmann. bibliog *II* diags Inst Radio Eng Proc 46:1510-16 Ag '58
- Suppressor improves pattern by controlling radiation**. M. W. Scheidtorf. *II* diags Electronic Ind 17:78-80 Ja '58

Model testing

- Flush-mounted aircraft aeriels; role of scale models in the study of radiation patterns**. M. Lorant. *II* Wireless World 64:337-8 Jl '58
- Use of scale model techniques in the design of v.h.f. and u.h.f. aeriels**. F. J. H. Charman and others. bibliog *II* diags Electronic Eng 30:498-501 Ag '58

Testing

- Simple, cheap antenna bridges**. D. T. Geiser. *II* diags Q S T 42:36-9 My '58

RADIO antennas, Portable

- Tee-pee, a 25-mc. portable/emergency ground-plane antenna**. R. Bunce. *II* diags Q S T 42:23-5 Ja '58

RADIO apparatus

- Antenna hardware**. *II* Q S T 41:29 D '57
- Application of printed-circuit techniques to the design of microwave components**. J. M. C. Dukes. bibliog *II* diags Inst E E Proc 105 pt B:155-72; Discussion, 130-1 Mr '58
- Artificial dielectrics for microwave lenses**. M. K. Hu and D. K. Cheng. diags Electronics 31:100+ S 26 '58
- Developments in printed microwave components**. D. R. J. White. diags Electronic Ind & Tele-Tech 16:63-64 N '57
- International contents symposium, Malvern**; abstracts of papers. *II* diags Electronic & Radio Eng 34:423-31 N '57
- Manufacturers' products**; new electronic equipment and accessories. Published in monthly numbers of Wireless world
- Mixed garnets for nonreciprocal devices at low microwave frequencies**. E. Ancker-Johnson and J. J. Rowley. Inst Radio Eng Proc 46:1421-2 Jl '58
- New devices**. *II* Published in monthly numbers of Radio-electronics
- New products**. Published in monthly numbers of Electronic and radio engineer
- Some applications of ferrites to microwave switches, phasers, and isolators**. A. C. Brown and others. bibliog diags Inst Radio Eng Proc 46:722-7 Ap '58
- Transistorized frequency marker**. N. A. Johnson. *II* diag Q S T 42:16-17 F '58

See also

- Amplifiers
Amplifiers, Vacuum tube
Facsimile transmission
Oscillators, Crystal
Radar
Radio antennas
Radio circuits
Radio coils
Radio control
Radio receiving apparatus
Radio transformers
Vacuum tubes
Wavemeters

Bibliography

- Abstracts and references**. Published in monthly numbers of Electronic and radio engineer

Design

- Designing noise-free enclosure openings**. A. L. Albin. Electronics 31:43 Ag 29 '58
- Developments in component design; symposium**. Brit Inst Radio Eng J 18:55-6, 135-8, 175-8 Ja-Mr '58

Electric grounding

- Uncommon ground difficulties**. A. R. Clawson. *II* diags Radio-Electronics 29:90-2 Ap '58

Exhibitions

- Components exhibition**. London. April 14-18. *II* diags Wireless World 64:269-75 Je '58
- IRE show; emphasis on components**. E. J. Kompass. Control Eng 5:46+ Mr '58
- National radio show**. Aug. 27-Sept. 6. *II* Electronic & Radio Eng 35:338-9 S '58
- National radio show**. London. Aug. 27-Sept. 6; list of exhibitors and floor plans. *II* diag Wireless World 64:410-25 S '58
- National radio show**. 25th. London. Brit Inst Radio Eng J 18:561-2 S '58
- New equipment at the exhibitions**. *II* Electronic Eng 30:216-23 Ap '58
- Physical society's exhibition**. *II* Wireless World 64:219-25 My '58
- Radio show**. London. Engineer 206:384 S 5 '58
- Radio show review**. *II* diags Wireless World 64:474-83 O '58
- Supermarket for engineers: Radio engineering show**. New York. Electronics 31:23-5 Mr 21; 20 Ap 4 '58
- Whom and what to see at the Radio engineering show**. New York. March 24-27; list of exhibitors, floor plans. Inst Radio Eng Proc 46:sup 103A+ Mr '58

Failure

- Reliability in terms of time**. R. F. Graf. Electronic Ind 17:95 Ap '58

Maintenance and repair

- Chasing the gremlins out of kit building**. I. Becker. *II* diags Radio-Electronics 29:46-8 S '58
- How to solder; tips for the beginner**. L. G. McCoy. *II* Q S T 42:16-17+ S '58
- Soldering and soldering accessories**. B. Fishback and others. *II* diags Q S T 42:72-3 Je '58

Manufacture

- Anvil and die fasten contact barrel to panel**. K. Steward. *II* Electronics 31:90+ Jl 4 '58
- Automatic methods in radio component manufacture**. D. Stevenson and E. B. Shepherd. *II* diags Brit Inst Radio Eng J 18:227-31 Ap '58
- Flux-solder pastes automate assembly**. *II* Electronics 31:132-3 S 12 '58
- Head of screwdriver spreads to hold screw**. *II* Electronics 31:132 Ap 1 '58
- Heating both sides speeds laminate punching**. *II* diags Electronics 31:126 S 12 '58
- Machine sets turret, bead chain terminals**. *II* Electronics 31:130+ S 12 '58
- Oscillation and air assemble small parts**. *II* diags Electronics 31:121-3 Ag 1 '58
- Setting-up a plastics section**. Leeds & Northrup co.; illustrations with text. Electronic Ind 17:90 Ja '58
- Ultrasonic welding joins foil to wires**. *II* Electronics 30:216+ D 1 '57
- Wire lists simplify assembling**. J. D. Wingfield. *II* diag Electronics 31:112+ Je 6 '58

Medical applications

- Pill telemeters from digestive tract; endo-radiosonde**. S. MacKay and B. Jacobson. bibliog *II* diags Electronics 31:61-3 Ja '58
- Radio thermometer fits in penguin egg**. *II* Electronics 31:86 Ja 3 '58

Military use

- History of some foundations of modern radio-electronic technology**. J. H. Hammond, Jr. and E. S. Purington. bibliog(101 ref) *II* diags Inst Radio Eng Proc 45:1191-208 S '57
- Problems affecting the design of service components and a survey of present and future United Kingdom developments**; abstract. G. W. A. Dummer. Brit Inst Radio Eng J 18:55-6 Ja '58

See also

- Radio communication, Military

Noise

- Equivalent circuits of noisy networks**. L. Young. bibliog diags Electronic Eng 30:205-7 N '58

Power supply

- Blocking capability of alloyed silicon power transistors**. R. Emels and A. Herlet. bibliog Inst Radio Eng Proc 46:1216-20 Je '58
- Compact supplies have wide-range regulation**. W. F. Schreiber. *II* diags Electronics 30:168-9 D 1 '57

RADIO apparatus—Power supply—Continued

- Design of transistor regulated power supplies. T. F. Kopaczek. *diag Inst Radio Eng Proc* 46:1537 Ag '58
- Design of transistor regulated power supplies. R. D. Middlebrook. *bibliog diags Inst Radio Eng Proc* 45:1502-9 N '57
- Desk-top 650-watt amplifier. J. M. Lomasney. *il diags Q S T* 42:38-43 S '58
- Effective emitter area of power transistors. R. Emeis and others. *bibliog diags Inst Radio Eng Proc* 46:1220-9 Je '58
- Five-watt ten-megacycle transistor. J. T. Nelson and others. *diags Inst Radio Eng Proc* 46:1205-15 Je '58
- Heat transfer in power transistors. I. G. Maloff. *diags Electronic Ind* 16:54-5+ D '57
- High-power transistorized mobile power supply. R. P. Johnson. *il diags Q S T* 42:11-16 Ap '58
- High voltage transistor regulated power supplies. M. Mamon. *diags Elec Manuf* 62:106-9+ S '58
- Magnetic amplifiers regulate d-c supply. M. B. Meunier. *il diags Electronics* 31:68-70 F 28 '58
- New power source. H. C. Hubbard. *il diags Radio-Electronics* 29:60-1 Mr '58
- Power transistors. M. A. Clark. *bibliog il diags Inst Radio Eng Proc* 46:1185-204 Je '58
- Regulated supply offsets line changes. L. Costrell. *diags Electronics* 31:100-2 Ja 3 '58
- Subminiature power module. *il Electronics* 31:87-8 Ap 25 '58
- Three-phase power supply for mobile use. J. E. Jennings. *il diags Q S T* 42:28-9+ Ja '58
- Thyratron regulates supply. W. D. Fryer. *diag Electronics* 31:88 Je 20 '58
- Time-delay protective circuit for high-voltage power supplies. T. R. Baker. *diag Q S T* 42:79 My '58
- Toroid transistor power supply. *il diag Radio-Electronics* 29:45 Ja '58
- Transistor filters ripple. F. Oakes and E. W. Lawson. *diags Electronics* 31:93 Ap 11 '58
- Transistor power amplifiers. *diags Radio-Electronics* 29:124-5 S '58
- Transistor power supply has overload protection. H. D. Ervin. *il diags Electronics* 31:74-5 Je 20 '58
- Transistorized power supply. C. V. Chambers. *il diag Q S T* 42:36-8 F '58
- Transistors replace the vibrator. B. Hamlin. *il diag Radio-Electronics* 29:51-2 Ji '58
- Uninterrupted power supplies. A. W. Hill. *diags Electronic Ind* 17:sup0 2-4+ S '58
- Voltage conversion with transistor switches. P. L. Schmidt. *il diags Bell Lab Rec* 36:60-4 F '58

Protection

- Homemade lightning arresters. J. A. Keesler. *diag Q S T* 42:79 My '58

Standards

- AIEE sets magnetic component standards. *il Electronics* 31:92 F 28 '58

Testing

- Component testing with punched cards. *il Electronics* 31:94-5 F 28 '58
- Hot air jet tests individual components. L. Ware and J. Fallon. *il Electronics* 30:226-4 D 1 '57
- Microwave component tester. A. F. Pomeroy. *il diags Electronics* 31:92+ Je 6 '58

RADIO apparatus industry

- Printed circuits users face puzzle. *Electronics* 30:41 D 10 '57
- Production and sales; parts distributors' sales climb slightly. *Electronics Bsns ed* 30:20 N 20 '57
- Shares and prices; microwave component manufacturers. *Electronics* 31:9 Mr 21 '58
- See also*
- Radio aids to aviation

Directories

- Directory of the western electronic manufacturers. *Electronic Ind* 17:101-3+ Ag '58
- Directory section of the 1958-1959 Electronics buyers' guide. *Electronics* 31:D 1-242 Mid-Je '58
- Electronic industries directory. 1958. *Electronic Ind* 17:213-405 Je '58
- Telemetry developers and manufacturers; list. *Aviation Age* 30:150-4 Ag '58

Statistics

- 1957-1958 statistics of the radio-tv-electronic industries. *Electronic Ind* 17:14-16+ Je '58
- Statistics of the radio-tv-electronic industries, 1957-1958. *Electronic Ind* 17:58-60 Ja '58

Great Britain

- Background, foreground and horizon, the radio valve industry in prospect and retrospect; inaugural address. T. E. Goldup. *il Inst E Proc* 105 pt B:1-10 Ja '58

RADIO apparatus on aircraft

- Airborne Tacan data-link equipment AN/ARN-26. E. R. Altonji. *il diags Elec Com* 34:228-42 S '57
- Bombers shun radiation; stellar-inertial guidance. *il Electronics* 31:15-17, cover F 21 '58
- Data-link airborne instrumentation. M. A. Argentieri and F. E. Lind. *il diags Elec Com* 34:264-70 S '57
- Flush-mounted aircraft aeriels; role of scale models in the study of radiation patterns. M. Lorant. *il Wireless World* 64:337-8 Ji '58
- Microstrip design for aircraft antenna. B. Joshi. *diags Elec Manuf* 62:11 Ag '58
- Modified transceivers compute distance. H. Vantine, Jr. and E. C. Johnson. *il diags Electronics* 31:94-8 S 12 '58
- Refraction anomalies in airborne propagation. M. S. Wong. *bibliog diag Inst Radio Eng Proc* 46:1628-38 S '58
- Techniques developed for airborne Tacan data link. E. R. Altonji and others. *il diags Elec Com* 34:243-63 S '57
- Transistorized v.h.f. airborne equipment. *Wireless World* 64:359 Ag '58
- Traveling wave slot makes novel X-band beacon antenna. L. K. DeSizze and L. J. Kuskowski. *il diags Aviation Age* 28:188-92 Mr '58

See also

- Radio telephone on aircraft
- Television apparatus on aircraft

RADIO apparatus on ships*See also*

- Radio telephone on ships

RADIO astronomy

- Absorption techniques as a tool for 21-cm research. A. E. Lilley and E. F. McClain. *diag(25 ref) diags Inst Radio Eng Proc* 46:221-9 Ja '58
- Antenna array for studies in meter and radio astronomy at 13 meters. P. B. Gallagher. *il Inst Radio Eng Proc* 46:89-92 Ja '58
- Broad-band microwave source comparison radiometer for advanced research in radio astronomy. F. D. Drake and H. I. Ewen. *bibliog diags Inst Radio Eng Proc* 46:53-60 Ja '58
- Considerations in high-sensitivity microwave radiometry. P. D. Strum. *bibliog diags Inst Radio Eng Proc* 46:43-53 Ja '58
- Cosmical electrodynamics. J. H. Piddington. *bibliog(30 ref) il Inst Radio Eng Proc* 46:349-55 Ja '58
- Discussion of 10.7-cm solar radio flux measurements and an estimation of the accuracy of observations. W. J. Medd and A. E. Covington. *bibliog diags Inst Radio Eng Proc* 46:112-18 Ja '58
- Dynamic spectrum analyzer for solar studies. J. Goodman and M. Lebenbaum. *il diag Inst Radio Eng Proc* 46:132-5 Ja '58
- Effects on radio astronomical observations due to longitudinal propagation in the presence of field-aligned ionization. S. Rush and L. Colin. *bibliog diags Inst Radio Eng Proc* 46:356-7 Ja '58
- Excitation of the hydrogen 21-cm line. G. B. Field. *bibliog(26 ref) diag Inst Radio Eng Proc* 46:240-50 Ja '58
- Extragalactic 21-cm line studies. D. S. Heesch and N. H. Dieter. *bibliog Inst Radio Eng Proc* 46:234-9 Ja '58
- Hydrogen line study of stellar associations and clusters. T. K. Medd. *bibliog diag Inst Radio Eng Proc* 46:230-4 Ja '58
- Introduction to radio astronomy. F. T. Hadcock. *il Inst Radio Eng Proc* 46:3-12 bibliog(109 titles, p 10-12) Ja '58
- Investigation of the perturbations imposed upon radio waves penetrating the ionosphere. R. S. Lawrence. *bibliog(36 ref) il diag Inst Radio Eng Proc* 46:315-20 Ja '58
- Lunar thermal radiation at 35 kmc. J. E. Gibson. *bibliog il diags Inst Radio Eng Proc* 46:280-6 Ja '58
- Mapping the heavens. *il Electronics* 31:48 Mr 7 '58
- Masers probe outer space. J. O. Artman and others. *Electronics* 31:12+ Ja 3 '58
- Measurements of planetary radiation at centimeter wavelengths. C. H. Mayer and others. *bibliog il diag Inst Radio Eng Proc* 46:260-6 Ja '58
- Planetary and solar radio emission at 11 meters wavelength. J. D. Kraus. *bibliog il diags Inst Radio Eng Proc* 46:266-74 Ja '58

RADIO astronomy—Continued

- Radio astronomy at the Meudon observatory. B. J. Blum and others. biblog il Inst Radio Eng Proc 46:39-43 Ja '58
- Radio astronomy measurements at vhf and microwaves. J. Aarons and others. biblog il diag Inst Radio Eng Proc 46:325-33 Ja '58
- Radio astronomy polarization measurements. M. H. Cohen. biblog diags Inst Radio Eng Proc 46:172-83 Ja '58
- Radio astronomy; report on URSI commission. F. T. Haddock. Inst Radio Eng Proc 46:137-5 J1 '58
- Radio emission from Comet 1956 h on 600 mc. R. Coutrez and others. biblog diags Inst Radio Eng Proc 46:274-9 Ja '58
- Radio signals to Venus: editorial. H. Gernsback. Radio-Electronics 29:27 Je '58
- Radio sources and the Milky way at 440 mc. N. G. Roman and B. S. Yapple. biblog il diag Inst Radio Eng Proc 46:199-204 Ja '58
- Spectral lines in radio astronomy. A. H. Barrett. biblog(30 ref) diag Inst Radio Eng Proc 46:250-9 Ja '58
- See also*
- Radio telescope

History

- Discovery and identification by Karl Guthe Jansky of electromagnetic radiation of extraterrestrial origin in the radio spectrum. C. M. Jansky, Jr. Inst Radio Eng Proc 46:13-15 Ja '58
- Early radio astronomy at Wheaton, Ill. G. Reber. biblog Inst Radio Eng Proc 46:15-23 Ja '58

Tables, calculations, etc.

- Restoration in the presence of errors. R. N. Bracewell. biblog Inst Radio Eng Proc 46:108-11 Ja '58

RADIO attenuators

- Dissipation chart for T attenuators. D. T. Geiser. Electronics 31:92+ Je 20 '58
- Effect of magnetic field on coupled helix attenuators. M. H. Miller and others. diag J Ap Phys 28:1363-4 N '57
- Metal film mica attenuators. diags Electronics 31:192-3 Mr 14 '58

RADIO beacons (for aircraft)

- Radio system calculator; nomograph; reference sheet. J. J. Logan. Electronics 31:89-90 S 26 '58

RADIO broadcasting

- 1958; radio's biggest year. Electronics 31:42 F 7 '58
- Rediscovery of fm broadcasting. D. Lachenbruch. il Radio-Electronics 29:98-9 Ja '58

See also

- Radio communication—Interference elimination
- Radio receiving apparatus
- Television broadcasting

Frequency allocation*See* Radio frequency—Allocation**Frequency modulation system***See* Radio frequency modulation**Frequency standards**

- Shf frequency standard uses double conversion. M. C. Thompson, Jr. and others. il diags Electronics 31:100-1 Ap 11 '58
- WWV offers additional services. Radio-Electronics 29:36 Ap '58
- WWV standard frequency transmissions. W. D. George. Inst Radio Eng Proc 46:1309, 1758 Je, O '58

See also

- Radio stations. Standard frequency

Government programs*See also*

- Voice of America (radio program)

Interference*See* Radio communication—Interference**International aspects**

- Radio crashes iron curtain. Electronics 31:17-18 S 19 '58

Multiplex system

- Compatible system of stereo transmission by fm multiplex. M. G. Crosby. diags Audio Eng Soc J 6:70-3 Ap '58
- Compressed time boosts single-sideband capacity. M. I. Jacob and J. Mattern. il diags Electronics 31:52-5 J1 4 '58
- Distortion in frequency-division-multiplex f.m. systems due to an interfering carrier. R. G. Medhurst and others. biblog diag Inst E E Proc 105 pt B:282-92 My '58

- Equalization of base-band noise in multi-channel fm radio systems. C. A. Parry. biblog diags Inst Radio Eng Proc 46:1527-34 N '57
- Fm/multiplex converter. H. Day. il diags Audio 42:19-22+ Ag '58
- Network containing a periodically operated switch solved by successive approximations. C. A. Desper. biblog diags Bell System Tech J 36:1403-28 N '57
- Questions and answers on stereo and m/x. L. J. Kleinklaus. Audio 42:20+ Ag '58
- Station tries stereo multiplex. Electronics 31:16+ J1 18 '58
- Stereo tuner features multiplex output. L. E. Garner, Jr. il diag Radio-Electronics 29:53-5 O '58
- Transistor pulse generators for time-division multiplex. K. W. Cattermole. diags Inst E E Proc 105 pt B:471-9 Discussion. 479-81; Reply. 481-2 S '58

See also

- Telegraph—Multiplex system
- Television broadcasting—Multiplex system
- Television transmission—Multiplex system

Program recording

- Recorder switch box. R. Baerg. diag Electronic Ind 17:supO 15 J1 '58
- Recording in the small station. H. Sheets. diags Electronic Ind 17:supO 24-5 Mr '58
- Stylus saver. E. W. Reed. il diag Electronic Ind 17:supO 10 Ag '58
- Tape, disks run radio station. Electronics 31:35 J1 11 '58
- Tape recorder input selector switch. J. Whitacre. diag Electronic Ind 17:supO 12 My '58

Stereophonic programs

- Compatible system of stereo transmission by fm multiplex. M. G. Crosby. diags Audio Eng Soc J 6:70-3 Ap '58
- Fm/multiplex converter. H. Day. il diags Audio 42:19-22+ Ag '58
- Madison Welding series 330 stereotuner. il Audio 42:42 S '58
- Mid-side stereophony and compatibility. G. Bore and S. F. Temmer. il diags Audio 42:19-21+ Ap '58
- Questions and answers on stereo and m/x. L. J. Kleinklaus. Audio 42:20+ Ag '58
- Station tries stereo multiplex. Electronics 31:16+ J1 18 '58
- Stereo tuner features multiplex output. L. E. Garner, Jr. il diag Radio-Electronics 29:53-5 O '58
- Stereophonic transmissions. il Engineering 186:360 S 12 '58
- Sum-and-difference broadcasts; fm multiplex stereo. E. T. Canby. Audio 42:12 Je '58

Time signals*See* Time signals, Radio**Weather forecasts**

- Weather warnings to be broadcast by Conelrad. Elec Eng 77:472 My '58

Great Britain

- B.B.C. statistics. Wireless World 64:138 Mr '58
- Frequency-modulated v.h.f. transmitter technique; with particular reference to the B.B.C. United Kingdom service. A. C. Beck and others. biblog diag Inst E E Proc 104 pt B:225-38 My '58 Discussion. 104 pt B:249-53; 105 pt B:305 My '57, J1 '58

RADIO broadcasting stations**Equipment**

- Announcer earphones. J. D. Dunicliff. diag Electronic Ind & Tele-Tech 16:supO 10 N '57
- Bulletin trap. E. Kanaxo. diag Electronic Ind 17:supO 20+ Ap '58
- Erase protection. E. S. Houston. diag Electronic Ind 16:supO 12 D '57
- For audio systems, emergency switching. E. Farber. diags Electronic Ind 17:supO 8+ S '58
- For broadcasters, inexpensive audio switching. H. D. Schaaf. il diags Electronic Ind 17:supO 6-7 My '58
- Guide to radio station design. A. Miller and P. A. Greenmeyer. plans diags Electronic Ind & Tele-Tech 16:supO 2-4+ N '57
- Line amplifiers with agc. A. A. McGee, Jr. il diags Electronic Ind & Tele-Tech 16:supO 7-8+ N '57
- Off-the-air warning. W. H. Emerson. diag Electronic Ind & Tele-Tech 16:supO 10 N '57
- Plate on indicator. E. Howell. diags Electronic Ind 17:supO 8 F '58

RADIO broadcasting stations—Equipment—

- Continued*
 Remote and automatic control of semi-attended broadcasting transmitters. R. T. B. Wynn and F. A. Peachey. bibliog ii diags Inst E E Proc 104 pt B:529-39; Discussion. 549-52 N '57
 Remote communication control. T. O'Rourke. diag Electronic Ind 17:sup0 10 Ja '58
 Spot tape recorder. ii Electronic Ind 17:sup0 28 Ap '58
 Tape recorder input selector switch. J. Whitacre. diag Electronic Ind 17:sup0 12 My '58

War measures

- Alarm system uses gated neon warbler in Conelrad system. R. L. Ives. ii diags Electronics 31:74-7 My 23 '58
 Using the grid-dipper as a conelrad monitor. diag Q S T 41:71-2 D '57

RADIO cabinets

- Dial scale integral part of electronic cabinet enclosure. ii Machine Design 30:110 Ag 7 '58
 Extruded radio cabinet; new make-it-yourself kit. ii Mod Plastics 35:93 Mr '58
 Temperature-stable equipment cabinets. ii Electronics 31:88-9 Jl 4 '58

RADIO capacitors

- Choosing capacitors; selecting types for an a.s.b. exciter. D. T. Geiser. ii diags Q S T 42:22-5 Jl '58
 Design of high performance multi-gang variable capacitors; abstract. L. W. D. Sharp. Brit Inst Radio Eng J 18:175-6 Mr '58
 End to trap troubles; vacuum capacitors for overcoming voltage breakdown. F. L. Mason. ii Q S T 42:32-5 My '58
 Ferrite core capacitors. R. Davidson. ii diags Research 11:367-70 S '58
 Hip mount capacitors save space. ii diag Electronics 31:190+ Mr 14 '58
 Multiple-unit feedthrough capacitors. J. H. Foster and E. M. Williams. ii diag Electronics 31:98-9 Je 20 '58
 Production and sales; tantalum capacitor sales continue upward. Electronics 31:14 S 5 '58
 RG-8/U in the gamma-match capacitor. W. J. Engle, Jr. diag Q S T 42:64 Ag '58
 Spacing digs hold capacitors for ladder networks. ii Electronics 31:104+ Ja 3 '58
 Wide range loading capacitance using only four capacitors. H. E. Preston. diag Q S T 42:76-7 My '58

Manufacture

- Holding close tolerances in ceramic capacitors. N. Rudnick. ii diag Elec Manuf 61:117-18 Ja '58

Testing

- Cap-ohm-meter. R. C. Sandison. diag Radio-Electronics 29:109 S '58
 Check electrolytics in circuit. J. H. Levitt. ii diags Radio-Electronics 29:64-5 O '58
 In-circuit capacitor tester. W. Kelvin. ii diags Radio-Electronics 29:109-12 F '58

Tuning

- How to set a trap; dielectric tuning of trap capacitors. C. Kramer. ii diags Q S T 42:32-3 F '58

RADIO circuits

- Baby tank circuit. ii Q S T 42:35 Ap '58
 Cathode-coupled flip-flop; a reliable design procedure. T. G. Clark. diags Wireless World 64:24-7 Ja '58
 Earth satellite telemetry coding system. R. W. Rochelle. bibliog ii diags Elec Eng 76:1062-5 D '57
 Feedback theory; further properties of signal flow graphs. S. J. Mason. diags Inst Radio Eng Proc 44:920-6 Jl '56; Discussion. W. W. Hupp. 45:1293 S '57
 Flip-flop stability; effect of changing valves. T. G. Clark. diag Wireless World 64:212-13 My '58
 Frequency-lock a.f.c. circuit. R. Leek. bibliog diags Inst E E Proc 104 pt B:587-97 N '57
 Networks of fixed and variable resistors. H. L. Armstrong. Inst Radio Eng Proc 46:1541-2 Ag '58
 New applications of impedance networks as analog computers for electronic space charge and for semiconductor diffusion problems. G. Čremošnik and others. bibliog ii diags Inst Radio Eng Proc 46:868-77 My '58
 Override circuits are simplified for electronic control stations. R. L. Ives. diags Electronics 31:50+ Ag 29 '58

- Parallel four-terminal networks; transfer voltage-ratio. F. E. Rogers. diags Electronic & Radio Eng 35:207-11 Je '58; Discussion. 35:315-16, 355 Ag-S '58
 Parametric amplification and frequency mixing in propagating circuits. P. K. Tien. bibliog diags J Ap Phys 29:1347-57 S '58
 Pi network monograph. R. W. Johnson. Electronics 31:108+ S 12 '58
 Property of ladder networks. A. H. Zemanian. diag Inst Radio Eng Proc 46:916-17 My '58
 Radio-electronic circuits. Published in monthly numbers of Radio-electronics
 Radio waves and circuits; report on URSI commission. E. C. Jordan. Inst Radio Eng Proc 46:1376-81 Jl '58
 Remotely-controlled switching circuit for coaxial feedlines. R. Tauber. diags Q S T 42:58 Mr '58
 Self-setting servo gate. E. R. Schmerling. diag Electronics 31:71 Ja 17 '58
 Series-parallel switching circuit for power transformer primaries. L. S. Moyer. diag Q S T 42:52 Ja '58
 Some studies on delayed feedback circuits. H. Skel. bibliog diags Inst Radio Eng Proc 46:758-63 Ap '58
 Stacked valve circuits; simplified analysis. J. B. Earnshaw. diags Electronic & Radio Eng 34:404-6 N '57
 Subminiature power module. ii Electronics 31:87-8 Ap 25 '58
 Subtractor for radio-frequency bridges. E. A. Parker. diags J Sci Instr 34:461 N '57
 Systematic design of transistor bias circuits. R. P. Murray. diags Electronic Ind & Tele-Tech 16:75-7+ N '57
 T and pi network design. using Smith chart; reference sheet. H. F. Mathis. diags Electronics 31:94 Ja 17 '58
 Theoretical solution of the pi network. R. B. Marcus. diags Electronic Ind 17:sup0 10-11+ My '58
 Transactor. M. R. Nicholls. diags Electronic & Radio Eng 35:276 Jl '58
 Transactor; an idealized active network element. A. W. Keen. diags Electronic & Radio Eng 34:459-61 D '57; Discussion. 35:113-14 Mr '58
 Transistor Q-multiplier for audio frequencies. G. B. Miller. diags Electronics 31:79-81 My 9 '58
 Use of twin-T networks. N. H. Crowhurst. diags Audio 42:19-24+ N '58
 Vswr reduction by padding; equations and design. H. W. Kasper. diag Electronic Ind 17:96-7 Ap '58
 Yttrium garnet uhf isolator. F. R. Morgenthauer and D. I. Fye. diags Inst Radio Eng Proc 46:1551-2 N '57

See also

- Radio receiving apparatus
 Television circuits

Design

- Approach to the design of constant-resistance amplitude equalizer networks. J. S. Bell. diags Inst E E Proc 105 pt B:185-9 Mr '58
 Exact ladder network design using low-Q coils. L. Weinberg. bibliog diags Inst Radio Eng Proc 46:739-50 Ap '58
 Look at modern network synthesis. L. Weinberg. bibliog diags Electronic Ind 17:67-72 S '58
 Pi-network tank design. diag Q S T 42:26-7 S '58

Standards

- Standardization of circuits for data-link surface equipment. H. J. Mills and F. L. Van Steen. diags Elec Com 34:219-27 S '57

Testing

- Millimicrosecond pulse generator; equipment for transient tests on wide-band networks. O. H. Davie. ii diags Electronic & Radio Eng 35:332-5 S '58

RADIO coils

- Coils for magnetic fields. G. M. Clarke. diags bibliog Electronic & Radio Eng 35:298-306, 340-4 Ag-S '58
 Designing minimum weight magnetic cores. J. W. Kallander. ii diags Elec Manuf 61:118-23 F '58
 Exact ladder network design using low Q coils. L. Weinberg. bibliog diags Inst Radio Eng Proc 46:739-50 Ap '58
 Poll coil design factors. T. Wroblewski. ii diag Elec Manuf 61:83-5+ Ap '58
 High-frequency magnetic permeability measurements using toroidal coils. R. D. Harrington and R. C. Powell. Inst Radio Eng Proc 46:784 Ap '58

RADIO coils—Continued

- Improved v.h.f. coil for grid-dip meters. A. J. Newland. *diag Q S T* 42:36 Ap '58
 Nomogram for air-gap design. A. C. Slim. *diag Electronic & Radio Eng* 35:250-1 JI '58
 Slug-tuned coil forms. II Q S T 42:29 Ag '58
 Spherical coil as an inductor, shield, or antenna. H. A. Wheeler. *bibliog diags Inst Radio Eng Proc* 46:1595-602 S '58
 Toroid measures spot weld current. P. M. Zimmerman. *II diags Electronics* 30:132-3 D 1 '57
 Toroidal core winding chart. T. J. Maxey. *diag Electronics* 31:121-2+ S 12 '58
 Using self-resonant frequency. J. P. Beverly. *II Electronic Ind* 17:67+ JI '58

Manufacture

- Electronic control applied to coil winding. R. B. Shepherd. *II diag Brit Inst Radio Eng* J 18:227-9 Ap '58
 Merry-go-round feeds bobbins to coil winder. *II Electronics* 31:124+ Ap 1 '58
 Needles wind Russian cores. *diags Electronics* 31:14+ JI 4 '58
 New technique for winding subminiature coils for transformers. W. F. Kallensee. *II diags Electronic Ind* 17:70-1 Ja '58
 Pinhole coil winder. *II Electronic Ind* 17:83 F '58
 Tension meters clip onto wire in winding. E. J. Saxl. *II Electronics* 31:116+ Je 6 '58

Testing

- Integrator-amplifier for core measurements. C. E. Goodell. *II diags Electronics* 31:110-13 F 14 '58

RADIO communication

- Communication channels for SAGE data systems. E. T. James. *diags Elec Eng* 77:792-7 S '58
 Doppler effect in radio and radar. N. M. Rust. *diags Wireless World* 64:304-7, 373-7 JI-Ag '58
 Engineering developments; communications; illustrations with text. *Elec Eng* 77:8-9 Ja '58
 Evolution of radio communication. F. J. Shipgood. *Brit Inst Radio Eng J* 18:363-70 Je '58
 Interplanetary communication; abstracts of two papers. H. E. Prew; P. A. Castruccio. *Inst Radio Eng Proc* 46:792 Ap '58
 Interplanetary communication and navigation. P. A. Castruccio. *diags Westinghouse Eng* 18:83-92 My '58
 New radio propagation mode? whistlers pierce ionosphere. *II Electronics* 30:22-3 D 10 '57
 Non-binary error correction codes. W. Ulrich. *bibliog diags Bell System Tech J* 36:1341-88 N '57
 Random radiations. Published in monthly numbers of *Wireless world*
 Spectrum crowding demands new trends in directional communications. R. C. Benoit, Jr. and F. Coughlin, Jr. *diags Electronic Ind* 17:sup0 2-4+ My '58

See also

- Radio aids to navigation
 Radio broadcasting
 Radio modulation
 Radio symbols
 also subdivision Radio communication under special subjects, e.g.
 Chemical plants
 Concrete plants
 Electric utilities
 Gas companies
 Petroleum industry and trade
 Public works departments

Bibliography

- Abstracts and references. Published in monthly numbers of *Electronic and radio engineer*

Emergency use

- Communications in a hurry; mobile disaster communications bus. *II Radio-Electronics* 23:31 Je '58
 Designing a personal distress transmitter. E. G. Homer. *II diags Electronic Ind & Tele-Tech* 15:sup0 5-7+ O '57
 Flood warning system readied. *Product Eng* 29:25 Ap 21 '58

Interference

- Analyzing interference in fm communications systems. N. H. Shepherd. *diags Electronic Ind* 17:sup0 15-18+ Mr '58
 Artificial aurora; Luxembourg effect. *diag Electronic & Radio Eng* 35:168-70 My '58

Asymmetry in long-distance w/t circuits. A. M. Humby. *maps Wireless World* 64:204-7 My '58

- Atmospheric noise interference to medium wave broadcasting. S. V. C. Aiyar. *bibliog Inst Radio Eng Proc* 46:1502-9 Ag '58
 Atmospheric noise interference to short-wave broadcasting. S. V. C. Aiyar. *bibliog diags Inst Radio Eng Proc* 46:580-9 Mr '58
 Atmospheric radio noise at frequencies between 10 kc/s and 30 kc/s. J. Harwood. *Inst E E Proc* 105 pt B:293-300 My '58
 Atmospheric radio noise; equipment for the measurement of amplitude distributions. J. Harwood and C. Nicol. *II diags Electronic & Radio Eng* 35:193-90 My '58
 Carrier-to-noise statistics for various carrier and interference characteristics. K. K. Clarke and J. Cohn. *diag Inst Radio Eng Proc* 46:889-95 My '58
 Cathode test utilizing noise measurements. W. Dahke and P. Blouin. *bibliog diag Inst Radio Eng Proc* 46:1639-45 S '58
 Detection of pulsed signals in noise; optimum Butterworth third-order filters. H. S. Heaps and A. T. Isaacs. *bibliog diag Electronic & Radio Eng* 35:100-3 My '58
 Distortion in frequency-division-multiplex f.m. systems due to an interfering carrier. R. G. Medhurst and others. *bibliog diag Inst E E Proc* 105 pt B:282-92 My '58
 Distribution of the duration of fades in radio transmission; Gaussian noise model. S. O. Rice. *bibliog Bell System Tech J* 37:581-635 My '58
 Echoes cause fm intermodulation. H. E. Curtis. *Electronic Ind* 17:sup0 6-7 S '58
 Error probabilities for binary symmetric ideal reception through nonselective slow fading and noise. G. L. Turin. *bibliog diags Inst Radio Eng Proc* 46:1603-19 S '58
 Ionosphere review 1957; record high conditions. T. W. Bennington. *Wireless World* 64:71-8 F '58
 Ions make trouble at Mach 10. *II diag Electronics* 31:13-14 Mr 7 '58
 Method of calibrating centimetric radiometers using a standard noise source. J. S. Hey and V. A. Hughes. *diag Inst Radio Eng Proc* 46:119-21 Ja '58
 Noise levels at the National radio astronomy observatory. J. W. Findlay. *Inst Radio Eng Proc* 46:35-8 Ja '58
 Problems of measuring radio interference. W. E. Pakala. *II diag Westinghouse Eng* 18:71-4 My '58
 Radio crashes iron curtain. *Electronics* 31:17-18 S 19 '58
 Radio interference from high-voltage transmission lines as influenced by the line design. G. E. Adams. *Power Apparatus & Systems* p64-62; Discussion, 62-3 Ap '58
 Radio noise of terrestrial origin; report on URSI commission. H. E. Dinger. *Inst Radio Eng Proc* 46:1366-72 JI '58
 Solar cycle influence on the lower ionosphere and on vhf forward scatter. C. Ellyett and H. Leighton. *bibliog Inst Radio Eng Proc* 46:1711-16 O '58
 Sunspot and magnetic activity; their effects on h.f. radio-communication from 1950 to 1957 inclusive. A. M. Humby. *Wireless World* 64:435-8 S '58
 Theory of stronger-signal capture in fm reception. E. J. Daghady. *bibliog diags Inst Radio Eng Proc* 46:728-38 Ap '58

See also

Electric lines—Inductive interference

Interference elimination

- Amplitude modulation suppression in fm systems. L. L. Ruthroff. *bibliog diags Bell System Tech J* 37:1023-46 JI '58
 Bifilar-T trap; audio-frequency applications. A. Hendry and A. G. McIntosh. *diags Electronic & Radio Eng* 35:254-9 JI '58
 Communication technique for multipath channels; Rake system. R. Price and F. E. Green, Jr. *bibliog (35 ref) II diags Inst Radio Eng Proc* 46:555-70 Mr '58; Discussion, G. D. Hulst. 46:1382 N '58
 Designing low-noise microwave receivers. C. T. McCoy. *bibliog diags Electronic Ind* 16:54-7 N '58
 Designing noise-free enclosure openings. A. L. Albin. *Electronics* 31:48 Ag 23 '58
 80-meter loading without harmonics; keeping spurious signals from being radiated. L. G. McCoy. *II diags Q S T* 42:24-6 Ag '58
 End to trap troubles; vacuum capacitors for overcoming voltage breakdown. F. L. Mason. *II Q S T* 42:32-5 My '58
 Equalization of base-band noise in multi-channel fm radio systems. C. A. Parry. *bibliog diags Inst Radio Eng Proc* 46:1527-34 N '57

RADIO communication—Interference elimination—Continued

- Filtering and shielding the station receiver. D. T. Geiser. *il* diags Q S T 42:27-9 Ag '58
- Fm demodulator time-constant requirements for interference rejection. E. J. Baghdady. bibliog diags *Inst Radio Eng Proc* 46:432-40 F '58
- How to set a trap; dielectric tuning of trap capacitors. C. Kramer. *il* diags Q S T 42:32-3 F '58
- Problems of missiles; reducing spurious radiation. A. L. Albin and C. B. Pearlston, jr. *diag Electronic Ind* 17:59-63 S '58
- Suppression of undesired radiation of directional hf antennas and associated feed lines. H. Brueckmann. bibliog *il* diags *Inst Radio Eng Proc* 46:1510-16 Ag '58
- Telegraph relays with built-in radio-interference suppressors. *il* *diag Elec Com* 35 no 1: 13-14 '58
- Theory and operation of crystals diodes as mixers. G. C. Messenger and C. T. McCov. bibliog diags *Inst Radio Eng Proc* 45:1269-83 S '57
- Tone-coded squelch stops skip interference. *Elec World* 150:74 S 8 '58

Paging service

- Pocket-radio signaling. W. Strack. *il* diags *Bell Lab Rec* 36:9-12 Ja '58
- Radio-paging field spreads. *Electronics* 31:18 S 12 '58
- Radio paging system causes tvl. J. A. Lenton. *Radio-Electronics* 29:59 F '58
- Selective paging; radio system using amplitude and frequency modulation. *diag Wireless World* 64:293 Je '58
- Wireless phone bell. *il* diags *Electronic Ind* 17:supO 21 Mr '58

Short wave

- Analysis of oblique path meteor-propagation data from the communications viewpoint. W. R. Vincent and others. bibliog *il* diags *Inst Radio Eng Proc* 45:1701-7 D '57; Same cond. *Electronic Ind & Tele-Techn* 16:52-5+ Q '57
- Atmospheric noise interference to short-wave broadcasting. S. V. C. Aiyar. bibliog diags *Inst Radio Eng Proc* 46:580-9 Mr '58
- Bandwidth considerations in a JANET system. L. L. Campbell and C. O. Hines. *Inst Radio Eng Proc* 45:1558-60 D '57
- Directional characteristics of meteor propagation derived from radar measurements. V. R. Eshleman and R. F. Miodnosky. bibliog diags *Inst Radio Eng Proc* 45:1715-23 D '57
- Dual-path propagation. J. G. Stephenson. Q S T 42:47+ Mr '58
- FCC scans microwave. *Electronics Bsns* ed 30: 48-9 N 10 '57
- Forward scatter; above 2000 megacycles! J. L. Gardner. *il* diags *Electronic Ind* 17: supO 2-5 Mr '58
- From Somera to Samoa; DXpedition to the South Pacific. T. Henry. *il* Q S T 42:54-6 Ja '58
- Influence of meteor-radiant distributions in meteor-scatter communication. M. L. Meeks and J. C. James. bibliog diags *Inst Radio Eng Proc* 45:1724-33 D '57
- Intermittent communication with a fluctuating signal to combat the effects of signal fading. G. F. Montgomery. *Inst Radio Eng Proc* 45:1678-84 D '57
- Invasion of Crete. S. E. Fason. *il* Q S T 42:80-2 My '58
- Investigation of long-distance overwater tropospheric propagation at 400 mc. H. E. Dinger and others. *il* map *diag Inst Radio Eng Proc* 46:1401-10 JI '58
- Investigation of storage capacity required for a meteor-burst communications system. R. A. Rach. *Inst Radio Eng Proc* 45: 1707-9 D '57
- Long-distance h/f broadcasting; factors governing effective coverage of target area. T. W. Bennington. *diag Wireless World* 64:331-6 JI '58
- Meteor-burst system for extended range vhf communications. W. R. Vincent and others. *il* diags *Inst Radio Eng Proc* 45:1693-700 D '57; Same cond. *Electronic Ind & Tele-Techn* 16:84-8+ N '57
- Microwave line-of-sight propagation. M. W. Gough. bibliog diags *Electronic Eng* 30: 237-47 My '58
- Navassa 1957. F. Capossela and J. Reiser. *il* Q S T 41:58-9+ D '57
- NATO gets scatter link. *Electronics* 31:24 S 5 '58
- Obstacle gain techniques for 50 mc. and higher. J. H. Craig. *il* *diag Q S T* 42:18-21 Mr '58

- Phase variations of 16 kc/s transmissions from Rugby as received in New Zealand. D. D. Crombie and others. bibliog map *Inst E E Proc* 105 pt B:301-4 My '58
- Potential of semiconductor diodes in high-frequency communications. A. Uhler, jr. bibliog diags *Inst Radio Eng Proc* 46:1099-115 Je '58
- Principles of JANET, a meteor-burst communication system. P. A. Forsyth and others. bibliog (33 titles) *il* map diags *Inst Radio Eng Proc* 45:1642-57 D '57
- Role of stratospheric scattering in radio communication. H. G. Booker and W. E. Gordon. *Inst Radio Eng Proc* 45:1223-7 S '57
- Scatter propagation; symposium. *Wireless World* 64:124-5 Mr '58
- Short-wave conditions. Published in monthly number of *Wireless World*
- Some airborne measurements of vhf reflections from meteor trails. J. P. Casey and J. A. Holladay. *Inst Radio Eng Proc* 45: 1735-6 D '57
- Storage capacity in burst-type communication systems. L. Campbell. *Inst Radio Eng Proc* 45:1661 D '57; Discussion. W. A. Helbig. *diags* 46:1649-50 S '58
- Study of 468-megacycle tropospheric scatter propagation over a 289-mile path. J. E. Atwood and others. *il* map *RCA R* 19:321-33 S '58
- Tropospheric link. *il* *Engineering* 185:703-4 My 30 '58
- Tropospheric scatter communication. G. L. Grisdale. *il* *diag Electronic Eng* 30:272-5 My '58
- Tropospheric scatter propagation. G. Millington. bibliog *Electronic Eng* 30:248-52 My '58
- Tropospheric scatter propagation; summary of recent progress. H. Staras. bibliog diags *RCA R* 19:13-18 Mr '58
- Tropospheric scatter system evaluation. M. Telford. bibliog *il* diags *Brit Inst Radio Eng J* 13:511-23 S '58
- Utility of meteor bursts for intermittent radio communication. G. F. Montgomery and G. R. Sugar. bibliog diags *Inst Radio Eng Proc* 45:1684-93 D '57
- Vhf radio range increased 2½ times; Stanford research institute engineers are bouncing signals off meteor trails. *il* *diag Pet Eng* 29:D46+ D '57
- Wavelength dependence of the information capacity of meteor-burst propagation. V. R. Eshleman. bibliog *Inst Radio Eng Proc* 45: 1714-14 D '57

See also

- Radio receiving apparatus—Short wave
- Radio transmitters—Short wave

Wire line connection

- Remote control carrier systems in two-way closed circuit educational tv. J. R. Martin and others. *il* diags *Elec Eng* 77:304-6 Ap '58
- See also*
- Telephone—Radio telephone connection

Colombia

- Short survey of radio and electronics in Colombia. T. J. Meek. *Inst Radio Eng Proc* 46:692 Ap '58

Great Britain

- Survey of microwave radio communication. W. J. Bray. bibliog *il* map diags *Electronic Eng* 30:226-36 My '58
- Tropospheric-scatter link between Bromley and Caterick. *il* *Electronic & Radio Eng* 35: 234 Je '58

RADIO communication, Marine*See also*

- Radio telephone on ships
- RADIO communication, Military**
- Antenna filters for a military radio system. M. D. Brill and R. J. Jensen. *il* diags *Bell Lab Rec* 36:142-5 Ap '58
- Army message printer device is first super-speed combat unit. *il* *Elec Eng* 77:766 Ag '58
- Aviation communications and navigation; today and tomorrow. F. B. Gunter and N. E. Tharp. *il* *Westinghouse Eng* 17:178-80 N '58
- Military mobiles become transistorized. R. H. Decker and D. E. Kammer. *il* *Electronic Ind* 17:supO 3-7 JI '58
- National air defense demands reliable multiplexing circuits. J. B. Naugle, jr. *il* diags *Electronic Ind* 16:supO 8-11 D '57

See also

- Radio apparatus—Military use

RADIO conductors*See also*

- Wave guides
- RADIO consultative committee, International.**
- See* International telecommunication union

RADIO control

- Analysis of sampled-data systems containing nonlinear element. J. Tou. diags Inst Radio Eng Proc 46:915 My '58
- Does radio control red ICBM? Electronics 31:28 Mr 21 '58
- Electronics steers test tractor. *il* Electronics 31:22 My 2 '58
- Flying signals control remote pumps; microwave radio system. Olin Mathieson chemical corp. *il* Plant Eng 12:122-3 Mr '58
- History of some foundations of modern radio-electronic technology. J. H. Hammond, jr. and E. S. Purington. bibliog (101 ref) *il* diags Inst Radio Eng Proc 45:1191-208 S '57
- How transducers measure and control. R. K. Jurgen. bibliog *il* diags Electronics 31:59-70 J1 4 '58
- Microwave controls supply of plant water; Olin Mathieson chemical co. *il* diags Chem Eng 65:68+ Ap 7 '58
- Modulators for automatic control systems; reference sheet. L. S. Klivans. diags Electronics 31:82+ Ja 3 '58
- New master control system for pipelines. H. S. Wilson. *il* diags Pet Eng 30:D60+ My '58
- Override circuits are simplified for electronic control stations. R. L. Ives. diags Electronics 31:50+ Ag 29 '58
- Radio-control system regulates traffic flow; programs traffic signals. Machine Design 30:32 Ap 3 '58
- Radio to run traffic in New York. Electronics 31:18 Ag 15 '58
- Remote control of a grid-dip meter; checking resonance at a distance. W. R. Burks. *il* Q S T 42:15 O '58
- Stable receiving circuits for remote control. S. J. Nishyba and F. E. Brooks, jr. diags Electronics 31:74-6 Ag 1 '58
- Tone modulator for radio-control. E. L. Safford, jr. diags Radio-Electronics 29:122+ Ap '58
- Trigger circuit controls quartz crystal lapping. J. F. Brumach and others. *il* diags Electronics 31:66-7, cover J1 18 '58
- Uhf to guard fire trucks. Electronics 31:180+ Mr 14 '58

RADIO corporation of America

- RCA on the receiving end of indictment. Product Eng 29:23 Mr 17 '58

RADIO detectors

- Ferrite microwave detector. D. Jaffe and others. bibliog diags Inst Radio Eng Proc 46:594-601 Mr '58
- Phase-sensitive detector. K. G. Beauchamp. *il* diags Electronic Ind 17:74-7 Mr '58
- Product detector; measurements on the poor man's signal slicer. D. Healey. diags Q S T 41:42-4 D '57

RADIO echoes

- Echoes cause fm intermodulation. H. E. Curtis. Electronic Ind 17:supO 7 S '58
- Lunar radio echoes. J. H. Trexler. bibliog *il* Inst Radio Eng Proc 46:286-92 Ja '58

RADIO-ELECTRONICS (periodical)

- From coherer to spaciator. T. R. Kennedy, jr. *il* diags Radio-Electronics 29:44-59 Ap '58

RADIO engineering

- Controlled thermonuclear fusion; its meaning to the radio and electronic engineer. E. W. Herold. bibliog diags RCA R 19:162-86 Je '58
- Electronic handbook for design engineers. *il* diags Electronics 31:R 1-64 Mid-Je '58
- Radio engineering use of the Cayley-Klein model of three-dimensional hyperbolic space. B. F. Ender. diags Inst Radio Eng Proc 46:1650-1 S '58
- World of wireless. Published in monthly numbers of Wireless world

Bibliography

- Abstracts and references. Published in monthly numbers of Electronic and radio engineer
- Abstracts and references. Published in monthly numbers of Proceedings of the Institute of radio engineers
- Abstracts of IRB transactions. Published in monthly numbers of Proceedings of the Institute of radio engineers
- Book notices. Published in monthly numbers of Journal of the British Institution of radio engineers
- Book reviews. Published in monthly numbers of Electronic engineering
- Books. Published in monthly numbers of Proceedings of the Institute of radio engineers
- Books. Published in monthly numbers of Radio-electronics
- New books. Published in monthly numbers of Electronic and radio engineer

RCA technical papers; quarterly list. RCA R 18:594-6; 19:128-31, 311-13, 487-8 D '57-S '58

Radio engineering overseas; abstracts from European and Commonwealth journals received in the library of the Institution. Published in monthly numbers of Journal of the British Institution of radio engineers

Scanning the transactions. Inst Radio Eng Proc 46:510-12 F '58 [cont monthly]

Electric analogs

- Application of the potential analog in multicavity klystron design and operation. S. V. Yadavalli. bibliog diags Inst Radio Eng Proc 45:1286-7 S '57
- Hyperbolic analogs using varistors. G. W. Holbrook. diags Inst Radio Eng Proc 46:1762 O '58

History

- From coherer to spaciator. T. R. Kennedy, jr. *il* diags Radio-Electronics 29:44-59 Ap '58
- History of some foundations of modern radio-electronic technology. J. H. Hammond, jr. and E. S. Purington. bibliog (101 ref) *il* diags Inst Radio Eng Proc 45:1191-208 S '57
- Microwave antenna and waveguide techniques before 1900. J. F. Ramsay. bibliog (27 titles) diags Inst Radio Eng Proc 46:405-15 F '58

See also

Transistors—History

Study and teaching

- Training technicians in U.S.A.; pattern of radio and electronics education in America. J. Gray. Wireless World 64:55-6 F '58

Tables, calculations, etc.

- Amplifier delay charts; reference sheet. J. B. Harrington. Electronics 31:88-90 Ag 15 '58
- Antenna null nomograph; reference sheet. B. Lindeman. Electronics 31:102 Ap 11 '58
- Approximate relations between transient and frequency response. H. H. Rosenbrock. bibliog Brit Inst Radio Eng J 18:57-64 Ja '58
- Calculating noise in electrical resistors. A. E. Maine. Electronic Ind 17:70 Mr '58
- Calculation of characteristic impedance by conformal transformation; coaxial transmission line. J. C. Anderson. diags Brit Inst Radio Eng J 18:49-54 Ja '58
- Carrier-to-noise statistics for various carrier and interference characteristics. K. K. Clarke and J. Cohn. diags Inst Radio Eng Proc 46:389-95 My '58
- Charts simplify passive l-c filter design. D. R. J. White. diags Electronics 30:160-3 D 1 '57
- Codification of Lagrangian formulation. H. E. Koenig and W. A. Blackwell. Inst Radio Eng Proc 46:1428-9 J1 '58
- Comparison of measured and theoretical characteristics. W. J. Lucas and P. B. Barber. diags Electronic & Radio Eng 34:454-8 D '57
- Conditions for minimum variation in a function. diags Electronic & Radio Eng 35:307-9, 335-7, 378-81 Ag-O '58
- Design of three-resonator dissipative band-pass filters having minimum insertion loss; universal design curves. J. J. Taub and E. F. Bogner. diags Inst Radio Eng Proc 46:681-7 My '57
- B. Sellers. diags 46:498-9 F '58
- Designing stability into transistor circuits; chart and nomographs; reference sheet. S. Schenkerman. Electronics 31:123+ F 14 '58
- Designing transistor d-c to a-c converters. S. Schenkerman. diags Electronics 31:78-80 S 26 '58
- Determining vhf line-of-sight; nomograph. G. Mather. Electronic Ind 17:supO 2 Je '58
- Development of the transmission line equations from antenna theory. C. W. Harrison, jr. diags Am Soc Naval Eng J 70:507-9 Ag '58
- Dissipation chart for T attenuators. D. T. Geiser. Electronics 31:92+ Je 20 '58
- Distribution of leakage flux around a twtfocusing magnet; a graphic analysis. M. S. Glass. diags Inst Radio Eng Proc 46:1751-6 O '58
- Estimation of dissipative effects in Tchebycheff symmetrical filters. D. C. Pawsey. diags Inst Radio Eng Proc 46:1763-4 O '58
- Filter element nomograph. R. Davidson. diags Electronic Ind 17:supO 4+ Je '58
- Graphic construction finds clear i-f. W. V. Hargreaves, jr. Electronics 30:170-2 D 1 '57
- Group and phase velocity. diags Wireless World 64:445-9 S '58

RADIO engineering—Tables, calculations, etc.

- Continued*
 H-f amplifier design; reference sheet. A. E. Hayes, Jr. *diag Electronics* 31:165-6+ Mr 14 '58
 Higher order approximations to the solution of nonuniform transmission lines. L. Solymar. *Inst Radio Eng Proc* 45:1547-8 N '57
 Jamming nomograph; reference sheet. G. Minty. *Electronics* 31:83-4 Je 20 '58
 Mathematical tools. *diag Electronic & Radio Eng* 35:268-70 JI '58
 Matrices. *diags Electronic & Radio Eng* 35:67-9, 100-2, 133-4 R-Ap '58
 Microwave reflector gain chart. *Electronic Ind* 17:supO 1 Je '58
 Nomogram for air-gap design. A. C. Sim. *diag Electronic & Radio Eng* 35:250-1 JI '58
 Numerical extraction of roots. *Electronic & Radio Eng* 35:25 Ja '58; Discussion. D. T. Broadbent. 35:115 Mr '58; Reply. 35:173-5 My '58
 Operational calculus. *diags Electronic & Radio Eng* 34:422-4 N '57
 Optimum stacking spacings in antenna arrays. H. W. Kasper. *diags Q S T* 42:40-3 Ap '58
 Parabolic antenna system characteristics for simple performance calculation; nomographs. R. F. H. Yang. *Aviation Age* 28: 64-5 Ja '58
 Parallel resistance chart. R. Welland. *Radio-Electronics* 29:61 O '58
 Path attenuation nomograph. N. Kashiwabara. *Electronics* 31:93-4 Je 6 '58
 Phase-shift curves for feedback amplifiers; reference sheet. R. E. Engelmann. *diags Electronics* 31:86 My 9 '58
 Pi network nomograph. R. W. Johnson. *Electronics* 31:108+ S 12 '58
 Poles and zeros squared. A. Papoulis. *diags Inst Radio Eng Proc* 46:361-2 Ja '58
 Potential divider design chart. J. Willis. *diags Wireless World* 64:452-3 S '58
 Properties of root loci. C. S. Lorens. *Inst Radio Eng Proc* 46:1651-2 S '58
 Radar system planning; nomographs; reference sheet. C. W. Young. *Electronics* 31: 120-1 F 14 '58
 Radiation charts for paraboloidal antennas; reference sheet. L. W. Lechtreck. *Electronics* 31:104+ S 12 '58
 Radio-frequency communication systems parameters; nomograph. E. J. Bittner and R. E. Hanson. *Aviation Age* 28:66-8 Ja '58
 Radio system calculator; nomograph; reference sheet. J. J. Logan. *Electronics* 31:89-90 S 26 '58
 Rapid conversion of hybrid parameters; reference sheet. S. Sherr. *Electronics* 31: 75-6 Mr 28 '58
 Reliability of multi-moded systems. H. I. Zagor and others. *bibliog diags Electronic Ind* 17:101-4+ Ap '58
 Response of a capacitance-resistance divider and ramp-function. S. Turk. *diags Electronic Eng* 30:608-11 O '58
 Rhombic aeriads; design charts for high frequencies. F. J. Norman and J. F. Ward. *bibliog diags Electronic & Radio Eng* 34:398-403 N '57
 Servo analysis charts; reference sheet. E. Eiser and E. Adler. *Electronics* 30:173-4+ D 1 '57
 Signal-strength chart; reference sheet. A. W. Emmons. *Electronics* 31:90 Je 6 '58
 Simple low-pass filter design; easy calculation of values in a high-performance circuit. V. O'Brien. *diags Q S T* 42:21-3 O '58
 Simplified calculations for transmission lines; reference sheet. H. F. Mathis. *diags Electronics* 31:74 Ap 25 '58
 Simplifying phase equalizer design. W. J. Judge. *diags Electronic Ind* 17:76-7 Ap '58
 Smooth random functions need not have smooth correlation functions. D. G. Brennan. *Inst Radio Eng Proc* 45:1016-17 JI '57; Discussion. 45:1740; 46:1758-60 D '57, O '58
 Standing-wave ratio conversion chart; reference sheet. J. Lory. *diag Electronics* 31:56 Ja '58
 Summation and manipulation of series. *Electronic & Radio Eng* 35:225-8 Je '58
 Telemetry progress; radio-frequency link for space with today's hardware; with nomographs. H. Scharla-Nielsen. *Aviation Age* 30:144-5 Ag '58
 Theoretical solution of the pi network. R. E. Marcus. *diags Electronic Ind* 17:supO 10-11+ My '58
 Think of a number; the dimensionless product. *diags Electronic & Radio Eng* 35:367-70 O '58
 Tilt chart for displaced antenna feed. R. B. Macaskill. *Electronics* 31:80+ JI 4 '58

- Toroidal core winding chart. T. J. Maxey. *diag Electronics* 31:121-2+ S 12 '58
 Transistor data chart. 1958. *Electronic Ind & Tele-Tech* 16:35+ O '57
 Transistor formulas use h-matrix parameters; reference sheet. A. E. Hayes, Jr. *diags Electronics* 31:81-2 F 28 '58
 Transmission-line calculator. J. H. Andreae. *Wireless World* 64:191-3 Ap '58
 Tropo-scatter system design charts. L. P. Yeh. *Electronics* 31:91-3 Ja 17 '58
 Tube noise factor chart; reference sheet. L. P. A. DeBacker. *Electronics* 31:84 JI 18 '58
 Two-sided matching design; curve plotted on Smith chart; reference sheet. H. F. Mathis. *diags Electronics* 31:104 Ap 11 '58
 Various definitions of the delta entities. O. Pankraz. *Inst Radio Eng Proc* 46:1653-4 S '58
 Vswr reduction by padding; equations and design. H. W. Kasper. *diag Electronic Ind* 17:96-7 Ap '58
See also
 Radio astronomy—Tables, calculations, etc.
 Transistors—Tables, calculations, etc.

Terminology

- Index to IRE standards on definitions of terms 1942-1957. *Inst Radio Eng Proc* 46: 449-76 F '58 (reprints \$1)

See also

- Radio telephone—Terminology
 Transistors—Terminology

RADIO engineers

- Electronic engineering positions with the U.S. government. maps *Electronic Ind* 17:453-6 Je '58
 Engineer shortage or not? depends on who you ask. *Electronic Ind & Tele-Tech* 16: 131-4 O '57
See also
 Baker, Walter R. G.
 Brown, Gordon Stanley
 Cowan, Frank A.
 Fink, Donald G.
 Jansky, Karl Guthe
 Tolson, William A.

- RADIO engineers, Institute of.** *See* Institute of radio engineers

- RADIO facsimile.** *See* Facsimile transmission

- RADIO fading.** *See* Radio transmission—Fading

RADIO filters

- Active bandpass filter has sharp cutoff. J. R. MacDonald. *bibliog il diags Electronics* 31:89-94-7 Ag 15 '58
 Antenna filters for a military radio system. M. D. Brill and R. M. Jensen. *il diags Bell Lab Rec* 36:142-5 Ap '58
 Audio filter has variable bandpass. C. F. Rothe. *il diags Radio-Electronics* 29:48-9 My '58
 Ceramic intermediate frequency filters match transistors. D. Elders and E. Gikow. *il diags Electronics* 31:59-61 Ap 25 '58
 Comb filters, anyone? N. H. Crowhurst. *Audio* 42:17+ Je '58
 Effects of mode filters on the transmission characteristics of circular electric waves in a circular waveguide. W. D. Warters. *diags Bell System Tech J* 37:657-77 My '58
 Electronic filtering circuit. R. G. T. Bennett and C. S. L. Keay. *diag Electronic Eng* 30:99-9 '58
 Estimation of dissipative effects in Tchebycheff symmetrical filters. D. C. Pawsey. *diag Inst Radio Eng Proc* 46:1763-4 O '58
 Exact ladder network design using low-Q coils. L. Winberg. *bibliog diags Inst Radio Eng Proc* 46:739-50 Ap '58
 Ferrite cores filter out radio noise with low loss. J. C. Senn. *Aviation Age* 28:56-61 Ja '58
 Filter element nomographs. R. Davidson. *diags Electronic Ind* 17:supO 4+ Je '58
 Filter type networks. M. R. Nicholls. *diags Electronic Eng* 30:212 Ap '58
 Filtering and shielding the station receiver. D. T. Geiser. *il diags Q S T* 42:27-9 Ag '58
 High frequency crystal filter design techniques and applications. D. I. Kosowsky. *bibliog il diags Inst Radio Eng Proc* 46: 419-26 F '58
 High-frequency quartz filter crystals. R. Bechmann. *bibliog Inst Radio Eng Proc* 46: 617-18 Mr '58
 How to specify filters. S. Boyle. *diags Electronic Ind* 17:55-8 S '58
 Insertion loss filter design applied to transistorized carrier system. T. Winkler. *bibliog il diags Com & Electronics* 5:19-24 S '58
 Low-distortion modulator for clipped speech. T. E. Beling. *diags Q S T* 42:31-4 Ja '58
 Moveout filter. C. H. Savit and others. *bibliog diags Geophysics* 23:1-25 Ja '58

RADIO filters—Continued

- Novel side-band selector system; electrical scanning of a band-pass filter. E. P. Alvernaz, *il diags* Q S T 42:18-20 My '58
- Optimum filters with monotonic response. A. Papoulis, *bibliog diags* Inst Radio Eng Proc 46:606-9 Mr '58
- Printed filter coils, *diag* Wireless World 64: 132 Mr '58
- Re-entrant transmission-line filter using printed conductors. J. M. C. Dukes, *il diags* Inst E E Proc 105 pt B:173-9; Discussion, 180-1 Mr '58
- Review of methods of filtering seismic data. M. K. Smith, *diags* Geophysics 23:44-57 Ja '58
- Stable crystal filter is parallel resonant. J. C. Seddon, *diags* Electronics 31:155-7 Mr 14 '58
- Time-symmetric filters. L. R. O. Storey and J. K. Grierson, *bibliog il diags* Electronic Eng 30:586-92, 648-53 O-N '58
- Transistor filters ripple. F. Oakes and E. W. Lawson, *diags* Electronics 31:95 Ap 11 '58
- Tunable filter for use in the measurement of excess noise from local oscillators. W. P. N. Court, *diags* Electronic Eng 30:208-9 Ap '58
- Twin-T variable-slope filter. G. B. Miller, *diags* Electronic 30:143-5 Mr '58
- Wide-band waveguide filters with short linear tapers. G. Craven, *diags* Inst E E Proc 105 pt B:210-12 Mr '58

Design

- Band-pass filter design technique. D. R. J. White, *diag* Electronics 31:79-81 Ja 3 '58
- Charts simplify passive l-c filter design. D. R. J. White, *diags* Electronics 30:160-3 D 1 '57
- Design and manufacture of practical filter circuits. S. Boyle, *il diags* Electronics 30: 154-7 D 1 '57
- Design of inductive post-type microwave filters. M. H. N. Potok, *bibliog diags* Brit Inst Radio Eng J 18:263-72 My '58
- Design of microwave filters with quarter-wave couplings. G. Craven and L. Lewin, *diags* Inst E E Proc 103 pt B:173-7 Mr '56; Discussion, 105 pt B:395-6 Jl '58
- Design of three-resonator dissipative band-pass filters having minimum insertion loss; universal design curves. J. J. Taub and E. P. Bogen, *diag* Inst Radio Eng Proc 45:681-7 My '57; Discussion, M. Dishal and B. Sellers, 46:498-9 F '58
- Detection of pulsed signals in noise; optimum Butterworth third-order filters. H. S. Heaps and A. T. Isaacs, *bibliog diag* Electronic & Radio Eng 35:190-3 My '58
- Simple low-pass filter design; easy calculation of values in a high-performance circuit. J. V. O'Hern, *diags* Q S T 42:21-3 O '58
- Transmission-line low pass filters; design methods for the v.h.f. and u.h.f. bands. F. Charman, *bibliog il diags* Electronic & Radio Eng 35:103-11 Mr '58

Manufacture

- Design and manufacture of practical filter circuits. S. Boyle, *il diags* Electronics 30: 154-7 D 1 '57

RADIO frequency

- Marconi 500W radio-frequency power meter. *il* Engineer 205:296 F 21 '58

See also

Radio resonators

Radio stations, Standard frequency

Allocation

- Business band starts Aug. 1. Electronics 31:18 Jl 18 '58
- FCC-IRAC frequency proposals; u.h.f. changes, 1800-2000 kc. changes. Q S T 42:63-4 Je '58
- IRE convention hears spectrum stretchers. Electronics 31:84 Mr 23 '58
- IRE group discusses frequency allocation. Gas 34:121 Ja '58
- Joint technical advisory committee (JTAC) under the sponsorship of the IRE and the Electronic industries association; ten years of service. D. G. Fink, *Inst Radio Eng Proc* 46:823-6 My '58
- Shortage of low frequency channels eased by FCC order. Gas Age 120:45 O 31 '57
- Spectrum crowding demands new trends in directional communications. E. C. Benoit, Jr. and P. Coughlin, Jr., *diags* Electronic Ind 17:supO 2-4+ My '58

See also

Television transmission—Frequency allocation

Control

- See also*
- Clocks—Atomic clocks
- Radio standards

RADIO frequency modulation

- Amplitude modulation suppression in fm systems. C. L. Ruthroff, *bibliog diags* Bell System Tech J 37:1023-46 Jl '58
- Analyzing interference in fm communications systems. N. H. Shepherd, *diags* Electronic Ind 17:supO 15-18+ Mr '58
- Compatible stereo disk uses f-m multiplexing. J. B. Minter and J. H. McConnell, *il diags* Electronics 31:65-7 Je 6 '58
- Distortion in frequency-division-multiplex fm systems due to an interfering carrier. R. G. Medhurst and others, *bibliog diag* Inst E E Proc 105 pt B:282-92 My '58
- Echoes cause fm intermodulation. H. E. Curtis, *Electronic Ind* 17:supO 6-7 S '58
- Equalization of base-band noise in multi-channel fm radio systems. C. A. Pary, *bibliog diags* Inst Radio Eng Proc 45:1527-34 N '57
- Frequency modulation by inductance variation; a magnetically-stable ferrite modulator. F. Slater, *bibliog il diags* Brit Inst Radio Eng J 18:189-204 Mr '58
- Fm-fm telemetering; analysis of the frequency spectrum of a double frequency-modulated wave. E. S. Cassedy, Jr., *Electronic & Radio Eng* 34:465-7 D '57
- Fm noise spectra. H. C. Ward, *Inst Radio Eng Proc* 45:1742-3 D '57
- Fm, tv, dx, R. B. Cooper, Jr., *Radio-Electronics* 29:61+ S '58
- F-m triplecasts seen profitable. Electronics 31:16+ Mr 14 '58
- Frequency modulator covers 25-75 kc; for use with magnetic tape recorders. P. S. Bengston, *diags* Electronics 31:100+ Ag 1 '58
- Lockheed switches to pam-fm. W. J. Cox, *diag* Aviation Age 30:138-42 Ag '58
- New stereo disk uses f-m carrier. Electronics 31:14 F 23 '58
- Rediscovery of fm broadcasting. D. Lachenbruch, *il* Radio-Electronics 29:98-9 Ja '58
- Reins tightening for f-m. Electronics 31:36 My '58
- Simple circuit stabilizes ferrite fm modulator. A. B. Przedpelski, *diags* Electronic Ind 17:56-7 F '58
- Systems engineering a pdm/fm telemetry system. F. J. Enge, *diags* Electronic Ind 17:80-1 L Mr '58

See also

Radio receiving apparatus—Frequency modulation receivers

Radio transmitters—Frequency modulation transmitters

RADIO generators

- Adjustable nonlinear function generator. L. Scott, *il* Electronics 31:84+ Jl 4 '58
- Amplitude/frequency response display using a ratio method. H. L. Mansford and others, *diags* Electronic Eng 30:541-4, 595-7 S-O '58
- Cathode-ray tube function generator. J. Wilks, *il* diag Electronic Eng 30:458 Jl '58
- Double tetrode oscillator; v.h.f. power generator covering 150 to 500mc/s. J. H. Andrae and P. L. Joyce, *il* diags Wireless World 64:173-7 Ap '58
- Flat-field generator speeds color tv testing. R. W. Cook, *il* diags Electronics 30:139-41 D 1 '57
- Function generator. N. Hambly, *diags* Electronic Eng 30:91-4 F '58
- Harmonic generation with ideal rectifiers. C. H. Page, *diags* Inst Radio Eng Proc 46:1738-40 O '58
- Harmonic generator by use of the nonlinear capacitance of germanium diode. S. Kita, *diag* Inst Radio Eng Proc 46:1307 Je '58
- Junction transistor sawtooth waveform generators. K. P. P. Nambiar, *diags* Electronic Eng 30:61-5 F '58
- Low frequency random-signal generator. J. L. Douce and J. M. Shackleton, *diag* Electronic & Radio Eng 35:295-7 Ag '58
- Low frequency random signal generator. J. C. West and J. T. Roberts, *diags* J Sci Instr 34:447-50 N '57
- Marconi signal generator. *il* Engineering 186: 102 Jl 25 '58
- Matchnone, a bridge-powered audio keying monitor. W. S. Grenfell, *il* diag Q S T 42: 26-7 Ja '58
- Microwave high-power simulator. H. Heins, *il* diags Electronic Ind & Tele-Tech 16:78-81+ N '57
- Phonic generator controls recorder speed. *il* Electronic Ind 17:146-7 Ag '58
- Photocell-powered receiver; generator for operating a transistor set from light energy. R. C. T. Stead, *il* Wireless World 64:426-8 S '58
- Production of millimeter waves by a spark generator. J. Hart, *J Ap Phys* 29:743 Ap '58

RADIO generators—Continued

- Recommended method of expressing electronic measuring instrument characteristics; amplitude modulated or frequency modulated signal generators. Brit Inst Radio Eng J 18:7-16 Ja '58
- Simple signal generator. diags Radio-Electronics 29:53 Ja '58
- Spot-o-matic signal generator. I. Queen. II diags Radio-Electronics 29:96-8 Je '58
- Square-wave generator. T. W. Dresser. diags Radio-Electronics 29:92+ Je '58
- Shf frequency standard uses double conversion. M. C. Thompson Jr. and others. II diags Electronics 31:100-1 Ap '58
- Shf frequency sweeper uses backward wave tube. D. E. Wheeler and P. D. Lacy. II diags Electronics 31:76-8 Ja '58
- Wide range sine wave generator; Wien bridge oscillator. L. H. Dülberger and H. T. Sterling. II diags Electronic Eng 30:424-8 Ji '58
- See also*
- Pulse generators
- RADIO instruments**
- Aperture correction for instrumentation systems. J. Otterman. diags Inst Radio Eng Proc 46:781 Ap '58
- Atmospheric radio noise; equipment for the measurement of amplitude distributions. J. Harwood and C. Nicolson. II diags Electronic & Radio Eng 35:183-90 My '58
- Bridge method of measuring noise in low-noise devices at radio frequencies. K. S. Champlin. diags Inst Radio Eng Proc 46:779 Ap '58
- Cap-ohm-meter. R. C. Sandison. diags Radio-Electronics 29:109 S '58
- Check electrolytic circuit. J. H. Levitt. II diags Radio-Electronics 29:64-5 O '58
- Checking transistors. H. F. Priebe, jr. II diags Q S T 42:20-2 Ap '58
- Combined test prod and clip. C. Bayley. diags Wireless World 64:75-7 F '58
- Dynamic conductance meter. M. R. Barber and A. G. Bogle. diags Electronic & Radio Eng 35:392-4 O '58
- Dynamic spectrum analyzer for solar studies. J. Goodman and M. Lebenbaum. II diags Inst Radio Eng Proc 46:132-5 Ja '58
- Five new transistor checkers. J. T. Frve. II diags Radio-Electronics 29:47-50 Mr '58
- Hot probe measures germanium diffusion depth. M. Beliveau. II diags Electronics 31:106+ S 26 '58
- Improved v.h.f. coil for grid-dip meters. A. J. Newland. diags Q S T 42:36 Ap '58
- In-circuit capacitor tester. W. Kelvin. II diags Radio-Electronics 29:109-12 F '58
- Inexpensive scope calibrator. J. Chernof. II diags Radio-Electronics 29:99-100 Je '58
- Instrument for the measurement of surface impedance at microwave frequencies. A. E. Karbowiak. II diags Inst E E Proc 105 pt B:195-203 Mr '58
- Memory meter retains reading. II Electronics 31:136 F 14 '58
- Meter shows current drift from nominal. D. T. Geiser. II diags Electronics 30:192+ D 1 '57
- Monitor displays radar noise figures. L. Young. II diags Electronics 31:49-51 Ja 31 '58
- One kc/s junction transistor π -parameter measurement set. R. A. Hall. diags Electronic Eng 30:82-5 F '58
- Plus-in bridge checks vhf quartz crystals. D. W. Robertson. II diags Electronics 31:82-5 My 9 '58
- Power transistor test set. W. Hasenberg. II diags Electronic Ind 17:58-60 My '58
- Public address dummy load. R. H. Houston. II diags Radio-Electronics 29:46-7 Je '58
- Recent developments in communications measuring instruments. E. Garthwaite and A. G. Wray. bibliog II diags Brit Inst Radio Eng J 18:387-97 Ji '58
- Remote control of grid-dip meter; checking resonance at a distance. W. F. Burks. II Q S T 42:1 O '58
- Reverse-current tester speeds diode checks. J. J. Levy. diags Electronics 31:83+ Ja 3 '58
- Ring-modulator reads low-level dc. E. J. Keonjian and J. D. Schmidt. diags Electronic Ind 17:86-9 Ap '58
- Servicing fuse-resistor circuits. H. Bowden. II diags Radio-Electronics 29:86+ Ag '58
- Simple antenna matching indicator. J. Zelle. diags Electronic Ind 17:supO 5-7 Ja '58
- Simple, cheap antenna bridges. D. T. Geiser. II diags Q S T 42:36-9 My '58
- Simple transistor tester. R. S. Burwen. II diags Audio 42:30+ My '58

- Single path phase measuring system for three-centimeter radio waves. M. C. Thompson, Jr. and M. J. Vetter. diags R Sci Instr 29:148-50 F '58
- Stabilized variable-sensitivity tuning meter. R. L. Ives. II diags Audio 42:20-3+ Je '58
- Tape recorder test adapter; illustrations with text. L. B. Hoffman. Radio-Electronics 29:83 Ag '58
- Transformerless bridge null detector. C. C. Street. diags Electronic Ind 17:supO 8-9 Ag '58
- Transistor beta tester with linear scale. S. Bernstein. diags Audio 42:21-2+ Ji '58
- Transistor null detector and sensitive indicator. T. Ladd. II diags Radio-Electronics 29:109+ My '58
- Transistor tester for the experimental lab. R. A. Hempel. II diags Electronic Ind 17:58-61 F '58
- Transistor tester predicts failures. J. M. Tewksbury. II diags Electronics 31:92+ S 26 '58
- Transistorized grid-dip meter. H. M. Neben. II diags Q S T 42:34-5 Je '58
- Tuning a probe in a slotted line. J. I. Cai-coya. diags Inst Radio Eng Proc 46:787-8 Ap '58
- U.h.f. power meter for operation in the 2 000 mc/s communication band. J. K. Murray. II diags Electronic Eng 30:345-8 My '58
- Vacuum tube voltmeter calibrator. J. H. Sulon. II diags Radio-Electronics 29:116+ My '58
- Versatile standing-wave ratio indicator. B. Goodman. diags Q S T 42:15-18+ Je '58
- Wien-bridge analyzer. L. B. Hedge. II diags Radio-Electronics 29:46-8 Ja '58
- See also*
- Frequency meters
- Oscillators
- Radar
- Radio measurements
- Radio meteorographs
- Raydist
- Wavemeters
- RADIO interferometers**
- Microwave interferometer for missile guidance scans electronically. A. Levine and W. Warner. II diags Aviation Age 28:44-9 Ja '58
- Phase tracking interferometer. H. Penfield. II diags Inst Radio Eng Proc 46:321-5 Ja '58
- Radio interferometry of discrete sources. R. N. Bracewell. bibliog diags Inst Radio Eng Proc 46:97-105 Ja '58
- Radio observations on the Russian satellites; estimating the height of the first satellite from radio interferometer records. G. B. Longden. Inst E E Proc 105 pt B:98-5 Mr '58
- Swept-frequency interferometer for the study of high-intensity solar radiation at meter wavelengths. J. P. Wild and K. V. Sheridan. bibliog II diags Inst Radio Eng Proc 46:160-71 Ja '58
- RADIO laws and regulations**
- New F.C.C. ruling eases municipal radio problems. II Pub Works 89:186 Ag '58
- Reins tightening for f-m. Electronics 31:36 My 2 '58
- See also*
- Federal communications commission
- Radio frequency—Allocation
- RADIO lines**
- Aerial feeders for multi-channel links. L. Lewin and J. Payne. diags Electronic Eng 30:414-19 Ji '58
- Broadband slot-coupled microstrip directional couplers. J. M. C. Dukes. bibliog diags Inst E E Proc 105 pt B:147-54; Discussion. 180-1 Mr '58
- Calculation of characteristic impedance by conformal transformation; coaxial transmission line. J. C. Anderson. diags Brit Inst Radio Eng J 18:49-54 Ja '58
- Design, development and standardization of radio-frequency cables; abstract. W. T. Blackband. Brit Inst Radio Eng J 18:255-6 Ap '58
- Development of the transmission line equations from antenna theory. C. W. Harrison, Jr. diags Am Soc Naval Eng J 70:507-9 Ag '58
- Experimental check of formulas for capacitance of shielded balanced-pair transmission line. B. G. King and others. diags Inst Radio Eng Proc 46:922-3 My '58
- Feeding the simple antenna; basic radiators and their transmission lines. L. G. McCoy. diags Q S T 42:33-5 Mr '58

RADIO lines—Continued

- Higher order approximations to the solution of nonuniform transmission lines. L. Solymar. *Inst Radio Eng Proc* 46:1547-8 N '57
- Low loss cable for microwave service. I. T. Stoneback and J. P. Agrios. *Wire & Wire Prod* 33:412-16 Ap '58
- Magnet wire hits 500C. *Electronics Bsns* ed 30:36 N 10 '57
- Match, or not to match? Y. Beers. *Q S T* 42:13-15+ S '58
- Measurement of permeability at v.h.f. using transmission line technique. J. C. Anderson. *diags Brit Inst Radio Eng J* 18:417-24 JI '58
- Measuring decimetric wavelengths; use of resonant lines for calibrating an absorption wavemeter covering 450 to 750mc/s. H. B. Dent. *II diags Wireless World* 64:319-23 JI '58
- Microwave magnetic field in dielectric-loaded coaxial line. B. J. Duncan and others. *diags Inst Radio Eng Proc* 46:500-2 F '58
- New wide-band balun. W. K. Roberts. *diags Inst Radio Eng Proc* 45:1628-31 D '57
- Nonuniform transmission line as a broadband termination. I. Jacobs. *bibliog diag Bell System Tech J* 37:913-24 JI '58
- Parallel-plate transmission lines and equivalent ratulators. A. B. Hillan. *diags Electronic & Radio Eng* 35:170-3 My '58
- Probability of specified losses at mismatched junctions. J. H. Craven. *diag Brit Inst Radio Eng J* 18:293-6 My '58
- Raising the limits for coaxial cables. E. T. Pfund, Jr. and others. *bibliog* (32 titles) *II Electronic Ind* 17:81-5+ Ja '58
- Re-entrant transmission-line filter using printed conductors. J. M. C. Dukes. *II diags Inst E E Proc* 105 pt B:173-9; Discussion. 180-1 Mr '58
- Simplified calculations for transmission lines; reference sheet. H. F. Mathis. *diags Electronics* 31:74 Ap 25 '58
- Splicing multiconductor shielded cable. *II Electronics* 30:232-4 D 1 '57
- Splicing 300-ohm cable. H. Fancboner. *diags Q S T* 42:53 Ja '58
- Suppression of undesired radiation of directional hf antennas and associated feed lines. H. Brueckmann. *bibliog II diags Inst Radio Eng Proc* 46:1510-16 Ag '58
- Theory of nonreciprocal ferrite phase shifters in dielectric-loaded coaxial line. K. J. Button. *diags J Ap Phys* 29:998-1000 Je '58
- Transmission-line calculator. J. H. Andraec. *II Wireless World* 64:191-3 Ap '58
- Transmission-line discontinuities; effect of multiple reflections. K. W. H. Foulds. *diags Electronic & Radio Eng* 35:263-7 JI '58
- Transmission-line matching. H. A. Kampf. *diags Radio-Electronics* 29:58 S '58
- See also*
Wave guides
- Testing**
- Fast cable impedance tests. J. H. Mennie. *II diag Electronics* 31:86+ F 28 '58
- Measurement of impedance and attenuation of a cable through an arbitrary loss-free junction. J. Allison and F. A. Benson. *bibliog diags Inst E E Proc* 105 pt B:487-95 S '58
- Measurement of the characteristic impedance of a coaxial cable. L. B. D'Alton. *diag Electronic Eng* 30:37-8 Ja '58; Discussion. 30:399 Je '58
- RADIO masts**
Pneumatically-operated aerial mast. *II Wireless World* 64:349 JI '58
- RADIO measurements**
Accurate measurement of τ_c and ω_0 for transistors. M. A. Melehy. *diag Inst Radio Eng Proc* 45:1739-40 D '57
- Analysis of oblique path meteor-propagation data from the communications viewpoint. W. E. Vincent and others. *bibliog II diags Inst Radio Eng Proc* 45:1761-7 D '57
- Apparent temperatures of some terrestrial materials and the sun at 4.3-millimeter wavelengths. A. W. Straiton and others. *bibliog II diag J Ap Phys* 29:776-82 My '58
- C.r.t. resolution measurement. *Wireless World* 64:239-40 My '58
- Cathode test utilizing noise measurements. W. Dahlke and F. Dlouhy. *bibliog diag Inst Radio Eng Proc* 46:1639-45 S '58
- Considerations in high-sensitivity microwave radiometry. P. D. Strum. *bibliog diags Inst Radio Eng Proc* 46:43-53 Ja '58
- Continuous phase difference measurements of earth satellites. J. W. Herbstreit and M. C. Thompson, Jr. *Inst Radio Eng Proc* 46:1535 Ag '58
- Determination of higher order propagating modes in wave-guide systems. M. P. Forster and K. Tomiyasu. *bibliog II diags J Ap Phys* 29:1040-5 JI '58
- Directional coupler for 144 mc.; reliable standing wave ratio measurement at low cost. E. P. Tilton. *diags Q S T* 42:33-41 Ag '58
- Discussion of 10.7-cm solar radio flux measurements and an estimation of the accuracy of observations. W. J. Medd and A. E. Covington. *bibliog diags Inst Radio Eng Proc* 46:112-18 Ja '58
- Far-field radiation of a cheese aerial. R. F. Kyle. *diags Electronic & Radio Eng* 35:260-2 JI '58
- Flux measurements of Cassiopeia A and Cygnus A between 18.5 mc and 107 mc. H. W. Wells. *bibliog diag Inst Radio Eng Proc* 46:205-8 Ja '58
- Hall effect and its application to microwave power measurements. H. M. Barlow. *diags Inst Radio Eng Proc* 46:1411-13 JI '58
- Hall effect and its application to power measurement at 10Gc/s. H. E. M. Barlow and S. Kataoka. *bibliog diags Inst E E Proc* 105 pt B:53-60 Ja '58
- High-speed microwave switching of semiconductors. R. V. Garver and others. *diags J Ap Phys* 28:1336-8 N '57
- How to measure midfrequency phase shift. A. Nirenburg. *II diags Electronics* 31:46-7 Ag 29 '58
- How transducers measure and control. R. K. Jurken. *bibliog II diags Electronics* 31:59-70 JI 4 '58
- Impedance measurement. J. Giovanelli. *diags Audio* 42:2+ My '58
- Importance of metering screen-grid current. V. S. Slegen. *Q S T* 42:8+ S '58
- Improvement in millimeter wave detection. W. E. Tolberg and others. *R Sci Instr* 29:660-1 JI '58
- Ionization in the trail of high-velocity pellets. W. S. Partridge and L. D. Harris. *II diag J Ap Phys* 28:1269-71 N '57
- Junction transistor short-circuit current gain and phase determination. D. E. Thomas and J. L. Moll. *Inst Radio Eng Proc* 46:1177-84 Je '58
- Measurement of amplifier internal impedance. V. H. Anderson. *diags Audio* 42:22-3+ S '58
- Measurement of ferrite loss-factors at 10Gc/s. C. M. Srivastava and J. Roberts. *bibliog diags Inst E E Proc* 105 pt B:204-9 Mr '58
- Measurement of impedance and attenuation of a cable through an arbitrary loss-free junction. J. Allison and F. A. Benson. *bibliog diags Inst E E Proc* 105 pt B:487-95 S '58
- Measurement of internal temperature rise of transistors. J. T. Nelson and J. E. Iversen. *Inst Radio Eng Proc* 46:1207-8 Je '58
- Measurement of permeability at v.h.f. using transmission line technique. J. C. Anderson. *diags Brit Inst Radio Eng J* 18:417-24 JI '58
- Measurement of shunt impedance of a cavity. K. B. Mallory. *diags J Ap Phys* 29:790-3 My '58
- Measurement of small time-intervals in an electronic torquemeter. H. Rakshit and S. C. Mukherjee. *diags Electronic Eng* 30:557-60 S '58
- Measurement of television field strength. H. T. Head. *II Elec Eng* 77:298-302 Ap '58
- Measurement of the radar cross section of a man. F. W. Schultz and others. *Inst Radio Eng Proc* 46:476-81 F '58
- Measurements of solar radiation and atmospheric attenuation at 4.3-millimeters wavelength. R. J. Coates. *bibliog II diags Inst Radio Eng Proc* 46:122-6 Ja '58
- Measuring dielectric constants at uhf. J. J. Kvyame. *II diags Electronic Ind* 17:supO 7+ Mr '58
- Measuring earth conductivity; an experimental comparison of radio and electrode methods. M. Strohfeldt. *Electronic & Radio Eng* 34:425-7 N '57
- Measuring transistor power gain at high frequencies. W. N. Coffey. *bibliog diags Electronic Ind & Tele-Tech* 16:66-84 O '57
- Method for measuring transistor current gain at radio frequencies. F. J. Hyde. *diags J Sci Instr* 35:115 Mr '58
- Methods of measurement of the parameters of piezoelectric vibrators. E. A. Gerber and L. W. Koerner. *diags Inst Radio Eng Proc* 46:1731-7 O '58

RADIO measurements—Continued

- New bridge method for core-loss measurements. *Electronic Ind* 17:138-4 Ag '58
- Nonreciprocal two-port measurement based on an averaging technique. H. M. Altschuler. *diags Inst Radio Eng Proc* 45:1293 S '57
- Phase-shift at microwave frequencies; measurements on waveguide components. M. H. N. Potok. *bibliog diags Electronic & Radio Eng* 35:58-6 O '58
- Potentiometer tester; location and measurement of high-resistance contacts. S. Morleigh. *diags Wireless World* 64:450-2 S '58
- Problems of measuring radio interference. W. E. Pakala. *il diag Westinghouse Eng* 18:71-4 My '58
- Radio and radar tracking of the Russian earth satellite. A. M. Peterson. *il diags Inst Radio Eng Proc* 45:1553-5 N '57
- Radio astronomy measurements at vhf and microwaves. J. Aarons and others. *bibliog il diag Inst Radio Eng Proc* 46:326-33 Ja '58
- Radio measurement methods and standards; report on URSI commission. E. Weber. *Inst Radio Eng Proc* 46:1354-7 Jl '58
- Radio observations of the Russian earth satellite. R. R. Brown and others. *map Inst Radio Eng Proc* 45:1552-3 N '57
- Radio observations on the Russian satellites; precise frequency measurements on first Russian satellite. H. Stanesby. *diags Inst E E Proc* 105 pt B:96-9 Mr '58
- Recommended method of expressing electronic measuring instrument characteristics; amplitude modulated or frequency modulated signal generators. *Brit Inst Radio Eng J* 18:7-16 Ja '58
- Satellite Doppler measurements. M. Bernstein and others. *diag Inst Radio Eng Proc* 46:782-3 Ap '58
- Single path phase measuring system for three-centimeter radio waves. M. C. Thompson, Jr. and M. J. Vetter. *diags R Sci Instr* 29:148-50 F '58
- Some airborne measurements of vhf reflections from meteor trails. J. P. Casey and J. A. Holladay. *Inst Radio Eng Proc* 45:1735-8 D '57
- Some measurements of high-latitude ionospheric absorption using extraterrestrial radio waves. C. G. Little and H. Leinbach. *bibliog map Inst Radio Eng Proc* 46:334-48 Ja '58
- Some measurements on commercial transistors and their relation to theory. F. J. Hyde. *bibliog diag Inst E E Proc* 105 pt B:45-52 Ja '58
- Some methods of phase measurement used in transfer function analysis. D. J. Collins and J. E. Smith. *diags Electronic Eng* 30:182-5 Ad '58
- Standard ampere. *Electronic Ind* 17:97 Ap '58
- Supplement to IRE standards on receivers; methods of measurement of interference output of television receivers in the range of 300 to 10,000 kc. 1954 (standard 4 IRE 17.51). *diags Inst Radio Eng Proc* 46:1418-20 Jl '58 (reprints 50c)
- System-noise measurement of a solid-state maser. A. L. McWhorter and F. R. Arams. *diag Inst Radio Eng Proc* 46:913-14 My '58
- Technique for the rapid analysis of whistlers; sound spectrograph. J. K. Grierson. *bibliog diags Inst Radio Eng Proc* 45:806-11 Je '57; Discussion. R. C. Moody. 46:782 Ap '58
- Transistor cutoff frequency measurement. L. G. Cripps. *diags Inst Radio Eng Proc* 46:751-2 Ap '58
- Transverse film bolometers for the measurement of power in rectangular waveguides. J. A. Lane. *diags Inst E E Proc* 105 pt B:77-80 Ja '58; Discussion. 105 pt B:395 Jl '58
- Voltage standing-wave ratio measurement. E. W. Collings. *diags Electronic & Radio Eng* 35:287-90 Ag '58
- See also*
- Multivibrators
- Oscillators
- Radio instruments
- Voltmeters, Vacuum tube
- RADIO meteorographs**
- Captive balloon refractovariometer. A. L. Crozier. *il diag R Sci Instr* 29:276-9 Ap '58
- Meeting on radio climatology. 1st. Jan. 15. *Inst Radio Eng Proc* 46:1425-6 Jl '58
- Response of radiosonde thermistors. F. I. Badgley. *bibliog R Sci Instr* 28:1079-84 D '57
- Telemetering radiosonde. *diag Engineering* 185:543 Ap 25 '58

Use of surface weather observations to predict the total atmospheric bending of radio rays at small elevation angles; radiosonde. B. R. Bean and B. A. Cahoon. *bibliog Inst Radio Eng Proc* 45:1545-6 N '57

RADIO modulation

- Micromodulator, device for measuring the intensities of microwave absorption lines. R. D. Mattuck and M. W. P. Strandberg. *bibliog il diags R Sci Instr* 29:717-21 Ag '58
- Modulators for automatic control systems; reference sheet. L. S. Klivans. *diags Electronics* 31:82-4 Ja '58
- Selection of modulation for speech communication. G. J. Kelley. *Electronics* 31:56-8 Mr 28 '58
- Selective paging; radio system using amplitude and frequency modulation. *diag Wireless World* 64:293 Je '58
- Transmitter circuits for suppressed-carrier a-m. J. P. Costas and R. W. French. *il diags Electronics* 30:128-31 D 1 '57

See also

- Radio frequency modulation
- Radio pulse amplitude modulation
- Radio pulse code modulation
- Radio pulse time modulation

RADIO noise. *See* Radio communication—Interference; Radio communication—Interference elimination; Radio receiving apparatus—Noise

RADIO noise, Cosmic

- Distribution of cosmic radio background radiation. H. C. Ko. *bibliog* (29 ref) *il maps diag Inst Radio Eng Proc* 46:208-15 Ja '58
- Galactic model for production of cosmic rays and radio noise. L. Marshall. *bibliog il diags Inst Radio Eng Proc* 46:215-20 Ja '58

RADIO noise, Solar

- Wide band antenna system for solar noise studies. E. Jasik. *il Inst Radio Eng Proc* 46:135-42 Ja '58

RADIO operators**Training**

- Marine radar simulators. *il Electronic Eng* 30:396-7 Je '58
- Marine radar simulators; economical training of radar observers. *il diags Wireless World* 64:324-6 Jl '58
- Radar simulators; various methods of analogue computation. L. J. Kennard and C. H. Nicholson. *il diags Brit Inst Radio Eng J* 18:17-30. Discussion. 30-1 Ja '58

RADIO operators, Amateur

- All-American awards. *il Q S T* 42:58 F '58
- Amateur activity in the South American quadrant of Antarctica. J. M. Sieburth. *il Q S T* 42:56-7 Je '58
- Antenna farmer, that's me. W. R. Carruthers. *diags Q S T* 41:62-3 D '57
- Break, break, break! what break-in is and how to use it. J. A. Gmelin. *Q S T* 41:57-4 D '57
- Brief report on hams and Sputnik 1; illustrations with text. *Q S T* 41:10-12 D '57
- Contest operating; some tips from a well-known winner. L. LeKashman. *Q S T* 42:54-7+ S '58
- Do-it-yourself club newspapers. J. N. Jablin. *il Q S T* 42:54-6 Mr '58
- From Sonora to Samoa; DXpedition to the South Pacific. T. Henry. *il Q S T* 42:54-6 Ja '58
- Hams across the sea. A. S. Lukach. *Q S T* 42:57-9 Ag '58
- Hams can aid space study. W. Matthews. *il Electronics* 31:38-9 Mr 21 '58
- Helping hand; illustrations with text. *Q S T* 42:62-5 F '58
- How come to be a ham. F. C. Dence. *Q S T* 42:49 O '58
- Invasion of Crete. S. E. Fason. *il Q S T* 42:80-2 My '58
- Let's talk. S. Aug. *Q S T* 41:186-4 D '57
- Microlock; club activity of the San Gabriel valley radio club. *il Q S T* 42:70-1 My '58
- Navassa, 1957. F. Capossela and J. Reisert. *il Q S T* 41:58-9-4 D '57
- 1957 sweepstakes c. w. results. P. Simmons. *il Q S T* 42:50-61 My '58
- Occurrence in Alpha Sub 1. W. R. Hilbrink. *Q S T* 42:47-50 Ja '58
- Official observers; fellows who devote their time to helping you. D. A. Helton. *Q S T* 41:66-4 D '57
- Operation alert, 1958; symposium of amateur participation. G. Hart. *il Q S T* 42:70-3 O '58
- Opportunity for amateur participation in IGY satellite program. G. Grammer. *Q S T* 42:32 Mr '58
- Radio club for microwave enthusiasts. W. H. Baird. *il Q S T* 41:45-7 D '57

RADIO operators, Amateur—Continued

- Scientific telemetry for USNC-IGY. W. Matthews and G. H. Ludwig. *il* diag Q S T 42: 41-54 Ja '58
- Soviet brass cites hams. *Electronics* 31:44 Ja 24 '58
- WA2ABC de WV6DEF; FCC announces new system for future call signs. Q S T 42:72-3 My '58
- What to do about satellites. G. Grammer. Q S T 41:14-15+ D '57
- What's wrong with Delaware? H. M. Austin. *il* Q S T 42:52-4 F '58
- Why be a ham? J. Wood. Q S T 42:57 F '58
- Working w/p (without landlord's permission). E. L. Hayden. Q S T 42:98-94 Je '58
- Zoning problem solved; how K4LMB handled a difficult situation. G. E. Milius, jr. and E. M. Smith. Q S T 42:59-61 S '58

See also

- American radio relay league
Harrington, James E.
Radio stations, Amateur

RADIO operators, Military**Training**

- Use of radar simulators in the Royal navy. P. Tenger. *diags* Brit Inst Radio Eng J 18:33-47 Ja '58

RADIO polarimeter. See *Polariscope***RADIO pulse amplitude modulation**

- Efficiency and reciprocity in pulse-amplitude modulation. K. W. Cattermole; J. C. Price. *bibliog* *il* *diags* Inst E E Proc 105 pt B: 449-70; Discussion. 479-81; Reply. 481-2 S '58

- Lockheed switches to pam-fm. W. J. Cox. *diag* *Aviation Age* 30:138-42 Ag '58

RADIO pulse code modulation

- Coder for halving the bandwidth of signals. A. R. Billings. *diags* Inst E E Proc 105 pt B:32-4 Mr '58

- Conductivity storage transistor pulse width modulator. J. C. Price. *bibliog* *diags* *Electronics Eng* 30:88-90 F '58

- Pulse code modulation has advantages. F. J. Enge. *diags* *Control Eng* 5:113-15 Je '58

- Pulse code modulation in the telephone industry. *il* *Elec Eng* 77:769 Ag '58

RADIO pulse time modulation

- Pulse modulation transmitted through a linearly modulated transit-time device. V. Met. *diags* Inst Radio Eng Proc 46:1656-7 S '58

RADIO receiving apparatus

- Home music sales to rise: tv, radio and phonograph designs. *Electronics* 31:17 S '58

- Improving radio and phono amplifiers. N. H. Crowhurst. *diags* *Radio-Electronics* 29:40-2 S '58

- Small-signal heterodyne mixers with excessive injection amplitudes. J. F. Cline. *bibliog* *diags* Com & Electronics p739-45 Ja '58

- Sound development. *il* *Engineering* 186:328 S '58

- Theory and operation of crystal diodes as mixers. G. C. Messenger and C. T. McCoy. *bibliog* *diags* Inst Radio Eng Proc 45:1269-83 S '57

See also

- Amplifiers, Vacuum tube
Radio apparatus industry
Radio cabinets
Radio circuits

Control

- Flexible transmitter-receiver frequency control. G. W. Jones. *il* *diags* Q S T 42:26-9+ JI '58

- Four-transistor radio-control receiver. C. Dewey. *il* *diags* *Radio-Electronics* 29:109+ Mr '58

- Remote communication control. T. O'Rourke. *diag* *Electronic Ind* 17:supD 10 Ja '58

Frequency modulation receivers

- Combined limiter and discriminator; improving f.m. receiver performance. J. W. Head and C. G. Mayo. *diags* *Electronic & Radio Eng* 35:85-8 Mr '58

- Crystal converter for tropo-scatter receivers. P. Gruber. *il* *diags* *Electronics* 31:78-82 Ap '58; Correction. 31:150 JI 18 '58

- ELCO HFT-90 fm tuner kit. *il* *Audio* 42:36 Je '58

- Foster-Seely discriminator. C. G. Mayo and J. W. Head. *diags* *Electronic & Radio Eng* 35:44-51 F '58

- Fm demodulator time-constant requirements for interference rejection. E. J. Baghdady. *bibliog* *diags* Inst Radio Eng Proc 46:432-40 F '58

- Fm/multiplex converter. H. Day. *il* *diags* *Audio* 42:19-22+ Ag '58

- F-m tuner uses four transistors. H. Cooke. *il* *diags* *Electronics* 31:72-3 Ag '58

- Graphic construction finds clear i-f. W. V. Hargreaves. *fr* *Electronics* 30:170-2 D 1 '57

- Harman-Kardon F-10 fm tuner (the tempo). *il* *Audio* 42:44+ S '58

- Linear frequency discriminator for sub-carrier frequencies. P. Kundu. *diags* *Electronic & Radio Eng* 35:309-13 Ag '58

- New broadcast dimension; fm in the car. W. Maron and A. Maron. *il* *map* *Electronic Ind* 17:supO 12-13+ Mr '58

- Noise output of balanced frequency discriminator. D. Sieplan. *diag* Inst Radio Eng Proc 46:614 Mr '58

- Pulse counter f.m. receiver. M. G. Scroggle. *diags* *Wireless World* 64:181-3 Ag '58

- Sensitive fm tuning indicator. D. H. Harris. *diags* *Radio-Electronics* 29:56-7 O '58

- Sweet fm tuner. D. H. Sweet. *il* *diags* *Radio-Electronics* 29:58-60 O '58

- Testing the linearity of modulators and demodulators in multi-channel f.m. transmitters and receivers. G. C. Davey. *diags* *Electronic Eng* 30:487-9 Ag '58

- Theory of stronger-signal capture in fm reception. E. J. Baghdady. *bibliog* *diags* Inst Radio Eng Proc 46:728-38 Ap '58

- Transistorized 150-mc fm receiver. W. J. Gliguere. *il* *diags* Inst Radio Eng Proc 46:693-9 Ag '58

High fidelity systems

- Auto audio system. W. B. Fraser. *il* *diags* *Audio* 42:19-23+ Mr '58

- Tone control through positive and negative feedback. A. V. J. Martin. *diags* *Radio-Electronics* 29:52 F '58

Installation on automobiles

- Auto audio system. W. B. Fraser. *il* *diags* *Audio* 42:19-23+ Mr '58

- Car radio receiver design with transistor output. Q. Beckley. *diags* *Wireless World* 64:38-40 Ja '58

- Mobile converter; no B plus. W. E. LeFarra. *il* *diag* Q S T 42:16-17 Ag '58

- New broadcast dimension; fm in the car. W. Maron and A. Maron. *il* *map* *Electronic Ind* 17:supO 12-13+ Mr '58

- Servicing American car radios. J. Darr. *Wireless World* 64:378-80 Ag '58

- Servicing the Motorola auto transistor radio. *il* *diags* *Radio-Electronics* 29:54-5 Ag '58

- Servicing transistor auto radios. J. Darr. *diags* *Radio-Electronics* 29:93-5 Ja; 92+ F '58

- Some observations on reproduced sound in an automobile. B. A. Schwarz and D. E. Brinkerhoff. *bibliog* *diags* *Audio Eng Soc J* 6:58-63 Ja '58

Maintenance and repair

- Faster radio repairs. J. B. Ledbetter. *diags* *Radio-Electronics* 29:100 Ja '58

- How to service transistor radios. H. V. Stewart and C. W. Lightfoot. *il* *diag* *Radio-Electronics* 29:49-51 S '58

- Identify that chassis. J. Darr. *Radio-Electronics* 29:35-7 F '58

- Improving the small all-wave radio. H. E. French. *diags* *Radio-Electronics* 29:49-51 JI '58

- Servicing American car radios. J. Darr. *Wireless World* 64:378-80 Ag '58

- Servicing oscillation and regeneration in transistor radios. J. A. McRoberts. *diags* *Radio-Electronics* 29:70-1 Ap '58

- Servicing the Motorola auto transistor radio. *il* *diags* *Radio-Electronics* 29:54-5 Ag '58

- Servicing transistor auto radios. J. Darr. *diags* *Radio-Electronics* 29:93-5 Ja; 92+ F '58

- Techniques. *diags* Published in monthly numbers of *Radio-electronics*

- See also**
Radio service shops
Radio servicemen

Manufacture

- Machines speed set output at Motorola. *il* *Electronics* 31:22-3 Ap 4 '58

Noise

- Application of gas discharge tubes as noise sources in the 1700-2300 mc/s band. M. Kollari. *bibliog* *diags* Brit Inst Radio Eng J 18:541-3 S '58

- Humless preamp heater supply. L. E. Geisler. *il* *diags* *Radio-Electronics* 29:117-18 Mr '58

- Noise output of balanced frequency discriminator. D. Sieplan. *diag* Inst Radio Eng Proc 46:614 Mr '58

- Noise performance of a three-stage microwave receiver. H. V. Shurmer. *Electronic & Radio Eng* 35:271-4 JI '58

RADIO receiving apparatus—Noise—Continued

Some studies on delayed feedback circuits. H. Seki, bibliog diags *Inst Radio Eng Proc* 46:758-63 Ap '58
 Squelch for the NC-300; plug-in accessory for a popular receiver. S. Leise, *il diag Q S T* 42:31-2 Mr '58

Phonograph combinations

Multiple scales on cylindrical tube minimize dial-setting errors, *il diag Machine Design* 30:140 My '58

Power supply

Radio runs on low voltage. W. J. Smith, *diag Radio-Electronics* 29:34 Je '58

Selectivity

Transistorized Q multiplier. E. L. Campbell, *il diag Q S T* 42:38-40+ Ja '58

Short wave

Additional output terminals for the receiver's auxiliary power socket. T. B. Hedges, *diag Q S T* 42:68 F '58

Adjustment procedures for v.h.f. converters. E. C. Frye, *diags Q S T* 42:24-7 O '58

Application of gas discharge tubes as noise sources in the 1700-2300 mc/s band. M. Kollanyi, bibliog *diags Brit Inst Radio Eng J* 18:541-8 S '58

Audio muting for the Collins 76A-4. L. H. Mitchell, *Q S T* 42:76 My '58

Bonus 21-mc. converter; 15 and 10 with one crystal. L. G. McCoy, *il diags Q S T* 42:33-54 O '58

Centimeg 432-mc. converter. E. P. Tilton, *il Q S T* 42:44 O '58

Collins KWM-1 transceiver. B. Goodman, *il diags Q S T* 42:23-7 Ap '58

Cosmophone 35 bilateral transceiver. B. Goodman, *il diags Q S T* 42:44-7 J '58

Crystal converter for tropo-scatter receivers. P. Gruber, *il diags Electronics* 31:78-82 Ap '58; Correction, 31:150 J1 '58

Cutting costs in the 108-mc. converter. M. P. Southworth, *il diag Q S T* 41:16-17 D '57

Design for a continuously tuneable vhf receiver. H. Bensen and J. Cardon, *il diags Electronic Ind* 16:supO 2-4+ D '67

Designing low-noise microwave receivers. C. T. McCoy, bibliog *diags Electronic Ind* 16:54-74 N; 64-54 D '67

Dual-purpose circuitry cuts transceiver size. P. G. Wulfsberg and C. H. Kirkpatrick, *il diags Electronics* 30:134-8 D '57

Easy-to-build 108-mc. converter. E. L. Campbell, *il diags Q S T* 42:45-8 F '58

50-mc. station for the beginner; the receiver. L. G. McCoy, *il diags Q S T* 42:30-5 Ap '58

Filtering and shielding the station receiver. D. T. Geiser, *il diags Q S T* 42:27-9 Ag '58

Gonset Communicator III. E. P. Tilton, *il Q S T* 42:39-40 Mr '58

Hammarlund HQ-100. B. Goodman, *il diags Q S T* 42:45-7 O '58

Hammarlund HQ-110. E. P. Tilton, *il Q S T* 42:46-8 Ag '58

Hints on 144-mc. converter design and adjustment. A. R. Burson, *diags Q S T* 42:44-5 J1 '58

Improving performance of crystal-controlled v.h.f. converters. E. P. Tilton, *il Q S T* 42:27-31 F '58

Inexpensive crystal-filter i.f. amplifier. H. L. Gottfried, *diags Q S T* 42:18-20 F '58

Low noise tunable preamplifiers for microwave receivers. H. P. Currie and D. C. Forster, bibliog *il diags Inst Radio Eng Proc* 46:570-9 Mr '58

Microlock; tracking receiver for satellite communications. H. L. Richter, jr. *diags Q S T* 41:20-4 D '57

Minimum satellite detection equipment. W. A. Hilt and R. C. Crawford, bibliog *il diag Am J Phys* 26:371-3 S '58

National NC-109 receiver. B. Goodman, *il diag Q S T* 42:36-7 Ja '58

New receiver tuning principle. B. Goodman, *il diag Q S T* 42:15-17 Mr '58

Noise performance of a three-stage microwave receiver. H. V. Shurmer, *Electronic & Radio Eng* 35:271-4 J1 '58

Pierson KE-93 receiver. B. Goodman, *il diags Q S T* 42:43-6 My '58

Present and future capabilities of microwave crystal receivers. C. T. McCoy, bibliog *diags Inst Radio Eng Proc* 46:61-8 Ja '58

Product detector; measurements on the poor man's signal slicer. D. Healey, *diags Q S T* 41:42-4 D '57

RME model 4350A receiver. B. Goodman, *il diags Q S T* 42:44-5 S '58

Radio observations on the Russian satellites; apparatus used at the Royal aircraft establishment. A. N. Beresford, *diags Inst E E Proc* 105 pt B:85-8 Mr '58

Receiver for the 50-mc man. R. W. Brandt, *il diag Q S T* 42:14-17+ J '58

Satellite 40-mc. converter. G. Grammer, *il diags Q S T* 41:25-8 D '57

Simple 12-volt mobile converter for 75 and 40 meters. V. Phillips, *diag Q S T* 42:63-4 J1 '58

Squelch for the NC-300; plug-in accessory for a popular receiver. S. Leise, *il diag Q S T* 42:31-2 Mr '58

Squelch system for the Gonset G-66. M. G. Hart, *diag Q S T* 42:59 Mr '58

Three modifications for the NC-300. E. H. Hastings, *il diags Q S T* 42:44-5 Ap '58

Transistorized Q multiplier. E. L. Campbell, *il diag Q S T* 42:38-40+ Ja '58

Single sideband receivers

Novel side-band selector system; electrical scanning of a band-pass filter. E. P. Alvarez, *il diags Q S T* 42:18-20 My '58

Re s.s.b. reception with the Universal Service product detector and Collins 75A-3. R. L. Petersen, *Q S T* 42:62 Ap '58

Synchronous ssb for communications. W. L. Firestone and others, bibliog *il diag Electronic Ind* 17:supO 12-14+ Ap '58

Superheterodyne receivers

Adjustment procedures for v.h.f. converters. E. C. Frye, *diags Q S T* 42:24-7 O '58

Bonus 21-mc. converter; 15 and 10 with one crystal. L. G. McCoy, *il diags Q S T* 42:33-54 O '58

Cutting costs in the 108-mc. converter. M. P. Southworth, *il diag Q S T* 41:16-17 D '57

Electronic compass to guide you home; combining transistor superhet radio and marching compass. J. E. Pugh, jr. *il diag Radio-Electronics* 29:28-31 Je '58

Filter-King six-meter converter. E. P. Tilton, *il Q S T* 42:41-2 Mr '58

Hints on 144-mc. converter design and adjustment. A. R. Burson, *diags Q S T* 42:44-5 J1 '58

Low noise converter for IGY propagation study. L. F. Garrett, *il diags Electronics* 31:52-4 Ja '58

Mixer crystal noise. N. Houlding, *diag Inst Radio Eng Proc* 46:917-18 My '58

Superregenerative receivers

Four-transistor radio-control receiver. C. Dewey, *il diags Radio-Electronics* 29:109+ Mr '58

Magnetic sweep calibration utilizing superregenerative nuclear resonance detection. R. L. Collins, *diags R Sci Instr* 29:176-7 F '58

Stable receiving circuits for remote control. S. J. Neahya and F. E. Brooks, jr. *diags Electronics* 31:74-6 Ag '58

Superregenerative masers. P. F. Chester and D. I. Bolef, bibliog *diags Inst Radio Eng Proc* 45:1287-9 S '57

Two transistor superregenerator for fm and ham bands. I. Queen, *il diags Radio-Electronics* 29:107-8 Mr '58

Transistor receivers

Application of transistors in communications equipment. D. D. Holmes, bibliog *il diags Inst Radio Eng Proc* 46:1255-60 Je '58

Car radio receiver design with transistor output. J. C. Beckley, *diags Wireless World* 54:38-40 Ja '58

Four-transistor radio-control receiver. C. Dewey, *il diags Radio-Electronics* 29:109+ Mr '58

F-m tuner uses four transistors. H. Cooke, *il diags Electronics* 31:72-3 Ag '58

How to service transistor radios. H. V. S. G. and C. W. Lightfoot, *il diag Radio-Electronics* 29:49-51 S '58

Military mobiles become transistorized. R. H. Decker and D. E. Kammer, *il Electronic Ind* 17:supO 3-7 J1 '58

Mobile converter; no B plus. W. E. LaFarra, *il diag Q S T* 42:16-17 Ag '58

Radio on your wrist, *il diag Radio-Electronics* 29:57 O '58

Servicing oscillation and regeneration in transistor radios. J. A. McRoberts, *diags Radio-Electronics* 29:70-1 Ap '58

Servicing the Motorola auto transistor radio. *il diags Radio-Electronics* 29:54-5 Ag '58

Servicing transistor auto radios. J. Darr, *diags Radio-Electronics* 29:93-5 Ja; 92+ F '58

Six-band portable transistor. J. E. Pugh, jr. *il diag Radio-Electronics* 29:83-5 My '58

RADIO receiving apparatus—Transistor receivers—Continued

- Tabletop transistor radio, J. E. Pugh, Jr. II diags Radio-Electronics 29:34-F '58
- Three-transistor pocket police receiver, E. Bohr, II diags Radio-Electronics 29:32-4 J '58
- Three-transistor pocket radio, diags Radio-Electronics 29:55 J '58
- Three-transistor regenerative receiver, J. Chernof, II diags Radio-Electronics 29:100 F '58
- Tiny-Tran pocket radio, F. H. Frantz, II diags Radio-Electronics 29:106+ J '58
- Transistom, M. O. Pips, II diags Radio-Electronics 29:38-9 Ap '58
- Transistor all-wave radios, R. F. Scott, II diags Radio-Electronics 29:50-3 Ag '58
- Transistor handtalky for ten meters, E. G. Von Wald, II diags Q S T 42:11-14 Mr '58
- Transistor mobile converter, M. F. DeMaw, II diags Q S T 42:41-3 O '58
- Transistor radio uses few parts, S. A. Sullivan, diags Electronics 31:90+ Ja 3 '58
- Transistor reflex circuit trims receiver costs, E. Gottlieb, II diags Electronics 31:66-8 Ja 3 '58
- Transistorized 150-mc fm receiver, W. J. Giguere, II diags Inst Radio Eng Proc 46:693-9 Ap '58
- Transistorized Q multiplier, E. L. Campbell, II diags Q S T 42:38-40+ Ja '58
- Two transistor superregenerator for fm and ham bands, I. Queen, II diags Radio-Electronics 29:107-8 Mr '58

Tuning

- Design for a continuously tuneable vhf receiver, H. Bensen and J. Cardon, II diags Electronic Ind 16:supO 2-4+ D '57
- EICO HFT-90 fm tuner kit, II Audio 42:36 J '58
- 80-meter tuner; basic tuning element for a receiving station, W. S. Barnard, II diags Q S T 42:11-13 J '58
- F-m tuner uses four transistors, H. Cooke, II diags Electronics 31:72-3 Ag 1 '58
- Harman-Kardon F-m fm tuner (the tempo), II Audio 42:44+ S '58
- Madison Fielding series 330 stereotuner, II Audio 42:42 S '58
- Miniature ferrite tuner covers broadcast band, E. A. Abbot and M. Lafer, II diags Electronics 31:72-3 F 23 '58
- New receiver tuning principle, B. Goodman, II diags Q S T 42:15-17 Mr '58
- Novel side-band selector system; electrical scanning of a band-pass filter, E. P. Alvernaz, II diags Q S T 42:18-20 My '58
- Sargent-Raymont 360-M70 tuner-amplifier combination, II Audio 42:38 F '58
- Sensitive fm tuning indicator, D. H. Harris, diags Radio-Electronics 29:56-7 O '58
- Sensitive tuning indicators, R. Oliver, diags Wireless World 64:235-6 My '58
- Stabilized variable-sensitivity tuning meter, R. L. Ivler, II diags Audio 42:20-2 J '58
- Stereo tuner features multiplex output, L. E. Garner, Jr. II diags Radio-Electronics 29:53-5 O '58
- Sweet fm tuner, D. H. Sweet, II diags Radio-Electronics 29:58-60 O '58
- Tone control through positive and negative feedback, A. V. J. Martin, diags Radio-Electronics 29:52 F '58

RADIO receiving apparatus, Portable

- Aluminum extrusion solves electrical design problem; portable radios, Elec Manuf 61:156+ My '58
- And now, the crystal set! Radio-Electronics 29:61 S '58
- Direct-coupled transistor audio amplifier for transistorized amplifiers and portable receivers, D. A. G. Tait, diags Wireless World 64:237-9 My '58
- Improving the Club-Saver two-meter portable, G. M. Frieders, diags Q S T 42:21+ My '58
- New radio hats make noisy job quiet and peaceful, II Oil & Gas J 56:60-1 S 22 '58
- Portable radio plays on free power from sun, Elec Eng 77:856-7 S '58
- Portable receiver satellite signals, diags Electronics 31:76 Ap '58
- Power 25 watts-fun unlimited; portable rig for 80 and 40, E. A. Coons, II diags Q S T 42:41-3+ J '58
- Radio on your wrist, II diags Radio-Electronics 29:57 O '58
- Radio runs on low voltage, W. J. Smith, diags Radio-Electronics 29:34 J '58
- Six-band portable transistor, J. E. Pugh, Jr. II diags Radio-Electronics 29:33-5 J '58
- Three-transistor pocket police receiver, E. Bohr, II diags Radio-Electronics 29:32-4 J '58

Three-transistor pocket radio, diags Radio-Electronics 29:55 J '58

- Three-transistor regenerative receiver, J. Chernof, II diags Radio-Electronics 29:100 F '58
- Tiny-Tran pocket radio, F. H. Frantz, II diags Radio-Electronics 29:106+ J '58
- Transistor amplified automatic gain control; economical circuit for use in small portables, W. Woods-Hill, diags Wireless World 64:94-5 E '58
- Transistor reflex circuit trims receiver costs, E. Gottlieb, II diags Electronics 31:66-8 J '58
- Two transistor superregenerator for fm and ham bands, I. Queen, II diags Radio-Electronics 29:107-8 Mr '58

Maintenance and repair

- Three-way portables, J. Darr, diags Radio-Electronics 29:53-5 J '58; 72+ Ag '58

RADIO reception

- Error probabilities for binary symmetric ideal reception through nonselective slow fading and noise, G. L. Tchin, bibliog diags Inst Radio Eng Proc 46:1603-19 S '58
- Third method of generation and detection of single-sideband signals, H. M. Lewis, Inst Radio Eng Proc 45:1289-90 S '57

See also**Radio detectors****Diversity systems**

- Theoretical diversity improvement in frequency-shift keying, J. N. Pierce, bibliog Inst Radio Eng Proc 46:903-10 My '58

RADIO rectifiers

- Analysis of current pulses; application to rectifiers and class C amplifiers, F. G. Heymann, diags Electronic & Radio Eng 35:165-7 My '58
- Extended general network theorem on rectification, H. Stockman, diags Inst Radio Eng Proc 46:615-16 Mr '58
- Harmonic generation with ideal rectifiers, C. H. Page, diags Inst Radio Eng Proc 46:1738-40 O '58
- New solid rectifier, Electronics 30:30 D 20 '57
- Semiconductor progress; the controlled rectifier nears production; abstract, H. B. Fancher, Control Eng 5:32+ F '58
- Semiconductor rectifiers, N. F. Bechtold, II Electronic Ind & Tele-Tech 16:70-14 O '57
- Semiconductors, their applications to rectifiers and transistors, G. Goudet, II diags Elec Com 34:309-21 D '57
- Shares and prices: silicon rectifier manufacturers, Electronics 30:7 D 10 '57
- Water-type rectifiers for millimeter waves, W. M. Sharpless, II diags Bell Lab Rec 36:21-4 Ja '58

Manufacture

- Cutting silicon crystal for rectifier production, II Elec Eng 77:770 Ag '58

Testing

- Rectifier checker, F. C. Hoffman, diags Radio-Electronics 29:117 F '58

RADIO relay systems

- Aerial feeders for multi-channel links, L. Lewin and J. Parne, diags Electronic Eng 30:414-19 J '58
- Automatic radio repeater station, Electronics 31:27 F '58
- Canadian JANET system; single channel radio teletype link, G. W. L. Davis and others, II diags Inst Radio Eng Proc 45:1666-78 P '57
- Experimental transversal equalizer for TD-2 radio relay system, B. C. Bellows and R. S. Graham, bibliog II diags Bell System Tech J 36:1429-50 N '57
- Factors affecting the use of over-the-horizon links in telecommunication networks, C. A. Barry, bibliog diags Com & Electronics 44:85-96 S '58
- Far North's first phones are big construction job, Eng N 160:83 Ap 17 '58
- Ferrite components in microwave systems, B. L. Humphreys, bibliog diags Electronic Eng 30:34-5 My '58
- Forward scatter, above 2000 megacycles! J. L. Gardner, II diags Electronic Ind 17:supO 2-5 Mr '58
- G.P.O. orders first all-travelling-wave-tube radio links, Electronic Eng 30:261 My '58
- Geodetic control for tropospheric scatter antennas: link between United States and Cuba, H. O. Laird and A. Aguilar, II map diags Am Soc C E Proc 84 [SU 1 no 1594]:1-19 Ap '58
- Indiana turnpike communications system; illustrations with text, Electronic Ind 17:supO 2-3 Ja '58

RADIO relay systems—Continued

- Innovation in technology. J. R. Pierce. *Il* diags Sci Am 199:116-18+ S '58
- Miami-Havana radio system and its integration into the telephone networks. K. P. Stiles and others. *Il* map diags Com & Electronics p94-6 Mr '58
- Microwave line-of-sight propagation. M. W. Gough. bibliog diags Electronic Eng 30: 237-47 My '58
- Microwave link development in the radio laboratories of the Post office engineering department. C. F. Floyd and R. W. White. bibliog *Il* map diags Electronic Eng 30:253-61 My '58
- New broad-band microwave antenna system. R. W. Friis and A. S. May. bibliog *Il* diags Com & Electronics p97-100 Mr '58
- New microwave antenna system. R. W. Friis and A. S. May. *Il* diags Elec Eng 77:602-6 Je '58
- New microwave installations. Electronics 31: 16+ Mr 28 '58
- New microwave repeater system using a single traveling-wave tube as both amplifier and local oscillator. H. Kurokawa and others. bibliog *Il* diags Inst Radio Eng Proc 45:1604-11 D '57
- Over-the-horizon microwave telephone. Elec Eng 76:1121-2 D '57
- Passive repeater using double flat reflectors. F. Cappuccini and F. Gasparini. *Il* diags Inst Radio Eng Proc 46:784-5 Ap '58
- Plan microwave to meet growth: Indiana & Michigan electric co. W. R. Roy. *Il* map Elec World 149:51-2 Ja 6 '58
- Principles of JANET, a meteor-burst communication system. P. A. Forsyth and others. bibliog (33 titles) *Il* map diags Inst Radio Eng Proc 46:1642-57 D '57
- RCA ships transistorized frequency-shift tone system. Elec World 148:115 D 30 '57
- Radio-frequency communication systems parameters; nomograph. B. J. Bittner and R. E. Hanson. Aviation Age 28:66-8 Ja '58
- Radio links for ON carrier. C. I. L. Cronburg, Jr. and C. W. Schwieger. *Il* diags Bell Lab Rec 36:99-103 Mr '58
- Simultaneous transmission of television and telephone multiplex over a single microwave channel on the trans-Canada TD-2 system. H. E. Curtis and others. bibliog map diags Com & Electronics p 185-90 My '58
- 6,000-megacycle-per-second radio relay system for broad-band long-haul service in the Bell system. M. E. McDavitt. bibliog *Il* map diags Com & Electronics p715-22 Ja '58
- S.h.f. radio links using travelling-wave output amplifiers. G. Dawson and T. K. M. Korytko. bibliog *Il* maps diags Electronic Eng 30:276-82 My '58
- Survey of microwave radio communication. W. J. Bray. bibliog *Il* map diags Electronic Eng 30:226-36 My '58
- Surveying for microwave relay systems. L. E. Strazza and R. C. S. Joyce. *Il* diags Electronic Eng 30:262-7 My '58
- Travelling-wave tubes for 4 000 mc/s. P. F. C. Burke. bibliog *Il* diags Electronic Eng 30:310-14 My '58
- Tropospheric-scatter link between Bromley and Caterick. *Il* Electronic & Radio Eng 35:234 Je '58
- Tropospheric scatter propagation. G. Millington. bibliog Electronic Eng 30:248-52 My '58
- U.K. tropospheric scatter systems. *Il* Wireless World 64:283 Je '58
- White Alice, a new radio voice for Alaskan outposts. W. H. Tidd. *Il* map Bell Lab Rec 36:278-83 Ag '58
- White Alice network completed. *Il* Bell Lab Rec 36:184-5 My '58
- White Alice network in operation. *Il* Elec Eng 77:565 Je '58
- Wide-band ultrahigh-frequency over-the-horizon equipment. R. A. Felsenfeld and others. bibliog *Il* diags Com & Electronics p86-93 Mr '58
- Willamette Valley radio system for the United States Corps of engineers. C. Pedersen and D. J. Marhart. *Il* diags Com & Electronics p401-6 S '58
- See also*
- Radar relay systems
- Television relay systems

Standards

- Standardizing microwave communication systems. T. Clark. *Il* diags Electronic Ind 17: 50-4 F '58

RADIO research

- Another peek at Propagation research project. M. P. Southworth. *Il* Q S T 42:42-4 Ag '58

- Excitation of surface waves on conducting, stratified, dielectric-clad, and corrugated surfaces. J. R. Wait. bibliog (30 titles) J Res Nat Bur Stand 59:365-77 D '57
- Farm housewife helps studies of over-the-horizon transmission. *Il* Bell Lab Rec 36: 114 cover Mr '58
- International geophysical year: ionosphere. D. C. Rose. *Il* Eng J 41:52-3 Ag '58
- Investigation of long-distance overwater tropospheric propagation at 400 mc. H. E. Dinger and others. *Il* map diags Inst Radio Eng Proc 46:1401-10 J '58
- Meteor bursts provide communications path. B. M. Sifford and W. R. Vincent. *Il* diags Electronics 31:42-5 Ag 29 '58
- Microwave link development in the radio laboratories of the Post office engineering department. C. F. Floyd and R. W. White. bibliog *Il* map diags Electronic Eng 30:253-61 My '58
- Missile radar probes Arctic. *Il* Electronics 30: 19 D 10 '57
- Radio studies during the International geophysical year 1957-8. W. J. G. Beynon. *Il* map diags Brit Inst Radio Eng J 13:401-12 Discussion, 412-15; Reply, 415-16 J '58
- Research and engineering progress, 1957; electronics. *Il* Gen Elec R 61:38-42 Ja '58
- Stanford antenna research. *Il* Electronic Ind 17:sup0 30 Ap '58
- Strengthening the links of radio: Radio research station advised to increase work on terminal equipment. *Il* Engineering 186:216-17 Ag 15 '58
- Study of earth currents near a vlf monopole antenna with a radial wire ground system. J. R. Wait. bibliog Inst Radio Eng Proc 46:1539-41 Ag '58
- Study of 468-megacycle tropospheric scatter propagation over a 289-mile path. J. B. Atwood and others. *Il* map RCA R 19:321-33 S '58
- World-vlf signals in v.h.f. propagation studies. J. R. Wait. Q S T 42:22-5 F '58
- Use tv-id observations gather data in cooperative IGY program. *Il* Elec Eng 76: 1107-9 D '57
- See also*
- Television research

Russia

- What's doing in Russia. Electronics 30:24-5 D 10 '57

RADIO resistors

- Epoxy shells simplify potting of resistors. K. Stock. *Il* Electronics 31:72+ Ja 31 '58
- Fixed-bias story. H. Ravenswood. diags Radio-Electronics 29:47-9 F '58
- Networks of fixed and variable resistors. H. L. Armstrong. Inst Radio Eng Proc 46: 1541-2 Ag '58
- Paralleled resistors cause tvl. J. A. McRoberts. diags Radio-Electronics 29:39 J '58
- Recent developments in fixed resistors; abstract. R. W. Burkett. Brit Inst Radio Eng J 18:175 Mr '58
- Temperature compensating networks; design of thermistor bias networks for transistor amplifiers. H. D. Polishuk. diags Electronic & Radio Eng 35:373-7 O '58
- Vswr reduction by padding; equations and design. H. W. Kasper. diags Electronic Ind 17:96-7 Ap '58
- Wet-thermistor relative-humidity meter. J. A. McRoberts. *Il* diags Radio-Electronics 29: 26-7 Ag '58

Testing

- Automation in component testing; abstract. J. A. Sargrove. Brit Inst Radio Eng J 18: 257-8 Ap '58
- Measuring nonlinear resistors. S. I. Kramer and W. Fields, Jr. *Il* diags Electronics 31:60+ Ja 31 '58

RADIO resonators

- Coaxial-line velocity modulated oscillator valves. D. E. Lambert. *Il* diags Electronic Eng 30:324-8 My '58
- Frequency shifts in cavities with longitudinally magnetized small ferrite discs. H. Seldel and H. Boyet. bibliog diags Bell System Tech J 37:637-55 My '58
- Master amplifier characteristics for transmission and reflection cavities. M. L. Stich. bibliog diags J Ap Phys 29:782-9 My '58
- Measurement of shunt impedance of a cavity. K. E. Mallory. diags J Ap Phys 29:790-3 My '58
- Measuring frequency of X-band standard cavities. W. A. Gerard. *Il* diags Electronic Ind 17:66-70 F '58
- Microwave high-power simulator. H. Heins. *Il* diags Electronic Ind & Tele-Tech 16:78-81+ N '57

RADIO resonators—Continued

- Propagation characteristics of slow-wave structure derived from coupled resonators. E. Belohoubek, bibliog diags RCA R 19: 283-310 Je '58
- Re-entrant cavity for magnetic measurements. E. A. Faulkner, diag J Sci Instr 34: 514-15 D '57
- Twin cavity for NH_3 masers. J. Bonanomi and others, R Sci Instr 28:879-81 N '57

RADIO service shops

- Try this one. Published in monthly numbers of Radio-electronics

RADIO servicemen

- Technicians' news. Published in monthly numbers of Radio-electronics

RADIO signals

- Detection of pulsed signals in noise; optimum Butterworth third-order filters. H. S. Heaps and A. T. Isaacs, bibliog diag Electronic & Radio Eng 35:190-3 My '58
- Eyetrone converts radio signals into light. II Inst Lab 9:93 Ap '58
- Frequency-lock a.f.c. circuit. R. Leek, bibliog diags Inst E E Proc 104 pt B:587-97 N '57
- Intermittent communication with a fluctuating signal to combat the effects of signal fading. G. F. Montgomery, Inst Radio Eng Proc 45:1678-84 D '57
- Low frequency random signal generator. J. C. West and G. T. Roberts, diags J Sci Instr 34:447-50 N '57
- Low-frequency whistles for high-powered jobs. Product Eng 29:16 Ap 21 '58
- Minimum energy triggering signals. L. A. Beattie, bibliog diags Inst Radio Eng Proc 46:751-7 Ap '58; Discussion. J. L. Dautremont, jr. 46:1654-5 S '58
- Moon keeps its secrets. map Electronics Bsns ed 30:15 N 20 '57
- New radio propagation mode? whistlers pierce ionosphere. II Electronics 30:22-3 D 10 '57
- Noise levels at the National radio astronomy observatory. J. W. Findlay, Inst Radio Eng Proc 46:35-8 Ja '58
- Observations of magneto-ionic duct propagation using man-made signals of very low frequency. R. A. Helliwell and Gehrels, bibliog Inst Radio Eng Proc 46:785-7 Ap '58
- Radio observations on the Russian satellites; radio observations on the signal characteristics of satellite I. P. J. Brice and F. N. Parker, diags Inst E E Proc 105 pt B:101-4 Mr '58
- Radio signals to Venus; editorial. H. Gernsback, Radio-Electronics 29:27 Je '58
- Signal-strength chart; reference sheet. A. W. Emmons, Electronics 31:90 Je 6 '58
- Some general properties of nonlinear elements; small signal theory. H. E. Rowe, bibliog diags Inst Radio Eng Proc 46:850-60 My '58
- Some properties of lightning impulses which produce whistlers. R. A. Helliwell and others, Inst Radio Eng Proc 46:1760-2 O '58
- Some signal characteristics of Sputnik I. J. D. Kraus and J. S. Albus, II Inst Radio Eng Proc 46:610-11 Mr '58
- Technique for the rapid analysis of whistlers; sound spectrograph. J. K. Grierson, bibliog diags Inst Radio Eng Proc 45:806-11 Je '57; Discussion. R. C. Moody, 46:782 Ap '58
- Theory of stronger-signal capture in fm reception. E. J. Baghdady, bibliog diags Inst Radio Eng Proc 46:728-38 Ap '58
- Transient radio-frequency ground waves over the surface of a finitely conducting plane earth. J. R. Johler, J Res Nat Bur Stand 60:281-5 Ap '58
- Unusual propagation at 40 mc from the USSR satellite. H. W. Wells, Inst Radio Eng Proc 46:610 Mr '58
- See also*
- Radio beacons (for aircraft)
- Radio echoes
- Time signals, Radio

RADIO spectroscopy. See Spectroscopy**RADIO standards**

- Index to IRE standards on definitions of terms 1942-1957. Inst Radio Eng Proc 46: 449-76 F '58 (reprints 11)
- IRE standards on graphical symbols for semiconductor devices, 1957, diags Inst Radio Eng Proc 45:1612-17 D '57 (reprints 60c)
- IRE standards on information theory; definitions of terms, 1958, Inst Radio Eng Proc 46:1646-8 S '58 (reprints 50c)

IRE standards on piezoelectric crystals; determination of the elastic, piezoelectric, and dielectric constants; the electromechanical coupling factor, 1958, bibliog diags Inst Radio Eng Proc 46:764-78 Ap '58 (reprints 75c)

IRE standards on solid-state devices; methods of testing point-contact transistors for large-signal applications, 1958, diags Inst Radio Eng Proc 46:878-88 My '58 (reprints 70c)

New electronic standards; list of standards issued June 1957 to June 1958, Electronic Ind 17:5 Je '58

New IRE standard semiconductor symbols, diags Electronic Ind 16:56-7 D '57

Primary standards of microwave power. II Elec Eng 77:275-6 Mr '58

Radio measurement methods and standards; report on URSI commission. E. Weber, Inst Radio Eng Proc 46:1354-7 JI '58

Standard ampere. Electronic Ind 17:97 Ap '58

See also

Radio broadcasting—Frequency standards

Radio stations, Standard frequency

also subdivision Standards under special subject, e.g.

Radio apparatus

Radio circuits

Radio relay systems

Television

RADIO stars. See Stars

RADIO stations

See also

Radio towers

RADIO stations, Amateur

50-mc. station for the beginner. L. G. McCoy, II diags Q S T 42:30-5 Ap; 22-7 My '58

Minitrack station of the Soho Moonbeam group. II diag Q S T 42:48-9 Ap '58

Neat and clean. D. M. DeVito, diag Q S T 42:69 O '58

Equipment

Central electronics MM-2 r.f. analyzer. B. Goodman, II Q S T 42:47-8 O '58

Johnson 250-39 transmit-receive switch. B. Goodman, II diag Q S T 42:46-7 S '58

Let's go microwave; practical details of the San Bernardino microwave society 3800-mc. gear. A. D. Bredon, II diags Q S T 42:11-14 Je '58

Remotely-controlled coaxial switch. R. Wellner, II Q S T 42:63 Ag '58

Transmit receive switches. C. E. Quick; C. Winspeare, diags Q S T 42:51 S '58

RADIO stations, Portable

Communications center self-contained truck trailers. Elec Eng 76:116-17 D '57

RADIO stations, Standard frequency

WWV standard frequency transmissions. W. D. George, Inst Radio Eng Proc 46:910-11, 1420 My, JI '58

See also

Radio broadcasting—Frequency standards

Circuit symbols. diags Electronic Ind 17: 196-74 Je '58

IRE standards on graphical symbols for semiconductor devices, 1957, diags Inst Radio Eng Proc 45:1612-17 D '57 (reprints 60c)

IRE standards on reference designations for electrical and electronic equipment, 1957, diags Inst Radio Eng Proc 45:1493-501 N '57 (reprints 70c); Same cond. Product Eng 29:1 4-7 Mid-S '58

New IRE standard semiconductor symbols, diags Electronic Ind 16:56-7 D '57

Short-hand for electrical schematics. J. C. Zorn, diags Am J Phys 26:38-9 Ja '58

RADIO telegraph

All-electronic key and keyer. J. Livingston, II diag Q S T 42:28-9 O '58

Asymmetry in long-distance w/t circuits. A. M. Humby, maps Wireless World 64:204-7 My '58

Keying the Viking mobile transmitter. G. E. Millius, jr. diags Q S T 42:78 My '58

Kineplex, a bandwidth-efficient binary transmission system. R. R. Mosier and R. G. Claibough, II diags Com & Electronics p723-7; Discussion. E. D. Sunde, 727-8 Ja '58

Mirror for the novice. Ist. W. G. Carter, II Q S T 42:50-1 Mr '58

Modified Little Monster automatic key. G. Dotsin, diag Q S T 41:73 D '57

New frequency telegraphy system, diag Wireless World 64:93-4 F '58

New semi-automatic key. II Q S T 42:74 My '58

Three-band one-tube novice transmitter. L. G. McCoy, II diags Q S T 41:34-7 D '57

Transmatic, a transistorized automatic keyer. C. R. Coale, jr. II diag Q S T 42:37-9 Ap '58

RADIO telegraph—Continued

- Transistorized keying monitor with speaker. K. R. Tippet, il diag Q S T 42:26-7 Mr '58
 Transistors ruggedize airborne telemetry keyer. D. A. Williams, jr, bibliog il diags Electronics 31:81-3 S 12 '58
 Voice key for the handicapped. J. Watt, il diags Q S T 42:36-7+ O '58
 VR break-in for the DX-100. E. A. Cox, diags Q S T 42:28-9 S '58

See also

Amplifiers
 Amplifiers, Vacuum tube

RADIO telephone

- Compressed time boosts single-sideband capacity. M. I. Jacob and J. Mattern, il diags Electronics 31:52-5 J 14 '58
 Dial two ways in new systems. il Electronics 31:14+ Ap '58
 Far North's first phones are big construction job. Eng N 160:83 Ap 17 '58
 FCC weighs business radio. Electronics 31:18 My 30 '58
 Miami-Havana radio system and its integration into the telephone networks. K. P. Stiles and others, il map diag Com & Electronics p94-6 Mr '58
 New broad-band microwave antenna system. R. W. Fris and A. S. May, bibliog il diag Com & Electronics p97-100 Mr '58
 Private mobile radio rings the bell. Gas 34: 11-12 S '58
 Pushbutton radiotelephone. Elec Eng 76:1121 D '57
 Single-sideband radiotelephone. il Wireless World 64:213 My '58
 Southampton port operation service. il map Engineer 205:133-5 Ja 24 '58
 Telephony via the moon. Franklin Inst J 266:153-4 Ag '58
 Two-way radio and the recent FCC regulations. Concrete 66:20+ O '58
 Watching the ships go by. il map Engineering 135:156-7 J 31 '58
 Wide-band ultrahigh-frequency over-the-horizon equipment. R. A. Felsenfeld and others, bibliog il diags Com & Electronics p86-93 Mr '58
- See also**
 Amplifiers
 Amplifiers, Vacuum tube
 Telephone—Radio telephone connection
 Telephone, Carrier current

Highway department use

- Case for use of two-way radio in road-building operations. N. L. Teer, jr, Roads & Sts 101:124+ Ja '58
 Indiana turnpike communications system; illustrations with text. Electronic Ind 17:supO 2-3 Ja '58
 Two-way radio in county highway work. M. Wilkins, il Pub Works 88:121-2 N '57

Leasing

- Radio leasing solves problems for transportation fleet. T. Kearns, il Plant Eng 12:141 My '58

Military use

See Radio communication, Military

Police uses

- Cities buy, plan for microwave communication. Electronics 31:27 Mr 21 '58
 Police radio market grows. il Electronics 31: 13 Je 13 '58
 Radio eases tunnel traffic. il Electronics 31:14+ S 26 '58

Power supply

- 100-watt transistor mobile power unit. R. L. Karl, il diags Q S T 42:36-7+ Je '58

Terminology

- Mobile glossary. il Electronic Ind 17:supO 12+ Je '58

RADIO telephone, Portable

- Radio speeds scrap handling; Alter co. and Alloy metal products, inc. il Iron Age 131:106-7 Ap 17 '58
 Transistor, and its application to the two-way communications field. W. J. Weisz, il diag Gas Age 122:13-15 Ag 21 '58
 Transistorized 150-mc fm receiver. W. J. Ciguere, il diags Inst Radio Eng Proc 46:693-9 Ap '58

RADIO telephone, in factories

- Communications for overhead cranes; carrier current systems and two-way radio, il diags Mod Materials Handling 13:115-19 F '58
 How Owens-Illinois uses two-way radio reporting for inventory control. J. Walsh and A. M. Hilliard, il Glass Ind 38:559-60 O '57

- 1958 equipment buyer's guide; plant equipment, communications, and drives, il Mod Materials Handling 13:347-71 My '58
 Two problems, one answer; two-way radio. T. McRae, il Plant Eng 12:97+ S '58

RADIO telephone in mines

- Colliery communication systems; abstract. E. J. Zimmerman and B. L. Metcalf, Engineering 186:90 J 18 '58

RADIO telephone on aircraft

- Exec planes use flight phones. il Electronics 31:16 Ag 1 '58

RADIO telephone on automobiles

- Continuously loaded whip antennas. E. F. Harris, diags Q S T 42:47-9 My '58
 Frequency changing and mobile antennas. B. Goodman, il diags Q S T 41:40-1+ D '57
 High-power transistorized mobile power supply. R. P. Johnson, il diags Q S T 42:11-16 Ap '58

- Keying the Viking mobile transmitter. G. E. Milius, jr, diags Q S T 42:78 Mr '58
 Mobile u.h.f. radiotelephone; details of the Elliott equipment. il Wireless World 64:473 O '58

- Selecting vibrator and dynamotor power supplies. R. C. Rodgers, il Machine Design 30:129-30 My 29 '58

- Selective calling systems for mobile radio telephony. N. Sohrabji, bibliog diags Brit Inst Radio Eng J 18:297-303 My '58

- Simple 12-volt mobile converter for 75 and 40 meters. V. Phillips, diag Q S T 42:63-4 J 1 '58

- Six-meter Hearsemobile. V. Weissbrodt, il Q S T 42:50-1 F '58

- Telecom 2D11 transistor power converter. C. J. Chambers, il diag Q S T 41:32-3 D '57

- Three-phase power supply for mobile use. J. B. Jennings, il diags Q S T 42:28-9+ Ja '58

- Transcon mobile converter-transmitter models six and ten. C. V. Chambers, il diags Q S T 41:30-2 D '57

- Transistor, and its application to the two-way communications field. W. J. Weisz, il diag Gas Age 122:13-15 Ag 21 '58

- Transistor audio for mobile rigs. J. O. Galoup, il diag Q S T 41:48-50 D '57

- Transistor mobile converter. M. F. DeMaw, il diag Q S T 42:41-3 O '58

- Transistorized h.f.o. for mobile use. D. A. Helton, diags Q S T 42:67 F '58

- Tubeless conversion for 75-meter mobile. W. S. Skeen, diag Q S T 42:64 Ap '58

- Two-band halo for v.h.f. mobile. E. P. Tilton, il Q S T 42:11-12+ S '58

- Two-way radio saves time and money for Public works dept. F. Hirsch, il Pub Works 89:105-6 My '58

RADIO telephone on motor trucks

- Communication; greater plant efficiency; O'Laughlin ready mix concrete co. il Concrete 95:28-30 N '57

- Radio helps keep hot-mix producer from getting burned with wasted loads. J. F. LeSage, il Roads & Sts 101:126-7 J 1 '58

- Radio leasing solves problems for transportation fleet. T. Kearns, il Plant Eng 12:141 My '58

- Two-way radio communication boosts service 50 percent; Shenango Valley water co. W. Rudolph, il Pub Works 89:111+ F '58

RADIO telephone on railroads

See also
 Railroads—Radio communication

- RADIO telephone on ships
 Vhf radiotelephones installed by Lorain on 33 vessels. il Marine Eng/Log 63:98 Ja '58

RADIO telescope

- Amplifier extends range of radio telescopes. Elec Eng 77:191-2 F '58
 Biggest instrument ever built. il I S A J 5:52-3 Mr '58

- Giant radio telescope will be built at University of Michigan. F. T. Haddock, Franklin Inst J 265:302 Ap '58

- High resolution radio telescope for use at 3.5 m. B. Y. Mills and others, bibliog il diags Inst Radio Eng Proc 46:87-84 Ja '58

- Jodrell Bank radio telescope. A. C. B. Lovell, il Radio-Electronics 29:32-5 F '58

- Maser operates at two degrees K for radio telescope. Electronics 31:30 Ja 24 '58

- NBS radiotelescopes track satellite's signals. Elec Eng 77:110-12 Ja '58

- Radio astronomy; illustrations with text. Engineer 205:pt 2 Ja 3 '58

- Radio observations on the Russian satellites; observations at the Royal radar establishment. J. S. Hey, Inst E E Proc 105 pt B: 107-8 Mr '58

- Radio observations on the Russian satellites; radar observations of the Russian earth satellites and carrier rocket. J. Davis and others, il diag Inst E E Proc 105 pt B:105-7 Mr '58

RADIO telescope—Continued

- Radio telescope antennas of large aperture. J. D. Kraus, bibliog *il* Inst Radio Eng Proc 46:92-7 Ja '58
- Radio telescope sees two billion light years; Manchester university. C. N. Kingston, *il* diags Electronics 31:70-5 Je '58
- Radio telescope to hear space sounds. Electronics 31:35 Ja 24 '58
- Radio telescope to study the sun. *il* Research 11:117 Mr '58
- Range of radio telescopes extended by new amplifier; maser. T. Gold, Franklin Inst J 265:83-4 Ja '58
- Ruby maser for new telescope. Electronics 31:23 S '58
- Scanning the sun with a highly directional array. W. N. Christiansen and D. S. Mathewson, bibliog *il* diags Inst Radio Eng Proc 46:127-31 Ja '58
- Sydney 191-mc radio telescope. C. A. Shain, *il* diags Inst Radio Eng Proc 46:85-8 Ja '58
- Telescope program for the National radio astronomy observatory at Green Bank, W. Va. R. M. Emberson and N. L. Ashton, bibliog *il* diags Inst Radio Eng Proc 46:23-35 Ja '58

Control

- Computer and control for the telescope at Jodrell bank. *il* diags Electronic Eng 30:456-72 Ag '58

- RADIO time signals.** See Time signals, Radio

RADIO towers

- Safe tower for a city lot. L. H. Abraham, *il* diags Q S T 42:30-4 Ag '58

RADIO transformers

- Development of high temperature transformers; abstract. A. G. Gilmore, Brit Inst Radio Eng J 18:254-5 Ap '58
- Digital amplifiers use saturable transformers. *il* diags Electronics 31:74-11 4 '58
- Divided output transformers; use of separate high- and low-frequency units. R. Guelke, diags Wireless World 64:384-5 Ag '58
- Is the output transformer out? H. Ravenswood, bibliog diags Radio-Electronics 29:80-4 Ja '58; Discussion, 29:14-4 Je '58
- Stable rf transformer package. D. M. Lisblin, *il* diag Elec Manuf 61:135-7 F '58
- Stabilized e.h.t. unit; design of a compact equipment for anode supplies. D. J. Collins and J. E. Smith, *il* diags Wireless World 64:134-6 Ap '58
- Standard case improves pulse transformer packages. Franklin Inst J 266:256 S '58
- Toroidal transformers for an analogue system of machine tool control. D. A. Alexander, *il* diags Brit Inst Radio Eng J 18:71-81 F '58
- Transformer miniaturization using fluorochemical liquids and conduction techniques; abstract. L. F. Kilham, jr, Brit Inst Radio Eng J 18:253-4 Ap '58
- Transformers for military communications systems. H. B. Valden and L. J. Steinbach, jr, *il* Bell Lab Rec 36:299-302 Ag '58
- Variable-output mains transformer. H. E. Styles, diags Wireless World 64:262-3 Je '58
- Wide-band transformer characteristics. A. C. Hudson, bibliog diags Electronic & Radio Eng 35:223-34 Je '58

Design

- Contribution of statistics to the development program of a transformer for the L3 carrier system. G. J. Levenbach, bibliog flow chart *il* diags Bell System Tech J 37:23-54 Ja '58
- Designing transformers for blocking oscillators. R. D. McCartney, *il* diags Electronics 31:73-80 F 28 '58

Protection

- Transformer epoxy conducts heat. *il* Electronics 31:102 My 9 '58

RADIO transmission

- Atmospheric effects on vhf and uhf propagation. H. E. Millman, diags Inst Radio Eng Proc 46:1492-501 Ag '58
- Effects of mode filters on the transmission characteristics of circular electric waves in a circular waveguide. W. D. Warters, diags Bell System Tech J 37:657-77 My '58
- Kineplex, a bandwidth-efficient binary transmission system. R. R. Mosier and R. G. Clabaugh, *il* diags Com & Electronics p723-7; Discussion, E. D. Sunde, 727-8 Ja '58
- Nsb; radial method of amateur communications. T. A. Ploekering, diags Q S T 42:50-1 Ap '58
- Observations of magneto-ionic duct propagation using man-made signals of very low frequency. R. A. Helliwell and E. Gehrels, bibliog Inst Radio Eng Proc 46:785-7 Ap '58
- Putting Sputnik to work. D. K. Manayev and Y. F. Kuznetsov, Electronics 31:32-3 Ja 10 '58
- Split-information space transmission system; Frena; abstract. F. de Jager and J. A. Greefkes, diags Wireless World 64:131-3 Mr '58
- Transmission error function for meteor-burst communication. G. E. Montgomery, Inst Radio Eng Proc 46:1423-4 Jl '58
- Tropospheric-scatter radio link. *il* Engineer 205:709 My 9 '58
- See also
- Radio broadcasting
- Radio echoes
- Radio pulse code modulation
- Radio pulse time modulation
- Radio relay systems
- Radio waves—Scattering
- Television transmission

Double sideband system

- Engineering features and field trial performance of a new subscriber carrier system; five-channel rural open-wire double-sideband stackable system. R. L. Layburn, *il* plan Com & Electronics p681-7 Ja '58

Fading

- Communication technique for multipath channels; Rake system. R. Price and P. E. Green, jr, bibliog (35 ref) *il* diags Inst Radio Eng Proc 46:555-70 Mr '58; Discussion, G. D. Huist, 46:1832 N '58
- Distribution of the duration of fades in radio transmission; Gaussian noise model. S. O. Rice, bibliog Bell System Tech J 37:581-635 My '58
- Effect of correlation on combiner diversity. K. A. Peckard, Inst Radio Eng Proc 46:362-3 Ja '58
- Effect of fading on the accuracy of measurement of ionospheric absorption. R. W. Meadows and A. J. G. Moorat, bibliog Inst E E Proc 105 pt E:27-32 Ja '58
- Error probability for binary symmetric ideal reception through nonselective slow fading and noise. G. L. Turin, bibliog diags Inst Radio Eng Proc 46:1603-19 S '58
- Intermittent communication with a fluctuating signal to combat the effects of signal fading. G. F. Montgomery, Inst Radio Eng Proc 45:1678-84 D '57
- Marconi and microwave transmission beyond the horizon. G. A. Isted, bibliog Engineer 205:207-9 F 7 '58
- Refraction anomalies in airborne propagation. M. S. Wong, bibliog diag Inst Radio Eng Proc 46:1628-38 S '58
- Theoretical diversity improvement in frequency-shift keying. J. N. Pierce, bibliog Inst Radio Eng Proc 46:903-10 My '58

Single sideband system

- Mathematical analysis of the Kahn compatible single sideband system. J. P. Costas, diags Inst Radio Eng Proc 46:1396-401; Discussion, L. R. Kahn, 1429-30 Jl '58
- Noise-reducing speech transmission system. *il* diag Electronic & Radio Eng 35:274 Jl '58
- Single sideband aircraft communication. G. L. Grisdale, diags Wireless World 64:460-5 O '58
- Ssb and similar systems; wise allocation of the spectrum will be important for gas utilities and other members of the Land mobile radio services. R. P. Gifford, Gas Age 122:23-4 Ag 7 '58
- Third method of generation and detection of single-sideband signals. H. M. Lewis, Inst Radio Eng Proc 45:1289-90 S '57

RADIO transmitters

- Distress transmitter is hybrid. H. B. Weisbecker, *il* diags Electronics 31:98-4 Ag 1 '58
- Giant radio transmitter aligns Minitrack stations. Machine Design 30:15 F 20 '58
- Grasshopper transmits weather automatically. *il* Elec Eng 37:857-8 S '58
- Space sentry aids Explorer satellite tracking. *il* Elec Eng 37:378 Ag '58
- Weather transmitters are air dropped; transmitter called the Grasshopper. *il* Electronics 31:96 Ag 1 '58
- See also
- Amplifiers, Vacuum tube
- Television transmitters

Control

- Automatic speech amplitude control. L. R. Battersby, *il* diag Electronics 31:71-3 My 23 '58
- Design of high- and low-power medium-frequency broadcasting transmitters for automatic and semi-attended operation. W. J. Morcom and D. F. Bowers, *il* plan diags Inst E E Proc 104 pt B:540-9; Discussion, 549-52 N '57

RADIO transmitters—Control—Continued

Flexible transmitter-receiver frequency control. G. W. Jones. *il* diags Q S T 42:26-9+ J1 '58

Improved control circuits for the DX-35. R. Warren; G. R. Jackman. *diag* Q S T 42:71-2 Je '58

Remote and automatic control of semi-attended broadcasting transmitters. R. T. E. Wynn and P. A. Peachey. *bibliog il* diags Inst E E Proc 104 pt B:529-39; Discussion. 549-52 N '57

Design

Design of high- and low-power medium-frequency broadcasting transmitters for automatic and semi-attended operation. W. J. Morcom and D. F. Bowers. *il* plan diags Inst E E Proc 104 pt B:540-9; Discussion. 549-52 N '57

Double sideband transmitters

Transmitter circuits for suppressed-carrier a.m. J. P. Costas and R. W. French. *il* diags Electronics 30:128-31 D 1 '57

Frequency modulation transmitters

Compatible system of stereo transmission by fm multiplex. M. G. Crosby. *diags* Audio Eng Soc J 6:70-3 Ap '58

Frequency-modulated a.f. transmitter technique; with particular reference to the B.B.C. United Kingdom service. A. C. Beck and others. *bibliog* plan diags Inst E E Proc 104 pt B:225-38 My '57; Discussion. 104 pt B:249-53; 105 pt B:305 My '57, J1 '58

Fm controls street lights; Chicago's new State street. *il* Electronics 31:16+ S 26 '58

F-m exciter for sight or scatter systems. A. E. Anderson and H. D. Hern. *il* diags Electronics 31:148-51 Mr 14 '58

Testing the linearity of modulators and de-modulators in multi-channel f.m. transmitters and receivers. G. C. Davey. *diags* Electronic Eng 30:487-9 Ag '58

Wireless microphone uses f-m modulation. G. F. Montgomery. *il* diags Electronics 31: 54-5 Ja 3 '58; Discussion. 31:184+ Ap 11 '58

Power supply

Combination power supply and modulator using transistors. E. L. Campbell. *il* *diag* Q S T 42:18-21 S '58

DuKane powerful transmitter uses less power. *il* Ind Lab 9:28-9 Je '58

Novel power-supply overload relay. G. W. Jones. *diag* Q S T 42:15+ F '58

Solar converters power satellite. *Electronic Ind* 17:14 My '58

Protection

Novel power-supply overload relay. G. W. Jones. *diag* Q S T 42:15+ F '58

Short wave

Collins KWM-1 transceiver. B. Goodman. *il* *diag* Q S T 42:23-7 Ap '58

Cosmophone 35 bilateral transceiver. B. Goodman. *il* *diag* Q S T 42:44-7 Je '58

Customizing the 6L6GB handbook transmitter. G. W. Korper, jr. *il* Q S T 42:68-9 My '58

Directional coupler for 144 mc.; reliable standing wave ratio measurement at low cost. E. P. Tilton. *diags* Q S T 42:38-41 Ag '58

Dual-purpose circuitry cuts transceiver size. P. G. Wulfsberg and C. H. Kirkpatrick. *il* *diags* Electronics 30:134-8 D 1 '57

80-meter loading without harmonics; keeping spurious signals from being radiated. L. G. McCoy. *il* *diags* Q S T 42:24-6 Ag '58

Globe Champion. D. H. Mix. *il* *diags* Q S T 42:39-41 F '58

Gonset Communicator III. *diags* Q S T 42:74-5 O '58

Importance of metering screen-grid current. W. S. Skeen. *Q S T* 42:42 My '58

Improved control for c.w. operation of 10B exciters. R. E. Delp. *il* *diag* Q S T 41:38-9+ D '57

Low-distortion modulator for clipped speech. R. E. Beling. *diags* Q S T 42:31-4 Ja '58

Medium-power r.f. amplifier. D. H. Mix. *il* *diag* Q S T 42:11-14 F '58

Microlock, a minimum weight radio instrumentation system for a satellite. H. L. Richter, Jr. and others. *il* *diags* Jet Propulsion 28:532-40 Ag '58

Modifications to the Elmac AF67. H. Stewart. *diags* Q S T 42:75-6 O '58

Modifying the Viking Adventurer for 50 mc. A. Brodgon. *diags* Q S T 42:22-3+ S '58

Novel push-to-talk circuit. R. S. McMullen. *diag* Q S T 41:72-3 D '57

One kw. v.h.f. transmitter. *il* *Engineer* 205: 364 Je 6 '58

Pygmy powerhouse model II. G. L. Countryman. *il* *diags* Q S T 42:11-14, cover O '58

Side-band package; complete multiband filter transmitter with 6146 final. G. K. Bigler. *il* *diags* Q S T 42:24-33 Je '58

Telemeter transmitter for Vanguard rocket. N. Raskhodoff. *il* *diags* Electronics 31:46-7 J1 '58

Three-band one-tube novice transmitter. L. G. McCoy. *il* *diags* Q S T 41:34-7 D '57

Transistor audio for mobile rigs. J. O. Galoup. *il* *diag* Q S T 41:45-50 D '57

Transmitter circuits for suppressed-carrier a.m. J. P. Costas and R. W. French. *il* *diags* Electronics 30:128-31 D 1 '57

12AX7 modulator unit utilizing printed circuit techniques. A. D. Middleton and J. M. Stueber. *My* *diag* Q S T 42:40-1+ My '58

Using the BC-459 with the v.h.f. overtone oscillator. R. L. Sherwood. *diag* Q S T 41:72 D '57

Versatile 50-mc. transmitter; ten to fifty watts input with two tubes. E. P. Tilton. *il* *diags* Q S T 42:16-20+ O '58

Viking navigator. B. Goodman. *il* *diags* Q S T 42:46+ My '58

VR break-in for the DX-100. E. A. Cox. *diags* Q S T 42:28-9 S '58

Single sideband transmitters

Cheap and easy side band, 1958. *diags* Q S T 42:22-9 My '58

Choosing capacitors; selecting types for an s.s.b. exciter. D. T. Geiser. *il* *diags* Q S T 42:22-5 J1 '58

Eldico ssb-100F transmitter. B. Goodman. *il* *diag* Q S T 42:41-4 F '58

High-level mixer for 144-mc s.s.b. E. P. Tilton. *diag* Q S T 42:30+ S '58

Improved control for c.w. operation of 10B exciters. R. E. Delp. *il* *diag* Q S T 41:38-9+ D '57

Some experiences with cheap and easy s.s.b. M. R. Gutman. *il* Q S T 42:22 Ja '58

Transistor transmitters

Application of transistors in communications equipment. D. D. Holmes. *bibliog il* *diags* Inst Radio Eng Proc 46:1255-60 Je '58

Combination power supply and modulator using transistors. E. L. Campbell. *il* *diag* Q S T 42:18-21 S '58

Designing a personal distress transmitter. E. G. Homer. *il* *diags* Electronic Ind & Tele-Tech 16:supO 5-7+ O '57

DuKane powerful transmitter uses less power. *il* Ind Lab 9:28-9 Je '58

Military mobiles become transistorized. R. H. Decker and D. E. Kammer. *il* *Electronic Ind* 17:supO 8-7 J1 '58

Satellite transmitter uses transistors. *il* Electronics 31:26 Ap 4 '58

T-12 transmitter. B. Goodman. *il* Q S T 41:33+ D '57

Transistor handtalky for ten meters. E. G. Von Wald. *il* *diag* Q S T 42:11-14 Mr '58

Transistor transmitter developed for satellite radio. *il* Elec Eng 77:472 My '58

Transistor transmitter; economical portable set for w/t, r/t and m.c.w. operation on 160 metres. L. F. Shaw. *il* *diags* Wireless World 64:241-3 My '58

Tuning

How to tune your pi-network final. L. G. McCoy. *diags* Q S T 42:34-5 F '58

Matchtone, a bridge-powered audio keying monitor. W. S. Grenfell. *il* *diag* Q S T 42: 26-7 Ja '58

RADIO transmitters. Portable

Improving the Club-Saver two-meter portable. G. M. Frieders. *diag* Q S T 42:21+ My '58

New radio hats make noisy job quiet and peaceful. *il* Oil & Gas J 56:60-1 S 22 '58

Power 25 watts fun unlimited; portable rig for 80 and 40. E. A. Coons. *il* *diags* Q S T 42:41-3+ J1 '58

Radio stations go mobile. *Electronics* 31:44 Ag 8 '58

RADIO waves

Critical frequency, refractive index, and cone of escape in the solar corona; nomograms. R. N. Bracewell and C. V. Stabileford. *Inst Radio Eng Proc* 46:198-9 Ja '58

Diffraction by smooth cylindrical mountains. H. E. J. Neugebauer and M. P. Bachynski. *bibliog* *diags* Inst Radio Eng Proc 46:1619-27 S '58

RADIO waves—Continued

- Discovery and identification by Karl Guthe Jansky of electromagnetic radiation of extraterrestrial origin in the radio spectrum. C. M. Jansky, jr. *Inst Radio Eng Proc* 46:13-15 Ja '58
- Dispersion; when velocity varies with frequency. *diags Wireless World* 64:502-6 O '58
- Excitation of surface waves on conducting, stratified, dielectric-clad, and corrugated surfaces. J. R. Wait, *bibliog* (39 titles) *J Res Nat Bur Stand* 63:65-77 D '57
- Frequency shifts in cavities with longitudinally magnetized small ferrite discs. H. Seidel and H. Boyet, *bibliog diags Bell System Tech J* 37:637-65 My '58
- Group and phase velocity. *diags Wireless World* 64:445-8 S '58
- Infra-red and microwave modulation using free carriers in semiconductors. A. F. Gibson, *bibliog diags J Sci Instr* 35:273-8 Ag '58
- Investigation of the perturbations imposed upon radio waves penetrating the ionosphere. R. S. Lawrence, *bibliog* (36 ref) *il diags Inst Radio Eng Proc* 46:315-20 Ja '58
- Microwaves aid fusion research; abstract. M. A. Heald, *Nucleonics* 16:111 JI '58
- Microwaves in science and technology. R. Cockburn, *Engineer* 205:802-4 My '58
- Excerpts, *Engineering* 185:723-4 Je '58
- Parametric amplification of space charge waves. W. H. Louisell and C. F. Quate, *bibliog diags Inst Radio Eng Proc* 46:707-16 Ap '58
- Phase variations of 16 kc/s transmissions from Rugby as received in New Zealand. D. D. Crombie and others, *bibliog map Inst E E Proc* 105 pt B:301-4 My '58
- Production of millimicrosecond pulses by radio-frequency sweeping of the ion beam in the terminal of an electrostatic accelerator. C. M. Turner and S. D. Bloom, *bibliog il diags R Sci Instr* 29:480-7 Je '58
- Propagation characteristics of slow-wave structures derived from coupled resonators. E. Belchoubek, *bibliog diags RCA R* 19:283-310 Je '58
- Propagation of a pulse across a coast line. J. R. Wait, *diags Inst Radio Eng Proc* 45: 1550-1 N '57
- Propagation of waves in helical wave guides. C. M. Chu, *bibliog diags J Ap Phys* 29:88-99 Ja '58
- Propagation through a dielectric slab. T. B. A. Senior, *diags Electronic & Radio Eng* 35:135-7 Ap '58
- Radiation resulting from an impulsive current in a vertical antenna placed on a dielectric ground. C. L. Pekeris and Z. Alterman, *bibliog diags J Ap Phys* 28:1317-23 N '57
- Radio spectrum of solar activity. A. Maxwell and others, *bibliog il Inst Radio Eng Proc* 46:142-8 Ja '58
- Radio waves and circuits; report on URSI commission. E. C. Jordan, *Inst Radio Eng Proc* 46:1376-81 JI '58
- Radio waves power transistor circuits. L. R. Crump, *il diags Electronics* 31:63-5 My '58
- Son et lumière; discussion of the Doppler effect, *diags Electronic & Radio Eng* 34:369-72 O '57; *Discussion*, 35:75 F '58
- Space charge waves along magnetically focused electron beams. J. Labus, *bibliog diags Inst Radio Eng Proc* 45:854-61 Je '57; *Discussion*, W. W. Rigrod, 46:358-9; *Reply*, 359-60 Ja '58
- Studies at the McMath-Hulbert observatory of radio frequency radiation at the time of solar flares. H. W. Dodson, *bibliog il Inst Radio Eng Proc* 46:149-59 Ja '58
- Surface waves. H. M. Barlow, *bibliog diags Inst Radio Eng Proc* 46:1413-17 JI '58
- Synchronization of oscillators by periodically interrupted waves. D. W. Fraser, *il diags Inst Radio Eng Proc* 45:1256-68 S '57
- Transient radio-frequency ground waves over the surface of a finitely conducting plane earth. J. R. Schier, *J Res Nat Bur Stand* 60:251-5 Ap '58
- Use of surface weather observations to predict the total atmospheric bending of radio rays at small elevation angles; *radioonde*. B. R. Bean and B. A. Cahoon, *bibliog Inst Radio Eng Proc* 45:1545-6 N '57

See also

Electric waves
Radio echoes
Raydist
Wave guides

Absorption

- Effect of fading on the accuracy of measurement of ionospheric absorption. R. W. Meadows and A. J. G. Moorat, *bibliog Inst E E Proc* 105 pt B:27-32 Ja '58
- Effect of the earth's magnetic field on absorption for a single-hop ionospheric path. R. W. Meadows and A. J. G. Moorat, *bibliog Inst E E Proc* 105 pt B:33-7 Ja '58
- Some measurements of high-latitude ionospheric absorption using extraterrestrial radio waves. C. G. Little and H. Leinbach, *bibliog map Inst Radio Eng Proc* 46:334-48 Ja '58

Attenuation

- Attenuation in continuously loaded coaxial cables. G. Raisbeck, *diags Bell System Tech J* 37:361-74 Mr '58
- Attenuation of radio waves reflected from the E-region of the ionosphere. R. W. Meadows, *bibliog Inst E E Proc* 105 pt B:22-6 Ja '58
- Characteristics of some ferrous and non-ferrous waveguides at 27 Gc/s. J. Allison and others, *bibliog diags Inst E E Proc* 104 pt B:599-602 N '57
- Guided wave propagation in submillimetric region. A. B. Karbowiak, *diags Inst Radio Eng Proc* 46:1706-11 O '58
- Measurement of impedance and attenuation of a cable through an arbitrary loss-free junction. J. Allison and F. A. Benson, *bibliog diags Inst E E Proc* 105 pt B:487-95 S '58
- Measurements of solar radiation and atmospheric attenuation at 4.3-millimeters wavelength. R. J. Coates, *bibliog il diags Inst Radio Eng Proc* 46:122-6 Ja '58
- Path attenuation nomogram. N. Kashiwabara, *Electronics* 31:98+ Je '58

Industrial applications

- Microwave sublimation of foods; freeze-drying. D. A. Copson, *diags Food Tech* 12:270-2 Je '58
- Unit spots grounded electrical circuit. *il Pet Refiner* 37:177 JI '58

Measurement

See Radio measurements

Physiological effect

- Biological effects of microwave radiation on air force personnel. G. M. Knauf, *bibliog A M A Archives Ind Health* 17:48-52 Ja '58

Polarization

- Radio astronomy polarization measurements. M. H. Cohen, *bibliog diags Inst Radio Eng Proc* 46:172-83 Ja '58

Reflection

- Aircraft simulator for television signals. M. C. Gander and P. L. Mothersole, *il diags Electronic Eng* 30:408-13 JI '58
- Amateur scientist; how a Kansas amateur group counts meteors by reflection of radio waves. W. S. Houston, *diags Sci Am* 199: 108-10+ JI '58
- Attenuation of radio waves reflected from the E-region of the ionosphere. R. W. Meadows, *bibliog Inst E E Proc* 105 pt B: 22-6 Ja '58
- Detection of Sputniks I and II by continuous wave reflection. J. D. Kraus, *Inst Radio Eng Proc* 46:611-12 Mr '58
- Microwave reflector gain chart. *Electronic Ind* 17:sup O 1 Je '58
- Moon as reflector. *Wireless World* 64:350-1 JI '58
- Moon can serve as short wave reflector. *Electronic Ind* 17:7 JI '58
- Observations of the U.S. satellites Explorers I and III by carrier wave reflection. J. D. Kraus and others, *Inst Radio Eng Proc* 46:1534 Ag '58
- Radio reflections from satellite-produced ion columns. C. D. Hendricks, jr. and others, *Inst Radio Eng Proc* 46:1763 O '58
- Some airborne measurements of vhf reflections from meteor trails. J. P. Casey and J. A. Holladay, *Inst Radio Eng Proc* 45: 1735-6 D '57
- Telephony via the moon. *Franklin Inst J* 266:153-4 Ag '58
- Transmission-line discontinuities; effect of multiple reflections. K. W. H. Foulds, *diags Electronic & Radio Eng* 35:263-7 JI '58

Refraction

- Refraction anomalies in airborne propagation. M. S. Wong, *bibliog diags Inst Radio Eng Proc* 46:1628-38 S '58

RADIO waves—Refraction—Continued

Use of radio stars to study irregular refraction of radio waves in the ionosphere. H. G. Booker, bibliog *il* diags *Inst Radio Eng Proc* 46:298-314 Ja '58; Correction. 46:1085 Je '58

Scattering

Analysis of oblique path meteor-propagation data from the communications viewpoint. W. R. Vincent and others, bibliog *il* diags *Inst Radio Eng Proc* 45:1701-7 D '57; Same cond. *Electronic Ind & Tele-Tech* 16:52-57 O '57

Bandwidth considerations in a JANET system. L. L. Campbell and C. O. Hines, *Inst Radio Eng Proc* 45:1658-60 D '57

Broad-band amplifier for radar and scatter. J. H. Phillips and E. Maxwell, *il* diags *Electronics* 31:31-3 S 26 '58

Canadian JANET system; single channel radio teletype link. G. W. L. Davis and others, *il* diags *Inst Radio Eng Proc* 45:1666-78 D '57

Communications via meteor bursts. G. F. Montgomery, *il* *Radio-Electronics* 29:88-90 J1 '58

Directional characteristics of meteor propagation derived from radar measurements. V. R. Eshleman and R. F. Miodnosky, bibliog diags *Inst Radio Eng Proc* 45:1715-23 D '57

Experimental facsimile communication utilizing intermittent meteor ionization. W. H. Bliss and others, *il* *Inst Radio Eng Proc* 45:1734-5 D '57

Factors affecting the use of over-the-horizon links in telecommunication networks. C. A. Parry, bibliog diags *Com & Electronics* p485-96 S '58

Forward scatter; above 2000 megacycles! J. L. Gardner, *il* diags *Electronic Ind* 17:supO 2-5 Mr '58

Fourier series representation of the dispersion curves for circular iris-loaded waveguides. P. N. Robson, bibliog diags *Inst E E Proc* 105 pt B:69-72 Ja '58

Influence of meteor-radiant distributions in meteor-scatter communication. M. L. Meeks and J. C. James, bibliog diags *Inst Radio Eng Proc* 45:1724-33 D '57

Investigation of storage capacity required for a meteor-burst communications system. R. A. Rach, *Inst Radio Eng Proc* 45:1707-9 D '57

Ionospheric radio propagation; report on URSI commission. J. E. Smyth, *Inst Radio Eng Proc* 46:1362-6 J1 '58

Long-distance h/f broadcasting; factors governing effective coverage of target area. T. W. Bennington, diags *Wireless World* 64:331-6 J1 '58

Meteor-burst system for extended range vhf communications. W. R. Vincent and others, *il* diags *Inst Radio Eng Proc* 45:1693-700 D '57; Same cond. *Electronic Ind & Tele-Tech* 16:84-8+ N '57

Meteor bursts provide communications path. B. M. Sifford and W. R. Vincent, *il* diags *Electronics* 31:42-5 Ag 23 '58

Meteors relay vhf signals; experimental facsimile system. map *Electronics* 31:32 Ja 10 '58

Microwave line-of-sight propagation. M. W. Gough, bibliog diags *Electronic Eng* 30:237-47 My '58

Nonreciprocal two-port measurement based on an averaging technique. H. M. Altshuler, diags *Inst Radio Eng Proc* 45:1293 S '57

NATO gets scatter link. *Electronics* 31:24 S 5 '58

Off-path propagation at vhf. V. C. Pineo, diags *Inst Radio Eng Proc* 46:922 My '58

Phase-coherent back-scatter of radio waves at the surface of the sea. E. Sofaer, bibliog *il* maps diags *Inst E E Proc* 105 pt B:383-94 J1 '58

Principles of JANET, a meteor-burst communication system. P. A. Forsyth and others, bibliog (35 titles) *il* map diags *Inst Radio Eng Proc* 45:1642-57 D '57

Role of stratospheric scattering in radio communication. H. G. Booker and W. E. Gordon, *Inst Radio Eng Proc* 45:1223-7 S '57

Scatter propagation; symposium. *Wireless World* 64:124-5 Mr '58

Signals bounced from meteor trails. *Elec Eng* 77:114-15 Ja '58; Same abr. *Franklin Inst J* 265:76-7 Ja '58

Solar cycle influence on the lower ionosphere and on vhf forward scatter. C. Ellyett and H. Leighton, bibliog *Inst Radio Eng Proc* 46:1711-16 O '58

Storage capacity in burst-type communication systems. L. L. Campbell, *Inst Radio Eng Proc* 45:1661-6 D '57; Discussion. W. A. Helbig, 46:1649-50 S '58

Strengthening the links of radio: Radio research station advised to increase work on terminal equipment. *il* *Engineering* 186:216-17 Ag 15 '58

Study of 468-megacycle tropospheric scatter propagation over a 289-mile path. J. B. Atwood and others, *il* map *RCA R* 19:321-33 S '58

Tropo-scatter system design charts. L. P. Yeh, *Electronics* 31:91-3 Ja 17 '58

Tropospheric link, *il* *Engineering* 185:703-4 My 30 '58

Tropospheric radio propagation; report on URSI commission. J. E. Smyth, *Inst Radio Eng Proc* 46:1358-61 J1 '58

Tropospheric scatter communication. G. L. Grisdale, *il* diags *Electronic Eng* 30:272-5 My '58

Tropospheric scatter propagation. G. Milington, bibliog *Electronic Eng* 30:248-52 My '58

Tropospheric scatter propagation; summary of recent progress. H. Staras, bibliog diags *RCA R* 19:3-18 Mr '58

Tropospheric-scatter radio link. *il* *Engineer* 205:709 My 9 '58

Tropospheric scatter system evaluation. M. Telford, bibliog *il* diags *Brit Inst Radio Eng J* 18:511-23 S '58

Use of dielectric materials to enhance the reflectivity of a surface at microwave frequencies. G. E. Walker and J. T. Hyman, diags *Inst E E Proc* 105 pt B:73-6 Ja '58

Using tv signals in v.h.f. propagation studies. C. R. Graf, Q S T 42:22-5 F '58

Utility of meteor bursts for intermittent radio communication. G. F. Montgomery and G. R. Sugar, bibliog diags *Inst Radio Eng Proc* 45:1684-93 D '57

Vhf radio range increased 2½ times; Stanford research institute engineers are bouncing signals off meteor trails. *il* diags *Pet Eng* 29:D46+ D '57

Wavelength dependence of the information capacity of meteor-burst propagation. V. R. Eshleman, bibliog *Inst Radio Eng Proc* 45:1710-14 D '57

RADIOACTIVE fallout

AEC committee views fallout. *Chem & Eng N* 35:49-50 N 4 '57

Contamination of food by fall-out from nuclear explosions; abstract and discussion. J. Hawthorn, *Chem & Ind* p402-3 Ap 5 '58

Decontamination reactions of synthesized fallout debris for nuclear detonations. C. F. Miller and others, bibliog *J Colloid Sci* 13:337-57 Ag '58

Determining arrival time of radioactive fall-out. Geiger-counter detection circuit causes clock to stop. R. W. Farmer and O. Reiner, jr. *il* diags *Electronics* 31:69-71 Ag 1 '58

Fallout may solve sea mystery; abstract. T. T. Sugihara, *Chem & Eng N* 36:46-7 Ap 21 '58

Monitors ring A-bomb test. map *Electronics* 31:13-14 Je 13 '58

Radiation hazards; abstracts of two papers. W. Thelmer; E. H. Graul. *Eng J* 41:87 Mr '58

Radiological decontamination of pavements and roofs. E. E. Shalowitz and W. F. Gwyer, *Pub Works* 89:138 F '58

Reactor exclusion areas; can they be eliminated? G. W. C. Tait, bibliog *Nucleonics* 16:71-3 Ja '58

Sample calculations of gamma-ray penetration into shelters; contributions of sky shine and roof contamination. M. J. Berger and J. C. Lamkin, diags *J Res Nat Bur Stand* 60:109-16 F '58

Statement on radioactive fallout. *Am Scientist* 46:138-50 Je '58

RADIOACTIVE substances

Sawing radio-active metals by the arc-process; abstract. F. Bevilacqua, *Metal Prog* 73:196+ Ap '58

Some foods are hot: Food and drug administration survey of radioactive residues in foods before and after 1945. *Chem & Eng N* 36:38 O 27 '58

See also
Polonium
Radioactive fallout
Radioactivity
Thorium
Uraninite
Uranium

RADIOACTIVE substances—Continued

Analysis

- Analysis of radioactivity in surface waters; practical laboratory methods. L. R. Setter and others. *bibliog* *il diag* A S T M Bul p35-40 Ja '58
- Determination of radionuclides in low concentrations in water. B. Kahn and S. A. Reynolds. *bibliog* Am Water Works Assn J 50:613-20 My '58
- Facilities and techniques for analysis of highly radioactive samples. R. C. Shank and others. *bibliog* *il plans diag* Anal Chem 29:1730-9 D '57
- Use of the gamma spectrometer in the identification of radionuclides in water. G. R. Hagee and others. *il diag* Am Water Works Assn J 50:621-7 My '58

Industrial applications

- Here are some ways in which industry uses radioactivity. S. A. E. J 65:68-9 N '57
- Nuclear technology in the chemical and petroleum industries; symposium. *bibliog* flow sheet *il plan diag* Ind & Eng Chem 50:137-220 F '58
- Putting safety into gaging-source designs. G. B. Foster. *il diag* Nucleonics 16:123-7 F '58
- Radiation applications in New York industry. A. P. Abrahams. *Nucleonics* 16:131-3 F '58
- Radioactive cutting tools determine efficiency of cutting oils; illustrations with text. Am Mach 101:114-15 D 30 '57

Storage

- Inventoried storage of large numbers of small radioactive particles. L. E. Preuss. *il diag* J Sci Instr 35:307 Ag '58

Transportation

- Fins for sure! radioactive materials transportation casks. *il Welding Eng* 43:55 Jl '58
- Handles hot stuff; vessel for transporting radioactive fuel presents unusual welding problem. *il Steel* 142:117 Mr 3 '58
- Welding builds transportation casks for radioactive materials. P. E. Woodward. *il Welding J* 37:597 Je '58

RADIOACTIVE substances in the body

- Dosage and biological effects of internal radioactivity. J. N. Stannard. *bibliog diag* A M A Archives Ind Health 18:95-101 Ag '58
- More radiation studies; Argonne researchers study radioactivity in humans. Chem & Eng N 36:33-9 O 21 '58
- Portable apparatus for recording the rate of clearance of radioactive sodium from human calf muscle. L. Molyneux and others. *diag* J Sci Instr 35:259-61 Jl '58

RADIOACTIVE tracers

- Analysis of films formed by radioactive e-p additives. E. H. Loesser and S. B. Twiss. *bibliog* Lub Eng 14:343-9 Ag '58
- Apparatus for the direct measurement of adsorption on solid surfaces from liquids. J. A. Kafalas and H. C. Gatos. *il diag* R Sci Instr 29:47-50 Ja '58
- Atoms are important in heavy machinery manufacture; Caterpillar tractor co. wear tests. *il Pit & Quarry* 51:111-1 Ag '58
- Big role in atoms played by the oil industry. Oil & Gas J 56:60 F 3 '58
- Carbon-14 tracer study of the acid-catalyzed rearrangement of 3,3-dimethyl-2-butanone-1-C¹⁴. T. S. Rothrock and A. Fry. *bibliog* Am Chem Soc J 80:4349-54 Ag 20 '58
- Controlled thermal decomposition of cellulose nitrate; C¹⁴-tracer experiments. F. Shafizadeh and M. L. Wolfrom. *bibliog* Am Chem Soc J 80:1675-7 Ap 5 '58
- Density logging in the Gulf Coast area. J. L. P. Campbell and J. C. Wilson. *diag* J Pet Tech 10:21-5 Jl '58
- Engine wear measured while you wait, using radioactive tracer techniques. *il Oil & Gas J* 56:91 Mr 3 '58
- Example of interpretation of radioactivity and resistivity logs in a shaly sand; abstract. P. A. Poupon. *Inst Pet J* 44:71-2 Mr '58
- Gamma-ray detector aids oil field surveys. F. E. Armstrong. *il diag* Electronics 31:61-3 My 23 '58
- How atomic energy aids the metallurgist. A. A. Kucher. S A E J 66:115-4 Ja '58
- Interpretation of radioactivity logs in the Paradox basin. V. C. Stephenson and K. Simmons. *Pet Eng* 29:B32-3 D '57
- Isotopes go underground; underground petroleum tagging. *il Ind & Eng Chem* 50:sup25A-6A My '58

- Isotopes; potential new tools for rock industry. L. A. Walter. *diag* Rock Prod 61:86-4 Ag '58
- Japanese push radioisotopes. *Electronics* 31:40 S 19 '58
- Measure vapor losses with radioisotopes. A. J. Brandel and D. E. Hull. *Pet Refiner* 37:195-5 Mr '58
- Measurement of fertilizer phosphorus uptake and radiation damage using radio-phosphorus; abstract. E. R. Armitage. *Chem & Ind* p 1533-4; Discussion. 1534-5 N 23 '57
- New advances in tritium tracer technology and recording differential thermobalances. R. H. Müller. *Anal Chem* 30:sup65A-6A+ Ju '58
- New developments in radioactive well-logging research. R. L. Caldwell and R. F. Sippel. *bibliog diag* Am Assn Pet Geologists Bul 42:151-72 Ja '58
- O-13 tracer study of the wet and dry Prevost reactions. K. B. Wiberg and K. A. Saegbarth. *bibliog* Am Chem Soc J 79:6256-61 D 5 '57
- Piston ring wear. J. H. Deterding and J. R. Calow. *diag* Automobile Eng 48:378-81 O '58
- Preparation and analysis of tracer compounds. J. R. Catch. *bibliog* (60 ref) *Anal Chem* 29:1726-30 D '57
- Preparation of radioactive polynutrient fertilizers having specified phosphate solubilities. G. Wiczeorek and J. H. Caro. *J Agri & Food Chem* 6:34-8 Ja '58
- Radio tracer for studying sewage distribution. E. I. Goodman. *bibliog diag* Ind & Eng Chem 50:210-11 F '58
- Radioactive coke-level indicators increase delayed-coke capacity. P. G. Wright. *diag* Oil & Gas J 56:93-4 Ag 11 '58
- Radioactive reptiles; combination of radioactive iodine and the cottonmouth moccasin may give scientists a new insight into poisonous snake venoms. *il Ind & Eng Chem* 50:sup34A+ Ag '58
- Radioactive tracer logging with oil well cementing. R. G. Norelius. *diag* Pet Eng 29:B35-6+ N '57
- Radioactive tracer study of steel surface defects. T. W. Crosta. *il J Metals* 10:235-9 Ap '58
- Radioactive tracer tags air pollution gases; abstract. W. C. L. Hemeon and others. *Safety Maint* 11:539 Ap '58
- Radioactive-tracer technique for studying grinding ball wear. M. Fobereskin and others. *bibliog* Min Eng 9:Trans 1356-8 D '57
- Radioactive tracing of the diffusion of sulfur in cable rubbers. G. A. Blokh and others. *bibliog* Rubber Chem & Tech 31:356-60 Ap '58
- Radioactivity traces piston-ring wear. J. S. Batzold and others. S A E J 66:81-3 My '58; Abstract. *Tool Eng* 41:224-5 S '58
- Radioassay by gas chromatography of tritium- and carbon-14-labeled compounds. R. Wolfkang and F. S. Rowland. *bibliog diag* Anal Chem 30:903-6 My '58
- Radioisotopes come into their own. Am Mach 102:140 F 24 '58
- Radiotracer instrumentation solves tough process problems. R. J. Allen. *il diag* I S A J 5:38-41 Jl '58
- Radiotracer studies of engine deposit formation. C. N. Sechrist and H. H. Hammen. *bibliog Ind & Eng Chem* 50:341-2 Mr '58
- Techniques for air pollution analysis and control. Air Cond Heat & Ven 55:14 Mr '58
- Total-count technique in the refinery; new principle in flow measurements. D. E. Hull. *diag* Ind & Eng Chem 50:199-200 F '58
- Tracer studies on the mechanism of combustion of carbon, sulfur and mercuric sulfide. J. H. Wang and E. B. Fleischer. *Am Chem Soc J* 80:3874-5 Ag 5 '58
- Tracer techniques in fiber research. H. J. White. *jr. bibliog* (29 ref) *il diag* Anal Chem 29:1744-7 D '57
- Tracers monitor gases. Chem & Eng N 35:57-4 D 16 '57
- Tracing technology. *diag* Nucleonics 16:88 S '58
- Tritium tracing, a rediscovery. *bibliog* (40 ref) *diag* Nucleonics 16:62-7, cover Mr '58
- Use new technique for tritium study at Argonne labs. Ind Lab 9:46 F '58
- Wear evaluation of floor finishes; radioisotopic method. G. J. Fuld and others. *il Soap & Chem Spec* 34:93-4 Ap '58

RADIOACTIVE waste. See Radiochemical laboratories—Waste

RADIOACTIVE waste disposal

- Cryogenic hot wastes. *Chem & Eng* N 36:40 O 20 '58
- Factors affecting the transport of radioactivity by water. F. B. Barker. *bibliog Am Water Works Assn J* 50:603-12 My '58
- Highlights of research in sanitary engineering: Union carbide nuclear co.; experimental sand filters for airborne radioactive particulates. R. E. Yoder and F. M. Empson. *il diag Pub Works* 88:94-5 D '57
- Low-cost disposal of radioactive waste. *Franklin Inst J* 265:359 Ap '58
- Radioactive decontamination process enables rebuilding of worn parts; Fairchild camera and instrument corp. *il Ind Lab* 9:12-13 Je '58
- Radioactive waste disposal. *Sci Am* 198:58+ Mr '58
- Radioactive waste in disposal problem. *Ind Lab* 9:13 F '58
- Salt away atomic wastes? salt mines might hold huge quantities for long time. *il Chem & Eng* N 36:54-5 F 10 '58
- Sawdust cuts atomic waste costs. *il Elec World* 148:58 O 28 '57
- Studies in characteristics of Savannah River wastes; abstract. B. Manowitz and others. *Chem Eng Prog* 54:91-2 F '58
- See also
- Sewage disposal—Radioactive waste disposal
- Trade waste disposal—Radioactive waste disposal

Bibliography

- Review of the literature of 1957 on sewage, waste treatment, and water pollution; radioactive wastes. *Sewage & Ind Wastes* 30:136-48 Je '58

RADIOACTIVITY

- Activation analysis of fibrous materials; effect of nuclear radiation on fibrous materials. O. Teszler and H. A. Rutherford. *Textile Res J* 28:86 Ja '58
- Analysis of the effect of nuclear radiation on transistors. J. J. Loferski. *bibliog J Ap Phys* 29:35-40 Ja '58
- Applied radiation; Geneva 1958. *diags Nuclronics* 16:86-91 S '58
- Commercial markers using radioactive gases; abstract. C. W. Wallhausen. *Metal Prog* 73:202-4 Je '58
- Effect of nuclear radiation on fibrous materials. O. Teszler and others. *Textile Res J* 28:131-6 F '58
- Effect of nuclear radiation on fibrous materials; relative order of stability of cellulosic fibers. O. Teszler and others. *Textile Res J* 28:146-62 Je '58
- Highway construction can be speeded by radioactivity instrument that measures soil moisture and density. *S A E J* 6:665 Ja '58
- International geophysical year; nuclear radiation. D. C. Rose. *Eng J* 41:59-60 Ag '58
- Isomer simulator and the distortion of a delay analyzer. S. Akpinar. *diags R Sci Instr* 29:285-7 Ap '58
- Nuclear energy, a new textile tool; abstract. H. A. Rutherford. *Textile World* 108:123 Ja '58
- Nuclear radiation damage to electronic components; abstract. E. H. Cooke-Yarborough. *Brit Inst Radio Eng J* 18:305-6 My '58
- Research in neutron decay advanced. G. R. Ringo. *Elec Eng* 77:656-7 J1 '58
- What causes variations in radioactivity intensity over oil pools? J. A. Miller. *bibliog diags Oil & Gas J* 56:245-6 Mr 10 '58

See also

- Beta rays
- Cloud chambers
- Isotopes
- Neutrons
- Radiography
- Resinous products—Radioactivity effect
- Silicones—Radioactivity effect
- Water pollution—Radioactive pollution
- X rays

Bibliography

- Radiation effects in quartz, a bibliography. R. Bechmann. *Nuclronics* 16:122+ Mr '58

Measurement

- Advances in the standard proportional counter method of fast neutron dosimetry. E. B. Wagner and G. S. Hurst. *il diags R Sci Instr* 29:153-8 F '58
- Automatic quartz-fibre electrometer recording of β -activity. M. C. B. Russell and J. Long. *bibliog diags J Sci Instr* 35:134-8 Ap '58
- Capacitor microphone as a radiation detector. M. L. Harbold and J. L. Bohn. *diags R Sci Instr* 29:229-32 Mr '58

- Combination ion chamber-proportional counter dosimeter for measuring gamma-ray contamination of neutron fields. M. Slater and others. *bibliog diag R Sci Instr* 29:601-5 J1 '58

- Device measures low radioisotope concentrations. *Franklin Inst J* 265:526-7 Je '58
- Dosage and biological effects of internal radioactivity. J. N. Stannard. *bibliog diags A M A Archives Ind Health* 18:95-101 Ag '58

- Dosimeter for high-energy neutrons. P. S. Baranov and others. *bibliog il diag R Sci Instr* 28:1029-32 D '57

- Instruments and their use for the control of ionizing radiation in laboratories; abstract. B. S. Smith. *diag J Sci Instr* 34:432-4 N '57

- Low-rate neutron dosimeter. I. L. Karp. *diag R Sci Instr* 28:302-4 N '57

- Monitors for nuclear reactor fission products. J. Kohl. *bibliog il diags I S A J* 6:43-6 Je '58

- Multitracer analyzer. H. R. Lukens, jr. and D. M. Seid. *Nuclronics* 16:93 J1 '58

- Plastic phosphor matrix for fast-neutron detection. P. Brown and E. B. Hooper, jr. *bibliog Nuclronics* 16:96+ Ap '58

- Polyvinyl chloride, new high-level dosimeter. C. Artandi and A. A. Stonehill. *bibliog il Nuclronics* 16:118+ My '58

- Portable radon detector for continuous air monitoring. W. B. Harris and others. *bibliog il diag A M A Archives Ind Health* 16:493-8 D '57

- Radiation standard instrument for intercomparison of national primary standards. *il diag Safety Maint* 115:36-8+ Mr '58

- Radioactivity indicator; patent. *diag Radio-Electronics* 29:139 O '58

- Simple, inexpensive, automatic sample changer and recorder for counting radioactive samples. E. S. Kempner and F. A. Bisbee. *diags Nuclronics* 16:87-8 Je '58

- Solid-state photocell sees through haze. P. Weissman and S. L. Ruby. *il diags Electronics* 31:62-3 Je 20 '58

- Trends in radiation instrumentation. J. B. Williams. *diags Instruments & Automation* 31:624-9 Ap '58

See also**Radiocarbon dating****Physiological effect**

- Bronchogenic carcinoma from radioactive barium sulfate. H. Cember and J. A. Watson. *bibliog il A M A Archives Ind Health* 17:230-5 Mr '58

- Everybody's business, the problem of fallout and radiation. C. W. Shilling. *Ind Med* 27:349-53 J1 '58

- Instruments and their use for the control of ionizing radiation in laboratories; abstract. B. S. Smith. *diag J Sci Instr* 34:432-4 N '57

- Radiation picture still blurred. *Chem & Eng* N 36:36-7 Ag 18 '58

- Statement on radioactive fallout. *Am Scientist* 46:138-50 Je '58

- U.N. radiation report. *Sci Am* 199:84-5 S '58

Protection

- Administrative problems in nuclear energy. T. L. Shipman. *A M A Archives Ind Health* 18:106-9 Ag '58

- Aircraft shield test reactor. J. C. Nance and L. W. Perry. *il Nuclronics* 16:58-61 Ja '58

- Anti-radioactivity drug; AET (S,2-aminoethylsulfonium bromide hydrobromide). *Chem & Eng* N 36:23 Ag 25 '58

- AEC adopts new exposure limits. *Chem & Eng* N 35:36 D 30 '57

- Chemical compound aids resistance to radiation effects; aminoethylthiuronium; abstract. K. C. Atwood. *Franklin Inst J* 265:524 Je '58

- Combine nuclear protection with everyday functions in new dual purpose industrial building. F. Orlando. *il diags Plant* 18:32-3 O '58; Same cond. *Plant Eng* 12:115+ S '58

- Continually scour air in new atom fuel plant. *il Heating-Piping* 29:146-8 N '57

- Control of exposure from ionizing radiation; panel discussion. *Mag of Stand* 28:358-9 D '57

- Designing fume hoods for medium level radioactive conditions. J. M. Ruddy. *il diags Heating-Piping* 30:128-31 Mr '58

- Detection of radioactive contamination by lead camera. J. Payne. *Franklin Inst J* 265:357-8 Ap '58; Same cond. *Elec Eng* 77:372 Ap '58; Abstract. *Nuclronics* 16:97 J1 '58

- Development of handling techniques for the study of plutonium metal. W. B. H. Lord and M. B. Waldron. *bibliog il plan Inst Metals J* 86:385-92 Ap '58

RADIOACTIVITY—Protection—Continued

- Formulation of polyvinyl chloride compositions for resistance to intense gamma radiation. H. Wells and L. Williamson. *il Brit Plastics* 31:31-11 J '58
- General Electric power-operated manipulator. *il Engineer* 205:443 Mr 21 '58; Excerpts. *Engineering* 185:397 Mr 28 '58
- Hanford reports; report cards keep atomic workers up to date on their radiation dosage. *Chem & Eng N* 36:53 Ag 18 '58
- Health and safety in atomic establishments. *Chem & Ind* p56-7 Ja 18 '58
- Heavy liquid shielding for nuclear ships. H. F. Crouch. *bibliog diags Am Soc Naval Eng J* 70:497-503 Ag '58
- Hot laundry cools equipment; Hanford engineers reclaim expensive processing equipment formerly buried when it broke down. *il Chem & Eng N* 36:117-18 S 1 '58
- How to use beta ray sources safely. R. S. Rochlin. *il Mag of Stand* 29:196-7 J1 '58
- Lower permissible radiation. *Safety Maint* 114:32-3 N '57
- New radiation exposure limits adopted. *Elec Eng* 77:194-5 F '58
- Nuclear criticality; factor in the design and operation of chemical plants. C. M. Nicholls and A. H. C. P. Gilleson. *Engineer* 205:128-9 Ja 24 '58
- Program planning for radiological health. H. E. Hilleboe and A. Rihm, Jr. *Am J Pub Health* 48:965-70 Ag '58
- Putting safety into gazing-source designs. C. B. Foster. *il diags Nucleonics* 16:128-4 F '58
- Radiation, a major public health problem. B. F. Mattison. *Am J Pub Health* 48:5-8 Ja '58
- Radiation barriers in a reactor plant. B. J. Garrick. *diags Civil Eng* 28:661-3 S '58
- Radiation monitoring with ordinary film. *Safety Maint* 114:39-40 N '57
- Radiation safety. R. O. Schermernhorn. *Safety Maint* 115:33-4 Je '58
- Radioisotope capsules sealed by remote control welding. *il Welding J* 37:140 F '58
- Radiological decontamination of pavements and roofs. E. E. Shalowitz and W. F. Glover. *Pub Works* 89:138 F '58
- Recent advances in ultrasonic decontamination. R. L. Rod. *il diag Nucleonics* 16:104-5 J1 '58
- Recent changes in maximum permissible exposure values. K. Z. Morgan. *bibliog A M A Archives Ind Health* 16:357-62 N '57
- Remote handling of radiation sources; engineering problems discussed with human engineering demands. J. W. Wissel and J. C. Lee. *Elec Eng* 76:1071-4 D '57
- Remote-handling tools help service aircraft nuclear powerplants. D. R. Shoults. *il S A E J* 66:26-7 Ap '58
- Safe atoms. C. R. McCullough. *bibliog Franklin Inst J* 265:281-90 Ap '58
- Safe use of isotopes in industry. W. A. Brobst. *Mech Eng* 80:69-70 Mr '58; Abstract. *Eng J* 41:87-8 My '58
- Safety in the chemical industry; safety in the handling of radioactive substances. R. J. Sherwood. *bibliog il Chem & Ind* p988-94 Ag 9 '58
- Some factors to be considered in a protection program for use of radiation sources. H. W. Speicher. *A M A Archives Ind Health* 17:546-55 My '58
- States urged to take atomic lead. *Chem & Eng N* 36:30-1 O 27 '58
- Submarine medicine on Nautilus and Seawolf. J. H. Ebersole. *A M A Archives Ind Health* 18:200-7 S '58
- Tv keeps an eye on atom operations. *Safety Maint* 115:31 F '58
- Walk-in human counter. E. C. Anderson and others. *il Nucleonics* 16:106 Ag '58

See also

Atomic power plants—Safety measures
Radioactive waste disposal

RADIOASSAY. See Radiochemical analysis

RADIOCARBON dating

Beginning of the Nipissing phase of Lake Huron. A. Dreimanis. *bibliog maps J Geol* 66:591-4 S '58

RADIOCHEMICAL analysis

Absolute assay and study of short-lived radionuclides by a recoil technique. F. S. Rowland and R. L. Wolfgang. *bibliog il diag R Sci Instr* 29:210-14 Mr '58

Continuous analysis in nuclear processing; radiochemical pilot plant. C. L. Pleasance. *bibliog il diags I S A J* 5:39-42 Je '58

Gamma spectrometric and radiochemical analysis for impurities in ultrapure silicon. B. A. Thompson and others. *bibliog Anal Chem* 30:1023-7 Je '58

Method of radioassay of volatile compounds. R. H. Herber. *bibliog diag R Sci Instr* 28:1049-51 D '57

Neutron activation, an ultrasensitive analytical tool. H. Cember. *diag A M A Archives Ind Health* 17:527-32 My '58

Radiochemical analysis of strontium and barium in human urine. L. B. Farabee. *A M A Archives Ind Health* 17:200-3 Mr '58

Radiochemical determination of ionium in uranium fluorination ash. F. L. Moore. *bibliog Anal Chem* 30:1020-1 Je '58

Radiochemical determination of neptunium-239 and plutonium-239 in homogeneous reactor fuel and blanket solutions. F. L. Moore. *Anal Chem* 30:1368-9 Ag '58

RADIOCHEMICAL laboratories

Atom age design; new radio-chemical laboratory at Harwell; abstract. J. Cockcroft. *Atom For* 108:66-67 Ap '58

Industrial irradiation laboratory; Metropolitan-Vickers electrical co. *il Engineer* 205:857-8 Je 6 '58

Irradiation to aid production; Metropolitan-Vickers new irradiation laboratory. *il Research* 11:279-80 J1 '58

New buildings at the Radiochemical centre. *il Engineer* 204:681 N 8 '57

New laboratory of the Radiochemical centre; editorial. *Chem & Ind p* 1491 N 16 '57

Radiochemical centre enlarged. *il Manuf Chem* 29:55-8 F '58

Radiochemical laboratories; U.S. Bureau of mines installations in Reno, and Salt Lake City. *Mech Eng* 80:75 Ag '58

U.K. atomic energy authority expands radiochemical centre. *il Anal Chem* 30:sup59A-61A My '58

Equipment

Continuous analysis in nuclear processing; radiochemical pilot plant. C. L. Pleasance. *bibliog il diags I S A J* 5:39-42 Je '58

Polyethylene finds uses in radioisotope labs. F. J. Bockhoff. *il Ind Lab* 9:62 O '58

Safety measures

Hot lab has safety plus. *Chem & Eng N* 35:55-6 D 2 '57

Waste

Filtering radioactive particles from stack gas. H. E. Anderson. *bibliog il diags Air Cond Heat & Ven* 55:71-7 F '58

RADIOCHEMISTRY

Chemicals through fission energy. *Chem & Eng N* 35:29 D 23 '57

Detergents by nuclear process; use of gamma rays to trigger sulfoxidation reaction with most of the liquid paraffins. J. F. Black and E. F. Baxter, Jr. *bibliog il Soap & Chem Spec* 34:43-64 O '58

Determination of radionuclides in low concentrations in water. B. Kahn and S. A. Reynolds. *bibliog Am Water Works Assn J* 50:613-20 My '58

Erosion in turbojet fuel nozzles; Battelle memorial institute, radiochemical techniques. H. R. Hazard and others. *il diags Mech Eng* 80:56-60 O '58

High temperature radiation chemistry of hydrocarbons. J. L. Lucchesi and others. *bibliog diags Ind & Eng Chem* 50:879-84 Je '58

Inert gas speeds polymerization; abstract. D. C. Bardwell and others. *Chem & Eng N* 36:55 S 22 '58

Isotope dilution, α -spectrometer for U and Th determination. L. E. Howard. *bibliog Nucleonics* 16:112-4 F '58

Nuclear technology in the chemical and petroleum industries; symposium. *bibliog flow sheet il plan diags Ind & Eng Chem* 50:137-220 F '58

Nucleonics and analytical chemistry ten years after; symposium. *bibliog il plans diags Anal Chem* 29:1726-8 D '57

Radiation chemistry of water vapor; the indirect effect of deuterium and the exchange of D-atoms with water molecules. R. F. Firestone. *bibliog diag Am Chem Soc J* 79:5593-8 N 5 '57

Radioanalysis of simple ketones. P. Ausloos and J. F. Paulson. *bibliog Am Chem Soc J* 80:5117-21 O 5 '58

Radiochemical synthesis of the *cis*- and *trans*-isomers of 2-dichloroethylene oxide. J. H. Futrell and S. S. Newton. *Am Chem Soc J* 80:4424-5 Ag 20 '58

Review and preview; particles yield a little. *il diag Chem & Eng N* 36:86-8 Ja 6 '58

RADIOCHEMISTRY—Continued

- Scale-up of radiation effects on chemical systems. E. J. Henley and others. *bibliog* il *diags Chem Eng Prog* 54:68-72 *Je* '58
- Use of radioactive isotopes and high-energy radiation in polymer chemistry. H. W. Melville. *diag Chem & Ind* p 1632-8 *D* 21 '58
- What is the future of radiation chemistry in industrial processing? L. G. Cook. *il Gen Elec R* 61:33-64 *J* '58
- Where we stand in radiochemical processing. J. J. Martin. *bibliog il diags Chem Eng Prog* 54: 66-71 *F* '58
- See also
Polonium

RADIOGRAPHY

- Apparatus for precision flash radiography of shock and detonation waves in gases. H. T. Knight and D. Venable. *bibliog il diags R Sci Instr* 23:92-3 *F* '58
- Application of gamma radiography to concrete; abstract. J. A. Forrester. *Eng J* 41: 85 *My* '58
- Autoradiography traces additives in metals. R. H. Herrmann. *Foundry* 86:121-4 *Ja* '58
- Composite photoradiography. D. C. Eaglesham. *il diag Ind Phot* 7:20-1 *Ja* '58
- Cuts radiography bottlenecks; American chain & cable co. *il Iron Age* 182:100 *S* 25 '58
- Double layer-line screen for Weissenberg photography. A. W. Hanson. *diag J Sci Instr* 35:180 *My* '58
- Gamma radiography; comparison of British and Soviet equipment. *il diags Engineering* 185:444-6 *Ap* 4 '58
- How airlines use X-rays; diffraction and conventional X-ray photographs to detect stresses and cracks in airplanes. A. D. Edwards. *il S A I J* 8:553 *D* 27 '58
- Micro-photographic X-ray copying. P. H. Covert. *il Ind Phot* 7:38-9 *Ap* '58
- Mineralogy, petrography and radioactivity of representative samples of Chattanooga shale. T. F. Bates and E. O. Strahl. *bibliog Geol Soc* 81:1305-13. *pl* 1 *O* '57
- Modifications to a travelling microscope used for measuring X-ray powder photographs. W. E. Armstrong and R. J. Davis. *il J Sci Instr* 35:59-61 *F* '58
- Nondestructive testing; isotope radiography, a practical substitute for the X-ray. S. Elonka. *il diag Power* 102:118-19 *Mr* '58
- Nondestructive testing; X-ray is old standby; it finds flaws, leaves a record. S. Elonka. *il diags Power* 102:116-17 *Mr* '58
- Preparation of xenon-133 radiography sources from spent fuel. E. J. Wilson and others. *bibliog il diags Nucleonics* 16:110-4 *Ap* '58
- Radiation sources. *diags Nucleonics* 16:89-90 *S* '58
- Radiograph illuminator. *il Metallurgia* 57:152 *Mr* '58
- Radiography of polythene. D. C. Shotton. *il diags Brit Plastics* 31:249-53-4 *Je* '58
- Studies in microdensitometry on X-ray photographs. W. A. Wooster and J. A. L. Fasham. *il diags J Sci Instr* 35:153-6 *My* '58
- Temperature determination in flames by X-ray absorption using a radioactive source. G. J. Mullaney. *bibliog il diags R Sci Instr* 29:87-91 *F* '58
- Use of nondestructive testing on steel castings for elevated temperature service. C. B. Jenni. *bibliog il Mech Eng* 80:66-70 *Ap* '58
- X-ray viewer demonstrated at medical meeting. EXICON. J. Gershon-Cohen. *Franklin Inst J* 265:96 *F* '58
- X-rays come alive; fluoroscopic motion pictures; device using electron optics to intensify image brightness. *il diag Product Eng* 28:87 *D* 9 '57
- See also
Diagnosis, Radioscopic
- RADIOISOTOPES.** See Isotopes; Radioactive tracers
- RADIOMETERS**
- Apparent temperatures of some terrestrial materials and the sun at 4.3-millimeter wavelengths. A. W. Stratton and others. *bibliog il diag J Ap Phys* 29:776-82 *My* '58
- Broad-band microwave source comparison radiometer for advanced research in radio astronomy. F. D. Drake and H. I. Ewen. *bibliog diags Inst Radio Eng Proc* 46:53-60 *Ja* '58
- Method of calibrating centimetric radiometers using a standard noise source. J. S. Hey and V. A. Hughes. *diag Inst Radio Eng Proc* 46:119-21 *Ja* '58
- Radiometer studies atmosphere. *Electronics* 31:92 *Ag* 15 '58
- Radiometric measurements of Jupiter IREM made by tracking. *il diags Elec Eng* 77: 852-4 *S* '58

Theoretical sensitivity of the Dicke radiometer. L. D. Strom. *diag Inst Radio Eng Proc* 45:1291-2 *S* '57

See also
Bolometers

Spectroradiometers

RADIOSCOPIC diagnosis. See Diagnosis, Radioscopic

RADIOSONDE. See Radio meteorographs

RADIOTELEPHONE. See Radio telephone

RADIOTHERAPY
Cobalt therapy. *il Engineer* 204:798 *N* 29 '57

See also

X rays—Therapeutic use

Apparatus

- Cobalt therapy. *il diag Engineering* 185:360 *Mr* 21 '58
- Design of teletherapy units; radiation and architectural considerations for cobalt 60 units; with glossary of teletherapy terms. W. R. Taylor and others. *Arch Rec* 122: 216-20 *N* '57
- Radiation therapy for cancer treatment. *Elec Eng* 77:469 *My* '58
- Room for cobalt 60 facilities: time-saver standards. *plans diags Arch Rec* 122:227-4 *N* '57

RADIUM

Radium, lost and found; capsule traced through sewerage system. R. O. Wollan. *Sewage & Ind Wastes* 30:1197-9 *S* '58

See also

Carnotite
Radon
Uranium
Vanadium

Nuclear reactions

- Determination of the gamma-ray emission of radium. R. H. Attix and V. H. Ritz. *bibliog (73 ref) il diags J Res Nat Bur Stand* 59:293-305 *N* '57

RADOMES

- Air force gets prefab radome constructed of laminated plastic sections. *il Electronics* 31:19 *My* 30 '58
- Ceramic spray produces radomes. *il Electronics* 31:113 *Ja* 3 '58
- Dome of the month; radar stations in the Far North. *il Arch Forum* 109:114 *Jl* '58
- Lightweight radome fabric; Dacron with a Hypalon coating. *Franklin Inst J* 265:79 *Ja* '58
- Marine corps portable tactical early warning line. *il Elec Eng* 77:195-6 *F* '58
- See also
Airplanes—Radomes
Guided missiles—Radomes

Testing

- Radome thickness gage is frequency stabilized. A. H. Webster, Jr and others. *il diags Electronics* 31:70-2, cover *Je* 20 '58

RADON

- Portable radon detector for continuous air monitoring. W. B. Harris and others. *bibliog il diag A M A Archives Ind Health* 16:493-8 *D* '57

RAFTERS**Testing**

- Student-built laboratory to test trussed rafters. *il Arch Rec* 122:208 *D* '57

RAIL joints**Welding**

- Super-straight track for testing supersonic rockets, aircraft and missile components. *il Mech Eng* 80:85 *Ap* '58
- Wabash Railroad proves economy of welded rail. *il Welding Eng* 43:32-3 *F* '58

RAILINGS, Bridge. See Bridge railings

RAILROAD accidents. See Railroads—Accidents

RAILROAD and utilities commissioners. National association of. See National association of railroad and utilities commissioners

RAILROAD bridges. See Bridges, Railroad

RAILROAD engineering

- Progress in railway mechanical engineering. 1956-1957. *il diag Mech Eng* 80:82-91 *Mr* '58

See also

Railroads—Earthwork

Tables, calculations, etc.

Analogue computer for the British transport commission. *Electronic Eng* 30:505 *Ag* '58

Train performance and locomotive tonnage ratings calculated by digital computer. J. E. Hogan. *flow chart diag Applications & Ind* p 119-26 *Jl* '58; Same cond. *Elec Eng* 77:424-9 *My* '58

RAILROAD motor cars. See Motor cars (railroad)

RAILROAD shops. See Railroads—Shops

RAILROAD supplies industry

Canada

Transport equipment; railway equipment. *Il*
Eng J 41:107-8 Ap '58

RAILROAD ties

Robinson automatic production machine for railway sleepers. *Il* Engineer 205:628-9 Ap 25 '58

To make railway sleepers automatically. *Il*
Engineering 185:678 My 30 '58

RAILROAD yards. See Railroads—Yards

RAILROADS

Accidents

Background to the railway accident. Engineering 184:767 D 13 '57

Accounting

Computers on railways. Engineering 184:617 N 15 '57

Automatic stop and train control

B.T.C. automatic train control system. J. H. Curry. *Il* diags Engineer 205:277-80 F 21 '58

Cost and value of automatic train control. W. A. Tuplin. Engineer 205:234-5 F 14 '58

Detail design for dependability in service; development of automatic train control completed. *Il* diag Engineering 185:313-14 Mr 7 '58

Braking

Controlled deceleration for trains; illustrations with text. Product Eng 29:74 Ja 6 '58

Wheel-slip detection in railroad braking. C. M. Hines. bibliog *Il* diags Applications & Ind p215-19 S '58

Bridge crossing

See Bridges, Railroad

Buffers

See Cars—Buffers

Buildings and structures

See also
Roundhouses

Cars

See Cars; Freight cars; Motor cars (railroad)

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Grade crossing elimination
Railroads—Earthwork
Railroads—Relocation

Curves and turnouts

High speeds on sharp curves; swinging coach increases comfort. *Il* Engineering 185:124 Ja 24 '58

Earthwork

Great Salt Lake crossing; \$49,000,000 project for Southern Pacific. W. M. Jaekle. *Il* map Civil Eng 27:850-3 D '57

Great Salt Lake crossing; new sampler speeds design of 31,000,000-cu yd fill. H. V. Anderson. *Il* diags Civil Eng 27:846-9 D '57

See also

Trenching machinery

Electric equipment

More miles of railroad per dispatcher. *Il* I S A J 5:22 Ag '58

Tricon, an electric-diagram interlock system for railroad switching. W. Schmitz. *Il* diags Elec Com 35 no 1:47-56 '58

See also

Railroads—Signals

Electrification

Financial return on railway electrification; approximate method for its determination. H. F. Brown and H. E. Marmaros. Elec Eng 77:244-6 Mr '58; Same. Applications & Ind p 163-5; Discussion. 165; Reply. 165-7 J1 '58

Potentialities of railway electrification at the standard frequency; discussion. Inst E E Proc 104 pt A:376-82 O '57

Technical aspects of providing service to single-phase 60-cycle railroad loads. T. J. Nagel and A. F. Gabrielle. maps diag Applications & Ind p 172-6 J1 '58

Trends in railway electrification. B. A. Ross. *Il* Elec Eng 77:797-800 S '58

See also

Electric locomotives

Great Britain

Railway modernisation; dual voltages retard progress. *Il* maps Engineering 184:506-8 O 18 '57

Resignalling for main line electrification. Engineer 206:173-30 Ag 1 '58

Southern region electrification. *Il* plans Engineering 184:766 D 13 '57

Electronic equipment

Control freight electronically. *Il* Electronics 31:19 My 16 '58

French railways electronics exhibition. *Il* diags Engineer 206:312-14 Ag 22 '58

Employees

See also

Railroads—Medical service

Equipment and supplies

Sanitary cleaners always at hand; Chicago, Milwaukee, St Paul and Pacific railroad. *Il* Safety Maint 115:33 Ap '58

See also

Locomotives
Railroads—Rolling stock
Railroads—Signals

Finance

Financial return on railway electrification; approximate method for its determination. H. F. Brown and H. E. Marmaros. Elec Eng 77:244-6 Mr '58; Same. Applications & Ind p 163-5; Discussion. 165; Reply. 165-7 J1 '58

Freight

See also

Railroads—Yards

Tank cars

Freight cars

See Freight cars

Lighting

See also

Railroads—Yards—Lighting

Maintenance and repair

See also

Car cleaning

Medical service

Injury litigation among railway employees. I. Kaplan. Ind Med 27:413-16 Ag '58

Power

Lightweight train; its power supply for auxiliaries. J. L. Swarner. *Il* diags Applications & Ind p409-16; Discussion. H. F. Brown. 415-16 Ja '58

See also

Locomotives

Radio communication

Communication with moving trains. Engineering 185:158 Ja 31 '58

Rates

Aggregates

Where do we go from here? Increase in freight rates on mineral aggregates. N. C. Rockwood. Rock Prod 61:164- Mr '58

Chemicals

Rail rates set to jump. Chem & Eng N 36:36 Ja 27 '58

Rock products

You can do something about rising freight rates. J. N. Bell. Rock Prod 61:74-7+ J1 '58

Relocation

Moving rails, roads and wires above Noxon Rapids is another major part of dam construction. *Il* Eng N 159:66+ D 5 '57

Railroad bridge alterations, Calumet-Sag project. G. W. Svoboda. Am Soc C E Proc 84 [IWW 3 no 1641]:1-10 My '58

Railroad crosses bay to by-pass rock-slide danger; Great northern railway co. *Il* diag Eng N 160:52-3 Ja 9 '58

Railroad relocation for New Jersey reservoir; unit prices. Eng N 160:64+ Mr 20 '58

Railway modernisation at Barking. plans Engineer 206:464-5 Mr 28 '58

Repair shops

See Railroads—Shops

Rolling stock

Engineering industries; locomotives and rolling stock. Engineering 185:51-2 Ja 10 '58

Progress in railway mechanical engineering. 1956-57. *Il* diag Mech Eng 80:32-91 Mr '58

RAILROADS—Rolling stock—Continued

Railway modernisation, carriages and wagons, *il* maps Engineering 184:540-2 O 25 '57

See also

Cars
Freight cars
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Roundhouses

See Roundhouses

Safety measures

See also

Grade crossing elimination
Railroads—Automatic stop and train control
Railroads—Signals

Schedules

British transport commission analogue computer, *il* Engineer 206:30 J1 4 '58
Computing train timetables, British transport commission installed an analogue computer in the office of the chief electrical engineer, British railways central staff, *il* Engineering 186:87 J1 18 '58

Shops

Railroad Diesels conditioned for mountains, B. S. Hirst, *il* Diesel Power 35:46-7 N '57
Super service station speeds train turnaround, *il* Diesel Power 36:82 J1 '58

See also

Car shops
Locomotive shops

Signals

Compact pushbutton panel controls railroad traffic, *il* Automation 5:9-10 Je '58
Electronic control of voltage compensation of signalling battery, *diag* Engineer 206:385 S 5 '58
Evaluation of the luminous-transmittance requirements for railroad-signal glassware in terms of standard source A of the International commission on illumination, R. C. Breckenridge, *J Res Nat Bur Stand* 60:317-20 Ap '58
Programme machine for Northern Line signalling, *il* Engineer 204:870 D 13 '57
Railway modernisation; signalling, *il* Engineering 184:598-9 N 8 '57
Relay interlocking signalbox at Frankfurt, *il* Engineering 184:533-4 O 25 '57
Resignalling for main line electrification, Engineer 206:179-80 Ag 1 '58
Signalling installation at St Pancras, *il* Engineer 204:574 O 18 '57

See also

Railroads—Automatic stop and train control

Standards

Profiting by standards in the railroad industry; panel discussion, *Mag of Stand* 28:365-6 D '57

Stations

Railway modernisation at Barking, plans Engineer 205:464-5 Mr 28 '58

Switching

Tricon, an electric-diagram interlock system for railroad switching, W. Schmitz, *il* diags Elec Com 35 no 1:47-56 '58

Terminals

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Railroads—Yards

Track

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Railroad ties
Railroads—Curves and turnouts
Railroads, Industrial—Track
Rails

Train dispatching

More miles of railroad per dispatcher, *il* I S A J 5:22 Ag '58

Train performance

Train performance and locomotive tonnage ratings calculated by digital computer, J. E. Hogan, flow chart *diag* Applications & Ind p 119-23 J1 '58; Same cond, Elec Eng 77:424-9 My '58

Train speed

High speeds on sharp curves; swinging coach increases comfort, *il* Engineering 185:124 Ja 24 '58

Trains

Autoral Rapide and the Talisman, Engineer 204:782-3 N 29 '57

Lightweight train; its power supply for auxiliaries, J. L. Swanner, *il* diags Applications & Ind p409-15; Discussion, H. F. Brown, 415-16 Ja '58

See also

Electric railroads—Trains

Yards

Control freight electronically, *il* Electronics 31:19 My 16 '58
Largest automatic freight yard started in Canada, Control Eng 5:25 S '58

Lighting

Skyhook lights cut glare, minimize shadows, A. W. Kanitz, *il* Elec World 150:61 J1 7 '58

Canada

Canada's railroads, plans for Alberta line to spur mining, lumber work, map Eng N 161:58+ J1 17 '58
Railway transport, *il* Eng J 41:80-2 Ap '58

France

French locomotive experiences, E. H. Live-
say, *il* plans diags Engineer 204:698-701, 736-8; 206:246-50, 284-6 N 15-22 '57, Ag 15-22 '58
Railway development in France, Mech Eng 80:99 Je '58

Germany

Relay interlocking signalbox at Frankfurt, *il* Engineering 184:533-4 O 25 '57

Great Britain

Autoral Rapide and the Talisman, Engineer 204:782-3 N 29 '57
British railways, Engineer 205:30-1 Ja 3 '58
Level crossings in Great Britain; their history, the law to-day and future practice, *il* Engineering 185:811-13 Je 27 '58
Midland and great northern joint railway, Engineer 205:938 Je 20 '58
Railway modernisation, *il* maps Engineering 184:450-3, 506-8, 540-2, 598-9 O 11-25, N 8 '57
Railways into roadways; editorial, Engineer 205:158-9 Ja 31 '58; Discussion, 205:284-5, 360, 396-7, 433, 468-9, 506, 540, 620-1, 698-9, 738-9, 774-5, 810, 848-9, 892-3, 932-3, 970; 206:18, 96, 176, 217-18, 258-9, 416-17, 450-1, 488, 568 F 21, Mr 7-Ap 11, 25, My 9-J1 4, 18, Ag 1-15, S 12-26, O 10 '58

South Africa

Recent railway progress in South Africa, *il* Engineer 205:593-4 Ap 18 '58

South America

Last link in trans-continental railroad, maps Eng N 160:55-7 My 1 '58

Wales

Festiniog railway, Engineer 204:559 O 18 '57

RAILROADS, Cable

Chattanooga's cable choo choo; Lookout Mountain incline railway, P. C. Ziemke, *il* Comp Air Mag 63:28-9 Ja '58

RAILROADS, Industrial

Inland Steel mechanizes rail handling chores; in-plant movement of railroad cars, *il* Plant 17:44-5 F '58

See also

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Maintenance and repair

Checklist for maintenance of industrial track, *il* Iron & Steel Eng 35:214+ S '58

Track

Checklist for maintenance of industrial track, *il* Iron & Steel Eng 35:214+ S '58
Highball on your track maintenance, *il* Pit & Quarry 51:104-7 Ag '58
Let's not neglect railroad track maintenance, W. E. Kelly, *il* Plant 18:27-9 S '58

RAILROADS, Suspended

Monorail; safety, speed and silence, *il* diags Product Eng 29:19-20 Ap 7 '58

RAILS

Advancing adhesion, development and test of a chemical formulation to condition the running surface of rail for improved wheel-to-rail adhesion, F. G. Fisher and others, *il* A S M E Trans 80:1037-49; Discussion, 1049-52; Reply 1052-3 J1 '58
Calculation of stresses in rails due to static vertical loads, C. Storey, bibliog Engineering 185:311-12 Mr 7 '58
Here's a king-size alignment job; align a railroad track seven miles long, *il* Steel 142:99 Mr 17 '58

RAILS—Continued

Welding

See Rail joints—Welding

RAILWAY engineering association, American.
See American railway engineering association

RAIN and rainfall

Computer evaluates rainfall and predicts flood crests. *Automation* 5:12+ F '58
Flood frequencies derived from rainfall data. J. L. H. Paulhus and J. F. Miller, map. *Am Soc C E Proc* 33 [HY 6 no 1451]:1-18 D '57; Discussion, 84 [HY 3 no 1690]:11-19 Je; [HY 6 no 1856]:13-17 N '58; Reply, 84 [HY 6 no 1856]:17-23 N '58

Influence of water resistivity and precipitation rate upon 60-cycle wet flash-over voltage. Com & Electronics p350-7; Discussion, 357-8 JI '58

Northeastern floods of 1955; rainfall and runoff. T. Dalrymple, maps. *Am Soc C E Proc* 84 [HY 3 no 1662]:1-19 Je '58; Discussion, H. M. Turner, bibliog 84 [HY 7 no 1880]:5-15 D '58Radar in the rain. *il diag*s Electronic & Radio Eng 35:13-15 Ja '58Radio-active rains on surface water supplies. R. L. Morris. *Water & Sewage Works* 105:92-4 Mr '58

See also

Droughts
Floods
Rain water
Run-off

RAIN making

Applied meteorology at Pacific gas & electric co. P. J. Parsons, jr. *Gas Age* 121:32-4 F '6 '58Carbon black controls clouds. *il Chem & Eng N* 36:67-8 O '6 '58Cloud seeding; hope or hoax? J. A. Day. *Water & Sewage Works* 105:207-9 My '58Effects of seeding cumulus clouds. R. R. Braham, jr. and L. J. Battan. *Am Water Works Assn J* 50:185-92 F '58

RAIN water

Rain on the roof. E. B. Kassler. *il Arch Rec* 124:197-204 S '58

RAINDROPS. See Drops

RALEIGH, North Carolina

Water supply

No more water worries. W. N. Carper. *il Pub Works* 89:120 Je '58

RAMAN effect

Raman spectra and ultraviolet absorption of glutathione and possible thiazoline derivatives formed from it. D. Garfinkel, bibliog. *Am Chem Soc J* 80:4833-5 S '58Raman spectra of amino acids and related compounds. D. Garfinkel and others. *bibliog Am Chem Soc J* 80:3807-31 Ag '5 '58

See also

Rayleigh radiation

RAMAZZINI society

1957 Ramazzini rendezvous, Scarborough, N.Y.

Oct. 4-6. *Ind Med* 26:563-4 O '57

RAMJET engines. See Airplane engines—Jet engines

RAMO-WOOLDRIDGE corporation

Scientific managment of ballistic missile systems. Space technology laboratories (STL) division of Ramo-Wooldrige corp. I. Stambler. *il Aviation Age* 29:18-19+ Ap '58

RAMPS

Industrial know-how handbook; loading ramps. *il Mill & Factory* 62:MH20 My '58
Truck sets its own dock height; automatic dock ramp leveling device. *il Textile Ind* 122:39 JI '58

RAMSAY, William

W. Ramsay, a Glasgow man; abstract and discussion. A. Kent. *Chem & Ind* p 178-9 F 15 '58

RANCIDITY

Rancidity as a factor in the loss of viability of pine and other seeds. S. A. Kaloveras. *bibliog Am Oil Chem Soc J* 35:176-9 Ap '582-Thiobarbituric acid method for the measurement of rancidity in fishery products; the quantitative determination of malonaldehyde. R. O. Sinnhuber and T. C. Yu. *bibliog Food Tech* 12:9-12 Ja '58

RANDOM processes. See Probabilities

RANEY nickel. See Nickel—Raney nickel

RANGE finders

Range finders using projected images. R. E. Stephens. *diag*s J Res Nat Bur Stand 60:327-33 Ap '58

RANNEY water collectors

Horizontal collectors will improve underground water yield. J. E. Wallace, jr. *il diag Pub Works* 89:104-5 Ag '58

RAPID automatic checkout equipment. See Electronic data processing

RAPID construction. See Building—Rapid construction; Concrete construction—Rapid construction

RAPID transit

Metropolitan U.S.A.-1970; integrated transportation system. E. E. Kearns. *il Gen Elec R* 61:22-8 S '58Transit follows downhill track. *il Elec World* 150:61 S 8 '58Urban transit. *Eng J* 41:85-6 Ap '58

See also

Camden, New Jersey—Rapid Transit Motor buses
Philadelphia—Rapid transit

Employees

Cardiac in New York city's transit system. J. L. Oberman and others. *bibliog Ind Med* 26:499-505 N '57

RARE earth arsenates

Relation of ionic radius to structures of rare-earth phosphates, arsenates, and vanadates. M. K. Carron and others. *bibliog Am Mineralogist* 43:985-9 S '58

RARE earth carbides

Crystal structures of some of the rare earth carbides. F. H. Spedding and others. *bibliog Am Chem Soc J* 80:4499-503 S '58

RARE earth chlorides

Rare earth graphite intercalates. R. C. Vickery and N. L. Campbell. *bibliog Am Chem Soc J* 79:5897-9 N 20 '57

RARE earth compounds

Magnetic moments and apparent molecular fields in some rare earth metals and compounds. W. E. Henry. *bibliog J Ap Phys* 29:524-5 Mr '58

RARE earth ferrates

Rare earth ferrites. *Electronics* 31:20 JI 25 '58

RARE earth metals

Carl G. Mosander. Auer von Welsbach and the rare earth elements. J. H. S. Green. *bibliog il Research* 11:376-80 O '58Don't overlook rare earth minerals. N. C. Rockwood. *Rock Prod* 61:18+ F '58Magnetic moments and apparent molecular fields in some rare earth metals and compounds. W. E. Henry. *bibliog J Ap Phys* 29:524-5 Mr '58Magnetic properties of dilute magnetic alloys and of the rare earth metals. G. W. Pratt, jr. *bibliog J Ap Phys* 29:520-1 Mr '58

See also

Cerium
Dysprosium
Europium
Neodymium
Praseodymium

Analysis

Analysis of rare earth mixtures by a recording spectrophotometer. D. C. Stewart and D. Kato. *bibliog Anal Chem* 30:164-72 F '58

Physiological effect

Acute toxicity of yttrium, lanthanum, and other rare earths. G. C. Kyker and E. A. Cress. *bibliog A M A Archives Ind Health* 16:475-9 D '57

Separation

Certain rare earths in purified thorium and uranium preparations; chemical isolation and spectrographic determination. C. Feldman and J. V. Ellenberg. *bibliog diag Anal Chem* 30:418-22 Mr '58Separation of monazite rare earths by solvent extraction. J. Bochinski and others. *bibliog diag Ind & Eng Chem* 50:167-60 F '58X-ray fluorescent spectrometric determination of yttrium in rare earth mixtures. R. H. Heidel and V. A. Fassel. *bibliog Anal Chem* 30:176-9 S '58

RARE earth oxalates

Thermal decomposition of scandium, yttrium, and rare earth metal oxalates. W. W. Wendlandt. *bibliog Anal Chem* 30:58-61 Ja '58

RARE earth oxides. See Rare earths

RARE earth phosphates

Relation of ionic radius to structures of rare-earth phosphates, arsenates, and vanadates. M. K. Carron and others. *bibliog Am Mineralogist* 43:985-9 S '58

RARE earth vanadates

Relation of ionic radius to structures of rare-earth phosphates, arsenates, and vanadates. M. K. Carron and others. *bibliog* *Am Mineralogist* 43:985-9 S '58

RARE earths

Density studies on the function of rare-earth ions in glass matrices. R. C. Vickery and R. Sedlacek. *bibliog* *Am Cer Soc J* 41:422-6 O '58

Dielectric properties of titanila or tin oxide containing varying proportions of rare-earth oxides. S. Marzullo and E. N. Bunting. *Am Cer Soc J* 41:40-1 Ja '58

Glasses containing oxides of rare earth metals; patent. *Glass Ind* 39:434 Ag '58

Preparation, lattice parameters and some chemical properties of the rare earth monothio oxides. H. A. Eick. *Am Chem Soc J* 80:43-4 Ja '58

Rare earths, 1957. H. E. Kremers. *Eng & Min J* 159:145-6 F '58

Two pioneers in rare earth chemistry. M. Schofield. *Ind Chem* 34:420-2 Ag '58

See also

Cerite
Monazite

Analysis

Chelometric titrations using an azoarsenic acid indicator. J. S. Fritz and others. *bibliog* *Anal Chem* 30:1111-14 Je '58

Differential spectrophotometric determination of rare earths. C. V. Banks and others. *diag* *Anal Chem* 30:458-62 Ap '58

RASPBERRIES, Frozen

Time-temperature tolerance of frozen foods; effect of regularly fluctuating temperatures in retail packages of frozen strawberries and raspberries. D. G. Guadagni and C. C. Nimmo. *bibliog* *Food Tech* 12:306-10 Je '58

RATCHET mechanism

Cam and ratchet intermittent mechanism. O. O. Nagellis. *diags* *Mach* 64:156 Ap '58

Ratchet and two pawls control movement of indexing fixtures. C. Bossman. *diags* *Mach* 65:156-7 S '58

Ratchet layout analyzed; reference book sheet. E. E. Rossner. *diags* *Product Eng* 29:89+ Ja '58

Stopping teeth on one member of a ratchet-and-pawl mechanism prevent overtravel of ratchet during indexing. *il diags* *Machine Design* 30:109 S 4 '58

RATS

Effect of ethionine feeding on liver and kidney coenzyme A content in the rat. A. S. Wenneker and L. Recant. *bibliog* *J Nutrition* 64:127-36 Ja '58

Effect of penicillin on the intestinal synthesis of thiamine in the rat. M. S. Mameesh and E. C. Johnson. *bibliog* *J Nutrition* 65:161-7 My '58

Effects of the prevention of coprophagy in the rat. R. H. Barnes and others. *bibliog* *J Nutrition* 64:533-40; 65:103-14, 251-8 Ap-Je '58

Interactions of B vitamins on growth of rats. E. M. Scott and L. V. Griffith. *bibliog* *J Nutrition* 65:419-28 Ji '58

Kidney changes in vitamin E-deficient rats. T. Moore and others. *bibliog* *il J Nutrition* 65:183-98 Je '58

Nutritional studies with the hyperthyroid rat. C. O. Stevens and L. M. Henderson. *bibliog* *J Nutrition* 64:67-83 Ja '58

Nutritional value of a synthetic diet sterilized by gamma rays, as measured by reproduction and life span of rats. L. R. Richardson and R. Brock. *J Nutrition* 65:353-60 Ji '58

Relationship of protein level to the minimum lysine requirement of the rat. R. Bressani and E. T. Mertz. *bibliog* *J Nutrition* 65:481-91 Ji '58

Extirmination

Rodent control on dumps. W. D. Fitzwater. *bibliog* *il Pub Works* 89:90-3 Ji '58

Feeding

Effect of age, sex and feeding regimen on fat digestibility in individual rats as determined by a rapid extraction procedure. R. L. Squibb and others. *J Nutrition* 64:625-34 Ap '58

RATTLESNAKES

Time-magnification study of a rattlesnake strike. S. C. Dunton and H. M. Lester. *il diag* *SMPT E* 67:65-8 F '58

RAUWOLFIA

Hypertension. S. J. Hopkins. *Manuf Chem* 29:154-5 Ap '58

Microbiological transformation of rauwolfia alkaloids. S. C. Pan and F. L. Weisenborn. *Am Chem Soc J* 80:4749 S 5 '58

RAVENNA, Ohio**Sewerage**

Comprehensive study leads to improvements of sanitary sewer system. G. M. Hinkamp. *il map* *Pub Works* 89:106-8 Je '58

RAW materials

Raw material requirements of the British plastics industry today and tomorrow. H. M. Stanley. *Brit Plastics* 31:411-13 O '58

Raw material supplies and the future development of the iron and steel industry. C. R. Weiler. *diag* *Iron & Steel Inst J* 189:101-9 Je '58

Raw materials are not enough. *il Chem & Eng* N 36:30-1 O 6 '58

Raw materials for panel construction. *Cer Ind* 70:82-4 Ja '58

Raw materials for the American iron and steel industry. J. C. O. Harris. *bibliog* *J Metals* 9:1529-32 D '57

Role of the chemical company; importance of mining as a major source of the raw materials. O. A. Power. *il Min Cong J* 44:38-41 Ji '58

Sepiolite, versatile raw material. R. H. S. Robertson. *il diag* *Chem & Ind* p 1492-5 N 16 '57

U.S.S.R., strength through raw materials. *il map* *Chem & Eng* N 36:80-8 O 27 '58

Where's all our raw material going to come from? nonmetallic materials. J. L. Gilson. *Rock Prod* 61:105+ F '58

See also

Ceramic materials

Metals

Minerals

Mines and mineral resources

RAYDIST

Raydist locates boring sites for Chesapeake crossing; proposed bridge-tunnel project. A. L. Cornstock and P. Z. Michener. *il map* *diag* *Civil Eng* 28:512-15 Ji '58

RAYLEIGH radiation

Absorption of Rayleigh waves in low-loss media. F. Press and J. Healy. *bibliog* *diag* *J Ap Phys* 28:1323-5 N '57

Transmission and reflection of Rayleigh waves at corners. J. C. de Bromaecker. *diags* *Geophysics* 23:253-66 Ap '58

RAYON

Man-made fibers; a review of synthetic textile fibers now produced in the United States. *il* *Plastics World* 16:10-11 My '58

New method for production of viscose rayon pulp from bagasse. Y. Fahmy and E. Ashmory. *bibliog* *Rappi* 41:439-42 Ag '58

Non-apparel applications of viscose rayon. J. A. Howsmon. *bibliog* *il Textile Res J* 28:805-10 S '58

See also

Dyes and dyeing-Rayon

RAYON cords

Avisco improves rayon tire cord. *Rubber World* 138:446 Je '58

Case for rayon tire cord. *il Textile Ind* 122:94+ Ag '58

High speed tire cord machine; *Clarkson Cord Former. il Mod Textile Mag* 39:39-40 My '58

Physical properties of rayon and nylon 66 tire cords at elevated temperature. F. R. Charles and C. Tarzi. *bibliog* *il diags* *Textile Res J* 28:797-804 S '58

Rayon tire yarn progress; symposium. *Rubber Age* 83:123 Ap '58; *Rubber World* 138:116 Ap '58

Textile research institute 29th annual meeting. New York, March 13-14; abstracts of papers on the outlook for cellulose. *Textile Ind* 122:122+ My '58

Three tire cord operations in one; *Clarkson Cord Former. il Textile Ind* 122:123+ My '58

Tire rupture tests; nylon vs. rayon cord. *Rubber World* 138:765 Ag '58

RAYON fabrics**Cotton mixtures**

Cotton-rayon in medium-tension conveyor belt. *Rubber World* 138:888 S '58

Lightfastness on cotton-rayon blends; abstract. *Textile World* 108:117 Ja '58

Report on cotton-rayon blends in print cloth. *Textile Ind* 122:80 Ji '58

Resin application to a 2% cotton-1/4 rayon blend fabric. J. A. Woodruff. *Mod Textiles Mag* 39:80-4 Je '58

Some advantages of cotton-rayon 80x80 print-cloth. G. V. Lund. *Mod Textiles Mag* 39:69-75 Je '58

Dacron mixtures

See *Dacron-Rayon mixtures*

RAYON fabrics—Continued

Shrinkage

- Shrinkproofing regenerated cellulose; patent. Am Dyestuff Rep 47:202-4 Mr 24 '58
Stabilizing regenerated-cellulosic textiles by reacting with a higher ketene dimer; patent. Am Dyestuff Rep 47:61-2 Ja 27 '58

RAYON fibers

- New high strength rayon staple. C. P. Bertland. Mod Textiles Mag 33:34 Mr '58
Some washing problems in the synthetic fibres industry. J. E. Grew and P. K. Williamson. flow sheet diags Chem & Ind p78-83 Ja 25 '58
Whither rayon? J. Wharton and G. V. Lund. Textile Res J 28:792-6 S '58

RAYON finishing

- New knowledge concerning the functional properties of formaldehyde in cotton and rayon finishing; abstract. A. J. Hall. Am Dyestuff Rep 46:977-8 D 16 '57
Preparation and properties of regenerated cellulose containing vinyl polymers; moisture relations. G. Landells and others. Soc Dyers & Col J 73:496-500 N '57

RAYON industry

See also

Hoffner rayon company

RAYON mills

- To speed traffic and stabilize mill conditions, try automatic doors; Schwarzenbach Huber co. il Textile Ind 122:143-4 Ap '58

Equipment

- Rayon staple manufacture gets automated. il Textile Ind 122:92-3 Ag '58
Some washing problems in the synthetic fibres industry. J. E. Grew and P. K. Williamson. flow sheet diags Chem & Ind p78-83 Ja 25 '58

RAYON spinning

- Quantitative determination of cyclohexylamine in rayon spin baths. M. Matell. Textile Res J 27:993 D '57
Relationship of experimentally evaluated lateral order distribution to the skin-core effect of viscose rayon. Y. Tsuda and S. Mukoyama. bibliog il Textile Res J 27:945-9 D '57

RAYON yarn

- Effect of nuclear radiation on fibrous materials; relative order of stability of cellulosic fibers. O. Teszler and others. Textile Res J 28:456-62 Je '58

RAYS

See also

Cosmic rays

RAYS. Absorption of. See Absorption of rays

RAZORS

Manufacture

- Automatic assembly trims cost 30 per cent; Gillette safety razor co. diags Steel 142:104-5 Mr 24 '58

REACTANCE

- Diode reactance modulator; abstract. G. F. Montgomery. diags Elec Eng 77:615 JI '58
End component of armature leakage reactance of round-rotor generators. R. T. Smith. bibliog il diag Power Apparatus & Systems p636-45; Discussion. 645-7 Ag '58
Equivalent diameter, inductance and reactance determined for stranded conductor; engineering reference sheet. F. C. De Weese. Elec World 150:64 JI 14 '58
Equivalent R-Z charts; reference sheet. H. E. Goldstein. Electronics 29:170, 172 Je '56; Same. Product Eng 28:1 13-19 Mid-O '57
Low-noise wide-band reactance amplifier. B. Salzberg and E. W. Sard. diag Inst Radio Eng Proc 46:1303 Je '58
Noise figure measurements on two types of variable reactance amplifiers using semiconductor diodes. G. F. Herrmann and others. bibliog diags Inst Radio Eng Proc 46:1301-3 Je '58
Reactance charts. Electronic Ind 17:563 Je '58
Reactance valve at audio frequencies. B. J. Alcock. diags Electronic Eng 30:86-8 F '58
Theory of parametric amplification using nonlinear reactances. S. Bloom and K. N. Chang. bibliog diag RCA R 18:578-93 D '57
Transistor circuit varies reactance. F. F. Radcliffe. diags Electronics 31:76-7 JI 4 '58

REACTION, Chemical. See Chemical reaction

REACTORS

- Application of switching transistors and saturable reactors in a high-performance servo; abstract. F. B. Cox, Jr. and P. R. Johannessen. Control Eng 5:168-9 Je '58

Block-diagram method of analysis applied to the saturable reactor. R. M. Hubbard. diags Com & Electronics p57-64; Discussion. 65 Mr '58

Calc construction for current-limiting reactors. L. E. Sauer. il diags Power Apparatus & Systems p264-7 Je '58; Abstract. Elec Eng 77:413 My '58; Discussion. Power Apparatus & Systems p267-8 Je '58

Current balancing reactors for semiconductor rectifiers. I. K. Dortort. diags Com & Electronics p452-6 S '58; Abstract. Elec Eng 77:583 JI '58

Lamination selection in choke design. I. Richardson. Elec Manuf 61:155 Je '58

Saturable reactors fire radar magnetrons. H. B. Thomas. il diags Electronics 31:72-5 My 9 '58

Some general properties of nonlinear elements; small signal theory. H. E. Rowe. bibliog diags Inst Radio Eng Proc 46:850-60 My '58

Subharmonics in iron-cored reactor oscillator circuits. A. S. Mostafa and M. I. Karaki. il diags Com & Electronics p 104-13 Mr '58

Transformers, regulators and reactors; a review of progress. E. T. Norris. bibliog diags Inst E E Proc 105 pt A:241-9 Je '58

Control uses

Switching reactors combine control logic and power switching; with case histories of applications. E. V. Weir. il diags Elec Manuf 61:32-7-4 Mr '58

REACTORS, Chemical

Charts give you percent conversion in each reactor stage. T. M. Jenney. Chem Eng 65:166-8 My 19 '58

Chemical reaction system dynamics. A. S. Foss. bibliog flow diag diags Chem Eng 64:39-42 S '58

Combustion rates in spherical reactors; effects of inlet temperature and fuel type. M. A. Weiss and others. Ind & Eng Chem 50:257-64 F '58

Conversion in a continuous photochemical reactor. R. F. Gaertner and J. A. Kent. bibliog diags Ind & Eng Chem 50:1223-6 S '58

First order rate processes and axial dispersion in packed bed reactors. J. J. Carberry. bibliog Can J Chem Eng 36:207-9 O '58

Fixed beds still strong; fixed catalytic units. Ind & Eng Chem 50:sup30A+ F '58

Heat transfer from column wall to bed in spouted, fluidized and packed systems. J. Klassen and P. E. Gishler. bibliog diag Can J Chem Eng 36:12-18 F '58

Heat transfer in a high pressure reactor. L. N. Vernon and C. M. Silepcich. bibliog diags Ind & Eng Chem 49:1945-8 D '57

Longitudinal diffusivity of liquids in packed beds. D. A. Strang and C. J. Geankoplis. bibliog diags Ind & Eng Chem 50:1305-8 S '58

Material balance shows homogeneous flow. G. A. Lessells. Chem Eng 65:160-4 Ap '58

Nitration of propane in a fused salt reactor. D. C. Coldiron and others. bibliog diags Ind & Eng Chem 50:991-2 JI '58

Raining solids chemical reactor oxidizes hydrocarbons in vapor phase without using any catalyst. diag Ind & Eng Chem 50:sup 32A Je '58

Control

Chemical kinetics and the dynamics of chemical reactors. T. J. Williams. bibliog diags Control Eng 5:100-8 JI '58

Design

It's all in the dimple; reactor cost lowered by redesign of jacket's alloyed surface. il Can Chem Process 42:57-1 Je '58

Use of computers in reactor design. D. S. Billingsley and others. bibliog diags Ind & Eng Chem 50:741-52 My '58

READ, William T.

Read gets AIC award, por Chem & Eng N 36:124 Mr 31 '58

READING

And inwardly digest; technique of fast reading, and the quality of scientific writing. S. Burgess. bibliog Soc Dyers & Col J 74:458-63 Je '58

Do your reading skills need an overhaul? T. F. Marble. il Gen Elec R 60:17-19 N '57

How does your reading rate? il Product Eng 29:26-4 Ja 27 '58

READING machines

New developments in program controllers. E. J. Kompass. il diags Control Eng 5:122-7 S '58

READY-mixed concrete. See Concrete mixing

—Ready-mixed concrete

READY mixed concrete association, National.
See National ready mixed concrete association

REAL estate boards, National association of.
See National association of real estate boards

REAL estate business
FTC cracks down on real estate confidence racket, Arch Forum 108:11 Je '58

See also
Land—Subdivision
Land values

Finance

Growth of group finance, Arch Forum 109:118-19 S '58

Outlook for real estate finance, M. Colean, Arch Forum 109:6 Ji '58

New York (city)

New York real estate syndicate goes bankrupt after taking in nearly \$5 million from investors, Arch Forum 108:11 Mr '58

REAL property

See also
Land values

Taxation

Aerial photography is a low cost aid for tax equalization work, S. H. Christopher, II Pub Works 89:106-8 Mr '58

High cost of renting, S. G. Thompson, Arch Forum 108:101-3+ Je '58

Remedy for rental housing: change in the tax laws, M. Colean, Arch Forum 107:112-13 D '57

Valuation

Aerial photography is a low cost aid for tax equalization work, S. H. Christopher, II Pub Works 89:106-8 Mr '58

REAMERS

Carbide wafer inserts reduce reamer cost, P. Casey, II diags Am Mach 102:104 Je 30 '58

Rotating tools ream at 9 ipm; Manufacturing methods unit, Watervliet (New York) arsenal, W. G. McEwan and M. Doubias, II diags Am Mach 102:104-5 Ja 13 '58

Sharpening and maintenance of carbide reamers, Mach 65:230 O '58

REAMING

Behavior of cutting fluids in reaming steels, L. V. Colwell and H. Branders, A S M E Trans 80:1073-7; Discussion, 1077-8 Ji '58

Production drilling and reaming of precision holes with gun type tools, H. Gregg, II diags Tool Eng 40:79-84 Je '58

REASONING

See also
Thought and thinking

RECEPTION rooms

Lighting

Lighting a reception area; Connecticut light and power co. offices; lighting data sheet, H. B. Adams, II Illum Eng 53:267-8 My '58

RECEPTIONISTS desks, See Desks

RECLAMATION bureau, See United States—Reclamation, Bureau of

RECLAMATION of land

Rewards of land rehabilitation; American aggregate corp., H. C. Persons, II Rock Prod 61:62-5 Ap '58

RECOMBINATION of electrons, See Electrons—Recombination

RECORD changer, See Phonograph—Record changers

RECORDING instruments

Fiber length measurements with a semi-automatic recorder; Finnish pulp and paper research institute; abstract, M. S. Ilvesalo-Pfaffli and G. v. Alfthan, II Paper Ind 39:1052 Mr '58

Instrumentation applications of magnetic tape recording, P. A. Mohr, II diags Automation 5:50-6 Je '58

Instrumentation, the combined tools of measurement and control, M. B. Newell, diags Tappi 41:sup216A-22A Je '58

Light modulator records airborne radar displays using an ultrasonic cell, L. Levi, II diags Electronics 31:80-3 Ax 1 '58

Monitoring of stream water quality; development of a robot system, E. J. Cleary, Am Water Works Assn J 50:1219-22 S '58

New recording balance features several innovations, R. H. Müller, II Anal Chem 30:sup47A-8A+ Ji '58

Persistence of combined available chlorine residual in Gary-Hobart distribution system, H. L. Plowman, Jr. and J. M. Rademacher, diags Am Water Works Assn J 50:1260-8 S '58

Recording of pressure distributions in porous media during fluid flow experiments, T. O'Donnell and others, diags J Sci Instr 35:63-4 F '58

Streamflow recorder with added pen takes guess out of flow gage, II Eng N 160:125 Je 19 '58

See also

Oscillographs, Cathode ray
Spectrometers, Recording
Speed indicators
Telephone recorders

RECORDING instruments, Electric

Analog study of a high-speed recording servomechanism, J. W. Schwartzberg, diags A S M E Trans 80:490-6 F '58

Applications of the recording potentiometer, G. A. Rutledge, II diags Instruments & Automation 31:850 My '58

Autographic stress-strain recorders, R. R. Bouche and D. R. Tate, II diags A S T M Bul p33-42 bibliog (93 titles, p40-2) F '58

Automatic quartz-fibre electrometer recording, J. L. Durand, diags R Sci Instr 29:534-5 Je '58

Automatic quartz-fibre electrometer recording of B-activity, M. C. B. Russell and J. Leng, bibliog diags J Sci Instr 35:134-8 Ap '58

Automatic recording apparatus for use in the chromatography of amino acids, D. H. Spackman and others, bibliog diags Anal Chem 30:190-206 Ji '58

Automatic temperature programming and recording for a platinum-rhodium furnace, J. M. Cutter and R. Derry, diags J Sci Instr 35:26-7 Ja '58

Automatic temperature regulation and recording in precision adiabatic calorimetry, E. D. West and D. C. Ginnings, bibliog II diags R Sci Instr 25:1070-4 D '57

Continuous-recording laboratory thermobalance, E. S. Bartlett and D. N. Williams, II diags R Sci Instr 28:919-21 N '57

Detecting invisible flaws in wire; eddy-current instrument, R. Myers and C. J. Renken, II diags Electronics 31:72-3, cover S 26 '58

Detector plots eye movements, B. Shackel and others, bibliog II diags Electronics 31:36-9 Ja 31 '58

Device for measuring isotonic or isometric contractions of heart muscle, W. J. Whalen and O. Weddie, diags R Sci Instr 29:144-5 F '58

Digital recording system for measuring the electrical properties of semi-conductors, R. H. A. Carter and others, diags J Sci Instr 35:115-16 Mr '58

Drip rate recorder for intravenous solutions, A. W. Melville and J. B. Cornwall, diags Electronic Eng 30:606-7 O '58

High stability mains-operated recording thermometer, A. W. Melville, diags J Sci Instr 35:179-80 My '58

How to control slurry density during cementing operations; recording densitometer, J. P. Moran and D. G. Hartweg, II diags Oil & Gas J 56:88-90 Ap 28 '58; Pet Eng 30:B40+ My '58

Improved instrument for the measurement of linear pyrolysis rates of solids, M. K. Barsh and others, II diags R Sci Instr 29:392-5 My '58

Improved torque magnetometer, W. S. Byrnes and R. G. Crawford, bibliog diags J Ap Phys 29:493-5 Mr '58

Instrumentation studies: automatic recording of the load elongation characteristic of paper; table model Instron (universal testing instrument), J. A. Van den Akker and K. W. Hardacker, II Tappi 41:sup224A-31A Ax '58

Instruments watchdog power consumption, II Mill & Factory 61:87-8 N '57

Introduction to recorders; survey of basic features, M. H. Aronson, II diags Instruments & Automation 31:830-5, 1360-5 My, Ax '58

Let a recorder solve it! puzzling production problems; illustrations with text, I S A J 5:52-3 Ja '58

Magnetic-amplifier-operated ink recorders, W. A. Geyzer, bibliog II diags Com & Electronics p457-71 S '58

Marine Sonoprobe system, new tool for geologic mapping; low-frequency seismic system, C. D. McClure and others, bibliog II maps diags Am Assn Pet Geologists Bul 42:701-16 Ap '58

Measurement of deviations in periodic structures, Franklin Inst J 265:81-2 Ja '58

Measurement of high voltages with indicating or recording instruments, G. W. Bowdler, bibliog diags Inst E E Proc 105 pt A:176-84 Ap '58

RECORDING instruments, Electric—Continued

Multi-bunker weight measurements. W. D. Hamilton. *il* diags Instruments & Automation 31:466-7 Mr '58

New design of a linearizing recording densitometer; evaluation of bone density. J. D. Nelson and others. *diag R Sci Instr* 29:316-17 Ap '58

New types of recording differential thermobalances. P. L. Waters. *diags J Sci Instr* 35:41-6 F '58

Nuclear magnetic resonance analyzer, new tool for moisture analysis. H. Rubin. *il* diags I S A J 5:64-8 Ja '58

Oscillator reduces recorder stiction. R. L. Ives. *diags Electronics* 31:110+ Ap 11 '58

Oxygen analyzer; trace amounts in water recorded continuously. *il* Eng N 160:64 Je 5 '58

Pen recorder; accessory transducers add versatility. *il* *diag Electronics* 31:102+ My 23 '58

Performance recorder developed by British iron and steel research association. *il* Engineer 206:502 S 26 '58

Portable traffic-usage recorder. G. E. Linehan. *il* diags Bell Lab Rec 36:107-10 Mr '58

Portable units economical for feeder checks. J. N. Vines. *il* Elec World 149:60+ F 10 '58

Radio observations on the Russian satellites; apparatus used at the Royal aircraft establishment. A. N. Beresford. *diags Inst E E Proc* 106 pt B:35-8 Mr '58

Rapid high-sensitivity recording thermometer. R. W. Stow. *diags R Sci Instr* 29:774-5 S '58

Recording in medicine and biology. A. R. Parsons. *il* Instruments & Automation 31:851 My '58

Recording instruments for dynamic measurements. J. L. Harned. *il* diags Product Eng 28:A4-7 Mid-O '57

Recording microwave hygrometer. J. B. Magee and C. M. Crain. *il* *diag R Sci Instr* 29:51-4 Ja '58

Recording techniques for high frequency direction finding. C. W. McLeish. *il* diags Electronic & Radio Eng 35:386-90 O '58

Recording torsion testing machine for wire. H. C. Burnett. *il* A S T M Bul p68-9 Ja '58

Reflections on fifty years of recording; editorial. G. Keinath. Instruments & Automation 31:827-9 My '58

Selecting a recording galvanometer. L. Moyer. *diag Instruments & Automation* 31:838-40 My '58

Simple plotter analyzes radar noise rapidly. D. J. Zoll. *il* diags Electronics 31:162-4 Mr 14 '58

Sing-around ultrasonic velocimeter for liquids. M. Greenspan and C. E. Tschlegg. *bibliog il* diags R Sci Instr 28:897-901 N '57

Survey of recorders being used with analog computers; tables. J. McLeod. Instruments & Automation 31:852 My '58

Sweep balance recording. G. Keinath. *bibliog diags Instruments & Automation* 31:854-6 My '58

Temperature recorder points doubled. R. J. Zellner. *diags Chem Eng* 65:154 F 24 '58

Torque values of spring wire recorded. *il* Wire & Wire Prod 33:545+ My '58

Two automatic impedance plotters. R. S. Cole and W. N. Honeyman. *bibliog il* diags Electronic Eng 30:442-6 Jl '58

Variable ratio, tape-coupled, recording microdensitometer. P. C. Russell and J. E. Wilson. *il* J Sci Instr 35:114 Mr '58

Volume unit recorder has standard response. D. H. McRae. *diags Electronics* 31:78+ Ad 25 '58

Water-wave measuring apparatus. A. Brebner. *diags J Sci Instr* 34:506-7 D '57

ZETA; main recording and monitoring equipment. A. E. Cawell and R. Reeves. *il* diags Electronic Eng 30:115-20 Mr '58

ZETA; the control room monitoring and recording instruments. E. P. Butt. *il* diags Electronic Eng 30:110-14 Mr '58

See also

Demand meters

RECORDING spectrophotometers. *See* Spectrophotometers, Recording

RECORDS

See also

Files and filing (documents, etc.)

Inventories

Photographic records

Production control

Punched card system

Sales records

also subdivision Records under special

subjects, e.g.

Accidents, Industrial

Banks and banking

Chemistry, Analytic

Factories

Maintenance departments

Metallurgical laboratories

Payrolls

Public health departments

RECORDS, Microfilm. *See* Microfilm records

RECORDS, Phonograph. *See* Phonograph records

also

RECORDS, Preservation of

See also

Microfilm records

RECREATION

See also

Playgrounds

RECREATION areas

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Reservoirs—Recreational use

RECREATION buildings

Buildings for recreation. *il* plans diags Prog Arch 39:85-121 Jl '58

Recreation; design award and citation; Olympic arena for 1960 Olympic games, Sausalito yacht club. *il* plans diags Prog Arch 39:102-4 Ja '58

Will Mission 66 building be stepped up? parks' visitors top all estimates. E. Mickel. Arch Rec 123:32 S '58

Wood trusses, glass walls enclose Portland's new exposition-recreation center. *il* diags Arch Rec 123:48-48³ Ja '58

See also

Bowling alleys

Clubhouses

RECREATION centers

Prototype shelters designed for recreation center project; illustrations with text. J. C. Smith. Arch Rec 123:36 Mr '58

See also

Community centers

RECRYSTALLIZATION. *See* Crystallization

RECTIFIERS, Electric. *See* Electric rectifiers

RECTIFIERS, Radio. *See* Radio rectifiers

RECTUM

Diseases

Anorectal abscess and fistula. C. E. Pope. *bibliog il* Ind Med 27:448-55 S '58

RECUPERATORS. *See* Furnaces, Recuperative and regenerative

RED

DuPont family of red pigments makes debut with new tech lab. Product Eng 29:25 Je 9 '58

New family of red pigments; Monastral reds. *il* Paper Ind 40:295 Ag '58

RED fir. *See* Fir

RED pine. *See* Pine

RED river

Water quality studies in the Arkansas and Red River basins. K. S. Krause. *bibliog Am Water Works Assn J* 50:1166-70; Discussion. D. F. Metzler. 1170-4 S '58

REDOX potential. *See* Potential, Electric

REDUCING of weight. *See* Corpulence

REDUCTION, Chemical

Amino-hexose-reductones as antioxidants. C. D. Evans and others. *bibliog Am Oil Chem Soc J* 35:84-8 F '58

Chemical engineering unit processes; amination by reduction. J. Werner. *bibliog il* Ind & Eng Chem 50:1323-9 pt 2 S '58

Chemical reductions of substituted cyclohexanones. K. D. Hardy and R. J. Wicker. *Am Chem Soc J* 80:640-2 F 5 '58

Correlation of ring size of product with the extent of reduction of diketones by unipositive magnesium anodically generated. W. D. Hoffman and others. *bibliog Chem & Ind p* 1202-3 S 13 '58

Direct reduction process is home; Strategic-Udv process to make iron. *diag Chem & Eng N* 36:48 Ap 14 '58

Epoxyethers; reduction with lithium aluminum hydride. C. L. Stevens and T. H. Coffield. *bibliog Am Chem Soc J* 80:1919-21 Ap 20 '58

Equilibrium reduction of tungsten dioxide by hydrogen. R. C. Griffiths. *bibliog diag Electrochem Soc J* 105:338-402 Jl '58

REDUCTION, Chemical—Continued

- Experiments to establish conditions for the continuous reduction of titanium tetrachloride to the metal by sodium. J. Smolinski and others. *bibliog* *il* *diags* *J* *Ap* *Chem* 8:375-86 *Je* '58
- Heat of formation of titanium tribromide by the mercury reduction of titanium tetrabromide. E. H. Hall and J. M. Blocher, Jr. *bibliog* *diag* *Electrochem Soc J* 105:40-4 *Ja* '58
- Heterocyclic compounds; reduction of 3-(3,4-methylenedioxyphenyl)-4-nitro-1-phenyl-1-butanone. M. C. Kloetzel and J. L. Pinkus. *bibliog* *Am Chem Soc J* 80:2332-4 *My* 6 '58
- Industry looks at direct reduction. J. W. Franklin. *flow sheets* *il* *diags* *Eng & Min J* 158:84-93 *D* '57
- Infrared spectra of reduction products from polyvinyl chloride. M. H. George and others. *Chem & Ind* p 1114 *Ag* 23 '58
- Leuckart reduction of cholestan-3-one. R. R. Sauers. *bibliog* *Am Chem Soc J* 80:4721-3 *S* 5 '58
- Mechanism of halide reductions with lithium aluminum hydride; reduction of certain bromosyrins and epoxides. E. L. Elie and D. W. Delmonte. *bibliog* *Am Chem Soc J* 80:1744-52 *Ap* 5 '58
- Novel reductions of N-nitrosodibenzylamines, a new reaction. C. G. Overberger and others. *bibliog* *Am Chem Soc J* 80:3009-12 *Je* 20 '58
- Now, 16 beta steroids. *Chem & Eng* *N* 36:40 *Ag* 25 '58
- Oxidation-reduction reactions at silica surfaces. E. Richardson and C. D. Poucher. *bibliog* *Research* 11:247-8 *Je* '58
- Oxidation-reduction studies in the realm of indole alkaloids. E. Wenkert and D. K. Reichle. *bibliog* *Am Chem Soc J* 80:1613-19 *Ap* 5 '58
- Poised oxidation-reduction systems; a quantitative evaluation of redox poisoning capacity and its relation to the feasibility of redox titrations. E. R. Nightingale, Jr. *bibliog* *Anal Chem* 30:267-72 *F* '58
- Preparation of pure silicon by the hydrogen reduction of silicon tetrachloride. G. Szekely. *bibliog* *il* *diags* *Electrochem Soc J* 104:663-7 *N* '57
- Preparation of zirconium and hafnium metals by bomb reduction of their fluorides. O. N. Carlson and others. *bibliog* *il* *diags* *Electrochem Soc J* 104:51-6 *Ja* '57; *Abstract. Metal Prog* 74:194-4 *S* '58
- Oxidation and benzoylation by means of benzyl alcohol; a new synthesis of α,β -diarylpropionic acids and the corresponding nitriles. M. Avramoff and Y. Sprinzak. *bibliog* *Am Chem Soc J* 80:493-6 *Ja* 20 '58
- Reduction of ketones with diphenyltin dihydride; a new type of hydride reduction. H. G. Kuivila and O. F. Beumel, Jr. *Am Chem Soc J* 80:3798 *JI* 20 '58
- Reduction of phenols; new synthesis of oxyhexahydro-3-ketophenanthrenes by cyclo-dehydration of 4-(8-arylethyl)-1,3-cyclohexanediones. G. N. Walker. *bibliog* *Am Chem Soc J* 80:645-52 *F* 5 '58
- Reduction of phosphorus and antimony chlorides by trimethylarsine and trimethylstibine. R. R. Holmes and E. F. Bertaut. *bibliog* *Am Chem Soc J* 80:2983-5 *Je* 20 '58
- Reduction of the products of periodate oxidation of carbohydrates; the constitution of cellulose. I. J. Goldstein and others. *bibliog* *Am Chem Soc J* 79:6469-73 *D* 20 '57
- Reduction of water to hydrogen by a complex cyanide of cobalt. N. K. King and M. E. Winfield. *bibliog* *Am Chem Soc J* 80:2060-5 *My* 5 '58
- Reduction products obtained from nitrogen compounds under the action of Raney nickel and hydrazine hydrate. S. Hornsby and W. L. Peacock. *Chem & Ind* p858-9 *JI* 5 '58
- Reductions with ruthenium catalysts; preparation of some cyclohexylalkylamines. M. Freifeider and G. R. Stone. *bibliog* *Am Chem Soc J* 80:5270-2 *O* 5 '58
- Research in the direct reduction of iron ore. H. S. Turner. *il* *Min Cong J* 43:59-63 *D* '57
- Sites of reduction and base-catalyzed hydrogen-exchange in N-methylnicotinamide iodide. H. E. Dubb and others. *bibliog* *Am Chem Soc J* 80:1767-8 *Ap* 5 '58
- Studies on oxidation-reduction mechanism; the anodic oxidation of p-aminophenol. W. K. Sneath and A. E. Renick. *bibliog* *diag* *Am Chem Soc J* 79:6121-7 *D* 5 '57
- Synthesis of amino sugars by reduction of hydrazine derivatives. M. L. Wolfson and others. *bibliog* *Am Chem Soc J* 80:4885-8 *S* 20 '58
- Synthesis of indoles by catalytic reduction of o-nitrobenzyl cyanides. H. R. Snyder and others. *bibliog* *Am Chem Soc J* 80:4622-5 *S* 5 '58
- Unsaturated amines; the course of formic acid reduction of enamines. N. J. Leonard and R. R. Sauers. *bibliog* *Am Chem Soc J* 79:6210-14 *D* 5 '57
- See also*
Hydrogenation
Wolff-Kishner reaction
- REDUCTION, Electrolytic**
- Analysis of films on copper by coulometric reduction. E. H. Lambert and D. J. Trevo. *bibliog* *diags* *Electrochem Soc J* 105:18-23 *Ja* '58
- Anodic reductions; reduction of nitrobenzene, nitrosobenzene, azoxybenzene and azobenzene. J. Y. Yang and others. *bibliog* *Am Chem Soc J* 80:4300-3 *Ag* 20 '58
- Cathodic reduction of oxide films on iron. K. H. Eub and others. *bibliog* *il* *Electrochem Soc J* 105:74-8 *F* '58
- Coulometric reduction of oxides on tin plate. R. P. Frankenthal and others. *bibliog* *Anal Chem* 30:441-3 *Mr* '58
- Diaryliodonium salts; the electroreduction of diaryliodonium salts. H. E. Bachofner and others. *bibliog* *Am Chem Soc J* 80:4269-74 *Ag* 20 '58
- Electrolytic reduction of 2-amino-4-chloropyrimidine, 2-amino-4-chloro-6-methylpyrimidine, and 2-aminopyrimidine. K. Sugino and others. *diag* *Electrochem Soc J* 104:667-72 *N* '57
- Electrolytic reduction of cyanamide. K. Odo and others. *il* *Electrochem Soc J* 104:160-2; 105:593-603 *Mr* '57, *O* '58
- Mechanism of the electrochemical reduction of phenyl ketones. P. J. Elving and J. T. Leone. *bibliog* *Am Chem Soc J* 80:1021-9 *Mr* 5 '58
- Mechanism of the electrochemical reduction of phenyl ketones to alcohols. L. Mandell and others. *bibliog* *Am Chem Soc J* 80:5284-5 *O* 5 '58
- Polarographic reduction of delta-3-ketosteroids in well-buffered media. P. Kabasakian and J. McGlotten. *bibliog* *Electrochem Soc J* 105:261-4 *My* '58; *Discussion*, 105:758-61 *D* '58
- Polarographic reduction of organic halogen compounds; steric hindrance and the polarographic reduction potential. F. L. Lambert and K. Kobayashi. *bibliog* *Chem & Ind* p949-50 *JI* 26 '58
- Preparation of uranium metal by the electrolytic reduction of its oxides. L. W. Niedrach and B. E. Dearing. *bibliog* *il* *diags* *Electrochem Soc J* 105:353-8 *Je* '58
- Preparing uranium tetrafluoride by ion exchange and electrolysis; Excer process. I. R. Higgins and others. *bibliog* *flow sheet* *il* *diags* *Ind & Eng Chem* 50:285-92 *Mr* '58
- Reduction of passive films by hydrogen diffusion through steel. R. T. Davis, Jr. and T. J. Butler. *bibliog* *diag* *Electrochem Soc J* 105:563-8 *O* '58
- REED, Lester J.**
L. J. Reed received Eli Lilly & co. award in biological chemistry. *por* *Chem & Eng* *N* 36:58 *Ap* 28 '58
- REED, Lowell J.**
1957 Sedgwick memorial award. *por* *Am J Pub Health* 47:1589-91 *D* '57
- REED indicators**
Nondestructive test for radiation effects; vibrating-reed mechanism. J. D. Matlack and S. Strella. *il* *Nucleonics* 16:103-5 *Je* '58
- REEFS**
Stratigraphy and facies analysis of upper Devonian reefs in Leduc, Stettler and Redwater areas, Alberta. J. M. Andrichuk. *il* *maps* *diags* *Am Assn Pet Geologists Bul* 42:1-93 *bibliog* 58 titles, p90-3 *Ja* '58
- Uranium-bearing auriferous reefs at Jacobina, Brazil. J. D. Bateman. *bibliog* *maps* *diag* *Econ Geol* 53:417-25 *Je* '58
- REEFS, Coral.** *See* Coral reefs and islands
- REELS**
Design details of a spring-loaded differential drive for automatic tensioning and take-up in reel mechanisms. G. R. Heidler. *il* *diag* *Machine Design* 30:140 *Ap* 3 '58
- Simplified construction of reel capacity charts. W. J. Owens, Jr. *Wire & Wire Prod* 33:890-2 *Ag* '58
- See also*
Moving picture films—Reels
- REFINERIES, Petroleum.** *See* Petroleum refineries

REFLECTION (optics)

- Approximations and the interfection method. D. E. Spencer. *bibliog Illum Eng* 53:243-9; Discussion. 249-51 My '58
- Fizeau-type interference between beams of light reflected from three surfaces. A. H. Cook. *il diags J Sci Instr* 34:455-8 N '57
- How to beat instrument blindness: reflections from glass of instrument covers. G. A. LeHew and J. R. Andres. *il diags Space/Aeronautics* 30:64-9 O '58
- Interreflections in asymmetrical rooms. P. F. O'Brien. *bibliog diags Illum Eng* 53:131-6; Discussion. 136-8; Reply. 138-9 Mr '58
- Reflectance of oxidized coals. D. Chandra. *bibliog il Econ Geol* 53:102-8 Ja '58

REFLECTION of sound. See Sound—Reflection

REFLECTION of waves. See Wave motion, Theory of

REFLECTORS

- Controlled fluorescent reflector design for sharp cut-off and uniform distribution; abstract. D. E. Spencer. *diags Illum Eng* 53:473-4 S '58

REFLECTOSCOPE

- Mobile reflectoscopic inspection of railroad car axles on the Chesapeake and Ohio railway. E. R. Hauer and C. M. Angel. *il diags Applications & Ind p* 143-7 J '58

REFRACTION

- Slide rule for near-surface refraction problems. W. A. Knox. *diags Geophysics* 23:154-63 Ja '58
- Specific refraction of fatty oils. M. Tels and others. *bibliog Am Oil Chem Soc J* 35:163-6 Ap '58

REFRACTION, Double

- Anomalous behavior of the extinction angle of moderately concentrated polyvinylalcohol-water solutions. S. Fujishige. *J Colloid Sci* 13:193-6 Ap '58
- Birefringence in neutron-irradiated boron glass. C. Mylonas and others. *il J Ap Phys* 29:864-5 My '58
- Concentration dependence of flow birefringence of polymer solutions. T. Yang. *bibliog Am Chem Soc J* 80:5136. 16 O 5 '58

- Electric properties of macromolecules; a study of electric polarization in polyelectrolyte solutions by means of electric birefringence. C. T. O'Konski and A. J. Haltner. *bibliog Am Chem Soc J* 79:5634-49 N 5 '57
- Measurement of stress-optical coefficient and rate of stress release in commercial soda-lime glasses. A. I. Van Zee and H. M. Noritake. *bibliog diags Am Cer Soc J* 41:164-75 My '58

- Photoelectric flow birefringence instrument of high sensitivity. B. H. Zimm. *diags R Sci Instr* 29:360-7 My '58
- Piezobirefringence in silicon. A. A. Giardini. *bibliog diags Am Mineralogist* 43:249-62 Mr '58

REFRACTIVE dispersion. See Dispersion of rays

REFRACTIVE index

- General solution of the Luneberg lens problem. S. P. Morgan. *bibliog diags J Ap Phys* 29:1353-68 S '58

Refractive index of air and sulphur dioxide. W. P. Julius. *diags Research* 11:sup 16-18 J '58

Refractivity intercept-density chart for the determination of total naphthenes in gasoline. S. Groenings. *bibliog A S T M Bul* p64-7 Ja '58

Soap plant observer; automation of process control through use of refractive index. J. W. McCutcheon. *Soap & Chem Spec* 33:233-4 D '57

Use of coarse gratings to find the refractive index of materials. G. M. Sreekanth and C. A. Verghese. *il J Sci Instr* 34:464; 35:150, 305-6 N '57, Ap. Ag '58

REFRACTOMETERS

Refractometer for continuous process-stream analysis. L. G. Glasser and D. J. Troy. *bibliog il diags Ind & Eng Chem* 50:1149-52 Ag '58

Refractometer perils. D. J. Fisher. *bibliog Am Mineralogist* 43:777-80 J '58

Self-balancing laboratory differential refractometer. C. J. Penhater and G. W. Noller. *bibliog il diags R Sci Instr* 29:43-6 Ja '58

REFRACTORY materials

Above 2,500 F. what material to use? L. D. Loch. *bibliog il Chem Eng* 65:105-9 Jc 30 '58

Acid-resistant refractory and insulator; Foamsil. *il Mech Eng* 80:76 S '58

Basic insulating refractory. H. M. Harris and H. J. Kelly. *il Am Cer Soc Bul* 37:307-11 J '58

Bonded mullite and zircon refractories for the glass industry. R. W. Knauf and others. *il Am Cer Soc Bul* 36:412-15 N 15 '57; Same cond. *Glass Ind* 39:161-2 Mr '58

Castable refractories know-how. L. J. Cormack. *diag Pet Eng* 30:C42 Ja '58

Casting of magnesium oxide in aqueous slips. S. D. Stoddard and A. G. Allison. *bibliog il diags Am Cer Soc Bul* 37:409-13 S 15 '58

Corrosion of superstructure refractories by batch materials. T. S. Busby. *Glass Ind* 38:633-4 N '57

Etching of refractories and cermets by ion bombardment. T. K. Bierlein and others. *il diag Am Cer Soc J* 41:196-200 Jc 1 '58

Foamed silica; hard-to-beat properties. *il Chem Eng* 65:142-4 Ag 25 '58

Foamsil, a new pure silica insulating and refractory material. *il Paper Ind* 40:364-5 S '58

Fused silica looks like good insulation; Foamsil. *il Eng N* 161:49 J '58

How molten aluminum affects plastic refractories. H. A. McDonald and others. *il J Metals* 10:35-7 Ja '58

How refractories have met the furnace problems of the glass industry; abstract. H. W. Bague. *Glass Ind* 38:689 D '57

How to make refractories behave in vacuum. *il Steel* 143:88-9 Ag 25 '58

Insulation stands heat, shock; Foamsil. *il Am Cer Soc Bul* 37:443-5 O 15 '58

Investigation of ceramic materials in a laboratory rocket motor. J. F. Lynch and others. *diags Am Cer Soc Bul* 37:443-5 O 15 '58

New high-low temperature insulation; Foamsil. *il Plant Eng* 12:111 Ag '58

New materials that the design engineer should know about; ceramics and refractory materials. *bibliog Mech Eng* 79:275-7 Ag '57; Same. *Am Soc Naval Eng J* 70:148-51 F '58

Phosphate bonded castable refractories; abstract. H. D. Sheets and others. *Glass Ind* 38:688-9 D '57

Properties of materials; refractory oxides. *Materials in Design Eng* 48:231 Mid-O '58

Pure silica foam is high-temperature insulation; Foamsil. *il Elec Eng* 77:854-5 S '58

Reactions between iron oxides and alumina-silica refractories. A. Muan. *Am Cer Soc J* 41:275-86 Ag 1 '58

Refractory nozzle blades for high-temperature gas turbines. T. H. Blakeley and R. F. Darling. *Engineer* 203:251-2 F 15 '57; Abstracts. *Engineers* 133:234 F 22 '57; Metal Prog 73:138-4 Mr '58; Discussion. *Engineer* 203:252 F 15 '57

Silica foams, forms insulation; refractory material of fused silica. *il Chem & Eng N* 36:48-9 J '58

Silica material could be boon to chemical industry; Foamsil. *il Chem Eng Prog* 54:78 Ag '58

Silicon nitride refractory. T. F. Frangos. *il Materials in Design Eng* 47:115-17 Jc '58

Simple refractory-metal and glass-metal seals. W. D. Jamieson. *J Sci Instr* 35:73 F '58

Some trends in refractories for glass furnaces; abstract. G. B. Massengale and C. F. Wenrich. *Glass Ind* 38:688 D '57

Thermal insulation resists acids; Foamsil. *il Materials in Design Eng* 48:129-30 S '58

Use giant lantern slides for refractories study. *Ind Lab* 9:46 My '58

Use of refractory ceramics in rocket engines. W. R. Sheridan. *diag Am Cer Soc Bul* 37:91-4 F 15 '58

What's new in refractories. *il Steel* 142:89-90 Mr 31 '58

What's new in refractory ceramic coatings for super metal alloys. *il Cer Ind* 70:62-4 Mr '58

Zircon refractories for the glass industry; abstract. E. A. Thomas. *Glass Ind* 38:690 D '57

See also

Electric furnaces, Steel making—Lining

Fire brick

Forsterite

Kyanite

Pyrophyllite

Silicon carbide

Zirconium oxides

Analysis

Quantitative X-ray analysis of silica minerals. S. B. Holmquist and others. *bibliog Am Cer Soc Bul* 37:317-21 J '58

REFRACTORY materials—Continued

Manufacture

Manufacture of fused cast refractories; abstract. W. R. Brown. Glass Ind 38:689 D '57
New basic refractories plant: Harbison-Walker's latest unit in ten-year program. flow diag il Pit & Quarry 50:68-70+ Je '58

Testing

Are ceramics really brittle? microhardness tests. E. Ryskhewitch. il diag Cer Ind 63:116-17 D '57
Control of factors affecting reproducibility of mechanical properties of refractory semidry press specimens. L. E. Mong and D. M. Adelman. bibliog il Am Cer Soc J 41:267-72 J1 '58
Elasticity, strength, and other related properties of some refractory castables. S. J. Schneider and L. E. Mong. bibliog il Am Cer Soc J 41:27-32 Ja '58
Hydration of basic refractories. G. R. Eusner and J. R. Bachman. bibliog il Am Cer Soc Bul 37:213-19 My '58
Phase equilibrium studies in the system $\text{CaO-Cr}_2\text{O}_3\text{-SiO}_2$. F. P. Glasser and E. F. Osborn. bibliog diags Am Cer Soc J 41:358-67 S1 '58
Thermal conductivity of refractory insulating concrete. W. C. Hansen and A. F. Livovich. Am Cer Soc Bul 37:322-8 J1 '58

REFRACTORY research

Phase equilibrium relationships at liquidus temperatures in the system $\text{FeO-Fe}_2\text{O}_3\text{-Al}_2\text{O}_3$. A. Muan. bibliog diags Am Cer Soc J 40:420-31 D '57
Utilization of solar energy. F. Daniels. bibliog Am Cer Soc Bul 36:406-9 N15 '57

REFRIGERANTS

See also

Ammonia
Brine, Frozen
Butane
Chlorodifluoromethane
Chlorofluoromethanes
Dichlorodifluoromethane
Dry ice
Propane

Analysis

Paper chromatography as applied to refrigeration sludge analysis. G. D. Stevens and J. D. Bopp. il diag Refrig Eng 66:41-3 My '58

REFRIGERATING engineering

Refrigeration requirements for future air force weapons. J. S. Bleymaier. il diags Refrig Eng 66:36-9+ Je '58

See also

Cold storage

REFRIGERATING engineers, American society of. See American society of refrigerating engineers

REFRIGERATING plants

See also

Cold storage
Cold storage warehouses
Electricity in refrigeration
Piping (refrigerating plants)
Refrigeration and refrigerating machinery

REFRIGERATION and refrigerating machinery

Automates refrigeration: fish processing and freezing plant in Bangkok, Thailand. plans Food Eng 30:97-8 J1 '58
Compressor crankcase heaters reduce oil foaming. E. T. Neubauer. il Refrig Eng 66:52-3 Je '58
Continental oil co.'s new Short Junction plant. J. C. Reidel. il diags Oil & Gas J 55:113+ O 28 '57
Correct installation and service for refrigeration systems. E. D. Lindsay. diags Air Cond Heat & Ven 55:52-6 J1 '58
Economic evaluation of condensing methods. J. L. Wolf. diags Heating-Piping 30:135-6 Ag '58
Here are latest machines for updating your plant: refrigeration and freezing. il Food Eng 30:79-80 O '58
High capacity low temperature refrigeration. J. R. Harnish and N. E. Hopkins. flow diag diag Chem Eng Prog 54:82-6 Ap '58
Increase compressed air efficiency through mechanical refrigeration. F. D. Ross. diag Heating-Piping 30:122-4 Ag '58
Moisture, monster of metallizing, meets end in trap! J. A. Selsmeyer and H. M. Farrow. il Mod Plastics 35:109+ J1 '58
Propane chiller cuts acid losses at California HF alkyl unit. D. H. Stormont. flow chart Oil & Gas J 55:172 N11 '57

Refrigerant control in air cooled condensers. D. D. Kramer. bibliog diags Refrig Eng 66:41-5+ J1 '58

Refrigerated preservation of fruit, vegetables and nuts. W. T. Pentzer. Refrig Eng 66:90-2 F '58

Refrigerating equipment for the citrus industry. H. E. Rex. flow diags il diag Refrig Eng 65:43-6+ N '57

Refrigeration adds one effect: absorption refrigeration systems, lithium bromide-water combination. diag Chem & Eng N 36:64+ O 20 '58

Refrigeration and meat packing conference; abstracts of papers. Refrig Eng 66:60-4+ Ja '58

Refrigeration hook-up for air conditioning; detail sheet. diag Air Cond Heat & Ven 55:99 My '58

Refrigeration system needed for simulated flight testing. Refrig Eng 65:64 N '57

Vaporization of liquefied CO_2 refrigerates test chambers. Associated testing laboratories. il Refrig Eng 66:71+ F '58

What's just around the corner? M. Baker. Refrig Eng 66:56-8+ J1 '58

See also

Cold storage
Compressors
Cooling
Cooling equipment
Electricity in refrigeration
Ice machines
Piping (refrigerating plants)
Skating rinks

Control

Automated refrigeration cuts temp variations; Hoffman-La Roche, inc. diag Food Eng 30:102 Mr '58

Design

Designing out the kinks in refrigeration systems. M. A. Ramsey. diags Air Cond Heat & Ven 55:86-8 Mr; 89-93 Ap '58
Large hermetic reciprocating compressors. H. R. Goodfellow and K. M. Gerteis. il diags Refrig Eng 66:44-8+ My '58

Exhibitions

Air-conditioning and refrigeration industry 10th exposition, Chicago, Nov. 18-21; floor plan and list of exhibitors. Heat & Air Cond Contr 49:62-9 N '57; Heating-Piping 29:150-8 N '57; Refrig Eng 65:52-9+ N '57

Lubrication

Refrigeration lesson; watch that greasing job. C. T. Baker. Power Eng 62:75 Ja '58

Maintenance and repair

Guide to refrigeration trouble shooting. diags Power 101:114-15 N '57; 102:120-2 Ja; 122-3 F '58
Safety practices with Freon; repair a refrigeration unit containing Freon-22. Welding Eng 43:50 Ag '58

Military use

Air force has a cool \$500 million in refrigeration. W. T. Smith. Am Gas Assn Mo 40:14-16 O '58

Moisture problem

Closed cell rubber cuts condensation. il Iron Age 180:160 D 5 '57
Simple moisture indicating device for refrigerating systems. W. O. Krause and A. E. Guise. bibliog il Refrig Eng 65:39-44 D '57

Vapor-proofs freezer unit with low-cost shading; Alumiseal Zero Perm. il Food Eng 30:119 Ja '58

Noise

Noise-measuring and sound-control. E. E. Gross, jr. bibliog il diags Refrig Eng 66:49-53+ My '58

Safety measures

Safety code for mechanical refrigeration; proposed revision to American standard B9.1. Refrig Eng 66:59-60 My '58

Tables, calculations, etc.

How to make the most effective use of psychrometric charts. M. A. Ramsey. diags Refrig Eng 66:31-4+ Ap '58

Terminology

Refrigeration terms and definitions; revision to ASRE proposed standard 12. Refrig Eng 66:60-3+ My '58

REFRIGERATION and refrigerating machinery

—Continued

Testing

- Design of air flow test chambers. K. A. Merz. *diag Refrig Eng* 66:49-50+ Ja; 55, 65 Mr '58
Saturated temperature indicator, an aid for operation testing. L. R. Smith. *il diag Refrig Eng* 66:56+ My '58

REFRIGERATION plants**Maintenance and repair**

- Use your operating and maintenance manuals. *Power Eng* 61:95 D '57

REFRIGERATION research

- Specialized research facilities determine temperature tolerance of frozen foods. E. Lowe and others. *bibliog diag Refrig Eng* 66:51-3+ Ja '58
Thermoelectric refrigeration. R. L. Eichhorn. *diag Refrig Eng* 66:31-5 Je '58

REFRIGERATORS

- Domestic refrigerator engineering conference; refrigerator evaporators studied to solve deterioration problems; symposium. *Refrig Eng* 66:54-9+ F; 47-9 Mr '58
Expansion forces of freezing brine automatically remove ice cubes; Norge refrigerator. *il diag Machine Design* 30:146-7 Ap '58
Home refrigerator is forced-air cooled. *il diag Machine Design* 29:144-5 N '57
Permeability of plastics films to refrigerant 12 and nitrogen. H. M. Parmelee. *bibliog il Refrig Eng* 66:35-40+ F '58

See also

- Refrigeration and refrigerating machinery
- Manufacture**
- Big dividends with spot-welded refrigerators. *il Welding J* 37:120-3 F '58
Complex lines switch easily to different models; Norge div., Borg-Warner corp. V. C. Rice. *il Iron Age* 182:75-8 JI 17 '58
Improvements in materials and processes. H. J. Loehlein. *il Refrig Eng* 66:47-8 Mr '58
Nonmetallic bonding of tubing. F. Crotter. *il Refrig Eng* 66:48-9 Mr '58
Spotwelder speeds assembly; Koch refrigerators inc. *il Steel* 141:108 D 16 '57
Uses of oxygen and acetylene gases in the refrigerator industry. P. Bowman. *il Welding J* 37:120-3 F '58

REFRIGERATORS, Gas

- Bright future for gas refrigerator; interview with E. Gray. D. Wright. *Gas* 34:84 Mr '58
Refrigerator sales drive pays off for Peoples Gas. *il Am Gas Assn Mo* 40:8-10 O '58

REFUSE**Analysis**

- Liquid content of garbage and refuse. J. S. Wiley. *bibliog Am Soc C E Proc* 83 [SA 5 no 1411]:1-8 C '57; Discussion. 84 [SA 2 no 1614]:7-8; Reply. 8-11 Ap '58

REFUSE, Utilization of

See also

- Refuse as fertilizer
- REFUSE as fertilizer**
- Composting your organic wastes at a profit. J. R. Snell. *il diag Pub Works* 88:108-10 N '57
Earp-Thomas continuous flow compost digester. *Pub Works* 88:138 D '57
High rate composting may solve refuse disposal problems. D. Brenner. *Pub Works* 88:156+ D '57
Modern composting plant for Bangkok. *il Chem & Ind* p81-2 Ja 25 '58
Refuse composting experience in the Netherlands; research report. *Am Soc C E Proc* 84 [SA 2 no 1610]:1-3 Ap '58
Refuse composting in India. J. M. Henderson. *il map Pub Works* 88:99+ N '57
Refuse composting plant for Bangkok. *Eng J* 41:86-7 My '58
Some engineering aspects of high-rate composting. J. R. Snell. *diag Am Soc C E Proc* 83 [SA 1 no 1178]:1-36 bibliog (34 ref. p34-6) F '57; Discussion. C. A. Rogus. 83 [SA 4 no 1349]:3-4 Ag '57; Reply. *il* 84 [SA 1 no 1557]:9-13 F '58

REFUSE collection

- Collection data from St Paul. J. M. Cotter. *Pub Works* 89:129 Ja '58
Dinosaur refuse containers handle 40-cubic yard loads. *il Pub Works* 89:150 S '58
New equipment cuts refuse collection costs for Maple Heights. *il Pub Works* 89:148 Ap '58

- Refuse collection and disposal in Albuquerque. G. R. Robertson. *il Pub Works* 89:110-11 Je '58
Refuse collection by packer-type vehicles; economies and practices. *il Pub Works* 89:106-7+ Ja '58
Refuse collection data from Akron. F. L. Woodcock. *Pub Works* 89:121 Ja '58
Refuse collection in New Bedford. J. W. Carreau. *Pub Works* 89:169-70 Mr '58
Refuse collection methods and equipment. *il Pub Works* 89:92-3+ Mr '58
Refuse collection methods in Waterbury, Conn. W. M. Kunsch. *Pub Works* 89:96 Ja '58
Refuse collection operations in Winston-Salem. R. W. Neilson. *Pub Works* 89:148 Je '58
Refuse collection practice in Tacoma, Wash. C. M. Heerly. *Pub Works* 89:127-8 Ja '58
Refuse operations in Pasadena. D. C. MacKenzie. *Pub Works* 89:128-9 Ja '58
Waste paper salvage in England; abstract. N. G. Wilson. *Pub Works* 89:182+ S '58
We reduce cost and improve refuse collection with modern larger bodies. C. C. Fagerlund. *il Pub Works* 89:118-19 Mr '58

Costs

- Sanitation service costs. R. R. Robinson. *il Pub Works* 89:103 Ap '58

REFUSE disposal

- Control of rodents and insects on dumps. W. D. Fitzwater; G. C. LaBrecque. *bibliog il Pub Works* 89:90-3 JI '58
Effect of earth cover on fly emergence from sanitary landfills. R. J. Black and A. M. Barnes. *il Pub Works* 89:91-4 F '58
Heenan refuse disposal plant at Rochdale, England. *Pub Works* 88:147 N '57
Landfill gas burned for odor control. W. L. Dunn. *il Civil Eng* 27:790-1 N '57
Light equipment for small town sanitary landfill operations. E. R. Williams and others. *bibliog il Pub Works* 89:89-91 F '58
Operation of sanitary landfills. *il diag Pub Works* 89:115-17+ S '58
Refuse collection and disposal in Albuquerque. G. R. Robertson. *il Pub Works* 89:110-11 Je '58
Sanitary landfill projects serve both city and contractor. *il Pub Works* 89:111 Ag '58
Survey of the present status of refuse engineering research and development; research report. *Am Soc C E Proc* 84 [SA 1 no 1539]:1-1 F '58
Tractor shovel handles landfill on part-time basis. *il Pub Works* 89:144 Mr '58

See also

- Refuse as fertilizer
Refuse grinders
Refuse incinerators
Sewage disposal
Trade waste disposal

Bibliography

- Sewerage and refuse digest. A. R. Jacobson. Published in monthly numbers of Public works

Costs

- Sanitation service costs. R. R. Robinson. *il Pub Works* 89:103 Ap '58

REFUSE grinders

- Making Columbus garbage free. H. R. Patterson. *diag Pub Works* 89:107-8 F '58

REFUSE grinders, Domestic

- Food waste liquid us sound-damping fiber-glass. *il Elec Manuf* 61:124+ Ja '58

REFUSE incinerators

- Binghamton's incinerator after one year. L. S. Wegman. *il map plan diag Civil Eng* 28:413-17 Je '58
Capacity criteria for refuse incineration. S. M. Clarke. *Am Soc C E Proc* 84 [SA 5 no 1783]:1-7 S '58
Choosing the right incinerator. F. L. Heaney. *diag Civil Eng* 28:650-2 S '58
Designing a modern incinerator. H. G. Meissner. *diag Power* 102:80-3 Ap '58
Engineering of a modern incinerator. H. G. Meissner. *il diag Combustion* 29:38-43 O '57
Heenan refuse disposal plant at Rochdale, England. *Pub Works* 88:147 N '57
Incinerator near residential area is nuisance free. *il plans Pub Works* 89:90-1 Je '58
Innovations feature refuse incinerator. *Power Eng* 62:67-8 Mr '58
Municipal incinerator design; a survey of engineering practice; SED research report. *Am Soc C E Proc* 84 [SA 3 no 1677]:1-23 Je '58
Municipal incinerator trends. R. F. Sternitzke. *il Pub Works* 89:112-14 S '58

REFUSE incinerators—Continued

New incinerator designed to reduce fly ash emission. J. W. Watson. *Il plan Pub Works* 89:97-8 Ap '58
 Operation of Louisville's new incinerator. H. J. Cates. *flow diag Pub Works* 88:110-11 + D '57

Costs

Furnaces and boilers for incinerator building. Mass; unit prices. *Eng N* 159:101 D 12 '57

REFUSE incinerators. Domestic

Industry hails new incinerator. *Il Am Gas Assn Mo* 40:2-5 Mr '58
 New smokeless-odorless incinerator is described in Research bulletin 78. *Il Am Gas Assn Mo* 40:16-17 Jl-Ap '58
 Smokeless-odorless gas incinerator on its way; co-op demonstration. *Il Gas Age* 121:16-17 + F 20 '58
 Smokeless, odorless incinerators introduced. *Il diag Gas* 34:35-6 Mr '58

Testing

Labs okay incinerator standard. *Il Am Gas Assn Mo* 39:11-12 D '57

REGENERATION (biology)

Indestructible hydra. N. J. Berrill. *Il diags Sci Am* 197:118-20 + D '57
 Regeneration of body parts. M. Singer. *Il Sci Am* 199:79-80 + O '58

REGENERATIVE furnaces. See Furnaces, Recuperative and regenerative**REGIONAL planning**

Planning; award citations. *Il map plans Prog Arch* 39:122-4 Ja '58

Regional planning in Connecticut; the next step to the future. R. P. Lee and W. Blakey. *Traffic Q* 12:58-68 Ja '58

See also Metropolitan districts

Zoning**REGULATORS. See Flow regulators; Pressure regulators****REGULATORS, Voltage. See Voltage regulators****REHABILITATION centers**

Comprehensive rehabilitation center; Rotary foundation clinic and rehabilitation center. Mobile, Ala. *Il plan Arch Rec* 123:210-13 Mr '58

REICHHOLD chemicals, inc.

Reichhold maps future. *Chem & Eng N* 36:34-5 Jl 7 '58

REINCKES salt. See Ammonium compounds**REINFORCED concrete. See Concrete, Reinforced****REINFORCED plastics. See Plastics—Reinforcement; Plastics, Laminated—Reinforcement****REINFORCING steel. See Steel, Reinforcing****REISSST compounds**

Approach to the synthesis of emetine from reissst compounds. F. D. Popp and W. E. McEwen. *bibliog Am Chem Soc J* 80:1181-6 Mr 5 '58

Condensation of aldehydes and ketones with Reissst compounds. L. R. Walters and others. *bibliog Am Chem Soc J* 80:1177-81 Mr 5 '58

Reaction of Reissst compounds and related 1-acyl-1,2-dihydroquinoline derivatives. R. F. Collins and T. Henshall. *bibliog Am Chem Soc J* 80:169-61 Ja 5 '58

REISTLE, Carl E. Jr.

C. E. Reistle, Jr. receives Lucas gold medal. major AIME award. *Pet Eng* 30:B 109 Ja '58

RELATIVITY (physics)

Physical interpretation of the relativistic corrections to the Van der Waals force found by Penfield and Zatzkis. E. A. Power and S. Zienau. *bibliog diags Franklin Inst J* 264:403-7 N '57

Relativistic doublets of spectral lines. R. H. Penfield and H. Zatzkis. *bibliog diag Franklin Inst J* 265:117-24 F '58

See also

Field theories (physics)

Light—Velocity

Quantum theory

Space and time

RELAXATION

You can't live forever, but. E. W. Fair. *Pet Refiner* 37:280+ Mr '58

RELAXATION methods (mathematics)

Continuous distillation calculations by relaxation method. A. Rose and others. *bibliog Ind & Eng Chem* 50:737-40 My '58

RELAXATION time (physics)

Dipole moment and dielectric relaxation time of acetyladiene. D. A. Pitt and others. *bibliog Am Chem Soc J* 79:5633-4 N 5 '57

Effect of cobalt on the relaxation frequency of nickel-zinc ferrite. F. J. Schriener and R. R. Monforte. *J Ap Phys* 29:477-8 Mr '58
 Higher approximation to relaxation spectra from dynamic measurements. H. Fuita. *bibliog J Ap Phys* 29:943-6 Je '58

Microwave absorption and molecular structure in liquids. R. W. Rappolla and others. *bibliog Am Chem Soc J* 80:1057-66 Mr 5 '58

Microwave absorption and molecular structure in liquids; dielectric relaxation times and molecular shapes of some substituted benzenes and pyridines. A. J. Petro and C. P. Smyth. *bibliog Am Chem Soc J* 79:6142-7 D 5 '57

Modified spin-echo method for measuring clear relaxation times. S. Meiboom and D. Gill. *diags R Sci Instr* 29:688-91 Ag '58

Molecular weight distribution by stress relaxation. A. V. Tobolsky and others. *J Colloid Sci* 13:196-7 Ap '58

Relaxation theory of transport problems in condensed systems. F. H. Ree and others. *bibliog diag Ind & Eng Chem* 50:1036-40 Jl '58

Solution of the Bloch equations for determination of relaxation times in liquids. P. S. Hubbard Jr. and T. J. Rowland. *bibliog diags J Ap Phys* 29:1275-81 N '57

Spin-lattice relaxation time in yttrium iron garnet. R. T. Farrar. *diags J Ap Phys* 29:425-6 Mr '58

Time decrease of permeability in iron. G. W. Rathenau. *bibliog J Ap Phys* 29:239-42 Mr '58

RELAYS

Application of static switching in the steel industry. D. L. Pierce. *Il diags Iron & Steel Eng* 34:113-23; Discussion. 123-5 N '57

Applying pneumatic relays to industrial control. H. S. Garrett. *diags Control Eng* 5:103-7 Ja; 94-8 Mr '58

Audio tone protects 220-kv link; Martins Creek-Siegfried line. J. A. G. Oewel and A. J. Burleson. *map diags Elec World* 148:47-50 D 23 '57

Balanced rotary-armature design for miniaturized relay assembly. *Il diags Machine Design* 30:116 Ap 17 '58

Better light relay. D. H. Gucker. *diags Radio-Electronics* 29:126 Ap '58

Capability of sealed contact relays. O. M. Hovgaard. *Il Product Eng* 28:1 2-3 Mid-O '57

Compensator distance relaying; carrier control system. H. W. Lensner and others. *Il diags Power Apparatus & Systems* p388-92; Discussion. p392-5; Reply. 401-2 Je '58

Compensator distance relaying; design and performance. W. E. Rich and H. J. Calhoun. *Il diags Power Apparatus & Systems* p383-7; Discussion. p392-5; Reply. 401 Je '58

Compensator distance relaying; general principles of operation. W. K. Sonnenschein and H. W. Lensner. *diags Power Apparatus & Systems* p372-82; Discussion. p392-5; Reply. 395-401 Je '58

Design of magnetic circuits for miniature relays. W. J. Elchert. *diags Electronic Ind & Tele-Tech* 16:56-74 + O '57

Design of the month, ceramic vacuum relay; illustrations with text. *Electronics* 30:216 D 1 '57

Dual-mode servo compensation; computer-relay combination. D. K. Gehrmlich. *diags Control Eng* 5:119-23 My '58

Electroluminescent digital indicator with Elpac translation logic. E. A. Sack. *Il diags Com & Electronics* p 113-18 Mr '58

Electronic coax relay. *Il Q S T* 42:74 My '58

Fast transistor relay. D. L. Anderson. *diags Electronics* 31:145 Mr 14 '58

Georgia Tech protective relaying conference. Atlanta. *Elec World* 149:92-4 Je 16 '58

How relay application factors affect selection of contact materials. Z. R. Smith. *Il diags Machine Design* 30:129-33 Mr 6 '58

How to use pneumatic control relays. R. R. West. *Machine Design* 30:187-9 Ap 3 '58

Idaho power co. phase-failure relay reliable. P. A. Oakes. *Il diags Elec World* 149:47-8 Je 30 '58

Illinois institute of technology's relay conference. April 24-25. *Elec World* 149:98 My 26 '58

Improve pilot-wire relaying with modified audio tone. G. W. Fox. *Il diag Elec World* 149:58+ My 5 '58

Industrial relaying faces bigger job. R. R. Peatfield. *diags Elec World* 148:59-62+ O 23 '57

Line relay protection simplified. R. Zimering. *diags Elec World* 149:53-4 Ja 6 '58

RELAYS—Continued

- Magnetic-amplifier relay for control systems. V. Hudson. *il diag Elec Manuf* 61:146-7 Mr '58
- Magnetic-ball relays. *diags Product Eng* 29: 40 P 24 '58
- Maximum continuity gained by load control. C. L. Karr and C. P. Almon, jr. *diag Elec World* 148:34-5 N 13 '57
- Meter relay as servo component. *il diags Elec Manuf* 61:150 Ap '58
- Motor overload protection, how many relay elements? M. R. Brice. *il diags Plant* 18: 61-3 S '58
- New neon bulb acts like a thyatron. T. N. Tyler. *il diags Radio-Electronics* 29:102-4 O '58
- New solenoid relay for industrial controls. *il Elec Manuf* 61:154 Je '58
- New techniques in relaying; special report. D. Rea and others. *diags Elec World* 150: 49-60 JI 14 '58
- Newest components for reliable switching; multiple-ball relays. J. L. Cooney. *il diags Control Eng* 5:82-1 F '58
- Novel power-supply overload relay. G. W. Jones. *diag Q S T* 42:15+ F '58
- Organic vapor and relay contacts. L. H. Germer and J. L. Smith. *il Bell Lab Rec* 36: 122-6 Ap '58
- Photosensitive relay system; patent. *Elec Manuf* 61:11 My '58
- Potomac Edison likes transistorized carrier relaying. B. E. Scheneman. *il diags Elec World* 149:57-9 Ap 14 '58; *Westinghouse Eng* 18:98-101 J '58
- Production and sales; relay sales to rise 18 percent. *Electronics* 31:14 My 30 '58
- Proximity transducer uses rapid relay. D. Elam. *il diag Electronics* 31:73 Je 20 '58
- Relay contact behavior under non-eroding circuit conditions. H. J. Keefer and R. H. Gunley. *bibliog il diags Bell System Tech J* 37:777-814 My '58
- Relay resists vibration. *il diag Product Eng* 28:93 N 25 '57
- Relay-scanning-design technique generates high accuracy and speed in analog-to-digital transducer measurements. A. E. Kay. *il diags Com & Electronics* p248-50 My '58
- Relay troubleshooting. R. Denning. *Elec Constr & Maint* 57:173 Ag '58
- Relay with no moving parts. *il Electronic Ind* 17:69 Ag '58
- Relaying tapped substations for faults on high-voltage transmission lines. R. W. World and others. *diags Power Apparatus & Systems* p73-7 Ap '58; *Excerptis, Elec Eng* 77:621 JI '58; *Discussion, Power Apparatus & Systems* p77-8 Ap '58
- Relays bar collision damage on conveyor. L. Albertson. *il Elec World* 148:95 P 17 '58
- Relays; high-speed reclosing at 345 kv. H. C. Barnes and others. *Elec World* 149:79-80 Mr 3 '58
- Relays prevent system shutdowns. C. W. Cogburn and G. C. Kelley. *diags Elec World* 148:71-3+ N 4 '57
- Screen-grid protection with a surplus relay. I. S. Simpson. *diag Q S T* 42:64 JI '58
- Sensitive dc relays. *diags Product Eng* 29:1 8-9 Mid-S '58
- Simple meter control speeds ball grinding. *Iron Age* 180:191-2 N 14 '57
- Some recent developments in miniature relays; abstract. J. H. Mitchell. *Brit Inst Radio Eng J* 1304:5 My '58
- Standardize relay schemes and settings. T. E. Dy Liacco. *diags Elec World* 148:86-9 N 18 '57
- Static relay is actuated in three microsec. *il diag Electronics* 31:100 S 26 '58
- Stepping relays for automatic operations. V. E. James. *il diags Product Eng* 28:101-5 N 11 '57
- Switching; transistors vs. relays. R. B. Brown and R. H. Beter. *diags Product Eng* 28:1 7-9 Mid-O '57
- Tape position indicator; light operated relay system giving accurate location. B. H. Parks. *il diags Wireless World* 64:308-10 JI '58
- Telegraph relays with built-in radio-interference suppressors. *il diag Elec Com* 35 no 1:13-14 '58
- Thermal relays perform unique functions. J. D. Marks. *il diags Elec Manuf* 61:109-13+ Ja '58
- Transistor relays have low idling current. D. W. R. McKinley. *diags Electronics* 30: 147 D 1 '57
- Transistorized gamma ray radioactive relay. *Elec Manuf* 61:9 Ap '58
- Transistors reduce relay servo size. S. Shenfeld. *il diags Electronics* 31:73-5 Ag 15 '58
- Transistors sensitize relay circuits. E. Bohr. *diags Radio-Electronics* 29:112+ Ja '58
- Tripping scheme by microwave gives high-speed transformer protection. E. A. Cockey. *diags Elec World* 149:49-51+ Mr 10 '58
- Try these photocell circuits. E. Bohr. *il diags Radio Electronics* 29:86+ S '58

Cleaning

- New method for cleaning wire-spring relays. R. W. MacDonald and H. W. Hermance. *il diag Bell Lab Rec* 36:30-3 Ja '58

Design

- Design by test and analysis spurs relay progress; National conference on electromagnetic relays. 6th. Stillwater, Okla. *Elec Manuf* 61:134-43 Je '58

Manufacture

- Super white room; Specialty control department of General Electric. C. Birch. *il Instruments & Automation* 31:1207 JI '58

Terminology

- Definitions of relay terms. *diags Electronic Ind* 17:6+ Je '58

Testing

- Relay tester. L. S. Klivans. *diag Control Eng* 5:85-6 Ag '58
- Test board speeds routine relay tests. W. C. Ellis. *il Elec World* 148:64+ O 28 '57
- Tester for relays on random slubbing device. *il diags Textile Ind* 122:225 O '58

RELIANITE. See Cast iron

RELIGION and industry

- Religious activities in industry. J. S. Felton. *il Med* 27:259-77 Je '58

RELIGION and science

- Science education. H. R. Rafton. *Chem & Eng* N 38:16 My 12 '58; *Discussion*, 36:12+ Je 16; 10:11 JI 21 '58; *Reply*, 36:10+ Ag 11 '58

RELUCTANCE motors. See Electric motors, Synchronous

REMODELED buildings. See Buildings, Remodeled

REMODELING (architecture)

- Church grows with congregation; St Matthews Episcopal church of San Mateo, Calif. *il Eng N* 160:28 Je 5 '58
- Making a monument work; how Sullivan's Minnesota bank was remodeled and restored. *il plans Arch Forum* 109:99-103, 156 JI '58
- Miracle in Waterville. *il plan Prog Arch* 39: 138-42 Je '58
- Old hotel becomes home for the aged; Carmel hall, Detroit, Mich. *il plans Arch Rec* 123: 218-22 Mr '58

See also

Buildings, Remodeled

RENE 41. See Nickel alloys

RENEGOTIATION of contracts. See Contracts, Government—Renegotiation

RENIERITE

- Paragenetic relationships of germanite and renierite from Teumeb, South West Africa. C. B. Sclar and B. H. Geler. *bibliog il Econ Geol* 52:612-31 S '57

RENTAL housing. See Housing

RENTAL plans (merchandising)

- Pay as you go for materials handling equipment. F. K. Griesinger. *Mod Materials Handling* 13:122-4 Mr '58

RENTING of equipment

See also

Gas water heaters—Renting

REPAIR parts

- B.M.C. engine replacement plant. *il Automobile Eng* 48:402-4 O '58
- Buying repair parts. *il Textile Ind* 122:92-3 F '58

- Centralize your spare parts program. C. M. Masters, Jr. *Pet Refiner* 37:151-4 F '58
- Mold for making repair part uses CO₂ process draw-backs. H. M. Griffoul. *diags Foundry* 36:124 Mr '58

- Optimize your maintenance stores. R. E. Bley. *Chem Eng* 65:174+ O 20 '58
- Parts control by push button; Waukesha motor company's use of business machines. O. Pederson. *il Diesel Power* 36:28-9 My '58

- Spare for weapons systems. L. P. Stannard. *Aero/Space Eng* 17:53-6 Ag '58

REPAIR shops

See also

Car shops
Mine shops
National industrial service association
Railroads—Shops

Equipment

Motor shops. Published in monthly numbers of Electrical construction and maintenance
Motor shops in New Orleans. *il* diags Elec Constr & Maint 57:57-64 Ap '58

REPLACEMENT of machinery. See Machinery, Replacement of**REPLICA technique**

Battelle uses plastic to check engine wear. *il* Ind Lab 9:87 J1 '58

Examination of electric contacts by the plastic replica method. H. W. Hermance and T. F. Egan. *il* diags Com & Electronics p756-62 Ja '58

Measuring local strain under static load; rapid replica technique. *il* diag Engineering 185:726-7 Je 6 '58

Replicas for light microscopy document surface studies. *il* Machine Design 30:14 My 15 '58

See also

Electron microscope—Replica technique

REPORTS

Semantics are essential for the report writer. L. D. Wyld. *Ind Lab* 9:163-6 S '58

See also

Business reports
Corporations—Reports and yearbooks
Research reports
Scientific writing

REPORTS, Engineering. See Engineering reports**REPORTS, Research.** See Research reports**REPORTS to government.** See Business—Reports to government**REPRODUCTION**

Models of reproduction. H. Jacobson. *bibliog il* diags Am Scientist 46:255-84 S '58

Reproduction and lactation studies with bitches fed semipurified diets. J. A. Ontko and P. H. Phillips. *bibliog J Nutrition* 65:211-18 Je '58

See also

Sex**REPTILES, Fossil**

Specimen of the captorhinid reptile captorhinus chozaensis Olson, 1954, from the Hennessey formation, lower Permian of Oklahoma. P. P. Vaughn. *bibliog J Geol* 66:327-32 My '58

RESCUE containers. See Air pilots—Emergency equipment**RESEARCH**

Computers and basic research; progress report. *Elec Eng* 77:199 F '58

Finagle's laws, or why nothing in research and development happens the way it should; humor. *Product Eng* 29:32-3 Ap 21 '58

Franklin institute museum; research and patents. T. Coulson. *Franklin Inst J* 265:499-500 Je '58

Impact of the patent system on research; abstract. S. Melman. *Elec Manuf* 62:9 S '58

Microrecording and its uses in research. H. W. Ballou. *il* Ind Phot 7:41-4 Ap '58

One third of IGY. *Sci Am* 198:54-4 Mr '58

See also

Aeronautic research
Armour research foundation
Automobile research
Building research
Cement research
Ceramic research
Coal research
Coke research
Colleges and universities—Research
Combustion research
Concrete research
Corrosion research
Dye research
Electric research
Electronics research
Engineering research
Fishery research
Food research
Forestry research
Foundry research
Gas research
Heating research
Highway research
Industrial research
Lighting research
Lubrication research
Metallurgical research
Mining research

Oceanographic research**Operations research****Paint research****Paper research****Petroleum research****Pharmaceutical research****Physiological research****Plastics research****Public health research****Radio research****Rubber, Artificial—Research****Rubber research****Sanitary engineering research****Scientific research****Telephone research****Television research****Textile research****Ventilation research****Wool research****Russia**

Coordination in Soviet education and research.

L. Seigle. *il J Metals* 10:178-9 Mr '58

Russian research and engineering. T. W. Lip-pert. *S A E J* 66:64-5 Ag '58

RESEARCH companies

Research the key to the plastics crisis. A. E. Gabriel. *Plastics Tech* 4:815-16-4 S '58

RESEARCH departments

Challenge of research management. L. W. Steele. *il* Ind & Eng Chem 49:sup 109A-104-4 N '58

Evaluation and administration of a research department; panel discussion. *Tappi* 41:sup 131A-2A Ag '58

Importance of workable project planning; engineering and research and development departments. H. W. Roos. *Pet Eng* 30:E48-9 My '58

Organization and the human being. C. Argyris. *Product Eng* 28:26-8 D 30 '57

Research management, a problem in personalities. G. A. Peters and S. Michelson. *Product Eng* 29:30-1 S 8 '58

Research needs lay boss. *Chem & Eng N* 36:37 F 10 '58

Research on a limited budget. C. H. Kline. *il* Soap & Chem Spec 34:179-4 Mr '58

Research on services pays off; Esso research & engineering co. A. P. Hewlett. *il* Chem & Eng N 36:74-80-4 J1 7 '58

RESEARCH institutions

Contract chemical research in Europe. F. C. Croxto and M. A. W. Barnick. *il* Chem Eng Prog 54:59-63 Ja '58

Industrial research centres in Switzerland. *Eng J* 41:75-6 Je '58

Istituto superiore di sanità. D. Marotta. *il* Chem & Ind p586-9 My 17 '58

Researchers take to the hills; Monadnock research institute. *il* Chem & Eng N 36:32-4 Ag 25 '58

RESEARCH reports

More helpful research reports. *Machine Design* 30:29 F 20 '58

Office and lab need closer tie; more personal contact, better reports. *Chem & Eng N* 36:38 Ja 20 '58

Plea for maximum utility in government contract reports covering research and development. E. W. Herold. *Inst Radio Eng Proc* 46:360 Ja '58; Discussion. 46:1879-80 N '58

RESEARCH workers

Explore personality factors in research and development. F. L. Ryder. *Ind Lab* 9:10-13 Mr '58

Organization and the human being. C. Argyris. *Product Eng* 28:26-8 D 30 '57

Personnel needs of the foundry industry. C. J. Freund. *Foundry* 86:104-4 O '58

Research age. F. Soday. *Ind & Eng Chem* 50:sup 133A-4A Ja '58

Researchers have human problems. *Chem & Eng N* 36:36-7 Je 23 '58

RESERPINE

More mileage from reserpine; abstract. H. B. MacPhillamy. *diags Chem & Eng N* 36:49-50 S 15 '58

RESERVATIONS. See Air lines—Reservation systems; Hotels—Reservation systems**RESERVOIRS**

Applications of the digital computer to reservoir yield studies. R. S. Gooch. *Pub Works* 89:91-2-4 Ag '58

Chain of interlocked reservoirs bolsters borough's water supply. M. H. Diven. *il* map Water Works Eng 111:36-9 Ja '58

Densities and compaction rates of deposited sediment. V. A. Koelzer and J. M. Lara. *bibliog Am Soc C E Proc* 84 [HY 2 no 1603]:1-15 Ap '58

RESERVOIRS—Continued

- Distribution of sediment in large reservoirs. W. M. Borland and C. R. Miller, diags Am Soc C E Proc 84 [HY 2 no 1587]:1-18 Ap '58
- Engineering design of municipal water supply reservoirs. V. H. Rosebraugh, Pub Works 89:184+ My '58
- Evaporation from free water surfaces at high altitudes. H. F. Blaney, bibliog Am Soc C E Proc 82 [IR 3 104]:1-15 N '56; Discussion, 83 [IR 1 no 1257]:16-23 My '57; Reply, 84 [IR 1 no 1521]:3-5 Ja '58
- Factors affecting the useful life of reservoirs. C. B. Brown, Am Soc C E Proc 84 [IR 1 no 1503]:1-8 Ja '58
- Forced circulation of large bodies of water; Ossining, N.Y. Municipal water collecting reservoir. T. M. Riddick, II plan diags Am Soc C E Proc 84 [ISA 4 no 1703]:1-21 JI '58
- Navy launches desert reservoir. Water Works Eng 111:694-5 JI '58
- New British reservoir, a joint venture. W. A. Heath, II Water & Sewage Works 105:223-6 Je '58
- New reservoir will yield 41 mgd; Greenville, S.C. II map Pub Works 89:95-6 My '58
- New reservoirs at Tacoma, Wash. G. E. Hopkins, II Am Water Works Assn J 50:97-104 Ja '58
- No more water worries for Raleigh. W. N. Carper, II Pub Works 89:120 Je '58
- Pollution control in southwestern reservoirs and watersheds; panel discussion. Am Water Works Assn J 50:789-99 Je '58
- Reservoir influences on central Missouri river. J. K. Neel, Am Water Works Assn J 50:1183-96 S '58
- Salt balance in ground water reservoir operation. D. B. Willets and C. A. McCullough, bibliog Am Soc C E Proc 83 [IR 2 no 1359]:1-10 S '57; Discussion, R. O. Thomas, 84 [IR 2 no 1615]:9-12 Ap '58
- Water quality problems in hydroelectric reservoirs; Virginia electric and power co. B. J. Peters, Jr. Power Apparatus & Systems p113-15 O '58
- Water utilities find novel answers for reservoir jobs. Water Works Eng 111:408-9 Ap '58
- Watershed protection, reservoir management and pollution abatement. W. R. LaDue, bibliog Water & Sewage Works 104:503-5 N '57
- Yield of impounding reservoirs. E. L. MacLeman, bibliog Water & Sewage Works 105:144-9 Ap '58
- See also
Lakes, Artificial
Water tanks

Cleaning

- Muck-filled reservoir behind 120 foot dam is cleared; Cat Creek dam, G. F. Mobley, II Eng N 160:40-2 My 15 '58; Discussion, diag 161:8 JI 3 '58

Costs

- Alternate reservoir roof bids in California; unit prices. Eng N 160:62 Ja 2 '58
- Railroad relocation for new Jersey reservoir; unit prices. Eng N 160:64+ Mr 20 '58

Evaporation control

- Can evaporation losses be reduced? G. E. Harbeck, Jr. bibliog Am Soc C E Proc 84 [IR 1 no 1499]:1-8 Ja '58; Discussion, R. O. Thomas, 84 [IR 2 no 1615]:31-3 Ap '58
- Cetyl alcohol for evaporation control. W. A. Heath, II Water & Sewage Works 105:361-2 S '58
- Film protects climate's prey. II Chem & Eng N 36:44-5 Je 30 '58
- Research and experiments in evaporation reduction. U. Stephens, bibliog II Am Water Works Assn J 50:846-54 JI '58; Excerpts, Water Works Eng 111:756 Ag '58
- Use of hexadecanol in reservoir evaporation reduction. B. B. Berger, bibliog Am Water Works Assn J 50:855-8 JI '58
- Water reservoir evaporation control. R. G. Dressler and A. G. Johanson, bibliog II map Chem Eng Prog 54:66-9 Ja '58

Lining

- Asphalt panels for economical reservoir lining. L. R. Hovater, II Civil Eng 28:644-5 S '58
- Leakproof pond for evaporation tests. II Eng N 160:72 Ap 17 '58
- Repair of an earthquake damaged reservoir. O. T. Calhoun, II Pub Works 89:115-16 O '58

- Two keys to a low-cost reservoir; asphalt lining and simple wood roof. II Eng N 161:49-50+ JI 17 '58
- Use of gunite in reservoir construction. R. C. Kenmir, II Am Water Works Assn J 50:392-3 Mr '58

Protection

- Aluminum covered reservoir. W. C. Renshaw, II Water & Sewage Works 105:317-18 Ag '58
- Two keys to a low-cost reservoir; asphalt lining and simple wood roof. II Eng N 161:49-50+ JI 17 '58

Recreational use

- Abstract of policy statement regarding recreational use of domestic water supply reservoir. Water & Sewage Works 105:167 Ap '58
- Development of the AWWA policy on reservoir use. W. R. LaDue, Am Water Works Assn J 50:1061-4 Ag '58; Abstract, Water & Sewage Works 105:247 Je '58
- Local officials should decide on recreational use of reservoirs; A.W.W.A. policy. Water Works Eng 111:227 Mr '58
- Pollution control in southwestern reservoirs and watersheds; recreational use in Oklahoma. L. F. Pummill, Am Water Works Assn J 50:789-93 Je '58
- Recreational development on the lower Colorado river. R. K. Coote, II Am Water Works Assn J 50:1201-10 S '58
- Recreational use of domestic water supply reservoirs; AWWA statement of policy. Am Water Works Assn J 50:573-80 My '58

RESERVOIRS, Concrete

- Repair of an earthquake damaged reservoir. O. T. Calhoun, II Pub Works 89:115-16 O '58

RESERVOIRS, Underground

- Design of underground storage reservoirs. A. B. Patterson, diags Am Water Works Assn J 49:1499-506 N '57

RESIBUFOGENIN. See Toad poisons**RESIDUAL stresses. See Strains and stresses—Residual stresses****RESIN acids**

- Air oxidation of resin acids; photo-sensitized oxidation of levopimaric acid. R. N. Moore and R. V. Lawrence, bibliog Am Chem Soc J 80:1438-40 Mr 20 '58
- Inhibition of resin acid isomerization. V. M. Loeblich and R. V. Lawrence, bibliog Ind & Eng Chem 50:619-20 Ap '58
- Resinous acids esters in low temperature coal tars. M. Vahrman, Chem & Ind p462-3 Ap 19 '58

RESINOUS products

- Acetal plastic may compete with nylon; Delrin, II Materials in Design Eng 47:155-6+ Ja '58
- Aromatic polycarbonate resins; new rugged plastics. K. B. Goldblum, diag Corrosion 14:90+ JI '58
- Automatic resin content control in high-pressure laminate manufacture. H. R. Levine, diags Mod Plastics 35:133-6+ My '58
- Better resins for better plastics. II Chem & Eng N 36:60+ F 17 '58
- Cast epoxy core driers for dielectric ovens. J. M. Leman and P. L. Morrison, II Foundry 88:34-7 Mr '58
- Characteristics of new 600°F epoxy compounds. H. Lee, II Plastics World 16:4-6 Mr '58
- Chemical interactions in the poly(vinyl formal)-phenolic resin system. S. M. Cohen and others, bibliog Ind & Eng Chem 50:229-32 F '58
- Coal tar-epoxy resin coating used by Avondale, II Marine Eng/Log 63:69 My '58
- Copolymer composition of polyester resins. W. G. F. Robertson and D. J. Shepherd, bibliog Chem & Ind p 126-7 F 1 '58
- Cutting production costs and time with epoxy resin press dies; Grumman aircraft corp. J. J. Mele, II Plastics Tech 4:232-4 Mr '58
- Delrin, a new thermoplastic. H. H. Goodman and J. D. Young, II S A E J 66:56-9 Ag '58
- Do it better with epoxies. H. L. Lewis, II Mill & Factory 62:94-6 Je '58
- Du Pont to make Delrin. Chem & Eng N 35:28 N 4 '57
- Epoxidation of liquid polybutadiene. C. E. Wheelock, Ind & Eng Chem 50:299-304 Mr '58
- Epoxy ante goes up. Chem & Eng N 36:32-3 S 1 '58
- Epoxy-asbestos for class B insulation. II Materials in Design Eng 46:203+ N '57
- Epoxy patterns and coreboxes. J. W. Tierney, II Foundry 85:85-90 D '57
- Epoxy powder fuses to intricate shapes. II Materials in Design Eng 47:182+ Je '58

RESINOUS products—Continued

- Epoxy resin compound can help solve corrosion problems. A. Morrison. *Oil & Gas J* 56:104 F 3 '58
- Epoxy resin tried as cover for tile dividers. *Ind Eng N* 161:52 Ag 28 '58
- Evaluation of casting resins, employing strain gage techniques. R. N. Sampson and J. P. Lesnick. *Mod Plastics* 35:150+ F '58
- Filled phenolic has good impact strength. *Materials in Design Eng* 47:184+ Je '58
- Forming with epoxy-faced dies. J. Delmonte. *Ind & Eng Chem* 50:55-16 Ja '58; Same cond. *Product Eng* 28:D9 Mid-O '57
- High molecular weight polymers of ethylene oxide. F. N. Hill and others. *bibliog* *Ind & Eng Chem* 50:55-16 Ja '58
- High polymer; Polyoxy water-soluble resins. *Ind Eng Chem* 50:94-151 F '58
- Influence of resin and process variables on polyester-glass laminate properties; modulus of elasticity, shrinkage, and reactivity. A. L. Smith and W. G. Carson. *bibliog* *Plastics Tech* 4:805-11+ S '58
- Inventory of new chemicals and materials; resins and plastics. *Ind Eng Chem* 50:188+ Mid-N '57
- Markets for materials, 1957. map *Mod Plastics* 35:85-105+ Ja '58
- Measurement of stresses in cast resins. A. J. Bush. *diags* *Mod Plastics* 35:143-4+ F '58
- 2-Methyl-5-vinylpyridine in polyester resin formulations. C. E. Wheelock. *bibliog* *Ind & Eng Chem* 49:1929-30 N '57
- Modified resins from GE. *Chem & Eng N* 36:56 Ag 11 '58
- New basic material for industry; liquid-containing synthetic. Porelon. *Ind & Eng Chem* 50:188+ Mid-N '57
- New chemical resistant floors. E. J. Grich. *Safety Maint* 114:32 O '67
- New Goodyear resin for fiber production. *Rubber World* 83:295 My '58
- New high polymer entry; water soluble poly(ethylene oxide) resin family. *Ind Eng Chem* 50:188+ Mid-N '57
- New materials. Published in monthly numbers of *Plastics technology*
- New plastic gains on metals' properties. K. B. Goldblum and R. J. Thompson. *Ind Eng Chem* 50:188+ Mid-N '57; Abstract. *Machine Design* 29:116 D 26 '57
- New polymer discovery; polyox. *Oil & Gas J* 55:88 N 4 '57
- New reinforced TFE resin has good wear resistance. *Ind & Eng Chem* 50:188+ Mid-N '57
- New resins for detergent bars. *Soap & Chem Spec* 33:269-70 D '57
- Over four billion pounds in 1957. *Mod Plastics* 35:83-4 Ja '58
- Photocopier swings to plastics. *Ind & Eng Chem* 50:188+ Mid-N '57
- Plastics and resins; annual review 1957. E. E. McSweeney and E. L. Kropp. *Ind & Eng Chem* 50:188+ Mid-N '57
- Plastics in the toolroom; reinforced epoxies. *Ind & Eng Chem* 50:188+ Mid-N '57
- Polyacetal resin, a new engineering material. *Ind & Eng Chem* 50:188+ Mid-N '57
- Polycarbonate resin; Lexan. R. J. Thompson and K. B. Goldblum. *Ind & Eng Chem* 50:188+ Mid-N '57
- Polyethylene family grows; Epolene C. *Ind & Eng Chem* 50:188+ Mid-N '57
- Polyox water-soluble resins. *Drug & Cosmetic Ind* 82:77 Ja '58
- Porous synthetic resin absorbs, then gives off liquids; Porelon. *Ind & Eng Chem* 50:188+ Mid-N '57
- Properties of materials; acrylics. *Materials in Design Eng* 48:142 Mid-O '58
- Properties of materials; alkyls. *Materials in Design Eng* 48:143 Mid-O '58
- Properties of materials; cast allyls and polyesters. *Materials in Design Eng* 48:158 Mid-O '58
- Properties of materials; cast epoxies. *Materials in Design Eng* 48:148 Mid-O '58
- Properties of phenolic; epoxy and vinyl coatings; tabulation; file facts. *Materials in Design Eng* 47:163+ Ap '58
- Radiation processing of unfilled polyester resins. E. L. Colichman and J. M. Scarborough. *J Ap Chem* 8:219-23 Ap '58; Abstract. *Materials in Design Eng* 47:174+ My '58
- Reinforced molding with acrylic sirup. J. A. Ross and others. *flow diag* *Ind & Eng Chem* 50:188+ Mid-N '57
- Relationship between properties of epoxy resin. J. Delmonte. *Product Eng* 29:C5-7 Mid-S '58
- Review and preview; resins led parade. *Ind & Eng Chem* 50:188+ Mid-N '57
- Sheathing of boat hulls; Cascover process. *Ind & Eng Chem* 50:188+ Mid-N '57
- Silicones join epoxies; abstract. E. P. Plueddemann. *Ind & Eng Chem* 50:188+ Mid-N '57
- Specific-purpose resins being tested in West Germany. *Aero/Space Eng* 17:29 Je '58
- Superior heat resistance and bonding of asbestos-base phenolic compounds. H. E. Barkan. *Elec Manuf* 61:12 My '58
- Suppliers discuss developments in resins and molding equipment for shell molding. *Foundry* 36:86-9 Ap '58
- Three new tough, rigid thermoplastics; a comparison. F. K. Park. *Ind & Eng Chem* 50:188+ Mid-N '57
- Tough new coating; Transcontinental gas pipe line corp. *Ind & Eng Chem* 50:188+ Mid-N '57
- Transformer epoxy conducts heat. *Ind & Eng Chem* 50:188+ Mid-N '57
- Vacuum-forming with epoxy resin molds. *Ind & Eng Chem* 50:188+ Mid-N '57
- Vacuum-molded epoxy cast-resin applications. H. R. Lucas. *Ind & Eng Chem* 50:188+ Mid-N '57
- Water-soluble resins from polyvinyl alcohols; Lemois. *Plastics World* 16:27 Ap '58

See also

Chlorotrifluoroethylene
Lucite
Melamine
Methacrylates
Micarta
Phenol condensation products
Plasticizers
Plastisols
Polyethylene
Polypropylene
Rubber—Mixing with resins
Rubber, Artificial—Mixing with resins
Silicones
Styrene (and polymers)
Teflon
Tetrafluoroethylene
Vinyl chloride
Vinyl compounds

Adhesives

- Adhesives and bonding; panel discussion. *Rubber Age* 82:696-7 Ja '58
- Adhesives for high-temperature applications. W. Bandaruk. *Product Eng* 28:G25-7 Mid-O '57
- Adhesives improve product quality; loudspeakers. *Ind & Eng Chem* 50:188+ Mid-N '57
- Bonding properties of a solventless cyanoacrylic adhesive. M. J. Bodnar and W. C. Schrader. *bibliog* *Mod Plastics* 35:142+ S '58
- Casing-joint thread lock. M. E. True and W. A. Pitts. *Ind & Eng Chem* 50:188+ Mid-N '57
- Cementing coal-mine roof; epoxy resins. E. L. Maize. *Ind & Eng Chem* 50:188+ Mid-N '57
- Conductive adhesive for electronic applications. T. J. Kilduff and A. A. Benderly. *bibliog* *Ind & Eng Chem* 50:188+ Mid-N '57
- Development of metal-bonding adhesive with improved heat resistance; abstract. J. M. Black and R. F. Blomquist. *Machine Design* 29:113-14 O 31 '57
- Epoxy adhesive kit. *Ind & Eng Chem* 50:188+ Mid-N '57
- Epoxy inserts for honeycomb structures. *Ind & Eng Chem* 50:188+ Mid-N '57
- Epoxy plastics facilitate maintenance repair. *Ind & Eng Chem* 50:188+ Mid-N '57
- Epoxy resins as cryogenic structural adhesives. R. M. McClintock and M. J. Hiza. *Ind & Eng Chem* 50:188+ Mid-N '57
- Foams reduce cost; foamed phenolics can improve product for plywood industry. *Chem & Eng N* 36:23 F 3 '58
- It's easy to use this new epoxy resin cement. *Ind & Eng Chem* 50:188+ Mid-N '57
- Joining marble with epoxy resins. H. Gillum. *Ind & Eng Chem* 50:188+ Mid-N '57
- New adhesive holds 5000 psi; Eastman 910. *Ind & Eng Chem* 50:188+ Mid-N '57
- One-part adhesive saves bonding steps. E. F. Hess. *Ind & Eng Chem* 50:188+ Mid-N '57
- Recent advances in adhesives; symposium. *bibliog* *Ind & Eng Chem* 50:903-34 Je '58
- Repairing corroded tanks, pipes, conduits with epoxy materials. *Ind & Eng Chem* 50:188+ Mid-N '57
- Selection guide for sandwich panel adhesives. R. K. Humke. *Ind & Eng Chem* 50:188+ Mid-N '57

RESINOUS products—Adhesives—Continued

- Surface counts; Alcoa probes effect of surface treatment on resin-bonded joints, M. Miller, Chem & Eng N 36:52 J1 '58
- Three new adhesives for steel, other materials, *il* Materials in Design Eng 46:166-7 D '57
- Topography of pressure-sensitive adhesive films, C. W. Hock and A. N. Abbott, *il* Rubber Age 82:41-5 D '57
- Use of resin adhesives in combining corrugated board, R. M. Walsh, Tappi 40:sup 1:5A-6A N '57
- Which adhesive for what? R. W. James and R. W. Gormly, *il* diags Product Eng 29: 79-81 Mr 17 '58

Analysis

- Analysis of amino-formaldehyde resins, J. C. Morath and J. T. Woods, bibliog Anal Chem 30:1437-40 Ag '58
- Chromatography of amino acids on sulfonated polystyrene resins, S. Moore and others, bibliog diag Anal Chem 30:1185-8 J1 '58
- Detection of phthalic acid isomers and benzoic acid in alkyl resins by infrared absorption spectrometry, M. L. Adams and M. H. Swann, Anal Chem 30:1322-4 Ag '58
- Determination of alpha-glycol content of epoxy resins, G. A. Stenmark, Anal Chem 30:381-3 Mr '58

Binding materials

- Better bonding of cement-type materials, D. J. Goeke, *il* Safety Maint 115:18-20 F '58
- Dry-film lubricants in plain bearings, M. H. Weisman, Machine Design 30:107-10 F '58
- Reinforced (faced-brick/resinous cements) linings, Corrosion 14:33-5 Mr '58
- Resin cement aids waterflood control, J. R. Williams, Jr, *il* diags Pet Eng 30:328-9+ My '58

Electric properties

- Arc resistance of epoxies, J. Delmonte, *il* Plastics Tech 4:228-30 Mr '58
- Dielectric strength and voltage life of polyethylene, G. H. Hunt and others, *il* Power Apparatus & Systems p25-8 Ap '58; Excerpts, Elec Eng 77:681 Ag '58
- Effects of electron irradiation on the electrical properties of mylar, E. L. Brancato and J. G. Allard, bibliog *il* diags Power Apparatus & Systems p 1539-45 F '58
- Electrical conductivity of Plexiglas, R. J. Munick, bibliog J Appl Phys 28:1302-3 N '57
- Electrical properties of modified epoxy resins, J. Delmonte, Mod Plastics 35:152+ Ap '58
- Irradiated polyethylene insulation systems, K. J. Mackenzie and R. A. Ward, bibliog *il* Elec Manuf 61:56-61 Ja '58
- Ten new epoxies for electrical uses, *il* Materials in Design Eng 48:142+ Ag '58
- Testing of polyvinylchloride electrical formulations, G. W. Ashworth and others, diags Wire & Wire Prod 33:407-11+ Ap '58
- Treeing in polyethylene as a prelude to breakdown, L. W. Kitchin and O. S. Pratt, *il* Elec Eng 77:218-23 Mr '58; Same, Power Apparatus & Systems p 180-5; Discussion, 185-6 Je '58
- Twelve phenolic mouldings in contactor unit, *il* Brit Plastics 31:97 Mr '58

Finishing materials

- Detection of urea, melamine, isocyanate, and urethane resins; rapid group test for nitrogen, silicon, phosphorus, and titanium in coating materials, M. H. Swann and G. G. Esposito, Anal Chem 30:107-9 Ja '58
- Exit solvents; powdered vinyl resins team up with a new coating process to put a finish on metal parts, *il* Chem & Eng N 36:44 Ag 18 '58
- General Mills' road show; Versamid seminar, Paint Oil & Chem R 121:8-9 Mr 20 '58
- Hood withstands corrosive gases, Iron Age 180:181-2 N 14 '57
- How C-I-L primed its new vinyl enamel; Dynakote, *il* Can Chem Process 42:77-8+ J1 '58
- How epoxies can simplify maintenance, E. R. Scogin and H. W. Howard, *il* Pet Refiner 37:152-4 Ja '58
- How radiation affects six organic coatings, L. A. Horrocks, *il* Materials in Design Eng 47:120-3 Ja '58
- New coatings give magnesium extra protection, *il* Iron Age 181:64-6 Ja 9 '58
- New process makes nylon coating possible; fluidization process applicable to other resins, *il* Iron Age 180:160-1 N 14 '57

- New vinyl paint facilities at Poughkeepsie, E. M. H. Bowen, Jr, *il* Metal Finishing 56:59-61 Ap '58
- Oxidative degradation of epoxy resin coatings, W. R. R. Park and J. Blount, Jr, diag Ind & Eng Chem 49:1897-902 N '57
- Phenolic camera parts are now epoxy coated, *il* Ind Finishing 34:26-8 J1 '58
- Powdered epoxy permits one-dip coatings, *il* Elec Manuf 62:128+ Ag '58
- Revolutionary new appliance finish; Dynakote enamel, Product Eng 29:7 Je 2 '58
- Strontium chromate primer; epoxy base, C. Brown, Ind Finishing 34:82 My '58
- Water-thinned paints; how they compare for metal products, W. Brenner, *il* Materials in Design Eng 47:100-3 My '58

See also

Plastic coating

Gas content

- Degassed resins make better plastics parts, *il* Materials in Design Eng 46:184+ D '57

Insulating materials

- Acrylonitrile-acrylate copolymers for wire insulation, J. Rosenberg and H. L. Greenberg, bibliog Mod Plastics 35:173-4+ D '57
- Advances in insulating materials extend open motor applications; all-silicone rubber; epoxy-resin encapsulated coils, *il* Plant 18: 56 S '58
- Aluminum, butyl, alkyd combined in radically new electrical busway; award of merit in Materials in design engineering competition, *il* Materials in Design Eng 47:134-7 Ap '58
- Epoxide resins in electrical components, *il* Brit Plastics 31:390-1 S '58
- Heat resistant thermoplastic has good electrical properties, *il* Materials in Design Eng 47:159-60+ F '58
- Insulated power cables, N. Peach, *il* diag Power 102:73-9 Ap '58

Ion exchange

- Amphetamine-resin compound, Drug & Cosmetic Ind 82:225 F '58
- Application of ion-exchange chromatography to the analysis of commercial triphosphate, W. G. Spangler and others, bibliog diag A. S. T. M. Bul 1961-5 F '58
- Continuous removal of dissolved oxygen by established ion-exchangers, E. C. Potter and G. Whitehead, bibliog diags J Appl Chem 7: 629-39 N '57
- Continuous solvent removal from aqueous solutions, J. M. Iwaszyk and G. Thodos, bibliog flow sheet diag Chem Eng Prog 54:69-75 Ap '58
- Deminerallizing systems, R. H. Marks, flow diag *il* diags Power 102:71-3 F '58
- Determination of the formulas of aqueous ruthenium(III) species by means of ion-exchange resin; Ru³⁺, RuCl²⁺ and RuCl⁺, H. H. Cady and R. E. Connick, bibliog Am Chem Soc J 80:2646-52 Je 5 '58
- Equilibrium studies of the copper(II) oxalate complex between an aqueous solution and an anion-exchange resin, L. D. Cockerell and P. H. Woods, bibliog Am Chem Soc J 80:3856-8 Ag 5 '58
- How can we keep anion exchange resins from deteriorating? answers, *il* Power 101: 136 N '57
- Industrial applications of ion exchange resins; abstract, R. E. Kressman, Chem & Ind p 1473 N 9 '57
- Ion exchange chromatography of amino acids; effect of resin particle size on column performance, P. B. Hamilton, bibliog Anal Chem 30:914-19 My '58
- Ion exchange resin catalyst stability in in-situ epoxidation, W. Wood and J. Termini, bibliog *il* Am Oil Chem Soc J 35:331-5 J1 '58
- Ion exchange resins; abstract, D. K. Hale, Chem & Ind p648; Discussion, 648-9 My 31 '58
- Ion exchange resins as indicators, W. E. Miller, Anal Chem 30:1462-4 S '58
- Ion exchange resins, 1941, Ind & Eng Chem 50:sup28A Je '58
- New ion exchange resin for uranium recovery, A. H. Greer and others, bibliog Ind & Eng Chem 50:166-70 F '58
- Preparation and properties of cation-exchange resin from cashew nut shell liquid, N. Krishnaswamy and others, Chem & Ind p 1456 N 2 '57
- Preparation and use of snake-cage polyelectrolytes, M. J. Hatch and others, *il* diags Ind & Eng Chem 49:1812-19 N '57
- Reactions with ion exchange resins, W. E. Miller, Anal Chem 28:1891-3 D '57

RESINOUS products—Ion exchange—Continued

- Resin purifies water for washing crystals. *il* Electronics 31:123+ Ap 11 '58
- Resins make wines faster; used in both U.S. and Italy. *diag* Food Eng 30:98 Ap '58
- Science for electroplaters; cyanide removal by ion exchange. L. Serota. *diags* Metal Finishing 56:72-5 Mr '58
- Science for electroplaters; ion exchange properties. L. Serota. *diag* Metal Finishing 56:68-70 Ap '58
- Solvent extraction and resin-in-pulp, favorites on the Colorado plateau; Western nuclear corp. and Vitro uranium co. flow sheet *il* Eng & Min J 159:92-5 My '58
- Specific effects in acid catalysis by ion exchange resins; resins prepared from styrenesulfonic esters. C. H. Chen and L. P. Hammett. *Am Chem Soc J* 80:1329-31 Mr 20 '58
- Stronger resin, lasts longer; new ion exchange resin. *il* Chem Eng 65:74+ My 19 '58
- Use of cation exchange resins in the von Peckmann reactions. S. S. Isacstam and E. V. O. John. *Chem & Ind* p 1262 S 27 '58
- Variable capacity anion exchange resins from quaternized dimethylaminostyrene-styrene bead copolymers. R. H. Wiley and J. M. Schmitt. *Am Chem Soc J* 80:1389-91 Mr 20 '58
- Weak-base anion exchange resins for domestic water conditioning. F. X. McGarvey and R. Kunin. *bibliog Ind & Eng Chem* 49:1907-10 N '57
- Western Nuclear proves worth of resin-in-pulp ion exchange. E. C. Bitzer. *il* plan *diags Eng & Min J* 159:95-103 My '58

Manufacture

- Bis(aminophenyl)sulfoxes as curing agents for epoxy resins. W. H. C. Rueggeberg and others. *Mod Plastics* 35:154+ F '58
- Dustless PVC eases processing. R. S. Holdsworth and others. *il* Mod Plastics 35:131-3+ Je '58
- Flexible epoxy resins; investigation comparing various curing systems. W. J. Belanger and H. C. Klassen. *Plastics Tech* 4:726-31 Ag '58
- Inventory of new processes and technology; plastics, resins and rubber. *Chem Eng* 65:133-4 My '58
- Monsanto's 'Fred copolymers plant. *il* Chem & Ind p 1592-3 D 1 '51
- Shell puts epoxy kettle to work. *il* Can Chem Process 42:51+ Jl '58

Paper uses

- Further studies on the use of a UF concentrate for improving wet rub of starch paper coatings. J. R. Belche, Jr. *il* Tappi 41:318-20 Je '58
- Hardwood kraft saturating papers for phenolic laminate core stock. W. L. Hearn and H. R. Titus. *il* Tappi 41:sup204A-5A Je '58
- Impregnation of paper with acrylic ester emulsion polymers. E. J. Sweeney. *Tappi* 41:304-9 Je '58
- Internal treatment of paper with polyvinyl acetate (cont). R. P. Barber and others. *Tappi* 41:116-18 Mr '58
- Phenolic resin, core, and bushing winding machines. W. R. Penrod and J. W. Couture. *il* *diags* Tappi 41:sup200A-3A Je '58
- TAPPI paper-plastics conference, 12th, Cincinnati; with abstracts of papers. *Paper Tr J* 141:24-7 O 28 '57; *Tappi* 40:sup 127A-30A N '57

Physiological effect

- Control program for epoxy-caused dermatitis. J. A. Stifter. *il* *Plastics Tech* 4:138-41+ F '58
- Toxicology of epoxy resins. C. H. Hine and others. *bibliog* (27 titles) *il* A M A Archives Ind Health 17:123-44 F '58

Radioactivity effect

- How radiation affects six organic coatings. L. A. Horrocks. *il* *Materials in Design Eng* 47:120-3 Ja '58

Safety measures

- Safety problem; epoxy resins and amine curing agents. *Rubber Age* 84:100 O '58

Temperature effect

- Thermal stability of resins. A. L. Smith and others. *bibliog Ind & Eng Chem* 49:1903-6 N '57

Testing

- Comparison of phenolic and polyester premix materials. J. J. Colao and M. M. Gurvitch. *Product Eng* 29:C 12-16 Mid-S '58
- Evaluating epoxy resin degradation systems. W. G. Murray and G. A. Stein. *Plastics Tech* 4:143-8 F '58
- Kinetics and mechanism of alkyl photooxidation. C. D. Miller. *diags Ind & Eng Chem* 50:126-8 Ja '58
- Significance of second-order transitions of polyester and epoxy resins in glass fiber-reinforced laminates. A. D. Coggeshall. *bibliog Plastics Tech* 4:51-9 Ja '58
- Unsaturated polyester resins containing methyl methacrylate monomer. A. L. Smith and J. R. Lowry. *bibliog il* *Mod Plastics* 35:134+ Mr '58

*See also***Phenol condensation products—Testing****Textile uses**

- Application of resin finishes to cotton garments using drycleaning plant equipment. R. T. Graham and others. *bibliog Textile Res J* 28:252-6 Mr '58
- Cardo introduces new class of water-soluble resins. *il* Am Dyestuff Rep 46:944 D 2 '57
- Crease- and shrinkproofing effects; condensates of pentaerythritol with dialdehydes; patent. *Am Dyestuff Rep* 47:60 Ja 27 '58
- Durable creasing of wrinkle resistant cotton. J. D. Reid and others. *bibliog Textile Res J* 28:242-51 Mr '58
- Effect of resins on light fading of vat dyes; abstract. *Textile World* 108:114 Ja '58
- Effect of silicone softeners on resin treated cottons. B. G. Simpson. *Am Dyestuff Rep* 46:981-8 D 30 '57; Same. *Textile Res J* 28:170-9 F '58; Abstract. *Textile World* 107:121 D '57
- How laundering affects cotton finished with DMEU resins; abstract. O. C. Bacon and others. *Textile World* 108:133+ F '58
- How Millville produces polished cottons. *il* *Textile World* 108:120-1 Mr '58
- Impregnation for water repellency and its logical use with synthetic-resin finishing. H. Ruile. *il* *diag* Am Dyestuff Rep 46:947-52+ D 16 '57
- New finishing techniques for wash-and-wear cottons. J. D. Reid and R. M. Reinhardt. *bibliog* (27 ref) *il* *Mod Textiles Mag* 39:61-3 Mr '58
- New resins for treating white cotton goods. H. C. Borghetty. *Textile World* 108:89+ Ap '58
- Plastic foams; a new textile material. J. E. Lynn. *il* *Mod Textiles Mag* 39:49-52 Ja '58
- Polyamide-epoxide resin prevents wool shrinkage; abstract. C. E. Pardo and R. A. O'Connell. *Textile World* 108:123 Ja '58
- Recurring resin finishes to produce durable clothes; abstract. J. D. Reid and others. *Textile World* 107:120 D '57
- Relation of the effect of resins on light fading and the tendering action of photosensitive vat dyes. *bibliog* Am Dyestuff Rep 47:39-48 Ja 27 '58
- Resin application to a ¾ cotton-¼ rayon blend fabric. J. A. Woodruff. *Mod Textiles Mag* 39:80-4 Je '58
- Resins for wash-wear finishes. H. C. Borghetty. *Mod Textiles Mag* 39:40+ Ag '58
- Urethane in clothing; warmth without weight. R. A. Singer. *il* *Mod Textiles Mag* 39:54-6 Ja '58

Water treatment

- Continuous removal of dissolved oxygen by established ion-exchangers. E. C. Potter and G. Whitehead. *bibliog* *diags J Ap Chem* 7:629-39 N '57
- Dem mineralizing systems. R. H. Marks. *flow* *diag il* *diags Power* 102:71-8 F '58
- How to get pure water. *il* *Mill & Factory* 62:106 Mr '58
- Source of very pure water; laboratory scale deionising column. *il* *diag Metallurgia* 58:160 S '58
- Weak-base anion exchange resins for domestic water conditioning. F. X. McGarvey and R. Kunin. *bibliog Ind & Eng Chem* 49:1907-10 N '57
- RESINS, Synthetic. *See* Resinous products
- RESISTANCE, Electric. *See* Electric resistance
- RESISTORS, Electric. *See* Electric resistors
- RESNATRON. *See* Amplifiers, Vacuum tube
- RESOLVING power (optics)
- Resolution chart aids tv camera focusing. G. Southworth. *il* *Electronics* 31:100-1 F 14 '58

RESONANCE

- Comparison of theoretical and empirical relations between the shear modulus and torsional resonance frequencies for bars of rectangular cross section. S. Spinner and R. C. Valore, Jr. *diag J Res Nat Bur Stand* 60:459-64 My '58
- Detecting resonant frequencies in complex structures. R. F. Thielman. *diags Machine Design* 29:149-52 N 14 '57
- Dynamic testing of concrete evaluated. E. A. Whitehurst. *bibliog Civil Eng* 27:363-5 D '57
- Ghost modes in imperfect waveguides. E. T. Jaynes. *diags Inst Radio Eng Proc* 46:416-13 F '58
- Resonance mass selector. A. Bierman. *diag R Sci Instr* 28:910-13 N '57
- Some experiments with a resonance tube in a supersonic wind tunnel. M. Sibulkin and T. Vrebalovich. *il J Aero/Space Sci* 25:465-6 J '58
- Technique finds tube resonances; accelerometer as sensing device. R. B. Tatge. *diag Electronics* 31:90+ R y '58
- Ultrasonic resonance testing of glued metal joints. J. Schilve. *bibliog diags Aircraft Eng* 30:269-71 S '58

RESONANCE (chemistry)

- Macro rings; an extreme example of steric inhibition of resonance in a classically-conjugated hydrocarbon. K. C. Dewhirst and D. J. Cram. *bibliog Am Chem Soc J* 80:3115-25 Je 20 '58
- Rates of solvolysis of the *m*- and *p*-phenyl-, *m*- and *p*-methylthio- and *m*- and *p*-trimethylsilylphenyldimethylcarbinyl chlorides; steric inhibition of resonance as a factor in electrophilic substituent constants. H. C. Brown and others. *bibliog Am Chem Soc J* 80:4964-8 S 20 '58
- Relative rates of bromination of some hydroxy-, methoxy- and methylthio-substituted polymethylbenzenes; partial inhibition of resonance effects. G. Illuminati. *bibliog Am Chem Soc J* 80:4945-8 S 20 '58

RESONANCE, Magnetic. See Magnetic resonance

RESONANCE Integral. See Integrals

RESONATORS, Radio. See Radio resonators

RESORCINOL

- Room temperature-cured resorcinol epoxide adhesives for metals. W. E. St Clair and R. H. Moulton. *bibliog Ind & Eng Chem* 50:908-11 Je '58

RESORTS

- Tourist center, Silver Springs, Fla. *il plan Prog Arch* 39:146-8 Ap '58

RESPIRATION

- Airflow interrupter for respiratory work. L. E. Mount. *il diags J Sci Instr* 35:104-5 Mr '58

RESPIRATION, Artificial

- New data on resuscitation. P. Safar. *bibliog diags Power Apparatus & Systems* 7:81-3; Discussion. G. R. Radley. 784 O '58
- Uses of oxygen in industrial medicine. E. A. Irvin. *Ind Med* 27:506-7 O '58

RESPIRATORY apparatus

- Mechanical resuscitators for electrical accidents; abstract. T. M. C. Martin. *Safety Maint* 115:33 Ja '58
- Respirator suitable for both small and large laboratory animals. H. E. Guttman. *diags R Sci Instr* 29:427-8 My '58

See also

Oxygen apparatus

RESPIRATORY organs

Diseases

- Control of acute respiratory disease in industry. L. H. Whitney. *Ind Med* 27:502-5 O '58
- Efficacy of and indications for use of adenovirus vaccine. M. R. Hilleman. *bibliog* (37 titles) *Am J Pub Health* 48:153-8 F '58
- Epidemiological aspects of acute respiratory diseases including influenza. A. D. Langmuir. *Ind Med* 27:498-9 O '58
- Pandora's box; new viruses and respiratory tract disease. E. D. Kilbourne. *Ind Med* 27:500-1 O '58

See also

Influenza

RESTAURANTS

- Concrete wine glasses roof a new restaurant. Ida Gason. *Callaway gardens. il Eng N* 161:34-5 Ag 7 '58
- Custom-made canopy substitutes for roadside sign. *il Plastics World* 16:27 Ar '58
- Out of this world dining place said to look the part. *il Concrete* 66:21 JI '58

Equipment

- Saying it with photos; restaurant supplier wins customer good will with photographs of new installations. *il Ind Phot* 7:36 F '58

Lighting

- Atmosphere in a restaurant. *il Illum Eng* 52:567 N '57
- Design results through variations in lighting. C. M. Cutler. *il Prog Arch* 39:164-70 S '58
- Lighting in restaurant kitchens; illustrations with text. *Illum Eng* 53:140-1 Mr '58
- Thought for food; illustrations with text. *Illum Eng* 53:400-4 JI '58

Waste

- Sewage plant for restaurant treats 12,000 g.p.d.; Manero's restaurant on New Jersey route 17. *plan Pub Works* 89:98 Mr '58
- Waste treatment plant serves highway restaurant. *diag Pub Works* 89:93-4 My '58

RESTITUTION, Coefficient of

- Experiment for measuring the coefficient of restitution. F. Van Name, Jr. *diags Am J Phys* 26:386-8 S '58

RESCUSITATION

See also

Respiration, Artificial

RETAIL trade

See also

- Chain stores
Dealer relations
Supermarkets

Advertising

See also
Food industry and trade—Advertising

RETAINING walls, Concrete

- Concrete structure repair using non-shrink-ing grout with pre-placed aggregate; West Penn power co. J. C. King and J. Hofer. *il Plant Eng* 12:116-18 O '58
- Design of retaining walls. R. B. Riddle. *il diags Pub Works* 89:71 JI '58

RETARDED children. See Children, Backward

RETARDERS, Car. See Car retarders

RETARDERS, Motor truck. See Motor trucks—Retarders

RETHRINS

- Spectroscopic assignment of geometrical configuration to rethrins-I. L. Crombie and S. H. Harper. *Chem & Ind* p 1001-2 Ag 9 '58

RETINA

- Electronic device aids delicate eye operation. *Elec Eng* 77:197 F '58

RETIREMENT

- Geriatrics and retirement. A. Salamone. *Ind Med* 27:417-20 Ag '58
- How Con Ed helps its employees find a happy retirement. *il Elec World* 148:86-7 N 25 '57
- How retirement plans are working. J. F. Self. *Oil & Gas J* 56:54-7 F 3 '58
- Mortality, morbidity and retirement. J. S. Tyhurst and others. *bibliog Am J Pub Health* 47:1434-44 N '57
- Should engineers be retired automatically at 65? points of view. *Product Eng* 29:40-1 F 10 '58

- Unique idea for the old timers; British Columbia electric co. retired employees' lounge. *il Am Gas Assn Mo* 39:3 D '57

REUNION (island)

See also

Oil industries—Reunion (island)

REVERBERATION. See Echo

REVERSING mechanism

- Shaft-mounted device instantly reverses motor. *il diag Product Eng* 28:129 N 11 '57

REWARDS, prizes, etc.

- A. Scott Crossfield wins 1958 Octave Chanute award. *Aero/Space Eng* 17:11 Ag '58
- Abram N. Kerner wins Nichols award. *Chem & Eng N* 36:78-9 My 19 '58
- All-American awards. *il Q S T* 42:58 F '58
- ACS announces 1959 award winners. *Chem & Eng N* 36:98-9 S 15 '58
- AFS annual awards. *Foundry* 86:174-6 My '58
- A.I.A. gold medal to John Root. *Arch Rec* 123:25-1 Je '58
- AIC scroll to Cecil Brown. *Chem & Eng N* 36:116 Je 9 '58
- AIEE-IRE branch honors Dr Honnell. *il Elec Eng* 77:435 Mr '58
- AIME awards for 1958 presentation announced. *Min Eng* 9:1388 D '57
- AIAA honors engineers; tribute to C. E. Davies, retiring secretary. *biographies of recipients of the honorary membership, the awards, and medals at the 1957 annual meeting. Mech Eng* 80:88-96 Ja '58

REWARDS, prizes, etc.—Continued

A.S.N.E. award. Am Soc Naval Eng J 70: 7-8 F '58
 Army gets first miniaturization award. *il* Ind Lab 9:97 My '58
 Awards presented for top achievements; annual A.G.A. convention. *il* Am Gas Assn Mo 39:10-12+ N '57
 Bachner award for outstanding achievement in molded and formed plastics. *J. Bachner. Plastics World* 16:6 J '58
 Cameron, Brandt and Kuka win AISE paper awards. *Chem & Eng* 34:132 O '57
 Carl Dietzsch received American chemical society award in pure chemistry. *Chem & Eng* N 36:61 Ap 28 '58
 Chemical fraternity cites LaLande; Philadelphia chapter of Alpha chi sigma 7th annual award. *Chem & Eng* N 36:119 J '58
 CSMA achievement award to Dr. Klarmann. *Soap & Chem Spec* 34:177 O '58
 Coal men win Department of interior awards. *Coal Age* 63:32 Mr '58
 DuBois Eastman received American chemical society award in industrial and engineering chemistry. *Chem & Eng* N 36:63 Ap 28 '58
 Edward V. Fineran wins first annual industrial and commercial achievement award sponsored by Gas age and Industrial gas. *Gas Age* 120:19 O 31 '57
 Eugene P. Kennedy received Paul-Lewis laboratories award in enzyme chemistry. *Chem & Eng* N 36:58 Ap 28 '58
 Eva V. Armstrong, Dexter award winner. *Chem & Eng* N 36:82 Ag 18 '58
 FSIWA 1957 awards and nominations. *Sewage & Ind Wastes* 30:114-16 Ja '58
 Food and drug officials award to Henry Hoffmann. *Chem & Eng* N 36:108 O 27 '58
 Frank Emerson Brown received Scientific apparatus makers award in chemical education. *Chem & Eng* N 36:105 Ap 28 '58
 Herstein given New York AIC honor award. *il* *Chem & Eng* N 36:82 Je 23 '58
 Himes wins Rubber Age award. *Rubber Age* 63:855 Ag '58
 Industry honors atomic-metals pioneers; award for chemical engineering achievement. *Chem Eng* 65:84+ Ja 13 '58
 Industry honors top builder and eleven New freedom gas kitchens and laundries; NAHB convention, Chicago, Jan. 19-24. *Am Gas Assn Mo* 40:2-5 F '58
 Insignia award in technology. I. B. Hart. *Chem & Ind* p349 Mr 22 '58
 IRE awards, 1958 and new fellows. *Inst Radio Eng Proc* 46:sup14A-16A+ Ap '58
 Institute of the aeronautical sciences awards for 1957. *Aeronautical Eng R* 17:24-7 Mr '58
 Introducing the Fritz London award. L. G. Brickwedde. *Phys Today* 11:16-17 Mr '58
 J. T. Littleton to receive Todelo award. *Glass Ind* 38:696 D '57
 Jacob Bireisen received American chemical society award for nuclear applications in chemistry. *Chem & Eng* N 36:54 Ap 28 '58
 Karl Dittmer wins Florida award. *Chem & Eng* N 36:118 My 26 '58
 Lester J. Reed received Eli Lilly & co. award in biological chemistry. *Chem & Eng* N 36:58 Ap 28 '58
 Lewis award to Mayer. *Chem & Eng* N 36: 114 Je 9 '58
 Littleton receives Toledo award. *Glass Ind* 39:90-2 F '58
 Management award to R. R. Deupree. *Soap & Chem Spec* 34:56+ O '58
 1957 ADR award to Irving A. Berstein. *Am Dyestuff Res* 46:885 N 18 '57
 1957 CE achievement award. *il* *Chem Eng* 64: 7-22+ Mid-N '57
 1957 Hillebrand award to Greenstein. *Chem & Eng* N 36:70 Mr 24 '58
 1958 Commercial chemical development association award winner. *Chem & Eng* N 36: 116 F 24 '58
 1958 distinguished service award of the ACS Virginia section to William George Guy. *Chem & Eng* N 36:102 J '58
 1958 honor awards announced by ASTE. *Tool Eng* 40:127-9 My '58
 1958 Moles awards to Connolly, Donaldson. *Comp Air Mag* 62:371 D '57
 1958 water-based aviation award won by navy BuAer scientist, Frederick W. S. Locke, jr. *Aero/Space Eng* 17:15+ Ag '58
 Paul Hugh Emmett received Kendall co. award in colloid chemistry. *Chem & Eng* N 36:52 Ap 28 '58

Petroleum research fund grants for fundamental research in the petroleum field. *Chem & Eng* N 36:85 S 8 '58
 Presentation of the Mineralogical society of America award to Rustum Roy and acceptance. E. F. Osborn. *Am Mineralogist* 43:344-8 Mr '58
 Priestley memorial award to Kistlakowsky. *Chem & Eng* N 36:94 Ap 14 '58
 Read gets AIC award. *Chem & Eng* N 36: 124 Mr 31 '58
 Robert P. Dischens received American chemical society award in petroleum industry. *Chem & Eng* N 36:56 Ap 28 '58
 Shock troops of the industry; Bachner award. *J. Bachner. Plastics Tech* 4:653 J '58
 65 engineering students win machine design awards. *Mach* 64:137-8 Ag '58
 Society of motion picture and television engineers awards; annual presentations. *SMPTe J* 68:704-6+ N '57
 Sperry award for 1957 goes to General Motors group. *Mech Eng* 79:1186 D '57
 Tiny transistor wins big award; first annual miniaturization award. *il* *Iron Age* 181:68 Mr 27 '58
 Toledo technical council names Julian H. Toulouse engineer of the year; Sadorris award. *Ind Quality Control* 14:31-2 Ap '58
 Top awards to Baker, Hull, Watson-Watt; Institute of radio engineers, Franklin institute and A.I.E.E. annual awards. *Electronic Ind & Tele-Tech* 16:16 N '57
 William F. Geddes, Appert award winner. *Chem & Eng* N 36:84 Je 23 '58
 William L. Laurence received James T. Grady award. *Chem & Eng* N 36:122 Ap 28 '58
 William S. Johnson received American chemical society award for creative work in synthetic organic chemistry. *Chem & Eng* N 36:53 Ap 28 '58

See also

Beckman award
 Bleininger award
 Bonus system
 Borden award
 Carl John Franklin award
 Coffin, Charles A. award
 Edison radio amateur award
 Fritzsche award
 Medals
 Nobel prizes
 Perkin medal
 Pittsburgh award
 Safety contests and awards
 Science talent search
 Sedgwick memorial award
 Wiley, Harvey W. award
 REXFORMING process. See Gasoline—Manufacture
 REYNOLDS equation. See Differential equations
 REYNOLDS number. See Fluids
 RHENIUM
 New engineering metals. J. P. Denny and L. F. Kendall, jr. *Mech Eng* 80:67-71 Ag '58
 Refractory metals; tungsten, tantalum, columbium, and rhenium. J. W. Pugh. *bibliog J Metals* 10:335-9 My '58
 Rhenium as an electron emitter in mass spectrometry. C. F. Robinson and A. G. Sharkey, jr. *bibliog R Sci Instr* 29:250-1 Mr '58
 Rhenium toughens tubes. *Electronics Bsns* ed 30:36 N 10 '57

Spectra

Term analysis of the first spectrum of rhenium (Re I); with table of energy levels of the Re atom and table of classified lines of Re I. P. F. A. Klinkenberg and others. *bibliog il J Res Nat Bur Stand* 59: 319-48 N '57
 RHENIUM compounds
 Cyclopentadienyl rhenium tricarbonyl. R. L. Frucht and E. L. Morehouse. *Chem & Ind* p880 Ag 2 '58
 Ditertiary arsine complexes of bi- and ter-valent rhenium. N. F. Curtis and others. *bibliog Chem & Ind* p625-6 My 24 '58

RHEOLOGY

New rheological classification for pigment suspensions in polymer solutions. L. Dintenfuss. *J Ap Chem* 8:349-51 Je '58
 Rheological review for cosmetic chemists. A. L. Scarbrough. *bibliog Am Perfumer & Aromatics* 72:58+ Ag '58

See also

Plasticity
 Thixotropy

RHEOLOGY, Society of. See Society of rheology

RHEOSTATS

High-voltage rheostat for electrostatic accelerator focusing. B. D. Kern and others. *il* diag R Sci Instr 28:969 N '57

Liquid rheostats; an old-timer struts to tackle the big jobs. E. S. Avery. *il* diag Power 101:124-6 D '57

Rheostats regulate shock absorbers. *il* diags Product Eng 29:114 Mr 31 '58

Theory of networks of linearly variable resistances. H. Levenstein. bibliog diags Inst Radio Eng Proc 46:486-93 F '58

Vapomatic rheostat. *il* diags Automobile Eng 48:108-10 Mr '58

Vhf rheostat. W. B. Wrigley and T. R. Scott. *jr*. bibliog *il* diag Electronics 30:196-4 D 1 '57

RHEUMATIC fever

Phenolic compounds for rheumatic fever; abstract. N. E. Clarke and others. Drug & Cosmetic Ind 83:217 Ag '58

RHODANINE

Reaction of 5-ethoxymethylenetherhodanines with amines. C. P. Lo. Am Chem Soc J 80:3466-8 J 1 '58

RHODE ISLAND

See also

Coal—Rhode Island

Roads—Rhode Island

RHODEXIN

Structure of rhodexin B and C. H. Nawa and M. Uchibayashi. Chem & Ind p653 My 31 '58

RHODIUM

Constitution of alloys of iron with ruthenium, rhodium, palladium, and silver. W. S. Gibson and W. Hume-Rothery. diags Iron & Steel Inst J 139:243-50 J 1 '58

Interaction of rhodium(III) solutions with 1,2,3-benzotriazole. R. F. Wilson and C. M. Womack, jr. Am Chem Soc J 80:2065-6 My 5 '58

Analysis

Separation of platinum, palladium, rhodium, and iridium by paper chromatography. W. M. MacNevin and M. L. Dunton. bibliog diags Anal Chem 29:1806-9 D '57

Separation of rhodium and iridium from base metals by ion exchange. A. G. Marks and F. E. Beamish. bibliog Anal Chem 30:1464-9 S '58

Spectrophotometric determination of rhodium and platinum in plutonium. M. E. Smith. Anal Chem 30:912-13 My '58

RHODIUM alloys

Automatic temperature programming and recording for a platinum-rhodium furnace. J. M. Cutter and R. Derry. diag J Sci Instr 35:226-7 Ja '58

RHODIUM compounds

Evidence for the existence of a rhodium complex with EDTA. W. MacNevin and others. Chem & Ind p 101 Ja 25 '58

Spectra

Synthesis and infrared study of some rhodium coordination compounds. J. P. Collman and H. F. Holtzclaw, jr. bibliog Am Chem Soc J 80:2054-6 My 5 '58

RHODIUM plating

Commutator plating with rhodium reduces wear and static. Power Eng 62:84 O '58

Finished commutators plated for longer wear. *il* Elec Manuf 61:152-4 Ap '58

Improved baths solve lifting of plated circuit foils. E. C. Rinker and F. W. Jahns, jr. *il* Iron Age 181:118-20 Je 19 '58

Rhodium-plated kata thermometer for measuring true air velocity. W. Koch and D. Kaplan. bibliog J Sci Instr 35:8-11 Ja '58

Solves motor problem: rhodium plating commutator segments. *il* Steel 142:100 Mr 3 '58

RIBBON cables. See Electric cables—Tape cables

RIBOFLAVIN. See Vitamins—Vitamin B₂

RIBOFURANOSE

Phosphorylated sugars; syntheses of α -D-ribofuranose 1, 5-diphosphate and α -D-ribofuranose 1-pyrophosphate 5-phosphate. G. M. Tener and H. G. Khorana. bibliog Am Chem Soc J 80:1999-2004 Ap 20 '58

RIBOFURANOSIDE

Potential anticancer agents; synthesis and ammonolysis of methyl 2,3-anhydro-D-ribofuranoside. C. D. Anderson and others. bibliog Am Chem Soc J 80:5247-52 O 5 '58

RIBONUCLEASE

Countercurrent distribution studies with ribonuclease and lysozyme. T. P. King and L. C. Craig. bibliog Am Chem Soc J 80:3366-70 J 1 '58

RIBONUCLEIC acid

Reversibility of amino acid incorporation into ribonucleic acid. E. Glassman and others. bibliog Am Chem Soc J 80:4427-8 Ag 20 '58

Some physical and chemical properties of the ribonucleic acid contaminant of rabbit muscle myosin preparations. E. Mihaly and others. bibliog diag Am Chem Soc J 79:6387-93 D 20 '57

RIBONUCLEOSIDES. See Nucleosides

RIBOSIDES

5-Amino-4-imidazolecarboxamide riboside from inosine; ring-opening reactions of purine nucleosides. B. Shaw. bibliog Am Chem Soc J 80:3899-902 Ag 5 '58

Riboside derivatives of 6-methyl-*asym*-triazine-3,5(2,4)-dione. R. H. Hall. bibliog Am Chem Soc J 80:1145-50 Mr 5 '58

Synthesis of potential anticancer agents; ribosides of 6-substituted purines. J. A. Johnson, jr. and others. bibliog Am Chem Soc J 80:699-702 F 5 '58

Synthesis of potential anticancer agents; ribosides of 2,6-disubstituted purines. H. J. Schaeffer and H. J. Thomas. bibliog Am Chem Soc J 80:3738-42 J 20 '58

RICE

Analysis

Varietal differences in amylose content of rice starch. V. E. Williams and others. bibliog J Agri & Food Chem 6:47-8 Ja '58

RICE

Effect of freezing on the hydration characteristics of rice. A. S. Roseman. bibliog *il* Food Tech 12:464-8 S '58

RICE oil

Rice oil, booming industry? *il* Ind & Eng Chem 50:sup36A-8A S '58

RICHARDSON company

Career opportunities. *il* Chem & Eng N 36:54 pt 2 Ja 27 '58

RICHMOND, Frank

Sketch. por Instruments & Automation 30:2039 N '57

RICHMOND, Virginia

Water supply

Conversion from dry to liquid alum saves \$12,000 per year. W. W. Anders. *il* diags Water Works Eng 111:46-7+ Ja '58

RICIN

Isolation of ricin, ricinine, and the allergenic fraction from castor seed pomace from two different sources. G. R. Waller and S. S. Negi. bibliog Am Oil Chem Soc J 35:409-12 Ag '58

RICININE

Biogenesis of ricinine. E. Leete and F. H. B. Leitz. bibliog Chem & Ind p 1572 N 30 '57

Isolation of ricin, ricinine, and the allergenic fraction from castor seed pomace from two different sources. G. R. Waller and S. S. Negi. bibliog Am Oil Chem Soc J 35:409-12 Ag '58

RICINOLEIC acid

Preparation and infrared spectra of morpholides of ricinoleic acid and some of its derivatives. H. P. Dupuy and others. bibliog Am Oil Chem Soc J 35:99-102 F '58

Synthesis of unsaturated fatty acids; di-ricinoleic acid. W. J. Gensler and C. E. Abrahams. bibliog Am Chem Soc J 80:4593-6 S 5 '58

RIFLES

Determination of rifle trajectories. H. S. Powley. bibliog diag Franklin Inst J 264:379-89 N '57

Standards

Fabrique Nationale rifle; conversion from Belgian standards and drawings to Canadian practice. R. Patterson. *il* diags Eng J 41:72-3+ Mr '58

RIGHT of way

How right-of-way cost is being cut; meeting sponsored by Electrical world, Chicago, March 6-7. Elec World 149:71-3 Mr 24 '58

Postman shares right-of-way load; Detroit Edison co. securing some rights-of-way by mail. R. E. Brehmer. *il* Elec World 149:40 Je 30 '58

Right-of-way claims; proposals made to get smoother, faster operation. Eng N 161:28 Ag 14 '58

See also

Eminent domain

Pipe lines—Right of way

RIMMED steel. See Steel—Rimmed steel

RIMUENE. See Diterpenes

RINEHART, John S.
Orton memorial lecturer. por Am Cer Soc
Bul 37:161 Mr 15 '58

RINGS

Analysis of elliptical rings for monocoque fuselages. S. Kaufman. bibliog diags J Aeronautical Sci 25:98-102 F '58
Bending of thin uniform circular rings. W. J. Goodey. diags Aircraft Eng 30:101-8 Ap '58
Elastic problem for a ring of uniform force in an infinite body. W. H. Pell. diag J Res Nat Bur Stand 60:365-73 Ap '58
Formulas and charts for calculating deflection of circular rings loaded normal to plane of curvature; data sheet. H. D. Tabakman. diag Machine Design 29:167-72 N 14 '57
Mechanical fasteners for military electronic equipment; washers and rings. G. H. Lines. diags Elec Manuf 61:113-15 Je '58
New graphite backing rings hold a solution. H. C. Phelps. il Welding Eng 43:108 Ap '58
Pressure sealing by O-rings. J. R. Fawcett. diags Engineering 185:314-15 Mr 7 '58
Radial deformation of rings simplified. H. D. Tabakman. diags Pet Refiner 36:159-64 D '57
Ring construction of rotor and stator sections; Latham mfg. co. il diags Machine Design 30:135 F 2 '58
Shrink-fit nomograph for steel and cast-iron rings of equal length; reference book sheet. S. Rappaport. diags Product Eng 29:85-+ Ap 14 '58
Volumes and surface areas of pendular rings. W. Rose. bibliog diags J Ap Phys 29:687-91 Ap '58

RINGS (Jewelry)

Making seamless tubing at minimum cost; manufacture of wedding bands. V. Roth. il diags Tool Eng 40:107-9 Ja '58

RINGS, Steel

Extruded steel bars reduce machining time; split clamping rings for fuel injection pumps. il diag Automotive Ind 119:65 S 15 '58
Machining time trimmed 22 per cent; American Bosch Arma corp. il diag Steel 143:112 A 8 18 '58
Measurements of quenching stresses in a bearing ring by interference fringes. T. Mura and H. Yoshimoto. bibliog il diags J Ap Phys 29:115-19 F '58
Pall rings, new type of tower packing. J. S. Eckert and others. bibliog il diag Chem Eng Prog 54:70-5 Ja '58

RIO DE JANEIRO

Rio de Janeiro acts to save its beaches. il map diag Eng N 160:65 Ap 24 '58

RIP currents. See Ocean currents

RIPARIAN rights

Ohio's underground water laws; common law vs. riparian rights. Water Works Eng 111:137-+ F '58

RIPENING of fruit. See Fruit, Ripening of

RIVER traffic

Scientific developments in river transportation; model testing of push type river tow-boats and barge fleets. C. R. Horton, jr. Am Soc C E Proc 84 [WW 4 no 1772]:1-11 S '58

See also

St Lawrence waterway and power project

RIVERS

How to figure odds on a river project. W. B. Langbein and G. N. Alexander. il Eng N 161:35-6 A 28 '58
Mechanics of sediment-ripple formation. H. K. Liu. il diags Am Soc C E Proc 83 [HY 2 no 1197]:1-23 bibliog (26 ref, p22-3) Ap '57; Discussion. 83 [HY 5 no 1417]:9-11 O '57; 84 [HY 1 no 1558]:17-31 F; [HY 5 no 1832]:3-4 O '58; Reply. 84 [HY 5 no 1832]:5-31 O '58
100 frequency curves of North American rivers. E. Kuiper. Am Soc C E Proc 83 [HY 5 no 1395]:1-31 O '57; Discussion. 84 [HY 1 no 1558]:61-3 F; [HY 2 no 1616]:19-24 Ap '58; Reply. 84 [HY 5 no 1832]:59-60 O '58

Rivers under influence of terrestrial rotation. O. W. Kabelac. bibliog il maps diags Am Soc C E Proc 83 [WW 1 no 1208]:1-16 Ap '57; Discussion. G. Tison, jr. 83 [WW 3 no 1381]:7-11 S '57; Reply. 84 [WW 1 no 1523]:7-11 Ja '58

See also

Alluvium
Colorado river
Columbia river
Danube river
Detroit river

Drainage (physical geography)

Erosion

Floods

Hydraulic engineering

Ice on rivers, lakes, etc.

Irrawaddy river

Missouri river

Niagara river

Ohio river

Potomac river

Sabine river

Stream flow

Trinity river

Water rights

Regulation

Columbia river controlled. L. H. Foote. Am Soc C E Proc 84 [WW 1 no 1514]:1-20 Ja '58; Discussion. R. F. Bessey. 84 [WW 3 no 1658]:11-16 My '58
Major river use and control projects. il map Eng N 160:217-18+ F 13 '58
St Lawrence River diversion by a rockfill cofferdam. J. V. Danys. il maps diags Eng J 41:77-84 S '58
Thermal density underflow diversion. Kingston steam plant. R. A. Elder and G. B. Dougherty. il map diags Am Soc C E Proc 84 [HY 2 no 1581]:1-20 Ap '58

See also

Dams

Flood control

Mississippi river—Flood control projects

Great Britain

See also

Thames river

RIVETED joints

Satisfactory base-quality steel for both riveted and welded structures. J. O. Jackson. il Welding J 36:1184-8; Discussion. 1188-94 D '57

RIVETING

Gantry riveter eliminates movement of work. il Tool Eng 40:96 F '58
Hub riveting tools simplify operations. F. H. Tyler. il diags Tool Eng 40:99-103 Mr '58
Metropolitan-Vickers riveting machine. il Engineering 184:741 F 13 '57
Mountain comes to Mohammed. il Product Eng 28:72 D 23 '57
Riveting machine operates on shop air lines. il Steel 142:93 Ja 27 '58
Tv eyes for tough jobs; operation of an automatic riveting machine. il Steel 141:152 N 18 '57

See also

Rivets

RIVETS

Intrinsically sealed rivets. il Engineer 205:223 F 7 '58
Mechanical fasteners for military electronic equipment; rivets and pins. G. H. Lines. diags Elec Manuf 61:120-2 Je '58
Production man's guide to fastening devices. J. J. Dwyer, jr. diags Am Mach 102:98-100 S 8 '58
Titanium rivets: solid and blind; abstract. H. S. Brenner. Metal Prog 73:172-+ Ap '58
Which rivet to use; reference book sheet. H. Peterson. diags Product Eng 28:97-+ O 28; 125-+ N 11 '57

Manufacture

Rivet shaver; tungsten carbide rotary file. il Steel 142:108 Je 9 '58

Standards

Dimensional standardization of semi-tubular rivets. diags Product Eng 28:G2-3 Mid-O '57

ROAD accidents

How access control affects accident experience. C. W. Prisk. Pub Roads 29:266-7 D '57

ROAD builders association, American. See American road builders association

ROAD contractors

AASHTO convention delegates discussed contractor problems in the road program. Roads & Sits 101:78-+ F '58
Contractor converts old trailers into portable office and tool house. il Roads & Sits 100:164 N '57

Court decisions contractors should know. Roads & Sits 100:138-9 N; 124 D '57

Helicopter and calculators help manage these six companies. il Roads & Sits 100:99-100-+ D '57

Highway estimating methods; prevailing wage rate. G. E. Deatherage. Roads & Sits 101:104-5 Ja '58

ROAD contractors—Continued

How the road program is shaping up for contractors; interview with W. D. Fish; with tabulated data. D. L. Cronk. Roads & Ssts 101:62-4+ F '58
 In earthmoving, over-all job efficiency is a lot of little efficiencies. D. K. Helple. Il Roads & Ssts 100:137-8 D '57

Insurance requirements

Accident prevention can cut insurance costs. H. E. Beaven. Roads & Ssts 101:156 F '58

ROAD guards. See Roads—Safety guards**ROAD making machinery**

Better compaction on county road work. Il Pub Works 89:112 Je '58
 Contractor's eye-view earthmoving equipment design. D. A. Armstrong. Roads & Ssts 101:62-4+ Je '58
 Design for pay dirt; answers from leading builders of earth-moving equipment. Il Product Eng 28:80-4 D 23 '57
 Machine design paces asphalt pavement technology. H. A. Radzikowski. Il Eng N 160:30-1+ cover Je 5 '58
 Ripping, beyond ripping. K. F. Park. Il Roads & Ssts 101:62-3+ My '58
 Tracks in rocks; helpful operating hints. Il Roads & Ssts 101:170-1 Ap '58

See also

Road rollers
 Roads—Construction equipment
 Roads, Concrete—Construction equipment

Maintenance and repair

Equipment maintenance. S. J. Groves style. J. R. Cummings. Il Roads & Ssts 101:77-8+ J1 '58
 How Euclid teaches mechanics and service men. Il Roads & Ssts 101:88 Ap '58

Manufacture

Automatic welding with templet control and nesting fixtures; drive boxes for Adams motor graders; illustrations with text. L. E. Foust and H. Moody. Am Mach 102:104-7 F 24 '58
 Economical small-lot machining of large parts. Il diags Mach 64:150-4 Ap '58
 Special turret-type machines speed job-lot production of heavy steel parts, reduce equipment costs; road building equipment. Il diag Am Mach 103:144-5 Mr 24 '58 (to be cont)

ROAD materials

Epoxy resin tried as cover for tile dividers. Il Eng N 161:52 Apr 28 '58
 Gilsontite road. Oil & Gas J 55:70 D 2 '57
 Inspector's manual plays important role in materials control. H. K. Glidden. Roads & Ssts 101:125 J1 '58
 New use for slag and fly ash. G. W. Hollon. Power Eng 82:102-4 Ap '58
 Stabilization of sand with asphaltic materials. J. C. Duff. Il Pub Works 89:125-6 S '58

See also

Aggregates
 Asphalt
 Bituminous materials
 Gravel
 Pennsylvania highway material producers
 Stone, Crushed
 Tar

Prices

Estimating unit material prices. G. E. Deatherage. Roads & Ssts 101:178-9 Ap '58

Testing

Significance of tests for highway materials, basic tests; progress report of the committee on significance of tests for highway materials of the Highway division. Am Soc C E Proc 83 [HW 4 no 1385]:1-37 S '57; Discussion. 84 [HW 1 no 1526]:9-10 Ja; [HW 2 no 1562]:15-18 Mr '58

ROAD rollers

Combination roller handles scattered compaction problems on thruway. Il Roads & Ssts 100:133-4 D '57
 Compaction of asphaltic concrete surfaces. J. J. Laing. Roads & Ssts 101:159-60+ Mr '58
 Vibrating rollers for road maintenance. Il Engineering 186:192 Ag 8 '58
 Vibratory rollers compact eight million yards of sand; Griffin air force base. H. J. McKeever. Il Roads & Ssts 101:57-61 Ja '58

Specifications

How should pneumatic rollers be specified? R. W. Henke. Il diags Roads & Ssts 101:94-5 Mr '58

ROAD scrapers

Five scrapers make fast time in wet clay; Illinois toll road. Il Roads & Ssts 100:60 D '57

ROAD signs

Aluminum's making the grade; bridge and highway construction. D. L. Cronk. Il Mod Metals 14:26+ Je '58
 Better signing with sign logs. R. W. Wallace. Il Pub Works 88:102-3 N '57
 Calumet skyway signs designed to make new toll road one of Nation's safest. Pub Works 89:116 Ap '58
 Colors and numbers help steer cars to planes; New York international airport. Il Eng N 160:50-2 Mr 6 '58
 Correlation of geometric design and directional signing. G. M. Webb, bibliog il plans diags Am Soc C E Proc 84 [HW 2 no 1627]:1-31 My '58; Discussion. S. G. Petersen. 84 [HW 3 no 1829]:9 O '58
 Floodlighting a sign; lighting data sheet. G. C. Lanthicum and G. T. Anderson, Jr. Il Illum Eng 53:289 My '58
 Mammoth sign program for Connecticut toll road. Il Safety Maint 115:13 Mr '58
 Signs for roads; bigger, more legible. Il Eng N 160:24-5 Ja 9 '58
 Unified highway sign program for Connecticut toll road. Pub Works 89:176-7 My '58
 Wind loading tests on aluminum sign supports. J. F. O'Keefe and E. D. Gardner. Il Civil Eng 28:437-8 Je '58

See also

Traffic signs

ROAD traffic

Design standards for tomorrow's traffic. C. M. Noble. Roads & Ssts 100:96+ N '57
 New methods for determining capacity of rural roads in mountainous terrain. O. K. Normann and others. Il Pub Roads 30:25-37+ Je '58
 Traffic and travel trends, 1956. T. B. Dimmick. Pub Roads 29:253-5+ D '57
 Traffic dynamics; studies in car following. R. E. Chandler and others. bibliog il Op Res 6:165-84 Mr '58

See also

Roads—By-pass roads
 Street traffic

ROADS

Are our new roads obsolete? need for longer-range planning. L. C. Lundstrom. Iron Age 181:68+ Je 26 '58
 Associated general contractors of America annual meeting, Dallas, Feb. 10-13; highway session. Roads & Ssts 101:66-9 Ap '58
 Highway and the city. L. Mumford. Il Arch Rec 123:179-86 Ap '58
 Major transportation projects. Il map Eng N 150:168+ F 13 '58

See also

Automobiles and roads
 Driveways
 Expressways
 Highway administration
 Highway engineering
 Highway research
 Highway transportation
 Mountain roads
 Pan American highway
 Parkways
 Streets

By-pass roads

Limestone macadam for heavy-duty by-pass pavement. F. Swineford. Il Roads & Ssts 100:147-8 N '57
 What about by-passes? diag Roads & Ssts 100:92-3 N '57

Construction

Buildozers hew a spiral out of Caracas hill; Helicoid. Il Eng N 160:81+ Ap 17 '58
 Expressway contractor battles floods to build conduit roadbed; Baltimore's Jones Falls expressway. W. F. Hallstead, il plan diags Roads & Ssts 101:92-3+ Ap '58
 \$441 million tollways to open; Northern Illinois toll highway. Il map Eng N 161:37-40+ Ag '58
 How the contractors kept busy last winter on the Illinois tollway. Il Roads & Ssts 101:90-2 Ag '58
 Shelf road; small outfit had to do it. H. K. Glidden. Il diag Roads & Ssts 101:53-6+ F '58
 To build a turnpike; portfolio of color photographs of the Connecticut turnpike. map Arch Forum 108:98-103 F '58
 We relocated a river and shot away a mountain, to grade a four-lane highway. P. Thomson. Il plan Roads & Ssts 100:52-4+ D '57

ROADS—Continued

Construction equipment

- Aluminum frameless dump trailer shows advantages on toll road job. *il Roads & Sts* 101:97-8 Ag '58
- Contractor used a special ripper, and crushed material out of his cuts. *il Roads & Sts* 101:76-7 Ag '58
- How and when to use your ripper. R. H. Hunger. *il Roads & Sts* 101:91-2 F '58
- New products. Published in monthly numbers of *Roads and streets*
- Rock drills for the highway contractor. H. J. McKeever. *il Roads & Sts* 101:51-8+ J1 '58
- Understand your equipment. H. G. Nevitt. *Roads & Sts* 101:122 My '58

Contracts

- Highway estimating methods; prevailing wage rate. G. E. Deatherage. *Roads & Sts* 101:104-5 Ja '58

Cost

- Alaskan highway; contract permits winter suspension of project; unit prices. Eng N 160:82+ Mr 20 '58
- Bid price trends in Wisconsin; unit prices. Eng N 161:84 Ag '58
- Close bidding on California boulevard; unit prices. Eng N 160:74 Ap 10 '58
- Concrete pavement in Michigan; unit prices. Eng N 159:124 D 5 '58
- Cost per mile for Wisconsin highways; unit prices. Eng N 161:92 S 13 '58
- Costs per mile of Kentucky highways, 1957; unit prices. Eng N 160:141 Ap 17 '58
- Drainage and resurfacing of Delaware roads; unit prices. Eng N 160:141 Ap 17 '58
- Highway price trends in Kansas; unit prices. Eng N 161:85 S 4 '58
- Highway prices. District of Columbia; unit prices. Eng N 160:86 Je 5 '58
- Highway through narrow canyon; unit prices. Eng N 160:58 Ja 30 '58
- Highway unit prices. Eng N 160:75-6+ Je 19 '58
- Idaho road pulls sixteen bids; unit prices. Eng N 161:82 Ag '58
- Indiana highway prices; unit prices. Eng N 160:71 My 29 '58
- Interstate highway and bridges in New Hampshire; unit prices. Eng N 159:112 N 14 '57
- Interstate road bid at \$149,417 per mile; unit prices. Eng N 160:66 F 27 '58
- Kansas City expressway features high embankment; unit prices. Eng N 160:67-8 Mr 20 '58
- Maine interstate highway job, unit prices. Eng N 160:66 Mr 27 '58
- North Carolina highway prices; unit prices. Eng N 160:71 My 29 '58
- Road prices slip as bidders increase. Eng N 159:83-4 N 28 '57
- Tough road job; unit prices. Eng N 160:59 My 1 '58
- Washington. D.C. crosstown route; unit prices. Eng N 160:84 My 8 '58
- Wisconsin grading; unit prices. Eng N 160:80 My 22 '58

See also

Roads—Estimates

Roads, Bituminous—Costs

Curves

- Direct solution for triple spiraled compound curve. A. C. Scheer. *diags Am Soc C E Proc* 83 [HW 4 no 1372] 1-6 S '57; Discussion. T. F. Hickeron. 84 [HW 1 no 1526] 7-8 Ja '58; Reply. 84 [HW 3 no 1829] 3 O '58
- How to speed up vertical curve design. L. A. Abbey, Jr. Eng N 160:76 Ap 17 '58
- Three-centered compound curve; its design and construction. G. W. Schults. *plan Roads & Sts* 101:147-50+ Ag '58

Design

- Design standards for tomorrow's traffic. C. M. Noble. *Roads & Sts* 100:96+ N '57

Drainage

- Tests on filter sands show how to install sub-drains that won't clog. J. M. Robertson. *il diags Roads & Sts* 101:81+ Ag '58
- Weed control for roadside drainage. W. I. Boyd. *il Pub Works* 88:139 D '57

Economic aspects

- California's land economic studies along controlled-access highways. F. C. Balfour. 2pls map *Traffic Q* 12:17-29 Ja '58

- Road transport and the national economy. W. H. Glanville and R. J. Smeed. *Engineer* 204:747-8 N 22 '57
- Urban highway construction and its regional effects. G. W. Burpee and J. L. Ray. *map Traffic Q* 12:113-23 Ja '58

Estimates

- Electronic bidding; only the beginning. E. Eaves. Eng N 160:71-2 Je 19 '58
- Highway estimating methods (cont). G. E. Deatherage. *Roads & Sts* 101:104-5 Ja; 178-9 Ap '58

Federal aid

- Billboard control; rules proposed for states that want to get extra aid. Eng N 161:30+ S 4 '58
- Bureau of public roads survey shows how states handle road work. Eng N 161:26 J1 3 '58
- Federal aid for streets and urban roads. J. J. Sullivan. *Pub Works* 89:174-6 Je '58
- Federal highway system will cost \$10 billion more than anticipated. S. Weeks. *Arch Forum* 108:45-6 F '58
- Federal road fund starts third year with surplus. Eng N 160:24 Je 5 '58
- Federal road spending to set record. Eng N 161:26 J1 31 '58
- Finally, a road building boom. H. J. McKeever and D. L. Cronk. *Roads & Sts* 101:58-63+ Ag '58
- Five far-reaching studies are getting the facts for the roads. Eng N 160:47-8 Je 19 '58
- How much do the states get? apportionment of federal roadbuilding funds. Eng N 160:28 Ja 16 '58
- How the road program is shaping up for contractors; interview with W. D. Fish; with tabulated data. D. L. Cronk. *Roads & Sts* 101:62-4+ F '58
- How to spend faster; highway funds sure to be spent under job-grouping. Eng N 160:22-3 My 8 '58
- Interstate roads; one state's answer. *il maps Eng N* 160:34-6 Ja 30 '58
- Nation can't afford a roadbuilding stretch-out; editorial. H. J. McKeever. *Roads & Sts* 101:70-1 Mr '58
- Progress and problems mark road work. Eng N 159:33 D 5 '57
- Role of the state in the highway program. R. M. Whitton. *Am Soc C E Proc* 84 [HW 2 no 1622] 1-5 My '58
- Seas the BPR, the road program isn't in trouble; the expanded construction program under the Federal aid highway act of 1956. J. N. Bell. *Rock Prod* 60:60-5 D '57
- Senate road bill called threat to states. Eng N 160:21-2 Ap 3 '58
- State estimates ok'd for interstate. Eng N 161:24-5 Ag 21 '58
- What roadbuilding speedup means to business. *il Iron Age* 181:55-7 Ap 10 '58
- Where does the interstate stand now? map Eng N 160:44 Je 19 '58

Finance

- Highway construction in North Carolina. *Pub Works* 89:152 Ap '58
- States boost 1958 road outlays. Eng N 160:82 Mr 27 '58
- States search for road funds. Eng N 160:25 Ja 9 '58

See also

Roads—Federal aid

Roads—Tolls

Foundations

- Designing bases for roads and streets. F. N. Hivern. *bibliog diag Pub Works* 89:97-100 Ja '58
- In one season, Maryland places million tons of Ca Cl stabilized base mix. *il Roads & Sts* 101:78+ Ja '58
- Pore pressures in base courses. E. S. Barber and G. P. Steffens. *bibliog diag Pub Works* 30:53-62 Ag '58
- Poz-O-Pac road base shows low first cost and high quality. *il Pub Works* 88:166+ D '57
- Salt-soil stabilization on township roads. W. A. Sommers. *il Pub Works* 89:130-2 O '58
- Sodium chloride stabilized base secondary project. *il Roads & Sts* 101:66+ Je '58
- Soil tests and highway location design and construction. T. D. Lewis. *il Pub Works* 89:115-16 My '58

See also

Roads—Subgrades

Bituminous materials

- Use of asphalt emulsion for stabilization. A. L. McMillion. *il Pub Works* 89:84-6 Ja '58

ROADS—Foundations—Continued

Soil-cement

Rapid method utilizing surface area measurements in predicting the amount of cement needed to stabilize plastic soils. S. Diamond and E. E. Kinter. Pub Roads 30: 63-70 Ag '58

Grading

Regrading a trunk road. Il Engineer 204:646 N 1 '57

Guard rails

See Roads—Safety guards

Ice control

Liquid chemicals for dust and ice control. H. E. Stafseth. Il Pub Works 89:91-3 My '58

Interchange

Adaptability of interchange types on interstate system. J. E. Leisch. Il diags Am Soc C E Proc 84 [HW 1 no 1525]:1-32 Ja '58; Discussion. G. D. Love. 84 [HW 2 no 1652]:19 My '58

Correlation of geometric design and directional signing. C. M. Webb. Il diags Am Soc C E Proc 84 [HW 2 no 1627]:1-31 My '58; Discussion. S. G. Petersen. 84 [HW 3 no 1829]:9 O '58

Left-side ramps were OK at start, but not for freeway; Mission Valley road, San Diego. Il map Eng N 161:46-7 JI 17 '58

Lighting

Computation of relative comfort and relative visibility factor ratings for roadway lighting; abstract. C. H. Rex. Illum Eng 53: 464-5 S '58

Demonstration laboratory for outdoor roadway lighting; abstract. R. M. Sweetland and K. D. Robin. Il plan Illum Eng 53:492-3 S '58

Discomfort glare at low adaptation levels; multiple sources. R. C. Putnam and K. D. Bower. Il diags Illum Eng 53:174-80; Discussion. 180-4 Ap '58

Highway lighting without glare; new lighting technique; abstract. W. M. Waldbauer. Il diags Illum Eng 53:494-5 S '58

Highway visibility in fog. C. Marsh. Il Illum Eng 52:621-7; Discussion. 627-8 D '57

Night-time driving; the importance of road texture and colour; abstract and discussion. R. L. Moore. Chem & Ind p511-12 My 3 '58

Theoretical and practical light distributions for roadway lighting; abstract. A. W. Fowle and R. L. Kaercher. diag Illum Eng 53:495-6 S '58

Trends in lighting equipment design; street and highway lighting. B. C. Cooper. Il Elec Constr & Maint 57:92-3 O '58

Where lights are needed to get drivers out of dark. W. B. Schwannhauser, Jr. Il diags Eng N 161:54-6+ JI 10 '58

See also

Street lighting

Location

Fast new highway locating aids; profiles plotted by radar, photogrammetry short-cut. H. A. Radzikowski and S. E. Ridge. Roads & Sts 101:140-2 Ag '58; Same. Pub Works 89:194 O '58; Excerpts. Civil Eng 28:555 JI '58

Highway engineers and pipeliners can solve mutual problems. C. D. Richardson. plans Am Soc C E Proc 84 [PL 2 no 1666]:1-9 Je '58; Same. Gas Age 122:24-7+ S 18 '58; Abstract. Pet Eng 30:D24-5 My '58

Mapping a highway 3,000 miles away in Colombia, S.A. Pub Works 89:215 S '58

Selection of the Trans-Canada highway route through the Selkirk mountains. J. P. Hague. Eng J 41:67-60 Je '58

See also

Roads—Surveying

Maintenance and repair

Contractor helped with toll road's first-year spring maintenance. Il Roads & Sts 101:101-4 Mr '58

County gets more miles from its highway maintenance dollar. E. Conrad. Il Pub Works 89:99 JI '58

Equipment and manpower needs for expressway maintenance; abstract. C. H. Lang. Roads & Sts 101:98 Mr '58

Water and aggregate supply; reconstruction problems and procedures of one of Wyoming's largest road contracts. H. K. Glidden. Il plans Roads & Sts 101:55-62 Ap '58

See also

Dust prevention

Roads—Surface treatment

Roads—Winter maintenance

Resurfacing

Design and construction of concrete resurfacing. Il Pub Works 89:128-31+ Ap '58

Fast face lifting; 47 miles of Minnesota highway 46 improved. Il map Roads & Sts 100:126-9 D '57

Leveling procedure gives better riding surface. C. C. Tevis. Roads & Sts 101: 124+ Ag '58

Minnesota bituminous practice; road-mix resurfacing for heavier traffic. H. K. Glidden. Il Roads & Sts 101:116+ Ja '58

See also

Pavements—Resurfacing

Safety guards

Barrier separates traffic lanes. Il Pub Works 89:114 S '58

Erection and maintenance of guard rail. Il Pub Works 89:102 S '58

Fence makes glare barrier; Washington state highway. Il Eng N 160:57 My 22 '58

Highway barriers; questions use to halt accidents. G. M. Webb. Eng N 160:69 My 15 '58; Discussion. W. R. Bond. 161:10+ JI 3 '58

Right-of-way fencing along a turnpike. Il Pub Works 89:103 S '58

Standard beam guard rail solves median problem. Il Roads & Sts 101:143 Ap '58

Safety measures

How much safer is limited access? Il Eng N 161:21-2 JI 17 '58

How to use lanterns effectively for highway warning and for lighting barricades. Il Pub Works 85:148 D '57

Left-side ramps were OK at start, but not for freeway; Mission Valley road, San Diego. Il map Eng N 161:46-7 JI 17 '58

Limited access scores; safety on four-lane divided highways hinges on access. J. C. Mackie. Eng N 160:28 Ap 17 '58

See also

Traffic lines

Traffic signals

Shoulders

Shoulder maintenance practices. J. W. Repel. Il Pub Works 89:102-3 O '58

Slipperiness

Resin pavement stops auto skid. Il Chem & Eng N 36:46 JI 14 '58

Specifications

Contractors and engineers both like it; results, specification for compaction. Roads & Sts 101:58-9 F '58

Standards

Application of interstate highway design standards. J. C. Young. Am Soc C E Proc 84 [HW 2 no 1624]:1-7 My '58

Road standardization amplified. J. Barnett. Eng N 160:24-5 Ap 3 '58

Subgrades

Contractors and engineers both like it; results, specification for compaction. Roads & Sts 101:58-9 F '58

Gravel stabilization with tar. I. R. Geer. Pub Works 89:174-6 My '58

Stabilization of sand with asphaltic materials. J. C. Duff. Il Pub Works 89:126-6 S '58

Surface treatment

CaCl₂ faces new era. Chem & Eng N 36:34 Je 23 '58

Seal treatments on bituminous concrete pavements. W. S. G. Britton. Il Pub Works 89:95-6 F '58

See also

Dust prevention

Surfaces

Night-time driving; the importance of road texture and colour; abstract and discussion. R. L. Moore. Chem & Ind p511-12 My 3 '58

Road tests determine; what makes autos skid? H. O. Thompson. Il Eng N 160:54-6+ F 6 '58

See also

Pavements

Surveying

Establishing the boundaries of roads centuries old. H. H. Sweetser. Il Pub Works 89:87-8 F '58

Highway and bridge surveys; introduction to bridge surveys and reconnaissance survey; progress report of the committee on highway and bridge surveys of the Surveying and mapping division. Am Soc C E Proc 84 [SU 2 no 1713]:1-6 JI '58

ROADS—Surveying—Continued

Highway and bridge surveys; location survey; progress report of the committee on highway and bridge surveys of the Surveying and mapping division. *Am Soc C E Proc* 84 [SU 2 no 1698]:1-6 *Jl* '58

Highway and bridge surveys; preliminary survey; progress report of the committee on highway and bridge surveys of the Surveying and mapping division. *Am Soc C E Proc* 84 [SU 2 no 1697]:1-9 *Jl* '58

Highway and bridge surveys; reconnaissance, progress report of the committee on highway and bridge surveys of the surveying and mapping division. *Am Soc C E Proc* 84 [SU 1 no 1593]:1-7 *Ap* '58

Modern survey methods. *Il Eng J* 41:76 *Je* '58

Progress report of the committee on highway and bridge surveys of the Surveying and mapping division; foreword to Manual on highway and bridge surveys and chapter I. State plane coordinates, maps *diags* *Am Soc C E Proc* 83 [SU 1 no 1306]:1-33 *Jl* '57; Discussion. J. C. Carpenter. 84 [SU 1 no 1605]:3-5 *Ap* '58

See also

Roads—Location

Testing

Truck's outriggers check road. *Il Eng N* 160:115 *Je* 19 '58

Tolls

\$441 million tollways to open; Northern Illinois toll highway. *Il map Eng N* 161:37-40+ *Ar* 7 '58

Garden state parkway financial report. 1957. *Pub Works* 89:146 *Ap* '58

Traffic lines

See Traffic lines

Widening

Contractor and traffic toll turns on freeway job in the High Sierras. *Il diag Roads & Sts* 101:47-52 *My* '58

Fast cleanup on this Michigan project. *Il Roads & Sts* 101:56, cover *My* '58

Winter maintenance

Getting ready for winter weather. D. B. West. *Il Pub Works* 89:96-9 *Ag* '58

Winter maintenance in Maryland highways. F. P. Scrivener. *Il Pub Works* 89:93-5+ *Ag* '58

See also

Roads—Ice control

California

California's land economic studies along controlled-access highways. F. C. Balfour. 2pls *map Traffic Q* 12:17-29 *Ja* '58

Contractor and traffic toll turns on freeway job in the High Sierras. *Il diag Roads & Sts* 101:47-52 *My* '58

Landslides plague Palisades Highway. *Il Eng N* 160:23 *Ap* 24 '58

State freeway net; \$10.5 billion. *Eng N* 161:25 *S* 11 '58

Canada

Road system in the North. *Eng J* 41:112 *My* '58

Selection of the Trans-Canada highway route through the Selkirk mountains. J. P. Hague. *Eng J* 41:57-60 *Je* '58

Colorado

Colorado's biggest hot-mix paving job. *Il Roads & Sts* 101:125-6+ *My* '58

Traveling pugmill processes materials for Colorado's smoothest concrete pavement. *Il diag Eng N* 160:50-2+ *My* 29 '58

Connecticut

Connecticut highways and the 1955 floods. N. E. Argraves. *Il Am Soc C E Proc* 84 [HW 2 no 1621]:1-9 *My* '58

Connecticut turnpike opened to traffic. *Civil Eng* 28:146 *F* '58

Mammoth sign program for Connecticut toll road. *Il Safety Maint* 115:13 *Mr* '58

To build a turnpike; portfolio of color photographs of the Connecticut turnpike. *map Arch Forum* 108:98-103 *F* '58

Unified highway sign program for Connecticut toll road. *Pub Works* 89:176-7 *My* '58

Great Britain

Highway needs of Great Britain; symposium; abstracts of papers. *Engineer* 204:745-7 *N* 22 '57

Highway needs of Great Britain; symposium; abstracts of papers. *Engineering* 184:667 *N* 22 '57

Railways into roadways; editorial. *Engineer* 205:158-9 *Ja* 31 '58; Discussion. 205:284-5, 360, 396-7, 433, 468-9, 506, 540, 620-1, 698-9, 728-9, 774-5, 810, 848-9, 892-3, 932-3, 970; 206:18, 96, 176, 217-18, 258-9, 416-17, 450-1, 488, 568 *F* 21, *Mr* 7-*Ap* 11, 25, *My* 9-*Jl* 4, 18, *Ag* 1-15, *S* 12-26, *O* 10 '58

Road schemes. *Engineer* 205:221, 479 *F* 7, *Mr* 28 '58

Road transport and the national economy. W. H. Glanville and R. J. Smeed. *Engineer* 204:747-8 *N* 22 '57

Suitability of the existing highway organisation to deal with an expanding programme of road construction; abstract. S. M. Lovell. *Engineer* 204:783 *N* 29 '57

Tight schedule for largest British road. *Il Eng N* 160:133+ *Je* 19 '58

Illinois

Five scrapers make fast time in wet clay. Illinois toll road. *Il Roads & Sts* 100:60 *D* '57

\$441 million tollways to open; Northern Illinois toll highway. *Il map Eng N* 161:37-40+ *Ar* 7 '58

How the contractors kept busy last winter on the Illinois tollway. *Il Roads & Sts* 101:90-2 *Ar* '58

Illinois toll highway; bold planning results in efficient production of prestressed girders. C. C. Zollman. *Il diags Civil Eng* 28:423-6, cover *Je* '58

Illinois toll highway; piles double as columns on tollway structures. M. Van Buren. *Il diags Civil Eng* 28:420-2 *Je* '58

Prestressed concrete dominant on Illinois toll highway structures. *Il map Civil Eng* 28:418-19 *Je* '58

Ten-year report on Illinois experimental continuously reinforced pavement. *Roads & Sts* 101:116-17+ *Mr* '58

Indiana

Contractor helped with toll road's first-year spring maintenance. *Il Roads & Sts* 101:101-4 *Mr* '58

11 miles of interstate designed in 16 weeks; Indiana state highway department. *Il plan Eng N* 161:49-4+ *S* 25 '58

Indiana turnpike communications system; illustrations with text. *Electronic Ind* 17:supO 2-3 *Ja* '58

Unique batch hauling service; Indiana toll road. *Il Roads & Sts* 100:66-8 *N* '57

Italy

How Italy is revamping its road system. *Il map Eng N* 161:58-60+ *Ag* 21 '58

Italian road rushed; Milan to Naples highway. *Eng N* 159:76 *D* 12 '57

Kansas

Turnpikes are expected to be snow free. L. W. Newcomer. *Il Pub Works* 89:100-2 *Ag* '58

Water and sewage facilities for the Kansas turnpike. P. C. Sharp. *Il Am Water Works Assn J* 50:119-24 *Ja* '58

Maine

Establishing the boundaries of roads centuries old. H. H. Sweetser. *Il Pub Works* 89:87-8 *F* '58

Maryland

In one season, Maryland places million tons of Ca Cl stabilized base mix. *Il Roads & Sts* 101:78+ *Ja* '58

Massachusetts

Massachusetts turnpike. W. F. Callahan. 2pls *Traffic Q* 12:90-101 *Ja* '58

Michigan

Fast cleanup on this Michigan project. *Il Roads & Sts* 101:56, cover *My* '58

Minnesota

Fast face lifting; 47 miles of Minnesota highway 46 improved. *Il map Roads & Sts* 100:126-9 *D* '57

Minnesota bituminous practices. H. K. Gidden. *Il Roads & Sts* 101:116+ *Ja* 169-70+ *Mr* '58

Two states open their first interstate. *Il Eng N* 161:26-7 *S* 11 '58

Montana

Deep snow, bad slides, one of West's toughest snow fighting jobs. F. Wells. *Il Roads & Sts* 100:93-4 *D* '57

Netherlands

Dutch motor road. *Il Engineer* 204:540-1 *O* 11 '57

ROADS—Continued

New Jersey

Garden State parkway financial report, 1957. Pub Works 89:146 Ap '58
Mowing the Nation's biggest lawn; shoulders and median strip of the Garden State parkway. Il Pub Works 89:112-14 Ag '58

New Mexico

Tractor-mounted drills the answer on 700,000 yard cliff; hill being blasted away on New Mexico's U.S. 85 interstate relocation. Il Roads & Sts 100:56-61 N '57

New York (state)

Combination roller handles scattered compaction problems on thruway. Il Roads & Sts 100:133-4 D '57
Cooperation among engineers builds New York thruway. C. H. Lang. Civil Eng 27: 854-5 D '57

North Carolina

Highway construction in North Carolina. Pub Works 89:152 Ap '58

Ontario

Road development in Ontario. W. J. Fulton. Am Soc C E Proc 84 [HW 1 no 1524]:1-8 Ja '58
Tunnelers put outfall under Canadian four-lane highway. Il Roads & Sts 100:162-3 N '57

Oregon

Interstate roads; one state's answer. Il maps Eng N 160:34-6 Ja 30 '58

Rhode Island

Consultant designs in economies; East Providence expressway. R. L. Pare. diags Eng N 161:53-4 Ag 21 '58

Taiwan

Hand built road to bisect Formosa. Il map Eng N 160:63-4 Ja 9 '58

United States

Changes due in highway program. Il Oil & Gas J 55:77-9 N 4 '57
Federal highway program promises boost for economy but more woes for pipeliners. Gas Age 121:40 Mr 20 '58
Finally, a road building boom. H. J. McKeever and D. L. Cronk. Roads & Sts 101:58-63+ Ag '58
Five far-reaching studies are getting the facts for the roads. Eng N 160:47-8 Je 19 '58
High-level problems in the national highway program. B. D. Tallamy. Roads & Sts 101:63+ Ja '58
Interstate projects. Il plans diags Roads & Sts 100:56-61 N '57; 101:55-62 Ap; 47-52 My; 60-1+ S; 76-7+ O; 66-8+ N '58
Progress and problems mark road work. Eng N 159:33 D 5 '57
Roadbuilders dominate the scene. Il Eng N 160:155-8+ F 13 '58
State legislative action on highways. Roads & Sts 101:98-9 Ja '58
States have record road plans for '58. Eng N 160:21-5 Ap 10 '58
2,102 miles of new interstate routes; national system of interstate and defense highways. Roads & Sts 100:68 D '57
What's happened to interstate roads? E. E. Halmos, jr. maps Eng N 159:19-22 N 21 '57
Where does the interstate stand now? map Eng N 160:44 Je 19 '58

See also

Roads—Federal aid
United States—Public roads, Bureau of

Venezuela

Bulldozers hew a spiral out of Caracas hill; Helicoid. Il Eng N 160:81+ Ap 17 '58

Washington (state)

Getting ready for winter weather. D. B. West. Il Pub Works 89:96-9 Ag '58
Huge rock slide on Snoqualmie pass. Il Roads & Sts 101:60 F '58
We relocated a river and shot away a mountain to grade a four-lane highway. P. Thomson. Il plan Roads & Sts 100:52-4+ D '57

Wisconsin

Two states open their first interstate. Il Eng N 161:26-7 S 11 '58

Wyoming

Water and aggregate supply; reconstruction problems and procedures of one of Wyoming's largest road contracts. H. K. Glidden. Il plans Roads & Sts 101:55-62 Ap '58

ROADS, Asphalt

Machine design paces asphalt pavement technology. H. A. Radzikowski. Il Eng N 160: 30-1+, cover Je 5 '58

ROADS, Bituminous

Fast face lifting; 47 miles of Minnesota highway 48 improved. Il map Roads & Sts 100:126-9 D '57
Leveling procedure gives better riding surface. C. C. Tevis. Roads & Sts 101: 124+ Ag '58
Minnesota bituminous practice. H. K. Glidden. Il Roads & Sts 101:116+ Ja; 169-70+ Mr '58
92-mil haul for plant mix. Roads & Sts 101: 192 Ap '58
Physical factors affecting the absorption of oxygen by thin films of bituminous road binders. E. J. Dickinson and others. bibliog diag J Ap Chem 8:673-87 O '58
Same pavers place base and hot-mix. Il Roads & Sts 101:127 Ag '58
Use of mechanical tests in the design of bituminous road surfacing mixtures; stability tests on rolled asphalt. D. C. Broome and A. Please. bibliog diags J Ap Chem 8:121-35 F '58
Views and comments. H. C. Nevitt. Published in monthly numbers of Roads and streets

Construction

Colorado's biggest hot-mix paving job. Il Roads & Sts 101:126-6+ My '58

Construction equipment

Whats new in machinery and construction methods for bituminous paving. H. A. Radzikowski. Pub Works 89:134+ Je '58

Costs

Bituminous highway; unit prices. Eng N 160:254 F 13 '58

Maintenance and repair

Survey points way to better slurry seal applications. C. E. Neill. Il Roads & Sts 101:183-4+ Ap '58

ROADS, Bituminous concrete

Compaction of asphaltic concrete surfaces. J. J. Laing. Roads & Sts 101:159-60+ Mr '58
Poz-O-Pac road base shows low first cost and high quality. Il Pub Works 88:166+ D '57
Seal treatments on bituminous concrete pavements. W. S. G. Britton. Il Pub Works 89:95-6 F '58

See also

National bituminous concrete association

ROADS, Concrete

Design and construction of concrete resurfacing. Il Pub Works 89:128-31+ Ap '58
Field inspection of concrete. C. E. Proudley. Il Pub Works 89:92-6 Je '58
Long-time study of cement performance in concrete; report on the condition of three test pavements after 15 years of service. F. H. Jackson. bibliog Am Concrete Inst J 29:1017-32 Je '58
Pot is boiling in concrete pavement design; ACI convention committee reports. Roads & Sts 101:58+ My '58
Prestressing promises nearly joint-free concrete highways. B. Moreell. Il plans diags Civil Eng 28:570-3 Ag '58
Pros and cons of ready-mix for highway paving; session of the American concrete institute's Chicago convention. Il Roads & Sts 101:151-2 Ap '58
Slip-form paver lays reinforced slab. G. N. Miles. Il Roads & Sts 101:53-5 Ag '58
Traveling pugmill processes materials for Colorado's smoothest concrete pavement. Il diag Eng N 160:50-2+ My 29 '58

See also

Pavements, Concrete
Roads, Bituminous concrete

Construction

Ready-mix in the highway program. Il Roads & Sts 101:73-4+ My; 71-2 Je; 40+ Jl '58

Construction equipment

High-speed cement elevator served entire Texas turnpike. Il Roads & Sts 101:180 Ap '58

Unique batch hauling service; Indiana toll road. Il Roads & Sts 100:66-8 N '57

ROADS, Concrete—Continued

Costs

Concrete paving, Pennsylvania; unit prices. Eng N 160:80 My 22 '58

Joints

Performance of doweled joints under repetitive loading. L. W. Teller and H. D. Cashell. bibliog il diags Pub Roads 30:1-24, cover Ap '58

ROADS, County

Better compaction on county road work. il Pub Works 89:112 Je '58

Calculators save time for county highway departments. J. F. Meisner. il Pub Works 88:109+ D '57

County gets more miles from its highway maintenance dollar. El. Conrad. il Pub Works 89:99 Jl '58

County road stabilization with calcium chloride. L. J. Waldenberger. il Pub Works 89:120 Mr '58

Detailed inventory aids effective traffic sign program. C. Iden. il Pub Works 88:107-8 D '57

Most useful equipment for county highway departments. il Pub Works 89:125-6+ My '58

Operating a county highway department. W. G. Harrington. il Pub Works 88:97-9 D '57

Poz-O-Pac road base shows low first cost and high quality. il Pub Works 88:166+ D '57

Street sweeping operations on county roads. D. J. Murray. il Pub Works 89:109-10 S '58

Two-way radio in county highway work. M. Wilkins. il Pub Works 88:121-2 N '57

ROADS, Experimental

AASHO road test. G. G. Campbell. map plan Eng J 41:74-8 My '58

Electronic highway of tomorrow in operation. V. K. Zworykin. il Elec Eng 77:654 Jl '58; Sarn. Cranklin Inst J 266:75-8 Jl '58

King-size test road holds future answers. il Eng N 160:52-5 Je 19 '58

Long-time study of cement performance in concrete; report on the condition of three test pavements after 15 years of service. F. H. Jackson. bibliog Am Concrete Inst J 29:1017-22 Je '58

Ten-year report on Illinois experimental continuously reinforced pavement. Roads & S 101:116-17+ Mr '58

ROADS, Gravel

Dust control by the use of salt, calcium chloride and bituminous materials. J. W. Hutchinson. il Pub Works 88:112-14 D '57

Stabilization

Oil-well brine reduces county's maintenance. il Roads & S 101:69 Ag '58

ROADS, Macadam

Limestone macadam for heavy-duty by-pass pavement. F. Swineford. il Roads & S 100:147-8 N '57

ROADS, Township

Salt-soil stabilization on township roads. W. A. Sommers. il Pub Works 89:130-2 O '58

ROADSIDE parks. See Parks, Roadside

ROADSIDE planting

Crash-barrier tests on multiflora rose hedges. R. R. Skelton. il plan Pub Roads 29:245-52+ D '57

Planting and control of road verges; discussion. Chem & Ind 96:11-12 My 24 '58

Plantings for highway roadsides. W. J. Garmhausen. il Pub Works 89:119-20 Je '58

Removal, trimming and planting of roadside trees. W. J. Burmeister. il Pub Works 89:126-7+ O '58

ROADSIDES

Removal, trimming and planting of roadside trees. W. J. Burmeister. il Pub Works 89:126-7+ O '58

Weed control for roadside drainage. W. I. Boyd. il Pub Works 88:139 D '57

ROBERT A. Taft sanitary engineering center.

See United States—Public health service—Robert A. Taft sanitary engineering center

ROBERTSON, Elgin B.

Electrical engineer in industry. por Elec Eng 77:101 Ja '58

ROBINSON-PATMAN act. See Price discrimination—Patman law

ROCHESTER germicide company

It all began in a boarding house; Rochester germicide co. at 70. il Soap & Chem Spec 34:75-7 S '58

ROCHOW, Eugene

Pioneer in silicones. por Chem & Eng N 36:110 O 20 '58

ROCK bolts. See Mine roof bolting

ROCK bursts

Bump symposium; progress in control. bibliog il plans diags Min Eng 10:Trans 877-91, 982-1004B Ag-S '58

Planning to avoid rockbursts. R. G. K. Morrison. diags Min Cong J 44:42-4+ Jl '58

South African research into rock bursts. il Engineer 204:944-5 D 27 '57

ROCK drills

Choosing the right diamond for the drilling job. Eng & Min J 158:106 D '57

Drill puts drains in fills; Slidemaster, horizontal drilling machine. il Eng N 161:115 S 18 '58

Drill steel developments in the laboratory. F. R. Anderson. il diags Min Cong J 44:51-3 My '58

Drilling taconites; Pilotac mine. I. H. Rubow. il Min Cong J 44:38-41+ Mr '58

Evaluation of carbide insert bits. J. W. Clemens. il Min Cong J 44:79-81; Discussion 32-3 Je '58

High-speed rock drill. il Engineer 205:783 My 23 '58

How to get more output from your rotary drill. P. C. Ziemke. il diags Rock Prod 61:96+ Ag '58

Light rock drill. il Engineer 206:415 S 12 '58

Percussion drill steel facts of life. il Eng & Min J 159:110-13 Mid-Je '58

Percussion drill steel life. L. E. Antonides and others. bibliog(26 titles) il diags Eng & Min J 158:90-7 N '57

Percussion drill drills hard rock; Sullivan trail coal co. il Coal Age 63:14-15 My '58

Portable rock drill digs 12,000 turnpike post holes. il Roads & S 100:142 N '57

Rock drilling and loading. il Engineering 185:421 Ap 4 '58

Rock drills for the highway contractor. H. J. McKeever. il Roads & S 101:51-8+ Jl '58

Underground drilling machines. il Min Cong J 44:6-8 Je '58

See also

Augers

Drills, Oil well

ROCK dusting. See Coal mines and mining—Rock dusting

ROCK phosphate. See Phosphate rock

ROCK products

See also

Aggregates

Railroads—Rates—Rock products

ROCK products industry

Economist predicts construction rise and record spending in '58. P. B. B. Andrews. Rock Prod 61:90-3+ Ja '58

In 1958; here's what you can expect from Congress. E. Poe. Rock Prod 61:94-6+ Ja '58

Long-range view of rock products economy. N. C. Rockwood. Rock Prod 61:19+ Ja '58

More dams abuilding; more rock markets opening. W. B. Lenhart. il Rock Prod 61:84-6+ Je '58

Rock products forecast. Rock Prod 61:78-89 Ja '58

Says the BPR, the road program isn't in trouble; the expanded construction program under the Federal aid highway act of 1956. J. N. Bell. Rock Prod 60:60-5 D '57

Where's all our raw material going to come from? nonmetallic materials. J. L. Gillson. Rock Prod 61:105+ F '58

Exhibitions

Trade show exhibits. J. N. Bell. il Rock Prod 60:85-9+ N '57

Laws and regulations

Legal decisions. L. T. Parker. Published in monthly numbers of Pit and quarry

Taxation

Depreciation, you and the tax boys. J. N. Bell. il Rock Prod 61:70-3+ Je '58

California

1956 sand-gravel output rises; California leads all states. Pit & Quarry 60:162-3 Ja '58

Ohio

Ohio sand and gravel association annual meeting, Columbus. Nov. 19-20. Pit & Quarry 60:165 Ja '58

ROCK products plants

Expanded-shale plant of material service. B. C. Herod. flow diag il plan Pit & Quarry 60:70-2+ F '58

Isotopes; potential new tools for rock industry. L. Walter. diags Rock Prod 61:86+ Ag '58

ROCK products plants—Continued

To expand or not to expand? Rock products sand and gravel co. S. Ruvkun. Rock Prod 61:140+ F '58

Electric equipment

How to service induction motors. J. W. Samzelius and R. F. Woll. il diag Rock Prod 61:118+ Mr '58

Employees

Labor developments. S. H. Unterberger. Published in monthly numbers of Pit and quarry

Pension plan arbitrated in favor of employers. Rock Prod 60:51 D '57

Equipment

Argstone, prime factor in steady growth of Minnesota producer; Bryan rock products. inc. flow diag il Pit & Quarry 50:143+ My '58

Air gently separates fiber from rock in asbestos mill. il Rock Prod 61:89+ JI '58
Eastern contractor builds permanent crushed stone and agbit plants; George Brox, inc. W. E. Trauffer. il Pit & Quarry 61:88-90 Ag '58

Expanded plant serves western Tennessee markets; crushed stone plant of Lambert brothers. B. C. Herod. il Pit & Quarry 50:150-3 My '58

Flintkote builds modern plant in fight for piece of gypsum market. E. Meschter. il Rock Prod 61:66-71+ Ap '58

Going underground for a pure white silica; Clayton silica co. E. Meschter. il Rock Prod 61:78-81+ Je '58

Great Western Aggregates producing 750 cu. yd. daily. H. F. Utley. il Pit & Quarry 50:138-40+ Ar '58

Heavy-duty pan feeder for rock crushing plant. il Engineer 204:611 O 25 '57

In only five weeks, small plant turns huge hill into roadbed; Quarve and Anderson. il Rock Prod 61:138+ My '58

Large South African plant goes into production; new crushed dolomite plant for South African iron and steel industrial corp. T. Cordes. flow diag il Pit & Quarry 50:86-8+ Je '58

Look for this equipment; National crushed stone convention and exposition. il Rock Prod 61:131 Ja '58

Nepheline syenite; a modern product from a modern plant. W. E. Trauffer. flow sheets il plan Pit & Quarry 50:76-8+ Ja '58

New aglite plant serving New York area. R. F. Leftwich. il Pit & Quarry 50:138-40+ Mr '58

New British crushed stone plant; Enderby and Stoney Stanton granite co. J. Grindrod. il Pit & Quarry 60:125-8 F '58

New machinery. Published in monthly numbers of Rock products

New machinery and equipment. Published in monthly numbers of Pit and quarry
Rigid laboratory control, full automation featured in newest American Rock Wool plant. B. C. Herod. il Pit & Quarry 51:187-90 JI '58

Second Dayton plant of American Aggregates. B. C. Herod. flow diag il Pit & Quarry 50:110-14+ Ap '58

Separate plants provide aggregates, drain rock at Swift Dam project. H. F. Utley. il Pit & Quarry 51:181-2+ JI '58

Southwest Florida stone plant has unusual washing facilities. W. E. Trauffer. il Pit & Quarry 51:82-3, 110 Ag '58

Stone plant sets new standards for sizing; Aggressive general crushed stone co. E. Meschter. il Rock Prod 61:106-9+ F '58

Tie your efficiency to equipment selection; Oolite crushed stone co. W. B. Lenhart. il Rock Prod 61:76-7+ Ag '58

Experimental plants

Squeezing oil from shale; Union oil co. shale demonstration plant. W. B. Lenhart. flow diag il diag Rock Prod 61:76-9 Ap '58

Finance

Have you checked your credit rating lately? Pit & Quarry 51:183-4 JI '58

Safety measures

Check up on your safety score. J. E. Bedford. Pit & Quarry 50:183-4 My '58
Safety record merits Rock Products trophy; G. & W. H. Corson, inc. Rock Prod 61:78 F '58

Safety training, as easy as one-two-three. J. Bedford. Rock Prod 60:77+ D '57

ROCK wool. See Mineral wool

ROCKEFELLER brothers

Rockefeller touch in building. pors Arch Forum 108:88-91 Mr '58

ROCKET engines

Atlas has two boosters and sustainer; illustrations and drawings with text. I. Stambler. Aviation Age 30:86-7 S '58

British rocket and ramjet engines; survey of work to date. A. D. Baxter and S. W. Greenwood. biblog il diag Aircraft Eng 30:252-68 S '58

Combustion instability in solid propellant rocket motors. E. W. Price and J. W. Soffer. il diag Jet Propulsion 28:190-2 Mr '58

Compact cavitation detector checks missile fuel systems. Machine Design 30:10 Mr 20 '58

Development problems in large liquid rocket engines; abstract. R. S. Levine. Aircraft Eng 30:233 Ag '58

Engine developments; illustrations with text. Engineer 206:364 S 5 '58

French rocket power units. il Engineer 204:946-7 D 27 '57

Head-flow characteristics of axial flow helical inducers. D. A. Rains. Jet Propulsion 28:567-8 Ag '58

Investigation of ceramic materials in a laboratory rocket motor. J. F. Lynch and others. diag Am Cer Soc Bul 37:443-5 O 15 '58

Ion rocket engine. R. H. Boden. diag S A E J 66:67-3 Ap '58; abstracts. Automotive Ind 118:49 My 1 '58; Aircraft Eng 30:237 Ag '58

Ion rocket engine, a likely power source for that trip to Mars. D. L. Eschner. diag S A E J 66:30-2 Ag '58

Materials for hot rocket parts must withstand 1700 deg F plus. R. C. Kopituk. diag Aviation Age 28:104-3 Ja '58

Materials for rocket engines. R. C. Kopituk. il diag Metal Prog 73:79-84 Je '58

Million-lb-thrust rocket just more of the same. Product Eng 29:32-3 S 8 '58

Missiles; just big chemical reactors. R. L. Noland. il diag Chem Eng 65:146-8 My 19 '58

Mixed powerplants boost interceptor's altitude performance. M. J. Brenner. il diag Aviation Age 28:126-30 Ja '58

Power engineering takes to space. il Power Eng 61:67-9 D '57

Power plant controls; liquid propellant rocket motors; NACA report; abstract. Control Eng 5:182 My '58

Problems in combustion instability of rocket motors. T. P. Torda. biblog diag Aeronautical Eng R 16:34-7+ N '57

Rocket engines use liquid oxygen. F. F. Twilight. S A E J 66:66 F '58

Rocket pumps have reached high efficiency. K. R. Stehling. il diag Aviation Age 29:32-3 Ap '58

Safety engines key to ICBM accuracy. I. Stambler. il diag Space/Aeronautics 30:30-1 O '58

Solid-propellant rocket engine. C. R. Voris. il diag S A E J 66:45-6 My '58

Terminology in rocket combustion instability. E. W. Price. Jet Propulsion 28:197 Mr '58

Thermopropulsive characteristics of high-speed thrust generators. A. F. Charwat. diag Aero/Space Eng 17:49-55 Je '58

Use of refractory ceramics in rocket engines. V. E. Sheridan. diag Am Cer Soc Bul 37:91-4 F 15 '58

Cooling

Analysis of regenerative cooling in rocket thrust chambers. E. E. Dean and L. A. Shurley. biblog il diag Jet Propulsion 28:104-10 F '58

Factors which influence the suitability of liquid propellants as rocket motor regenerative coolants. D. B. Barz. biblog (35 ref) Jet Propulsion 28:46-53 Ja '58

Exhaust

Calculated viscosity of a solid propellant rocket exhaust gas mixture. W. Gin. biblog Jet Propulsion 28:127-8 F '58

Fuel consumption

Minimality for problems in vertical and horizontal rocket flight. S. Ross. biblog Jet Propulsion 28:55-6 Ja '58

Fuel feeding

Diesels fuel missiles. il Diesel Power 36:28-9 Ja '58

Rocket test stand pressure controller design. G. E. Click and R. G. Halliday. diag Aero/Space Eng 17:72-7 My '58

ROCKET engines—Continued

Ignition

Ignition of electrolytic monopropellants by submerged electrical discharge. M. W. Evans and others. *Il diag Jet Propulsion* 28:255-6 Ap '58

Manufacture

Rocket-engine manufacture requires machining ingenuity. Aerojet-General corp. C. O. Herb and W. E. Moller. *Il Mach* 65:121-6 S '58

Models

Model ionic propulsion motor. *Ind & Eng Chem* 50:sup34A Je '58

Testing

Instrumentation plays vital role in rocket development. K. R. Stehling. *diags Aviation Age* 30:20-1+ J '58

Laboratory methods of measuring thrust. P. N. Rowe. *bibliog diags Engineer* 205:964-7; 206:4-6 Je 27-Jl 4 '58

Rocket engines and nondestructive testing. R. P. Frohmberg. *Automotive Ind* 119:109+ J '58; 68+ Ag 15 '58

Rocket test stand pressure controller design. G. E. Click and R. G. Halliday. *diags Aero/Space Eng* 17:72-7 My '58

Telemeter transmitter for Vanguard rocket. N. Raskhodoff. *Il diags Electronics* 31:46-7 J '58

Television viewing of rocket engine tests. J. P. Mitchell. *Il diags SMPTE J* 67:473-4 J '58

ROCKET propellants. See Propellants

ROCKET propulsion

Atlas propulsion system. *Il Engineering* 186:295 S 5 '58

Escape from a circular orbit using tangential thrust. D. J. Benney. *diag Jet Propulsion* 28:167-9 Mr '58

Extension of the theory of the optimum burning program for the level flight of a rocket-powered aircraft. A. Miele. *bibliog diags J Aeronautical Sci* 24:874-84 D '57

Ion propulsion; electric power for space flight. K. R. Stehling. *Il diags Aviation Age* 28:38-40+ Ja '58

Ions may take men to Mars; ionic propulsion. *Il diag Electronics Bsns* ed 30:19-20 N 10 '57

Propulsion systems for space flight. R. B. Dillaway. *bibliog diags Aeronautical Eng R* 17:42-9+ Ap '58

Reliability achievement and demonstration in a development program. H. R. Lawrence and W. H. Amster. *Aero/Space Eng* 17:65-9 O '58

Space flight; propulsion. J. Grey. *Il diags Aviation Age* 28:36-7+ Mr '58

ROCKET sleds

Alignment methods hold precision over distance; alignment of a rocket-sled test track. *Il Iron Age* 181:108-10 Ap 17 '58

ROCKETS

Amateur scientist; amateur rocketry. L. J. Grant. *Jr. Sci Am* 199:114 Ag '58

Computation of rocket step weights to minimize initial gross weight. R. P. Ten Dyke. *Jet Propulsion* 28:338-40 My '58

Confetti dropped by rocket gages high-altitude winds. *Il Machine Design* 30:10+ Ap 17 '58

Earth-moon rocket trajectories. L. Gold. *diags Franklin Inst J* 266:1-8 J '58

Efficiency of supersonic nozzles for rockets and some unusual designs. R. P. Fraser and others. *bibliog Il diags Inst Mech Eng Proc* 171 no 16:553-69. pl 1-4; Discussion. 570-6; Reply. 577-80 '57

For a trip to the moon; nuclear rockets compared with chemically fueled rockets. C. R. Lewis. *diag S A E J* 66:85 J '58

Generalized optimization procedure for N-staged missiles. L. Weisbord. *Jet Propulsion* 28:164-7 Mr '58

High speed flight, rockets and satellites. W. J. Duncan. *Il Eng J* 18:278-81 Ag 29 '58

International geophysical year; rockets and satellites. D. C. Rose. *Il Eng J* 41:57-9 Ag '58

Jr. rocketeer savvy spurs army-ARS safety programs. *Il Product Eng* 29:25 Mr 24 '58

Long-range rockets and satellites; their performance, guidance and control. E. C. Cornford. *Il diag Engineering* 186:282-7 Ag 29 '58

Lunar probe paths for approaching the moon. G. V. E. Thompson. *bibliog diags Engineering* 186:294-5 S 5 '58

Materials for a space traveller. R. A. Jones. *Metal Prog* 74:78-82 J '58

Minimality for problems in vertical and horizontal rocket flight. S. Ross. *bibliog Jet Propulsion* 28:55-6 Ja '58

Model missiles mean mayhem. J. V. Neeson. *Il Safety Maint* 115:11-12+ Je '58

Moon photos hoped for; lunar probe test vehicle. *Electronics* 31:22 Ag 22 '58

Moon rocket by 1962? *Il Electronics* 30:13-14 D 20 '57

Optimization of nozzle area ratio for rockets operating in a vacuum. M. Goldsmith. *Jet Propulsion* 28:170-2 Mr '58

Optimum pay-load-ratio relation for multiple-stage rockets. G. Leitmann. *diag Am J Phys* 26:28-30 Ja '58

Optimum trajectory of a rocket. R. R. Newton. *bibliog diag Franklin Inst J* 266:155-87 S '58

Optimum variation of exhaust velocity during burning. R. H. Olds. *Jet Propulsion* 28:40+ Je '58

Power for space. B. G. A. Skrotzki. *Il diags Power* 102:84-6+ Ap '58

Probing the upper atmosphere. *Il diags Anal Chem* 30:sup 19A-22A+ S '58

Recent advances in rocket reliability concepts. M. Lipus. *bibliog Jet Propulsion* 28:373-7 Je '58

Review and preview; missiles business rockets ahead. *Il Chem & Eng N* 36:78-81 Ja 6 '58

Rocket nozzle uses glass-reinforced phenolic molded in place; receives citation in Materials in design engineering competition. *diags Materials in Design Eng* 47:146-7 Ap '58

Rockets and missiles; special report. R. L. Noland. *Il diags Chem Eng* 65:145-60 My 19 '58 (reprints 75c)

Rockets and rockets top fire hazards; rocketeer salesmen of worthless fire extinguishers. P. Bugbee. *Safety Maint* 115:51 Ap '58

Rockets bring new gear; high temperature material, Astrolite and Conoseal tubing joint. *Chem & Eng N* 35:71 D 30 '57

Rockets probe upper atmosphere for IGY. *Franklin Inst J* 265:316; 266:74-5 Ap, J '58

Rockets soar, so do injuries; students rocket experiments. *Il Chem & Eng N* 36:51-3 Ja 27 '58

Safety first, in space travel too. D. C. Romick and others. *Product Eng* 28:89 D 23 '57

Safety rules for backyard rocketry. *Elec Eng* 77:381-2 S '58

Satellite program and the role of rubber in it; abstract. R. L. Hirsch. *Rubber World* 137:423-4 D '57

Shooting at the moon? *Il Chem & Eng N* 35:26+ N 4 '57

Small power plants for use in space; chemical, solar, and nuclear. L. Rosenblum. *bibliog Il(cover) diags Aero/Space Eng* 17:30-3+ J '58

Solid propellant rockets to be used in Japanese tests; abstract. Maeda. *Aeronautical Eng R* 16:29+ N '57

Stationary conditions for problems involving time associated with vertical rocket trajectories. A. Miele. *bibliog J Aero/Space Sci* 25:467-9 J '58

Subs to get new antisub rockets. *Electronics* 31:8+ J '58

Supervision urged for amateur rocketeers. *Safety Maint* 115:48 Mr '58

Titanium in rockets and missiles. S. Abkowitz. *Il Light Metal Age* 16:15 Ap '58

Trajectory of a rocket with thrust. R. A. Struble and others. *Jet Propulsion* 28:472-8 J '58

Trajectory programming for maximum range. G. Leitmann. *diags Franklin Inst J* 264:443-62 D '57

Vibration; a survey of industrial applications. J. J. den Hartog. *Il Engineer* 204:743-4 N 22 '57

See also

American rocket society

Satellites, Artificial

Control

Guidance and control. P. A. Castruccio. *Il Aviation Age* 28:64-8 Mr '58

Design

Minimality for arbitrarily inclined rocket trajectories. A. Miele. *Jet Propulsion* 28:481-3 J '58

Optimization of multistage rockets. H. H. Hall and E. D. Zambelli. *Jet Propulsion* 28:463-5 J '58

Optimization of the N-step rocket with different construction parameters and propellant specific impulses in each stage. M. Subotowicz. *Jet Propulsion* 28:460-3 J '58

ROCKETS—Design—Continued

Optimum rocket trajectories with aerodynamic drag. A. E. Bryson, Jr. and S. E. Ross. *bibliog Jet Propulsion* 28:466-9 JI '58
 Practical mathematical approach to grain design. M. W. Stone. *diags Jet Propulsion* 28:236-44 Ap '58
 Space flight; structures and materials. P. E. Sandorff. *diags Aviation Age* 28:50-3, 59-60+ Mr '58

Electric equipment

Where will electric power come from in space ships? J. Gustavson. *diags Aviation Age* 29:186-9 Ap '58

Electronic equipment

High acceleration telemetry beats state of the art. T. D. Horning. *il diags Space/Aeronautics* 30:136-7+ O '58
 Soviet rocket gear. *Electronics* 31:19 My 2 '58

Equipment

Space flight; accessories. R. L. Wehrli. *diags Aviation Age* 28:90-2+ Mr '58

Fuel

See Propellants

Launching

Balloon-launched vehicle may be first on the moon. K. R. Stehling. *il diags Aviation Age* 28:32-5 Mr '58
 Booster propulsion for space vehicles. R. S. Wentink. *Aero/Space Eng* 17:40-5+ JI '58
 Polyester/glass rocket launchers. *il Brit Plastics* 31:439 O '58
 Space flight; ground support. B. Cain. *Aviation Age* 28:98-101 Mr '58

See also
 Guided missiles—Launching
 Satellites, Artificial—Launching

Manufacture

Application of a flexible production system to the quantity manufacture of guided missiles and rockets; abstract. J. P. Rogan. *Aircraft Eng* 30:238 A '58
 How to build a satellite. *il Mill & Factory* 61:81-2 D '57

Materials

Aluminum in rockets and missiles. D. Fabun. *il map diags Mod Metals* 14:30-2+ Ap '58
 From venetian blinds to rocket tubes; Hunter Douglas aluminum div. R. A. Quadt. *il Mod Metals* 14:26+ Ap '58
 Space flight; structures and materials. P. E. Sandorff. *diags Aviation Age* 28:50-3, 59-60+ Mr '58

Plastics

Asbestos-phenolics aid rocket and missile flight. D. V. Rosato. *il Plastics World* 16:4-6 Ap '58
 Now into the space age! temperatures up to 30,000°F. are endured by new combinations of materials. *il diag Mod Plastics* 35:105-10+ Je '58
 Plastics sheet used in rockets, missiles. *il Materials in Design Eng* 47:165-6 Mr '58
 Reinforced plastics at 3,000 to 25,000 F. M. W. Riley. *il Materials in Design Eng* 47:100-4 Je '58

Nose cones

Canadian armament research and development establishment. L. G. Y. upper air research program. R. F. Chinnick. *bibliog il (cover) diags Eng* 41:61-7 Ag '58
 Lift of slender nose shapes according to Newtonian theory. D. D. Cole. *J Aeronautical Sci* 25:399 Je '58
 Plastic nose to guard U.S. satellite in flight. *il Plastics Tech* 4:142 F '58

Performance

Incremental step vehicles approach ideal rocket performance. H. R. Wahlin. *bibliog Aviation Age* 29:166-72 Je '58

Recovery

Electrons may solve reentry problem; abstracts. W. H. Sears. *Electronics* 31:26-7 Mr 7 '58; *Machine Design* 30:38+ Mr 6 '58
 Hypersonic flight and the re-entry problem. H. J. Allen. *bibliog diags J Aeronautical Sci* 25:217-27; *Discussion*. 228-9+ Ap '58

Re-entry

See Rockets—Recovery

Refueling

Moon refueling for interplanetary vehicles. K. R. Stehling. *il diags Aviation Age* 30:22-3 Ag '58

Testing

Avco noise-maker will assist in missile-rocket tests. *il Product Eng* 29:17 Je 30 '58
 High altitude rockets. *Electronic Eng* 30:30 Ja '58
 I.G.Y. rocket experiments. *Brit Inst Radio Eng J* 18:416 JI '58
 New missiles and spacecraft challenge telemetry technology. J. Holahan. *diags Aviation Age* 30:128-36 Ag '58

Tracking

High acceleration telemetry beats state of the art. T. D. Horning. *il diags Space/Aeronautics* 30:136-7+ O '58
 Radio observations on the Russian satellites; radar observations of the Russian earth satellites and carrier rocket. J. Davis and others. *il diag inst E E Proc* 105 pt B:105-7 Mr '58

ROCKETS, Atomic powered

Aircraft A-power program widens. *Electronics* 31:6+ My 9 '58
 Concepts for future nuclear rocket propulsion. R. W. Bussard. *bibliog diags Jet Propulsion* 28:223-7 Ap '58
 How nuclear rockets might work. *diags Nucleonics* 16:21 Mr '58
 Interplanetary travel will require nuclear propulsion. T. F. Nagey. *S A E J* 66:79-80 My '58
 Nuclear rockets. *bibliog il diags Nucleonics* 16:62-75 JI '58

ROCKS

Control of jointing by topography. C. A. Chapman. *map diags J Geol* 66:552-8 S '58
 Design of large pressure conduits in rock. L. W. Patterson and others. *il map plans diags Am Soc C E Proc* 83 (PO 3 no 1457):1-30 D '57; *Discussion*. 84 (PO 3 no 1689):3-7 Je '58

Effect of low frequency percussion in drilling hard rock. E. Topanelian, Jr. *bibliog J Pet Tech* 10:55-7 JI '58

Effect of pressure on rock drillability. J. R. Eckel. *il diag J Pet Tech* 10:Trans 1-6 Ja '58

Lateral extensometer for the determination of Poisson's ratio of rock. E. R. Leeman and C. Grobbelaar. *diags J Sci Instr* 34:503-5 D '57

Mineralogy, petrography, and radioactivity of representative samples of Chattanooga shale. T. F. Bates and E. O. Strahl. *bibliog Geol Soc Bul* 68:1305-13, pl 1 O '57

Nature, usage, and definition of marker-defined vertically segregated rock units. J. M. Forgoison, Jr. *diags Am Assn Pet Geologists Bul* 41:2108-13 S '57; *Discussion*. P. E. Moore. *bibliog* 42:447-50 F '58

Operating reactors in rocks is different. *il Pét Eng* 30:D67-8 Ja '58

Petrology and origin of the Poway conglomerate, San Diego county, Calif. G. J. Bellemain and R. Merriam. *bibliog maps Geol Soc Bul* 69:199-220 F '58

Reservoir rock wettability; its significance and evaluation. J. E. Bobek and others. *bibliog diag J Pet Tech* 10:Trans 155-60 JI '58

Some observations on rock magnetism. L. G. Howell and others. *bibliog diags Geo-physic* 23:285-98 A '58

Some thermal characteristics of porous rocks. W. H. Somerton. *bibliog J Pet Tech* 10:61-4 My '58

Tracks in rocks; helpful operating hints. *il Roads & Sts* 101:170-1 Ap '58

When rock is stone, and stone is rock. N. C. Rockwood. *Rock Prod* 60:25+ N '57

See also

Amphiboles
 Boulders
 Breccia
 Coronites
 Corundum
 Folds (geology)
 Geochemistry
 Granite
 Laterite
 Limestone
 Metamorphism
 Mineralogy
 Minerva
 Pebbles
 Quarries and quarrying
 Sedimentation and deposition
 Shale
 Tufa
 Weathering (rocks)

ROCKS—Continued

Age

- Potassium-argon dating of sedimentary rocks. G. H. Curtis and J. H. Reynolds. bibliog Geol Soc Bul 69:151-9 F '58
- Potassium-argon dating of sedimentary rocks. J. Lipson. bibliog map diags Geol Soc Bul 69:137-49 F '58
- Sediment age determination by Rb/Sr analysis of glauconite. L. F. Herzog and others. bibliog Am Assn Pet Geologists Bul 42:717-33 Ap '58

Analysis

- Cobalt determination in soils and rocks with 2-nitroso-1-naphthol. L. J. Clark. bibliog Anal Chem 30:1153-6 Je '58
- Determination of sieve-size distribution from thin-section data for sedimentary petrological studies. G. M. Friedman. bibliog J Geol 66:394-416 J1 '58
- Low magnification thin section photography. F. W. Atchley. bibliog Am Mineralogist 43:997-1000 S '58
- Sediment age determination by Rb/Sr analysis of glauconite. L. F. Herzog and others. bibliog Am Assn Pet Geologists Bul 42:717-33 Ap '58
- Stage for macro point counting. D. O. Emerson. il Am Mineralogist 43:1000-3 S '58
- Thorium-to-uranium ratios as indicators of sedimentary processes; example of concept of geochemical facies. J. A. S. Adams and C. E. Weaver. bibliog (29 titles) Am Assn Pet Geologists Bul 42:387-430 F '58

See also

Mineralogical analysis

Classification and nomenclature

- Nature, usage, and nomenclature of rock-stratigraphic units. Am Assn Pet Geologists Bul 40:2003-14 Ag '56; Discussion. F. E. Kottowski. 42:893-4 Ap '58

Deformation

- Sedimentary flow structures on bedding planes. M. F. Glaessner. bibliog (25 titles) diag J Geol 66:1-7, pl 1-2 Ja '58

Testing

- Tests of significance of preferred orientation in three-dimensional fabric diagrams. D. Flinn. bibliog diag J Geol 66:526-39 S '58

ROCKS, Crystalline and metamorphic

- Chemical character of water in the igneous and metamorphic rocks of North Carolina. H. E. LeGrand. map diag Econ Geol 53:178-89 Mr '58
- Concept of diagenesis in argillaceous sediments. R. E. Grim. bibliog (23 titles) Am Assn Pet Geologists Bul 42:246-53 F '58
- Coronites from India and their bearing on the origin of coronas. M. V. N. Murthy. il Geol Soc Bul 69:23-37 bibliog (p36-7) Ja '58
- Geology of the Mount Garibaldi map-area, southwestern British Columbia, Canada; igneous and metamorphic rocks. W. H. Mathews. bibliog map Geol Soc Bul 69:161-78, pl 1 F '58
- Metamorphic rocks in Sierra del Carmen, Coahuila, Mexico. P. T. Flawn and R. A. Maxwell. il map Am Assn Pet Geologists Bul 42:2245-9 S '58
- Rank of coal and metamorphic grade of rocks of the Narragansett basin of Rhode Island. A. W. Quinn and H. D. Glass. bibliog maps Econ Geol 53:563-76 Ag '58
- Significance of amphibole paragenesis in the Bidwell Bar region, Calif. R. R. Compton. bibliog Am Mineralogist 43:890-907 S '58

ROCKS, Igneous

- Albite porphyries as a guide to gold ore. H. J. Ward. bibliog Econ Geol 53:764-6 S '58
- Alkali feldspars in a tertiary porphyry near Hillsboro, N.Mex. F. J. Kuellmer. bibliog maps diag J Geol 66:151-62 Mr '58
- Chemical character of water in the igneous and metamorphic rocks of North Carolina. H. E. LeGrand. map diag Econ Geol 53:178-89 Mr '58
- Geology of the Mount Garibaldi map-area, southwestern British Columbia, Canada; igneous and metamorphic rocks. W. H. Mathews. bibliog map Geol Soc Bul 69:161-78, pl 1 F '58
- Paragenesis of accessory minerals. W. W. Moorhouse. diags Econ Geol 51:248-62 bibliog (p261-2) My '56; Discussion. L. J. G. Schermerhorn. 53:215-18 Mr '58

Porphyritization in Destor and Duparquet townships, Atibi West county, Quebec, Canada. R. B. Graham. bibliog il map Econ Geol 53:787-53 S '58

Significance of amphibole paragenesis in the Bidwell Bar region, Calif. R. R. Compton. bibliog Am Mineralogist 43:890-907 S '58

Sulphides in the Skaerwaard intrusion, east Greenland. L. R. Wager and others. il diags Econ Geol 52:855-95 bibliog (37 titles, p893-5) D '57

Zircon from the Animas stock and associated rocks, New Mexico. A. M. Alper and A. Folderværk. bibliog maps diag Econ Geol 52:952-71 D '57

See also

Basalt

Dikes (geology)

Granite

Granophyre

Lava

Pegmatites

ROCKS, Metamorphic. See Rocks, Crystalline

and metamorphic

ROCKS, Sedimentary

Determination of sieve-size distribution from thin-section data for sedimentary petrological studies. G. M. Friedman. bibliog J Geol 66:394-416 J1 '58

Geologic interpretation of argillaceous sediments; origin and significance of clay minerals in sedimentary rocks. C. E. Weaver. bibliog diags Am Assn Pet Geologists Bul 42:254-71 F '58

Geology and metamorphism of the Nairne pyritic formation, a sedimentary sulfide deposit in South Australia. B. J. Skinner. bibliog il maps diag Econ Geol 53:546-62 Ag '58

Mineralogical changes in weathered sedimentary ironstones. R. F. Youell. Am Mineralogist 43:774-6 J1 '58

Observations on fusulin. H. Skolnick. bibliog il Am Assn Pet Geologists Bul 42:2223-36 S '58

Potassium-argon dating of sedimentary rocks. G. H. Curtis and J. H. Reynolds. bibliog Geol Soc Bul 69:151-9 F '58

Potassium-argon dating of sedimentary rocks. J. Lipson. bibliog map diags Geol Soc Bul 69:137-49 F '58

Sediment age determination by Rb/Sr analysis of glauconite. L. F. Herzog and others. bibliog Am Assn Pet Geologists Bul 42:717-33 Ap '58

Sedimentary flow structures on bedding planes. M. F. Glaessner. bibliog (25 titles) diag J Geol 66:1-7, pl 1-2 Ja '58

Thorium-to-uranium ratios as indicators of sedimentary processes; example of concept of geochemical facies. J. A. S. Adams and C. E. Weaver. bibliog (29 titles) Am Assn Pet Geologists Bul 42:387-430 F '58

Titaniferous sedimentary rocks in the Cuyuna district, central Minnesota. R. G. Schmidt. bibliog il maps Econ Geol 53:708-21 S '58

See also

Graywacke

Limestone

Sandstone

Shale

Stratification

ROCKSLIDES. See Landslides

ROCKWELL hardness test. See Hardness—Testing

ROCKY Mountain electrical league

Annual meeting, 54th, Colorado Springs, Oct. 13-17. Elec World 148:57 N 11 '57

ROCKY Mountain region

See also

Gas, Natural—Rocky Mountain region

Petroleum—Rocky Mountain region

ROD mills. See Rolling mills

ROD mills (for crushing). See Tube mills

RODS

Device for the preliminary cutting of single-crystal metallic rods to a desired orientation. T. B. Vaughan. bibliog diags J Sci Instr 35:147-8 Ap '58

ROEBLING medal

Presentation of the Roebling medal to Walter F. Hunt and acceptance. L. S. Ramsdell. Am Mineralogist 43:334-43 Mr '58

ROGERS, Austin Flint

Memorial. P. F. Kerr. por Am Mineralogist 43:310-16 bibliog (p313-16) Mr '58

ROGERS, John

Unveiling of the plaque to Dr J. Rogers. por Chem & Ind p 1496-7 N 16 '57

ROHM and Haas company

Career opportunities. il Chem & Eng N 36:55 pt 2 Ja 27 '58

ROLE-playing in training. See Dramatization in training

ROLLER-SMITH corporation

Federal Pacific Electric to acquire Roller-Smith. Elec World 148:162 D 16 '57

ROLLER bearings. See Bearings, Roller

ROLLER chains. See Chain gear

ROLLER conveyors. See Conveying machinery

ROLLERS

Carbide provides rough surface. *il* Materials in Design Eng 47:188 Je '58

Hard face rollers for low-cost service. *il* Iron Age 181:114-15 Ap 17 '58

High-speed metal crimping with plastic rollers. *il* Machine Design 29:117 N 28 '57

Novel thermostat for hot rollers. D. A. Senior, diags Instruments & Automation 31:1044-5 Je '58

Tungsten carbide rollers are tough. *il* Steel 143:86 S 22 '58

ROLLERS (earthwork)

Compacting earth dams with heavy tamping rollers. J. W. Hilf, Am Soc C E Proc 83 ISM 2 no 12051:1-28 bibliog(p27-8) Ap '57; Discussion. 83 ISM 4 no 14901:27-32 N '57; Reply. 84 ISM 2 no 16571:11-13 My '58

ROLLERS, Paint. See Paint rollers

ROLLERS, Road. See Road rollers

ROLLING (metal work)

AISE spring conference, Birmingham, April 21-23; abstracts of technical papers. Iron & Steel Eng 35:105-11 Mr '58

Automatic gauge control in sheet rolling; nucleonic thickness gauge. *il* Metallurgia 57:19-22 Ja '58

British broad flange beams in 1958; Dorman Long's universal mill. Engineering 184:601 N 8 '57

Chrysler looks at spline rolling; abstract. E. R. Morrill. *il* Am Mach 101:113 D 30 '57

Cold-rolled strip from metal powder. Engineering 185:472 Ap 11 '58

Controlled low-temperature hot rolling as practiced in Europe. R. W. Vanderbeck. Welding J 37:sup 114-16 Mr '58

Detection of rolling defects in steel sheet; abstract. A. M. Armour. Metal Prog 73:174-7 F '58

Development of optimum ingot sizes for flat rolled products. J. G. Sibakin. Iron & Steel Eng 34:117 O '57

Explorer opens production paths tool roll flowing of nose cone. *il* Am Mach 102:97 Mr 10 '58

Flat rolling; the effect of plant design and layout on capital and operating costs. W. F. Cartwright and M. F. Dowding. plan diags Iron & Steel Inst J 188:23-35 Ja '58

Friction in cold rolling. G. T. van Rooyen and W. A. Backofen. bibliog *il* diags Iron & Steel Inst J 136:235-44 Je '57; Correction. 188:353 Ap '58

How to design for form rolling of knurls, splines, and serrations. *il* diags Machine Design 30:105-12 Ja 9 '58

Material selection for thread and form rolling. *il* diags Machine Design 30:137-43 Ja 23 '58

Metal-powder rolling; mill developed by Stanat manufacturing co. *il* Mech Eng 80:100 Mr '58

New process rolls wide alloy sheets; U.S. steel corp. *il* Iron Age 180:21 D 26 '57

Pinch and roll cuts compressor blade cost. Product Eng 29:25 Je 2 '58

Pinch and roll dies halve blade cost. A. Anderson. *il* diags Am Mach 102:89-91 Je 2 '58

Roll forming gets an assist; gas turbine blades. *il* diags Steel 142:70-1 Je 2 '58

Roll pass design for combination structural and wide flange beam mill. H. E. Muller. diags Iron & Steel Eng 34:85-95; Discussion. 95-7 D '57

Rolling reduces waste. *il* Steel 142:126-7 Mr 10 '58

Sandwich-rolling process. Mech Eng 80:87 F '58

Seamless tube making by the Calmes process. A. Calmes and C. A. Roberts. *il* diags Iron & Steel Eng 35:124-31; Discussion. 131-2 F '58

Spiral-rolling ups strength even more than shot-peening or induction surface hardening. T. W. Wlodek. diags Eng & Min J 158:96-6 N '57

Spline rolling technique for tubular parts. Tool Eng 41:115 JI '58

10,000 roll formed aluminum screens per day; American Screen Products. K. Darby. *il* Mod Metals 14:46-7 Mr '58

Titanium is roll-formed hot. G. H. De Groat. *il* Am Mach 102:111 F 24 '58

Titanium-sheet-rolling program. N. E. Promisel and W. J. Harris, Jr. Mech Eng 79:1112-15 D '57

Turn-up and turn-down in hot rolling. G. E. Kennedy and F. Slamar. *il* diags Iron & Steel Eng 35:71-6; Discussion. 76-9 Mr '58

U.S. Steel engineer develops technique for rolling of wide, thin sheets. *il* Iron & Steel Eng 35:200 Ja '58

Universal beams and their application. S. Barlow and G. Foster. diags Engineer 204:673-5 N 8 '57

See also

Rolling mills

Steel, Strip

Thread rolling

Tables, calculations, etc.

Control equations of multistand cold rolling mills. G. Llanis and H. Ford. Inst Mech Eng Proc 171 no 26:757-72; Discussion. 772-4; Reply. 775-6 '57

ROLLING mills

AISE annual meeting, Cleveland, Sept. 23-26; abstracts of papers. Iron & Steel Eng 35:131-97 S '58

AISE spring conference, Birmingham, April 21-23; abstracts of technical papers. Iron & Steel Eng 35:105-11 Mr '58

Billet heating; new Johnstown rod mill. F. R. Pullen. *il* plan Iron & Steel Eng 34:134-40 N '57

Convertible rolling mill compacts powders into sheet and strip. *il* Iron & Steel Eng 35:171-2 Mr '58

Granite City Steel completes \$33,000,000 expansion program. Iron & Steel Eng 35:122 Je '58

Installs mill in record time; Pittsburgh steel co. *il* Iron Age 182:2-3 Ag 28 '58

Kaiser begins hot rolling; Ravenswood plant. *il* map Steel 142:58-9 Je 9 '58

Kaiser starts hot rolling mills at Ravenswood. *il* Iron & Steel Eng 35:139-40 JI '58

Latrobe's 32-in. cogging mill rolls superalloys. highspeed steels. *il* diags Am Mach 101:143 D 2 '57

Loma machine manufacturing co. eight-stand mill rolls thin-gage strip at 1000 f.p.m. *il* Mod Metals 14:80 Je '58

Mill does many jobs; Stanat mfg. co. mill has compacted powders. *il* Steel 142:96 Mr 31 '58

Mill makes sheet from metal powder. *il* Tool Eng 40:235-6 Ap '58

New aluminum foil mill. Light Metal Age 16:33 Ap '58

New mill will roll superalloys; Latrobe steel co. *il* Iron Age 180:85 N 21 '57

New mill will roll tough steels; Latrobe steel co. *il* diags Steel 141:99-100 D 2 '57

New rolling mill boosts capacity at Latrobe Steel. *il* Iron & Steel Eng 34:189 D '57

Planetary mill and its uses. T. Sendzimir. *il* plan diags Iron & Steel Eng 35:95-9; Discussion. 99-101 Ja '58

Ravenswood rolling. *il* Light Metal Age 16:13-14 Je '58

Republic dedicates new facilities at Gadsden plant. *il* Iron & Steel Eng 34:178-9 D '57

Republic starts operation on 11-in. bar mill at south Chicago. *il* Iron & Steel Eng 35:142 Ag '58

Some practical solutions to hot mill problems. R. A. Smith and A. D. Patton. Iron & Steel Eng 35:92-5; Discussion. 95-6 JI '58

Steelco expansion. Eng J 41:97 My '58

This mill rolls superalloys. *il* diags Product Eng 29:65 F 3 '58

Warehouse helps customers with small rolling mill. *il* diag Iron Age 180:88-9 N 28 '57

Weirton donates mill for research. Iron & Steel Eng 35:92 Ag '58

See also

Rolls (rolling mills)

Steel works

Tubes, Steel—Manufacture

Air conditioning

Air conditioned control booth spurs hot rolling operation. J. C. Handy. *il* Elec World 149:76 Mr 10 '58

Bearings

Maintenance of oil film bearings on European mills. S. Carson. *il* diag Iron & Steel Eng 35:90-5; Discussion. 95-6 Ap '58

New advance in rolling mill bearings. *il* Metallurgia 56:246 N '57

Primary roll neck bearings and their protection. G. Sackerson. *il* diags Iron & Steel Eng 35:102-8; Discussion. 108-10 F '58

ROLLING mills—Continued

Control

- Automated reversing rougher; Programmed digital automatic control. E. H. Browning. *il* diag Instruments & Automation 31:286 F '58
- Automatic control in steel strip manufacture. G. Syke. *il* diag Brit Inst Radio Eng J 18: 117-23; Discussion. 124 F '58
- Automatic gage control system for tandem cold mills. N. S. Walker and others. *il* diag Iron & Steel Eng 35:124-30; Discussion. 130-2 J '58
- Automatic gauge control; Wheeling steel corp. tin plate mill. *il* diag Westinghouse Eng 18:139 S '58
- Bar mill operates automatically; Connors steel division of H. K. Porter co. C. A. Billante and G. Lambert. *diag* Iron & Steel Eng 35:203 S '58
- Blooming mill screwdown control. K. R. Thompson. *il* diag Control Eng 5:166-8 S '58
- Bremstrahlung gages improve thickness control. N. A. Hart. *il* diag Control Eng 5:125 Ap '58
- Card programming control of rolling mills. R. W. Holman and others. *il* diag Iron & Steel Eng 35:113-19 Je '58
- Computer controls steel mill; illustrations with text. *Electronic Ind* 17:115 Mr '58
- Control equations of multistand cold rolling mills. G. Lianis. *il* diag Inst Mech Eng Proc 171 no 26:757-72; Discussion. 772-4; Reply. 775-6 '57
- Control of tinning lines at Velindre. *il* plan diag Engineer 206:262-6 Ag 15 '58
- Edge position control. F. J. Markey. *diag* Instruments & Automation 31:280-1 F '58
- No-hands control for mill car programming system. *il* Steel 142:39 Ja 27 '58
- Process analysis plus analog simulation yields better mill controls; using noncontacting thickness gages. R. A. Phillips. *il* diag Control Eng 5:113-18 Mr '58
- Punch cards lead drive to automatic mill control. G. J. McManus. *il* Iron Age 182: 189-71 S 11 '58
- Punch cards program rolling mill. *il* diag Iron Age 181:92-3 F 20 '58
- Punched cards control steel production; Prodec system. *il* Electronics 31:170 Mr 14 '58
- Strip mill uses automatic programmed control. E. H. Browning. *il* diag Automation 5:64-7 Je '58; Same cond. Westinghouse Eng 18:80-1 My '58
- Translator control. W. N. Jenkins. *il* diag Iron & Steel Inst J 188:167-67 F '58; Discussion. 189:350-6 Ag '58

Costs

- Flat rolling; the effect of plant design and layout on capital and operating costs. W. F. Cartwright and M. F. Dowling. *plan* diag Iron and Steel Inst J 188:23-35 Ja '58

Design

- Bar mill design reduces need for roll changing. A. E. Lendl. *diag* Iron & Steel Eng 35:220+ S '58
- Computer-designed rolling mill. *diag* Instruments & Automation 31:283 F '58
- Flat rolling; the effect of plant design and layout on capital and operating costs. W. F. Cartwright and M. F. Dowling. *plan* diag Iron & Steel Inst J 188:23-35 Ja '58

Electric equipment

- Application of static switching in the steel industry. D. L. Pierce. *il* diag Iron & Steel Eng 34:113-23; Discussion. 123-5 N '57
- Automatic gage control system for tandem cold mills. N. S. Walker and others. *il* diag Iron & Steel Eng 35:124-30; Discussion. 130-2 J '58
- Brain designs rolling mill. *Mill & Factory* 62:262 Mr '58
- Control of tinning lines at Velindre. *il* plan diag Engineer 206:262-6 Ag 15 '58
- Electrical equipment for a modern rod mill. E. L. Anderson. *il* plans diag Iron & Steel Eng 35:112-23; Discussion. 123-6 Ja '58
- Insulated cables save 50 per cent on costs; Youngstown sheet & tube co. *il* Steel 142:92 My 12 '58
- Lamination detector for the continuous inspection of steel strip. B. O. Smith and A. G. Grimshaw. *il* diag Iron & Steel Inst J 189:66-71 My '58
- Push button pipe mill unveiled by Youngstown. *il* Pet Eng 30:B 129 Je '58

- Recent hot strip mill roughing trains. J. H. Greiner. *il* diag Iron & Steel Eng 35:151-5; Discussion. 155-9 S '58
- Selection of electrical equipment for temper and skin pass mills. J. E. Peebles and others. *il* plan diag Iron & Steel Eng 35:115-28 S '58
- Simple radials can be reliable and economic. *il* electric distribution in automatic tube mill. E. J. Bartley and others. *il* diag Elec World 149:78-80 F 17 '58
- Width measurement in a hot strip mill. *Electronic Eng* 30:181 Ap '58

See also

Electric driving—Rolling mills

Equipment

- Accurate tubes; Talbot Stead tube co. *il* Engineering 185:668-9 My 23 '58
- Alcoma's combination bar and strip mill. W. H. Mulfur. *il* plan diag Iron & Steel Eng 34:73-81; Discussion. 81-2 O '57
- Annealing costs tumble; opened coil annealing just revealed by Lee Wilson engineering co. *il* diag Steel 142:104 Ap 28; 144 My 19 '58
- Automatic galvanizing plant; Arcco-Sendzimir installation at Ebby Vale. *il* diag Engineering 186:78-9 J1 18 '58
- British mill rolls broad flange beams; Dorman Long plant for universal sections. *il* plan Engineering 186:406-8 S 26 '58
- Carrier units speed coil delivery. *il* Iron & Steel Eng 35:149-50 Ap '58
- Cast stands stand up to pickle liquor. *il* Steel 142:141 Ap 14 '58
- Cold rolling mill for very thin strip. *il* diag Engineer 205:272-4 F 21 '58
- Combination mill for rolling rod, bars and strip. E. E. Davis. *il* plan Iron & Steel Eng 35:101-5; Discussion. 106; Reply. 106-7 Ap '58
- Continuous draft indicator for rolling mills; patent. *diag* Iron & Steel Eng 35:27-8 Ag '58
- Continuous galvanising line; Ebbw Vale works. Richard Thomas and Baldwins. *il* Engineer 205:746; 206:102-4 My 16, J1 13 '58
- Continuous stainless steel strip rolling mill extensions; Sheepcote rolling mills, ltd. *il* Engineer 205:777-8 My 23 '58
- Control of strip width in hot rolling mills; Evershed width gauge. *il* Engineering 185: 382 Mr 21 '58
- Conveyor bypasses obstacles in interplant handling; Atlantic steel co. *il* Iron Age 181: 97 My 29 '58
- Development of automatic thickness controls for strip mills. I. G. Orelana. *il* diag Iron & Steel Eng 35:144-8; Discussion. 148-50 Mr '58
- Digital flying extensometer for temper rolling mills. N. S. Wells. *diag* Applications & Ind 3:76-8 Ja '58
- Double duo bar mill; Sheffield works of Sanderson brothers and Newbould, ltd. *il* Engineer 205:65 Ja 10 '58
- 44in semi-continuous hot strip rolling mill at Alquiappa, Pa. *il* diag Engineer 205: 829-31 My 30 '58
- Good engineering gives good piping layouts. *il* Iron & Steel Eng 35:159-60 Mr '58
- Hot strip mill width gauge. *Engineer* 205:294 F 21 '58
- Imperial Chemical Industries titanium plant in Wales. *il* Engineering 186:28-30 J1 4 '58
- Increasing production of wide stainless steel strip; Sheepcote Lane rolling mills. *il* plan Engineering 185:632-3 My 16 '58
- Jones & Laughlin rounds out expansion at Alquiappa plant. *il* Iron & Steel Eng 35: 138+ Ag '58
- Jones & Laughlin starts operation of 44 inch mill at Alquiappa. *il* diag Iron & Steel Eng 35:164-5+ F '58
- J&L to install new continuous annealing line at Alquiappa. *diag* Iron & Steel Eng 35:211 S '58
- J&L uses simplified gage control. *il* diag Steel 142:110+ Ap 7 '58
- Keeps output up as it rebuilds; Wheeling steel corp. *il* Steel 141:124+ N 4 '57
- Lackenby beam mill; illustrations with text. *Engineer* 205:pl 2 Ja 10 '58
- Latest advances are incorporated in new seamless mill at Youngstown Sheet & Tube's Indiana harbor works. *il* plan Iron & Steel Eng 35:146+ Je '58
- Machine peels ingots in in-line operation. *il* Iron & Steel Eng 35:150+ Ag '58
- Measuring width in a hot strip mill; servo-driven optical device uses infrared radiation. *il* diag Metallurgia 75:307-8 Je '58

ROLLING mills—Equipment—Continued

Methods of control of strip dimensions on hot strip finishing mills. R. A. Phillips. *bibliog Iron & Steel Eng* 35:100-6; Discussion, 105-7 My '58

Modern rod and merchant mill. W. R. Potts and R. M. Lang. *il plan diags Iron & Steel Eng* 34:161-72 D '57; Same cond. Wire & Wire Prod 33:163-70+ F '58

Multiple strip processing gains in popularity. E. F. Boening. *Iron & Steel Eng* 34:146 O '57

New double-duo bar mill: Sanderson brothers & Newbould, ltd. *il plan diags Metallurgia* 57:94-6 F '58

New rod mill in Germany embodies many novel features. *il diags Wire & Wire Prod* 33:644-7+ Je '58

New seamless tube mill uses almost 600 double-enveloping gear reducers. *il diags Iron & Steel Eng* 34:186+ N '57

Open coil anneal system designed for steel plant operation. *il Iron & Steel Eng* 35:151-2+ Je '58

Operating and mechanical features of new 46 x 110-in. high-lift blooming mill at Stelco. A. C. Gray and J. G. Mitchell. *il plans Iron & Steel Eng* 35:123-31 Ag '58

Operations features of 45-in. slab mill and 80-in. hot strip mill at Fairless works. T. D. Clifford. *il Iron & Steel Eng* 35:198-201 S '58

Overrunning clutch reduces mill stress. *il Iron Age* 181:117-18 Ap '58

Production of wrought titanium: I.C.I. facilities. *il Metallurgia* 58:25-8 J1 '58

Pueblo plant of the Colorado fuel and iron corp.; symposium. flow diag *Iron & Steel Eng* 35:138-43 Mr '58

Push-button steel; hot strip steel rolled by full-automatic control. A. C. Adams. *il I S A J* 5:66-7 F '58

Recent developments in slabbing mills. H. J. Kalberkamp. *il diags Iron & Steel Eng* 35:73-80; Discussion, 80-1 F '58

Republic in the South. T. J. Ess. *il diags Iron & Steel Eng* 35:supR 1-23 Ap '58

Rolling aluminium to 0.005 mm. *il Engineering* 184:502-3 O 18 '57

Rolling mill slippers. F. J. Gieve; R. J. Severson. *il diags Iron & Steel Eng* 35:127-30 My '58

Single stack annealing gets the nod at Republic Steel's plant. H. E. Miller. *il Steel* 141:113+ N 11 '57

Standardized component parts for heavy duty mill type cranes. M. R. Bowerman and E. R. Madison. *il diags Iron & Steel Eng* 35:104-10; Discussion, 110-11 J1 '58

Strip mill with automatic gauge control; D. F. Taylor and co. *il Engineer* 204:860-2 D 13 '57

Thick-wall precision tube plant; Desford factory of Tubes, ltd. *il plan Engineer* 205:767-9 My 23 '58

Titanium mill at Waunarliwydd. *il Engineer* 205:975-6 Je 27 '58

Tool rolls slip in tubing. *il Steel* 142:94 Je 9 '58

Trolley conveyor handles rod at Atlantic Steel. *il Iron & Steel Eng* 35:154 Mr '58

Truck of special design used in roll changing. *il Iron & Steel Eng* 35:173 F '58

Trucks speed coil drying. *il Steel* 142:146 My 19 '58

Versatile precision rolling mill; Sanderson brothers and Newbould ltd. *il Engineering* 185:126-7 Ja 24 '58

Wallingford steel co. adds new mill equipment. *il Iron & Steel Eng* 35:176+ Mr '58

Weirton Steel places additional new facilities into operation. *il Iron & Steel Eng* 34:148+ N '57

X-ray control boosts foil-mill yield. *Control Eng* 5:43 Ja '58

X-rays control strip mill. *Electronics* 31:84 F 28 '58

See also

Furnaces, Heating
Furnaces, Recuperative and regenerative
Grinding machines

Layout

Flat rolling; the effect of plant design and layout on capital and operating costs. W. F. Cartwright and M. F. Dowling. *il plan diags Iron & Steel Inst J* 138:23-35 Ja '58

Lubrication

Current status of spindle slipper lubrication. W. G. Ritter. *il diags Iron & Steel Eng* 34:162-6; Discussion, 156-7 D '57

Filtration of brass mill coolants; abstract. G. E. Signor. *Lub Eng* 14:229 My '58

Mill and laboratory evaluation of oils for rolling of copper alloys. R. L. Reynolds. *il Lub Eng* 14:98-103+ Mr '58

Mill gearing as viewed by a lubrication engineer. A. E. Cicchelli. *bibliog il Iron & Steel Eng* 35:91-102 S '58

New merchant and bar mill has improved lubrication system. *il diags Iron & Steel Eng* 34:137-8+ O '57

Reclaiming rolling fluids; Kaiser aluminum & chemical corp. *il Steel* 142:154 My 19 '58

Maintenance and repair

Hard facing adds to guide life. *il diags Steel* 142:96 Je 23 '58

Maintenance of oil film bearings on European mills. S. Carson. *il diags Iron & Steel Eng* 35:90-5; Discussion, 95-6 Ap '58

Management

Operation of a Canadian strip mill. R. J. Barry. *map Iron & Steel Eng* 34:90-5; Discussion, 95 N '57

Power

New Ohio Valley aluminum complex puts 1/4 million kw on aluminum buses. L. Pavane. *il diags Elec World* 149:46-8 Je 2 '58

Recent applications of hydraulics to steel mill drives. C. R. Taylor. *il diags Iron & Steel Eng* 34:100-7; Discussion, 107-9 O '57

See also

Electric driving—Rolling mills

Waste

Three point plan reduces scrap handling. *il Iron & Steel Eng* 35:141+ Je '58

ROLLS

How to find the length of a roll; nomograph. *diag Rubber Age* 82:470 D '57

ROLLS (paper machinery)

Filtration resistance on the Fourdrinier table roll section. W. L. Ingmanson. *bibliog Tappi* 40:936-43 D '57

Flow characteristics of distributor rolls and perforated plates. H. W. Bennett. *bibliog il diags Tappi* 40:978-83 D '57

ROLLS (rolling mills)

Automatic contour turning of large mill rolls. W. Hyams. *il Iron & Steel Eng* 35:82-8; Discussion, 88-9 Mr '58

How to harden steel rolls. C. J. McCormick. *il Iron Age* 182:60-2 Ag 28 '58

Roll pass design for combination structural and wide flange beam mill. H. E. Muller. *diags Iron & Steel Eng* 34:85-95; Discussion, 95-7 D '57

Maintenance and repair

Lathes modified to resurface rolls; automatic submerged arc welding of alloy steel surface. J. Angus. *il Plant Eng* 12:127 My '58

Manufacture

Machining; tool-steel rolls place demand on individual. *il Iron Age* 182:111-12 S 18 '58

ROLLS (textile machinery)

Assure accurate roll settings. M. Chagro. *diags Textile Ind* 122:107-9 Ja '58

Loom improvements and roll run-out; South Carolina div. of Southern textile association fall meeting. *Textile Ind* 122:75 Ja '58

ROLLS, Paper. See Paper rolls**ROLLS, Rubber**

New feeding-stacking unit has magnetic-rubber rolls; Denmag. *diag Iron Age* 181:135 My 22 '58

ROMAN baths. See Baths, Roman**ROMAN glassware. See Glassware, Roman****ROOF bolting. See Mine roof bolting****ROOFING**

Nickel-copper alloy roof promises long, maintenance-free life. R. M. Chapman. *il Arch Rec* 123:256 Mr '58

See also

Roofs

ROOFING, Asphalt

Know your asphalts; how to make roofing asphalts. E. J. Barth. *Pet Refiner* 37:172 Mr '58

Testing

Criterion for the evaluation of roof coating asphalts. C. E. Wilkinson and others. *A S T M Bul* 442-4 My '58

Know your asphalts; use these tests for roofing asphalt. E. J. Barth. *Pet Refiner* 37:180 Ap '58

ROOFING, Bituminous

Temperature of bituminous roof-surfaces; discussion, D. G. Stephenson. bibliog A S T M Bul p67-70 F '58

ROOMS

Arches and catenaries carry rink roof; Yale's hockey rink, New Haven. *il diags Eng N* 160:30-1+ Ap 10 '58

Arts festival features plywood vaulted roofs. *il diags Arch Rec* 122:213 D '57

Cable-hung roof goes to the races; grandstand portion of clubhouse at Yonkers raceway. *il Eng N* 161:33-4+ S 4 '58

Cable-suspended roof for Yale hockey rink. F. N. Severud. *il plan diags Civil Eng* 28:666-9 S '58

Engineering problems of an all-welded two-way truss system; roof of Cadet dining hall at Air force academy. W. Teng and others. *il diags Welding J* 37:565-9 Je '58

Fire safety for roof heliports. Safety Maint 114:59 O '57

Limit analysis of simply supported circular shell roofs. M. N. Fialkow. bibliog *diags Am Soc C E Proc* 84 (EM 3 no 1706): 1-39 JI '58; Correction. 84 (EM 4 no 1831): 15-16 O '58

Load tests lead to better roof framing. *il Eng N* 161:113-14 S 11 '58

New buildings use plywood in curved and folded plate designs. *il Eng N* 160:34+ My 1 '58

New roof beam cuts building costs. Iron Age 180:193-4 N 14 '57

Our metal roof problem; condensation, noise. Ind Finishing 34:101-2 Je '58

Psychology of shells. M. G. Salvadori and E. Raskin. *diags Arch Forum* 109:112-13 JI '58

Radiological decontamination of pavements and roofs. E. E. Shalowitz and W. F. Glover. Pub Works 89:138 F '58

Rain on the roof. E. B. Kassler. *il Arch Rec* 124:197-204 S '58

Rise of shells. J. Lessing. *il diags Arch Forum* 109:106-11 JI '58

Roof breathers. *diag Engineering* 185:519 Ap 25 '58

Slope beam system cuts cost of low profile roofs. *il diags Arch Rec* 122:197 D '57

Stressed-skin plywood panels form folded-plate roof for Northeast Tacoma elementary school. *il plans diags Prog Arch* 39:142-3 Ag '58

Suspension structures. L. Lessing. *il diags Arch Forum* 107:134-41 D '57

Twin hyperbolic paraboloids roof Kansas residence. *il Arch Rec* 122:254 N '57

Two keys to a low-cost reservoir; asphalt lining and simple wood roof. *il Eng N* 161:49-50+ JI 17 '58

Warped wood shell roofs quarter acre; Royal Wilton carpet co.'s rug factory. *il Eng N* 160:53 Mr 27 '58

Wind loading on roofs. J. D. Haddon. *il diags Engineering* 184:559-61 N 1 '57

See also

Domes

Factories—Roofs

Flashing, Plastic

Skylights

Textile mills—Roofs

Water cooling

Roof sprinklers cut heat gain. J. A. D'Entremont and M. E. MacPherson. *il Heating-Piping* 29:149 N '57

ROOFS, Aluminum

Aluminum covered reservoir. W. C. Renshaw. *il Water & Sewage Works* 105:317-18 Ag '58

Kaiser Aluminum covers 32 acre mill building with aluminum roof. *il Plant* 17:26 F '58

Suction on single slope roofs. J. D. Haddon. *diags Engineering* 184:732-3 D 6 '57

Three-acre roof wins Reynolds architectural award; Brussels world fair transportation pavilion. K. Darby. *il Mod Metals* 14:56+ Je '58

ROOFS, Concrete

Adventure in structure; sea shell roof for George Nakashima. *il diags Arch Rec* 122:133-8 N '57

Cable-supported roof cuts cost; stadium at Montevideo, Uruguay. M. Schupack. *il diags Civil Eng* 28:248-50 Ap '58

Cantilevered folded plate roofs ACI headquarters. C. S. Whitney. *il diags Am Concrete Inst J* 30:427-30 O '58

Cast-in-place concrete vaults roof California beach facility. *il Arch Rec* 123:274 My '58

Composite construction combats roof deflection. *il diags Arch Rec* 123:250-1 My '58

Concrete hangars spread folded slab wings. *il diags Eng N* 160:44-51 F 20 '58

Concrete wine glasses roof a new restaurant; Ida Cason Callaway gardens. *il Eng N* 161:34-5 Ag 7 '58

Conoid with corrugations makes an unusual roof, George Nakashima's furniture workshop and showroom in New Hope, Pa. M. P. Levy and R. Weldinger. *il diags Eng N* 159:46-8 D 5 '57

Deep space truss gives plant room for air equipment; Texas instruments, inc. plant in Dallas. *il Eng N* 160:46-8 My 8 '58

Design of folded plate roofs. H. Simpson. bibliog *diags Am Soc C E Proc* 84 (ST 1 no 1508): 1-21 Ja '58

Folded plates roof new hangars. *il diags Arch Rec* 123:223-7 Mr '58

Hyperbolic paraboloids and other shells of double curvature. A. L. Parme. bibliog *diags Am Soc C E Proc* 82 (ST 5 no 1057): 1-32 S '56; Discussion. 83 (ST 2 no 1192): 57-65 Mr '57; Reply. 84 (ST 3 no 1856): 5-10 My '58

King-size thin shell roofs Denver shop. *il Arch Rec* 123:229 F '58

Long-span roof for factory allows flexibility in use of space. *il Eng N* 160:52 Je 5 '58

Precast sections make a corrugated barrel roof; gymnasium for Holy Trinity high school, Trinidad, Colo. *il diags Eng N* 160:40-1 F 27 '58

Prestressed, arched roof of block. *il Concrete* 65:26-7 D '57

Prestressed concrete block arches roof Michigan supermarket. *il Arch Rec* 123:242 F '58

Project, a post-tensioned shell beam; design and construction project of architectural students at the University of Utah. T. Sparke. *il diags Concrete* 66:22-3 Je '58

Roof at Air force academy raised as one unit; illustration with text. *Civil Eng* 28:148 F '58

Roofs are top attractions at new race track in Caracas. T. Y. Lin. *il Eng N* 160:66+ Ap 24 '58

Three-inch shell cantilevers ninety feet; grandstands at Venezuela's new racetrack project. *il diags Arch Rec* 123:252 My '58

Tied arches made of concrete block span 100 feet; supermarket roof in Alpena, Mich. *il Eng N* 159:26-7 D 5 '57

World's biggest thin shell roof; Paris exposition hall. *il plans diags Eng N* 160:45-6+ Ap 17 '58

Standards

Minimum standard requirements for precast concrete floor and roof units (ACI 711-58). Am Concrete Inst J 30:83-94 JI '58; Discussion. 29:1191-5 Je '58

ROOFS, Folding

Astoria-stadium will have roll-back roof; Pittsburgh. *il plan diags Eng N* 160:30-2 Ja 30 '58

ROOFS, Plastic

Custom-made canopy substitutes for roadside sign. *il Plastics World* 16:27 Ag '58

Reinforced plastics-foil roofing panel. *il Mod Plastics* 36:194 S '58

U.S. pavilion at Brussels features cable-supported roof. *il diags Civil Eng* 28:553 JI '58

ROOFS, Steel

Hangar to get hung steel roof; New York international airport's 14th hangar. *diag Eng N* 160:26 My 22 '58

New way to raise the roof; Air force academy's canteen dining hall. *il diags Arch Forum* 108:126-8 Mr '58

ROOFS, Tile

Quarry-tile roof decks. H. J. Rosen. *diag Prog Arch* 39:151 Je '58

ROOM acoustics. See Acoustics, Architectural**ROOMS**

Interreflections in asymmetrical rooms. P. F. O'Brien. bibliog *diags Illum Eng* 53:131-6; Discussion. 136-8; Reply. 138-9 Mr '58

See also

Bathrooms

Kitchens

Living rooms

ROOMS, Multiple purpose

How to light your family room more effectively. C. J. Allen. *il diags Gen Elec R* 61:39-41 Mr '58

ROOT, John Wellborn

A.I.A. gold medal to J. Root. *por Arch Rec* 123:25+ Je '58

ROOTS

See also

Sewer pipes—Root problem

ROOTS, Numerical

Simplified iteration method for finding exact roots of numbers with desk calculating equipment; data sheet. O. P. H. Dahlike. *Machine Design* 30:153-4 J1 24 '58

ROOTS of equations. See Equations, Roots of**ROPE**

Industrial know-how handbook; wire and fibre ropes. il diag Mill & Factory 62: MH24 My '58

Testing

Testing large ropes and chains; National coal board's central engineering establishment. il *Engineering* 186:6 J1 4 '58

ROPE, Plastic

Plastic rope for cable pulling; rope stranded from Mylar; R. C. electric co. of Redwood City, Calif. il *Elec Constr & Maint* 57:112-4 S '58

ROPEWAYS. See Cableways**ROSCHERITE**

Beryllium content of roschelite from the sapucaia pegmatite mine, Minas Gerais, Brazil, and from other localities. M. L. Lindberg. il diags *Am Mineralogist* 43:824-38 S '58

ROSE hedges. See Hedges**ROSE oil**

Rose oil aldehydes. *Drug & Cosmetic Ind* 83:354 S '58

ROSENBERG, Harold H.

Obituary. *por Cer Ind* 70:83 Ap '58

ROSES

Precise temperature control preserves roses in bud form. *Refrig Eng* 65:71 N '57

Roses in bud form maintained perfectly up to seven days at constant 31 deg. il *Air Cond Heat & Ven* 54:124 N '57

ROSEWOOD

Chemistry of rosewood; isolation and identification of cotoin and pinocembrin. O. R. Gottlieb and W. B. Mors. *bibliog Am Chem Soc J* 80:2263-5 My 5 '58

ROSIN

Catalytic perhydrogenation of rosin. J. B. Montgomery and others. *bibliog Ind & Eng Chem* 50:313-16 Mr '58

Esterification of methylolated rosin. J. C. Minor and R. V. Lawrence. *bibliog il Ind & Eng Chem* 50:1127-30 Ag '58

Fumaric modified rosin. N. J. Halbrook and R. V. Lawrence. *bibliog Ind & Eng Chem* 50:321-2 Mr '58

Oxonation of rosin. D. R. Levering and A. L. Glasbrook. *bibliog Ind & Eng Chem* 50: 317-20 Mr '58

Recent advances in pine gum chemistry. J. C. Braun. *Paper Ind* 39:776+, 784 D '57

Rubber adhesion, with emphasis on rosin and derivatives, in pressure-sensitive adhesives. F. H. Wetzel. il *Rubber World* 137: 718-23 F '58; Same cond. *bibliog Rubber Age* 82:291-5 N '57

See also
Naval stores

Analysis

Detection of carboxymethyl cellulose in rosin size and paper; abstract. F. Blechinger. *Paper Ind* 40:251-2 J1 '58

ROTAMETERS

Chart aids calibration of rotameters. G. M. Machwart. *Chem Eng* 64:292-4 D '57

ROTARY extrusion process. See Metal work**ROTATING disks. See Disks, Rotating****ROTATION**

Electrically-driven disk atomizer for high speeds of rotation. D. J. Ryley. *bibliog il diags J Sci Instr* 35:237-40 J1 '58

Optical gearing eliminates effects of friction and backlash in a system for precise measurement of shaft rotation. il diags *Machine Design* 30:98 Je 26 '58

Stairstep integrator analyzes rotation. G. E. Edens. il diag *Electronics* 31:41-3 Mr 28 '58

See also
Precession

ROTATION, Optical. See Optical rotation**ROTATION of molecules. See Molecules—Rotation****ROTATORS. See Television antennas—Rotators****ROTHERMEL, Marjorie Roy**

Tribute. *por Mech Eng* 80:148 F '58

ROTODYNE. See Airplanes, Vertical take-off**ROTOR process. See Steel metallurgy—Oxygen processes****ROTORS**

Faster rotor production with flame cutting. il *Tool Eng* 40:153-4 Je '58

Oil resonance in bearings; influence on the whirling of vertical rotors. F. Orbeck. *Engineering* 185:343 Mr 14 '58

Operating experience with high-temperature steam-turbine rotors and design improvements in rotor-blade fastening. J. D. Conrad and N. L. Mochel. *bibliog il diags A S M E Trans* 80:1210-23 Ag '58; Excerpts. *Power Eng* 62:77-9 Mr '58; Discussion. *A S M E Trans* 80:1223-4 Ag '58

ROTORS (electric machinery)

Cast rotor simplifies generator. il *Product Eng* 29:42 S 1 '58

How to find open circuits in squirrel-cage rotors; illustrating instructions. N. Peach. *Power* 102:150-1 Mr '58

Measurement of rotor displacement angle on synchronous machines. V. A. Kinitzky. *bibliog diags Power Apparatus & Systems* p349-62; Discussion. 352-3 Je '58

Portable monorail easers for replacement. G. R. Townsend. il *Elec World* 150:54 S 15 '58

Failure

G-E reports on Pittsburgh rotor burst. il diag *Power Eng* 61:91-3 D '57

ROTPROOFING of textiles

Organo-tin compounds as textile preservatives. H. J. Hueck and J. G. A. Luijten. *Soc Dyers & Col J* 4:476-80 Je '58

Rotproofing of textiles; abstract. E. Higgins. *Am Dyestuff Rep* 47:133 F 24 '58

ROUGE. See Cosmetics**ROUND oak steel works, Ltd.**

Round oak steel works centenary. il *Metalurgia* 57:33-5 Ja '58

ROUNDHOUSES

Want a plant with railroad trackage? Lithocote adapted old roundhouse for lining of railroad tank cars. A. T. Baldwin, jr. il *Plant Eng* 12:133-4 Mr '58

ROUTING systems

Integrated data processing yields six figure savings; integrating production information, clerical automation; routing with Flexowriter tapes, Azograph duplication. H. Rodenfels. il *Mill & Factory* 62:120-2 Mr '58

ROW houses. See Houses, Row**ROWAN oil company**

Rowan sells assets to Texas Pacific Coal & Oil. *Oil & Gas J* 56:65 Je 2 '58

ROWLEY, Alden Bruce

Memorial. L. E. Kennedy. *por Am Assn Pet Geologists Bull* 42:230-1 Ja '58

ROWLEY, Louis N.

ASME elects four members to grade of Fellow. *Mech Eng* 80:141 Ap '58

ROY, Rustum

Presentation of the Mineralogical society of America award to R. Roy and acceptance. E. F. Osborn. *por Am Mineralogist* 43:344-8 Mr '58

ROYAL aeronautical society

Annual report of the council, 93d, 1957-1958. *Roy Aeronautical Soc J* 62:277-300 Ap '58

Francis Herbert Wenham, honorary member, 1824-1908, an appreciation of the first lecturer; including a reprint of the first lecture. J. L. Pritchard. *bibliog diags Roy Aeronautical Soc J* 62:571-96 Ag '58

President, 1958-9. *Roy Aeronautical Soc J* 62:sup 18-19 My '58

ROYAL society of London

Cooperation, May 15. *Chem & Ind* p668 Je 7 '58

RUBBER

Akron group panel on natural rubber. *Rubber World* 138:432-3 Je '58

ASME rubber and plastics division annual meeting, New York, Dec. 4-5; with abstracts of papers. *Rubber Age* 82:694 Ja '58; *Rubber World* 137:569-70 Ja '58

Anomalous behavior of polymer solutions; viscosity behavior of rubber solutions at high dilutions. S. L. Kapur and S. Gundiah. *bibliog J Colloid Sci* 13:170-8 Ap '58

Brussels World's fair; rubber and plastics displays. R. Rowland. il *Rubber Age* 83:348-50 Ag '58

Comparisons of materials; hardness of plastics and rubber. *Materials in Design Eng* 48:19 Mid-O '58

Comparisons of materials; maximum service temperatures of plastics and rubber. *Materials in Design Eng* 48:11 Mid-O '58

Coral rubber vs natural rubber. *Chem Eng Prog* 54:124-4 Ap '58

Dispersion of carbon black in rubber and its role in vulcanizate properties. C. W. Swettzer and others. *bibliog il Rubber World* 138:369-76; 139:74-81 S-O '58

RUBBER—Continued

- Evaluation of new mercaptan type chemical peptizers. M. B. Neuworth. *Rubber Age* 83:79-82 Ap '58
- Industry needs new definitions for rubber and plastics; editorial. R. G. Seaman. *Rubber World* 138:247 My '58
- Mastication of rubber; viscosity and molecular weight relationships for natural rubber after cold mastication. D. J. Angier and others. *bibliog Rubber Chem & Tech* 31:73-81 Ja '58
- Modification of rubber by reaction with maleic anhydride. J. LeBras and others. *bibliog Rubber Chem & Tech* 31:864-6 Jl '58; Abstract. *Rubber World* 139:112 O '58
- NRB announces availability of superior processing rubber. *II Rubber Age* 83:337 My '58
- Natural rubber stockpile; editorial. *Rubber Age* 82:299 N '57
- New York rubber group fall meeting, Oct. 4. *Rubber Age* 82:304-5 N '57; *Rubber World* 137:260-1 N '57
- No stockpile problems with the 1.2-million-ton natural rubber stockpile. G. Casto. *Rubber World* 137:578 Ja '58
- ODM civilian commission to review stockpile policy. *Rubber World* 137:267 N '57
- Ozonolytic degradation of interpolymers of natural rubber with methyl methacrylate and styrene. D. Barnard. *bibliog Rubber Chem & Tech* 31:82-5 Ja '58
- Pettibone stockpile report indicates no reduction in rubber planned now. *Rubber World* 137:577 Ja '58
- Properties of materials; plastics and rubber. *Materials in Design Eng* 48:176-81 Mid-O '58
- Properties of skim rubber. *Rubber World* 138:426 Je '58
- Rubber compounding information; sources, indexing, retrieving. K. S. Rostler. *bibliog II diag Rubber Age* 82:678-86 Ja '58
- SKI rubber, polyisoprene, similar to natural rubber. K. F. Anikanova and others. *bibliog II diag Rubber Chem & Tech* 31:30-43 Ja '58
- SAE-ASTM technical committee on automotive rubber meeting. Detroit, Dec. 5-6. *Rubber Age* 82:1059 Mr '58
- Some further results on the rubber membrane theory and Laplace's equation. W. Fulop. *J Sci Instr* 34:453-4 N '57
- Southern rubber group meeting, Atlanta, June 13-14. *Rubber Age* 83:853-5 Ax '58
- Southern rubber group fall meeting, Memphis, Nov. 15-16. *Rubber Age* 82:696-7 Ja '58
- Southern rubber group 4th meeting, Memphis, Tenn. Nov. 15-16. *Rubber World* 137:573 Ja '58
- Southern rubber group panel on adhesion. *Rubber World* 137:718-24, 893-4 F-Mr '58
- Southern rubber group winter meeting, Houston, Tex. Feb. 21-22. *Rubber Age* 82:1044-5 Mr '58
- Stress-strain relation of pure-rum rubber vulcanizates in compression and tension. L. A. Wood. *bibliog J Res Nat Bur Stand* 60:193-9 Mr '58
- Vacuum limitations of rubber O-ring joints. J. R. Young. *diag R Sci Instr* 29:795-6 J '58
- Vulcanization of elastomers; the vulcanization of natural rubber with sulfur in the presence of dithiocarbamates. W. Scheele and K. Birghan. *bibliog Rubber Chem & Tech* 31:301-14 Ap '58
- Vulcanization of elastomers; the vulcanization of natural rubber with sulfur in the presence of mercaptobenzothiazole. O. Lorenz and E. Echle. *bibliog Rubber Chem & Tech* 31:117-31, 548-58 Ja, Jl '58
- Washington rubber group special decennial celebration, Washington, Feb. 18. *Rubber Age* 82:1048-9 Mr '58

See also

- Ebonite
International rubber study group
Rubber factories
Rubber industry and trade

Accelerators

See Vulcanization—Accelerators

Aging

- Aeration of natural rubber latex; effect of polyamines on the hardness and aging characteristics of aerated latex rubber. B. C. Sekhar. *bibliog Rubber Chem & Tech* 31:425-9 Jl '58

Heat aging of natural rubber vulcanized with tetramethylthiuram disulfide. W. P. Fletcher and S. G. Fogg. *Rubber Chem & Tech* 31:327-8 Ap '58

Analysis

- Photometric determination of zinc oxide in rubber products; absorptiometric and turbidimetric methods using sodium diethyl dithiocarbamate. K. E. Kress. *bibliog Anal Chem* 30:432-40 Mr '58
- Quantitative determination of dithiocarbamates and thiuram sulfides; a spectrophotometric method. C. L. Hilton and J. E. Newell. *bibliog Rubber Age* 83:981-4 S '58

Bibliography

- ACS Rubber division library gives current listing of bibliographies. *Rubber Age* 82:313 N '57
- New books and other publications. Published in quarterly numbers of *Rubber chemistry and technology*
- Reviews. Published in monthly numbers of *Rubber age*
- Technical books. Published in monthly numbers of *Rubber world*

Chemistry

- Akron university celebrates 50th anniversary of the teaching of rubber chemistry. *Rubber Age* 84:108-11 O '58
- American chemical society Division of rubber chemistry 73d meeting, Cincinnati, May 14-16; program and abstracts of papers. *Rubber Age* 83:98-104 Ap '58; *Rubber World* 138:91-7 Ap '58
- American chemical society Division of rubber chemistry 74th meeting, Chicago, Sept. 10-12. *Rubber Age* 84:104-6 O '58; *Rubber World* 139:83-6 O '58
- American chemical society Division of rubber chemistry 74th meeting, Chicago, Sept. 10-12; program and abstracts of papers. *Rubber Age* 83:656-62 Jl '58; *Rubber World* 138:563-8 J '58
- Chemical institute of Canada Division of rubber chemistry annual meeting, Toronto, May 28; program and abstracts of papers. *Rubber Age* 83:126-7 Ap '58; *Rubber World* 138:275-6 My '58
- Crystallization in natural rubber; chemically modified rubber. A. N. Gent. *bibliog Rubber Chem & Tech* 31:519-25 Jl '58
- End groups of oxidized rubber. E. M. Bevilacqua. *bibliog Science* 126:396-7 Ag 30 '57; Same. *Rubber Chem & Tech* 31:86-8 Ja '58
- 50 years of rubber chemistry: University of Akron established a rubber science hall of fame. *Chem & Eng N* 36:984 O 20 '58
- Infrared study of some structural changes in natural rubber during vulcanization. F. J. Linnig and J. E. Stewart. *bibliog* (38 ref) *J Res Nat Bur Stand* 60:9-21 Ja '58
- Nature of the particle surface in hevea latex and papers of rubber, hydrochloride and polyvinyl chloride. G. Schuur. *bibliog Rubber Chem & Tech* 31:436-45 Jl '58
- Some properties of polymer networks formed from oriented chains of natural rubber. D. E. Roberts and L. Mandelkern. *bibliog Am Chem Soc J* 80:1289-97 Mr 20 '58; Same. *Rubber Chem & Tech* 31:469-84 Jl '58

See also

- Isoprene
Rubber—Reclaiming
Rubber, Artificial—Chemistry

Coloring

- Use of non-black pigments in rubber; abstract. R. F. Wolf. *Rubber World* 137:262 N '57

Curing

See Vulcanization

Cutting

See Rubber cutting

Electric properties

- Changes in the electrical properties of natural rubber/carbon black compounds during vulcanization. H. Desanges and others. *bibliog II Rubber Chem & Tech* 31:631-49 Jl '58

Joining to metal

- Rubber-to-metal adhesion; symposium. *Rubber Age* 82:478-86, 672-7 Ja '58; Abstract. *Rubber World* 137:416-17 D '57
- Rubber-to-metal bonding. F. W. Gage. *Rubber World* 137:391 Mr '58
- Rubber-to-metal bonding, a 1957 inventory. S. L. Brams. *Rubber World* 137:888-90 Mr '58

RUBBER—Joining to metal—Continued

Tension flaws in bonded cylinders of soft rubber. A. N. Gent and P. B. Lindley. *Il Rubber Chem & Tech* 31:393-4 Ap '58
Tests for rubber-to-metal bonding. F. H. Edwards. *Engineering* 185:150 Ja 31 '58

Joining to plastics

Bonding plastics to rubber and metals. Franklin Inst J 254:40 Ap '57
New bonding process permits joining of polyethylene to rubber. *Il Rubber Age* 82:503 D '57

New method for bonding polyethylene to rubber, brass, and brass-plated metals. H. Peters and W. H. Lockwood. *Il Rubber World* 138:418-23+ Je '58

Manufacture

Chemical-loaded molecular sieves as curing aids. *Rubber World* 138:424-6 Je '58

Chemical-loaded molecular sieves in rubber compounding. *Il Rubber Age* 83:493-7 Je '58

Dispersion of carbon black in rubber and its role in vulcanizate properties. C. W. Sweitzer and others. *Il Rubber World* 139:74-81 O '58

Inventory of new processes and technology: plastics, resins and rubber. *Chem Eng* 65:133-4 My '58

See also

Rubber—Reclaiming
Vulcanization

Mixing with resins

Mastication; separation and structural investigation of natural rubber-polyethyl methacrylate interpolymers formed by mastication. D. D. Angier and W. F. Watson. *bibliog Rubber Chem & Tech* 31:58-72 Ja '58

Properties and applications of modified styrene plastics. B. Nathanson. *Il diags Machine Design* 29:163-6 N 14 '57

Rubber-Marlex 50 polyethylene blends: Phillips petroleum co. H. E. Kalsbeek and R. C. Wheat. *bibliog Rubber Age* 82:664-71 Ja '58

Rubber-plastic blend for cement form liners. *Il Materials in Design Eng* 46:202+ D '57

Oxidation

End groups of oxidized rubber. E. M. Bevilacqua. *bibliog Science* 126:396-7 Ag 30 '57; Same. *Rubber Chem & Tech* 31:86-8 Ja '58

Ozone effect

Ozone problems; symposium. *Rubber Age* 82:1041-3 Mr '58; *Rubber World* 137:867-75 Mr '58

St Joe ozone flex tester for rubber compounds. L. E. Carlson and R. S. Havenhill. *bibliog Il diags Rubber World* 138:883-8 S '58

Patents

Patent review. M. Nord. Published in monthly numbers of *Rubber age*

Radiation effect

Crosslinking of oriented rubber. A. Charlesby and E. von Arnim. *Rubber Chem & Tech* 31:98-104 Ja '58

Reclaiming

Contributions to the mechanism of devulcanization. W. E. Stafford and others. *bibliog Rubber Chem & Tech* 31:202-10 Ja '58

Mechanical separation of fiber in rubber reclaiming. R. M. Boyles and D. J. Sullivan. *Il Rubber World* 137:256-8 N '57

Modern theories of rubber reclaiming. W. E. Stafford and L. A. Wright. *bibliog Rubber Chem & Tech* 31:599-607 JI '58

Reclaimed rubber; panel discussion. *Rubber World* 138:892-5 S '58

See also

Rubber, Artificial—Reclaiming

Reinforcement

Carbon-black loaded rubber vulcanizates; volume changes in stretching. L. Mullins and N. R. Tobin. *bibliog diags Rubber Chem & Tech* 31:505-12 JI '58

Changes in the electrical properties of natural rubber/carbon black compounds during vulcanization. H. Desanges and others. *bibliog Il Rubber Chem & Tech* 31:631-43 JI '58

Filler-rubber interaction in latex. E. A. Dogadkin and others. *bibliog Rubber Chem & Tech* 31:655-63 JI '58

Improving the carbon-rubber bond. H. A. Braendle. *bibliog flow diag Rubber Chem & Tech* 31:147-55 Ja '58

Pore sizes and pore size distribution in reinforcing pigment particles. A. Voet. *bibliog diags Rubber World* 139:63-7+, 232-6 O-N '58

Swelling behavior of rubbers compounded with reinforcing pigments. B. E. S. T. Boonstra and E. M. Dannenberg. *bibliog Rubber Age* 82:838-46 F '58

Theory of rubber reinforcement; interaction of carbon black with sulfur and rubber. E. A. Dogadkin and others. *bibliog Rubber Chem & Tech* 31:861-8 Ap '58

Shrinkage

Thermodynamics of shrinkage of fibrous (racked) rubber. J. E. M. Oth and P. J. Flory. *bibliog diags Am Chem Soc J* 80:1297-304 Mr 20 '58; Same. *Rubber Chem & Tech* 31:485-98 JI '58

Standards

Guide to materials standards and specifications; plastics and rubber. S. P. Kaidanovsky. *Materials in Design Eng* 47:113-17 Je '58

International work on rubber. R. D. Stiehler. *Il Mag of Stand* 29:107-9 Ap '58

Strength

Determination of tear strength of vulcanized natural and synthetic rubbers (crescent testpiece). *diag Rubber Chem & Tech* 31:sup 18-20 Ja '58

Stretching

Carbon-black loaded rubber vulcanizates; volume changes in stretching. L. Mullins and N. R. Tobin. *bibliog diags Rubber Chem & Tech* 31:505-12 JI '58

Swelling

Effect of swelling on the properties of elastomers. A. Wilson and others. *bibliog Il Rubber World* 139:63-73 O '58

Swelling behavior of natural rubber latex. P. W. Allen. *J Colloid Sci* 13:483-7 O '58

Swelling behavior of rubbers compounded with reinforcing pigments. B. E. S. T. Boonstra and E. M. Dannenberg. *bibliog Rubber Age* 82:838-46 F '58

Temperature effect

Heat aging of natural rubber vulcanized with tetramethylthiuram disulfide. W. P. Fletcher and S. G. Fogg. *Rubber Chem & Tech* 31:327-8 Ap '58

Testing

ASTM committee D-11 meeting, St Louis, Feb. 10-12; with abstracts of papers. *Rubber Age* 82:1034-43 Mr '58

ASTM committee D-11 on rubber and rubberlike materials annual meeting, Boston, June 25-27. *Rubber Age* 83:839-46 Ag '58; *Rubber World* 138:744-50 Ag '58

Changes in the specific volume of rubber during elongation. A. B. Kusov and others. *bibliog Rubber Chem & Tech* 31:513-18 JI '58

De Mattia flex resistance tests on rubberlike materials. C. A. Redfern and others. *diag Brit Plastics* 31:438 O '58

Effect of swelling on the properties of elastomers. A. Wilson and others. *bibliog Il Rubber World* 138:63-73 O '58

Equivalent cures in specimens of various shapes. F. S. Conant and others. *bibliog Rubber Age* 82:1031-3 Mr '58; Same. *Rubber World* 137:856-9 Mr '58; Same. *Rubber Chem & Tech* 31:562-8 JI '58

Examining the dispersion of carbon black in rubber. I. Drogin. *bibliog Il Rubber Age* 83:463-71 Je '58

High-speed fracture in rubber. P. Mason. *bibliog Il diag J Ap Phys* 29:1146-50 Ag '58

ISO recommendations. *diags Rubber Chem & Tech* 31:sup 14-29 Ja '58

ISO technical committee 45 on rubber 7th meeting, Zurich, Sept. 30-Oct. 5. *Rubber Age* 82:1047 Mr '58

International standards for rubber testing. *Engineering* 185:113, 150 Ja 24-31 '58

Load-deflection relations and surface strain distributions for flat rubber pads. A. N. Gent. *bibliog diag Rubber Chem & Tech* 31:395-409; Discussion. 409-14 Ap '58

Mechanical properties of natural and synthetic rubbers. F. Bueche. *bibliog Rubber Chem & Tech* 31:1-18 Ja '58

New method for determining the vulcanization characteristics of rubber compounds. J. Peter and W. Heidemann. *Il diags Rubber Chem & Tech* 31:105-16 Ja '58

RUBBER—Testing—Continued

St Joe ozone flex tester for rubber compounds. L. E. Carlson and R. S. Havenhill. *bibliog* *il* *diags* Rubber World 138:883-8 S '58

Tension flaws in bonded cylinders of soft rubber. A. N. Gent and R. E. Lindley. *il* Rubber Chem & Tech 31:393-4 Ap '58

Tower of Babel. A. W. Carpenter. *bibliog* (52 ref) *il* *diag* Rubber World 137:241-9 N '57; Same. A S T M Bul p28-34 Ja '58

See also

Rubber laboratories

Uses

Automotive uses of rubber soar. A. W. Shearer. *il* *diags* Automotive Ind 118:58-65+ Je 15 '58

Rubber sheathing of heavy cables. *diag* Engineering 186:183 Ag 8 '58

Satellite program and the role of rubber in it; abstract. R. L. Hirsch. Rubber World 137:423-4 D '57

Signal corps 6th annual wire and cable symposium, Asbury Park, N.J. Dec. 3-5; abstracts of papers. Rubber World 137:571-2 Ja '58

Use of rubber in automobiles. W. J. Simpson. *diags* Rubber World 137:404-8+ D '57

Vulcanization

See Vulcanization

RUBBER, Artificial

Acrylic rubber best for hot hydraulic fluids. Materials in Design Eng 48:136+ Ag '58

Adduct rubbers; a versatile new family of elastomers. R. M. Pierson and others. *bibliog* Rubber Chem & Tech 31:213-43 Ap '58

Adhesive joins cured silicone rubber parts. *il* Materials in Design Eng 47:174+ Mr '58

Aluminum, butyl, alkyl combined in radically new electrical busway; award of merit in Materials in design engineering competition. *il* Materials in Design Eng 47:134-7 Ap '58

Attorney General on competition in synthetic rubber industry; third report. Rubber Age 83:1008-10 S '58

Canadian high polymer forum, 8th, Montreal, May 12-14. Rubber Age 83:692-3 Jl '58; Rubber World 138:592-3 Jl '58

Catalyst controversy; Ziegler and Lithium-type catalysts run a dead heat in race for job of polymerizing isoprene. *il* Chem & Eng N 36:43-4 Mr 10 '58

Cold-set silicone rubber. Chem & Eng N 36:60-1 Mr 31 '58

CODA 14th annual meeting, New York, March 27; with abstracts of papers on synthetic rubber. Rubber Age 83:318-24 My '58; Rubber World 138:266-74 My '58

Commercial development of purchased government facilities; panel discussion. Rubber World 138:269-70 My '58

Commercial developments in synthetic rubber; abstract. O. V. Tracy. Rubber World 138:268 My '58

Congress and synthetic rubber; abstract. J. R. Blandford. Rubber World 138:268-9 My '58

Coral rubber vs natural rubber. Chem Eng Prog 54:124+ Ap '58

DuPont opens Viton plant. *il* Rubber Age 83:118 Ap '58

Elastomer seals hot fluids. *il* Iron Age 181:103 Ap 10 '58

Elastomeric mountings for high temperatures. R. P. Thorn. Aviation Age 30:66-9 Jl '58

European rubber developments; abstract. A. J. Pickett. Rubber World 138:266-7 My '58

Evaluation of new mercaptan type chemical peptizers. M. B. Neuwerth. Rubber Age 83:79-82 Ap '58

Firestone announces new polybutadiene; Diene rubber. Rubber World 138:761 Ag '58

Foresees synthetic rubber shortage; abstracts. P. W. Litchfield. Rubber Age 82:315 N '57; Rubber World 137:273 N '57

Future of commercial synthetic rubbers. R. G. Seaman. Rubber World 138:571-9 Jl '58

General Electric introduces nitrile silicone rubber. *il* Rubber Age 83:1018-19 S '58

Goodyear completes large new pilot facility for Natsyn. Rubber Age 82:859 F '58

Ground rules for molded silicone rubber parts. D. P. Spalding. *il* *diags* Product Eng 29:69-71 Ap 14 '58

Growth forecasts for rubber and the impact of other materials; panel discussion. Rubber World 138:271-2 My '58

Growth prospects for rubber raw materials and compounding agents; panel discussion.

Rubber World 138:272-4 My '58

Halogenation of butyl rubber with iodine monochloride and iodine monobromide. R. T. Morrissey. *bibliog* Rubber World 138:725-32 Ag '58

High-temperature elastomer; Viton. *il* Mech Eng 80:90 My '58

How solvents, acids affect Viton rubber. Materials in Design Eng 47:166+ My '58

Hydrogenation of butadiene rubber solutions; influence of the solvent with palladium-on-calcium carbonate catalyst. A. I. Yakubchik and G. N. Gromova. *bibliog* Rubber Chem & Tech 31:588-91 Jl '58

Industry needs new definitions for rubber and plastics; editorial. R. G. Seaman. Rubber World 138:247 My '58

Influence of gel formation in SBR rubber; abstract. I. Williams. Rubber World 137:263 N '57

Influence of synthetic rubber on other industries; panel discussion. Rubber World 138:270-1 My '58

Jet age rubber resists heat plus fluids. Viton. *il* Chem Eng 65:72 Ap 21 '58

Justice reports on synthetic rubber in 1957; decries static SBR prices. Rubber World 138:898+ S '58

Materials of construction for chemical engineering; elastomers. B. S. Garvey, Jr. *ind & Eng Chem* 50:1438-43 *bibliog* (p 1441-3) pt 2 S '58

Monolayer studies of some hydroxylated polyolefin rubbers. W. R. Dean and others. *bibliog* *diags* Rubber Chem & Tech 31:446-53 Jl '58

More competition in styrene/butadiene rubber. Chem & Eng N 36:21-2 Ag 25 '58

Mutual solubility of polymers; physicochemical properties of stocks prepared from a mixture of polymers. N. F. Komskeya and G. L. Slonimskii. *bibliog* Rubber Chem & Tech 31:49-57 Ja '58

Mutual solubility of polymers; the viscosity of mixed rubbers and the behavior of solutions of these. G. L. Slonimskii and N. F. Komskeya. Rubber Chem & Tech 31:244-9 Ap '58

New container for packaging, handling, storing styrene rubber; Flotainer. *il* Rubber Age 83:287-8 My '58

New elastomers; symposium. Rubber Age 83:328 My '58

New feeding-stacking unit has magnetic-rubber rolls; Denmag. *diag* Iron Age 181:135 My 22 '58

New gasket material made; silicone rubber. *il* Electronics 31:21 Jl 25 '58

New Nepcozone butyl for insulating cables. R. Lyle. Rubber World 138:126 Ap '58

New specialty rubber to be coming soon; Viton, Du Pont's fluorine-containing elastomer. *il* Chem & Eng N 36:24-5 Mr 24 '58

New synthetic stays rubbery when the heat's on; cold too; Viton. *il* Machine Design 30:10 Ap 3 '58

New tin rubbers; abstract. J. C. Monteroso. *il* Chem & Eng N 36:50-1 Ap 21 '58

Nitrile silicone rubber. *il* Chem Eng 65:94 S 22 '58

Nitrile silicone rubber announced; competitive with fluororubbers in oil, cold and heat resistance. Rubber World 138:904-5 S '58

Polybutadiene rubber. Chem Eng 65:74+ Ag 25 '58

Polyethylene-butyl rubber flame-retardant cable sheath. Elec Manuf 62:10 S '58

Polysulfide polymers; abstract. J. C. Patrick. Rubber World 139:84-5 O '58

Polyurethane rubber as a material of construction. G. H. Gates and W. M. Larson. Mech Eng 78:1016-18 N '56; Same cond. Machine Design 28:150+ S 20 '56; Same cond. Product Eng 28:116-17 Mid-O '57

Polyurethane VC, a virtually cross-linked elastomer. C. S. Schollenberger and others. *bibliog* Rubber World 137:549-55 Ja '58

Progress in rubber; abstract. J. L. Collyer. Rubber World 137:429 D '57

Properties and applications of silicone rubber. S. A. Braley, Jr. Product Eng 28:C22-3 Mid-O '57

Properties and applications of urethane rubber. R. H. Kittner. *il* Machine Design 30:118-24 Mr 6 '58

Properties and uses of fusible silicone rubber compounds. F. Fekete and J. H. Lorenz. *il* *diags* Rubber Age 83:93-7 Ap '58

Properties of elastomers and their application in heater addition. H. Spector. Tappi 41:sup 166A-7A Mr '58

RUBBER, Artificial—Continued

- Properties of materials; plastics and rubber. *Materials in Design Eng* 45:176-81 Mid-O '58
- Radiation curing of silicone rubber. L. M. Epstein and N. S. Marans. *bibliog Rubber Age* 82:825-30 F '58
- Recent developments in compounding Kel-F elastomers. L. E. Robb and others. *il diag Rubber Age* 82:286-90 N '57
- Rubber with a magnetic quality; Denmag. *il diag Plant Eng* 12:147 My '58
- Russia to build 187 plants to step up production of synthetic rubber and petrochem products. *Oil & Gas J* 56:85 Je 16 '58
- Silicone rubber has low compression set. *il Materials in Design Eng* 47:178+ Je '58
- Silicone rubber; symposium. *Rubber World* 138:97 Ap '58
- Silicone rubber tape holds well at 450 F. *il Materials in Design Eng* 46:176+ D '57
- Silicone seal stops costly leaks. *il Materials in Design Eng* 47:174+ Ja '58
- Silicones for 600 deg F. Space/Aeronautics 30:94 O '58
- Soft silicone rubber has high strength. *il Materials in Design Eng* 48:164+ Ag '58
- Some characteristics of butyl rubber. *il Product Eng* 28:331 Mid-O '57
- Synthetic natural rubber; Natsyn. *Comp Air Mag* 63:32 F '58
- Synthetic rubber from petroleum chemicals. H. L. Fisher. *Pet Refiner* 36:203-4 N '57
- Thermal diffusivity of butyl rubber and its compounds. D. E. MacRae and B. L. Zapp. *bibliog Rubber Age* 82:831-7, 1024-9 F-Mr '58
- Toughened rubber for lightweight battery containers. *Engineering* 184:711 D 6 '57
- Updating the story on silicone rubber sponge. J. C. Walton. *il Product Eng* 29:54-5 Ag 4 '58
- Viton; your new design material. *il Power* 102:117-19 Je '58
- See also
Neoprene
Polyurethanes
- Aging**
- Compounds for high temperature fuel seals. E. J. Fujiwara and others. *il diag Rubber Age* 82:1016-20 Mr '58
- Bibliography**
- ACS Rubber division library gives current listing of bibliographies. *Rubber Age* 82:313 N '57
- Annotated bibliography of sources of information on elastomer compounding. *Rubber Age* 82:686-8+ Ja '58
- New books and other publications. Published in quarterly numbers of Rubber chemistry and technology
- Reviews. Published in monthly numbers of Rubber age
- Technical books. Published in monthly numbers of Rubber world
- Chemistry**
- Action of vulcanization activators. B. A. Dogadkin and I. Beniska. *bibliog Rubber Chem & Tech* 31:323-42 Ap '58
- American chemical society Division of rubber chemistry 73d meeting, Cincinnati, May 14-16; program and abstracts of papers. *Rubber Age* 83:98-104 Ap '58; *Rubber World* 138:91-7 Ap '58
- American chemical society Division of rubber chemistry 74th meeting, Chicago, Sept. 10-12; program and abstracts of papers. *Rubber Age* 83:656-62 Jl '58; *Rubber World* 138:583-8+ Jl '58
- American chemical society Division of rubber chemistry 74th meeting, Chicago, Sept. 10-12. *Rubber Age* 84:104-6 O '58; *Rubber World* 139:83-6 O '58
- Chemical institute of Canada Division of rubber chemistry annual meeting, Toronto, May 28; program and abstracts of papers. *Rubber Age* 83:126-7 Ap '58; *Rubber World* 138:275-6 My '58
- Chemical structure of the popcorn polymer of butadiene. A. I. Yakubchik and A. I. Spasskova. *bibliog Rubber Chem & Tech* 31:581-7 Jl '58
- Control of degradation in oil-extended styrene-butadiene rubber. R. J. Reynolds. *bibliog Ind & Eng Chem* 50:785-92 My '58
- Influence of molecular shape on the tensile strength of vulcanizates. A. S. Novikov and others. *Rubber Chem & Tech* 31:27-9 Ja '58
- Influence of structure on the chemical activity and vulcanizability of butadiene polymers. B. A. Dogadkin and others. *bibliog Rubber Chem & Tech* 31:569-80 Jl '58
- Light-colored, non-blooming butyl rubber compounds. R. O. Treat and J. E. Aller. *bibliog Rubber World* 137:557-67+ Ja '58
- Melting and glass transitions in polyisobutylene. R. M. Kell and others. *bibliog Rubber Chem & Tech* 31:499-504 Jl '58
- Mutual solubility of polymers; the effect of the packing density of polymer molecules on their mutual solubility. G. L. Slonimskii and G. V. Sturimskii. *Rubber Chem & Tech* 31:257-61 Ap '58
- Organic sulfides and polysulfides. Y. Minoura. *bibliog Rubber Chem & Tech* 31:608-30 Jl '58
- Reactions of free radicals in solution: destruction of polymeric molecules by free radicals. S. E. Bresler and others. *bibliog Rubber Chem & Tech* 31:278-85 Ap '58
- SKI rubber, a new polyisoprene. S. A. Subbotin and others. *Rubber Chem & Tech* 31:44-8 Ja '58
- SKI rubber, polyisoprene, similar to natural rubber. K. F. Anikanova and others. *bibliog il diag Rubber Chem & Tech* 31:30-43 Ja '58
- Structure of cyclized polybutadiene. J. R. Shelton and L. H. Lee. *bibliog Rubber Chem & Tech* 31:415-23 Ap '58
- Two stages in the process of network formation in polymers. G. M. Bartenev. *bibliog Rubber Chem & Tech* 31:592-8 Jl '58
- Vulcanizable saturated acrylate elastomers. F. Leonard and others. *bibliog diag Ind & Eng Chem* 50:1053-8 Jl '58; *Correction* 50:1580 O '58
- Electric properties**
- Advances in insulating materials extend open motor applications; all-silicone rubber; epoxy-resin encapsulated coils. *il Plant* 18:56 S '58
- Techniques for insulating wire and cable with silicone rubber. D. C. Youngs and others. *il diag Wire & Wire Prod* 33:285-90+ Mr '58
- Temperature resistance makes silicone insulations attractive. P. H. Ware. *Elec World* 150:344+ Mr '58
- Testing of antistatic and conductive rubber. D. Bulgin. *Engineering* 185:150 Ja 31 '58
- Fillers**
- Filler-rubber interaction in latex. B. A. Dogadkin and others. *bibliog Rubber Chem & Tech* 31:655-63 Jl '58
- Viton A; effect of fillers on heat and fluid resistance. A. J. Moran. *bibliog Rubber World* 137:250-4+ N '57
- Latex**
- Big eye looks at rubber; electron microscope aids studies of high-solids latex. *Chem & Eng* N 36:48-9 Je 16 '58
- Butyl latex tire-cord adhesives. A. L. Miller and S. E. Robinson. *il diag Rubber World* 137:397-403+ D '57
- Concentrating GR-S latex by a continuous column. R. C. Stell and others. *il diag Ind & Eng Chem* 49:1835-7 N '57
- Filler-rubber interaction in latex. B. A. Dogadkin and others. *bibliog Rubber Chem & Tech* 31:655-63 Jl '58
- Influence of particle size on the viscosity of synthetic latex. P. H. Johnson and R. H. Kelsey. *Rubber World* 138:877-82; 139:227-31 S, N '58
- International latex corp. eyes synthetics market; Tyvacs, a new series of synthetic latexes. *il Chem & Eng* N 36:35 Mr 31 '58
- Latex tire-cord adhesives. E. L. Borg. *Rubber World* 137:723-4 F '58
- Manufacture of adhesives and latex; Dunlop rubber co. *il Ind Chem* 34:433-4 Ag '58
- New styrene-butadiene latex forms hard finishes. M. C. Carpenter and A. L. Cipriano. *il Iron Age* 182:38-9 Jl 24 '58
- Oxidative softening of synthetic rubber latex. P. Herte. *bibliog diag Rubber Chem & Tech* 31:262-77 Ap '58
- Permanent, non-skid backing for rugs. *Rubber Age* 83:295 My '58
- Manufacture**
- Automatic batching control gives precise formula repetition; Phillips chemical co. *il Plant Eng* 12:128-9 Je '58
- Britain makes SBR. *il Chem & Eng* N 36:90 O 27 '58

RUBBER, Artificial—Manufacture—Continued

Buna is back at Huels. *Il Chem & Eng N* 36: 124-5+ O 6 '58
 Chemical-loaded molecular sieves as curing aids. *Rubber World* 138:424-6 Je '58
 Chemical-loaded molecular sieves in rubber compounding. *Il Rubber Age* 83:482-7 Je '58
 Compounding for heat-resistant insulations and jackets. A. C. Rowley. *Rubber Age* 83:663-7 Ji '58
 Continuous rubber route dons a new look; General tire & rubber co.; process flow-sheet. C. H. Chilton. *Il Chem Eng* 65:102-5 Je 2 '58

50 years of progress in the rubber industry. A. E. Juve. *Il Ind & Eng Chem* 50:sup54A-7A S '58

How an old rubber plant went modern; American synthetic rubber corp. R. Marsh. flow sheet diag. *Pet Refiner* 37:197-9 Ap '58

Low molecular weight polyethylene in rubber compounding; abstract. T. A. Bulifant. *Rubber World* 138:110 Ap '58

Operations underway at synthetic rubber plant in Odessa, Tex. flow diag. *Il Pet Eng* 29:CT-10 D '58

Poly(vinyl methyl ether) elastomers by high energy radiation. D. Duffey. *bibliog Ind & Eng Chem* 50:1267-72 S '58

Polymer corporation ltd.; 160-acre synthetic rubber plant. *Il Chem & Ind p* 1059-60 Ag 16 '58

Sulfur not needed; U.S. Rubber steps up heat resistance of butyl rubber, with phenolic condensation polymer. *Chem & Eng N* 36:36 Je 9 '58

Syntheses of butadiene-styrene elastomers and of polysulfones by gamma radiation. H. M. d'Emaus and others. *bibliog diags Ind & Eng Chem* 49:1891-6 N '57

Synthetic-rubber pilot plant for production of Natsyn. *Mech Eng* 80:102 Mr '58

See also

Butadiene—Manufacture
 Vulcanization

Mixing with resins

Dewatering of thermoplastic resins by syn-thesis. P. M. Lindstedt and H. L. Gunnerson. *bibliog il diags Ind & Eng Chem* 49:1823-7 N '57

Nitrile latex and wet-strength resin combinations; beater addition at low percentage levels. R. E. Benton. *Tappi* 40:944-51 D '57

Where to use rubber phenolic moldings. E. J. Thomas. *Il Materials in Design Eng* 46:120-3 D '57

Oil effect

Compounds for high temperature fuel seals. E. J. Fujiwara and others. *Il diag Rubber Age* 82:1016-20 Mr '58

Control of degradation in oil-extended styrene-butadiene rubber. R. J. Reynolds. *bibliog Ind & Eng Chem* 50:785-92 My '58

Cyanosilicones resist oil. *Il Chem & Eng N* 36:26 Ag 18 '58

Low cost compounding with oil-extended rubber. Z. J. Dorko and H. A. Pfisterer. *bibliog Rubber Age* 83:105-11 Ap '58

Rubber resists oil at high, low temperatures. *Il Product Eng* 29:23 Ag 18 '58

Oxidation

Oxidative softening of synthetic rubber latex. P. Herte. *bibliog diags Rubber Chem & Tech* 31:262-77 Ap '58

Ozone effect

Accelerated ozone aging. W. L. Dunkel and R. R. Phelan. *bibliog Rubber Age* 83:281-6 My '58

Montgomery Ward neoprene-sidewall tire eliminates ozone cracking. *Rubber World* 137:897 Mr '58

Nitrile rubber parts resist ozone cracking. *Materials in Design Eng* 47:158+ Je '58

Ozone problems; symposium. *Rubber Age* 82: 1041-3 Mr '58; *Rubber World* 137:867-75 Mr '58

Patents

Patent review. M. Nord. Published in monthly numbers of *Rubber age*

Radiation effect

Crosslinking of oriented rubber. A. Charlesby and E. von Arnim. *Rubber Chem & Tech* 31:98-104 Ja '58

How radiation affects plastics and rubber. N. M. Lazar and J. E. Ayer. *bibliog Materials in Design Eng* 48:128+ Ag '58

Radiation cures look good, but; abstract. D. J. Harmon. *Chem & Eng N* 36:62 S 22 '58

Reclaiming

Modern theories of rubber reclaiming. W. E. Stafford and R. A. Wright. *bibliog Rubber Chem & Tech* 31:599-607 Ji '58
 Silicone rubber reclaim. B. R. Wendrow and D. P. Spalding. *Rubber World* 138:738-42 Ag '58

Reinforcement

Bound rubber and mechanical properties of diene polymers. S. T. Palinchak and others. *bibliog Il Rubber Chem & Tech* 31:374-86 Ap '58

Bound-rubber formation in diene polymer stocks. P. B. Stickney and others. *Rubber Chem & Tech* 31:369-73 Ap '58

Effects of silica fillers, vulcanizing agents and other additives on compression set of silicone rubber. C. W. Roush and S. A. Braley, jr. *bibliog Rubber Age* 84:76-83 O '58

New, improved Synpol black masterbatches. *Rubber World* 138:764 Ag '58

Research

Big eye looks at rubber; electron microscope aids studies of high-solids latex. *Chem & Eng N* 36:48-9 Je 16 '58

Elastomers for use in radiation fields. R. Harrington. *bibliog il diag Rubber Age* 81:971-80; 82:461-70, 1003-15; 83:472-81 S, D, '57, Mr, '58

Electronically sorted punched cards cut polymer compounding time; Enjay laboratories. R. F. Neu. *Il diags Ind Lab* 9:62-8 Ja '58

From heavy water, heavy rubber; polysiloprene rubber in which all of the hydrogens have been replaced by deuterium. *Chem & Eng N* 36:35-6 Je 9 '58

Oil-extended rubber; report on Russian research. *Rubber World* 138:312 Mr '58

Surface embrittlement of mineral-filled SBR polymers. W. F. Abbey and others. *Rubber World* 138:256-60+ My '58

Standards

Guide to materials standards and specifications; plastics and rubber. S. P. Kaidanovsky. *Materials in Design Eng* 47:113-17 Je '58

Statistics

Attorney General on competition in synthetic rubber industry; third report. *Rubber Age* 83:1008-10 S '58

Justice reports on synthetic rubber in 1957; decries static SBR prices. J. F. King. *Rubber World* 138:898+ S '58

Strength

Determination of tear strength of vulcanized natural and synthetic rubbers (crescent testpiece) diag. *Rubber Chem & Tech* 31: sup 18-20 Ja '58

Swelling

Effect of swelling on the properties of elastomers. A. Wilson and others. *bibliog Il Rubber World* 139:68-73 O '58

Temperature effect

Brittleness temperature testing of elastomers and plastics. A. C. Webber. *bibliog diags A S T M Bul* p40-4 Ja '58

Comparison of instruments used to determine the suitability of elastomers for low temperature service. M. Hanok and others. *bibliog(64 ref) il diags Rubber Age* 81:100-12; 82:275-85 Ap, N '57

Glass transition temperatures of copolymers. L. A. Wood. *bibliog Rubber Chem & Tech* 31:459-68 Ji '58

Low-temperature tests on rubbers. F. H. Edwards. *Engineering* 185:113 Ja 24 '58

New rubber beats heat; high-temperature butyl. G. S. Buettner and C. R. McGill. *Il Product Eng* 28:90-1 N 11 '57

Outlook for 600 deg F silicone rubbers. J. F. Dellaria. *Aviation Age* 29:60-4 Je '58

Testing

ASTM committee D-11 meeting. St Louis, Feb. 10-12; with abstracts of papers. *Rubber Age* 82:1034-43 Mr '58

ASTM committee D-11 on rubber and rubber-like materials annual meeting, Boston, June 25-27. *Rubber Age* 83:839-46 Ag '58; *Rubber World* 138:744-50 Ag '58

Comparison of instruments used to determine the suitability of elastomers for low temperature service. M. Hanok and others. *bibliog(64 ref) il diags Rubber Age* 81:100-12; 82:275-85 Ap, N '57

RUBBER, Artificial—Testing—Continued

- De Mattia flex resistance tests on rubber-like materials. C. A. Redfarn and others. *diag Brit Plastics* 31:433 O '58
- Equivalent cures for specimens of various shapes. F. S. Conant and others. *bibliog Rubber Chem & Tech* 31:562-8 J1 '58; Same. *Rubber Age* 82:1031-3 Mr '58; Same. *Rubber World* 137:856-9 Mr '58
- Factors affecting laboratory cut-growth resistance of cold SBR tread stocks. E. E. Auer and others. *bibliog diags Rubber Chem & Tech* 31:185-201 Ja '58
- ISO recommendations. *diags Rubber Chem & Tech* 31:sup 14-29 Ja '58
- ISO technical committee 45 on rubber 7th meeting. Zurich. Sept. 30-Oct. 5. *Rubber Age* 82:1047 Mr '58
- International standards for rubber testing. *Engineering* 185:113,150 Ja 24-31 '58
- Low-temperature properties of 80 per cent cis-polybutadiene. H. E. Rallsback and Q. L. Morris. *bibliog Rubber World* 138:75-80+ cover Ap '58
- Mechanical properties of natural and synthetic rubbers. F. Bueche. *bibliog Rubber Chem & Tech* 31:1-18 Ja '58
- Mooney viscosity as related to molded electrical products. A. A. Kessel. *il diag Rubber World* 137:695-700+ F '58
- New method for determining the vulcanization characteristics of rubber compounds. J. Peter and W. Heidemann. *il diags Rubber Chem & Tech* 31:105-15 Ja '58
- Properties of fluorocarbon elastomer 214. A. Wilson and others. *Rubber Age* 83:647-52 J1 '58
- Simple extensometer for tensile testing of polymers. A. E. Eagles and A. R. Payne. *bibliog il Rubber Chem & Tech* 31:673-9 J1 '58
- Ultimate properties of simple elastomers. A. M. Bueche. *bibliog Rubber Chem & Tech* 31:19-26 Ja '58
- Viton A; effect of fillers on heat and fluid resistance. A. L. Moran. *bibliog Rubber World* 137:250-4+ N '57

Tire use

- Ameripol SN can replace natural rubber in tires; abstract. W. L. Semon and M. A. Reinhart. S A E J 66:51 Je '58
- Montgomery Ward neoprene-sidewall tire eliminates ozone cracking. *Rubber World* 137:397 Mr '58
- Slate of special rubbers. *il Chem Eng* 64:180+ D '57
- Synthetic developments for tires; abstract. W. J. Sparks. *Rubber Age* 82:494 D '57

Uses

- Automotive uses of rubber soar. A. W. Shearer. *il diags Automotive Ind* 118:58-65+ Je 15 '58

Vulcanization

- RUBBER, Cellular.** See Rubber, Sponge
- RUBBER, Cold treatment of**
Rubber parts trim best when frozen. *il Am Mach* 101:167 N 18 '57
- RUBBER, Reclaimed.** See Rubber—Reclaiming
- RUBBER, Sponge**
Carpet with a bounce: foam rubber padding. *il Textile Ind* 122:110+ Je '58
- Closed cell rubber cuts condensation. *il Iron Age* 180:160 D 5 '57
- Economics of flexible urethane and latex rubber foams. P. B. Baker. *il Rubber World* 138:733-7 Ag '58
- Extruded sponge rubber. R. R. Long. *il diag Machine Design* 30:28-30 J1 10 '58
- Justice department consent decree ends Goodrich-Dayton sponge pact. *Rubber World* 138:285 My '58
- Selectofoam resin 6207. *Am Dyestuff Rep* 47:138 F 24 '58
- Silicone sponge parts keep their shape. *il Materials in Design Eng* 47:176+ Je '58
- Standardization of size and contour of latex foam cushions; abstract. P. B. Harris. *Rubber Age* 82:695 Ja '58
- Thermal insulation materials; cellular rubber. R. J. Fabian. *Materials in Design Eng* 47:136-7 Mr '58
- Updating the story on silicone rubber sponge. J. C. Walton. *il Product Eng* 29:54-5 Ag 4 '58
- See also
Urethans
- Fire hazards**
Fire hazards in drying foam rubber. *Safety Maint* 114:58-9 N '57

Manufacture

- Effects of TDI isomer ratio in polyurethane foams. G. T. Gmitter and E. E. Gruber. *Rubber Age* 83:83-7 Ap '58
- Non-uniform cellular material; abstract. R. J. Noble. *Rubber World* 139:73 O '58

Testing

- New apparatus for determining the cell structure of cellular materials. W. J. Remington and R. Pariser. *diags Rubber World* 138:261-4 My '58

RUBBER accelerators. See Vulcanization—Accelerators

RUBBER balls. See Balls, Rubber

RUBBER bands

- Acoustic behavior of a rubber string. J. M. Freeman. *Am J Phys* 26:369-71 S '58

RUBBER chemicals

- Cyanamid relocates rubber group. *il Rubber World* 138:761 Ag '58
- Inventory of new chemicals and materials; rubber and rubber chemicals. *il Chem Eng* 64:200+ Mid-N '57

See also

Vulcanization—Accelerators

Testing

- Melting range of rubber chemicals. *il ASTM Bul* 992-J1 '58

RUBBER cutting

- Automatic roll lift trimmer; Falls engineering and machine co. *il Rubber Age* 82:1078+ Mr '58
- Deep-frozen rubber is machinable. E. F. Arrufat. *diags Am Mach* 102:125 F 24 '58
- Rubber parts trim best when frozen. *il Am Mach* 101:157 N 18 '57

Noise

- Acoustical performance of a dicer enclosure. J. J. Hughes. *plan diags Noise Control* 4:14-17 Ja '58

RUBBER factories

- England now makes synthetic rubber; International synthetic rubber co. *il Pet Refiner* 37:255+ My '58
- General Tire opens new synthetic plant. *il Rubber Age* 82:301-2 N '57
- New, completely integrated synthetic plant opened by General Tire and El Paso Natural Gas Products. *flow diag il Rubber World* 137:270+ N '57
- Operations underway at synthetic rubber plant in Odessa. *Tex. flow diags il Pet Eng* 28:CT-10 D '57
- Rubber manufacturing industry plant vacation schedules. *Rubber Age* 83:334-5 My '58

See also

Rubber—Reclaiming

Electric equipment

- Continuity is key to our electrical system modernization; United States rubber co. C. E. Blumenauer. *il diags Power* 102:82-4+ My '58

Employees

- Conditions for tire industry minimum wage; October hearings set by Secretary Mitchell. *Rubber World* 139:94 O '58
- Employee feeding. *il Rubber Age* 83:495-7 Je '58

See also

- United rubber, cork, linoleum and plastic workers of America

Equipment

- Automatic spray finishing at Goodyear plant. *il Rubber World* 137:255 N '57
- Changes in equipment design feature new synthetic rubber plant. *diag Chem Eng Prog* 54:154+ My '58
- Continuous rubber route dons a new look; General tire & rubber co.; process flow-sheet. C. H. Chilton. *il Chem Eng* 65:102-5 Je '58
- Electric fork trucks for materials handling; Gates rubber co. *il Rubber Age* 83:668-70 J1 '58
- Goodyear automates automatic presses; green tires are conveyed to curing presses. *il Rubber World* 137:556 Ja '58
- How an old rubber plant went modern; American synthetic rubber corp. R. Marsh. *flow sheet diags Pet Refiner* 37:197-9 Ap '58
- New equipment. Published in monthly numbers of Rubber age
- New equipment. Published in monthly numbers of Rubber world

RUBBER factories—Continued**Quality control**

Akron rubber group symposium on statistical quality control. Rubber World 137:81-2 Mr '58

Southern rubber group panel on statistical quality control. Rubber World 138:105-10 Ap '58

Statistical quality control in the rubber industry; symposium. bibliog Rubber Age 83:306-13, 490-3 My-Je '58

Safety measures

National safety council Rubber section 1957 safety contest winners. Rubber World 138:130 Ap '58

Safety programs for the rubber plant. J. E. Bedford. *il* Rubber Age 84:102-3 O '58

RUBBER goods

Mooney viscosity as related to molded electrical products. A. A. Kessel. *il* diag Rubber World 137:695-700+ F '58

Use of textiles in the rubber industry; panel discussion. Rubber World 138:98-104 Ap '58; Abstract. Rubber Age 82:1057 Mr '58

See also

Balls, Rubber

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Heels, Rubber—Manufacture

Molds (for rubber)

Manufacture

Automatic custom molding of rubber parts. *il* Rubber Age 83:653-5 JI '58

Compounding variables and problems in the molded rubber products industry. R. P. Mitchell. Rubber Age 83:826-8 Ag '58; Abstract. Rubber World 138:278 My '58

Continuous molding process makes small rubber parts; Ohio rubber co. *il* Automation 5:9-10 JI '58

Continuous vulcanizer cures extrusions fast. *diag* Chem Eng 65:60+ My 5 '58

Extruded sponge rubber. R. R. Long. *il* diag Machine Design 30:28-30 JI 10 '58

Extrudes rubber over aluminum. *il* Light Metal Age 16:32 Ap '58

Greater precision in rubber moldings now possible. *il* Materials in Design Eng 48:124-5 Ag '58

Method for application of statistical quality control in the manufacture of rubber products. L. N. Freeman. Rubber World 138:107-10 Ap '58

New high-speed molding process cuts cost of rubber parts. R. L. Halstead. *il* Product Eng 29:68-70 Je 23 '58

Ohio Rubber's automatic molding process. *il* diag Rubber World 138:580-1 JI '58

Overhead conveyor lines for handling latex toys. *il* Rubber Age 83:985-6 S '58

Quick cure with hot liquid; new continuous vulcanization process. M. A. Schoenbeck. *il* Chem & Eng N 36:36 Mr 24 '58

Rubber molding techniques and equipment. G. C. Hessney. Rubber Age 83:825-6 Ag '58; Abstract. Rubber World 138:277-8 My '58

See also

Golf balls—Manufacture

Molding machines (for rubber)

Standards

Ordinance qualification test approval system organized. Rubber World 137:269 N '57

Testing

Determination of polyisobutylene in rubber products. K. E. Kress. *il* Anal Chem 30:287-90 F '58

RUBBER goods, Mechanical

Airsprings and their application to automotive, aircraft, and industrial uses. H. H. Deist. *il* diags Rubber World 138:563-70+ JI '58

Body mounting. *il* diags Automobile Eng 48:86-95 Mr '58

Conveyor belts new Swedish specialty. *il* Rubber Age 83:634 JI '58

Ground rules for molded silicone rubber parts. D. P. Spalding. *il* diags Product Eng 29:69-71 Ap 14 '58

High temperature couplings at Edison plant still there on anniversary. *il* Air Cond Heat & Ven 54:118 D '57

Molded mechanical rubber goods; panel discussion. Rubber Age 83:825-31 Ag '58

New shock absorber. R. M. Sando and F. E. England. *diags* Product Eng 29:86-8 My 12 '58

Rotary shaft seals; the sealing mechanism of synthetic rubber seals running at atmospheric pressure. E. T. Jagger. *il* diags Inst Mech Eng Proc 171 no 18:597-604; Discussion. 605-12; Reply. 613-16 '57

Rubber cushions, when bearings must be guler. R. E. Downes. *diags* Product Eng 29:66-7 Ap 28 '58

Rubber disks replace coil springs on mine cars designed in South Africa. *Product Eng* 29:7 Je 2 '58

Rubber mandrel holds thin-wall liners. A. R. Gilat. *diag* Am Mach 101:157 N 4 '57

Special services and products for users of synthetic rubber goods; Irving B. Moore corp. *il* Rubber Age 82:847-8 F '58

Urethane; equipment jobs seen. *il* Chem & Eng N 36:76-7 Je 30 '58

Why Chrysler dabbles in rubber. H. R. Neal. *il* Iron Age 181:84+ Mr 13 '58

See also

Pipe joints, Rubber

Manufacture

Automatic production of custom molded rubber parts; Ohio rubber co. *il* Automotive Ind 139:64 JI '58

Rubber parts; costs down; automated molding process; Ohio rubber co. *il* Steel 142:59 Je 30 '58

RUBBER industry and trade

Attorney General on competition in synthetic rubber industry; third report. Rubber Age 83:1008-10 S '58

Business failures among rubber manufacturers. Rubber Age 83:672-3 JI '58

Commercial development of purchased government facilities; panel discussion. Rubber World 138:269-70 My '58

Commercial developments in natural rubber; abstract. H. C. Bugbee. Rubber World 138:267-8 My '58

Commercial developments in synthetic rubber; abstract. O. V. Tracy. Rubber World 138:268 My '58

Debate in 1958 on Reciprocal trade agreements act renewal will involve rubber and chemical industries. Rubber World 137:268 N '57

Executive compensation in the rubber industry. Rubber Age 82:489-90 D '57

Fifth company joins race for big synthetic natural rubber market. Chem Eng Prog 54:108+ F '58

50 years of progress in the rubber industry. A. E. Juve. *il* Ind & Eng Chem 50:sup54A-TA S '58

File system used for handling sales records of rubber products. L. C. Pape. *il* Rubber Age 83:488-9 Je '58

Future of the rubber industry; abstract. W. F. Tuley. Rubber World 137:574 Ja '58

Justice reports on synthetic rubber in 1957; decrees static SBR prices. J. F. King. Rubber World 138:898+ S '58

Only 58.2 per cent natural rubber imports conform to standards. Rubber World 138:764 Ag '58

Promotional films for the rubber industry on a low-cost do-it-yourself budget. *il* Rubber Age 83:836-7 Ag '58

Review and preview of the rubber industry, 1957-1958. Rubber Age 82:641-7 Ja '58

Rubber business at crossroads. Chem & Eng N 35:30 N 11 '57

Rubber business slackens. Chem & Eng N 36:23 Ja 27 '58

Rubber industry performance. R. D. Davis. Rubber World 137:426-9 D '57

Rubber manufacturers association sees 1957 record sales volume equaled in 1958. Rubber World 137:580 Ja '58

Rubber supply-demand outlook; abstract. W. J. Sears. Rubber World 137:426 D '57

Rubber's role in our Nation's strength; abstract. H. E. Humphreys, Jr. Rubber World 137:878-9 Mr '58

Statements from the industry. Rubber Age 82:648-56 Ja '58

Trends in the United States rubber industry; with tables for major world areas; abstract. R. P. Dinsmore. Rubber World 139:95-6 O '58

See also

Tire industry and trade

Finance

Credit rating; how the rubber goods manufacturer can evaluate his chance of getting a bank loan. Rubber Age 83:316-17 My '58

Earnings dwindle in oil and rubber. Chem & Eng N 36:18 My 19 '58

RUBBER industry and trade—Finance—Cont.
 Heavier going in oil and rubber. *Chem & Eng N* 36:28 Mr 3 '58
 How to use the rubber futures market to lessen price risks. S. Gold and K. Sahagian. *Rubber Age* 83:1006-7 S '58
 Profits and overhead in the rubber industry. J. F. H. Turton and E. C. Bleick. *Rubber Age* 82:857-8 F '58

Securities

Private placement financing in the rubber industry. *Rubber Age* 83:113-14 Ap '58
 Shares and prices; manufacturers of both rubber and electronic products. *Electronics* 31:5 My 2 '58

Statistics

Business and defense services administration reviews some industry statistics. *Rubber World* 138:601 JI '58
 Financial averages of manufacturers of rubber products for 1956; tables. *Rubber Age* 83:128 Ap '58

Europe

Europe shapes rubber's future. *Chem & Eng N* 36:31 Ap 7 '58
 European rubber developments; abstract. A. J. Pickett. *Rubber World* 138:266-7 My '58

Germany

Buna is back at Huels. *Il Chem & Eng N* 36:124-5 O 6 '58
 1957 industry output establishes new record; with tables of production and consumption. *Rubber World* 138:923 S '58

Great Britain

Britain makes SBR. *Il Chem & Eng N* 36:90 O 27 '58

India

Association of rubber manufacturers in India annual meeting, Calcutta, Dec. 12. *Rubber Age* 83:119 Ap '58

Indonesia

Indonesia rubber industry review. *Rubber World* 137:749-51 F '58

Malaya

Emphasizes natural rubber reappraisal; interview with Ismail Bin Mohamed Ali. *Rubber World* 137:731-2 F '58
 Replanting progress promises bright future for Malayan estates. E. G. Holt. *Rubber World* 137:409-14 D '57

Russia

Russian rubber-plastics activities; abstract. H. F. Mark. *Rubber Age* 83:1011 S '58

RUBBER laboratories

Precast walls slide into place on greased track; laboratory for Goodyear research and development center at Akron, Ohio. *Il diags Eng N* 160:36-7 Ap 10 '58
 Rubber lab to study new materials. A-radiation. *Il Materials in Design Eng* 46:267-8 N '57
 Rubber research association opens new facility in Israel. *Il Rubber Age* 83:1012 S '58

Equipment

Uni-rotor mixer for rubbers and plastics. W. F. Watson and D. Wilson. *Il diag Rubber Chem & Tech* 31:667-72 JI '58

RUBBER latex

Aeration of natural rubber latex. B. C. Sekhar. *bibliog Rubber Chem & Tech* 31:426-35 JI '58

Determination of the mechanical stability of latex. *Rubber Chem & Tech* 31:sup20-1 Ja '58

Economics of flexible urethane and latex rubber foams. P. B. Baker. *Il Rubber World* 138:733-7 Ag '58

Filler-rubber interaction in latex. B. A. Dogadkin and others. *bibliog Rubber Chem & Tech* 31:655-63 JI '58

Graft polymerization in rubber latex by A-irradiation. E. G. Cockbain and others. *Chem & Ind* p759-60 Je 21 '58

Nature of the particle surface in hevea latex and pastes of rubber hydrochloride and polyvinyl chloride. G. Schuur. *bibliog Rubber Chem & Tech* 31:436-45 JI '58

Swelling behavior of natural rubber latex. P. W. Allen. *J Colloid Sci* 13:483-7 O '58

See also

Rubber, Artificial—Latex

RUBBER lining

Drilling rubber-lined pipe under vacuum. F. Franks. *diags Chem Eng* 65:152-4 F 24 '58
 Lining of uranium plant. *Il Engineer* 206:227 Ag 8 '58

RUBBER machinery

Mill roll speed ratios. A. L. Back. *Rubber Age* 84:98 O '58
 New equipment. Published in monthly numbers of *Rubber World*
 Single geared rubber mill. *Il Engineer* 205:257 F 14 '58

See also

Molding machines (for rubber)

Rubber mixers

RUBBER manufacturers association

Annual meeting, 42d, New York, Nov. 21; with abstracts of papers. *Rubber World* 137:425-9 D '57; *Rubber Age* 82:491-3 D '57
 Molded extruded, latex cut and sponge rubber products subdivision of the Mechanical rubber goods division; annual meeting, New York, June 17. *Rubber Age* 83:676-7 JI '58; *Rubber World* 138:751-3 Ag '58

RUBBER mixers

Uni-Rotor mixer for rubber and plastics. W. F. Watson and D. Wilson. *Il diag Rubber Age* 82:296-8 N '57

RUBBER oil tanks. See Oil tanks, Rubber

RUBBER pipe joints. See Pipe joints, Rubber

RUBBER reclaiming. See Rubber—Reclaiming

RUBBER research

Cyanamid relocates rubber group. *Il Rubber World* 138:761 Ag '58
 Measurement, rubber research and technological competition; abstract. A. V. Astin. *Rubber World* 137:879 Mr '58
 ODM becomes interested in rubber mold; NBS gets five-year research contract. *Rubber World* 137:733 F '58
 Radioactive tracing of the diffusion of sulfur in cable rubbers. G. A. Blokh and others. *bibliog Rubber Chem & Tech* 31:356-60 Ap '58

See also

Rubber, Artificial—Research

Rubber laboratories

RUBBER rolls. See Rolls, Rubber

RUBBER science hall of fame. See Akron university—Rubber science hall of fame

RUBBER study group, International. See International rubber study group

RUBBER tanks. See Tanks, Rubber

RUBBER thread

New neoprene thread. *Rubber World* 137:738 F '58

RUBBER tires. See Tires, Rubber

RUBBER waste

See also

Rubber—Reclaiming

RUBBERIZED fabrics

Aluminum stressed-skin dome building erected by rubberized fabric balloons. *Il Rubber World* 137:582 Ja '58

Effect of construction on certain stress-strain properties of uncoated and coated Fortisan fabrics. J. F. Krasny and others. *bibliog Textile Res J* 27:983-90 D '57

How to apply latex backing. A. Barg and M. Slone. *Il diags Mod Textiles Mag* 39:54-4 Je '58

Use of textiles in the rubber industry; panel discussion. *Rubber World* 138:98-104 Ap '58

See also

Nylon fabrics—Coating

Tire fabrics

RUBIDIUM

Sediment age determination by Rb/Sr analysis of glauconite. L. F. Herzog and others. *bibliog Am Assn Pet Geologists Bull* 42:717-33 Ap '58

RUBIDIUM compounds

Rare chemicals ready; American Potash & Chemical is making a series of rubidium and cesium chemicals. *Chem & Eng N* 35:32 D 30 '57

RUBIDIUM iodide

Centrifugal electromotive force; the transference numbers of lithium, rubidium and cesium iodides; the iodide-iodine complex. E. R. Ray and others. *bibliog diags Am Chem Soc J* 80:1029-34 Mr 5 '58

RUBY

Ruby maser for new telescope. *Electronics* 31:23 S 5 '58

RUCHARDTS experiment. See Physics—Experiments

RUDOLPH, Paul

Yale's P. Rudolph, R. Bourne, por Arch Forum 108:128-9-4 Ap '58

RUGS

Manufacture

How Velvetone makes and finishes tufted rugs. *Il Textile World* 107:128-9+ D '57

RUHR valley

Industries and resources

Germany's Ruhr. flow sheet *il diags* J Metals 9:1425-39 N '57

RULE (Instrument)

Odd rule. G. Schivley. *diags* Instruments & Automation 31:469 Mr '58

RULING machines

Cartographic aid: high speed grid-ruling machine. *Eng N* 161:73 A π 21 '58

RUMANIA

See also

Petroleum industry and trade—Rumania

RUMEN

Metabolism of ruminants. T. A. Rogers. *il diags* Sci Am 198:34-8 F '58

RUN-OFF

Cooling tower for shopping center served by stored run-off water. F. H. Kluckhohn. flow *diag* *il Air Cond Heat & Ven* 54:61-4 N '57

Northeastern floods of 1955; rainfall and run-off. T. Dalrymple. maps Am Soc C E Proc 84 [HY 3 no 1662]:1-19 Je '58; Discussion.

H. M. Turner. bibliog 84 [HY 7 no 1880]: 5-15 D '58

Quick drainage estimates. *Eng N* 160:73 My 8 '58

Water yields as influenced by watershed management. R. H. Burgy. Am Soc C E Proc 84 [IR 2 no 1590]:1-10 Ap '58

RUNWAYS. See Airports—Runways

RURAL electric cooperative association, National. See National rural electric cooperative association

RURAL electrification administration

Campbell. recorders ruling. *Elec World* 150: 60-1 A π 18 '58

Comptroller general tilts REA cart. *Elec World* 150:35+ A π 11 '58

Co-ops mark a milestone. *Elec World* 149:49 Ap 21 '58

Job ahead for REA. *Elec World* 149:50-1 My 26; 42 Je 2; 57+ Je '58

New plan for loans. *Elec World* 149:66 Mr 3 '58

REA backs push on appliance loans. D. Hamil and others. *Elec World* 149:48-9 Ap 21 '58

See also

Electric service, Rural—Cooperative lines

RURAL sewage disposal. See Sewage disposal, Rural

RURAL telephone service. See Telephone service, Rural

RUSHMORE, Mount

Air power and pneumatic tools played an important role in the carving of America's heritage in stone; Mount Rushmore national memorial. S. M. Parkhill. *il Comp Air Mag* 63:24-6 F '58

RUSSIA

Some impressions of Russia. H. Blackmon. *il Elec Eng* 76:1058-61 D '57

See also

subdivision Russia under special subjects, e.g.

Aeronautics, Military

Airplane industry and trade

Airplanes, Military

Atomic power plants

Atomic research

Automobile industry and trade

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Electric industries

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Electric utilities

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Gas, Natural

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Machine tool industry

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Steel workers

Steel works

Technical literature

Technology

Television broadcasting

Water supply

Commerce

United States

Little know-how for Russia; American chemical producers are not too interested in selling important chemical processes and related know-how to the Soviet Union. *il Chem & Eng N* 36:27-9 S '58

Commercial policy

Soviet trade, shipping and shipbuilding; the silent trade war, can we win? B. M. Kassell. *Marine Eng/Log* 63:79-80 J1 '58

Economic policy

Russia eyes western-made capital goods. *Am Mach* 102:85 Je 2 '58

Industries and resources

Challenge of Soviet industry to American industry. *Automotive Ind* 118:44 My 1 '58

How Moscow designs. *il Product Eng* 29:5-8+ J1 14 '58

Russians call for 300 per cent instruments increase by 1961. A. V. Astin. *Machine Design* 30:36+ F 6 '58

Soviet industrial growth; its cost, extent and prospects; with tables. D. B. Shimkin and F. A. Leedy. bibliog *il Automotive Ind* 118:48-59+ Ja 1 '58

Soviet output today; U.S. output years ago. *Chem Eng* 65:80 O 20 '58

U.S.S.R., strength through raw materials. *il map Chem & Eng N* 36:80-8 O 27 '58

RUSSIAN architecture. See Architecture, Russian

RUSSIAN language

Can a machine translate Russian? *Product Eng* 28:5-6 D 23 '57

How to read heat transfer in Russian. F. F. Buckland. *Mech Eng* 80:60-3 S '58

Russian to English machine translation with simple logical processing. R. E. Wall, Jr. and U. K. Niehaus. flow charts *Com & Electronics* p709-14 Ja '58

Scientific Russian; its study and translation. S. A. Wilde. *Am Scientist* 46:222-5 S '58

RUST. See Corrosion and anti-corrosives

RUTHENIUM

Constitution of alloys of iron with ruthenium, rhodium, palladium, and silver. W. S. Gibson and W. Hume-Rothery. *diags* Iron & Steel Inst J 159:243-50 J1 '58

Determination of the formulas of aqueous ruthenium(III) species by means of ion-exchange resin; Ru³⁺, RuCl₄⁺ and RuCl₆³⁻. H. H. Cady and R. E. Connick. bibliog *Am Chem Soc J* 80:2646-52 Je 5 '58

Reductions with ruthenium catalysts; preparation of some cyclohexylalkylamines. M. Freifelder and G. E. Stone. bibliog *Am Chem Soc J* 80:5270-2 O 5 '58

Use of chlorine in the attack of noble metals; quantitative recovery of micro amounts of platinum, ruthenium, and osmium. A. D. Westland and F. E. Beamish. bibliog *diags Anal Chem* 30:414-18 Mr '58

RUTHENIUM compounds

Ring-substitution reactions of dicyclopentadienylruthenium and dicyclopentadienylrhodium. M. D. Rausch and others. bibliog *Chem & Ind* p756-7 Je 21 '58

RUTILE

Is leucouene always finely crystalline rutile? V. T. Allen. bibliog *Econ Geol* 51:830-3 D '56; Reply. S. W. Bailey and E. N. Cameron. 52:716-20 S '57

Major welding manufacturer recovers rutile in Florida. plan *diags Eng & Min J* 158: 98-9 D '57

New domestic rutile source; Metal & thermite corp. *il diags Min Eng* 10:25+ Ja '58

Virginia heavy minerals plant opens; Metal & thermite corp. *il diags Eng & Min J* 159:94-5 Ja '58

S

- SAGE.** See Semi-automatic ground environment system
- SAABA yarn.** See Yarn
- SABINE river**
Development plans for the Sabine River watershed, J. W. Simmons, maps Am Water Works Assn J 50:983-90 Ag '58
- SACCHARIDES**
Effects of curing, storage and dehydration on the mono- and disaccharides of the sweet potato, M. G. Lambou, bibliog(53 titles) Food Tech 12:150-5 Mr '58
Mechanism of the periodate oxidation of monosaccharides, S. A. Warsi, and W. J. Whelan, bibliog Chem & Ind 971 Ja 13 '58
Penetration of maltosaccharides into processed clingstone peaches, R. E. Hughes, Jr. and others, bibliog il Food Tech 12:111-15 F '58
Ultrasonic interferometer measurements of the amount of bound water; saccharides, H. Shio, Am Chem Soc J 80:70-3 Ja 5 '58
See also
Oligosaccharides
- SACCHARIMETERS**
Automatic recording saccharimeter, J. W. Gates, il diags Chem & Ind p 190-3 F 15 '58
- SACCHARINIC acid**
Isomerization of C^{14} -labeled sugars to saccharinic acids, J. C. Sowden and others, bibliog Am Chem Soc J 79:6450-4 D 20 '57
- SACCHAROMYCES**
Whey utilization, growth conditions for saccharomyces fragilis, A. E. Wasserman and others, bibliog Sewage & Ind Wastes 30:913-20 Jl '58
- SACRAMENTO, California**
Sewerage
First-year operating experiences, H. H. Jeffrey, Sewage & Ind Wastes 30:225-55 F '58
- SAFETY at sea**
Marine disasters and merchant ship design, K. B. Schumacher, Am Soc Naval Engn J 70:485-9 Ag '58
NSC meetings hit shipyard hazards and stress safe practice at sea; abstracts of papers, Marine Eng/Log 63:76-7 Je '58
Regulatory aspects of nuclear ship safety, H. F. Crouch, bibliog diags Am Soc Naval Engn J 70:97-104 F '58
- SAFETY awards.** See Safety contests and awards
- SAFETY belts**
See also
Automobiles—Seat belts
- SAFETY campaigns**
Get your safety shoe program off the ground, T. M. Gray, il Safety Maint 116:11-13+ Jl '58
Knowing safety is not enough; Allis-Chalmers safety campaign, Safety Maint 115:67 Ap '58
Safety programs for the rubber plant, J. E. Bedford, il Rubber Age 84:102-3 O '58
What were the safety invaders; balloons released by Owens-Illinois glass company carry safety messages, il Safety Maint 116:11-12+ Ag '58
- SAFETY clothing.** See Clothing, Protective
- SAFETY codes**
NFPA revises safety codes, Chem & Eng N 36:46-7 Je 9 '58
NFPA to vote on first nuclear reactor fire code and changes in other codes at Chicago, Chem & Eng N 36:80 Ap 28 '58
New York's experience in administering code on radiation protection, M. Kleinfeld, A M A Archives Ind Health 17:87-95 F '58
Safety code for maintenance of fixed foam systems, il diags Safety Maint 116:46-8 Je '58
Safety code for the maintenance of standpipe and hose systems, il Safety Maint 115:55-7 Ja '58
See also
Electric codes
- SAFETY committees**
Everyone helps make this a safe plant; Miller fluid power div. of Flick-Reedy corp., W. E. Zelenka, il Mill & Factory 62:111-13 Mr '58
Good maintenance sparks safety program; Gast manufacturing corp. il Safety Maint 115:20-2+ Ap '58
Reduce costs through safety committees, il Safety Maint 114:11-13+ D '57
- SAFETY conferences**
Safety meetings really do pay off, Oil & Gas J 56:68-9 Jl 7 '58
- SAFETY congresses**
Annual safety convention, 23th, April 14-18, Safety Maint 115:29-32+ Je; 20-4 Jl '58
See also
National safety council
- SAFETY contests and awards**
Achievements and awards, Published in monthly numbers of Safety maintenance
Incentive awards for good safety records; Asbestos corp. J. M. Smith, il Min Cong J 44:75-8 Je '58
John T. Ryan trophies; report of the Institute committee covering mine safety awards for 1957, Can Min & Met Bul 51:196-7 Ap '58
Mando takes Scott award second straight year, il Paper Ind 39:700-1+ N '57
MCA awards to 46 firms, Chem & Eng N 36:46 Je 9 '58
National safety council Rubber section 1957 safety contest winners, Rubber World 138:130 Ap '58
Safety record merits Rock Products trophy; J. W. H. Corson, inc. Rock Prod 61:78 F '58
Sand and gravel safety contest awards; National sand and gravel association winners, Rock Prod 60:47-8 D '57
Three firms get safety awards; MCA gives Lamont duPont prizes to Tennessee corp., Royce, and U.S. Rubber for most improvement in safety, Chem & Eng N 36:74 Je 30 '58
Winning sand-gravel plants cited in Bureau of mines safety contest, Pit & Quarry 50:152-3 Ja '58
- SAFETY devices and measures**
Camera, professional safety tool; abstract, E. S. Greene, Textile Ind 122:95 Je '58
Clean up your floor accidents, F. L. Burnell, il Safety Maint 114:25-6+ O '57
Cut your costs through safe work methods, il Safety Maint 114:11-13 N '57
Identify and eliminate accident makers, D. B. Kenefer, il Plant 17:38-41 Mr '58
Mr & Mrs Public are watching your safety program! S. M. MacCutcheon, Safety Maint 115:13+ Ap '58
New testing method for magnetic chucks, il Safety Maint 116:19-20 Ag '58
Purchasing agent buys safety, G. H. Reinier, il Safety Maint 115:11-13 My '58
Safety, a way of life for industry, R. S. Stevenson, Power Ind 74:12-13 Ap '58
Safety maintenance salutes a safety idea, Published in monthly numbers of Safety maintenance
Safety tools are one important use of high strength nonmagnetic alloys, H. Bernstein, il Materials in Design Eng 48:104-6 Ag '58
Why accident prevention is important to a general contractor, W. G. Hawkins, Roads & Sts 101:68 Ag '58
See also
Automobiles—Control
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Burns and scalds
Color codes, Safety
Electric protective apparatus
Eye—Protection
Fire protection
Gas detectors
Gas masks
Goggles
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See also
 Moving pictures in safety education
 National safety council

SAFETY electric lamps. *See* Electric lamps, Safety

SAFETY engineering
 Accident prevention in a modern factory; Price's (Bromborough) Ltd. *il* Manuf Chem 29:324-6 Ag '58
 Designing for safety. N. Prasinos, *diags Mech Eng* 80:70-3 My '58
 Development and maintenance of a safety program; Department of water and sewers of the city of Miami. Pub Works 89:124+ Je '58
 Engineer safety into plant equipment. R. F. Thuma. *il* *diags Safety Maint* 116:14-16 Ji; 14-17+ Ag '58
 How of safe design; abstract. H. H. Mable. *Machine Design* 28:176+ N 14 '57
 How to cut your accident rate. K. W. Bennett. *il* *Iron Age* 180:84-5 N 7 '57
 Planning for safe operation of chemical plants. E. W. Jackson. *Manuf Chem* 29:323-4 Ag '58
 Safety cuts maintenance in regulating stations. E. Grafe, *diags Safety Maint* 114:29-30 O '57
 Safety's better than nerve in making nerve gas. B. M. Baird. *il* *Safety Maint* 114:23-4+ O '57
See also
 Chemical plants—Safety measures
 Color in safety engineering
 Machinery—Safety devices
 Mining engineering—Safety measures
 Petroleum refineries—Safety measures
 Safety inspection

Bibliography

Safety shelf. Published in monthly numbers of Safety maintenance

SAFETY engineers
See also
 Veterans of safety

SAFETY equipment
 Industrial know-how handbook. *il* MHI & Factory 62:E29 My '58
 Safety equipment and protective clothing. *il* Manuf Chem 29:326-9 Ag '58
 Safety equipment and the safety program. S. M. MacCutcheon, *Ind & Eng Chem* 50:sup73A-4A J1 '58
 Safety for firemen. *il* *Safety Maint* 114:43-4 D '57
See also
 Respiratory apparatus

Maintenance and repair
 Care and maintenance of safety equipment. *il* *Safety Maint* 115:14-16+ Ap '58

SAFETY exhibits, Traveling
 Safety classroom on wheels. *il* *Safety Maint* 114:21 N '57

SAFETY glass. *See* Glass, Safety

SAFETY glasses. *See* Goggles

SAFETY gloves. *See* Gloves, Safety

SAFETY hats. *See* Hats, Safety

SAFETY in the home
 Disney film on home safety. *il* *Safety Maint* 114:24 D '57
See also
 Accidents in the home

SAFETY inspection
 Safety in the chemical industry. J. Evers. *il* *diags Chem & Ind* p 204-11; Discussion. 211-12 F 22 '58

SAFETY instructions and training
 Informed supervision=safety; A.G.A. accident prevention committee to conduct safety courses for supervisors. J. T. Wolfe, *map Am Gas Assn Mo* 30:16-18 D '57
 Operation super safe for foremen. *Safety Maint* 114:42 N '57
 Safety classroom on wheels. *il* *Safety Maint* 114:21 N '57
 Safety training, as easy as one-two-three. J. Bedford. *Rock Prod* 60:77+ D '57
 Supervisors praise A.G.A. safety course. *Am Gas Assn Mo* 40:23-4 S '58
 Where safety's needed most; the man on the job; Arvin industries, inc. *il* *Safety Maint* 114:15-16 O '57

SAFETY labels
 Color labels for hot chemicals. *il* *Chem & Eng N* 36:56 Je 16 '58
 Safety labeling. *Safety Maint* 115:39 Ja '58

SAFETY laws and regulations
 Safety regulations for industrial vehicles in California. V. L. White. *il* *diag Am Water Works Assn J* 50:497-501 Ap '58
See also
 Fire protection—Laws and regulations
 Labels—Law

SAFETY movement
See also
 National safety council

SAFETY organization
 Chemical industry goes looking for trouble. *il* *Can Chem Process* 42:50-2+ S '58
 Constant accent on safety; record made by mine employees of Republic steel corp. J. L. Cover. *il* *Coal Age* 83:100-2 Ag '58
 Do front offices back safety? abstract. F. A. Gerard. *Chem & Eng N* 36:100 Mr 3 '58
 Gadgets can spark your program. S. M. MacCutcheon. *il* *Ind & Eng Chem* 50:sup89A-90A S '58
 Glance backward, then look to the future in safety. V. Grimaldi. *A M A Archives Ind Health* 17:377-82 My '58
 How to cut your accidents in half; Curtiss candy co. B. B. Bryan and J. V. Ziembra. *il* *Food Eng* 30:55-7 S '58
 Organization of an effective safety program; role of the medical department. C. U. Dernehl. *Ind Med* 27:145-6 Mr '58; Same. *il* *Safety Maint* 115:41-2 Mr '58
 Organize for safety. J. Bedford. *Chem Eng* 65:180+ S 22 '58
 Safe practice is a basic factor in manufacture. W. Garrett. *Manuf Chem* 29:322-3 Ag '58

Safety check list; reference book sheet. J. E. Bedford. *Am Mach* 102:127 S 22 '58
 Safety doesn't cost, accidents do; subsidiary companies of Bethlehem steel corp. *il* *Steel* 142:102+ Mr 3 '58

SAFETY organization—Continued

- Safety equipment and the safety program. S. M. MacCutchon. *Ind & Engng Chem* 50: sup73A-4A J1 '58
- Safety in the chemical industry; safety in plant operation and maintenance. S. E. Chaloner. *Chem & Ind* p538-43; Discussion. 543-4 My 10 '58
- Safety saves you dollars; Great Lakes carbon corp.'s safety program. *Steel* 142:53 Je 23 '58
- Stop accidents or close the plant; establishing a safety program puts company back in business. H. R. Alley. *Pl Plant Eng* 12:103-5 F '58
- Study, not snooping, humanizes safety; Eitel-McCullough's safety program. *Pl Plant Eng* 12:95-6+ J1 '58
- Where safety's needed most; the man on the job; Arvin Industries, inc. *Pl Safety Maint* 114:15-16 O '57
- Who is responsible for safety? W. T. Rogers. *Power* 114:713-14 My '58

See also

Safety committees**SAFETY posters**

- Steel founders' society posters push safety; winners in the 1958 annual safety poster contest. *Pl Foundry* 66:158 Ag '58

SAFETY shoes. See Shoes, Safety**SAFETY standards**

- American ladder institute members find standards a must! *Pl diags Mag of Stand* 29: 163-5 Je '58
- CSA standards for punch press operation. *diags Product Eng* 29:H 12-13 Mid-S '58
- How to use beta ray sources safely. R. S. Rochlin. *Pl Mag of Stand* 29:196-7 J1 '58
- Safety code for mechanical refrigeration; proposed revision to American standard B9.1. *Refrig Eng* 66:59-60 My '58
- Standards help support mine roof. G. W. Sall. *Pl diags Mag of Stand* 29:239-41 Ag '58
- Up-to-date safety by modern conveyors. J. C. Webb. *Pl Mag of Stand* 29:192-5 J1 '58

See also

Safety codes**SAFETY tags**

- Guard your dangers and tag them too! E. J. Mulligan. *Pl Safety Maint* 114:14-17 D '57

SAFETY valves

- Safety and relief valves. F. D. Marlon and C. S. Beard. *Pl diags Instruments & Automation* 30:2249-54 D '57
- Safety-relief valves; where they are needed and why. *diags Instruments & Automation* 31:479-81 Mr '58
- Subsurface safety device, controlled from surface, makes for safer offshore completions. L. M. Wilhoit and P. S. Sizer. *diags Oil & Gas J* 56:119-21 Ja 6 '58

Manufacture

- Air motors in safety valve production. *Pl Comp Air Mag* 63:36 F '58

SAFFLOWER oil

- Fractionation of sesame and safflower oil fatty acids with urea. T. N. Mehta and S. B. Dabhadre. *bibliog Am Oil Chem Soc J* 35: 501-3 O '58
- Glyceride structure of vegetable oils by counter-current distribution. C. R. Schofield and H. J. Dutton. *Am Oil Chem Soc J* 35:493-6 O '58
- Pilot-plant preparation of edible safflower oil. R. E. Beal and others. *bibliog Am Oil Chem Soc J* 35:97-9 F '58

SAFROLE**Physiological effect**

- Toxicity of safrole. M. B. Jacobs. *Am Perfumer & Aromatics* 71:57-8 Ja '58; Discussion. W. P. Leidy. *bibliog* 71:59+ Mr '58

SAGE oil

- Clary sage oil. *Drug & Cosmetic Ind* 83: 354 S '58

SAHARA desert

See also

Petroleum—Sahara desert**SAILBOATS**

See also

Masts and rigging**SAILING vessels**

- Mag-anode windjammer; brigantine Yankee. *Pl Marine Eng/Log* 63:65 F '58

See also

Yachts and yachting**SAILS**

- Characteristics of two-dimensional sails in hypersonic flow. W. Dackin and L. Feldman. *diag J Aeronautical Sci* 25:53-5 Ja '58

ST CLOUD, Minnesota**Water supply**

- Expandable push-button water plant. *plan Water Works Eng* 111:228-9 Mr '58

ST FRANCIS Xavier university

- Chemistry and physics building. *Pl Eng J* 41: 80-1 Je '58

ST LAWRENCE waterway and power project

- American locks of the St Lawrence seaway. J. P. Davis. *map diag Am Soc C E Proc* 84 [WW 4 no 1771]:1-16 S '58
- Beauharnois canal locks. D. McIntyre. *Pl map plans diags Am Soc C E Proc* 84 [WW 4 no 1731]:1-13 S '58
- Construction photography. A. Mellett. *Pl Civil Eng* 28:251-3 Ap '58
- Development of Great Lakes harbours. H. A. Young. *Pl maps Eng J* 41:97-101 S '58
- Eisenhower and Grass River lock models. M. E. Nelson and H. J. Johnson. *plans diags Am Soc C E Proc* 84 [HY 2 no 1582]: 1-15 Ap '58; Discussion. M. J. Webster. 84 [HY 6 no 1856]:81-4 N '58

- First power from St Lawrence river. *Civil Eng* 28:552 J1 '58

- Great Lakes and Atlantic by ship. *map Coal Age* 63:26+ My '58

- Influence of the St Lawrence seaway on the marketing of coal. J. R. Frith. *Can Min & Met Bul* 51:16-18 Ja '58

- On-shore drilling for blasting of underwater shoals; Thousand Islands channel improvement project. J. L. Romig. *Pl diag Civil Eng* 27:796-7 N '57

- 115-kv cable to cross Champlain. R. E. Moran. *map diags Elec World* 149:75-6 Mr 24 '58

- Port of Chicago. A. E. Brant, Jr. *Am Soc C E Proc* 84 [WW 4 no 1768]:1-11 S '58

- Regulation of Lake Ontario. F. F. Snyder and R. H. Clark. *maps Am Soc C E Proc* 84 [HY 3 no 1660]:1-25 Je '58

- St Lawrence job goes to work. *Pl Eng N* 161: 21-3 J1 10 '58

- St Lawrence power project; design of 230 kv. transmission lines. N. J. McMurtrie. *diags Eng J* 41:94-6 S '58

- St Lawrence power project; electrical features of the Robert H. Saunders-St Lawrence generating station. R. M. Fullerton. *Pl diags Eng J* 41:85-90 S '58

- St Lawrence power project; the St Lawrence transformer station. A. Matheson. *Pl Eng J* 41:91-3 S '58

- St Lawrence race won in '57. *Pl map Eng N* 159:42-3 D 26 '57

- St Lawrence River diversion by a rockfill cofferdam. J. V. Danys. *Pl maps diags Eng J* 41:77-84 S '58

- St Lawrence seaway and power project. *Pl Eng J* 41:85-7 Ja; 84-6 F; 93 Mr; 91-3 My; 77-9 Je; 89-90 J1; 94-6 Ag; 109-10 S '58

- St Lawrence seaway and power project; construction period 1954 to 1958. *Pl Eng J* 41: 51-4 S '58

- St Lawrence seaway and power project; sixth Great Lake created. *Pl Chem & Ind* p 1062-4 Ag 16 '58

- St Lawrence seaway; planning and constructing the Lachine section. L. H. Burpee. *Pl maps diags Eng J* 41:55-68 S '58

- St Lawrence seaway; soil and foundation problems. F. L. Peckover and T. G. Tustin. *Pl maps plan diags Eng J* 41:69-76+ S '58

- St Lawrence seaway, 27-ft. canals and channels. W. Grothaus and D. M. Ringley. *Pl maps diag Am Soc C E Proc* 84 [WW 1 no 1518]:1-22 Ja '58

- Seaway and its meaning to our area. E. W. Nelson. *Tappi* 41:sup 160A-4A My '58

- Seaway sets set for traffic. *map Chem & Eng N* 36:23-4 J1 7 '58

- Seaway takes shape; gallery of photographs. *Arch Forum* 109:101-4 S '58

- Seaway's hidden building boom. E. T. Chase. *map Arch Forum* 109:98-100+ S '58

- Surveying and mapping. J. D. Officer. *Am Soc C E Proc* 83 [SU 2 no 1446]:1-9 N '57

- What's at the end of the Seaway? *Pl map Marine Eng/Log* 63:69-71 Je '58

ST LOUIS

- Big project ahead; developers named for St Louis renewal job. *Eng N* 160:107 Ja 23 '58

Architecture

- Revised scheme, revived hope, for Saarinen's St. Louis arch. E. Saarinen. *Pl Arch Rec* 122:1 N '57

- Saarinen's arch project finally approved. *Pl Arch Forum* 108:14+ My '58

ST LOUIS—Continued

Water supply

Leak abatement techniques. C. F. Buettner. Am Water Works Assn J 50:507-9; Discussion. T. J. Skinner. 509-10 Ap '58

ST LOUIS county, Missouri

See also

Water supply—St Louis county, Missouri

ST PAUL

Water supply

Utility tunnels beneath St Paul. L. N. Thompson. II Am Water Works Assn J 50:714-16 Je '58

SALARIES

See also

Wages
also subdivision Salaries under special subjects, e.g.

Civil engineers

College professors and instructors

Engineers

Executives

Government employees

Metallurgists

Welders

SALARIES conferences

S. C. Johnson's sales meeting, Racine, Wis. Aug. 21-22. Soap & Chem Spec 34:71-4 O '58

Talking with sales managers; what did that meeting accomplish? B. Lester. Mach 64:196 N '57

SALES contests

Insecticide sales contest. L. E. Carls. II Soap & Chem Spec 34:117-19+ My '58

SALES conventions

Television conventions

Doble telecasts off power factor tests. Elec World 149:73 F 24 '58

SALES estimates

Don't tuck away the annual sales forecast. B. Lester. Mach 64:173 F '58

SALES management

Hidden persuasion; fact or fancy? J. Spaulding. Drug & Cosmetic Ind 82:613 My '58

How weekly sales analysis alerts management to trends; data-computer program; Stahl-Meyer. E. W. Wilson and T. C. Taylor. II Food Eng 30:56-74+ My '58

Sales management looks at the mill technical man. F. S. Leinbach. Tappi 41:sup26A+ My '58

Stronger sales control, the computer way. T. W. Sneed. II Food Eng 30:68-70 Ap '58

See also

Dealer helps

Sales records

SALES managers

Sales manager's place in the line-up. G. W. Peak. Elec World 150:95 S 29 '58

Talking with sales managers. B. Lester. Published in monthly numbers of Machinery

SALES meetings. See Sales conferences

SALES policies

See also

Private brands

SALES promotion

Better buy now program probes for a rebound in appliance sales. II Elec World 149:66-7 My 19 '58

Cleveland electric illuminating co., Westinghouse use nuggets to combat recession. E. Lindseth and C. J. Witting. Elec World 149:84 Je 16 '58

General Mills' road show; Versamid seminar. Paint Oil & Chem R 121:8-9 Mr 20 '58

International Minerals & Chemical offers help through program of Full orbit service. Chem & Eng N 36:24+ Je 9 '58

New national sales promotion plan; interview with Jack E. Corette. Elec World 149:86-7 Je 23 '58

Sales promotion campaign produces new business; East St Louis castings co. R. H. Herrmann. Foundry 86:200+ Ap '58

Selling more ready-mixed with sales promotion. G. H. Paris. II Concrete 66:24-7 Je '58

Seminar to stimulate sales; General Mills holds technical seminars on Versamid. Chem & Eng N 36:38-41 F 17 '58

Soap as a sales tool; Hewitt soap co. II Soap & Chem Spec 34:47-8+ O '58

See also

Coupons

Dealer helps

SALES records

File system used for handling sales records of rubber products. L. C. Pape. II Rubber Age 83:488-9 Je '58

SALESMANSHIP

Salesmanship remiss today. P. B. Wishart. Chem & Eng N 36:48+ O 6 '58

Visual aids

Ammunition for salesmen; GM photographic's Audio-visual dept. II Ind Phot 7:24-5+ Je '58

Audio-visual briefing; transparency-in-the-camera film solves sales education problem. A. C. Hart. II Ind Phot 7:32 F '58

SALESMEN

Don't let salesmen plan your products. I. P. Sharpe. Product Eng 29:35 Ap 21 '58

How ISA helps the sales engineer. R. N. Pond. I S A J 5:55 Ap '58

How sales engineers contribute to the instrument industry. H. E. Benson. I S A J 5:61 Mr '58

Professional football players and coaches form hard-hitting gas light selling team. II Gas Age 122:42-3 Ag 7 '58

Selling needs public relations boost; abstract. J. D. Staunton. Chem & Eng N 36:29 F 24 '58

What part salesman, what part engineer? instrument sales engineers. R. L. Rice. I S A J 5:62 F '58

See also

Chemical industries—Salesmen

Drivers as salesmen

Engineers as salesmen

Paint industry and trade—Salesmen

Training

Machine tool salesmen go to school. Am Mach 102:142-3 F 10 '58

Needed, floor care experts' film strip training program; Multi-Clean products. D. McNeely. II Ind Phot 7:28-9+ JI '58

Selling building sales in 36 foreign countries; sales training program. B. Grauman. II Am Perfumer & Aromatics 72:32-6 Ag '58

SALESMENTS association of the American chemical industry

Annual sales clinic, 6th, New York, Oct. 10. Soap & Chem Spec 33:75+ N '57

SALICYLALDEHYDE

Heat stability studies on chelates from Schiff bases of salicylaldehyde derivatives. C. S. Marvel and N. Tarkov. bibliog Am Chem Soc J 79:6000-2; 80:832-5 N 20 '57, F 20 '58

Some addition compounds of bis-salicylaldehyde-ethylenediamine-copper. T. Tanaka. bibliog Am Chem Soc J 80:4108-10 Ag 5 '58

SALIVA

Saliva factor halts decay; abstracts. G. E. Green. Chem & Eng N 36:40-1 My 12 '58; Drug & Cosmetic Ind 82:802 Je '58

SALK vaccine. See Poliomyelitis—Vaccines

SALMON

Coexistence of fish and dams; Columbia River salmonoid fishery. H. A. Preston and L. E. Rydell. map Am Soc C E Proc 83 (PO 5 no 1414):1-21 O '57; Discussion. M. H. Benson. 84 (PO 2 no 1618):7-8 Ap '58; Reply. 84 (PO 5 no 1830):13-14 O '58

Nutrition of chinook salmon; protein requirements. D. C. DeLong and others. bibliog J Nutrition 65:589-99 Ag '58

Potential application of antibiotics in the salmon canning industry. J. A. Stern and others. bibliog II Food Tech 12:132-7 Mr '58

Predicting the color of canned sockeye salmon from the color of the raw flesh. P. J. Schmidt and D. R. Idler. bibliog Food Tech 12:44-8 Ja '58

SALMONELLA

Isolation of enteric viruses and salmonellae from sewage. W. N. Mack and others. bibliog Sewage & Ind Wastes 33:957-62 Ag '58

SALT

Clean streams compromise indicated; control salt discharge to the Ohio. Eng N 160:28-9 My 15 '58

Dust control by the use of salt, calcium chloride and bituminous materials. J. W. Hutchinson. II Pub Works 88:112-14 D '57

Effect of high sodium chloride concentration on trickling filter slimes. G. W. Lawton and C. V. Eggert. bibliog Sewage & Ind Wastes 29:1228-36 N '57

Effect of particle size on the velocity of detonation of simple nitroglycerine/salt mixtures. J. E. Dolan. bibliog J Ap Chem 8:471-7 Ag '58

Effect of solvent change on the standard chemical potential of electrolytes, from precision measurement of the activities of the solvent components; the system NaCl-dioxane-water. E. Grunwald and A. L. Bacarella. Am Chem Soc J 80:3840-4 Ag 5 '58

SALT—Continued

- Electrical conductivity of fused sodium chloride-calcium chloride mixtures. J. B. Story and J. T. Clarke, bibliog diags J Metals 9:Trans 1449-54 N '57
- Equilibria between titanium metal and solutions of titanium dichloride in fused sodium chloride. K. Komarek and P. Herasymenko, bibliog Electrochem Soc J 105:216-19 Ap '58
- Equilibrium between titanium metal, TiCl_4 , and TiCl_3 in NaCl-KCl melts. W. C. Kreye and H. H. Kellogg, bibliog diag Electrochem Soc J 104:504-8 Ag '57; Discussion. K. Grjothelm. 105:364-5 Je '58
- Equilibrium solubility of sodium chloride in concentrated sodium hydroxide; data sheet. Tappi 41:sup 140A Mr '58
- Halite as cementing mineral in sandstones. W. A. Waldschmidt, il Am Assn Pet Geologists Bul 42:371-5 Ap '58
- Lagoon traps salt; unlimited deposit on Mexico's Pacific coast, some 400 miles south of San Diego. Chem & Eng N 36:62-3 Ja 13 '58
- Rock salt for snow and ice removal. C. A. Rogus, il diags Pub Works 88:113-17 N '57
- Salt effect correction in determining soluble silica in sea water by the silicomolybdic acid method. G. S. Bien, bibliog Anal Chem 30:1526-6 S '58
- Salt-soil stabilization on township roads. W. A. Sommers, il Pub Works 89:130-2 O '58
- Sodium chloride stabilized base secondary project. il Roads & Sts 101:66+ Je '58
- Which salt for industrial water treatment? D. Heath, il maps Power Eng 62:100-2 Ap '58
- See also**
- Petroleum—Salt content
- Petroleum refining—Salt removal
- Analysis**
- Instrument for the determination of potassium in sodium chloride. G. H. Laycock, diags J Sci Instr 35:171-3 My '58
- Manufacture**
- Manufacture of sodium chloride. W. L. Hardy, Ind & Eng Chem 49:sup59A-60A N '57
- Theory of recovering salt from sea-water by solar evaporation. D. M. Myers and C. W. Bonython, bibliog diag J Ap Chem 8:207-19 Ap '58
- SALT cake.** See Sodium sulfates
- SALT domes**
- Dixie salt domes. J. C. McCaslin, map Oil & Gas J 56:242 Ap '58
- Growth of Louisiana salt domes and effect on petroleum accumulation; abstract. G. Atwater and M. J. Forman, Oil & Gas J 56:179 My '58
- Herscher dome; storage despite leak. il diag Oil & Gas J 56:114-16 Ag '58
- Hopless prospects pay off again in east Texas basin. F. J. Gardner, map Oil & Gas J 56:155 My 26 '58
- How to hatch a glass egg. F. J. Gardner, map Oil & Gas J 55:191 N 4 '57
- In east Texas salt-dome exploration picks up. C. Hoot, map Oil & Gas J 56:248+ Mr 10 '58
- LPG-storage well logging; gamma-ray logging tool. R. F. Sippel and H. D. Hodges, diag Pet Eng 30:B 118+ Ap '58
- Louisiana find is near salt dome. map Oil & Gas J 56:264 Ag 18 '58
- New frontiers open, old frontiers expand, and salt domes fall to the bit. J. C. McCaslin, map Oil & Gas J 56:203-4 Je 2 '58
- Pescadito test taps good pay. Oil & Gas J 56:91 My 12 '58
- Salt away atomic wastes? salt mines might hold huge quantities for long time. il Chem & Eng N 36:54-5 F 10 '58
- Salt-dome breccia. P. F. Kerr and O. C. Kopp, bibliog il diags Am Assn Pet Geologists Bul 42:548-60 Mr '58
- Salt dome pays off for Texaco. Oil & Gas J 56:71 My 5 '58
- Salt dome tapped again. Pescadito well. Oil & Gas J 56:81 Je 2 '58
- Salt domes make headlines in 1957. map Oil & Gas J 56:224+ Ja 27 '58
- SALT handling**
- Trims thousands off packaging; Diamond Crystal Salt. D. MacDonald, il Food Eng 30:78-9 Mr '58

SALT LAKE CITY**Sewerage**

- Asphalt paved sludge beds. W. T. South, diag Water & Sewage Works 105:347-8 Ag '58
- Sewer construction. R. Day, il Water & Sewage Works 105:R357+ S 15 '58

Water supply

- Steep terrain prompts use of double deck sedimentation basin. il Pub Works 89:101 Jl '58

SALT mines and mining**Michigan**

- Preventive maintenance for steady operation; International salt co. F. W. Pfau, il Min Cong J 44:42-5 Mr '58

SALT spray test. See Corrosion and anti-corrosives—Testing**SALT water.** See Water supply—Salt water intrusion**SALTS**

- Effect of salts on cyanoethylation of cotton. N. M. Bikaies and others, bibliog Ind & Eng Chem 50:87-90 Ja '58
- Effect of various salts on the α -chymotrypsin-catalyzed hydrolysis of two acylated α -amino acid esters. R. B. Martin and C. Niernann, bibliog Am Chem Soc J 80:1481-6 Mr 20 '58
- Modern evaporite deposition in Peru. R. C. Morris and P. A. Dickey, maps Am Assn Pet Geologists Bul 41:2467-74 N '57
- Rates products and salt effects in the reactions of 2,4-dichlorobenzene with amines in chloroform and in ethanol. S. D. Ross and M. Finkelstein, bibliog Am Chem Soc J 79:6547-54 D 20 '57
- Salt effect in the aromatic nucleophilic substitution reaction. J. D. Reinheimer and others, bibliog Am Chem Soc J 80:164-8 Ja 5 '58
- Salt effects and ion pairs in solvolysis and related reactions. S. Winstein and others, bibliog Am Chem Soc J 80:169-81, 459-65 Ja 5-20 '58
- Salt effects in the product-forming step in unimolecular substitution reactions. Y. Pocker, Chem & Ind p 1599-600 D 7 '57

See also

- Chlorides
- Halides
- Salt

Analysis

- Salts determined in nonaqueous solutions; use of quaternary ammonium hydroxide titrant; abstract. R. H. Cundric and P. C. Markunas, Chem & Eng N 38:55 S 15 '58

SALTS, Fused

- Acid-base reactions in fused salts; the dichromate-nitrate reaction. F. R. Duke and M. L. Iverson, Am Chem Soc J 80:5061-3 O 5 '58
- Electrical conductivity of fused sodium chloride-calcium chloride mixtures. J. B. Story and J. T. Clarke, bibliog diags J Metals 9:Trans 1449-54 N '57
- Electrolytic extraction of thorium from fused salts. L. Abraham and others, bibliog il diags Electrochem Soc J 104:724-6 D '57
- Fused bath for electrodeposition of molten cadmium-indium alloy. G. L. Schnable and J. G. Javes, bibliog il Electrochem Soc J 105:84-8 F '58
- Fused media, of theoretical and industrial importance; 11th annual summer symposium, Schenectady. Anal Chem 30:sup 31A-3A Ag '58
- Impedance and polarization measurements in fused lithium chloride-potassium chloride. H. A. Laitinen and H. C. Gaur, bibliog diags Electrochem Soc J 104:730-7 D '57; Correction. 105:433 Jl '58
- Investigations into the electrodeposition of titanium metal from titanium tetrachloride in fused alkali metal chloride systems. J. Burgess and others, bibliog diag J Ap Chem 8:6-13 Ja '58
- Laundry reactor fuel; liquid fused-salt fuel systems get reprocessed by ionic reactions in melt; abstract. W. R. Grimes, Chem & Eng N 36:52-3 Jl 7 '58
- Mobilities of the ions in fused $\text{KNO}_3\text{-AgNO}_3$ mixtures. F. R. Duke and B. Owens, bibliog Electrochem Soc J 105:476-7 Ag '58
- pNO_3 for fused salts. Chem & Eng N 36:53 Jl 7 '58
- Phase equilibria in the alkali fluoride-uranium tetrafluoride fused salt systems; systems LiF-UF_4 and NaF-UF_4 . C. J. Barton and others, bibliog il diag Am Cer Soc J 41:63-9 F 1 '58

SALTS, Fused—Continued

- Polarography of metal ions in fused lithium chloride-potassium chloride eutectic, H. A. Laitinen and others. *bibliog Anal Chem* 30: 1266-70 J1 '58
- Preparation of uranium metal by fused salt electrolysis. G. Meister and W. C. Lillien-dahl. *J Metals* 9:Trans 1445-7 N '57
- Second look at hot salts; solubility of metals in their fused salts. *il Chem & Eng N* 36:34 Mr 24 '58
- Transport numbers in pure fused salts; lead chloride, lead bromide, thallous chloride, and silver nitrate. R. W. Laity and E. R. Duke. *bibliog Electrochem Soc J* 105:97-9 F '58
- Transport numbers of the pure fused salts, LiNO₃, NaNO₃, KNO₃, and AgNO₃. F. R. Duke and B. Owens. *bibliog Electrochem Soc J* 105:548-9 S '58

SALTS, Molten

- Electromotive force series in molten lithium chloride-potassium chloride eutectic. H. A. Laitinen and C. H. Liu. *bibliog Am Chem Soc J* 80:1015-20 M '58
- Equilibrium between titanium metal, TiCl₄, and TiCl₃ in NaCl-KCl melts. W. C. Kreye and H. H. Kellogg. *bibliog diag Electrochem Soc J* 104:504-8 Ag '57; Discussion. K. Grjotheim. 105:364-5 Je '58
- Reversible chlorine electrode for the measurement of electromotive force in molten salt cells. S. Senderoff and G. W. Mellors. *bibliog R Sci Instr* 29:151-2 F '58
- Solubility of water in molten mixtures of LiCl and KCl. W. J. Burkhard and J. D. Corbett. *bibliog Am Chem Soc J* 79:6361-3 D 20 '57
- Use of a manometric densitometer for molten salts. L. J. B. Husband. *diag J Sci Instr* 35:300-1 Ag '58
- Vapor pressure and heat of vaporization of some simple molten electrolytes. H. Bloom and others. *bibliog Am Chem Soc J* 80:2044-6 My 6 '58

SALVAGE

- Swedish engineers to attempt salvage of 300-year-old man-of-war. *Comp Air Mag* 63:36 Ja '58
- Winding up of wreck dispersal fleet. *Engineer* 206:228 Ag 8 '58

SALVAGE (waste, etc.)

- Research anticipates problem and solves it: Martin engineers started to recover silver by soaking brazed stainless steel honeycomb panels in a tank of 50 per cent nitric acid solution for approximately 20 hours. *il Ind Lab* 9:73 Je '58
- Salvaging silver from brazed honeycomb. *il Welding Eng* 43:62-3 Je '58
- X-ray silver mine; recover silver from old X-ray films and from fixer solution. *il Iron Age* 181:79 F 13 '58

See also

- Oil reclamation
Scrap material
Scrap metal
Sulfite liquor

SALVIA aegyptica

- Structure of tukhmalanza (salvia aegyptica) mucilage; nature of sugars present and the structure of the adolbauronic acid. A. K. Chatterjee and S. Mukherjee. *bibliog Am Chem Soc J* 80:2538-40 My 20 '58

SALZBURG

- Report from pre-festival Salzburg. H. Lawrence. *Audio* 42:74-5 Ag '58

SAMPLES, Textile See Textile samples**SAMPLING**

- Diffusion measurements by a sampling technique. P. H. Elworthy. *bibliog diag J Sci Instr* 35:102-3 Mr '58
- Egg-crate sampling. W. R. Baker. *il diag Ind Quality Control* 14:24-3 Mr '58
- Error in the sampling of soap and detergent bars for moisture determination. L. Goldenberg and E. W. Blank. *diag Am Oil Chem Soc J* 35:102-3 F '58
- Field sampling of concrete. H. R. Craig and others. *il Pub Works* 89:77-80+ Ja '58
- Preparation of samples for the Geiger counter diffractometer. L. E. Copeland and R. H. Bragg. *bibliog il A S T M Bul* p56-60 F '58
- Sampling programmes and sampling instruments in coal mines; abstract. R. C. Tomlinson. *J Sci Instr* 34:425-6 N '57
- Thermal precipitator for continuous aerosol sampling. C. Orr and E. A. Martin. *il diags R Sci Instr* 29:129-30 F '58

See also

- Air sampling
Coal sampling
Gas sampling

Ore sampling

- Paper sampling
Sewage sampling
Soil sampling
Water sampling
Wood sampling
also subdivision Sampling under special subjects, e.g.
Gas, Natural
Liquid fuel
Petroleum

SAMPLING (statistical methods)

- Acceptance sampling of lots by the median, quasi-range method. *diags Ind Quality Control* 15:8-11 J1 '58
- Analysis of sampled-data systems containing nonlinear element. J. Tou. *diags Inst Radio Eng Proc* 46:915 My '58
- Audio testing; a sound investment; Minnesota and Ontario paper co. C. W. Carter and L. C. Paulson. *il Ind Quality Control* 14:8-11 Mr '58
- Criterion to limit inspection effort in continuous sampling plans. R. B. Murphy. *bibliog Mechanical Eng Tech J* 37:115-34 Ja '58
- Inventory valuation by sampling. W. E. Courtwright and A. A. Proccasini. *Ind Quality Control* 14:16-21 F '58
- Low cost multiple sampling. R. M. Jacobs. *Ind Quality Control* 14:11-13 Ap '58
- Mechanical lot plot templet. E. W. Ellis. *il Ind Quality Control* 14:15-18 Mr '58
- Mechanical variables sampler. J. A. Greenwood. *il Ind Quality Control* 14:44-7 My '58
- Nonparametric definition of the representativeness of a sample; with tables. M. Sobel and M. J. Huyett. *bibliog diags Bell System Tech J* 37:135-61 Ja '58
- Operating characteristic curves for the lot plot sampling inspection plan when population is normal. D. H. Shaffer. *bibliog Ind Quality Control* 14:12-15 Je '58
- Pillsbury's code sampling gives can't-miss quality control. K. Scherch. *il Food Eng* 30:116-17+ Je '58
- Psychological bias in attribute sampling. J. H. Toulouse. *Ind Quality Control* 14:5-12 J= '58
- Runs determined in a sample by an arbitrary cut. P. S. Olmstead. *bibliog Bell System Tech J* 37:55-92 Ja '58
- Sampling and screening problems in a rheumatic heart disease case-finding study. E. A. Gehan. *Am J Pub Health* 48:1335-41 O '58
- Sampling method for household surveys. F. Filippello and others. *Food Tech* 12:387-90 Ag '58
- Statistical treatment of sampled-data control systems for actual random inputs. M. Mori. *bibliog diags A S M E Trans* 80:444-52; Discussion. 452-5; Reply. 455-6 F '58
- Testing of uniformity of sheets and plates. W. Youden. *diags Ind & Eng Chem* 49:sup71A-2A Ag '57; Correction. 50:sup90A F '58

SANBORNITE

- Crystal structure of sanbornite, BaSi₂O₆. R. M. Douglass. *bibliog il diags Am Mineralogist* 43:517-36 My '58

SAND

- Beneficiation of amber glass sands. H. F. Uley. *il Pitt & Quarry* 50:50-1 Ja '58
- Comparison of two- and three-dimensional sphericity of sand grains. J. Bokman. *Geol Soc Bul* 68:1689-91 D '57
- Dynamics of a projectile penetrating sand. W. A. Allen and others. *bibliog il diags J Ap Phys* 28:370-6, 1331-5 Mr. N '57
- Effect of sand grain size on the refining of a pure soda-lime-silica glass. *Glass Ind* 39: 435-6 Ag '58
- Getting bricks from sand for the Skalkh of Kuwait. map plans *Engineering* 185:104-6, 188-91 Ja 24. F '58
- Hungry beach to be nourished by sand pumping plant; Palm Beach, Fla. F. H. Zurmuhlen. *il Eng N* 161:46-8 Ag 7 '58
- Manufactured sands successfully used in grouts. J. M. Polatty. *Min Eng* 10:352-3 Mr '58
- Pebble and sand lithology of the major Wisconsin glacial lobes of the central lowland. R. C. Anderson. *bibliog map diags Geol Soc Bul* 68:1415-49 N '57
- Relative density and shear strength of sands. T. H. Wu. *bibliog map diags Am Soc C E Proc* 83 (ISM 1 no 1161):1-23 Ja '57; Discussion. 83 (ISM 3 no 1319):31-3 J1 '57; Reply. 84 (ISM 1 no 1559):5-6 F '58
- Sand exclusion in oil and gas wells. G. H. Tausch and C. B. Corley. *g. H. bibliog diags Pet Eng* 30:B38+ Je; B58+ J1 '58

SAND—Continued

- Stabilization of sand with asphaltic materials. J. C. Duff. *Il Pub Works* 89:125-6 S '58
 Vibration of sand cuts foundation costs 20 per cent. E. H. Wells. *Il Eng N* 161:30-2 Ag '58
 Volume-frequency analysis of sediments from thin-section data; a discussion. A. B. Vistelius. *J Geol* 66:224-6 Mr '58

See also

Aggregates
 Bituminous sand
 Concrete—Aggregate
 Oil sand
 Quicksand

Testing

- Tests on filter sands show how to install sub-drains that won't clog. J. M. Robertson. *Il diags Roads & Sts* 101:81+ *Ap* '58

California

- How they make glass on the West coast; raw material differences; based on papers by W. A. Seitz and V. C. Swicker. *Il Cer Ind* 71:78-80+ *O* '58

SAND, Foundry

- Automatic system conditions aluminum molding sand. R. H. Herrmann. *Il Foundry* 86:150+ *Ap* '58
 Casting iron patterns in zircon sand; Cadillac motor car div. of General Motors corp. C. W. Yaw. *Il Foundry* 86:74-5 *O* '58
 Concerning olivine. H. E. Henderson. *Foundry* 86:178+ *Ap* '58
 Controlling variables in processing shell molding sands. J. E. Bolt. *Foundry* 86:107-9 *Ap* '58
 Core and molding sand; abstracts of American foundrymen's society papers. *Foundry* 86:182+ *Jl* '58
 Effect of grain size on physical properties of synthetic molding sand. C. E. Schubert. *Foundry* 86:88-91 *Mr* '58
 Evaluation of bentonites in the steel foundry. V. E. Zang. *Il Foundry* 86:154-7 *My* '58
 Importance of clay particle size. W. E. Gruver. *Jr. Foundry* 86:94-6 *Jl* '58
 Meditations of a sandman. H. E. Henderson. Published in monthly numbers of *Foundry Surface finish of steel castings*. D. V. Atterton. *Il diags Foundry* 86:107-11 *F* '58

Testing

- Controlling casting quality through sand testing. H. W. Dietert. *Il diags Foundry* 86:58-61 *Ag* '58
 Visual sand control. C. W. Ammen. *Il diags Foundry* 86:208+ *F* '58

SAND and gravel association, National. See National sand and gravel association**SAND and gravel industry**

- Production and value of sand and gravel in 1957. K. E. Tobin. *Jr. Pit & Quarry* 51:179-80 *Jl* '58
SAND and gravel plants
 Cooley gravel co. relocated in \$7,000 plant moving job. *Il Pit & Quarry* 50:32 *F* '58
 Depletion of gravel deposit leads to erection of new plant. Kern rock co. H. F. Utley. *Il Pit & Quarry* 55:124-5 *Ag* '58
 Industrial sand in the West; a progress report. W. B. Lenhart. *Il Rock Prod* 61:141-2+ *Ja* '58
 Neighboring sand processors decide; water scarcity can't halt production. *Il Rock Prod* 60:116+ *N* '57
 Ramming river dikes gravel plant; Windsor sand & gravel co. W. B. Lenhart. *Il Rock Prod* 60:94-5+ *N* '57
 Sand, gravel; beset by problems. *Rock Prod* 61:84-6 *Ja* '58
 Soft stone separated out by new gravel upgrading plant. *Il Roads & Sts* 100:130+ *D* '57
 Waste area made profitable; Sand products, inc. B. C. Herod. *Il Pit & Quarry* 51:138-40 *Ag* '58

Equipment

- AAA sand & gravel co. well named. B. C. Herod. *Il Pit & Quarry* 51:134-7 *Ag* '58
 Better sand and gravel by jiggling. J. W. Meckenstock. *Il diags Eng N* 160:101 *Ap* 17 '58
 Buffalo ready mix concrete concern enters gravel business; Pine Hill operating four sand-and-gravel plants. W. E. Trauffer. *Il Pit & Quarry* 50:102-4 *Je* '58
 Contractor joins producers' ranks; new sand and gravel plant opened by Illinois firm. B. C. Herod. *Il Pit & Quarry* 50:114-15+ *F* '58

- Conveyor system spans river to connect pit plant; Basic construction materials co. *Il diags Rock Prod* 61:102-4 *F* '58
 Current developments in gravel beneficiation. W. L. Price. *Il diags Min Cong J* 43:68-73 *N* '57
 Dredge of ideas; Cooley gravel co. W. B. Lenhart. *Il Rock Prod* 61:148+ *My* '58
 Floating conveyors help recover lost gravel; A. Braithwaite & co. L. Walter. *Il Rock Prod* 61:98+ *Je* '58
 Heavy media turns waste to profit; Saticoy rock co. flow diag *Il Rock Prod* 61:114+ *F* '58
 High specification output with fewer man hours; Union sand & gravel co. *Il Rock Prod* 61:150+ *F* '58
 Look for this brand new equipment; sand and gravel ready-mix show. *Il diags Rock Prod* 61:126-30 *Ja* '58
 New dipper dredge doubles output of river sand and gravel; Oil City sand & gravel co. *Il Pit & Quarry* 50:138-9+ *Ja* '58
 Problem; rigid specs. no water; solution; unusual classifier, my lakeland plant. Stouffville sand and gravel. Ltd. E. Meschter. *Il Rock Prod* 61:78-9+ *Ag* '58
 Progressive producer installs new type of screen; Fountain sand and gravel co. H. F. Utley. *Il Pit & Quarry* 50:94-5 *My* '58
 Sand plant boasts of engineering ingenuity; Hartman concrete materials co. flow diag *Il Rock Prod* 60:89-90+ *D* '57
 Self sufficiency basic goal as producer diversifies operation; Willson brothers. B. C. Herod. *Il Pit & Quarry* 50:72+ *Je* '58
 Shale and lignite removal provided for in Pennsylvania plant; Mahoning valley sand co. W. E. Trauffer. flow diag *Il Pit & Quarry* 50:80-2+ *Je* '58
 Small scraper moves material fast, economically; Cooley gravel co. W. B. Lenhart. *Il Rock Prod* 60:78-9+ *D* '57
 Tailor-made design cuts plant's maintenance; R. H. Wright & son. Fort Lauderdale. *Il Rock Prod* 61:91+ *Je* '58
 Unusual belt system rescues drought-stricken sand plant; West Des Moines plant of Concrete materials co. E. Meschter. flow diag *Il Rock Prod* 60:70-2+ *D* '57

Public relations

- Rewards of land rehabilitation; American aggregates corp. H. C. Persons. *Il Rock Prod* 61:62-5 *Ap* '58
 Selling the community sells Ohio Gravel. H. C. Persons. *Il Rock Prod* 61:82-3+ *Je* '58

Safety measures

- Sand and gravel safety contest awards; National sand and gravel association winners. *Rock Prod* 60:47-8 *D* '57
 Winning sand-gravel plants cited in Bureau of mines safety contest. *Pit & Quarry* 50:152-3 *Ja* '58

SAND and gravel plants, Portable

- Portable units do stationary job. *Il Roads & Sts* 101:97+ *F* '58
 Portable units extend gravel plant's operation; Straits aggregate and equipment co. R. Giancy. *Il Rock Prod* 61:96-9 *Mr* '58

SAND dunes

- Lake Michigan dune development. J. S. Olson. bibliog diags *J Geol* 66:254-63, pl 1, 345-51, pl 1-3, 473-83, pl 1 *My*-S '58

SAND handling

- Rubber conveyor belt with special cover saves tons of sand daily. *Il Mill & Factory* 82:125+ *F* '58

See also

Sand and gravel plants

SAND sculpture

- Sand sculptor Tino Nivola. R. Bourne. *Il Arch Forum* 109:104-5+ *Jl* '58

SAN DIEGO**Sewerage**

- Contested project; sewerage design contract could total \$135 million. *Eng N* 160:26 *My* 1 '58

Water supply

- Imported multiple-source waters help make San Diego desert-proof; Alvarado filter plant. F. E. Allison. *Il plan Water Works Eng* 111:212-15+ cover *Mr* '58

SANDMEYER reaction

- Kinetics of the Sandmeyer and Meerwein reactions. S. C. Dickerman and others. *ibid.* *Am Chem Soc J* 80:1904-11 *Ap* 20 '58

SANDSTONE

- Alteration of sandstone as a guide to uranium deposits and their origin, northern Black Hills. S.D. R. C. Vickers. maps diags *Econ Geol* 52:599-611 *S* '57

SANDSTONE—Continued

- Chester cross-bedding and sandstone trends in Illinois basin. P. E. Potter and others. maps diags Am Assn Pet Geologists Bul 42: 1013-46 bibliog (p 1045-6) My '58
- Compressibility of sandstones at low to moderate pressures. I. Fatt, bibliog diag Am Assn Pet Geologists Bul 42:1924-57 Ag '58
- Effective compressibility of reservoir rock and its effects on permeability. A. S. McLatchie and others. bibliog diags J Pet Tech 10:49-51 Je '58
- Halite as cementing mineral in sandstones. W. A. Wachsmeider, il Am Assn Pet Geologists Bul 42:371-5 Ap '58
- Laclede gambles on sandstone, and wins. il Am Gas Assn Mo 39:32-3+ D '57
- Origin and classification of cretaceous, paleocene, and eocene sandstones of western Venezuela. T. H. Van Andel, bibliog maps diags Am Assn Pet Geologists Bul 42:734-63 Ap '58
- Pore structure in sandstones by compressible sphere-pack models. I. Fatt, bibliog Am Assn Pet Geologists Bul 42:1914-23 Ag '58
- Pore volume compressibilities of sandstone reservoir rocks. I. Fatt, bibliog diag J Pet Tech 10:64-6 Mr '58
- Storage of gas in geological strata. L. T. Minchin, il diag Ind Chem 34:370-2 Jl '58
- Sulfur isotopes and the origin of sandstone-type uranium deposits. M. L. Jensen, bibliog Econ Geol 53:598-616 Ag '58

See also**Graywacke****SANDVIK, Otto**

- Obituary. G. E. Matthews, por SMPTE J 66:793 D '57

SANDWICH construction. See Laminated construction**SAN FRANCISCO****Hotels, restaurants, etc.**

- Food and fun in San Francisco. il Eng & Min J 159:113-16 Az '58

Parks

- Award citation; Ferry Park project. il plan Prog Arch 39:124 Ja '58

SAN FRANCISCO bay

- Hydraulic problems solved by giant working model. Eng J 41:36 Jl '58
- Radioactive gold to seek silting patterns. Eng N 161:73 Ag 21 '58

SAN FRANCISCO Bay bridges

- Design and fabrication by welding of the Carquinez Strait bridge. L. C. Hollister, il plan diags Welding J 37:309-19 Ap '58
- New bridge to be built across Carquinez strait. Eng N 161:33 Ag 7 '58
- No new bridge; crossing considered as an unsound investment. Eng N 160:30 Ap 17 '58
- Richmond-San Rafael bridge. il map diags Engineer 204:651-3, 689-91, 727-9, 766-7 N 1-22 '57
- Welding defects in high-strength steel won't slow Carquinez. il Eng N 161:42-4+ S 4 '58

SAN FRANCISCO Bay region**See also**

- Water supply—San Francisco Bay region

SAN GABRIEL valley, California**See also**

- Water supply—San Gabriel valley, California

SANITARY chemicals

- Chlorine sanitizing compounds. E. M. Petrie and D. P. Roman, il Soap & Chem Spec 34:67-84 Ag '58
- Trade marks. Published in monthly numbers of Soap and chemical specialties

SANITARY districts

- Organization of metropolitan districts. L. Pearse, bibliog Am Soc C E Proc 84 [SA 3 no 1680]:1-29 Je '58

See also**Water districts****SANITARY engineering**

- Actual trends in water supply and sanitary engineering in Europe; abstract. W. F. J. M. Krul, Water & Sewage Works 104:535 D '57

See also

- County engineering
- Factory sanitation
- Mosquitoes—Extermination
- Pipe laying
- Plumbing
- Refuse collection
- Refuse disposal
- Sanitation
- Sewage disposal
- Sewage disposal, Rural

- Sewerage
- Shopping centers—Sanitation
- Trade waste
- Water pollution
- Water purification
- Water supply engineering
- Watersheds—Protection

Study and teaching

- Sanitary engineering education; symposium. bibliog il Am Soc C E Proc 83 [SA 2 nos 1218-1224] Ap '57; Discussion. 83 [SA 6 no 1422]:11-13 O '57; 84 [SA 1 no 1557]:15-16 F '58

Tables, calculations, etc.

- Hydraulic slide-rule for sanitary engineers. J. Tarrant, diags Water & Sewage Works 105:206 Mr '58

SANITARY engineering laboratories**See also**

- United States—Public health service—Robert A. Taft sanitary engineering center

SANITARY engineering research

- Highlights of research in sanitary engineering. il diags Pub Works 88:73-96 D '57
- Survey of the present status of refuse engineering research and development; research report. Am Soc C E Proc 84 [SA 1 no 1539]:1-6 F '58

SANITARY engineers

- Federation of sewage and industrial wastes associations annual year book and directory, 1958. Sewage & Ind Wastes 30:329-478 Mr '58

- Possible contributions by sanitary engineers to air pollution research; research report. Am Soc C E Proc 84 [SA 1 no 1540]:1-6 F '58

- Sanitary engineers: the need and the securing. F. A. Butrico and M. D. Hollis, bibliog Am Soc C E Proc 84 [SA 4 no 1705]:1-23 Jl '58

Directories

- Directory of state and territorial sanitary engineers and U.S. Public health service field offices. Water & Sewage Works 105: R7 S 15 '58

Salaries

- Salaries of local environmental health personnel in 1956; report of the committee on salaries. Conference of municipal public health engineers. Am Soc C E Proc 84 [SA 3 no 1685]:1-19 Je '58

SANITARY ware

- How Case produces 104 different glazes; sanitaryware colors. il Cer Ind 69:94-5 D '57

Manufacture

- How Case makes the one-piece water closet. il Cer Ind 70:144-8 Ap '58
- Laboratory development of dunt resisting bodies containing ten per cent betalite. C. H. Commons, Jr. and F. J. Romano, il diags Am Cer Soc Bul 37:353-6 Ag 15 '58
- Western Pottery uses fastest firing schedule in the world for sanitaryware. il Cer Ind 71:90-1 O '58

SANITATION

- Importance of cleanliness. Safety Maint 114: 33 N '57

See also

- Air pollution
- Binghamton, New York—Sanitary affairs
- Factory sanitation
- Food factories—Sanitation
- Hygiene. Industrial
- Louisville, Kentucky—Sanitary affairs
- Office buildings—Sanitation
- Plumbing
- Refuse disposal
- Sanitary engineering
- Sewage disposal
- Sewerage
- Trade waste
- Trade waste disposal
- Water purification

SANITATION, Rural**See also**

- Sewage disposal, Rural

SANTA FE, New Mexico**Architecture**

- Santa Fe seeks preservation in architectural control. T. Le Viness, Arch Rec 123:20-+ Je '58

SANTAFEITE. See Vanadates

SANTALENE

Synthesis of α -santalene and of *trans*- $\Delta^{14,15}$ -iso- α -santalene. E. J. Corey and others. *bibliog Am Chem Soc J* 79:5773-7 N 5 '57

SANTA MONICA bay

Sewage disposal. C. G. Gunnerson, maps Am Soc C E Proc 84 [ISA 1 no 1534]:1-28 bibliog (p27-8) F '58; Discussion. 84 [ISA 5 no 1786]:3-11 S '58

SANTONIN acid

Structure of photosantonic acid. E. E. van Tamelen and others. *bibliog Am Chem Soc J* 80:501-2 Ja 20 '58

SANTONIN**Spectra**

Infrared spectra of santonin isomers. T. Kanzawa and others. *bibliog Am Chem Soc J* 80:3705-8 J 12 '58

SAPOGENINS

Steroidal sapogenins; effect of side chain isomerism on rate of conversion to pseudo-sapogenins. M. E. Wall and S. Serota. *bibliog Am Chem Soc J* 79:6481-3 D 20 '57

Steroidal sapogenins; side chain structure of 20-isosapogenins. M. E. Wall and H. A. Walens. *bibliog Am Chem Soc J* 80:1384-7 Ap 20 '58

SAPOGENOL

Constitutions and stereochemistry of the soyasapogenols. H. M. Smith and others. *Chem & Ind* p839-90 J 12 '58

SAPONIFICATION

Determination of the unsaponifiable matter of tall oil distillates. S. T. Bauer and others. *Am Oil Chem Soc J* 35:120-1 Mr '58

Ethynylation of 4-*t*-butylcyclohexanone and kinetics of saponification of the ethynylcarbinol esters. G. F. Hennion and J. K. O'Shea. *bibliog Am Chem Soc J* 80:614-17 F 6 '58

SAPPHIRES

Plastic deformation of ceramic-oxide single crystals. J. B. Wachman, jr. and L. H. Maxwell. *bibliog Am Cer Soc J* 40:377-85 N 1 '57

Sealing glass to sapphire. L. S. Nelson and G. E. Spindler. *diags R Sci Instr* 29:324-6 Ap '58

SAPPHIRES, Artificial

Develop hydrothermal process to make synthetic sapphires. *il Ind Lab* 9:21 O '58

Growth and defect structure of sapphire microcrystals. W. A. Ballman and W. D. Forgeng. *bibliog il J Ap Phys* 28:1446-54 D '57

Hydrothermal process produces synthetic sapphires. R. A. Laudise and A. A. Ballman. *Franklin Inst J* 266:148 Ag '58

Hydrothermal synthesis of sapphire. R. A. Laudise and A. A. Ballman. *bibliog Am Chem Soc J* 80:2655-7 Je 5 '58

New hydrothermal process for growing cultured sapphires. *Bell Lab Rec* 36:351 S '58

Properties and uses of industrial crystals. S. Hahn. *bibliog il diag Product Eng* 28: C 18-21 Mid-O '57

Synthetic sapphire used as infrared sensor in electronic equipment. *il Elec Manuf* 62:122 S '58

Synthetic sapphires; new hydrothermal process. *Chem & Ind* p909 J 19 '58

SARASOTA, Florida**Sewerage**

Wide span space frames cover trickling filter. *il Pub Works* 89:130 Mr '58

SARCOSINE

Acyl sarcosine surfactants. *Drug & Cosmetic Ind* 83:357-8 S '58

SARDINES

Consumer survey versus panel testing for acceptance evaluation of Maine sardines. E. F. Murphy and others. *bibliog Food Tech* 12:222-6 My '58

SARDINIA*See also*

Irrigation—Sardinia
Lead mines and mining—Sardinia
Zinc mines and mining—Sardinia

SARGASTEROL

Steroid studies; studies on the constitution of sargasterol. K. Tsuda and others. *bibliog Am Chem Soc J* 80:921-5 F 20 '58

SASKATCHEWAN

See also subdivision Saskatchewan under special subjects, e.g.

Geology
Hydroelectric plants
Irrigation
Mineral industries
Petroleum
Potash mines and mining

SASKATCHEWAN**Sewerage**

Tunnelling Saskatoon's 14th street storm sewer. D. R. Graham and N. L. Iverson. *il diags Eng J* 41:71-7+ Ag '58

SATELLITES, Artificial

Air density determination by observation of a satellite. R. E. Roberson. *Jet Propulsion* 28:330-1 My '58

Aircraft firms gear for space travel. *il Product Eng* 29:21-2 My 19 '58

Analytical chemistry and the satellite. *il Anal Chem* 30:sup 15A-17A+ Ap '58

Appsidal motion of an IGY satellite orbit. L. Eltzter. *diag J Ap Phys* 28:1363 N '57

Batteries for Sputniks. *diag Metal Prog* 73:112+ F '58

British urge brain pool. *Electronics Bsns* ed 30:50 N 10 '57

Ceramics in first U.S. satellite launching; Norton company's Rokide ceramic coating. *il J A C Soc Int* 204 Ap 15 '58

Criteria for orbital entry. L. G. Vargo. *Jet Propulsion* 28:54-5 Ja '58

Data from the Sputniks. *Sci Am* 199:49 J 1 '58

Design, fabrication and testing of the Vanguard satellite. R. C. Baumann. *il diag Jet Propulsion* 28:244-8 Ap '58

Earth satellite telemetry coding system. R. W. Rochelle. *bibliog il diags Elec Eng* 76:1062-5 D '57

Earth's first artificial satellite; Sputnik. *il Engineer* 204:599 O 18 '57

Effect of air drag on elliptic satellite orbits. R. E. Roberson. *diag Jet Propulsion* 28:90-6 F '58

Electromagnetic analogs for the gravitational fields in the vicinity of a satellite. W. D. White. *diags Inst Radio Eng Proc* 46:920-2 My '58

Explorer, and what it means! *il maps diag Electronic Ind* 17:56-7+ Mr '58

Explorer; United States' first earth satellite. *il Mech Eng* 80:92-3 Mr '58

Explorers. W. von Braun. *il Engineer* 206:372-5 S 5 '58

Gravitational torque on a satellite vehicle. R. E. Roberson. *diags Franklin Inst J* 265:13-22 Ja '58

Halfway to infinity; a primer on earth satellites. J. R. Hurley and J. J. Taborek. *diags Machine Design* 30:22-5 Ag '58

High speed flight, rockets and satellites. W. J. Duncan. *il F. Nicholson. il Engineering* 186:278-81 Ag 29 '58

How to build a satellite. *il Mill & Factory* 61:81-2 D '57

Inside our satellite. *Electronics* 31:48 F 21 '58

International astronomical congress. 8th. Barcelona. Oct. 8-12, with abstracts of papers. *Engineer* 204:640-1 N 1 '57

International geophysical year; rockets and satellites. D. C. Rose. *il Eng J* 41:67-9 Ag '58

Introduction to outer space; extracts from an explanatory statement prepared by President Eisenhower's science advisory committee. J. R. Killian, jr. *Metal Prog* 74:76-7 J 1 '58

Laminated bits to gather satellite weather information. *il Elec Eng* 77:196 F '58

Lifetimes of artificial satellites. R. R. Newton. *Jet Propulsion* 28:331-3 My '58

Long-range rockets and satellites; their performance, guidance and control. E. C. Cornford. *il diag Engineering* 186:282-7 Ag 29 '58

Magnetic core event counter for earth satellite memory; recording micrometeorite bombardment. D. H. Schaefer. *il diags Elec Eng* 77:52-6 Ja '58

Manned aircraft to manned satellites. K. E. Van Every. *S A E J* 66:84-7 J 1 '58

Manned satellites present two main problems; abstract. J. L. Sloop. *S A E J* 66:136 Ap '58

Military research and development wakes up to Sputnik. *Product Eng* 28:22 N 4 '57

Navy Vanguard in orbit 2,513 miles up. *il (cover) Elec Eng* 77:475-6 My '58

New satellites in orbit. K. W. Gatland. *il diag Engineering* 185:462-3 Ap 11 '58

1958 Alpha; tribute and promise to science. E. W. Porter. *il Gen Elec R* 61:7 Mr '58

No orbit, but scientific success. *il Chem & Eng N* 36:23-4 O 20 '58

Observation of high intensity radiation by satellites 1958 alpha and gamma. J. A. Van Allen and others. *diags Jet Propulsion* 28:588-92 S '58

On to the moon. *Sci Am* 197:58-9 D '57

Orbiting laboratory. K. W. Gatland. *il diags Engineering* 185:722-3 Je 6 '58

Plan manned space lab to orbit in three years. *il Ind Lab* 9:33 Ag '68

SATELLITES, Artificial—Continued

- Possible fuels for Sputnik II. Engineering 184:644 N 22 '57
- Power engineering takes to space. *il* Power Eng 61:67-9 D '57
- Power for space. B. G. A. Skrotzki. *il* diags Power 102:84-6+ Ap '58
- Practical aspects of earth satellites. *il* diags Engineering 184:484-6 O 18 '57
- Putting Sputnik to work. D. K. Manayev and Y. B. Rumer. Electronics 31:32-3 Ja 10 '58
- Radio reflections from satellite-produced ion columns. C. D. Hendricks, Jr. and others. *Inst Radio Eng Proc* 46:1763 O '58
- Red moon; Sputnik. Machine Design 29:22 Q 31 '57
- Reds plan Sputnik tv-relay. Electronics 31:34 S 5 '58
- Redstone to Sergeant to satellite. *il* Product Eng 29:23-4 F 24 '58
- Satellite rocket problems. A. D. Baxter. diags Engineer 205:236-8 F 14 '58
- Satellites and beyond. Sci Am 198:50-1 My '58
- Soviet Union and the I.G.Y. diags Eng J 41:84 Ja '58
- Sputnik and Explorer, two moons over Moscow. *il* diags Ind & Eng Chem 50:sup22A Mr '58
- Sputnik and its implications. G. Suits. Electronic Ind 16:24+ D '57
- Sputnik and us; world roundup of scientific comment. Product Eng 28:23-4 N 4 '57
- Sputnik as a tool for securing geodetic information. L. Gold. Franklin Inst J 266:103-7 Ag '58
- Sputnik II; prelude to the moon? Chem & Eng N 35:27 N 11 '57
- Sputnik; what are its technical implications? *il* maps Electronic Ind & Tele-Tech 16:70-4+ N '57
- Sputniks. *il* Mech Eng 79:1145 D '57
- Three-year plan to orbit man proposed by aircraft builder. *il* Machine Design 30:6 My 15 '58
- Torques on a satellite vehicle from internal moving parts. R. E. Roberson. diags J Ap Mech 25:196-200, 287-8 Je '58
- U.S.-Russian joint earth satellites? N. A. Varvarov. Electronics 31:16 My 30 '58
- USSR talks up space plans. Electronics 31:17 My 30 '58
- Validity of continuum theory for satellite and hypersonic flight problems at high altitudes. M. C. Adams and R. F. Probst. bibliog diags Jet Propulsion 28:86-9 F '58
- Vanguard gear in Explorer. *il* diags Electronics 31:3 F 14 '58
- What is the real challenge of the satellite? R. W. Porter. Gen Elec R 60:7 N '57
- What powered Sputnik II? Pet Eng 29:E2-3 D '57
- What's behind Sputnik? Soviet advances in information theory. Electronics Bsns ed 30:27 N 10 '57
- What's needed for minimum manned satellite? A. Kantrowitz. Aviation Age 29:15 Je '58
- Who'll raise the moon? Electronics 30:42 D 10 '57
- Why Explorer beeped again. Electronics 31:49 Mr 7 '58

Bibliography

- Artificial satellites, a bibliography of recent literature. M. Benton. Jet Propulsion 28:301-2+, 399-401+ My-Je '58

Control

- Tones may control satellites; electronic gauge; abstract. A. J. Dessler. Electronics 31:22 S 5 '58

Economic aspects

- Does Sputnik mean spree? Control Eng 5:152+ Ja '58

Electric equipment

- Mercury batteries used in U.S. satellites. Elec Eng 77:858 S '58
- Reds boast of solar battery. Electronics 31:33 Ji 11 '58

Electronic equipment

- Bell telephone laboratories-Western electric co. diffused transistors, voice of Explorer satellite. Bell Lab Rec 36:115 Mr '58
- Composite circuit layout guides satellite assembly. J. H. Perry. *il* Electronics 31:92+ Ap 25 '58
- Cyclops cores simplify earth-satellite circuits. W. Matthews and others. *il* diags Electronics 31:56-63, cover F 28 '58

- Explorer III features improved signaling. *il* Civil Eng 28:386 My '58
- High resolution tv tube for satellite. N. F. Flyer. *il* Electronic Ind 17:5 My '58
- In orbit and reporting regularly; Explorer III. *il* Elec Eng 77:563-5 Je '58
- Micromicroammeter for satellites. *il* diags Electronics 31:14-15 S 12 '58
- Satellite electronics; editorial. H. Gernsback. Radio-Electronics 29:33 Mr '58
- Satellite transmitter uses transistors. *il* Electronics 31:26 Ap 4 '58
- Satellite's eye needs tv retina. Electronics 31:8+ Mr 9 '58
- Solar converters power satellite. Electronic Ind 17:14 My '58
- Soviets test Sputnik instruments. Electronics 31:49 Ap 4 '58
- Telemetering from Explorer. W. Matthews. *il* diags Electronic Ind 17:58-9+ Mr '58
- Transistor transmitter developed for satellite radio. *il* Elec Eng 77:472 My '58
- What's new about Explorer III. diags Electronics 31:35 Mr 21 '58

Launching

- Four steps to orbit. K. W. Gatland. *il* diags Engineering 185:282-4 F 23 '58
- Launching IGY satellites. W. H. Finlay. *Inst Radio Eng Proc* 46:357 Ja '58
- Miracle at Canaveral. R. W. Porter. *il* Gen Elec R 61:40 My '58
- Placing a satellite in orbit; abstract. D. E. Okhotsimsky and T. M. Eneev. Engineering 184:643 N 22 '57
- Putting a satellite into outer space. L. H. Young. *il* diags Control Eng 5:99-102 Ja '58
- Satellite launcher; stainless steel is key material. *il* Materials in Design Eng 46:112-13 D '57
- Success! army launches Explorer using production-type rockets. *il* Chem & Eng N 36:23-5 F 10 '58

Materials

- Explorer has steel shell. I. Stambler. *il* diags Aviation Age 29:172-3 My '58
- Reinforced plastics in outer space. H. T. Douglas, ed. Plastics Tech 4:62 Ja '58

Nose cones

- Details revealed on nose cone; stainless steel used. Elec Eng 77:770-1 Ag '58
- Explorer nose cold formed from 430 stainless. *il* Iron Age 181:113-15, cover Mr 6 '58
- Explorer opens production paths too! roll flowing of nose cone. *il* Am Mach 102:97 Mr 10 '58
- Explorer spotlights roll flowing. *il* diags Am Mach 102:106-10 Mr 24 '58
- Forming the Explorer's nose. *il* diags Steel 142:106-7 Mr 24 '58
- Stainless-steel nose leads the Explorer. *il* Mach 64:155 Ap '58

Tracking

- Amateur scientist; how to study artificial satellites without complex equipment. diags Sci Am 198:98-100 Ja '58
- Amateur scientist; some ingenious ways of studying the artificial satellites. *il* map diags Sci Am 199:130-2+ O '58
- Antennas for satellite monitoring on 108 mc. E. F. Tilton. diags Q S T 41:13-19 D '57
- Brief report on hams and Sputnik 1; illustrations with text. Q S T 41:10-12 D '57
- Camera shows Sputnik II length. *il* Ind Lab 9:21 Ji '58
- Cameras record flight of satellites and meteors; Super Schmidt meteor camera and the IGY satellite tracking camera. *il* Ind Lab 9:68-9 Je '58
- Continuous phase difference measurements of earth satellites. J. W. Herbstreit and M. C. Thompson, Jr. *Inst Radio Eng Proc* 46:1535 Ag '58
- Detecting the Vanguard signal. W. A. Hilton and R. C. Crawford. Am J Phys 26:400-1 S '58
- Detection of Sputniks I and II by continuous wave reflection. J. D. Kraus. *Inst Radio Eng Proc* 46:611-12 Mr '58
- Directory of ultra-long lenses for missile or Sputnik tracking. Ind Phot 7:64-5, 80 F '58
- Do-it yourself satellite pathfinder. Franklin Inst J 265:416 My '58
- Doppler equation for earth satellite measurements. A. Schwartzman and P. D. Stahl. diags *Inst Radio Eng Proc* 46:915-16 My '58

SATELLITES, Artificial—Tracking—Continued

- Explaining radio detection of the earth satellite. W. A. Hilton and R. C. Crawford. *Il Am J Phys* 26:129 F '58
- Find unexpected phenomena in satellite tracking. *Machine Design* 30:12 Je 12 '58
- Hams can aid in space study. W. Matthews. *Il Electronics* 31:38-9 Mr 21 '58
- Instruments to study Sputnik. R. H. Müller. *diag Anal Chem* 29:sup61A-2A D '57
- Last days of Sputnik I. J. D. Kraus. *Inst Radio Eng Proc* 46:612-14 Mr '58
- Meteor ping from Sputnik II. C. R. Graf. *diags Q S T* 42:47 Mr '58
- Microlock, a minimum weight radio instrumentation system for a satellite. H. L. Richter, Jr. and others. *Il diags Jet Propulsion* 28:532-40 Ag '58
- Microlock: club activity of the San Gabriel valley radio club. *Il Q S T* 42:70-1 My '58
- Microlock; tracking receiver for satellite communications. H. L. Richter, Jr. *diags Q S T* 41:20-4 D '57
- Minimum satellite detection equipment. W. A. Hilton and R. C. Crawford. *bibliog Il diag Am J Phys* 26:371-3 S '58
- Minitrack station of the Sohio Moonbeam group. *Il diag Q S T* 42:48-9 Ap '58
- Moon keeps its secrets. *map Electronics Bsns* ed 30:15 N 20 '57
- NBS radiotelescopes track satellite's signals. *Elec Eng* 77:110-12 Ja '58
- Observations of satellite I. F. L. Whipple and J. A. Hynek. *Il maps diags Sci Am* 197:37-43 D '57
- Observations of the U.S. satellites Explorers I and III by carrier wave reflection. J. D. Kraus and others. *Inst Radio Eng Proc* 46:1534 Ag '58
- Opportunity for amateur participation in IGY satellite program. G. Grammer. *Q S T* 42:32 Mr '58
- Portable receives satellite signals. *diag Electronics* 31:76 Ap 25 '58
- Principles and applications of phase-lock detection in phase-coherent systems. C. L. Nielsen. *bibliog diags Jet Propulsion* 28:541-7 Ag '58
- Program Moonbeam for amateur tracking of IGY earth satellite. *Franklin Inst J* 264:408 N '57
- Radars used to track satellite launching. A. L. Malcarney. *Franklin Inst J* 265:336 Ap '58
- Radio and radar tracking of the Russian earth satellite. A. M. Peterson. *Il diags Inst Radio Eng Proc* 45:1553-5 N '57
- Radio observations of the Russian earth satellite. R. R. Brown and others. *map Inst Radio Eng Proc* 45:1552-3 N '57
- Radio observations on the Russian satellites; panel discussion. *Il diags Inst E E E Proc* 105 pt B:81-115 Mr '58
- Satellite Doppler measurements. M. Bernstein and others. *diag Inst Radio Eng Proc* 46:782-3 Ap '58
- Satellite 40-mc. converter. G. Grammer. *Il diags Q S T* 41:25-8 D '57
- Satellite monitoring. *diags Q S T* 41:13 D '57
- Satellite telescope being used by moonwatch groups. *Franklin Inst J* 264:528 D '57
- Scientific telemetry for USNC-IGY. W. Matthews and G. H. Ludwig. *Il diag Q S T* 42:41-5+ Ja '58
- Sideline sightings. C. Kunze. *Q S T* 42:46 Ap '58
- Some signal characteristics of Sputnik I. J. D. Kraus and J. S. Albus. *Il Inst Radio Eng Proc* 46:610-11 Mr '58
- Space sentry aids Explorer satellite tracking. *Elec Eng* 77:378 Ap '58
- Spectroscopic plates zero in satellite stations. W. F. Swann. *Elec Eng* 77:506 Je '58
- Sputnik and Nuttink passes seen here; huge radar pinpoints satellite positions. *Il Machine Design* 29:5 D 12 '57
- Sputnik I's last days in orbit. J. D. Kraus and E. E. Dreese. *bibliog diags Inst Radio Eng Proc* 46:1530-7 S '58
- Sputnik measurements data. F. W. Brown. *Elec Eng* 77:276 Mr '58
- Sputniks over Britain. G. C. Sponsler. *maps diags Phys Today* 11:16-21 Ji '58
- Telemetry progress; radio-frequency link for space with today's hardware; with nomographs. H. Scharia-Nielsen. *Aviation Age* 30:144-5 Ag '58
- Tracking satellites by radio. J. T. Mengel and P. Herget. *Il diags Sci Am* 198:23-9 Ja '58
- Transistorized memory monitors earth satellite. C. S. Warren and others. *Il diags Electronics* 31:66-70 Ja 17 '58
- U.S.S.R. using new method to photograph earth satellites. *Aero/Space Eng* 17:29 Je '58
- Unusual propagation at 40 mc from the USSR satellite. H. W. Wells. *Inst Radio Eng Proc* 46:610 Mr '58
- Vanguard 108; two-tube 108-mc converter. R. Graham. *bibliog Il diag Radio-Electronics* 29:101-3 Ja '58
- What to do about satellites. G. Grammer. *Q S T* 41:14-15+ D '57
- World-wide IGY data collection; teletype equipment. H. D. Dickstein. *diags Electronic Ind* 17:144-7 Ap '58
- SAUCES**
- This streamlined layout assures superior sauces; National cranberry assn. *Il diag Food Eng* 30:80-1 My '58
- SAUGS iron works**
- Ironworks on the Sausges. E. N. Hartley. *Review*, by H. E. Henderson. *Foundry* 86:160+ S '58
- SAUSAGE**
- Better packaging at neat saving; Midwest packers. *Il Food Eng* 30:78-9 F '58
- Effect of sodium ascorbate and sodium isoscorbate on the quality of frankfurters. F. Mills and others. *bibliog Food Tech* 12:311-14 Je '58
- Ends checkweigh routine; caliper that continuously measures stuffed franks; Wisconsin meat products. *Il Food Eng* 30:79 F '58
- Hot dogs lose their hides. *Il Product Eng* 29:64 Je 9 '58
- SAWDUST**
- Sawdust cuts atomic waste costs. *Il Elec World* 148:53 O 28 '57
- SAWMILL waste**. See **Wood waste**
- SAWMILLS**
- Electric equipment**
- 150-year old mill reduces maintenance, boosts production. F. Price. *Il Elec World* 149:92 My 5 '58
- Experimental plants**
- Research sawmill. W. K. Stamets, Jr. and K. C. Compton. *bibliog Il Mech Eng* 80:84-5 My '58
- SAWMILLS, Portable**
- Gang saw on wheels. *Il Mech Eng* 80:92 Je '58
- SAWS**
- Automatic four-sided board trimming saw. *Il Engineer* 206:230 Ag 8 '58
- Automatic sawing of boards and plastics. *Il Engineering* 186:211 Ag 15 '58
- Composite arc-welded steel crankshaft devised for portable gang saw. L. W. Johnson. *Il diag Welding J* 37:706-7 Ji '58
- Failure**
- Cause and cure of cracks in woodworking machine cutters. *Il Safety Maint* 114:17-18+ O '57
- SAWS, Metal working**
- Fast, accurate band machining avoids chip waste. *Il diags Iron Age* 180:49-51 D 26 '57
- Fixture makes saw grinding easy. C. Molloy. *diags Am Mach* 102:126 F 10 '58
- Metalworking, 1962; cutoff (blade). H. J. Blum. *Am Mach* 101:130 N 18 '57
- 1958 production preview; cutoff and filing. *Il Am Mach* 102:142-5 Ja 27 '58
- Positive tooth rake speeds band sawing. R. Anderson. *Il diags Iron Age* 181:94-5 F 20 '58
- Saw cuts bearing costs. Worthington corp. *Il Steel* 142:100 Mr 17 '58
- SCABBING of metals**. See **Metals—Failure**
- SCAFFOLDING**
- Boller scaffolding. *Il Engineer* 206:69 Ji 11 '58
- Maryland shipbuilding finds one good way to cut costs. F. C. Simon. *Il Marine Eng/Log* 63:76-7 Mr '58
- Pole-top scaffold safeguards lineman. *Il Elec World* 149:100 Ap 28 '58
- SCAFFOLDING, Aluminum**
- 100ft-high portable mobile tower. *Il Engineer* 206:343-4 Ag 29 '58
- SCAFFOLDING, Portable**
- Access Equipment mobile staging reaches 100 ft. *Il Engineering* 186:367 S 19 '58
- 100ft-high portable mobile tower. *Il Engineer* 206:343-4 Ag 29 '58
- Wren-around dock; movable scaffolding simplifies cleaning of airliners. *Il Plant Eng* 12:107 Ji '58
- SCAFFOLDING, Steel**
- Steel scaffolds demolish accidents in demolition work. *Il Safety Maint* 115:21+ Mr '58
- SCALES**
- Choosing scales for mine operations. *Eng & Min J* 159:62-4 Mid-Je '58

SCALES—Continued

- Electronic scales keep tabs on hung up material; Chesapeake and Ohio railway ore unloading facilities. *il* Mod Materials Handling 13:89 J1 '58
- Here are latest machines for updating your plant; weighing. *Food Eng* 30:72+ O '58
- Hydraulic cells weigh ore; scale car for steel mill. *il* diag Product Eng 29:110 Mr 31 '58
- Industrial know-how handbook. *il* Mill & Factory 62:MH 19 My '58
- Load cells offer new solutions to industrial weighing problems. D. Vandeventer. *il* diags Iron & Steel Eng 34:163+ N '57
- Load cells speed weighing of hot metal. Automation 5:12 Ja '58
- Molded bath scale platform; Counselor Classic scale. *il* Mod Plastics 35:103 Mr '58
- New scales in the dyehouse at Threads, Inc. save time and insure accuracy. *il* Textile Ind 122:51-2 Ja '58
- New ways to use electronic scales. *il* Steel 142:124-5 F 17 '58
- Photocells automate basic weight classifier; Shadograph scales. *il* Automation 5:99-100 Mr '58
- Scale computes weight correction; bacon-packing. *il* diags Product Eng 29:82-3 Mr 17 '58
- Scale makers sell cost benefits. *il* Iron Age 181:146 Ap 17 '58
- Weighing enters new fields via digital-data scales. G. L. McKenna. *il* Iron Age 182:81-3 J1 24 '58

See also

- Balances
Track scales

SCALES (markings)

- Dial scale integral part of electronic cabinet enclosure. *il* Machine Design 30:110 Ag 7 '58

SCALING circuits. See Electronic circuits

SCALING of metals. See Metals—Scaling

SCALP**Diseases**

- Iodophor-iodine shampoos. A. Cantor and others. *bibliog il* Am Perfumer & Aromatics 72:37-41 Ag '58

SCANDIUM**Isotopes**

- Preparation of carrier-free vanadium, scandium, and arsenic activities from cyclotron targets by ion exchange. U. Schindewolf and J. W. Irvine, jr. *bibliog Anal Chem* 30:906-8 My '58

SCARFING. See Oxycetylene cutting

SCATTERING of light. See Light, Scattering of

SCATTERING of particles and rays

- Simultaneous utilization of magnetic deflection and Coulomb scattering in the estimate of particle momenta. Y. B. Kim. *R Sci Instr* 29:680-8 Ag '58

See also

- Electrons—Scattering
Neutrons—Scattering
Radio waves—Scattering
X rays—Scattering

SCAWTITE

- Crystal chemistry of scawtite. D. McConnell and J. Murdoch. *Am Mineralogist* 43:498-502 My '58

SCHEDULES

- Another plan for swing-shift scheduling. *Plant 15:61 Ag '58*
- Board and calendar solve day-off problem; Hall baking co. F. P. Grzyb. *il* Food Eng 30:101 Mr '58
- Determination of feasible shipping schedules for a job shop. W. Karush and L. A. Moody. *Op Res* 6:35-55 Ja '58
- Experience helps forecast future program scheduling; abstract. J. Sanford. *S A E J* 66:86 F '58
- How to streamline production flow. E. R. Sims, jr. *diags Mill & Factory* 61:100-3 D '57
- How you can use linear programming. N. V. Reinfeld and B. L. Hansen. *il* Mill & Factory 61:75-80 D '57
- Hub operation scheduling problem. J. S. Minas and L. G. Mitten. *diags Op Res* 6:329-45 My '58
- Instrument calibration scheduling simplified with electronic data processing machines. W. A. Lawrence. *il* diags Ind Quality Control 14:32-6 My '58
- Roll of tape, four easel boards stop dispatcher headaches; keeping twelve straddle carriers operating efficiently. *il* Mod Materials Handling 13:113 Je '58

- Schedule board shows pulverizer status. W. J. Buchanan, jr. *il* Elec World 150:71 S 29 '58
- Schedule machine loads and cut shop costs; Canadian Westinghouse co. S. Manchuk. *il* diag Am Mach 102:113-15 Mr 24 '58
- Scheduling design work. H. T. Campbell. *Pet Refiner* 36:313-15 N '57
- Weekly schedules speed sock production; Marjory hosiery mill. *il* Textile World 108:136-7+ Mr '58

See also

- Production control
Railroads—Schedules

SCHIELITE

- Schielite in feldspathized granodiorite at the Victory mine, Gabbs, Nev. F. L. Humphrey and M. Wyatt. *il* maps diags Econ Geol 53:38-64 Ja '58

SCHIER, O. B.

- Assistant AMSE secretary. *por* Mech Eng 80:37 Ja '58

SCHIFF bases

- Heat stability studies on chelates from Schiff bases of salicylaldehyde derivatives. C. S. Marvel and N. Tarköy. *bibliog Am Chem Soc J* 79:6000-2; 80:832-5 N 20 '57, F 20 '58
- Schiff bases and related substances; acetylation of a Schiff base-thiol adduct. G. W. Schindler and others. *bibliog Am Chem Soc J* 80:3475-8 J1 '58
- Three Schiff base types formed by amino acids, peptides and proteins with pyridoxal and pyridoxal-5-phosphate. H. N. Christensen. *bibliog Am Chem Soc J* 80:99-105 Ja 5 '58

SCHIZOPHRENIA

- Carbutamide for schizophrenia; abstract. I. Frost. *Drug & Cosmetic Ind* 82:517 Ap '58

SCHLIENEN apparatus

- Measurement of flame speeds by a nozzle burner method. C. Halpern. *bibliog il* diags J Res Nat Bur Stand 60:535-46 Je '58
- Schlienen studies of concentration gradients at a Cu/HCl anode. R. S. Cooper. *bibliog diag Electrochem Soc J* 106:506-12 S '58
- Some instrument techniques in use at the Safety in mines research establishment; abstract. C. A. Wass. *il* diags J Sci Instr 34:427-9 N '57

SCHMIDT reaction

- Schmidt reaction. R. T. Conley. *Chem & Ind* p438 Ap 12 '58

SCHOELLKOPF medal

- Robert Burns MacMullin awarded 1958 Schoellkopf medal. *Electrochem Soc J* 105:sup 129C J1 '58
- Schoellkopf medalist MacMullin, globetrotter. *Chem & Eng N* 36:112 Je 9 '58

SCHOLARSHIPS and fellowships

- Former fellows feel better off; Ethyl corp. checks up on persons who benefited from its fellowship plan. *Chem & Eng N* 36:44 Ja 6 '58
- Foundry educational foundation makes first awards of Wheelabrator fellowships. *Foundry* 86:134+ Ag '58
- Gas companies sponsor scholarships at IGT. *Am Gas Assn Mo* 40:33+ O '58
- More dollars for scholars; program of North Jersey section. *Chem & Eng N* 35:85-6 D 2 '57
- New York Academy fellowships. *Chem & Eng N* 36:77 Ja 13 '58
- Scholarship programs of the U.S. pulp and paper industry. T. T. Collins, jr. and R. H. Collins. *bibliog Tappi* 41:sup 14A+ Ap '58
- Wheelabrator's \$100,000 grant to Foundry educational foundation will promote graduate study. *Foundry* 86:142+ Ap '58
- Yale's hospital-design fellowship. *il* plans Prog Arch 39:115-17 Ap '58

See also

- Science talent search

SCHOLARSHIPS and fellowships, Government

- Education crash program in the works. *Chem & Eng N* 35:19-20 D 16 '57
- Expert questions federal scholarships; abstract. J. M. Stalnaker. *Product Eng* 29:21 J1 28 '58
- Federal scholarship programs hit. *Chem & Eng N* 36:34-5 Mr 10 '58
- Scholarship bills may die. *Chem & Eng N* 36:45 J1 21 '58
- Strings of scholarships. H. E. Rickover. *Chem Eng N* 36:42-3 F 24 '58
- SCHOLARSHIPS and fellowships, International
- International atomic energy agency fellowships. *Elec Eng* 77:859 S '58
- Visiting physicists from abroad; recipients of US government grants under the Fulbright and Smith-Mundt acts. *Phys Today* 11:19-21 F '58

SCHOLES, Samuel Ray

Named honorary member of the American ceramic society. *por Am Cer Soc Bul* 37: 233 My 15 '58

SCHOOL buildings

Aluminum in school construction. *il Mod Metals* 14:28-1 Mr '58

Glass blocks enclose seven story school; School of printing, New York city. *il diag Eng N* 160:28-9 F 6 '58

Here's how to get better school cost comparisons. *F. C. Wood. Eng N* 161:78-9 S 18 '58

High activity in prospect for schools, colleges, hospitals. *R. M. Cunningham, Jr. Arch Rec* 122:167-70 D '57

Junior high school. *il plan Prog Arch* 39:100-4 Ag '58

Laboratory for school design. *il Eng N* 160: 70 My 15 '58

Levittown III; schools are on the builder. *Eng N* 160:28 Je 12 '58

Long welded arches save steel in rigid-frame school structure. *il Arch Rec* 123:266 My '58

Schoolhouse on stilts. *il Welding J* 37:149 F '58

Umbrella for foundations, inverted umbrella for roof features of new Pennsylvania school. *il Concrete* 66:20 Ap '58

U.S. issues new manual on school building programs. *Arch Rec* 122:302-4 D '57

Welded steel trusses span three-use building housing two gyms and an auditorium. *il Eng N* 160:57-8 Mr 6 '58

Wide-span arches for rigid-frame school structure are completely arc welded. *W. F. Fischer. il Welding J* 37:594-6 Je '58

See also

Classrooms

Air conditioning

Air conditioning; schools. *il plans Prog Arch* 39:134-7 Mr '58

Does air conditioned high school mark beginning of a trend? *il diag Air Cond Heat & Ven* 55:89-90 Mr '58

Economics of school heating and air conditioning. *Z. A. Marsh. Heating-Piping* 30:157-60 Ap '58

Educator's view of need for good classroom environment. *G. B. Wadzeck. il plans Heating-Piping* 30:135-9 Ap '58

Heat pumps give Virginia school low cost heating, bonus air cooling. *plan diag Arch Rec* 124:200 Jl '58

Looking into the future. *E. G. Good, Jr. Heating-Piping* 30:179-81 My '58

State board problems; financing and others. *C. B. Hershey. diag Heating-Piping* 30: 152-6 Ap '58

Costs

Construction costs of schools. *C. W. Kimball. Air Cond Heat & Ven* 54:65-7 D '57

Cost problem in schools; building types study. *il plans diag Arch Rec* 124:169-96 Ag '58

Effects of thermal planning on school building costs. *W. J. McGuinness. diag Prog Arch* 39:9-14 Ap '58

Owasco, N.Y. school costs \$1.276 per pupil; unit prices. *Eng N* 160:86 Ap 3 '58

Unit prices on New York city schools. *Eng N* 160:92 Mr 20 '58

What New Jersey schools cost. *Eng N* 160:90 Mr 20 '58

Designs and plans

Architect and his community; Architects associated; vocational high school. *il plans Prog Arch* 39:110-15 F '58

Compactness comes back; Westmoor high school, Daly City, Calif. *il plan Arch Forum* 108:120-5 My '58

Cost problem in schools; building types study. *il plans diag Arch Rec* 124:169-96 Ag '58

Easygoing school in Texas. *il plan Arch Forum* 108:92-3 F '58

Education; award citations. *il map plans Prog Arch* 39:105-11 Ja '58

Elementary schools; building types study. *il plans diag Arch Rec* 123:197-224 F '58

Four schools. *il plans diag Prog Arch* 39: 107-31 Ag '58

Secondary schools; building types study. *il plans Arch Rec* 123:213-44 My '58

Space-module school; Miramonte high school in Orinda, Calif. *il plans diag Arch Forum* 107:124-7 D '57

Stressed-skin plywood panels form folded-plate roof for Northeast Tacoma elementary school. *il plans diag Prog Arch* 39:142-3 Ag '58

Three schools for deaf children. *il plans Arch Rec* 122:151-8 D '57

Welded cantilevered trusses frame elevated school. *O. Blodgett. il diag Prog Arch* 39: 138-41 Ag '58

Heating and ventilation

All-electric flameless high school. *A. A. Horner. il plan Prog Arch* 39:132-7 Ag '58

Compare two school heating systems. *E. M. Johnson. il Heating-Piping* 29:117-19 N '57

Construction costs of schools. *C. W. Kimball. Air Cond Heat & Ven* 54:65-7 D '57

Economy in a whisper; Massapequa high school boiler room. *E. A. Burt. il Power Ind* 74:22-3 Ja '58

Effects of thermal planning on school building costs. *W. J. McGuinness. diag Prog Arch* 39:9-14 Ap '58

Electric space heating in schools, hospitals, and industrial applications; abstract. *H. B. Wilde. Air Cond Heat & Ven* 55:146-7 F '58

Heating ventilating and air conditioning design practice for schools. *H. Wright. Heating-Piping* 30:137-9 F '58

Radiant ceiling/automatic anthracite heat. *A. J. Stickney. il diag Prog Arch* 39:144-5 Ag '58

Utilities eye school heat ABC's. *Elec World* 148:100 N 18 '57

Lighting

Brightness relationships in classrooms. *K. C. Welch. plan diag Prog Arch* 39:160-3 S '58

Custom lighting with standard equipment. *il diag Arch Rec* 124:197-201-1 Ag '58

Daylight plus electric light in schools. *H. S. Gregory. il Illum Eng* 53:191-2 Ap '58

Protection

Seven schools in one city protected by vandal alarm system. *T. F. McPartland. il diag Elec Constr & Maint* 57:98-100 Mr '58

Sweden

Art in Swedish schools. *G. Hellman. il Arch Rec* 123:198-9 F '58

SCHOOL children

Growth and development of Central American children; growth responses of rural Guatemalan school children to daily administration of penicillin and aureomycin. *M. A. Guzman and others. bibliog Am J Clin-*

ical Nutrition 6:430-8 Jl '58

Prevalence of heart disease in relation to some population characteristics of Colorado school children. *H. J. Dodge and others. Am J Pub Health* 48:62-70 Je '58

Study of periodic school medical examinations. *A. Yankauer and others. bibliog Am J Pub Health* 45:71-8; 46:1553-62; 47:1421-9 Ja '55, D '56, N '57

SCHOOL finance

State board problems; financing and others. *C. B. Hershey. diag Heating-Piping* 30: 152-6 Ap '58

SCHOOL hygiene

School health, yesterday and tomorrow. *L. Baumgartner. Am J Pub Health* 48:771-4 Je '58

SCHOOL lunches

Physician's role in the school lunch program. *J. C. Obert. bibliog Am J Clinical Nutrition* 6:172-9 Mr '58

SCHOOLS

See also

Summer schools

Textile schools

SCHOTTKY effect. See Shot effect

SCHRÖDINGER equation. See Wave mechanics

SCHWARZ, Melbert Edgar

Memorial. *R. S. McFarland. por Am Assn Pet Geologists Bul* 42:694-5 Mr '58

SCIENCE

Creative process. *J. Bronowski. il diag Sci Am* 199:58-65 S '58

Fickle fashions of science. *C. H. Greenwalt. Am Scientist* 46:sup46A, 80-3 Mr '58; Abstract. *Elec Eng* 77:277-8 Mr '58

For progress in science, money is not enough. *Materials in Design Eng* 46:101 D '57

G-B Review readers feel Russia does not have scientific edge over U.S. *D. L. Holzman. Gen. Elec R* 61:36-7-1 S '58

Meeting the challenge to science; interview with C. F. Rassweiler. *Chem & Eng N* 36:122-8 S 1 '58

Microwaves in science and technology. *R. C. Cochrane. Engneur* 205:802-4 My 30 '58

Parliament of science, Washington. *Sci Am* 198:51-2 My '58

SCIENCE—Continued

- Present challenge to American science and technology. Chem & Eng N 36:22-3 Ap 21 '58
- Science and human want. L. B. Clapp. bibliog Am Scientist 46:176-90 Je '58
- Science and man. D. E. Lilienthal. il Chem & Eng N 36:114-18+ S 29 '58
- Science takes a public stand; parliament of science, Washington, D.C. Chem & Eng N 36:21-2 Mr 24 '58
- Science: the fabulous pitcher. G. Suits. il Gen Elec R 60:9-13 N '57
- Scientific developments in 1957. A. Fleck. bibliog Engineer 205:50-1 Ja 10 '58; Excerpts. Chem & Ind p45 Ja 11 '58

See also

Bacteriology
Biology
Physics
Scientific research

Bibliography

- Bibliography. Published in monthly numbers of Scientific American
- Book reviews. Published in monthly numbers of Research, applied in industry
- Book reviews and notes. Published in monthly numbers of Journal of the Franklin Institute
- Bookshelf; received for review. Published in quarterly numbers of American scientist
- Scientists' bookshelf. Published in quarterly numbers of American scientist

Exhibitions

- Science hall at the Brussels exhibition. il Engineer 206:387-8 S 5 '58

History

- Science and English literature; abstract. J. Read. Chem & Ind p780-1 Je 28 '58
- Science in history. J. A. Oriel. Chem Eng Prog 54:6+ Ag '58

International aspects

- No barriers for science. Chem & Eng N 36:21 O 13 '58

Popularization

- Department store sells research to increase public's scientific knowledge. il Ind Lab 9:96-8 Ap '58
- Science explorers invade tv. il Chem & Eng N 36:74-5 F 10 '58
- Science for the public; abstract. W. L. Laurence. Chem & Eng N 36:21 Ap 21 '58
- Science gets the nod; newspapers are primary source of technical news, magazines the most complete. Chem & Eng N 36:25 Ag 25 '58
- Should the scientist communicate? I. Asimov. Aeronautical Eng R 17:24+ Ja '58

Social aspects

- Can we withstand the acid test? W. von Braun. Chem & Eng N 36:52-6 Mr 3 '58
- Humanities bounce back; role of science and the humanities. Product Eng 29:73+ Mr 31 '58
- Impact of society on science. E. W. R. Steacie. Chem & Ind p 1580-3 D 7 '57
- Science and the citizen. Published in monthly numbers of Scientific American

Study and teaching

- Better not at all, than poorly; high school science courses leave something to be desired. Chem & Eng N 36:97 J 21 '58
- Future of science and the liberal arts. G. W. Giddings. Gen Elec R 61:13-15 J '58
- Humanism in a scientific age. T. N. Whitehead. bibliog Am Scientist 46:309-22 S '58
- Improving secondary-school teaching in science and mathematics. D. B. Anderson. Civil Eng 23:254-5 Ap '58
- New era in science? J. W. Buchta. Am J Phys 26:352-7 S '58
- Put science to work in teaching. il Chem & Eng N 36:64-5 My 19 '58
- Researchers encourage students to seek careers in science. il Ind Lab 9:28-9 Ja '58
- Science goes on the road; Oak Ridge institute of nuclear studies trains teachers for traveling science demonstration-lectures. il Chem & Eng N 36:92-3 F 17 '58
- Science takes no vacation; New England spawns host of summer precollege science programs. il Chem & Eng N 36:88+ cover Ag 11 '58
- Scientists run model classes for gifted science students. il Chem & Eng N 36:54-5 Mr 24 '58

- Shift values to improve education. Chem & Eng N 36:92+ Ap 7 '58
- Significant science for secondary schools; editorial. M. M. Kiley. Instruments & Automation 31:1031 Je '58
- Upgrading high school science. il Chem & Eng N 36:74+ Ap 14 '58

See also

Laboratory work
Science teachers

Greece, Ancient

- Physicist looks at Greek science. C. C. Gillispie. bibliog Am Scientist 46:62-74 Mr '58

Russia

- Diary of a meeting in Moscow and of his trip. M. Calvin. il Chem & Eng N 36:60-6 Ja 27 '58
- Soviet Union and the I.G.Y. diag Eng J 41:84 Ja '58
- Why we need to know; we lack knowledge of Russian technical and scientific advances. E. J. Tangerman. il Product Eng 28:24-5+ D 16 '57

SCIENCE, Applied. See Technology

SCIENCE and art. See Art and science

SCIENCE and industry

- Activities of the industrial fund; support for science teaching in over 300 schools. J. A. Oriel. il Chem & Ind p 1186-8 S 13 '58
- Science and business; a balanced partnership. A. Fleck. Chem & Ind p 1124-30 Ag 30 '58; Excerpts. Engineer 206:367-8 S 5 '58; Manuf Chem 29:352-4 S '58

SCIENCE and philosophy. See Philosophy and science

SCIENCE and religion. See Religion and science

SCIENCE and state

See also

National science foundation

France

- French scientific efforts unified by two committees. Aeronautical Eng R 17:31 Mr '58

Great Britain

- Role of government in science. Lord Hailsham. Chem & Ind p460 Ap 19 '58
- Science and the state. H. Beaver. Chem & Ind p547-60 My 10 '58; Abstract. Ind Chem 34:286 Je '58

United States

- All-out drive for government scientists. Product Eng 29:24 Ja 13 '58
- Are scientists duty shirkers? Chem & Eng N 36:28-9 Ap 7 '58
- Engineer comes into his own; government steps in. S. Payne. Product Eng 29:82-3 Mr 31 '58
- New look for federal science? Chem & Eng N 36:38-9 N 25 '57
- Plan for aid-to-science-education. Product Eng 28:22 D 30 '57
- Role of the national laboratory in American scientific progress. L. V. Berkner. Phys Today 11:18-22 Ap '58
- Science and foreign relations; science program of the Department of state reactivated. Phys Today 11:38 F '58
- Science and the federal government. H. D. Smyth. Phys Today 11:10-14 Je '58
- Science reborn at state; Wallace R. Brode named science adviser to Dulles. Chem & Eng N 36:25 Ja 20 '58
- Space agency urged. il Chem & Eng N 36:23-4 Ap 14 '58
- State dept. plans science attaches. Product Eng 29:29-30 F 10 '58
- What about a department of research? subsidized scientific training advocated by Senator Mansfield. G. H. Baker. Iron Age 180:135 N 14 '57

See also

Scientific research—Federal aid
United States joint publications research service

SCIENCE foundation, National. See National science foundation

SCIENCE students

- Summer scientists test careers. il Chem & Eng N 36:67-8 Ja 27 '58
- U.S. counts science students. Chem & Eng N 36:64 Ja 13 '58

SCIENCE talent search

- Midget cyclotron wins big prize; 1958 Westinghouse science talent search. il Chem & Eng N 36:82 Mr 17 '58
- Shortage of scientists beamed to industry; industry must organize to ensure a future supply of scientists and engineers. Chem & Eng N 35:92-5 N 11 '57

SCIENCE teachers

Demands on teachers in a technological society; abstract. F. W. Brown. *Elec Eng* 77:371-2 Ap '58

Training

NSF teacher institutes evaluated; abstract. C. H. Sorum. *Chem & Eng N* 36:90 Ap 21 '58

Science goes on the road; Oak Ridge institute of nuclear studies trains teachers for traveling science demonstration-lectures. *Jl Chem & Eng N* 36:92-3 F 17 '58

SCIENTIFIC apparatus and instruments

Canadian industry; its likes, needs and attitudes; report on the market for industrial measuring and recording apparatus. M. K. Shelley. *Instruments & Automation* 31:1515-16 S '58

Capillary sealing jig. M. H. Mueller and others. *diag R Sci Instr* 29:253-4 Mr '58

Equipment and instrument makers predict good sales year. *Jl Chem & Eng N* 36:25-6 Mr 17 '58

Instrument progress vital; abstract. A. V. Astin. *Machine Design* 30:38+ Jl 24 '58

Instrumentation in the nuclear age. C. Goodman. *I S A J* 5:14-15+ Jl '58

1957 National conference on instrumental methods of analysis, Chicago, June 13-15; abstracts of papers. *Control Eng* 5:170+ Ap '58

Physical society's exhibition, 42d. London. March 24-27. *Jl Sci Instr* 35:193-6 Je '58

Radiation standard instrument for intercomparison of national primary standards. *Jl diag Safety Maint* 115:36-8+ Mr '58

Scientific instrument research; British scientific instrument research association. *Jl Engineer* 204:713-15 N 15 '57

Shares and prices; applied science firms. *Electronics* 31:5 Ap 4 '58

Simple instrument for the periodic application of controlled bi-axial strains. P. A. U. Grossman. *bibliog Jl diag J Sci Instr* 35:131-4 Ap '58

See also

Bacteriological apparatus
Chemical apparatus
Chemical laboratories—Equipment
Electron microscope
Geological apparatus and instruments
Medical instruments and apparatus
Physical apparatus and instruments
Pycnometers
Spectrograph
Surgical apparatus and instruments
Surveying instruments

Exhibitions

ASTM 13th biennial exhibit of testing and scientific apparatus and laboratory supplies, Boston, June 13-27; list of exhibitors. *Jl A S T M Bul* p 10-17 Ap '58

Soviet analytical instruments at the Brussels exposition. *Jl Anal Chem* 30:sup51A-3A Ag '58

SCIENTIFIC apparatus makers association

Annual meeting, 40th, Palm Springs, Calif. Ind Lab 9:92-3 Je '58

SCIENTIFIC conferences

Moscow steals science shows. *Electronics* 31:22-3 F 21 '58

Proposed standard for facilities for scientific conferences. T. McPherson. *Mag of Stand* 29:202-4 Jl '58

SCIENTIFIC cooperation. See Intellectual cooperation**SCIENTIFIC education**

Bevis committee report. *Phys Today* 11:38-9 Jm '58

Conference on America's human resources to meet the scientific challenge, New Haven, Conn. *Am Scientist* 46:sup98A+ Je '58

Education, F. Chilson. *Drug & Cosmetic Ind* 82:359+ Mr '58

Education crash program in the works. *Chem & Eng N* 35:19-20 D 16 '57

Education for our times? R. P. Linstead. *Chem & Ind p* 1498-502 N 16 '57

Education strikes it rich. *Chem & Eng N* 36:23-5 Ja 13 '58

Engineer comes into his own; an engineer takes a sabbatical; General Electric research laboratory program of research leaves. J. S. Kasper. *Product Eng* 29:86-7 Mr 31 '58

Engineering and scientific education. M. Kallscher. *Refra Eng* 66:47+ F '58

Engineering and scientific education; understanding science; conference, Chicago, Oct. 31-Nov. 2. *Illum Eng* 53:sup 10A F '58

Factors concerning education for science and engineering. F. Seitz. *Phys Today* 11:12-15 Jl '58

Ike's science plan; cooperation. *Chem & Eng N* 35:24 N 25 '57

Mass education of scientists. B. F. Miessner. *Inst Radio Eng Proc* 46:1430 Jl '58

Opportunities and responsibilities in science education. T. D. Reynolds. *Am J Phys* 26:330-3 My '58

Paid leave for advanced study? points of view. *Product Eng* 29:32-3 S 8 '58

Plan for aid-to-science-education. *Product Eng* 28:22 D 30 '57

Public must understand science before U.S. wins war of labs; conference on engineering and scientific education; foundation of national strength. *Product Eng* 28:25 N 18 '57

Rigorous quality, not quantity. R. E. Flanders. *Chem Eng Prog* 54:6+ My '58

Science and technology in a changing environment; need for long-range training program. E. W. Engstrom. *Jl Elec Eng* 77:283-7 Ap '58

Science education. H. R. Rafton. *Chem & Eng N* 36:16 My 12 '58; Discussion. 36:12+ Je 16 '58

We're playing Russian roulette with science in education. J. Gammell. *Ind Lab* 9:93-5 Jl '58

See also

Technical education

International aspects

U.S. will train 150 foreign scientists. *Electronic Ind* 17:147 My '58

Europe

West European dilemma. *Chem & Eng N* 35:50 D 23 '57

Great Britain

Activities of the Industrial fund; support for science teaching in over 300 schools. J. A. Oriol. *Jl Chem & Ind p* 1186-8 S 13 '58

Russia

Education and research in Soviet Russia. R. Ewell. *Jl Chem & Eng N* 36:66-70+ Ap 14 '58

Education in the Soviet setting. *Jl Chem & Eng N* 35:76-80, cover N 25 '57

Education in the Soviet Union; emphasis on science. *Jl(cover) Phys Today* 11:12-16 Ja '58

Russia may revamp schools. *Chem & Eng N* 36:68-9 Je 2 '58

SCIENTIFIC expeditions**See also****Explorations****SCIENTIFIC information**

Engineer comes into his own; engineer vs security. R. M. Koff. *Product Eng* 29:102-4 Mr 31 '58

Recommend information pool on research projects. R. Bennett. *Ind Lab* 9:92 Ap '58

Science info bottleneck world-wide. *Product Eng* 29:22-3 Je 23 '58

SCIENTIFIC literature

No abstracting agency needed. *Chem & Eng N* 36:28+ D 19 '58

Some characteristics of the literature used by American journal of physics authors. M. W. Colmer and S. Adams. *Am J Phys* 26:397-8 S '58

US catching up on translation of foreign publications. *Product Eng* 29:29 F 10 '58

See also

Chemical literature

Metallurgical literature

Russia

Abstracts and patents in U.S.S.R. *Chem & Eng N* 36:26 S 22 '58

ASME to make available translation of Russian scientific literature. *Mech Eng* 80:133 Mr '58

Copyright code could crimp translations. *Product Eng* 29:27 Mr 10 '58

More translations coming. *Chem & Eng N* 36:38-9 Ja 27 '58

Soviet translations rushed. *Jl Electronics* 31:15-16 Je 24 '58

Translation of foreign articles. E. L. Sochoo; T. O. Jones. *Inst Radio Eng Proc* 46:917 My '58

Translations of USSR scientific and engineering journals available. *Elec Eng* 77:526-3 Je '58

SCIENTIFIC literature—Russia—*Continued*

U.S. libraries to get Russian science works.
G. Evans, Ind Lab 9:36 JI '58
US translation program bogging. Product
Eng 28:86-7 D 23 '57
Urge speed-up in translation of Russian
scientific and technical journals. Am Mach
101:158 D 16 '57

SCIENTIFIC management. See Industrial management

SCIENTIFIC photography. See Photography—Scientific applications

SCIENTIFIC research

Basic research, a national resource; National science foundation report; abstract. Rubber
World 137:422 D '57

Basic research and defense developments. F. N. Frenkel. Phys Today 11:22-4 JI '58

Basic research, more practical than you think; message to American industry. Product Eng 28:113-4 N 25 '57

Basic research pays off. F. R. Kappel. Product Eng 29:31 F 24 '58

Basic research; what, why, how. G. Suits. Product Eng 28:30 D 16 '57

Bester U.S. science. Chem & Eng N 36:39-40 F 10 '58

Business needs basic research. F. R. Kappel. Bell Lab Rec 36:111-12 Mr '58

Chemical Abstracts measures a Nation's research. E. J. Crane and K. F. Heumann. Chem & Eng N 36:65-6 Ag 4 '58; Discussion, 36:8-1, Reply, 37:15 '58

High dive into the next decade; Industrial and engineering chemistry lecturers review research knowledge for clues to major advances. Chem & Eng N 36:23-5 S 22 '58

Industrial research director views fundamental research. M. Scalera. II Chem & Eng N 36:85-7 Ap 21 '58

Industry makes room for research and development. II Product Eng 28:23-4 N 18 '57

Need for basic research; abstract. J. T. Rettaliata. Tool Eng 39:198-9 D '57

Needed, more basic research. Chem & Eng N 36:48 N 11 '57

Open doors to serendipity. W. F. Thompson. Ind Lab 9:43-5 Mr '58

Reason and chance in scientific discovery. R. Taton. Review, by J. R. Newman. Sci Am 198:141-2+ Ap '58

Research and engineering progress, 1957. II Gen Elec R 61:8-13 Ja '58

Research is everybody's business. A. V. Astin. Tappl 41:sup 14A+ My '58

Research plan under way. P. D. Foote. Chem & Eng N 36:19-20 JI 28 '58

Review and preview; science. Chem & Eng N 36:63 Ja 6 '58

Russian science outstripping us. President's committee warns. Electronic Ind 17:159+ Ja '58

Science; the fabulous pitcher. G. Suits. II Gen Elec R 60:9-13 N '57

Senate probes U.S. science lag. Chem & Eng N 36:46 D 9 '57

Space conquest plans overshadow needs for research on terrestrial problems. R. H. Müller. Anal Chem 30:sup 75A-6A F '58

Sputnik and its implications. G. Suits. Electronic Ind 16:24+ D '57

Theorizing; no substitute for trying. II Chem & Eng N 36:70-3 F 3 '58

Too little basic research. M. J. Kelly. Chem Eng Prog 53:sup 8+ D '57

US must up research and development pace. J. M. Gavin. Product Eng 29:21-2 S 29 '58

Which way research? abstract. R. Bennett. Machine Design 30:6+ Ja 9 '58

Women engineers carve successful careers in scientific research. II Ind Lab 9:16-17 JI '58

See also

Aeronautic research

Atomic research

Biological research

Ceramic research

Colleges and universities—Research

Combustion research

Electric research

Electron microscope

Electronics research

Engineering research

Foundry research

Great Britain—National physical laboratory, Teddington

Industrial research

Laboratories

Medical research

Metallurgical research

Mining research

National research council of Canada

National science foundation

Oceanographic research

Petroleum research

Physical research

Physiological research

Pittsburgh university. Mellon institute of industrial research

Radio research

Refrigeration research

Rubber research

Scholarships and fellowships

Television research

Textile research

United States—Army institute for exploratory research

Federal aid

Basic research gains new support. Chem & Eng N 35:48-50 N 25 '57

Encouragement of science. W. Weaver. II Sci Am 199:170-6+ S '58

How much for basic research? Chem & Eng N 36:38 Ja 27 '58

New directions in government-sponsored research. J. J. Harwood. J Metals 10:354-5 My '58

Support and direction of research at academic institutions. L. V. Berkner. Am Scientist 46:159-68 Je '58

Finance

National science foundation looks at state research and development. Chem & Eng N 36:39 S 22 '58

Stanford research institute contributes to basic research. Ind Lab 9:111 Mr '58

See also

Scientific research—Federal aid

International aspects

European research and development for U.S. defense. A. N. Weckler. Aviation Age 30:14 JI '58

Germany

German research and industrial notes. Eng J 41:86-7 Mr '58

Great Britain

Government research reviewed. Earl of Halsbury. Engineering 185:663-4 My 23 '58

India

Technical education and research in India. M. G. Maiti. Elec Eng 77:539-43 Je '58

Russia

Semiconductor research in the USSR. W. C. Dunlap, Jr. II Phys Today 11:14-21 My '58

Top scientist makes plea in U.S.S.R. lower house for funds. A. Nesmyanov. Aeronautical Eng R 17:21 Ap '58

SCIENTIFIC research society of America

Annual meeting, 9th, Indianapolis, Dec. 27; proceedings. Am Scientist 46:sup 32A+ Mr '58

SCIENTIFIC societies

See also

American chemical society

Audio engineering society

Society of the sigma xi

SCIENTIFIC workers

Conservation of scientific manpower. C. E. Lewis. Ind Med 27:221-5 My '58

SCIENTIFIC writing

And inwardly digest; technique of fast reading, and the quality of scientific writing. S. Burgess. bibliog Soc Dyers & Col J 74:458-63 Je '58

Authorship and company policy. S. Nicholson. Pet Eng 30:E 11+ Ag '58

See also

Technical writing

SCIENTISTS

Are scientists duty shirkers? Chem & Eng N 36:28-9 Ap 7 '58

Are scientists people? Metal Prog 74:65-7 Ag '58

Demand for and supply of engineers and scientists. W. T. Cavanaugh. Elec Eng 77:590-1 JI '58

Engineers gain student esteem but the scientist isn't rated nearly so high. II Chem & Eng N 36:66-7 JI 14 '58

Impertinent questioner; the scientist's guide to the statistician's mind. W. Lurie. Am Scientist 46:57-61 Mr '58; Discussion, C. N. Crain. 46:212A+; Reply, 224A+ S '58

Keeping federal labs staffed. Chem & Eng N 36:42+ N 11 '57

Mountains named for scientists. II Phys Today 11:39, cover F '58

NSPE has bead eye for pay proposal. Product Eng 29:28 F 24 '58

No surplus at the top; executives with a scientific background are still in demand. Chem & Eng N 36:46 O 6 '58

SCIENTISTS—Continued

- Pay, advancement poor, government engineers complain. *Machine Design* 29:28+ N 28 '57
- Pay raise shortchanges scientists. *Chem & Eng N* 36:38-9 F 10 '58
- Plenty of jobs. *Chem & Eng N* 36:31 O 6 '58
- President's committee reports its action. Soviet threat. *Machine Design* 29:28 D 26 '57
- Realistic view of supply and demand. H. Templeton. *Am J Phys* 26:128-9 F '58
- Science and technology in a changing environment; need for long-range training program. E. W. Engstrom. *Il Elec Eng* 77:283-7 Ap '58
- Scientific crisis in NATO states. *Chem & Eng N* 35:84+ N 11 '57
- Scientists need special training in experimentation. C. E. Raessweiler. *Chem & Eng N* 35:74-8+ N 4 '57
- Scientists on sabbatical; Cyanamid recognizes technical ability by new educational grants for study at home or abroad. *Chem & Eng N* 36:42-3 My 26 '58
- Scientists; what are they like? abstract. S. Lenher. *Il Chem & Eng N* 36:29-30 My 12 '58
- Should the scientist communicate? I. Asimov. *Aeronautical Eng R* 17:24+ Ja '58
- Survey shatters negative image of scientist as a person. *Machine Design* 30:27-8 My 29 '58
- Technical manpower issues and related educational problems; open letter to J. R. Killian, jr. H. A. Meyerhoff and G. E. Arnold. *Elec Eng* 77:248-9 Mr '58
- This is you! findings of the Purdue opinion panel show that teenagers see scientists in this light. *Power Ind* 74:11+ Ap '58
- Trends and outlook for technological progress from the standpoint of the research scientist. B. D. Thomas. *A S T M Bul* p70 F '58
- U. S. will train 150 foreign scientists. *Electronic Ind* 17:147 My '58
- Untapped source of potential scientists. G. Barnes. *bibliog Am J Phys* 26:245-7 Ap '58
- Utilization of scientists and engineers conference. New Brunswick, N.J. *Elec Eng* 77:554 Je '58
- See also
Chemists
Geologists
Physicists
Research workers
Women as scientists

Public relations

- That ivory tower. L. Arnow. *Mech Eng* 80:123 Je '58

Great Britain

- Britain's shortage of scientists; editorial. *Chem & Ind* p 1579 D 7 '57

SCIENTISTS, Amateur

- Amateur scientist; amateur rocketry. L. J. Grant, jr. *Sci Am* 199:114 Ja '58
- Jr. rocketeer savvy spurs army-ARS safety programs. *Il Product Eng* 29:25 Mr 24 '58
- Model missiles mean mayhem. J. V. Neeson. *Il Safety Maint* 115:11-12+ Je '58
- Supervision urged for amateur rocketeers. *Safety Maint* 115:48 Mr '58

- SCINTILLATION camera.** See Gamma ray cameras

- SCINTILLATION counter.** See Counters (electrons, ions, etc.)

- SCINTILLATORS, Plastic.** See Counters (electrons, ions, etc.)

SCLEROSCOPE

- Relationship between Scleroscope, Rockwell, and Brinell hardness readings. N. R. Arant and J. J. Marsalka. *Iron & Steel Eng* 35:160-1 F '58

SCOTLAND

- See also subdivision Scotland under special subjects, e.g.
Atomic power plants
Chemical industries
Electric engineering
Engineering education
Fertilizer industry
Gas, Natural
Hydroelectric plants
Television broadcasting

- SCOURING of textiles**

See also

- Wool scouring

SCRAP material

- Reprocessing thermoplastic materials; R.H.C. reclamations. (td flow chart) *Il diag Brit Plastics* 31:198-200 My '58

See also

- Scrap metal

SCRAP metal

- Automatic scrap cutting. *Il Engineering* 185:741 Je 13 '58
- Clearing, 600-ton scrap shear cuts up to 30 tons of scrap per hr. *Il Am Mach* 102:146 Mr 24 '58
- Reprocessor wrings profit from cold scrap; uranium scrap reprocessing. *Il Chem Eng* 65:50+ O 6 '58
- Scrap control in nonferrous foundries. M. G. Dietl. *Poundry* 85:106-9 N '57
- Scrap is a program at Western Electric. *Il Plant Eng* 12:106-3 F '58
- Scrap processing plant makes use of new technological improvements. *Il Iron & Steel Eng* 35:144+ Ap '58
- Shooting borings into cupola reduces melting cost. R. E. Dixon. *Il Foundry* 86:218+ My '58
- Unit burns scrap autos at production rates; Smokatron. *Il Iron Age* 180:67 D 26 '57

See also

- Aluminum waste
Baling presses
Metal waste
Ships—Scraping
Steel waste

SCRAP metal handling

- Radio speeds scrap handling; Alter co. and Alloy metal products, inc. *Il Iron Age* 181:106-7 Ap 17 '58
- Scrap handling speeded by new automatic shear. *Il diag Automation* 5:9-10 Ap '58
- Self-dumping hoppers enable fast scrap handling. *Il Mach* 64:94 Ja '58
- Three point plan reduces scrap handling. *Il Iron & Steel Eng* 35:141+ Je '58

SCRAP metal industry

- Downswing in scrap is unchecked. *Steel* 141:183-9+ N 4 '57

SCRAPERS

- Mining by use of mechanical scrapers. J. H. Wooten. *Am Cer Soc Bul* 37:198 Ap 15 '58
- New scraper is world's biggest; R. G. LeTourneau inc. *Il Eng N* 161:69 S 25 '58
- LeTourneau largest self-propelled earthmoving scraper. *Il Product Eng* 29:23 S 1 '58
- Small scraper moves material fast, economically; Cooley gravel co. W. B. Lenhart. *Il Rock Prod* 60:78-9+ D '57

- SCREEN printing.** See Silk screen printing

SCREENING

- Applications of the DSM screen. P. L. Stavenger and V. R. Reynolds. *Il diag Mining Cong J* 44:48-51 Jl '58
- Kill static in lab screens; pieces of dry ice placed on each screen, while humidified nitrogen gas passed upward through the screens countercurrent to the particle path. M. Allen. *Il Chem Eng* 65:176 S 22 '58
- Screening blast-furnace burden materials. H. N. Wilkinson and E. E. Farmer. *bibliog Il diag Iron & Steel Inst J* 190:55-71 S '58
- See also

- Paper making—Screening

SCREENS

- Collision of plane shock waves with wire screens. W. J. Franks and J. G. Hall. *J Aeronautical Sci* 24:917-18 D '57
- Hydraulically backwashed stationary screens for surface water. E. W. Whitlock and R. D. Mitchell. *Il diag Am Water Works Assn J* 50:1337-42 O '58
- Losses in flow normal to plane screens. W. G. Cornell. *bibliog J Am M E Trans* 80:791-7; Discussion, 797-9 My '58
- Pressure screen for sewage effluent keeps sprinklers clean. D. Wilson and N. A. Neste. *Il diag Pub Works* 89:85-6 Mr '58
- Preventing vibrating screens from clogging. *Engineering* 185:133 Ag 1 '58
- Progressive producer installs new type of screen; Fountain sand and gravel co. H. F. Utley. *Il Pit & Quarry* 50:94-5 My '58
- Sonic vibrating filter requires less power. *Il diag Product Eng* 29:22-3 S 22 '58
- See also

- Paper making—Screening
Wire cloth

Manufacture

- Production of wire screening. J. C. Heilig. *Il Wire & Wire Prod* 33:291-4 Mr '58

SCREENS (architecture)

- New approach to ornamental metal. *Il Arch Rec* 123:212 Je '58

- SCREENS (photography).** See Photography—Apparatus and supplies

SCREENS, Aluminum

- 1,000 roll formed aluminum screens per day; American Screen Products. K. Darby. *Il Mod Metals* 14:46+ Mr '58

SCREENS, Fireplace. See Fireplace screens
SCREENS, Moving picture. See Moving picture screens

SCREW drivers. See Screwdrivers

SCREW machine products

Forms and shapes of materials; screw machine parts. *Materials in Design Eng* 48: 318 Mid-O '58

Screw machine parts from a drillpress? yes! J. P. Wright. *II diags Am Mach* 102:92-7 Ap 7 '58

SCREW machines

Banishes kinks, then machines stock; built-in straightener, plus roller feed, saves time and material. *II diags Product Eng* 29:90 S 15 '58

Designing screw machine parts; illustrated instructions. E. A. Theroux. *Product Eng* 28:D20-1 Mid-O '57

Fast screw machines keep close tolerances; DeVilbiss co. D. A. Dettinger. *II Iron Age* 182:98-9 S 25 '58

Juggling trigonometry to eliminate a quadratic equation. W. W. Johnson. *diags Mach* 64:140-1 Ag '58

Screw machine mills intricate slots. *II Am Mach* 102:142-3 My 5 '58

SCREW threads

Airliner's vibration problem solved; wire inserts make vibration-free connections in aluminum compressor castings for refrigeration systems. *II Mod Metals* 14:46+ Je '58

Basic thread dimensions and tap drill information; data sheet. *Mach* 65:231-2 S; 221-2 O '58

Fastenings; lock inserts halt damage in roller leveler. *diag Iron Age* 182:197-8 S 11 '58

Inserts up die holder life, eliminate thread failures. *II Steel* 141:116 D 2 '57

Look at wire inserts; reference book sheet. H. W. Cram. *diags Product Eng* 29:55+ S 29 '58

Metalworking, 1962; threading. S. W. Lovejoy. *Am Mach* 101:129-30 N 18 '57

Strong threads for aluminum. *II Steel* 143: 72 J1 '58

Thread inserts reduce cutter failures. *II Tool Eng* 40:82 F '58

Wire thread inserts salvage large aluminum castings. *II Iron Age* 182:117 S 25 '58

See also
 Pipe threads
 Thread cutting

Measurement

Does the three-wire system measure true pitch diameter? S. G. Johnson. *diags Ind Quality Control* 14:20-3 Je '58

New metrology labs to serve industry; Standard pressed steel co. *II Ind Lab* 9:62 Ap '58

Screw-thread metrology. *II Mech Eng* 80:92 Ap '58

Standards

Constants for finding pitch diameter and minor diameter of screw threads; tables; data sheet. *Mach* 64:228 F '58

High-temperature bolting; new standards for screw threads. P. G. Schulz. *II Power Eng* 62:68 My '58

International screw thread systems studied. R. P. Trowbridge. *Mag of Stand* 29:266-7 S '58

Machine screw taps; ground thread; American national form; data sheet. *Mach* 64: 224 Mr '58

Miniature screw threads; proposed American standard; reference book sheet. *Am Mach* 101:163+ N 4 '57

Tentative standards for class five interference-fit threads; with tables. *Product Eng* 29:G 16 Mid-S '58

Unified screw threads. *Automobile Eng* 48:361 S '58

Terminology

Thread nomenclature and definitions applying to screw threads, taps and dies; data sheet. *diags Mach* 64:209-10 J1 '58

Testing

Mechanical thread comparators; how they monitor output of close-tolerance fasteners. J. L. Harris. *II Mach* 64:137-9 F '58

SCREWDRIVERS

Head of screwdriver spreads to hold screw. *II Electronics* 31:132 Ap 11 '58

Screw-holding screw driver; abstract. G. Heaviside. *Franklin Inst J* 264:526-7 D '57

SCREWDRIVING machines

Orientation by rotation feeds setscrews for automatic assembly. R. Gibbs. *II diags Automation* 5:77-9 Ap '58

Power screwdriver. *II Engineering* 186:211 Ag 15 '58

Screw setters speed appliance assembly; Newark stove co. *II Steel* 143:114-15 J1 14 '58

SCREWS

Ball screw speeds cycling; fatigue-tester drive. *II Product Eng* 29:67 F 3 '58

Better head for cap screws improves fastening efficiency. *II Machine Design* 30:36-7 Je 26 '58

Compound adjusting screw for control of movement in two planes. *diags Machine Design* 29:98 N 28 '57

Consider design factors when selecting tapping screws. *diags Mach* 64:141 Mr '58

Feeder positions screws for assembly. *II Iron Age* 180:70 O 31 '57

Mechanical fasteners for military electronic equipment; screws and studs. G. H. Lines. *diags Elec Manuf* 61:110-13 Je '58

Production man's guide to fastening devices; screws, bolts, studs. J. J. Dwyer. *jr. diags Am Mach* 102:101-6 S 8 '58

Screw-holding power of polyester laminates. R. R. Dixon. *Product Eng* 28:G22-4 Mid-O '57

16 ways to align sheets and plates with one screw; illustrated instructions. F. Strasser. *Product Eng* 28:94-5 O 28 '57

Study of screw design improves selection. *diags Tool Eng* 40:236 Ap '58

Supralight fasteners withstand shock; self-locking socket screws. *II Iron Age* 181:120-1 Mr 13 '58

Tapping screw tips. *diags Steel* 142:87 F 24 '58

Ten ways to employ screw mechanisms; drawings with text. F. Strasser. *Product Eng* 29:80-1 My 26 '58

See also
 Leadscrews
 Screw machines

Manufacture

Foundry casts eye screws by the thousands; A. B. Chance co. *II Foundry* 85:234+ N '57

Modern heat treatment facilities; Holo-Krome screw corp. D. A. Tullock, jr. *II Metal Prog* 72:75-8 N '57

Switch to cold heading cuts costs. *Iron Age* 180:188-9 N 14 '57

SCRUBBERS

New dust control equipment and Chem-Jet systems. *Franklin Inst J* 266:252-3 S '58

Scrubbers and pipelines of timber; Santa Fe equipment available in UK. *II Engineering* 186:127 J1 25 '58

SCRUBBERS, Venturi. See Venturi scrubbers

SCULPTORS

See also
 Nivola, Costantino

SCULPTURE

Art, artists and architecture; sculpture by Naum Gabo. *II Arch Rec* 122:175-8 N '57

Artist sculpts a geologic symbol; metal sculpture in Ohio oil co.'s new research center. F. J. Gardner. *II Oil & Gas J* 55:367 N 18 '57

See also
 Memorial
 Sand sculpture

SEA food

See also
 Oysters

SEA lampreys. See Lampreys

SEA power

See also
 United States—Air service, Navy

SEA walls, Concrete

Precast sections make low-cost seawall; Lake Merritt, Oakland, Calif. G. D. Whittle. *II diags Eng N* 160:33-4 F 6 '58

SEA water

Corrosion rates in Port Hueneme harbor. C. V. Brouillette. *II Corrosion* 14:16-20 Ag '58

Current and potential relations for the cathodic protection of steel in salt water. W. J. Schwerdtfeger. *Bibliog diags J Res Nat Bur Stand* 60:153-9 Mr '58

14-ft. diameter pipes carry sea water to steam station. *II Pub Works* 88:156 N '57

Hollywood automates its water softening system; use of sea-water intrusion wells for regeneration of zeolite filters. W. W. Gillespie and A. J. Birchall. *diags Water Works Eng* 111:566-8, cover Je '58

SEA water—Continued

- Magnesia from sea via streamlined process; Kaiser chemical div. of Kaiser aluminum & chemical corp.; process flowsheet. T. P. Forbath. *Chem Eng* 65:112-15 Mr 24 '58
- Movement of dissolved oxygen through sea water. E. E. Nelson and others. *diag Corrosion* 14:15 Ag '58
- Protection of steel in salt water. *Air Cond Heat & Ven* 65:82 Je '58
- Recovery of bromine from sea water. *Ind & Eng Chem* 49:sup27A N '57
- Sewage effluent dilution in sea water. C. H. Lawrence. *bibliog map Water & Sewage Works* 105:116-22 Mr '58
- Study of the compatibility of floating-type inhibitors and cathodic protection. E. R. Streed. *bibliog il diag Corrosion* 14:50-4 Mr '58

See also

- Concrete. Effect of sea water on
Water supply—Salt water intrusion

Analysis

- Determination of the alkalinity and borate concentration of sea water. J. A. Gast and T. G. Thompson. *bibliog Anal Chem* 30:1549-51 S '58
- Salt effect correction in determining soluble silica in sea water by the silicomolybdic acid method. G. S. Bien. *bibliog Anal Chem* 30:1525-6 S '58

Desalting

- Application of dropwise promoters to sea water evaporators. J. J. Brunt and J. W. Minken. *bibliog il Ind Chem* 34:219-24 My '58
- Blooming deserts still in future; costs of converting saline water too high. *Chem & Eng N* 35:32-3 N 18 '57
- Flash evaporator for continuous distillation of sea water. *flow diag Engineer* 204:572-3 O 18 '57
- Fresh water from salt; continuous high output flash evaporator. *diag Engineering* 185:70-1 J 17 '57
- Fresh water from the sea. B. G. A. Skrotzki. *il diags Power* 102:77-83 JI '58
- Fresh water from the sea for Bermuda and Virgin Islands. *Water & Sewage Works* 105:163 Ap '58
- Fresh water from the sea; installation at Balashi in the Netherlands West Indies. *il Mech Eng* 80:72 Ag '58
- Introduction to solar distillation. T. de Jong. *bibliog il diags Am Soc C E Proc* 84 [SA. 4 no 1704]:1-40 J '58
- Low cost seen for desalting sea water; abstract. S. T. Powell. *Eng N* 161:44 JI 31 '58
- Nuclear desalting to be studied. *Eng N* 161:25 JI 24 '58
- Nuclear reactor for distilling sea-water. I. Vlentchuk and N. Arad. *bibliog diag Engineering* 185:628-30 My 16 '58
- Potable water from saline sources; a refrigeration opportunity. W. R. Woolrich. *Refrig Eng* 66:52-3+ F '58
- Power facilities at U.S. air force base on island of Bermuda. R. F. McCaw. *il diag Power Eng* 62:68-71 O '58
- Power from the sea; temperature differences made to provide electricity and fresh water. *il map diags Engineering* 186:104-7 JI 25 '58
- Progress in conversion of saline water. E. D. Howe. *bibliog il Am Water Works Assn J* 50:319-30 Mr '58
- Role of nuclear energy in water conversion processes; abstract. W. R. Hainsworth and others. *Chem Eng Prog* 54:87-8 F '58
- Saline water conversion; big business of future? *il Chem Eng Prog* 54:160-2 Ap '58
- Saline water conversion by freezing; with cost data. H. M. Hendrickson. *il diags Refrig Eng* 66:31-7+ Ag '58
- Saline water conversion; International symposium on saline water conversion. Washington. Nov. 4-6. *Chem Eng Prog* 53:sup68+ D '57
- Saline water treatment. R. H. Slevers, jr. *Water & Sewage Works* 105:70-1 F '58
- Salt water to fresh, several ways. *diags Power Eng* 61:87-9 D '57
- Salty symposium, Washington. *Eng N* 159:28 N 14 '57
- Sea can meet the world's increasing water demands; new high efficiency distillation plant. R. S. Silver. *flow diag il Engineering* 185:530-1 Ap 25 '58
- Sea to fresh water at Aruba distillation plant. *Elec Eng* 77:861 S '58
- Theory of recovering salt from sea-water by solar evaporation. D. M. Myers and C. W. Bonython. *bibliog diag J Ap Chem* 8:207-19 Ap '58

- Water paints expansion picture; world's largest sea water converting unit at Aruba. *il map Chem & Eng N* 36:80-2 Je 30 '58
- Water, water everywhere?? stills to convert salt water. *il Mill & Factory* 62:138+ Je '58
- Where do we stand on conversion of saline water into fresh water. S. T. Powell. *il Water Works Eng* 111:933+ O '58
- World's largest single desalting plant starts operation at Aruba. *Water Works Eng* 111:866 S '58

See also

- Water purification—Desalting

Sound transmission

- See Ultrasonic waves—Transmission thru sea water

- SEABEES. See United States—Navy—Construction battalions

SEABOARD oil company

- Texaco takes over Seaboard Oil in big stock swap. *Oil & Gas J* 56:76-7 Je 2 '58

- SEALANTS. See Sealing compositions

SEALING

- Capillary sealing jig. M. H. Mueller and others. *diag R Sci Instr* 29:253-4 Mr '58
- Ceramic housing for sealed coil. *il diag Materials in Design Eng* 47:226+ Ap '58
- Expansion of hollow piston provides sealing; pump developed by Simplex engineering co. *diag Machine Design* 29:120 N 14 '57
- Friction characteristics for hydraulic seals; chart. R. W. Carlson. *diags Product Eng* 28:J6 Mid-O '57
- How to design for tight sealing by specifying the correct flange pressures in gasketed joints. E. M. Smoley. *diags Machine Design* 30:133-7 Je 12 '58
- Pressure sealing by O-rings. J. R. Pawcett. *diags Engineering* 185:314-15 Mr 7 '58
- Rotary shaft seals; the sealing mechanism of synthetic rubber seals running at atmospheric pressure. E. T. Jagger. *il diags Inst Mech Eng* 185:671 no 18:597-604; Discussion 605-12; Reply 613-16 '57
- Sealing a calcium fluoride window to glass. M. H. Greenblatt. *diag R Sci Instr* 29:738 Ar '58
- Sealing integral jet fuel tanks. J. Spurgeon. *il diags Aviation Age* 30:48-51 Ar '58
- Sealing strength of wax-polyethylene blends. D. S. Brown and others. *bibliog diags Tappi* 41:295-300 Je '68

See also

- Adhesive tape

SEALING compositions

- Engineering with adhesives; panel discussion. *Eng N* 159:24 D 12 '57
- Glazing compounds and sealants. H. J. Rosen. *Prog Arch* 39:147 Ag '58
- Knowing your sealants can save you money. W. M. Lanxon. *il Power* 102:103-5 S '58
- Plastic patch seals casing leaks. *il Pet Eng* 30:B52 Mr '58
- Repair sealing bell and spigot joints with rubber based sealants. *il Gas* 34:59-61 F '58
- Sealant for threaded fasteners. *Product Eng* 29:G7-9 Mid-S '58
- Sealing curtain-wall joints. G. J. Schulte. *il diags Prog Arch* 39:128-31 JI '58
- Select the right coatings and sealers for power services. E. W. Schuit. *il Power* 102:101-3 My '58
- Use of neoprene as a vehicle for sealants. N. L. Catton. *il Rubber Age* 83:99-9 S '58
- We threw out press fits for bearings; liquid sealant called Loccite. E. F. Oblinger. *diags Product Eng* 29:87 Ja 6 '58

SEALING machines

- Closing wirepumps automatically; interview with David G. Kingsley. G. C. Thomas. *il diags Mod Materials Handling* 13:110-14 F '58
- New Gisholt Sealomatic. *Drug & Cosmetic Ind* 82:655 My '58
- What's in the cards for automatic taping? G. C. Thomas. *diags Mod Materials Handling* 13:93-6 O '58

SEALS

- Basic principles of mechanical seals. T. J. Sniffen. *diags Product Eng* 29:F 12-14 Mid-S '58
- Chemical and mechanical development of elastomeric piston seals for automatic transmissions; abstracts. E. S. Bower and B. C. Vandermar. *Rubber World* 138:115 Ap '58; S & E J 66:130+ Ap '58
- Compounds for high temperature fuel seals. E. J. Fujiwara and others. *il diag Rubber Age* 82:1016-20 Mr '58
- Cooled mechanical seal. *diag Engineering* 186:196 Ag 15 '58

SEALS—Continued

- Correct practice for oil and grease seals. E. P. Stahl. diags Power Eng 61:70-2 J '57
- Correctly installed seals prevent damage and downtime on earthmoving machinery. J. B. Sinclair. il diags Pet Eng 29:123-4 D '57
- Demountable vacuum seal for attaching an end-plate to a glass tube. H. R. Moore. diags R Sci Instr 29:737-8 A '58
- Elastomer seals hot fluids. il Iron Age 181:103 Ap 10 '58
- Electrically insulated thermally conducting vacuum seal for low-temperature use. C. J. Meehan and A. Sosin. diags R Sci Instr 29:323 Ap '58
- Face type rotating shaft seals: how to use them. J. Riddle and R. D. Durrett. diags Mill & Factory 63:87-90 S '58
- Glass-to-metal seals. J. Comer. il diags Elec Manuf 61:110-14+ Mr; 62:102-7 Ag '58
- Greaseless vacuum seal for rotating shafts. E. A. Elliott and J. Bishop. diags Sci Instr 35:70-1 F '58
- How a petrochemical plant developed improved mechanical seals for nonlubricating hydrocarbons. A. L. Decker. diags Oil & Gas J 56:93-6 Ja 6 '58
- Internal seal pots eliminate gage plugging. L. E. McLane. diags Chem Eng 66:117 Je 30 '58
- Joint seals for curtain walls; time-saver standards. diags Arch Rec 123:235+ F '58
- Metal through glass seal. E. J. Davis. diags J Sci Instr 35:308 Ag '58
- Mica window assembly for use at elevated bake-out temperatures. A. R. Strnad. diags R Sci Instr 29:533 Je '58
- Nylon molding compound solves propane seal problem. Air Cond Heat & Ven 54:120 D '57
- Ordering mechanical seals. H. Bartz. Chem Eng 65:178+ S 22 '58
- Preclain to aluminum seal. Elec Manuf 62:9-10 Ag '58
- Seals for pressures to 10 000 atmospheres. W. B. Daniels and A. A. Hhuschka. diags R Sci Instr 28:1058-9 D '57
- Selection and application of dynamic seals and packings. J. B. Holt and W. S. Miller. il diags Machine Design 29:69-98 O 31 '57 (reprints \$1)
- Should we switch from jam type packing to mechanical seals? answers. diags Power 102:124-5 J1 '58
- Simple refractory-metal and glass-metal seals. W. D. Jamieson. J Sci Instr 35:73 F '58
- Sliding and rotating mechanical and electrical feed-through seals into a vacuum. N. Fuschillo. diags Am J Phys 26:400 S '58
- Teflon sheet as a large-area gas seal for gas flow radioactivity counters. K. A. Bargh. R Sci Instr 29:536-7 Je '58
- Vacuum or low-pressure seal utilizing modified standard refrigeration-type, flare tube fittings. B. H. Hodder. il diags J Sci Instr 35:182 My '58

SEALS, Oil. See Oil seals

SEAM welding. See Electric welding

SEAPLANES

SeaMaster; its development and some considerations from the accidents. J. L. Decker. il diags Aeronautical Eng R 16:58-62 N '57

Toward a nuclear-powered seaplane. A. D. Struble. Am Soc Naval Eng J 70:105-9 F '58

Design

Structural and impact loads for the flexible airplane during water landings. E. Widmayer, Jr. and R. H. Schwab. bibliog diags J Aeronautical Sci 25:161-70+ Mr '58

Manufacture

Huge canopy gives SeaMaster all-around visibility. J. A. Cascio. il Mach 64:154-8 J1 '58

Profile millers 33 feet long go to work on the Martin SeaMaster. il Am Mach 101:154-5 D 16 '57

SEARCHLIGHTS

At 3000 F, CRS + chrome-case outlasts stainless steel five to one; Arma searchlight. W. M. Stocker, Jr. il Am Mach 101:162-3 N 18 '57

How well can searchlights search? Illum Eng 63:154 Mr '58

Magazine feed for electrodes; automatic airborne searchlight. il diags Automatic 5:94 F '58

Testing

I.E.S. guide for photometric testing of searchlights. bibliog il diags Illum Eng 63:155-62 Mr '58

SEARS, Roebuck and company

Sears, Roebuck's new look. O. Tanner. il map plan Arch Forum 109:90-5 J1 '58

SEASONAL industries

See also
Winter construction

SEAT belts. See Automobiles—Seat belts

SEATS

See also
Motor buses—Seats

SEATTLE**Metropolitan district**

Seattle kills metropolitan government. Arch Forum 108:11+ Ap '58

Sewerage

Seattle gets \$164 million sewage plant. map Eng N 160:24-5 My 29 '58

Seattle's sewer break posed challenge. il Eng N 159:26 D 19 '57

Streets

Here's how to handle rush-hour traffic; Seattle's freeway. il map plan Eng N 161:30-1+ Ag 14 '58

Seattle freeway. W. A. Bugge. plan diags Traffic Q 12:69-79 Ja '58

Water supply

Seattle's need for additional water. J. R. Heath. Am Water Works Assn J 50:115-18 Ja '58

SEBACIC acid

X-ray diffraction powder data of some normal alkyl diethyl esters of sebacic acid. D. A. Lutz and others. bibliog Anal Chem 29:1780-2 D '57

SEBORRHEA capitis. See Dandruff

SECONDARY emission. See Electrons—Secondary emission

SECRETARIES, Private

Technical research management; let your secretary help. M. A. Williamson. Ind Lab 9:5-7 Ap '68

SECRECTIONS

See also
Saliva

SECURITIES

See also subdivision Securities under special subjects, e.g.
Aluminum industry and trade
Chemical industries
Electronics industry
Gas companies
Petroleum industry and trade
Rubber industry and trade
Television apparatus industry
Waterworks

Marketing

Private placement financing in the rubber industry. Rubber Age 83:113-14 Ap '58

Over-the-counter marketing

Over-the-counter market vital to us. il Electronics 31:16 Ap 18 '58

Private placement

See Securities—Marketing

SECURITY analysts

Security analysts go to oil school. Oil & Gas J 55:29 D 23 '57

Street goes scientific; Wall Street security analysts to attend course on electronics. Electronics 31:7 F 21 '58

SECURITY classification (government documents)

American reports on chemical engineering in nuclear technology. F. Roberts. Ind Chem 34:253+ My '58

Cost of secrecy. Sci Am 199:46-7 J1 '58

Engineer comes into his own; engineer vs security. R. M. Koff. Product Eng 29:102-4 Mr 31 '58

Fight against secrecy grows. Chem & Eng N 35:36 D 2 '57

Moss blasts Pentagon secrecy. Chem & Eng N 36:23 Je 30 '58

Public has right-to-know. Chem & Eng N 36:43 F 17 '58

Secrecy slows science. Chem & Eng N 36:40-1 F 3 '58

Secrecy stifles progress in science. Chem & Eng N 36:34 My 5 '58

SEDATIVES

Analgesics and sedatives. S. J. Hopkins. bibliog Manuf Chem 29:249 Je '58

See also
Tranquilizing drugs

SEDGWICK memorial award

1957 Sedgwick memorial award to Dr Reed. Am J Pub Health 47:1589-91 D '57

SEDIMENTATION

- Accurate determination of sediment in petroleum fuels in the parts-per-million range; abstract. F. A. Buehler and others. *Pet Refiner* 37:204 My '58
- Charge and specific ion effects on sedimentation in the ultracentrifuge. K. O. Pedersen. *bibliog Franklin Inst J* 265:503-8 Je '58
- Glass scratch effect. J. Bourdillon. *bibliog J Colloid Sci* 13:407-9 Ag '58
- Highlights of research in sanitary engineering; Dorr-Oliver inc.; new concepts of sedimentation. W. E. Budd. *Pub Works* 88:33-4 D '57
- Rate of sedimentation in concentrated pigment suspensions. L. Dintenfuss. *Chem & Ind* p98-9 Ja 25 '58
- Sedimentation volumes of a phosphor powder in potassium silicate and potassium silicate-barium acetate settling media. J. R. Hize and L. Florito. *diags Electrochem Soc J* 105:57-8 Ja '58

See also

Particles

SEDIMENTATION AND DEPOSITION

- Apatitlike mineral of sediments. D. McConnell. *bibliog Econ Geol* 53:110-11 Ja '58
- Base-level control patterns in cyclothemic sedimentation. H. E. Wheeler and H. H. Murray. *bibliog map diags Am Assn Pet Geologists Bul* 41:1985-2011 S '57; Discussion. 42:442-7 F '58
- Bottom deposits in a river and their potential effects on dissolved oxygen concentrations; SED research report no.20. *bibliog map Am Soc C E Proc* 84 [SA 5 no 1779]:1-7 S '58
- Concept of diagenesis in argillaceous sediments. R. E. Grim. *bibliog (29 titles) Am Assn Pet Geologists Bul* 42:246-53 F '58
- Cooking Lake and Duvernay (late Devonian) sedimentation in Edmonton area of central Alberta. Canada. J. M. Andrichuk. *maps diags Am Assn Pet Geologists Bul* 42:2189-222 S '58
- Densities and compaction rates of deposited sediment. V. A. Koelzer and J. M. Lara. *bibliog Am Soc C E Proc* 84 [HY 2 no 1603]:1-15 Ap '58
- Distribution of sediment in large reservoirs. W. M. Borland and C. R. Miller. *diags Am Soc C E Proc* 84 [HY 2 no 1537]:1-13 Ap '58
- Environmental studies of carboniferous sediments; application of geochemical criteria. E. T. Degens and others. *bibliog map diags Am Assn Pet Geologists Bul* 42:981-97 My '58
- Environmental studies of carboniferous sediments; geochemical criteria for differentiating marine from fresh-water shales. E. T. Degens and others. *bibliog flow diag map diags Am Assn Pet Geologists Bul* 41:2427-55 N '57
- Factors affecting the useful life of reservoirs. C. E. Brown. *Am Soc C E Proc* 84 [IR 1 no 1503]:1-8 Ja '58
- Geology of northern Soledad basin. Los Angeles county, Calif. W. R. Muehlberger. *bibliog J maps diags Am Assn Pet Geologists Bul* 42:1812-44 Ar '58
- Mechanics of sediment-ripple formation. H. K. Liu. *J diags Am Soc C E Proc* 83 [HY 2 no 1197]:1-23 *bibliog (26 ref. p22-3) Ap '57; 84 [HY 2 no 1558]:17-31 F [HY 2 no 1832]:3-4 O '58; Correction. [HY 2 no 1830]:3-4 D '58; Reply. 84 [HY 5 no 1832]:5-31 O '58*
- Mississippian sedimentation and oil fields in southeastern Saskatchewan. R. W. Edie. *bibliog (26 ref) J maps diags Am Assn Pet Geologists Bul* 42:94-126 Ja '58
- Model relating dynamics and sediment pattern in equilibrium in the region of shoaling waves, breaker zone, and foreshore. R. L. Miller and J. M. Zeigler. *bibliog map diags J Geol* 66:417-41 JI '58
- Oceanography of Mississippi delta sedimentary environments. P. C. Scruton. *maps diags Am Assn Pet Geologists Bul* 40:2864-952 *bibliog (p2950-2) D '56; Discussion. C. C. Bates. 42:894-5 Ap '58*
- Origin of the Mantop copper deposits in lower California. Mexico. H. Nishihara. *bibliog Econ Geol* 52:944-51 D '57
- Sediment transport in Money creek. J. B. Stall and others. *bibliog maps Am Soc C E Proc* 84 [HY 1 no 1531]:1-27 F '58
- Total sediment load of streams. E. M. Laurssen. *J diags Am Soc C E Proc* 84 [HY 1 no 1530]:1-36 *bibliog (p33-5) F '58; Discussion. 84 [HY 6 no 1856]:59-79 N '58*

- Two theories of deposition of Oficina formation, eastern Venezuela. R. Passega and others. *bibliog Am Assn Pet Geologists Bul* 42:581-7 Ap '58
- What is a consanguineous association? R. W. Fairbridge. *bibliog J Geol* 66:319-24 My '58

See also

- Alluvium
Lake deposits
Marine deposits
Silt
Stratification

SEDIMENTS, Marine. See Marine deposits

SEED disinfection

- Mechanism of liquid seed treatment. O. Lindström. *bibliog (27 ref) J diags J Agri & Food Chem* 6:233-98 Ap '58

SEEDS

- Rancidity as a factor in the loss of viability of pine and other seeds. S. A. Kaloveras. *bibliog Am Oil Chem Soc J* 35:176-9 Ap '58

See also

Germination

SEISMOGRAPHS

- Discovery of stratigraphic traps by the reflection seismograph. G. H. Westby. *bibliog J diags Oil & Gas J* 56:144-4 Mr 17 '58
- Electronic feedback seismograph. M. J. Tucker. *bibliog J diags J Sci Instr* 35:167-71 My '58
- Marine Sonoprobe system, new tool for geologic mapping; low-frequency seismic system. C. D. McClure and others. *bibliog J maps diags Am Assn Pet Geologists Bul* 42:701-16 Ap '58
- Movecut filter. C. H. Savit and others. *bibliog diags Geophysics* 23:1-25 Ja '58
- New look at old seismograms; seisverter permits geophysicists to incorporate old seismograms with the latest field information. *J Oil & Gas J* 55:70 N 25 '57
- New refraction seismograph. H. M. Mooney and R. A. Kaasa. *J diags R Sci Instr* 29:4-4 Ap '58
- Research and progress in exploration. H. F. Dunlap and C. H. Johnson. *J map diags Geophysics* 23:267-84 Ap '58
- Review of methods of filtering seismic data. M. K. Smith. *diags Geophysics* 23:44-57 Ja '58
- Successful shooting in Delaware basin. M. E. Trostle. *J map Oil & Gas J* 55:117-19+ N 4 '57

See also

Geophone

SEISMOMETRY

- International geophysical year; seismology and gravity. D. C. Rose. *J(p58) Eng J* 41:69 Ar '58
- New seismic method magnetically integrates seismic data in the field. N. S. Morrissey. *J diags Oil & Gas J* 55:192-4 N 4 '57
- New seismic method revealed; Vibroseis. *Oil & Gas J* 56:79 Ap 14 '58
- Seismic-refraction method in ground-water exploration; East Orange water reserve. W. E. Bonini and E. A. Hickok. *maps diag Min Eng* 10:Trans 485-8 Ap '58
- Seismic survey of Sinai and the Gulf of Suez. P. A. A. H. Masson and F. J. Agrich. *maps diags Geophysics* 23:329-42 Ap '58
- Seismic work hits a slump. H. G. Patrick. *Oil & Gas J* 56:176-8 Mr 17 '58
- Surface motions of a thick plate. L. Knopoff. *bibliog J diags J Ap Phys* 29:661-70 Ap '58
- Transient behavior of patterns. J. E. White. *diags Geophysics* 23:26-43 Ja '58; Discussion. C. H. Savit. 23:360-2 Ap '58
- Transmission and reflection of Rayleigh waves at corners. J. C. Bremacker. *diags Geophysics* 23:253-66 Ap '58

SELECTROFOAM resin. See Rubber, Sponge

SELENIDES

- Oxidation-reduction potentials of the system; selenourea-formamidine diselenide. P. W. Preisler and T. N. Scortia. *bibliog Am Chem Soc J* 80:2309-10 My '58
- Synthesis of selenides and tellurides; the reduction of selenites by hydrazine. W. C. Benzing and others. *Am Chem Soc J* 80:2657-9 Je 5 '58

See also

Hydrogen selenide

SELENITES

- Synthesis of selenides and tellurides; the reduction of selenites by hydrazine. W. C. Benzing and others. *Am Chem Soc J* 80:2657-9 Je 5 '58

SELENIUM

- Reactions of conjugated fatty acids; selenium catalysis, a method for preparing Diels-Alder adducts from *cis,trans*-octadecadienoic acid. H. M. Teeter and others. *bibliog Am Oil Chem Soc J* 35:233-40 My '58
- Selenium utilization in soda-lime-silica glass manufacture. D. K. Hill. *Glass Ind* 39:487-8 S '58
- Studies on the nutritive effects of selenium for chicks. M. C. Nesheim and M. L. Scott. *bibliog J Nutrition* 66:601-18 Ag '58

Analysis

- Determination of small amounts of arsenic in selenium. J. F. Reed. *bibliog Anal Chem* 30:1122-4 Je '58
- Determination of trace amounts of selenium in sulfuric acid; colorimetric method using 3,3'-diaminobenzidine. T. Danzuka and K. Jeno. *Anal Chem* 30:1370-1 Ag '58
- Spectrochemical method for the determination of selenium. C. L. Waring and others. *bibliog Anal Chem* 30:1504-6 S '58

SELENIUM oxides

- Action of selenium dioxide on wool. J. R. Holker and J. B. Speakman. *J Ap Chem* 8:1-3 Ja '58

SELENIUM photocell. See Photoelectric cells

SELENIUM rectifier. See Electric rectifiers

SELENOMETHIONINE**Analysis**

- Identification of selenomethionine in the proteins of *Escherichia coli* employing the chromatographic fingerprint method. T. W. Tuve and H. H. Williams. *Am Chem Soc J* 79:5830-1 N 5 '57

SELENOUREA

- Oxidation-reduction potentials of the system: selenourea-formamidine diselenide. P. W. Preisler and T. N. Scortia. *bibliog Am Chem Soc J* 80:2309-10 My '58

SELF-disclosure. See Human relations

SELF-employed individuals retirement act. See Insurance, Social

SELF purification of water. See Water purification, Natural

SEMEN

- Control of sex. M. J. Gordon. *il diags Sci Am* 199:87-8+ N '58

SEMI-AUTOMATIC ground environment system

- Communication channels for SAGE data systems. R. T. James. *diags Elec Eng* 77:792-7 S '58
- First sector now operating. *map Product Eng* 29:22 Jl 21 '58
- First SAGE center opens. *Electronics* 31:24 Jl 11 '58

Logical design of SAGE radar input monitor. B. L. Bair. *il diags Electronics* 31:76-81 Ag 15 '58

No Diesel power; no key defense systems; Diesel generator sets for SAGE. *il diags Diesel Power* 36:24 Ja '58

Printed wiring boards link air defense system. *il Machine Design* 30:36+ Ja 23 '58

Selective signaling and switching for the SAGE system. H. Michael. *il diags Bell Lab Rec* 36:335-9 S '58

SEMICARBAZIDES

- Reaction of chloral hydrate with semicarbazides and the synthesis of semicarbazide- C^{14} and 6-azauracil-2- C^{14} . P. K. Chang and T. L. V. Ulbricht. *bibliog Am Chem Soc J* 80:976-9 F 20 '58

SEMICONDUCTORS

- Arby junctions in semi-conducting devices.** D. F. Taylor. *il diags Research* 11:335-8 S '58
- Amplification in an electrolyte.** J. F. Dewald. *il diags Engineering* 185:696 My 30 '58; *Same. Ind Lab* 9:72 Je '58
- Analogue solution of space-charge regions in semiconductors.** L. J. Giacchetto. *il diags Inst Radio Eng Proc* 46:1083-5 Je '58
- Automation's little giant.** J. S. O'Flaherty. *il Mach* 64:117-20 Ja '58
- Carrier generation and recombination in $p-n$ junctions and $p-n$ junction characteristics.** C. T. Sah and others. *bibliog diags Inst Radio Eng Proc* 45:1228-43 S '57; *Discussion. J. A. Hoernl.* 46:502 F '58
- Class III-V compound rectifiers.** G. B. Kich. *bibliog Elec Eng* 77:514-16 Je '58
- Comparison of the semiconductor surface and junction photovoltage.** E. O. Johnson. *bibliog diags RCA R* 18:556-77 D '57
- Compound semiconductors.** H. P. R. Frederikse. *bibliog diags J Metals* 10:346-50 My '58

Copper spray, clip-on leads make varistors. C. C. Martindell. *il Electronics* 31:108-10+ Jl 18 '58

Current balancing reactors for semiconductor rectifiers. I. K. Dortort. *diags Com & Electronics* p452-6 S '58; *Abstract. Elec Eng* 77:589 Jl '58

Design features of large semiconductor rectifiers. I. K. Dortort. *Applications & Ind* p249-53; *Discussion.* 253-6; *Reply.* 256-8 S '58

Development of semiconductors in the U.S.S.R. A. F. Joffe. *Eng J* 41:88-9 Ag '58

Devise system to demineralize water at points of use; Western electric co. *il Ind Lab* 9:76-7 Ja '58

Electrical contact with thermo-compression bonds. H. Christensen. *il diags Bell Lab Rec* 36:127-30 Ap '58

Electrons, holes, and traps. W. Shockley. *bibliog diags Inst Radio Eng Proc* 46:973-90 Je '58

Evolution of the theory for the voltage-current characteristic of $p-n$ junctions. J. L. Moll. *bibliog diags Inst Radio Eng Proc* 46:1076-82 Je '58

Field-effect varistor. *il diags Bell Lab Rec* 36:150 Ap '58

Formation of junction structures by solid-state diffusion. F. M. Smits. *bibliog diags Inst Radio Eng Proc* 46:1049-61 Je '58

Germanium and silicon take the lead among semiconductor rectifiers. R. A. York. *Product Eng* 29:89-91 My 12 '58

High-speed microwave switching of semiconductors. R. V. Garver and others. *diags J Ap Phys* 28:1336-8 N '57

Hyperbolic analogs using varistors. G. W. Holbrook. *diags Inst Radio Eng Proc* 46:1762 O '58

Infra-red and microwave modulation using free carriers in semiconductors. A. F. Gibson. *bibliog diags J Sci Instr* 35:273-8 Ag '58

Irradiation of $p-n$ junctions with gamma rays; a method for measuring diffusion lengths. R. Gremmelmaier. *bibliog diags Inst Radio Eng Proc* 46:1045-9 Je '58

Junctions between semiconductors having different energy gaps. H. L. Armstrong. *diags Inst Radio Eng Proc* 46:1307-8 Je '58

Lead compound semiconductors in rocket instrumentation. *Elec Manuf* 61:9-10 Je '58

Measurement of minority carrier lifetimes with the surface photovoltage. E. O. Johnson. *diags J Ap Phys* 28:1349-53 N '57

Metal rectifiers and semi-conductors. *il Engineer* 204:570-2 O 18 '57

Metal rectifiers and semi-conductors. *Product Eng* 29:1 2-3 Mid-S '58

More jobs for semiconductors. P. Penfield, Jr. *diags Radio-Electronics* 29:42-3 My; 50-1 Je '58

More than hardware; semiconductors for automation. H. B. Fancher. *Automation* 5:148-50 Ap '58

New applications of impedance networks as analog computers for electronic space charge and for semiconductor diffusion problems. G. Cremonesi and others. *bibliog il diags Inst Radio Eng Proc* 46:863-77 My '58

New passive semiconductor component; field effect varistor. *Franklin Inst J* 265:525-6 Je '58

New static switches revealed as Westinghouse opens plant for semiconductors. C. A. Weinert. *il Automotive Ind* 118:68-9+ Ap 15 '58

New tubes and semi-conductors. *diags Published in monthly numbers of Radio-electronics*

New varistor is described. *il Electronics* 31: 14 Mr 28 '58

Oxides of the 3d transition metals. F. J. Morin. *bibliog diags Bell System Tech J* 37:1047-84 Jl '58

Prediction of semiconductor surface response to ambients by use of Lewis acid-base theory. C. G. Peattie and J. R. Macdonald. *bibliog Inst Radio Eng Proc* 45:1292 S '57

Prodigal property; semiconductors make laboratory-model, miniature amplifiers. *il Chem & Eng N* 36:51 Ap 7 '58

Production and sales; semiconductor sales up 44 per cent. *Electronics* 30:16 D 20 '57

Recombination in semiconductors. G. Bemsli. *diags Inst Radio Eng Proc* 46:990-1004 bibliog(p 1002-4) Je '58

Rectifiers and semi-conductors. *Engineering* 184:565 N 1 '57

SEMICONDUCTORS—Continued

- Rectiflow drives; semiconductor rectifiers. W. R. Harding. *Il diags Westinghouse Eng* 18:120-2 J1 '58
- Review of other semiconductor devices. S. J. Angello. *bibliog Inst Radio Eng Proc* 46: 968-73 Je '58
- Semiconductor power rectifiers. *diags Product Eng* 28:1 14-17 Mid-O '57
- Semiconductor progress; the controlled rectifier nears production; abstract. H. B. Fancher. *Control Eng* 5:32-4 F '58
- Semi-conductor rectifier factory; British Thomson-Houston co. *Il diags Engineer* 205:302-5 Mr '58
- Semiconductor rectifiers. N. F. Bechtold. *Il Electronic Ind & Tele-Tech* 16:70-1-4 O '57
- Semiconductor rectifiers, present and future, for electrochemical loads; abstract. R. M. Crenshaw and A. L. Munn. *Machine Design* 30:152-4 Ap 17 '58
- Semiconductor research. M. Sparks. *Il diag Bell Lab Rec* 36:192-7 Je '58
- Semiconductor research in the USSR. W. C. Dunlap, Jr. *Il Phys Today* 11:14-21 My '58
- Semiconductor sales soar. *Il Steel* 141:71 N 11 '57
- Semiconductor switching devices. *diags Electronic & Radio Eng* 35:235-6 Je '58
- Semiconductors again. *diags Wireless World* 64:339-43 J1 '58
- Semiconductors and electronics. *Il Westinghouse Eng* 18:25-7 Ja '58
- Semiconductors and how they function; abstract. W. Shockley. *Glass Ind* 38:685 D '57
- Semiconductors for infrared detectors. *Product Eng* 29:14 F 24 '58
- Semi-conductors; illustrations with text. *Engineer* 206:pl 1 Ja 10 '58
- Semiconductors move into the regulation field; field-effect varistor. *diags Radio-Electronics* 29:6 Je '58
- Semi-conductors, 1957. F. L. Fisher and W. McInnis. *Eng & Min J* 159:138-9 F '58
- Semiconductors provide analog voltage source. E. R. James. *Il diag Electronics* 31:96-4 Ag 15 '58
- Semiconductors; revolution at your elbow. *Il diag Product Eng* 29:60-3 Ap 14 '58
- Semiconductors shrink servo system size. H. L. Aronson and W. F. Lamb. *Il diags Electronics* 31:69-71 Ja 3 '58
- Semiconductors, their applications to rectifiers and transistors. G. Goudet. *Il diags Elec Com* 34:309-21 D '57
- Silicon semiconductor devices. *diags Electronic Ind* 17:62-3 Je '58
- Simplified treatment of electric charge relations at a semiconductor surface. E. O. Johnson. *bibliog (34 titles) diags RCA R* 18: 525-55 D '57
- Sintering method for semiconductor material. G. K. Gaulé and others. *Il diags R Sci Instr* 29:565-7 J1 '58
- Space charge calculations for semiconductors. R. Selwitz and M. Green. *bibliog J Ap Phys* 29:1034-40 J1 '58
- Status of transistor research in compound semiconductors. D. A. Jenny. *bibliog diags Inst Radio Eng Proc* 46:959-68 Je '58
- Technique for connecting electrical leads to semiconductors. O. L. Anderson and others. *diags J Ap Phys* 28:923 Ag '57; Same cond. *Franklin Inst J* 264:358-9 O '57; Same cond. *Metal Prog* 73:196-4 My '58
- Tecnetron, a simple new semiconductor. A. V. J. Martin. *Il diag Electronic Ind* 17:78-9+ Mr '58
- Tecnetron; competitor to the transistor? E. Aisberg. *Il diags Radio-Electronics* 29:60-1 My '58
- Tecnetron mutual conductance. *Wireless World* 64:239 My '58
- Tecnetron, new French v.h.f. semiconductor device. *Il diag Wireless World* 64:132 Mr '58
- Tecnetron principle. *diags Electronic Ind* 17: 120-2 J1 '58
- Temperature rise of solid junctions; abstract. E. J. Diebold. *diags Elec Eng* 77:183 F '58
- Texas Instruments opens new semiconductor facility. *Il Ind Lab* 9:12 Ag '58
- Triboluminescence in semiconductors. D. A. Jenny. *J Ap Phys* 28:1515 D '57
- Two-terminal constant current device; varistors. *diags Engineering* 185:562 My 2 '58
- Using the Varicap. R. P. Turner. *Il diags Radio-Electronics* 29:57-9 My '58
- Voltage variable capacitor; Varicap. G. F. Straube. *bibliog Il diags Electronic Ind* 17: 69-73 My; 77-80 J1 '58
- Where to use the new semiconductor materials. R. K. Willardson and T. S. Shliddy. *Il Materials in Design Eng* 47:114-18 Mr '58
- See also
- Cadmium selenide
- Cadmium sulfide
- Gallium arsenide
- Germanium
- Indium antimonide
- Silicon
- Spacitors
- Transistors
- Zinc arsenide
- Control uses
- Millimicrosecond switch; abstract. J. H. Forster and F. Zuk. *diags Electronics* 31:26-7 S 19 '58
- Multiterminal p-n-p-n switches. R. W. Aldrich and N. Holonyak, Jr. *diags Inst Radio Eng Proc* 46:1236-9 Je '58
- New semiconductor device enters industrial control picture. *Il Power* 102:109 S '58
- Semiconductor circuit design philosophy for the central control of an electronic switching system. B. J. Yokelson and others. *Il diags Bell System Tech J* 37:1125-60 S '58
- Failure
- Electrical breakdown in p-n junctions. A. G. Chynoweth. *Il diags Bell Lab Rec* 36:47-51 F '58
- Manufacture
- Flanges feed cutting coolant. *Il Electronics* 31:144-5 F 14 '58
- Preventing conductivity fluctuations during growth of a semiconducting crystal. W. G. Flann and others. *J Ap Phys* 29:1238-40 Ag '58
- Semiconductors from crystals to devices. L. L. Friend. *Il Westinghouse Eng* 18:116-19 J1 '58
- Varistor production machinery avoids abrasion. C. S. Martindell. *Il Electronics* 31: 102-4 Je 20 '58
- Noise
- Experiment showing the influence of surfaces on 1/f noise in germanium. J. J. Brophy. *diags J Ap Phys* 29:1277-8 S '58
- Generation recombination noise in intrinsic and near-intrinsic germanium crystals. J. E. Hall and K. M. van Vliet. *bibliog J Ap Phys* 29:177-82 F '58
- Noise in semiconductors and photoconductors. K. M. van Vliet. *diags Inst Radio Eng Proc* 46:1004-18 bibliog (p 1017-18) Je '58
- See also
- Transistors—Noise
- Standards
- IRE standards on graphical symbols for semiconductor devices, 1957. *diags Inst Radio Eng Proc* 45:1612-17 D '57 (reprints 60c)
- New IRE standard semiconductor symbols. *diags Electronic Ind* 16:56-7 D '57
- Temperature effect
- Semiconductors can beat heat. *diag Electronics* 31:24-5 Je 13 '58
- Testing
- Apparatus for measurement of thermal e.m.f. in semi-conductors. J. C. Brice and H. C. Wright. *diag J Sci Instr* 35:146-7 Ap '58
- Apparatus for measuring the piezoresistivity of semiconductors. R. F. Potter and W. J. McKean. *bibliog Il diags J Res Nat Bur Stand* 59:427-30 D '57
- Apparatus for piezoresistance measurement. M. Poljak. *bibliog diags R Sci Instr* 29: 639-41 J1 '58
- Effects of short duration neutron radiation on semiconductor devices. W. V. Behrens and J. M. Shaul. *bibliog Inst Radio Eng Proc* 46:601-5 Mr '58
- SEIMIDINE rearrangement. See Molecular rearrangements
- SEMI-WORKS. See Chemical plants—Experimental plants
- SENARMONT, Henri Hureau de. Sketch. E. S. Barr. *Am J Phys* 26:108-9 F '58
- SENECIO. Absolute configurations of the neclines. N. J. Leonard. *bibliog Chem & Ind* p 1455-6 N 2 '57
- SENSES and sensation
- See also
- Smell
- Taste
- SENSITOMETERS
- Use of a motion-picture printer as a sensitometer. R. O. Gale and J. J. Graham. *Il diags SMPTE J* 67:84-6 F '58

SENSITOMETRY. See Photography—Sensitometry**SEPARATION**

- Cost of fractionator systems. W. L. Nelson. *Oil & Gas J* 56:133 Je 9 '58
- Effect of adsorption in barrier separation. K. Kammermeyer and D. D. Wyrick. *bibliog Ind & Eng Chem* 50:1309-10 S '58
- Fractionation of sesame and safflower oil fatty acids with urea. T. N. Mehta and S. B. Dabhadre. *bibliog Am Oil Chem Soc J* 35:501-3 O '58
- Helium separation and purification. Franklin Inst. *J* 268:50-1 J '58
- Helium separation and purification by diffusion. *il Bell Lab Rec* 36:262-3 J '58
- Mass transfer behavior in fixed beds. J. O. Osburn. *diags Chem Eng* 65:143-5 S 8 '58
- Mastication; separation and structural investigation of natural rubber-polyethyl methacrylate interpolymers formed by mastication. D. J. Angier and W. F. Watson. *bibliog Rubber Chem & Tech* 31:58-72 Ja '58
- Permeation; new way to separate mixtures. R. C. Binning and F. E. James. *diags Oil & Gas J* 56:104-5 My 26 '58; Same. *Pet Refiner* 37:214-15 My '58; Same. *Pet Eng* 30:C 14-15 Je '58
- Scale-up problems in the plutonium separations program. O. F. Hill and V. E. Cooper. *il diags Ind & Eng Chem* 50:599-602 Ap '58
- Separation and determination of mono-, di-, and triglycerides in monoglyceride concentrates. P. Quinlin and H. J. Weiser, Jr. *bibliog diag Am Oil Chem Soc J* 35:325-7 J '58
- Separation and spectrophotometric determination of microgram amounts of niobium. G. R. Waterbury and C. E. Bricker. *Anal Chem* 30:1007-9 My '58
- Separation of allylic bromides without isomerization by gas chromatographic techniques. R. F. Nyström and C. R. A. Berger. *Chem & Ind* p559-60 My 10 '58
- Separation of benzene and *n*-heptane in continuous thermal diffusion columns. T. S. Heines and others. *bibliog flow diag il diag Ind & Eng Chem* 49:1911-20 N '57
- Separation of halogenated acetic and propionic acids by paper chromatography. J. W. Chittum and others. *bibliog Anal Chem* 30:1213-14 J '58
- Separation of isomeric polyphenyls by adsorption chromatography. M. Hellman and others. *bibliog Anal Chem* 30:1206-10 J '58
- Separation of miscible liquids by polymeric absorbents. J. C. H. Hwa and others. *bibliog Ind & Eng Chem* 49:1828-34 N '57
- Separation of molecular mixtures using crystal sieves; abstract and discussion. R. M. Barrer. *Chem & Ind* p252 Mr 1 '58; Same. *Manuf Chem* 29:102+ Mr '58
- Separation of xylenes, cymenes, methyl-naphthalenes and other isomers by clathration with inorganic complexes. W. D. Schaeffer and others. *Am Chem Soc J* 79:5870-6 N 20 '57
- Sharp, selective adsorption pays off; molecular sieves make big splash in material separation. *il diags Chem Eng* 65:66+ O 20 '58
- Symposium on nuclear energy, fuel processing; abstracts of papers. *bibliog diags Engineering* 185:204-6, 236-8 F 14-21 '58
- Take a look at permeation; membrane permeation process for difficult-to-separate liquid mixtures. *diag Chem & Eng* N 36:53-9 Mr 31 '58
- Vacuum techniques in the atomic energy industry. H. Kronberger. *diags Engineer* 204:702-5 N 15 '57; Discussion. 204:749-50 N 22 '57
- See also
Centrifugation
Crystallization
Dialysis
Electrostatic separators
Extraction apparatus
Extraction processes
Flotation process (non-metals)
Hydrocarbons—Separation processes
Ion exchange
Ore treatment
Precipitation (chemistry)
Sedimentation
Sink and float process
Sublimation
Vaporization

SEPARATORS

- Application of gas/liquid cyclones in oil refining. J. R. J. Van Dongen and A. J. Ter Linden. *diags A S M E Trans* 80:245-9; Discussion. 249-50; Reply. 250-1 Ja '58
- Better cycloning in sand-slime separation; Uranium reduction co. mill. R. L. Curfman. *il diags Min Eng* 10:768-9 J '58
- Coupling and design of cyclone installations. G. H. Nuttall and I. F. Hendry. *bibliog diags Tappi* 40:951-65 D '57
- Here are latest machines for updating your plant; separation. *il Food Eng* 30:75-6 O '58
- High radiation level hydroclone centrifuging removes homogeneous reactor fission products. W. D. Burch. *bibliog flow sheet diags Chem Eng Prog* 54:79-82 F '58
- Stearns separator uses ceramic magnets. *il diag Tool Enk* 41:113 S '58
- Theoretical study of the hydraulic cyclone. D. Bradley. *bibliog diag Ind Chem* 34:473-80 S '58
- See also
Centrifuges
Classifiers
Concentrators
Dust collectors
Electric precipitation
Evaporators
- SEPARATORS, Electrostatic.** See Electrostatic separators
- SEPIOLITE**
Sepiolite, a versatile raw material. R. H. S. Robertson. *il diag Chem & Ind* p 1492-5 N 16 '57
- SEPTIC tanks**
City-county control of subdivision sewage disposal. A. A. Dunbar and J. J. Weinstein. *il Pub Works* 89:102-4 Je '58
- Design details for individual sewage disposal systems. H. A. Martin. *plan diags Am Soc C E Proc* 84 [ISA 4 no 1715]:1-22 J '58
- SEQUENTIAL analysis**
Sequential methods in clinical trials. P. Armitage. *bibliog diag Am J Pub Health* 48:1295-402 O '58
- SEQUENTIAL functions.** See Logic, Symbolic and mathematical
- SEQUESTERING agents**
See also
Ethylenediamine tetraacetic acid
- SERINE**
O-carbaryl-DL-serine, an inhibitory analog of glutamine. T. J. McCorr and others. *bibliog diag Am Chem Soc J* 80:3762-4 J '58
- Phosphorylation of serine in rat liver. M. Nemer and D. Elwy. *bibliog Am Chem Soc J* 79:6564-5 D 20 '57
- SERNYL.** See Anesthetics
- SEROTONIN**
Oxindole analogs of 5-hydroxy-tryptamine and -tryptophan, as inhibitors of the synthesis and breakdown of serotonin. K. Freter and others. *bibliog diag Am Chem Soc J* 80:983-7 F 20 '58
- Serotonin. I. H. Page. *bibliog il diags Sci Am* 197:52-6 D '57
- SERPENTINE**
Characterization of serpentine minerals. E. J. W. Whittaker and J. Zussman. *Am Mineralogist* 43:917-20 S '58
- SERRATIA marcescens.** See Bacteria
- SERT, José Luis**
J. L. Sert. *Arch Rec* 123:125-40 Ja '58
- SERUM**
Analysis
Determining serum protein-bound iodine. R. D. Strickland and C. M. Maloney. *bibliog Anal Chem* 29:1870-3 D '57
- Spectrophotometric determination of chloride in sweat and serum with diphenylcarbazone. J. L. Gerlach and R. G. Frazier. *bibliog Anal Chem* 30:1142-6 Je '58
- SERUM proteins.** See Proteins
- SERVICE (In industry)**
Customer service builds sales; Reagan equipment co. *il Diesel Power* 36:32+ Ja '58
- Distributor service is important. *tool L. E. Day. il Mill & Factory* 62:120-1 F '58
- How Euclid teaches mechanics and service men. *il Roads & Sts* 101:88 Ap '58
- Inspection team serves supplier and user. R. H. Eshelman. *il Iron Age* 181:104-5 My 8 '58
- International Minerals & Chemical offers help through program of Full orbit service. *Chem & Eng N* 36:24+ Je 9 '58
- Service takes planning; Dow's new tech service lab. *il Chem & Eng N* 36:38-9 Ag 11 '58
- Transportable training facilities; Rolls-Royce aero-engine school. *il Engineering* 185:517 Ap 25 '58

SERVICE (in industry)—Continued

What sells engines? Stewart & Stevenson services; interview with J. Manning. *Il Diesel Power* 36:28-30+ Ap '58

See also

Dealer helps

Electric utilities—Service

SERVICE pipes. See Water pipes—Service pipes

SERVICE stations. See Gasoline service stations

SERVOMECHANISMS

Absolute-value mechanisms. S. Z. Dushkes. *diags Instruments & Automation* 30:2246-7 D '57

Analog study of a high-speed recording servomechanism. J. W. Schwartzberg. *diags A S M E Trans* 80:490-6 F '58

Analysis of a servomechanism with backlash by the Ritz-Galerkin method. K. Ogata and C. P. Atkinson. *bibliog diags Applications & Ind* p32-4; Discussion. 84-5 My '58

Analysis of multiple sampler system with finite pulse width open loop. G. Farnam. *diags Applications & Ind* p20-8 Mr '58

Analysis of the transient response of nonlinear control systems. P. E. W. Grensted. *bibliog diags A S M E Trans* 80:427-32 F '58

Application of switching transistors and saturable reactors in a high-performance servo; abstract. F. B. Cox, Jr. and P. R. Johannessen. *Control Eng* 5:168+ Je '58

Applying electromechanical servo actuators. E. D. Hodge and S. Davis. *il diags Control Eng* 5:96-101 My '58

Characteristics of commercially available servo modulators. B. T. Barber and L. S. Kilvans. *Product Eng* 29:10-13 Mid-S '58

Closed loop instrument systems boost performance. V. A. Orlando and others. *il Aviation Eng* 29:44-7 Ap '58

Combined closed- and open-loop presentation. E. G. Trunk. *Control Eng* 5:92 F '58

Control systems engineering; the challenge. E. F. Johnson. *il Chem Eng Prog* 54:41-5 Mr '58

Correlation between the transient and frequency responses in servomechanisms. Z. J. Jelonek and G. I. Boomer. *bibliog diags Brit Inst Radio Eng* 18:101-14 F '58

Design basis for cascade-type positional servomechanisms. S. Lees and T. C. Blaschke. *diags A S M E Trans* 79:1873-96 N '57

Direct drive amplifier for two-speed servos. B. E. Orr. *il diags Electronics* 31:146-7 Mr '58

Don't design problems into your precision gear trains. J. J. Bieger. *diags Am Mach* 102:144-7 My '58

Dual-mode servo compensation; computer-relay combination. D. K. Gehmlich. *diags Control Eng* 5:119-23 My '58

Dynamic representation of lossless distributed systems; data file. R. D. Ezekiel. *diags Control Eng* 5:111-12 My '58

Extended switching criterion for second-order saturated servomechanisms. J. W. Diesel. *bibliog diags Applications & Ind* p383-93 Ja '58; Abstract. *Elec Eng* 77:49 Ja '58

Flowmeter servo for difficult liquids. *diags Elec Manuf* 62:126 Ag '58

Gain equalization of linear servomechanisms that solve nonlinear equations. G. E. Adams. *diags Elec Com* 35 no 1:15-27 '58

Graphical analysis of hydraulic servos; data file. F. S. Huddleston. *diags Control Eng* 5:89-91 Ap '58

High performance servos can be used on machine tools. S. F. Watanabe. *il diags Ap Hydraulics* 11:98+ Mr '58

High power transistor servo. *il Electronics* 31:136+ F '58

Hot gas servos will meet future high performance needs. V. DeBiasi. *diags Space/Aeronautics* 30:78-80+ O '58

How to improve servo operation. *diags Product Eng* 28:H 10-11 Mid-O '57

Hydraulic and electrohydraulic servo systems. R. Hadekel. *diags Automation* 5:71-6 Ag '58

Hydraulic servos for function generation? F. Kennelly and R. Kopp. *il diags Control Eng* 5:129 Mr '58

Improvement on the servo conversion of manual fibrographs. J. D. Tallant. *Textile Res J* 28:815 S '58

Industrial servo amplifier. F. H. Frantz. *il diags Radio-Electronics* 29:120-1 Ap '58

Inexpensive, high-response 14-hp servos; abstract. R. H. Elsenegren. *diags Control Eng* 5:113 Ji '58

Lightweight servo units. *il Engineering* 184: 554 N '57

Load-torque factor in precision gear backlash. W. Aksamit. *il diags Elec Manuf* 62: 98-101 Ag '58

Lockheed power brake; accumulator actuated hydraulic servo system designed for public service vehicles. *il diags Automobile Eng* 48:341-5 S '58

Measuring width in a hot strip mill; servo-driven optical device uses infrared radiation. *il diags Metallurgia* 57:207-8 Je '58

Meter relay as servo component. *il diags Elec Manuf* 61:150 Ap '58

Methods for determining transient response of servo systems. J. M. Nightingale. *bibliog diags Machine Design* 30:126-31 F '58; 148-55 F '58

Moon computer uses breadboard servos in field. A. S. Goodrich. *il plan diags Control Eng* 5:133+ F '58

Nonlinear integrator for servomechanisms. Mr C. Clegg. *diags Applications & Ind* p41-2 Mr '58; Abstract. *Control Eng* 5:180 My '58

Non-linear transistor compensation in high-gain servo. *il diags Elec Manuf* 62:86-9 S '58

Obtaining the frequency response characteristics of a nonlinear servomechanism from an amplitude- and frequency-sensitive describing function. W. A. Stein and G. J. Thaler. *bibliog diags Applications & Ind* p91-5 My '58; Abstract. *Elec Eng* 77:689 Ag '58; Discussion. Application & Ind p96 My '58

1000 F pneumatic servo system. C. H. Cannon. *S A E J* 66:70-1 Ap '58

Principles and applications of phase-locked detection in phase-coherent systems. C. L. Nielsen. *bibliog diags Jet Propulsion* 28: 541-4 Ag '58

Principles of servomechanisms. S. Broersma. *il Am J Phys* 26:43 Ja '58

Remote control of mechanisms. *il Engineering* 185:820 Je 27 '58

Selection and use of servo performance criteria. W. C. Schultz and V. C. Rideout. *bibliog diags Applications & Ind* p383-7 Ja '58; Abstract. *Elec Eng* 77:247 Mr '58; Discussion. Applications & Ind p387-8 Ja '58

Semiconductors shrink servo system size. H. L. Aronson and W. R. Lamb. *il diags Electronics* 31:69-71 Ja 3 '58

Servo analysis charts; reference sheet. E. Biser and S. Adler. *Electronics* 30:173-4+ D 1 '57

Servo circuit controls artificial heart. R. Schild and N. Wesson. *il diags Electronics* 31:73-5 Ap 11 '58

Servomechanism building blocks. *il diags Mech Eng* 80:76 Ag '58

Servomechanisms in combustion control. J. S. Tyndall. *il diags Combustion* 29:34-7 Ji; 45-54 Ag; 51-8 S '57

Servos test servo components. R. Kelly. *il diags Control Eng* 5:127-4 Mr '58

Signal stabilization of a control system. R. Oldenburger. *diags A S M E Trans* 79:1869-72 N '57

Simulation of non-linear servomechanisms; abstract. W. A. Murray. *diags Instruments & Automation* 31:1388-90 Ag '58

Some aspects of the application of closed loop servo systems to machine tool control. R. J. F. Howard. *il diags Brit Inst Radio Eng* J 18:237-47 Ap '58

Stability study of a third-order servo-mechanism with multiplicative feedback control. Y. H. Ku and C. F. Chen. *bibliog diags Applications & Ind* p 131-6 Ji '58

Statistical treatment of sampled-data control systems for actual random inputs. M. Mori. *bibliog diags A S M E Trans* 80:444-52; Discussion. 452-5; Reply. 455-6 F '58

Ten ways to mount servo components; drawings with text. F. W. Wood, Jr. *Product Eng* 29:86-7 Ja 6 '58

Transistors reduce relay servo size. S. Shenefeld. *il diags Electronics* 31:73-5 Ag 15 '58

Tube annealing furnace with electronic control. *il Engineer* 206:498-9 S 26 '58

Turret mounting servo components. *il Electronics* 31:108 Ag 15 '58

Unevenly unlapped four-way servo valves. T. Y. Feng. *diags Product Eng* 28:37-9 Mid-O '57

Valve operator for unattended locations. G. R. Mitchell. *bibliog il diags I S A J* 5:48-51 Mr '58

Variable simulated dither in electrohydraulic servos. L. Hesse. *diags Elec Manuf* 61:12 Mr '58

Velocity servo integrator. L. J. N. Mother-sill. *il I S A J* 5:60 Ap '58

See also

Automation

SERVOMECHANISMS—Continued

Control

Unique automatic gain control system for dc servos. C. D. Morrill and R. C. Weyrick. *diags Control Eng* 5:111 J1 '58

Manufacture

New manufacturing techniques for hydraulic servo valves. E. M. Hakanson. *il diags Tool Eng* 40:95-6 Je '58

Testing

Input simulation for servo test accuracy. S. Handelman. *il diag Elec Manuf* 61:104-5+ F '58
Instrument servo tester. L. S. Kliavans. *diag Control Eng* 5:86-8 Ag '58

SESAME oil

Fractionation of sesame and safflower oil fatty acids with urea. T. N. Mehta and S. B. Dabhadre. *bibliog Am Oil Chem Soc J* 35:501-3 O '58

SESAMOL

Physiological effect

Toxicological studies on sesamol. A. M. Ambrose and others. *bibliog J Agri & Food Chem* 6:600-4 Ag '58

SESQUIMUSTARD

Analysis

Field sampling and analysis of micro quantities of sesquimustard in presence of mustard. A. Koblitz. *bibliog Anal Chem* 30:430-2 Mr '58

SESQUITERPENES

Molecular structure and stereochemistry of an iresin diester. M. G. Rossmann and W. N. Lipscomb. *Am Chem Soc J* 80:2592-3 My 20 '58

Terpenoids; iresin: reactions of the glycol system. C. Djerassi and others. *bibliog Am Chem Soc J* 80:1972-7 Ap 20 '58

Terpenoids; the structure and absolute configuration of iresin. C. Djerassi and S. Burstein. *bibliog Am Chem Soc J* 80:2593 My 20 '58

SETTLEMENT of foundations. See Foundations—Settlement

SETTLING basins

Modification of the tracer measuring method in settling basins. L. Muszkalay and I. Vágas. *diags Sewage & Ind Wastes* 30:1101-7 S '58

Steep terrain prompts use of double deck sedimentation basin. *il Pub Works* 89:101 J1 '58

SETTLING tanks

Performance of unheated settling tanks in extreme cold weather. E. L. Smith and O. W. Kuehne. *il Pub Works* 89:192 O '58

Removing water hyacinths from settling tank by pumping. *il Pub Works* 88:184 N '57
Uniflow tank. J. L. Dallas. *diags Water & Sewage Works* 105:210-15, 249-54 My-Je '58

See also

Sewage tanks

SEVERANCE pay. See Wages—Dismissal wage

SEWAGE

Estimating sewage quantities; data sheet. *Air Cond Heat & Ven* 54:67-8 N '57

Highlights of research in sanitary engineering; Rutgers university; surface re-aeration of water as affected by domestic sewage. M. C. Rand. *il Pub Works* 88:92-3 D '57

Light conversion efficiency in photo synthetic oxygenation; abstract. W. J. Orwald. *Water & Sewage Works* 105:305 J1 '58

Nutritional requirements of nine common sewage fungi. W. B. Cooke. *bibliog Sewage & Ind Wastes* 29:1243-51 N '57

Significance of minerals in waste-water. R. Stone and J. C. Merrell, jr. *Sewage & Ind Wastes* 30:928-36 J1 '58; Correction. 30:1173 S '58

See also

Grease traps

Analysis

Amino acids in treated sewage in India. C. A. Sastry and others. *bibliog Sewage & Ind Wastes* 30:1241-7 O '58

Analytical development work for detergent ABS determination in waste waters. R. House. *bibliog Sewage & Ind Wastes* 29:1225-7 N '57

Colorimetric determination of nitrates. J. M. Foppenhagen. *bibliog Anal Chem* 30:282-4 F '58

Highlights of research in sanitary engineering; University of Florida; advancements in bacteriology and analytical methods. J. E. Kiker, jr. *Pub Works* 88:89-90 D '57

New method for determination of suspended solids. L. Nusbach. *Sewage & Ind Wastes* 30:1066-9 Ak '58

Use of glass fiber filter medium in the suspended solids determination. G. Chanin and others. *Sewage & Ind Wastes* 30:1062-6 Ag '58

Bibliography

Review of the literature of 1957 on sewage, waste treatment, and water pollution. *Sewage & Ind Wastes* 30:601-8 My '58

Bacteriology

Application of molecular filter techniques to the bacterial assay of sewage. J. E. McKee and others. *bibliog Sewage & Ind Wastes* 30:129-37, 245-52 F-Mr '58; Abstract. *Water & Sewage Works* 104:561 D '57

Highlights of research in sanitary engineering; University of Colorado; the survival of pathogenic organisms in sewage. S. G. Dunlop. *il plan Pub Works* 88:80-1 D '57

Isolation of enteric viruses and salmonellae from sewage. W. N. Mack and others. *bibliog Sewage & Ind Wastes* 30:957-62 Ag '58; Abstract. *Am J Pub Health* 48:793-4 Je '58

Movement of coliform bacteria through porous media. R. B. Krone and others. *bibliog Sewage & Ind Wastes* 30:1-13 Ja '58

Reduction of coliform bacteria in sewage sludge by halogens. C. H. Connett and others. *bibliog Sewage & Ind Wastes* 30:634-45 My '58

Tracing typhoid carriers by means of sewage. A. E. Greenberg and others. *bibliog map Sewage & Ind Wastes* 29:1237-42 N '57

Testing

Bod determinations in wastes containing chelated copper or chromium. G. B. Morgan and J. B. Lackey. *bibliog Sewage & Ind Wastes* 30:233-6 Mr '58

Evaluation of BOD bottle-cleaning techniques. J. P. Mascarenhas and G. Klein. *bibliog Sewage & Ind Wastes* 30:976-9 Ag '58

Oxygen demand measurement errors in pure organic compounds; nitrification studies. P. E. Gaffney and H. Heukelekian. *bibliog Sewage & Ind Wastes* 30:593-10 Ap '58

Oxygen demand of the lower fatty acids. P. E. Gaffney and H. Heukelekian. *Sewage & Ind Wastes* 30:673-9 My '58

See also

Sewage sampling

SEWAGE, Utilization of

Activated citrus sludge; vitamin content and animal feed potential. M. H. Dougherty and R. R. McNary. *bibliog Sewage & Ind Wastes* 30:1151-5 S '58

Considerations in promoting the sale of sewage treatment plant effluent. E. J. M. Berg. *Sewage & Ind Wastes* 30:96-8 Ja '58

Recharging ground water with reclaimed sewage effluent; Hyperion sewage treatment plant of Los Angeles. F. B. Lavery. *il map diags Civil Eng* 28:585-7 Ag '58; Abstract. *Water & Sewage Works* 104:560 D '57

Sewage effluent used for industrial water; Odessa Texas butadiene plant. T. F. Sullivan. *Am Soc C E Proc* 84 [ISA 3 no 16791]:1-15 Je '58

Water reclamation and refuse disposal; California sewage and industrial waste association. 30th annual conference. *Water & Sewage Works* 105:306-7 J1 '58

See also

Sewage irrigation

Sewage sludge as fertilizer

SEWAGE and industrial wastes associations. Federation of. See Federation of sewage and industrial wastes associations

SEWAGE disposal

Advances in secondary processes of sewage treatment in the period October 1, 1954 to June 1, 1957; progress report. *Am Soc C E Proc* 84 [ISA 2 no 1812]:1-16 bibliog(p 12-16) Ap '58; Discussion. G. E. Man. 84 [ISA 6 no 1855]:19-20 N '58

Amino acids in treated sewage in India. C. A. Sastry and others. *bibliog Sewage & Ind Wastes* 30:1241-7 O '58

Beef tapeworm, measly beef, and sewage; review. A. E. Greenberg and B. H. Dean. *Sewage & Ind Wastes* 30:262-9 bibliog(34 ref, p267) Mr '58

Commentary on water and sewage treatment; an introduction to some controversial topics. E. S. Rankin. *Pub Works* 89:84+ S '58

SEWAGE disposal—Continued

- Comprehensive study leads to improvements of sanitary sewer system. G. M. Hinkamp. *il map Pub Works* 89:106-8 Je '58
- Considerations in promoting the sale of sewage treatment plant effluent. E. J. M. Berg. *Sewage & Ind Wastes* 30:96-8 Ja '58
- Digester supernatant; problems, characteristics, and treatment. S. E. Kappe. *bibliog Sewage & Ind Wastes* 30:937-52 J1 '58
- Evaluation of high-rate digestion. C. N. Sawyer. *bibliog il map diag Water & Sewage Works* 105:255-61 Je '58
- Indiana sewage and industrial waste association meeting, Indianapolis, Nov. 13-14; abstracts of papers. *Water & Sewage Works* 105:83-4 F '58
- Modified standards reduce sewage treatment costs. *Pub Works* 89:86 Mr '58
- Pacific Northwest sewage and industrial waste association meeting, Seattle; abstracts of papers. *Water & Sewage Works* 105:81-2 F '58
- Radio tracer for studying sewage distribution. E. I. Goodman. *bibliog diag Ind & Eng Chem* 50:210-11 F '58
- Sewage and industrial wastes in 1957. K. S. Watson. *bibliog (35 titles) il Water & Sewage Works* 105:45-60 F '58
- Sewage disposal in Santa Monica bay, Calif. C. G. Gunnerson. *maps Am Soc C E Proc* 84 [SA 1 no 1534] 1-23 *bibliog (p27-8)* F '58; Discussion. 84 [SA 5 no 1786] 3-11 S '58
- Sewage effluent dilution in sea water. C. H. Lawrance. *bibliog map Water & Sewage Works* 105:116-22 Mr '58
- Sewage works practices (cont). D. E. Bloodgood and T. Jaffe. *bibliog flow diags il diags Water & Sewage Works* 105:31-6 Ja '58
- Study of sewerage for metropolitan Denver. O. J. Schmidt. *map Pub Works* 89:97-8+ My '58
- Suburbs need public sewers. *Pub Works* 89:154-4 Ap '58
- Waste treatment in the Missouri River basin. R. Porges. *bibliog Sewage & Ind Wastes* 29:1215-24 N '57
- Where we stand on pollution control. *Eng N* 161:41-4 J1 10 '58

See also

- Refuse disposal
Settling basins
Sewage flow
Sewage incinerators
Sewage pumping
Sewage sludge
Sewage tanks
Sewerage
Trade waste disposal
Water pollution

Activated sludge method

- Activated sludge cultures developed on pure organic compounds. R. S. Engelbrecht and R. E. McKinney. *bibliog Sewage & Ind Wastes* 29:1350-62 '57
- Biochemistry of nitrogen in the synthesis of activated sludge. J. M. Symons and R. E. McKinney. *diags Sewage & Ind Wastes* 30:874-90 J1 '58
- Froth control at Bay Park. A. E. Sparr. *il plans diags Sewage & Ind Wastes* 30:305-12 Mr '58
- Hydraulic control of activated sludge growth rate. M. T. Garrett. *jr. bibliog flow sheet il Sewage & Ind Wastes* 30:253-61 Mr '58
- Los Angeles enlarges its sewage facilities; Hyperion plant expanded to treat 420 mgd. D. L. Narver, jr. and E. H. Graham, jr. *il diag Civil Eng* 27:856-8 D '57
- Maintenance of fine bubble diffusion. P. F. Moran. *bibliog diags Am Soc C E Proc* 84 [SA 2 no 1699] 1-38 Ap '58
- 1957 operators' forum; activated sludge. *Sewage & Ind Wastes* 30:689-93 My '58
- Pressure screen for sewage effluent keeps sprinklers clean. D. Wilson and N. A. Nester. *il diags Pub Works* 89:85-6 Mr '58
- Sewage gets treatment; American Cyanamid and New Jersey communities work together on waste problems. *il Chem & Eng N* 36:27 Je 16 '58

Aeration

- Aerator design and development. S. A. Zieminski and others. *bibliog il plan diags Sewage & Ind Wastes* 30:1248-62 O '58
- Effects of aeration period on modified aeration. W. N. Torpey and M. Lang. *plan Am Soc C E Proc* 84 [SA 3 no 1681] 1-15 Je '58
- New Pasveer process and surface aeration units for sewage aeration. J. Finch. *Water & Sewage Works* 105:297-9 J1 '58

- New York reports; city points the way to some aeration answers. *Eng N* 160:117-18 Je 19 '58
- Spiral contact aeration in biological treatment. F. G. Nelson. *flow sheet il diags Sewage & Ind Wastes* 30:901-8 J1 '58
- Total oxidation treatment of organic wastes; Rated aeration. J. Tapleshay. *flow diags il plans diag Sewage & Ind Wastes* 30:652-61 My '58

Bibliography

- Books and reference manuals; suggested library material for water and sewage works. G. E. Symons. *Water & Sewage Works* 105:R9-11 S 15 '58
- Bulletins and catalogs. *Water & Sewage Works* 105:R395-412 S 15 '58
- Review of the literature of 1957 on sewage, waste treatment, and water pollution. *Sewage & Ind Wastes* 30:609-33 My '58

Biological treatment

- Mesophilic anaerobic digestion. L. L. Langford. *bibliog il plan diags Water & Sewage Works* 104:464-9, 546-53 O, D '57
- Spiral contact aeration in biological treatment. F. G. Nelson. *flow sheet il diags Sewage & Ind Wastes* 30:901-8 J1 '58
- Temperature effects on anaerobic digestion of raw sewage sludge. C. G. Golueke. *bibliog diag Sewage & Ind Wastes* 30:1225-32 O '58
- Total oxidation treatment. R. R. Kountz. *Water & Sewage Works* 105:R287 S 15 '58
- Transformation of some lipids in anaerobic sludge digestion. H. Heukelejian and P. Mueller. *bibliog Sewage & Ind Wastes* 30:1108-20 S '58
- Universal factors in aerobic biological purification. M. B. Eittinger. *bibliog Sewage & Ind Wastes* 30:14-20 Ja '58

Chlorination

- Application of chlorine filter techniques to the bacterial assay of sewage; effects of physical and chemical disinfection. J. E. McKee and others. *bibliog Sewage & Ind Wastes* 30:245-52 Mr '58
- Automatic chlorine control. W. Ransome. *il Sewage & Ind Wastes* 30:828-9 Je '58
- Chlorination control nomogram. *Water & Sewage Works* 105:R301-2 S 15 '58
- Sewage chlorination control through use of the oxidation-reduction potential. F. M. Weir. *Sewage & Ind Wastes* 30:952-4 J1 '58
- State practices in sewage disinfection. E. J. Laubusch. *bibliog Sewage & Ind Wastes* 30:1233-40 O '58

Cleaning compositions effect

- Effects of syndets on sewage plant operation; abstract. C. N. Sawyer. *Water & Sewage Works* 104:557-8 D '57
- Effects of synthetic detergents on sewage treatment processes. C. N. Sawyer. *bibliog il Sewage & Ind Wastes* 30:757-75 Je '58
- Highlights of research in sanitary engineering. University of California; studies of detergent break-down and air pollution by inefficient combustion. P. H. McGauhey. *il diag Pub Works* 88:87-8 D '57
- Research on the effects of detergents (alkylbenzenesulfonates and phosphates) in sewage systems; a progress report. J. D. Justice. *Am Oil Chem Soc J* 35:605-8 O '58
- Review of the Soap association's research activities pertaining to water supply and sewage treatment. F. J. Coughlin. *bibliog Am Oil Chem Soc J* 35:567-71 O '58
- Synthetic detergents from an English viewpoint. *Pub Works* 89:90+ S '58

Coagulation

- See also**
Trade waste disposal—Coagulation

Color removal

- Color removal in waste-water treatment plants. N. L. Nemerow and T. A. Doby. *Sewage & Ind Wastes* 30:1160-5 S '58

Filtration

- Accelo-filter system of sewage and waste treatment. H. W. Gillard. *il diags Pub Works* 89:84-6 F '58
- Biofiltration system. R. S. Rankin. *flow sheets Pub Works* 89:124-7 Ap '58
- Complete sewage treatment plant for 150 persons. *flow sheet il diags Eng N* 160:71-2 Ja 16 '58
- Continuous sampling of trickling filter populations. W. B. Cooke and A. Hirsch. *bibliog flow diag Sewage & Ind Wastes* 30:21-7, 133-56 Ja-F '58

SEWAGE disposal—Filtration—Continued

- Effect of high sodium chloride concentration on trickling filter slimes. G. W. Lawton and C. V. Eggert. *bibliog Sewage & Ind Wastes* 29:1228-36 N '57
- Effects of forced draft ventilation at a municipal sewage treatment plant. G. A. Rhamé and others. *Sewage & Ind Wastes* 30:1308-11 O '58
- Filter cloths. G. F. Fynn. *Water & Sewage Works* 105:383 S '58
- General design for high rate filters. *il Pub Works* 89:117-20 O '58
- Improved equipment for vacuum filtration of sludge. D. A. Dahlstrom and C. F. Cornell. *il diag Sewage & Ind Wastes* 30:891-900 J1 '58
- 1957 operators' forum; trickling filters. *Sewage & Ind Wastes* 30:693-8 My '58
- Sewage filters. T. Jaffe. *bibliog flow diag* *il diag Water & Sewage Works* 105:31-6 Ja '58
- Sewage treatment with trickling filters. *il Pub Works* 89:115-18 Ag '58
- Sludge conditioning and filtration at Cincinnati's Little Miami sewage works. D. Taylor. *bibliog il Sewage & Ind Wastes* 29:1833-46 D '67
- Sludge filtration and use of synthetic organic coagulants at Hyperion. R. D. Bargman and others. *bibliog flow diag Sewage & Ind Wastes* 30:1079-100 S '58; *Abstract. Water & Sewage Works* 104:559 D '57
- Small sewage treatment plants; trickling filters. J. J. Baffa. *flow sheets il Pub Works* 89:118-22 S '58
- Snails associated with sewage treatment installations. W. M. Ingram and others. *flow chart il Sewage & Ind Wastes* 30:821-6 Je '58
- Trickling filter operation symposium; abstracts of papers. *Water & Sewage Works* 105:28-30 Ja '58
- Trickling filter performance. L. M. Moyer and others. *flow diag* *Sewage & Ind Wastes* 30:1314-20 O '58
- Trickling filters and operation tips. G. T. Lohmeyer. *il Sewage & Ind Wastes* 29:89-93 Ja '57; Same abr. *Water & Sewage Works* 105:R281+ S 15 '58
- Turnpike service areas, where high rate trickling filters are found. W. F. Middleton. *Water & Sewage Works* 105:343-6 Ag '58

See also

Trade waste disposal—Filtration

Flotation process

- Float it; then burn it; Chicago studies flotation process to concentrate sludge solids. E. Hurwitz. *Chem & Eng N* 36:60 S 22 '58
- Flotation treatment of sewage and industrial wastes. E. S. Chase. *bibliog flow diag* *Sewage & Ind Wastes* 30:783-91 Je '58

Laws and regulations

- Sewer use regulations by municipal ordinance. D. E. Bloodgood. *bibliog Water & Sewage Works* 105:172-4 Ap '58
- Some water and sewage works legal problems. J. H. Murdoch, jr. *Water & Sewage Works* 104:523-6 D '57
- State practices in sewage disinfection. E. J. Laubusch. *bibliog Sewage & Ind Wastes* 30:1233-40 O '58

Odor removal

- Experiments with odor control in sewers. L. Price and H. Curran. *il diag* *Pub Works* 89:132-4 Ap '58
- Low-cost dome traps sewage odors; Sarasota, Fla. sewage plant. *il Eng N* 160:25 Ja 23 '58
- Removal of sewer odors by scrubbing with alkaline solutions. C. W. Beardsley and others. *il diag Sewage & Ind Wastes* 30:220-5 F '58

Radiation sterilization

- Sewage irradiation; is it economical? *diag Nucleonics* 16:106 J1 '58

Radioactive waste disposal

- Effects of radioactive materials on anaerobic digestion. W. N. Grune and others. *Sewage & Ind Wastes* 30:1123-50 *bibliog* (p 1148-50), 1399-410 S, N '58
- Radioactive wastes in sewage treatment. Franklin Inst J 265:150-1 Ag '58
- Redox potentials in sludge digestion. W. N. Grune and T. H. Lotze. *bibliog diag* *Water & Sewage Works* 105:37-41 Ja '58

- Redox potentials in waste treatment; laboratory experiences and applications. W. N. Grune and C. F. Chueh. *bibliog il diag Sewage & Ind Wastes* 30:479-500; Discussion. W. W. Eckenfelder, jr. 500-2 Ap '58

Sludge and refuse mixing

- City control of industrial wastes in municipal sewers. E. H. Campbell. *bibliog Sewage & Ind Wastes* 30:562-7 Ap '58
- Combined treatment of industrial and domestic wastes. L. S. Kraus. *bibliog Sewage & Ind Wastes* 30:193-205; Discussion. J. J. Curry. 205-7 F '58; *Abstract. Water & Sewage Works* 104:558-9 D '57
- Combined treatment of poultry and domestic wastes. J. M. Roberts. *Sewage & Ind Wastes* 30:1186-9 S '58
- Enzymes correct digester troubles and eliminate grease problems; Genoa, Ill. sewage treatment plant. F. R. Carlson and P. Cornell. *il Water & Sewage Works* 104:519-21 N '57
- Industrial effluents in municipal sewers. J. Finch. *il Water & Sewage Works* 105:72-5 F '58
- Industrial wastes effects at the South San Francisco, California, sewage treatment plant. H. L. Schweining. *Sewage & Ind Wastes* 29:1377-9 D '57
- Industrial wastes in municipal sewage plants. T. Jaffe. *Water & Sewage Works* 105:385-7 S '58 (to be cont)
- Reduce wastes disposal costs by combining mill waste with sewage for treatment; symposium. *flow diag Textile Ind* 122:135+ F '58
- Sewer use regulations by municipal ordinance. D. E. Bloodgood. *bibliog Water & Sewage Works* 105:172-4 Ap '58
- Tannery wastes treatment with sewage at Williamsport. Pa. T. R. Haseltine. *flow diag diag* *Sewage & Ind Wastes* 30:65-83; Discussion. F. E. Heller. 83-5 Ja '68

SEWAGE disposal, County

- Metropolitan planning for sewers on a county basis. C. C. Spencer. *map Pub Works* 89:83-5 Ag '58

SEWAGE disposal, Rural

- Dual plants treat water and sewage for a subdivision. C. E. Wright. *il Pub Works* 88:106-7 N '57
- Fringe area sewerage problems. J. E. Kiker. *bibliog Am Soc C E Proc* 84 [SA 4 no 1714]: 1-10 J1 '58
- Study of sewage collection and disposal in fringe areas; progress report. *maps Am Soc C E Proc* 84 [SA 2 no 1613]: 1-27 *bibliog* (p21-4) Ap '58
- Study of sewage collection and disposal in fringe areas; second progress report. *maps plans Am Soc C E Proc* 84 [SA 3 no 1686]: 1-32 Je '58

See also

Septic tanks

SEWAGE disposal plants

- Concrete for sewerage works. E. C. Wenger. *bibliog Am Concrete Inst J* 29:733-8 Mr '58; Discussion. W. T. McClenahan. 30:1273-7 pt 2 S '58
- First-year operating experiences at Sacramento, Calif. H. E. Jeffrey. *Sewage & Ind Wastes* 30:225-35 F '58
- How long will this primary plant do? how soon might treatment be added? Westchester county project. *il plan Eng N* 161: 34-6+, cover S 25 '58
- Interesting extracts from operation reports (cont). *Sewage & Ind Wastes* 29:1309-13; 30:1190-4, 1304-3 N '57, S-O '58
- Interpreting laboratory operating data; sewage treatment at Vancouver, Wash. R. E. Leaver. *Sewage & Ind Wastes* 30:1183-5 S '58
- 1957 operators' forum. *diag* *Sewage & Ind Wastes* 30:585-99, 689-705 Ap-May '58
- Operator views plant operation and design. W. A. Newell. *Sewage & Ind Wastes* 30:1057-62 Ag '58
- Primary clarifier operating guide. R. E. Leaver. *Sewage & Ind Wastes* 30:1303-4 O '58
- Primary treatment plant. E. W. Berg and R. W. McDaniel. *il Water & Sewage Works* 105:394-5 S '58
- Sewage plant operation tips. R. E. Simon. *il Water & Sewage Works* 105:R347-50 S 15 '58
- Sewage treatment for a 14 square mile area. V. A. Vaseen. *il Pub Works* 89:88-9 J1 '58
- Sewage treatment on public water supply watersheds; treatment facilities. J. P. Sue. *Sewage & Ind Wastes* 29:1209-14 N '57

SEWAGE disposal plants—Continued

- Sewerage for the Venice of America. C. E. Wright. *il Pub Works* 89:98-9 F '58
- Small sewage treatment plants, sludge digestion. J. J. Bafta. *il Pub Works* 89:79-82+ J '58
- Three-year summary of operation. Blasdel, New York, sewage treatment plant. S. J. Pieczonka. *Sewage & Ind Wastes* 30:287-9 F '58
- Total oxidation treatment of organic wastes; Rateradation. J. A. Tapleshay. flow diags *il plans diag Sewage & Ind Wastes* 30:652-61 My '58
- Treatment plant operational experiences at New Rochelle, N.Y. J. M. Brown. *Sewage & Ind Wastes* 30:82-34 Je '58
- Two years of the Federal water pollution control act. map *Pub Works* 89:188+ O '58
- Water and sewerage for a new residential development. C. E. Wright. *il Pub Works* 89:87-9 Ja '58

See also

Settling basins
Sewage incinerators

Costs

- Examination of sewage solids incineration costs. K. L. Mick and S. E. Linsley. *biblog il Water & Sewage Works* 104:479-87 N '57
- Sewage treatment construction estimates. 1957-1960. B. P. Pooie and others. *Sewage & Ind Wastes* 30:301-4 Mr '58

Design

- Check list for sewage treatment plant design. G. R. Elmore and J. C. Yarbrough. *Pub Works* 89:134-5+ S '58
- Design of a unique small sewage plant. *Pub Works* 89:136-7 J '58
- Mesophilic anaerobic digestion; structural, mechanical, and operational considerations. L. L. Langford. *il plan Water & Sewage Works* 104:546-53 D '57
- Public law 860 and uniform design standards; sewage works panel. *Water & Sewage Works* 105:42-3 Ja '58
- Sewage treatment plant is designed for easy operation; Luverne, Minn. G. G. Ehrlich. *il Pub Works* 89:95-6 Ja '58

Electric equipment

- Robotry in water and sewage works operation. D. B. Dickson and C. H. Billings. *il diags Pub Works* 89:104-12 O '58

Employees

- 1956 salary survey of New England sewage works personnel. J. B. Hanlon and others. *Sewage & Ind Wastes* 29:1390-5 D '57
- Operator training, key to effective sewage treatment. H. F. Seidel. *Pub Works* 89:144-6 J '58
- Oregon water and sewage plant operators short school program. F. C. Burgess and C. V. Wright. *Water & Sewage Works* 105:382-4 S '58

Equipment

- Asphalt paved sludge beds. In Salt Lake City. W. T. South. *diag Water & Sewage Works* 105:347-8 Ag '58
- Compressed air applications in sewage and water works. J. L. Hylton. *il diags Water & Sewage Works* 104:14-18 N '57
- Dewatered sludge handled by conveyor. W. C. Tims. *il Pub Works* 89:100 J '58
- Effects of forced draft ventilation at a municipal sewage treatment plant. G. A. Rhome and others. *Sewage & Ind Wastes* 30:1308-11 O '58
- Equipment news. Published in monthly numbers of *Water and Sewage works*
- Extensions at Derby's sewage treatment works. *il diag Engineer* 206:93-5 J '58
- Filter cloths. G. E. Fynn. *Water & Sewage Works* 105:383 S '58
- Jersey City pollution abatement facilities. D. L. Gallagher. flow diags *il map diags Water & Sewage Works* 105:179-83 My '58
- London's northern outfall works; illustrations with text. *Engineer* 205:pl 9 Ja '58
- Los Angeles enlarges its sewage facilities; Hyperion plant expanded to treat 420 msd. D. L. Narver, Jr. and E. H. Graham, Jr. *il diag Civil Eng* 27:856-8 D '57
- Mesophilic anaerobic digestion; structural, mechanical, and operational considerations. L. L. Langford. *il plan Water & Sewage Works* 104:546-53 D '57
- Nation's capital enlarges its sewerage system; addition to treatment plant. C. F. Johnson. *il plan diag Civil Eng* 28:502-5 J '58

- Plant at Hoscar sewage purification works. *il diags Engineer* 205:898-9 Je '58
- Polystyrene structure to oxidize biological wastes. *il Plastics World* 16:13 O '58
- Pressure screen for sewage effluent keeps sprinklers clean. D. Wilson and N. A. Noste. *il diags Pub Works* 89:85-6 Mr '58
- Removing water hyacinths from settling tank by pumping. *il Pub Works* 88:134 N '57
- Rubber-seated butterfly valves. A. E. Hatch, Jr. and W. H. Chamberlain. *diag Water & Sewage Works* 104:412-15; 105:67-9 S '57, F '58
- Sewage plant doubles as lab for equipment maker. J. J. Gilbert. flow diag *il Power Eng* 82:82-4 Je '58
- Sewage sludge thickening by mechanical vibration. G. Spohr and W. W. Eckenfelder, Jr. *il Pub Works* 89:111-12 Mr '58
- Sewage treatment for a modern shopping center. R. Burge. flow sheet *il plan Pub Works* 88:96-8 N '57
- Small comminutor. *il Engineer* 205:903 Je '58
- Spiral contact aeration in biological treatment. F. G. Nelson. flow sheet *il diags Sewage & Ind Wastes* 30:901-3 J '58
- Use of steel in sewage plants cuts costs, speeds construction. R. M. Millwee, Jr. *il Pub Works* 88:123-4 N '57
- Velocity controlled sewage siphons solve pumping problems. T. M. Riddick. *il Pub Works* 89:101-3 Je '58
- Wide span space frames cover trickling filter. *il Pub Works* 89:130 Mr '58

See also

Sewage pumps
Sewage tanks

Experimental plants

- Pilot plants ready to go at Taft center. *il Eng N* 159:47-8+ N 28 '57

Grit chambers

- Conveying flowable materials. L. S. Metcalf. *il diags Water & Sewage Works* 105:76-9 F '58
- Grit handling system; Jefferson county. Birmingham, Ala. F. E. Stuart, Jr. *il Water & Sewage Works* 105:175-7 Ap '58
- 1957 operators' forum; grit chambers and primary settling. *Sewage & Ind Wastes* 30:58-9 Ap '58
- Pressure relief system tames Florida boil; grit structure of Northeast sewage treatment plant for St Petersburg. B. J. Prugh. *il diag Civil Eng* 28:582-4 Ag '58

Housing project plants

- Complete sewage treatment plant for 150 persons. flow sheet *il diags Eng N* 160:71-2 Ja '58

Maintenance and repair

- Mechanical maintenance program. R. C. Thayer. *Sewage & Ind Wastes* 30:1194-6 S '58
- Pump bearing maintenance. L. Krapp. *Sewage & Ind Wastes* 29:1313-17 N '57

Records

- Good records help sewage plant operation. R. L. Johnson. *Pub Works* 89:89 Je '58
- Importance of sewage treatment plant records. R. W. Briley. *Sewage & Ind Wastes* 30:314-15 Mr '58
- Operational reports and records. L. A. Beck. *Sewage & Ind Wastes* 30:834-6 Je '58

Roadside plants

- Sewage plant for restaurant treats 12,000 g.p.d.; Manero's restaurant on New Jersey route 17. *plan Pub Works* 89:98 Mr '58
- Turnpike service areas, where high rate trickling filters are found. W. F. Middleton. *Water & Sewage Works* 105:343-6 Ag '58
- Waste treatment plant serves highway restaurant. *diag Pub Works* 89:93-4 My '58
- Water and sewage facilities for the Kansas turnpike. P. C. Sharp. *il Am Water Works Assn J* 50:119-24 Ja '58

Safety measures

- Accident prevention. E. L. Macdonald, Jr. *Sewage & Ind Wastes* 29:1395-8 D '57
- Development and maintenance of a safety program. Department of water and sewers of the city of Miami. *Pub Works* 89:124+ Je '58
- Fifty basic safety rules. *Water & Sewage Works* 105:R35-6 S '58

SEWAGE disposal plants—Safety measures

—Continued

Safety can be profitable. Sewage & Ind Wastes 30:317-18 Mr '58
Small plant safety hazards. F. Short. Sewage & Ind Wastes 30:393-4 Ja '58

Standards

Uniform state and interstate sewage treatment design standards; panel discussion. Sewage & Ind Wastes 30:980-91 Ag '58
Units of expression for wastes and waste treatment. Sewage & Ind Wastes 30:709-16 My '58

Statistics

Sewage treatment, sewerage and water works contracts in 1957. Pub Works 89:172+ O '58
United States sewage treatment practices during the early twentieth century. R. Forges. biblog Sewage & Ind Wastes 29:1321-32 D '57

SEWAGE flow

Concentric orifice diameters. A. Goldstein. Water & Sewage Works 105:R57+ S 15 '58
Flow of concentrated raw sewage sludges in pipes. S. G. Brisbin, biblog il Am Soc C E Proc 83 [SA 3 no 1274]:1-12 Je '57; Discussion. 83 [SA 6 no 1466]:3-5 D '57; 84 [SA 1 no 1557]:17-22 F '58
Modification of the tracer measuring method in settling basins. L. Muszkalay and I. Vágas. diags Sewage & Ind Wastes 30:1101-7 S '58
Resistance of sewage sludge to flow in pipes. T. L. Chou. biblog Am Soc C E Proc 84 [SA 5 no 1780]:1-19 S '58

Sewage flow characteristics and treatment methods for a small community. R. A. Gerber. il Pub Works 89:166-8 My '58
Sewage flow measuring unit. E. T. Davis. il Water & Sewage Works 105:R67-8 S 15 '58
Speed chart for water and sewage works. W. F. Schaphorst. Water & Sewage Works 105:R393 S 15 '58
Variation of sewage flow in a college town. G. D. Hutchinson and E. R. Baumann. biblog Sewage & Ind Wastes 30:157-63 F '58
Vortex flow through horizontal orifices. J. C. Stevens and R. C. Kolf. biblog il diags Am Soc C E Proc 83 [SA 6 no 1461]:1-22 D '57; Discussion. 84 [SA 2 no 1614]:13-14 Ap '58; [SA 3 no 1658]:9-12 Je '58

SEWAGE incinerators

Examination of sewage solids incineration costs. K. L. Mick and S. E. Linsley. biblog il Water & Sewage Works 104:479-87 N '57

SEWAGE irrigation

Comminuted solids inclusion with spray irrigated canning waste. R. A. Canham. biblog il plan Sewage & Ind Wastes 30:1028-49 Ag '58
Crop irrigation with sewage effluent. E. O. Dye. Sewage & Ind Wastes 30:825-8 Je '58
See also
Trade waste irrigation

SEWAGE laboratories

Redox potentials in waste treatment; laboratory experiences and applications. W. N. Grune and C. F. Chueh. biblog il diags Sewage & Ind Wastes 30:479-500; Discussion. W. W. Eckenfelder, Jr. 500-2 Ap '58

SEWAGE lagoons

Development of design criteria for waste stabilization ponds; abstract. E. R. Hermann and E. F. Gloyna. Water & Sewage Works 104:561 P '58
1957 operators' forum; stabilization ponds. Sewage & Ind Wastes 30:698-705 My '58
Oversized ponds oxidize wastes; New Zealand's Manukau sewerage system. il Eng N 159:76+ D 5 '57

Sewage flow characteristics and treatment methods for a small community. R. A. Gerber. il Pub Works 89:166-8 My '58
Sewage treatment by lagoons; SED research report. biblog Am Soc C E Proc 84 [SA 3 no 1678]:1-10 Je '58
Waste stabilization ponds. E. R. Hermann and E. F. Gloyna. biblog maps diags Sewage & Ind Wastes 30:511-38, 646-51, 963-75 Ap-May, Ag '58
See also

Trade waste disposal—Lagoons

Bibliography

Evaluation of stabilization pond literature. G. P. Fitzgerald and G. A. Rohlich. Sewage & Ind Wastes 30:1213-24 biblog (p 1222-4) O '58

SEWAGE pumping

Design of sewage lift stations. C. Loveless. diags Water & Sewage Works 105:R369+ S 15 '58

Extensions at Derby's sewage treatment works. il diags Engineer 206:93-5 J1 13 '58
Line storage reduces storm water pump sump size. R. O. Folland. il diags Pub Works 89:72-3 J1 '58

Los Angeles enlarges its sewage facilities; Hyperion plant expanded to treat 420 mgd. D. L. Narver, Jr. and E. H. Graham, Jr. il diags Civil Eng 27:856-8 D '57
New products reduce sewer project costs; Rogers City, Mich. C. R. McKee. il Pub Works 89:39 Ap '58

Sewage pumping. H. H. Benjes. diags Am Soc C E Proc 84 [SA 3 no 1665]:1-13 Je '58
Sewage treatment for a 14 square mile area. V. A. Vaseen. il Pub Works 89:88-9 J1 '58
Underground sewage pumping station solves difficult site problem; shopping center in Paramus, N.J. C. R. Walter. plans Pub Works 89:122-4 O '58

SEWAGE pumps

Pump bearing maintenance. L. Krapp. Sewage & Ind Wastes 29:1313-17 N '57
Variable speed for sewage pumps. R. H. Deurer. il diags Pub Works 89:103-5 S '58

Control

Pneumatic variable-speed pump control. E. R. Forman and W. R. Jensen. il diags I S A J 5:336-9 Mr '58

SEWAGE sampling

Continuous sampling of trickling filter populations. W. B. Cooke and A. Hirsch. biblog flow diags Sewage & Ind Wastes 30:21-7, 138-56 Ja-F '58
Sampling procedures for tanks of homogeneous content. P. J. Neuspiel. Sewage & Ind Wastes 29:1347-9 D '57
Tracing typhoid carriers by means of sewage. A. E. Greenberg and others. biblog map Sewage & Ind Wastes 29:1237-42 N '57

SEWAGE sludge

Aeration of whey wastes: nitrogen supplementation and sludge oxidation. L. Jasiewicz and N. Porjes. biblog Sewage & Ind Wastes 30:555-61 Ap '58
Biochemistry of nitrogen in the synthesis of activated sludge. J. M. Symons and R. E. McKinney. diags Sewage & Ind Wastes 30:874-80 J1 '58
Flow of concentrated raw sewage sludges in pipes. S. G. Brisbin. biblog il Am Soc C E Proc 83 [SA 3 no 1274]:1-12 Je '57; Discussion. 83 [SA 6 no 1466]:3-5 D '57; 84 [SA 1 no 1557]:17-22 F '58

Improved equipment for vacuum filtration of sludge. D. A. Dahlstrom and C. F. Cornell. il diags Sewage & Ind Wastes 30:891-900 J1 '58

Methods of handling dried or incinerated sewage solids. R. K. Hampton. flow diags il diags Water & Sewage Works 105:R321-2+ S 15 '58

1957 operators' forum: sludge digestion. diags Sewage & Ind Wastes 30:589-99 Ap '58
Pittsburgh sewage treatment plant to burn sludge with coal. Water & Sewage Works 105:143 Ap '58

Redox potentials in sludge digestion. W. N. Grune and T. H. Lotze. biblog diags Water & Sewage Works 105:37-41 Ja '58

Reduction of coliform bacteria in sewage sludge by halogens. C. H. Connell and others. biblog Sewage & Ind Wastes 30:634-45 My '58

Resistance of sewage sludge to flow in pipes. T. L. Chou. biblog Am Soc C E Proc 84 [SA 5 no 1780]:1-19 S '58

Sludge conditioning and filtration at Cincinnati's Little Miami sewage works. D. Taylor. biblog il Sewage & Ind Wastes 29:1333-46 D '57

Sludge thickening; ahead of digestion. R. S. Rankin. Pub Works 89:32+ O '58

Temperature effects on anaerobic digestion of raw sewage sludge. C. G. Golueke. biblog diags Sewage & Ind Wastes 30:1225-32 O '58
Transformation of some lipids in anaerobic sludge digestion. H. Heukelekian and P. Mueller. biblog Sewage & Ind Wastes 30:1108-20 S '58

Unintentional sludge elutriation. C. S. Zickefoose. Sewage & Ind Wastes 30:316-17 Mr '58

See also

Sewage disposal
Sewage disposal—Activated sludge method
Sewage tanks

Drying

Operation of Louisville's new incinerator. H. J. Cates. flow diags Pub Works 88:110-11+ D '57

SEWAGE sludge—Drying—Continued

Sewage sludge thickening by mechanical vibration. G. Spohr and W. W. Eckenfelder, Jr. *il Pub Works* 89:111-12 Mr '58

Gas production

Digestion control with gas diffusion. P. F. Morgan and P. J. Neuspel. *bibliog diag Water & Sewage Works* 105:217-21 My '58
Studies on sludge digestion and methane fermentation. K. L. Schulze and B. Naga Raju. *bibliog diag Sewage & Ind Wastes* 30:28-45, 164-84 Ja-F '58

Testing

Three-way control of sludge digestion; R. M. Clayton sewage treatment plant. I. C. Kelley. *il Water & Sewage Works* 105:170-1 Ap '58

SEWAGE sludge as fertilizer

Dewatered sludge handled by conveyor. W. C. Tims. *il Pub Works* 89:100 JI '58
Nitrogen content of Nebraska sewage sludges. W. F. Rapp, Jr. *bibliog Sewage & Ind Wastes* 30:1072-4 Ag '58

See also

Sewage, Utilization of
Sewage irrigation

SEWAGE tanks

Sampling procedure for tanks of homogeneous content. P. J. Neuspel. *Sewage & Ind Wastes* 29:1347-9 D '57
Sludge digester operation at Brighton, N.Y. J. Laird. *Sewage & Ind Wastes* 30:107-9 Ja '58
Small sewage treatment plants; sedimentation. J. J. Baffa. *il Pub Works* 89:113-15-F '58
Start-up of separate sludge digesters. L. W. Van Kleck. *Sewage & Ind Wastes* 30:312-13 Mr '58

See also

Septic tanks
Settling basins
Settling tanks

Cleaning

Digester cleaning experience. A. E. Bell. *Sewage & Ind Wastes* 30:1312-14 O '58
Digester cleaning reveals snails by the ton. S. C. Smith and E. M. Allgeier. *diag Pub Works* 89:69-70 JI '58
Scum control and digester cleaning. E. E. Bulin. *Sewage & Ind Wastes* 30:1069-71 Ag '58
Sludge digester cleaning at Washington, D.C. H. A. Schreiber. *il diag Sewage & Ind Wastes* 29:1301-9 N '57

Covers

Whirling dervish stopped; device to stop digester cover rotation. C. Webster. *diag Sewage & Ind Wastes* 30:236 F '58
Wide span space frames cover trickling filter. *il Pub Works* 89:130 Mr '58

SEWAGE tanks, Steel

Use of steel in sewage plants cuts costs, speeds construction. R. M. Millwee, Jr. *il Pub Works* 88:123-4 N '57

SEWER cleaning

Removal of sewer odors by scrubbing with alkaline solutions. C. W. Beardsley and others. *il diag Sewage & Ind Wastes* 30:220-5 F '58

SEWER design

Line storage reduces storm water pump sump size. R. O. Pollard. *il diag Pub Works* 89:72-3 JI '58
Relief sewer design and construction. W. A. Marcon. *diag Water & Sewage Works* 105:R365-6 S '58
Sewer design slide rule. I. Goldfein. *diag Water & Sewage Works* 105:80 F '58
Special connecting structures in sewer work; with cost data. R. J. Fletcher. *diag Pub Works* 89:58-90 Ag '58
Synthetic storm pattern for drainage design. C. J. Keifer and H. H. Chu. *Am Soc C E Proc* 83 [HY 4 no 1332]:1-25 Ag '57; Discussion. M. B. McPherson. *bibliog* 84 [HY 1 no 1558]:49-57 F '58
Unique design solves storm water problem. F. E. Hardy. *il diag Pub Works* 89:182-4 O '58

SEWER pipes

Construction of sewers. L. K. Crawford. *diag Water & Sewage Works* 105:389-93 S '58
Flexible joints resist acids. *il diag Eng N* 161:65 JI '58

See also

Sewer cleaning
Sewers, Concrete

Concrete encasement

Single beam construction carries sewer pipe across stream. R. Crosman. *il diag Pub Works* 89:97-8 JI '58

Location

Economic pipe routes. W. E. Howland. *diag Water & Sewage Works* 105:R379 S 15 '58
Responsibility for utility relocation during improvements and expansions of highway systems. R. P. Heywood. *Water & Sewage Works* 105:371-3 S '58

Root problem

Copper sulfate, its use for root control in sewers. J. W. Hood. *Water & Sewage Works* 105:R255-6+F S 15 '58

Testing

Underground piping checked by portable tv. *il Eng N* 160:60 Ap 24 '58

SEWER pipes, Concrete

Corrosion of concrete by sulfuric acid. W. C. Hansen and others. *il A S T M Bul* p85-3 JI '58

Heaviest wire reinforcing is used in concrete pipe. *il Eng N* 160:128 Je 19 '58

Los Angeles enlarges its sewage facilities; two long ocean outfalls constructed. D. L. Narver, Jr. and E. H. Graham, Jr. *il plan diag Civil Eng* 28:6-11 Ja '58

Midget train hauls pipe in tight tunnel. *il Eng N* 160:77 My 15 '58

Pipe gets heaviest wire reinforcement. *Eng N* 161:66 JI 17 '58

Pre-assembly of concrete pipe saves time on underwater sewer installation. *il Am Concrete Inst J* 29:sup27-8 Ja '58

Pre-assembly saves time installing sewer line under river. *il Water & Sewage Works* 105:198 My '58

Rubber joints overcome weather conditions on sewer line construction. *il Pub Works* 88:146 N '57

62-foot prestressed concrete sewer bridge. A. W. Sweeton. *3d. il diag Civil Eng* 28:198-9 Mr '58

SEWER pipes, Vitrified clay

Use of nepheline syenite tailings in sewer-pipe bodies. R. C. Wilson and C. J. Koenig. *bibliog Am Cer Soc J* 41:33-9 Ja 1 '58

SEWERAGE

Eliminating sewer misuse. T. Piersall. *Sewage & Ind Wastes* 30:94-6 Ja '58

Major water supply and sanitation projects. *il map Eng N* 160:236-F 13 '58

Radium, lost and found; capsule traced through sewerage system. R. O. Wollan. *Sewage & Ind Wastes* 30:1197-9 S '58

See also

Pipe laying
Sanitary districts
Sewage disposal
Sewer cleaning
Sewer design
Sewers, Concrete
Water pollution
also subdivision Sewerage under names of places, e.g.
Ames, Iowa
Atlanta
Blasdell, New York
Buffalo
Chicago
Cleveland
Denver
Detroit
East Rockaway, New York
Fond du Lac, Wisconsin
Fort Lauderdale, Florida
Jersey City
Los Angeles
Luverne, Minnesota
New Rochelle, New York
Pittsburgh
Ravenna, Ohio
Sacramento, California
Salt Lake City
San Diego
Sarasota, Florida
Saskatoon, Saskatchewan
Seattle
Superior, Wisconsin
Toronto
Vancouver, Washington
Washington, D.C.

Bibliography

Reviews and abstracts. *Sewage & Ind Wastes* 30:121-2, 243-4, 338, 1078, 1210-11, 1325-6 Ja-F J. Ag-O '58

Sewerage and refuse digest. A. R. Jacobson. Published in monthly numbers of Public Works

SEWERAGE—Continued

Costs

Basils for storm sewer construction costs. W. P. Schmitz. Pub Works 89:74+ Ag '58
Chicago sewer tunnel includes river crossing; unit prices. Eng N 160:86 Mr 20 '58
Clay vs concrete sewer pipe; unit prices. Eng N 161:31-2 S 13 '58
Concrete pipe sewers for Seattle; unit prices. Eng N 158:58 D 26 '57
Miami sewer; unit prices. Eng N 160:60+ Mr 20 '58
Open ditches and pipe for storm water drainage; unit prices. Eng N 161:63 Ag 28 '58
Oregon sewers bid four ways; unit prices. Eng N 160:59 Je 26 '58
Pennsylvania sewer job awarded on alternates; unit prices. Eng N 160:83 Mr 13 '58
Puerto Rico adds pumps to San Juan sewage system; unit prices. Eng N 161:96 S 18 '58
Replacement sewer District of Columbia; unit prices. Eng N 160:111 Je 12 '58
Separate bids taken on New Jersey sewer joints; unit prices. Eng N 160:112 Mr 6 '58
Sewer contracts total \$5,596,000; unit prices. Eng N 161:63 Ag 28 '58
Water and sewer main job for Wisconsin subdivision; unit prices. Eng N 160:63 Ja 2 '58
Wide spread on sewer bids in Kentucky; unit prices. Eng N 161:141 S 11 '58

Failure

Seattle's sewer break posed challenge. II Eng N 159:26 D 19 '57

Federal aid

Doubled sewage aid bill moves; how the grants are working. Eng N 161:28+ J 24 '58
Evaluation of federal construction grant program under public law 660; panel discussion. Sewage & Ind Wastes 30:568-84 Ap '58
Federal aid for sewage treatment plant construction. II Pub Works 89:150-2 Ap '58
Progress report on federal sewage grants. Water & Sewage Works 105:99 Mr '58
Public law 660 and uniform design standards; sewage works panel. Water & Sewage Works 105:42-3 Ja '58
Sewerage federal-aid battle shapes up. Eng N 150:24-5 Ap 17 '58
Two years of the Federal water pollution control act, map Pub Works 89:188+ O '58

Finance

Fiscal operations of the Buffalo sewer authority. F. W. Crane. Am Soc C E Proc 83 [SA 6 no 1462]:1-12 D '57
Municipal financing of sewerage facilities. J. J. Flannery. Sewage & Ind Wastes 30:123-8 F '58

See also

Sewerage—Federal aid

Maintenance and repair

Organization and equipment for sewer maintenance. T. S. Ford and F. J. O'Donnell. II Pub Works 89:107-10 My '58
Sewer maintenance equipment and its use. C. Webster. Sewage & Ind Wastes 30:98-101 Ja '58
Sewer maintenance in Santa Clara county. Calif. S. H. Goding. II diag Sewage & Ind Wastes 30:101-6 Ja '58
Sewer system maintenance. J. B. Smith. Water & Sewage Works 105:123-5 Mr '58

Statistics

Sewage treatment, sewerage and water works contracts in 1957. Pub Works 89:172+ O '58

California

Evaluation of federal construction grant program under public law 660; California experiences. P. R. Bonderson. Sewage & Ind Wastes 30:575-7 Ap '58
Sewage effluent dilution in sea water. C. H. Lawrence. II diag map Water & Sewage Works 105:116-22 Mr '58

Florida

Evaluation of federal construction grant program under public law 660; Florida experiences. D. B. Lee. Sewage & Ind Wastes 30:571-5 Ap '58

Great Britain

Industrial effluents in municipal sewers. J. Finch. II Water & Sewage Works 105:72-5 F '58

Indiana

Evaluation of federal construction grant program under public law 660; Indiana experiences. B. A. Poole and O. H. Hert. Sewage & Ind Wastes 30:569-71 Ap '58

Jefferson county, Alabama

Grit handling system. F. E. Stuart, Jr. II Water & Sewage Works 105:175-7 Ap '58

Los Angeles county, California

Billions dollars worth of storm drains. II Eng N 160:28+ Mr 13 '58
Interior photography of sewers. II diag Sewage & Ind Wastes 29:1398-405 D '57
Mechanization speeds tunnel lining; Los Angeles' north central outfall sewer. II Eng N 160:43 Ap 3 '58

Louisiana

Sewer system maintenance. J. B. Smith. Water & Sewage Works 105:123-5 Mr '58

New York (state)

Evaluation of federal construction grant program under public law 660; New York experiences. A. F. Dappert. Sewage & Ind Wastes 30:577-9 Ap '58

New Zealand

Oversized ponds oxidize wastes; New Zealand's Manukau sewerage system. II Eng N 159:76+ D 5 '57

Westchester county, New York

How long will this primary plant do? how soon might treatment be added? II plan Eng N 161:34-6+ cover S 25 '58
Relief sewer design and construction. W. A. Marcon. II diag Water & Sewage Works 105: R365-6 S 15 '58

SEWERS. See Sewerage

SEWERS, Concrete

Concrete for sewage works. E. C. Wenger. II diag Am Concrete Inst J 29:733-8 Mr '58; Discussion. W. T. McClenahan. 30: 1273-7 pt 2 S '58
Corrosion of concrete by autotrophes. J. H. Rigdon and C. W. Beardsley. II diag Corrosion 14:60-2 Ap '58
Los Angeles enlarges its sewage facilities; long land outfall built through Baldwin hills. D. L. Narver, Jr. and E. H. Graham, Jr. II maps diag Civil Eng 27:782-6 N '57
30-inch interceptor built beneath Allegheny river. II Pub Works 89:150 Ja '58

See also

Sewer pipes, Concrete

SEWING machines

Versatile versus portable; Swiss design. II Product Eng 29:93 My 12 '58

SEX

Control of sex. M. J. Gordon. II diag Sci Am 199:87-8+ N '58

SEX differences

Mortality of men and women. A. Scheinfeld. Sci Am 198:22-7 F '58

SHAFT sinking

Air-operated clamshell for sinking small shafts. J. W. Lower. II diag Min Eng 10: 773-5 J 1 '58

Application of the Cryderman mucker in vertical-shaft sinking; Bear creek mining co. J. W. Bader. II Min Cong J 44:73-4 Mr '58

Deepening of the Page inclined shaft with a Cryderman shaft mucker; Page mine. American smelting and refining co. T. M. Tower and C. J. Ward. II diag Min Cong J 44:41-3+ Ja '58

Hanna developments cut shaft-sinking costs at Ohio and West Virginia mines. II plans diag Coal Age 63:106-10 Je '58

Improved pilot hole surveying method aids shaft extension; Tennessee copper co. R. Lee-Aston. II plans diag Min Eng 10:346-51 Mr '58

See also

Mine shafts

SHAFTING

13 ways to couple shafts; drawings with text. F. Strasser. Product Eng 29:60-1 Ag 4 '58

See also

Power transmission

SHAFTS

Adjustable geared coupling for misaligned shafts. A. L. Sims. II diag J Sci Instr 35:146 Ap '58

Calculation of torsional natural frequencies of branch systems. A. C. Gilbert. II diag Roy Aeronautical Soc J 62:599-603 Ag '58

SHAFTS—Continued

- Cold reducing forms strong steel shafts. *Materials in Design Eng* 47:182-4 Ap '58
- Dynamical behavior of rotating shafts driven by universal (Hooke) couplings. R. M. Rosenberg. *bibliog diag J Ap Mech* 25:47-51 Mr '58
- Greaseless vacuum seal for rotating shafts. E. A. Billett and J. Bishop. *diag J Sci Instr* 35:70-1 F '58
- High precision digital shaft position indicator; abstract. D. H. Raudenbush. *Control Eng* 5: 174 Je '58
- Lightweight marine gas turbines. A. W. Pope. *il Engineer* 205:92-4 Ja 17 '58; Abstract. *diag Engineering* 185:93-4 Ja 17 '58
- Numerical note on bearing clearances and shaft stability. J. W. Head and G. M. Oulton. *Aircraft Eng* 30:109-11 Ap '58
- Optical gearing indicates shaft angle. *il diag Electronics* 31:96-4 Je 20 '58
- Shaft alignment and what it means. W. T. Saveland, Jr. *diags Iron & Steel Eng* 35: 103-6 S '58
- Shaft generator for motor tankers. *il Engineer* 206:423 S 12 '58
- Simplified tabular method for torsional vibration analysis of multiple-rotor shaft systems; data sheet. J. Hirschhorn and K. Johnston. *diags Machine Design* 30:141-6 My 29 '58
- Slender shafts hardened and ground without distortion. *il diags Am Mach* 102:142-3 My 19 '58
- Synchro resolver as a shaft position transducer. M. E. Wood. *bibliog diags Electronic Eng* 30:366-70 Je '58
- Theory of shaft whirling. E. Downham. *bibliog il diags Engineer* 204:518-22, 552-5, 588-91, 624-8, 660-5 O 11-N '57
- Timing of driven shaft changed while running. R. T. Stewart. *diags Mach* 64:157 Ap '58
- See also*
Crankshafts
Shafting
- Failure**
- Don't put up with shaft failures. H. A. Schreiber and J. W. Purman. *il diags Mill & Factory* 62:91-3 Mr '58

Manufacture

- Gundrilling method solves shaft production problem for Snow-Nabstedt. H. Reil. *il Marine Eng/Log* 63:104 Ja '58
- Shock absorber shafts hardened in automatic equipment. *il Automotive Ind* 118:53 F 1 '58
- SHAFTS, Mine.** *See* Mine shafts
- SHAKING apparatus**
- Hydraulic vibrators, where brute-force shake testing is needed. J. A. Dickie. *il diags Product Eng* 28:94-8 D 9 '57
- New car shaker speeds bulk cement unloading. *il Concrete* 66:37-8 Je '58

SHALE

- Anthractic coal from Precambrian upper Huronian black shale of the Iron River district, northern Michigan. S. A. Tyler and others. *bibliog maps Geol Soc Bul* 68: 1293-304, pl 1-4 O '57
- Environmental studies of carboniferous sediments; application of geochemical criteria. E. T. Degens and others. *bibliog map diags Am Assn Pet Geologists Bul* 42:981-97 My '58
- Environmental studies of carboniferous sediments; geochemical criteria for differentiating marine from fresh-water shales. E. T. Degens and others. *bibliog flow diag map diags Am Assn Pet Geologists Bul* 41: 2427-55 N '57
- Expanded-shale plant of material service. E. C. Herod. *flow diag il plan Pit & Quarry* 50:70-2+ F '58
- Hard shell aggregate invades Chicago area; expanded shale finds ready acceptance. E. Meschter. *il Rock Prod* 61:78-81+ J1 '58
- Shale aggregate; illustrations with text. *Engineer* 205:144 Ja 24 '58
- Survey of uses for a high-lime shale. L. B. Coffin. *bibliog Am Cer Soc Bul* 36:419-21 N 15 '57
- See also*
Oil shales

Analysis

- Mineralogy, petrography, and radioactivity of representative samples of Chattanooga shale. T. F. Bates and E. O. Strahl. *bibliog Geol Soc Bul* 68:1305-13, pl 1 O '57
- SHAMPOOS**
- Advances in shampoo formulation. F. V. Wells. *bibliog il Soap & Chem Spec* 34:39-42+ Ag; 161+ S '58

- Cadmium sulfide shampoo for seborrhea. *Drug & Cosmetic Ind* 82:88 Ja '58
- Iodophor-iodine shampoos. A. Cantor and others. *bibliog il Am Perfumer & Aromatics* 72:37-41 Ag '58

Testing

- Evaluation of shampoos. *Am Perfumer & Aromatics* 72:39-40 S '58
- SHAMSHIR** Ghar cave. *See* Caves
- SHAND, Samuel James**
Memorial. F. Chaves. *por Am Mineralogist* 43: 317-24 bibliog(p321-4) Mr '58
- SHAPERS**
- 1958 production preview: planing and shaping. *il Am Mach* 102:115 Ja 27 '58
- SHARP, Donald E.**
Obituary. *por Am Cer Soc Bul* 37:258 My 15 '58
- Obituary. *por Glass Ind* 39:288 My '58
- Obituary. F. W. Preston. *por Glass Ind* 39: 332-3 J1 '58
- SHARPENERS**
- Spiropoint drill sharpening machine grinds spiral point on twist drills. *il Am Mach* 101:164 D 16 '57
- See also*
Pencil sharpeners

SHARPENING

- Develop easy technique for gundrill sharpening. *il Tool Eng* 40:182-3 Ja '58
- Simplified gundrill sharpening cuts production delays; Eldorado tool & manufacturing corp. F. Bloch. *il diags Am Mach* 101:78-80 D 30 '57
- See also*
Cutting tools, Carbide—Sharpening
- SHAVERS, Electric.** *See* Electric shavers
- SHAW process.** *See* Molds (for casting)—Ceramic molds

SHAWINIGAN chemicals, Ltd.

- Shawinigan chemicals Ltd.; calcium carbide made since 1898. *il Chem & Ind p* 1061-2 Ag 16 '58
- Shawinigan's success formula. C. R. Graham. *il Can Chem Process* 42:22-5+ S '58

SHEAR, John Knox

- Obituary. H. J. Payne. *por Arch Rec* 123:9 F '58

SHEAR. See Strains and stresses**SHEARS (machines)**

- Automatic scrap cutting. *il Engineering* 185: 741 Je 13 '58
- Cincinnati shear equipped with special gage. *il Mach* 64:207 D '57
- Clearing 600-ton automatic hydraulic scrap shear. *il Mach* 64:175 Ap '58
- Clearing 600-ton scrap shear cuts up to 30 tons of scrap per hr. *il Am Mach* 102:146 Mr 24 '58
- Cuts raw material costs; American can co.'s shearing line. *il Steel* 142:76 Je 30 '58
- Hydraulic machine is designed to shear scrap, cut costs. *il Steel* 141:70 N 4 '57
- Punch press shearing reduces scrap. *il Iron Age* 130:156 N 7 '57
- Scrap handling speeded by new automatic shear. *il diags Automation* 5:9-10 Ap '58
- Scrap shear operates automatically. *il Tool Eng* 40:96 My '58

SHEAVES

- WR³ for flywheel effect. *Product Eng* 28:IE 18-19 Mid-O '57

Manufacture

- Making sheaves by stack molding. R. H. Herrmann. *il diags Foundry* 86:150-2 Ja '58
- SHEDS, Storage.** *See* Storage sheds

SHEEP**Feeding**

- See also*
Lambs—Feeding
- SHEET metal**
- Colored metal sheet with good formability; process called Permyron. *il Materials in Design Eng* 47:143-4 S '58
- Mill makes sheet from metal powder. *il Tool Eng* 40:235-6 Ap '58
- Tube-in-strip heat-transfer material. *il Engineering* 184:551 N 1 '57
- See also*
Metals, Laminated
Sheet steel
- Testing**

- Evaluation of structural sheet materials in missile applications. G. Gerard. *bibliog diag Jet Propulsion* 28:511-20 Ag '58
- Fatigue testing machine for hot sheet. K. W. Mitchell and H. King. *il diags Engineering* 185:402-4 Mr 28 '58

SHEET metal—Testing—Continued

Tear test for titanium sheet, C. W. Vigor and J. R. Hornaday, Jr. *il Metal Prog* 73: 103-7 Ap '58
Testing uniformity of sheets and plates, W. J. Youden, *diags Ind & Eng Chem* 43:sup71A-2A Ag '57; *Correction*. 50:sup90A F '58

SHEET metal, Corrugated

Big setup corrugates long steel sheets; Granite City steel co. *il Iron Age* 181:121-2 F 6 '58
Long corrugated aluminum sheets, *il Engineering* 204:873 D 13 '57
Use high strength steel to lighten supersonic aircraft, E. Mitchell, *il diags Ind Lab* 9:61-6 Mr '58; Same cond. S A E J 65:56-8 D '57; Same cond. *Iron Age* 181:102-4 F 6 '58; Abstract, *Machine Design* 30:179-81 F 20 '58

SHEET metal, Enameled

Architectural porcelain enamel leads way to new boom! *il Cer Ind* 70:60-1 My '58
Bettinkler introduces radiant heat porcelain enamel panel, E. D. L. York, *il Cer Ind* 70:39 My '58
Effect of firing schedules on stress-temperature relations in enamel-metal systems, J. H. Lauchner and others, *bibliog diags Am Cer Soc J* 40:410-15 D 1 '57
Effect of heat-treatment on properties of enamel-steel composites, J. H. Healy and L. K. Breeze, *bibliog il diags Am Cer Soc J* 41:381-6; Discussion, 386-9 O 1 '58
Enamel on stainless; combination for strong walls, *il Iron Age* 180:139 D 5 '57
Forecast, four-fold growth for porcelain enameled aluminum in building uses, *il Mod Metals* 14:72-3 Mr '58
How Erie builds quality in porcelain enamel panels, *il Cer Ind* 70:64-9 My '58
How Seapocel fabricates stainless steel porcelain enamel panels, *il Cer Ind* 70:68-61 F '58
How to use low temp enamels, H. R. Spiers, *il diags Cer Ind* 71:108-9+ S '58
Porcelainized aluminized steels; a new design tool, *il Arch Rec* 122:246+ N '57
Raw materials for panel construction, *Cer Ind* 70:32-4 Ja '58
Relationship between hydrogen solubility and reboiling tendency in enameling steels, R. M. Hudson and others, *bibliog il diags Am Cer Soc J* 41:23-7 Ja 1 '58

SHEET metal handling

Feeders lengthen sheet runs, *il Iron Age* 181: 117 Je 19 '58
Gravity speeds truck loading, unloading; handling large sheet metal parts, *il Iron Age* 181:89 My 1 '58
Magnetic rollers help automation timing; coating and baking of flat metal sheet stock, *Ind Finishing* 34:44-5 My '58
Sheet handling devices improve press operations, *il diags Automation* 5:89-90 My '58

SHEET metal shops**Equipment**

Chrysler automates new stamping plant, J. Nieminen, *flow charts il Mach* 64:188-93 D '57
From little acorns; automation in sheet metal job shop and titanium works, G. C. Close, *il Automation* 5:28+ Ag '58

See also

Sheet metal working machinery

SHEET metal work

AC hydroforms sample stampings, T. C. Barrett, *il diags Mach* 64:144-9 D '57
Behavior of metals under high-energy loads; explosive forming, T. A. Dickinson, *il Tool Eng* 40:119-22 Mr '58
Bigger barges for supermetals; explosion-forming, J. A. Rowe, *il diags Mill & Factory* 61:89-90 N '57
Choice of stock cuts scrap loss; Buick sheet metal plant, H. Chase, *il Iron Age* 180:90-1 N 28 '57
Cutting material and machining costs with power roll forming, E. W. Bartie, *il diags Tool Eng* 39:107-10 N '57
Explosives form space age shapes, *il diags Steel* 143:82-6 Ag 25 '58
Explosives press-form difficult shapes, D. W. Cole, *il Am Mach* 102:137-9 Ap 21 '58
Fabricating changes pack a wallop; Buick's integrated line produces fan shrouds, *il Mill & Factory* 62:138-9 F '58
15 plate-stiffenings compared, K. Lowenfeld, *diags Product Eng* 29:32-3 J1 21 '58
Formability index determines minimum bend radius, W. W. Woods, *diags Am Mach* 101: 121-5 F 25 '57; Excerpts, *Product Eng* 28: F23-5 Mid-O '57

Forming high-strength materials, W. W. Wood, *il diags Tool Eng* 41:63-9 Ag '58
Forms and shapes of materials; fabricated sheet metal parts, *Materials in Design Eng* 48:303-7 Mid-O '58
High strength metals formed by explosives, *Materials in Design Eng* 47:168+ Ja '58
Hollow plate speeds heat exchange; channeled Hortonclad, *il Steel* 142:107 Ap 7 '58
Hotpoint streamlines bending and welding, R. F. Hermann, *il diags Am Mach* 102:34-7 J1 28 '58
How press and weld steps form sheet metal units; Hotpoint co. H. Chase, *il Iron Age* 180:140-1 D 19 '57
How to work aluminum-coated steel, W. E. McFee, *il diags Iron Age* 181:95-7 F 6 '58
How to work sheet metal with precision; Pastushin aviation corp. practice bombs, W. Benedict, *il Mill & Factory* 63:113-14 Ag '58

Improved formability of galvanized sheet, J. R. Kattus, *il diags Metal Prog* 72:82-5+ D '57

Learn to work sheet metal the low-cost way, *il Iron Age* 181:104-5 Ap 10 '58

Mechanical bonding of plastics to metal, *Mod Plastics* 35:209-10 Ap '58

Microstructure and chipless forming; abstract, H. Wiegand, *Tool Eng* 40:315 Ap '58

New method predicts forming limits for high strength metals, *il Am Mach* 102:80 Ag 25 '58

Paals are stretched to shape; United States steel products, *il Steel* 142:90 My 5 '58

Photoetching forms thin parts, *il diags Steel* 141:153-6 N 18 '57

Precision compression forming, *diags Product Eng* 29:D 14-15 Mid-S '58

Process uses creep for forming parts, D. M. Stubbs, S A E J 66:115-17 Mr '58

Sheet metal fabrication in the aircraft industry, A. Vleck, Jr., *il Tool Eng* 40:205-8 My '58

Sheet metal joints for cylinders and boxes; drawings with text, W. C. Mills, *Product Eng* 28:G 10-11 Mid-O '57

Sheet metal seams and joints; drawings with text, W. C. Mills, *Product Eng* 28:G8-9 Mid-O '57

Spot welding of Inconel X in thickness range of 0.032 to 0.188 in, J. Harris and others, *il diags Welding J* 37:570-8 Je '58

Tube-in-strip for solar energy water heaters, *Engineer* 205:746 My 16 '58

Two-panel hoods produce on mechanical lines; Pontiac motor div., General Motors, *il Automotive Ind* 119:50-3 J1 15 '58

Use underwater explosions to form aircraft parts; Dynaforming, *il diags Machine Design* 30:30+ J1 24 '58

Welding avoids deep drawing problems, *il Tool Eng* 40:104-6 F '58

Welding of spaced metal sheets, *il Welding J* 37:489 My '58

Wider aluminum sheets emerge from specialty class; new Alcoa cold-finishing mill, *il Iron Age* 180:96 D 5 '57

See also

Air conditioning equipment
Air pipes
Airplane wings—Manufacture
Cans, Aluminum—Manufacture
Copperwork
Cylinders
Dies
Metal drawing
Metal spinning
Pipes
Pressed metal
Presses
Punching
Rolling mills
Sheet metal, Enameled
Stamping
Stretching

Tables, calculations, etc.

Calculating the radius of a spherical segment, W. W. Johnson, *diags Mach* 64:172 Ap '58

How to find final dimensions of stretch-formed parts; reference book sheet, B. Russell, *diags Product Eng* 28:121+ N 25 '57

This k-factor speeds answers for edge area of bent-up shapes; reference book sheet, S. W. Kaye, *diags Product Eng* 29:101+ S 15 '58

Architectural porcelain enamel leads way to new boom! *il Cer Ind* 70:60-1 My '58

SHEET metal work, Architectural

Aluminum curtain-wall clothes Manhattan building, *il Welding Eng* 43:52-3 Je '58

Architectural porcelain enamel leads way to new boom! *il Cer Ind* 70:60-1 My '58

SHEET metal work, Architectural—Continued
Curtain walls catch on. *Il Steel* 141:115 D 9 '57

How Erie builds quality in porcelain enamel panels. *Il Cer Ind* 70:64-9 My '58
New fastener speeds wall assembly. *Il Eng N* 159:59 D 12 '57

See also
Walls, Metal
Walls, Steel

SHEET metal working machinery

Dinking dies cut blanking costs on thin sheet. *F. Strasser, diags Iron Age* 181:90-1 Je 12 '58

Flying punch press teams up with flying shear piercing introduced in roll-milling line; Buick sheet-metal plant. *Il Mach* 64:162-3 N '57

Grotnes expander handles large work-pieces, has 1580-ton drawbar pull. *Il Am Mach* 102:138 S 22 '58

Grotnes expanding and shrinking machines equipped with polyamide-tube high-pressure lubrication system. *Il diag Mach* 65:176-8 S '58

Machine cuts duct costs. *Il Steel* 142:125 F 3 '58

Press brake forms unique dome sheets. *Il Iron Age* 180:154+ N 21 '57

Press-shaping of heavy steel plate. *Il Engineering* 184:713 D 6 '57

See also
Punching machinery
Shears (machines)
Stretching machines

SHEET piling

Aluminum smelter dock at Baie Comeau; steel sheet piling. *T. A. Hughes and V. M. Wallingford, il map plan diags Eng J* 41:50-3 J1 '58

Testing

Bending moments by direct measurement; Wiegmann slope differential instrument. *G. P. Tschoboroff and others, il plan diags Eng N* 160:39-40+ Ap 24 '58

SHEET steel

Adherence of porcelain enamel to sheet steel. *J. Berk and J. de Jong, bibliog il Am Cer Soc J* 41:287-92 Ag 1 '58

Annealing of steel sheet; symposium. *Metal Prog* 72:111-12+ D '57

Big setup corrugates long steel sheets; Granite City steel co. *Il Iron Age* 181:121-2 F 6 '58

Cuts handling costs; transfer conveyor moves sheet steel from shear to press brake. *Il Steel* 142:150 Ap 14 '58

Diffusion process makes plain carbon sheet stainless; Chromalizing. *Il Iron Age* 180:128-9 N 7 '57

Fast annealing of sheet-iron coils with helium injection. *J. D. Keller, diags Iron & Steel Eng* 35:109-13; Discussion. 113-15 Ap '58

For a durable finish on steel shower cabinets; bonderized or phosphatized sheet steel compared with plain galvanized sheet steel. *Ind Finishing* 34:100+ Ap; 99-100 Je '58

How to determine enamel opacity and adherence. *P. A. Huppert, il Cer Ind* 69:76+ D '57

How to work aluminum-coated steel. *W. E. McFee, il diags Iron Age* 181:95-7 F 6 '58

Magnetic handling; magnets in feed mechanisms for handling sheet steel. *Il Steel* 143:118 J1 14 '58

Painting formed steel parts for Glasco pre-mix vendors. *W. G. Sanders, il Ind Finishing* 34:46-8+ N '57

Paper-thin steel sheet cuts weight of aircraft; Ryan aeronautical co. award winner in Materials in design engineering competition. *Il diags Materials in Design Eng* 47:128-33 Ap '58

Plastic-coated steel; Stelvetite. *Il Automobile Eng* 48:17-18 Ja '58

Plastic coated steel; Stelvetite. *Il Metallurgia* 57:192 Ap '58

Reducing smudge on cold rolled sheet. *M. A. Matz, Iron & Steel Eng* 34:105-6 Ap '57; Abstract. *Metal Prog* 73:186+ My '58

Sheet steels for high-speed aircraft and missiles. *A. L. Feild and M. C. Carruthers, il Aero/Space Eng* 17:41-4 Je '58

Shot-blasting removes scale economically; Oldsmobile div. of General Motors corp. *H. Chase, il Mach* 65:167-9 O '58

Strain aging can be controlled on low-carbon sheet steel; abstract. *E. R. Morgan, S A E J* 66:50-1 Je '58

Textured steel. *F. R. Park, il Product Eng* 29:73-8 Mr 17 '58

U.S. Steel engineer develops technique for rolling of wide, thin sheets. *Il Iron & Steel Eng* 35:200 Ja '58

U.S. Steel to make aluminized sheet. *Il Iron Age* 181:81 Je 5 '58

Welded steel sandwiches offer a further solution to the aircraft industry. *Il Welding Eng* 43:41 Ap '58

See also
Steel, Strip
Steel plates

Testing

Detection of rolling defects in steel sheet; abstract. *A. M. Armour, Metal Prog* 73:174+ F '58

Direct-reading iron-loss testing equipment for single sheets, single strips and test squares. *J. McFarlane and others, bibliog diags Inst E E Proc* 105 pt A:385-94; Discussion. 402-5 Ag '58

SHEETING

See also
Plastic sheeting

SHEETS

Manufacture

Indian Head predetermines cotton blends for sheeting. *Il Textile World* 107:125+ D '57

SHELL molding. See Foundry practice—Shell molding

SHELL oil company

Jersey, Shell are close rivals. *Oil & Gas J* 56:129 Ja 27 '58

SHELLFISH

See also
Shrimps

SHELLS (metal work)

Comparison of methods for analyzing bending effects in toroidal shells. *G. D. Galletly, diag J Ap Mech* 25:413-14 S '58

How to remedy defects in drawn shells. *F. Strasser, diags Iron Age* 180:125-7 N 21 '57

Odd-shaped shells trimmed with sliding-knife cutting action. *Il diag Machine Design* 30:118-19 Je 26 '58

Particular integrals for toroidal shells subjected to uniform internal pressure. *G. D. Galletly, diag J Ap Mech* 25:412-13 S '58

Thin pressurized shells look best for space structures. *J. S. Lewin, Aviation Age* 29:178-9-4 Ap '58

SHELLS (projectiles)

Manufacture

Special arc-welding technique improves shell production. *Il Welding J* 36:1198 D '57

SHELTERS

Prototype shelters designed for recreation center project; illustrations with text. *J. C. Smith, Arch Rec* 123:36 Mr '58

Two shelters admit the open air. *Il plan diag Arch Rec* 123:195-8 Ap '58

SHELTERS, Air raid. See Air raid shelters

SHERILL, Sloan Stroud

Portrait of a plant engineer. *H. E. Marrows, pers Plant Eng* 12:115-18 My '58

SHERWIN-WILLIAMS company

Career opportunities. *Il Chem & Eng N* 36:56 pt 2 Ja 27 '58

SHERWOODITE. See Vanadates

SHIELDING, Electromagnetic. See Electromagnetic shielding

SHIFT work. See Hours of labor

SHIMS

Shims you can peel for on-the-spot alignment. *M. Lockwood, il Mach* 64:126-9 Je '58

SHIP models

See also
Ships—Model testing

SHIP plates

Shot blasting of plates and sections. *Il Engineering* 206:331-3 Ag 29 '58

Testing

Improved notch toughness of experimental semikilled steels over one inch in thickness. *R. W. Vanderbeck, bibliog diag Welding J* 37:sup 10-20 Ja '58

Relation of Charpy impact properties to microstructure of three ship steels. *W. S. Owen and others, bibliog il Welding J* 36:sup 503-11 N '57

SHIP propellers. See Propellers

SHIP propulsion

Early developments in marine propulsion. *R. Taggart, bibliog il diags Am Soc Naval Eng* 70:191-208 My '58

Machinery for cross-channel passenger ships. *E. L. Denny, flow diag diag Engineer* 205:125-7. 168-70 Ja 24-31 '58

SHIP propulsion—Continued

Marine propulsion research; Parsons and marine engineering turbine research and development association progress report for 1956. *Il* Engineer 204:644-5 N 1 '57
 Research and engineering progress, 1957; marine. *Il* Gen Elec R 61:54 Ja '58
 Role of the paddle-wheel in maritime history. R. Taggart. bibliog *Il* plans diags Am Soc Naval Eng J 70:443-61 Ag '58

See also

Boilers, Marine
 Diesel engines, Marine
 Gas turbines, Marine
 Motor ships
 Ship resistance
 Steam turbines, Marine
 Steamboats

SHIP propulsion, Atomic

By way of the North Pole; U.S.S. Nautilus demonstrates new prospects for nuclear propulsion. *Il* diag Engineering 186:205 Ag 15 '58

Computer verification of steam generator instrumentation for a nuclear power plant; abstract. D. P. Waits and E. E. Lynch. diags Control Eng 5:166-7 Ja '58
 Costs hamper nuclear tankers; abstract. H. B. Benford. Oil & Gas J 55:142 N 18 '57

Heavy liquid shielding for nuclear ships. H. F. Crouch. bibliog diags Am Soc Naval Eng J 70:497-503 Ag '58

Japan vying for first atomic tanker. *Il* Oil & Gas J 56:72 My 26 '58
 Navy designs special subs for Polaris. Product Eng 29:28-9 F 24 '58

New York Ship welcomes the opportunity to build first nuclear merchant ship. *Il* Marine Eng/Log 63:58-9 Ja '58

Nuclear navy gets largest sub. Electronics 31:18 Ag 22 '58

Nuclear power for ship propulsion. Mech Eng 79:1158 D '57

Nuclear propulsion for merchant ships. S. L. Smith and J. B. Richards. flow diag diags Am Soc Naval Eng J 70:86-96 S '58

Nuclear propulsion of ships. C. Hinton and R. V. Moore. diags Engineer 204:774-8 N 29 '57; Excerpts. *Il* Engineering 184:698-9 N 29 '57

Nuclear propulsion; prospects for ships, aircraft, and on land. J. Edwards. bibliog *Il* diag Engineering 186:304-12 S '58

Nuclear research is developing many opportunities in the transportation field. R. McBrian. S A E J 66:45 F '58

Nuclear submarines feature the Shippingport type of powerplant; abstract. J. L. Helm. S A E J 66:118-19 JI '58

Propulsion of ships by steam turbine machinery; nuclear propulsion. T. W. Brown. plans diags Engineer 205:387-93 Mr 14 '58

Reactors for the sea. T. W. F. Brown. diags Engineering 184:444-6, 569-71 O 4, N 1 '57

Regulatory aspects of nuclear ship safety. H. F. Crouch. bibliog diags Am Soc Naval Eng J 70:97-104 F '58

Revolutionary nuclear engines for underwater tankers. Engineering 186:470-1 Ap 11 '58

Ship propulsion; Geneva 1958. plans diag Nuclearionics 16:92-3 S '58

Ship propulsion, the nuclear fleet grows. *Il* Westinghouse Eng 18:4-5 Ja '58

Steel castings for radioactive service. G. Sorkin. *Il* Foundry 86:71-3 O '58

Submarine medicine on Nautilus and Seawolf. J. H. Ebersole. A M A Archives Ind Health 18:200-7 S '58

Technical progress in marine engineering during 1957; nuclear power. Am Soc Naval Eng J 70:252-7 My '58

Triton, America's newest undersea watchdog, can read and write. *Il* Mech Eng 80:112-13 O '58

Underwater oil tankers? *Il* diags Engineering 184:738-9 D 13 '57

SHIP propulsion, Electric

Navy eyes electron motors; thermoelectric ship propulsion system. Electronics 31:26 My 2 '58

Parallel operation of two synchronous machines. J. H. Walker and N. Koruth. diags Inst E E Proc 105 pt A:47-61 F '58

SHIP resistance

Progress in naval architecture; a review of the principles of ship resistance, strength, performance and vibration. J. F. C. Conn. *Il* plans diags Engineering 186:351-3, 386-8 S 12-19 '58

SHIPBUILDING

Ship construction and repair news. Published in monthly numbers of Marine engineering/log

Shipbuilding and marine engineering in 1957. *Il* Engineer 205:22-4, 56-60, 102-5 Ja 3-17 '58

Shipbuilding in four countries. Engineering 185:247-8 F 21 '58

Shipyards trim for new-design building spurt. Product Eng 29:25 Ap 14 '58

Technical progress in shipbuilding during 1957. Am Soc Naval Eng J 70:219-29 My '58

Today's trend in ship research. D. K. Felbeck. bibliog *Il* Welding J 37:sup265-8 Je '58

World yards catching up with orders. *Il* Marine Eng/Log (Yearbook no) 63:135-9-4 My 31 '58

See also

Freight ships
 Naval architecture
 Ships—Reconstruction
 Shipyards
 Tank ships

Costs

Value engineering in the Bureau of ships. R. C. Johnson. Am Soc Naval Eng J 70:77-85 F '58

Materials

Refrigeration panel solves ship awning problem. W. J. Williams. *Il* Marine Eng/Log 63:64 Ag '58

Plastics

Plastics for marine application; symposium. *Il* Brit Plastics 31:192-5 My '58

Standards

Through history with standards. Mag of Stand 29:152 My '58

Statistics

Lloyd's statistical tables. Engineer 204:748 N 22 '57

Monthly shipbuilding report. Published in monthly numbers of Marine engineering/log

U.S. interests building abroad. *Il* diags Marine Eng/Log (Yearbook no) 63:173-4 My 31 '58

U.S. yards' output up in 1957. *Il* Marine Eng/Log (Yearbook no) 63:141-54-4 My 31 '58

Welding operations

Brittle fracture in welded ships, an empirical approach from recent experience; discussion. Engineer 205:503-5 Ap 4 '58

First aluminum tugboat features all-welded construction. *Il* Welding J 37:803-4 Ag '58

Lloyd's survey of brittle fracture. Engineering 185:497-8 Ap 18 '58

New inland-waterway towboats have welded stainless-steel hulls. *Il* Welding J 37:805 Ag '58

Towboat hulls all-welded; St Louis shipbuilding co. *Il* Welding Eng 43:60 My '58

Welding and cracking. diags Engineering 185:241 F 21 '58

Welding resists sea effects; naval transport ship. USNS Johnson. *Il* Welding Eng 43:67 F '58

Wine tanker with a stainless reputation for quality. P. Ferry. *Il* Welding Eng 43:38-9 Ap '58

Canada

Transport equipment; shipbuilding and boat building. *Il* Eng J 41:108-9 Ap '58

Great Britain

Engineering industries. Engineering 185:84-5 Ja 17 '58

United States

Navy shipbuilding continues strong. *Il* diag Marine Eng/Log (Yearbook no) 63:185-4 My 31 '58

1957 shipyard production shows sharp upswing in construction. Marine Eng/Log 63:58-60 F '58

No recession for shipbuilders. Am Mach 102:90 JI 14 '58

Outlook good for U.S. shipyards. *Il* Marine Eng/Log (Yearbook no) 63:7-4 My 31 '58

Shipbuilding soars to new highs. Am Mach 102:103 My 19 '58

Switch to West coast up ship-making costs. Product Eng 29:26 F 24 '58

U.S. yards' output up in 1957. *Il* Marine Eng/Log (Yearbook no) 63:141-54-4 My 31 '58

Vast shipbuilding program poses design problems. Product Eng 29:23 Ag 18 '58

SHIPMENT of goods

Determination of feasible shipping schedules for a job shop. W. Karush and L. A. Moody. *Op Res* 6:35-55 Ja '58

High-speed computer technique for the transportation problem; stepping stone method. J. B. Dennis. *diags Assn for Computing Mach J* 6:132-53 Ap '58

Licking problems the brain way. C. E. French and M. M. Snodgrass. *il Food Eng* 29:52-6 N '57

Mechanized warehouse rushes bearing shipments. *il Tool Eng* 40:181 Ja '58

Planning your distribution. F. H. Magee. *Mod Materials Handling* 13:110-13 Ap '58

Put wheels on your shipments; GE Blooming-ton plant chain conveyor tows carts through warehouse. *il Mill & Factory* 62:35 Ap '58

Revolution in shipping through marking devices. *il Paint Oil & Chem R* 121:3-9 Ap 3 '58

We cut shipping costs by \$125,000; Ford motor co. L. J. Churches. *Mod Materials Handling* 13:96-7 Ag '58

What causes shipping damage? handling forum. *Mod Materials Handling* 13:96-7 N '58

See also

Chemicals—Transportation
Containers (for shipping)
Crates
Packing for shipment
Petroleum—Transportation
Shipping departments
Steel—Transportation

SHIPPING

World shipping battens down. *il Marine Eng/Log* (Yearbook no) 63:119-23+ My 31 '58

See also

Ports
Steamboat lines
Terminals

Rates

What's the average cost of tanker transportation? W. L. Nelson. *Oil & Gas J* 55:134-5 O 21 '57; 56:101 Je 30 '58

Canada

Water transport. *il Eng J* 41:84-5 Ap '58

Great Lakes

Up and down the Great Lakes. Published in monthly numbers of Marine engineering/log
What's at the end of the Seaway? *il map Marine Eng/Log* 63:69-71 Je '58

See also

St Lawrence waterway and power project
Welland ship canal

Pacific coast

Pacific marine review. Published in monthly numbers of Marine engineering/log

United States

See also

American bureau of shipping

SHIPPING containers. *See* Containers (for shipping)

SHIPPING departments

Computer shipping center. *il Mech Eng* 79:1044-6 N '57

Timken centralizes shipping operations. *il Iron & Steel Eng* 34:156+ N '57

SHIPPINGPORT atomic power station. *See* Atomic power plants

SHIPS

Anti-fouling properties of zinc coatings. R. Juchniciewicz. *il Chem & Ind* p38 Ja 11 '58

Cathodic protection; its effect on shipbottom coatings. W. J. Francis and others. *bibliog il diags Am Soc Naval Eng J* 70:401-21 Ag '58

Coal tar-epoxy resin coating used by Avondale. *il Marine Eng/Log* 63:69 My '58

Distinctive ships. *il diags Marine Eng/Log* (Yearbook no) 63:94-116+ My 31 '58

Ingalis launches first passenger ship, the Brasil. *il Marine Eng/Log* 63:61 F '58

MR/Log previews; descriptions and miniature plans. *il diags Marine Eng/Log* (Yearbook no) 63:127-32 My 31 '58

Service performance of cast magnesium alloy anodes. G. L. Christie. *il diags Corrosion* 14:51-4 J1 '58

Use of magnesium for the external cathodic protection of marine vessels. C. F. Schrieber. *il diags Corrosion* 14:26-30 Mr '58

See also

Airplane carriers
Cable laying and supply ships
Ferryboats
Fishing boats

Freight ships

Landing craft

Lightships

Loading and unloading—Ships

Masts and rigging

Motor ships

Naval architecture

Navigation

Patrol boats

Radio telephone on ships

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Steering

Submarine boats

Tank ships

Towboats

Warships

Anchorage

See Anchorage

Cargo

See also

Freight ships

Deck coverings

Matching deck covering to service. W. H. Groff. *il Marine Eng/Log* 63:65-8 Ag '58

Electric equipment

Developments in marine electrical installations. A. N. Savage. *bibliog diags Am Soc Naval Eng J* 70:279-96 My '58

How to trouble shoot generator controls. F. W. Beltz, jr. *il diags Marine Eng/Log* 63:72-5 Ap '58

Metallic rectifiers for shipboard electric systems. C. L. Straub and H. G. Wiest. *il Elec Eng* 77:312-16 Ap '58; Same. *Applications & Ind* p70-4 My '58

Overcurrent protection in large-capacity shipboard electric systems. J. R. Cole. *diags Applications & Ind* p 126-30 J1 '58; Abstract. *Elec Eng* 77:293 Ap '58; Discussion R. R. McGee. *Applications & Ind* p 130-1 J1 '58

Recommendations for electrical installations in ships. A. R. Gatewood. *il Mag of Stand* 29:54-9 Mr '58

Stabilising ships' electrical supplies. *il diags Engineering* 186:5 J1 4 '58

See also

Ship propulsion, Electric

Electronic equipment

Electronic boat horn and hailer. H. L. Davidson. *il diags Radio-Electronics* 29:51-2 J1 '58

Improved method of cooling electronic equipment on board ship. P. Meissner. *il Elec Eng* 77:113 Ja '58

Equipment

Another car ferry. M.V. Compiegne. G. W. Tripp. *il Engineer* 206:293-4 Ag 22 '58

Banner's first-class tourist liner. S.S. Atlantic. *il Marine Eng/Log* 63:60-4 Ag '58

High-pressure fuel system in R.M.S. Queen Mary. *il Engineer* 204:757 N 22 '57

Marine water pressure units. *il Engineer* 206:229 Ag 8 '58

New deep-tank coating. *il Marine Eng/Log* 63:75 My '58

Old tanker introduces new concepts in safety, cargo handling, maintenance. *il diags Marine Eng/Log* 63:52-7 Ja '58

Polyethylene for marine applications; bilge pump and boat fender. *il Mod Plastics* 35:94-5 Ag '58

USNS Eitanian, a prototype ship for MSTs; ice-strengthened cargo vessels. *il plan Marine Eng/Log* 63:49-57 F '58

Unusual arrangement for extra capacity; World Japonica. *il plans Marine Eng/Log* 63:64-7 Ja '58

Value engineering in the Bureau of ships. R. C. Johnson. *Am Soc Naval Eng J* 70:77-85 F '58

See also

Anchors

Bollers, Marine

Winches

Failure

Hull cracks on destroyers. W. M. M. Fowden, jr. and H. Q. Mar. *bibliog il diags Am Soc Naval Eng J* 70:349-53 My '58

Today's trend in ship research. D. K. Felbeck. *bibliog il Welding J* 37:sup265-8 Je '58

Heating and ventilation

Marine application of high-temperature water. S. W. Brown. *diags Heating-Piping* 30:161-6 Mr '58

SHIPS—Continued

Hydraulic equipment

Development of a safety type hydraulic fluid for naval shipboard use. V. L. Bigsby. *Am Soc Naval Eng J* 70:527-3 Ag '58
How hydraulics fit into your ship. R. B. Galloway. *il diags Marine Eng/Log* 63:65-9+ Ap '58

Model testing

Camera analyzes model ships on model oceans; Stevens Institute of technology. H. Derolian. *il Ind Phot* 7:6-7+ My '58
Differential reluctance measuring system and its application to model and ship testing. M. W. Wilson. *il diags Applications & Ind* p245-9 S '58
Scale-effect experiments on Victory ships and models; discussion. *Engineer* 205:574-5 Ap 18 '58
Some international aspects of ship model research. E. A. Wright. *bibliog il Am Soc Naval Eng J* 70:9-29 F '58

Piping

Plastic pipe for shipboard applications. J. A. Thompson. *Marine Eng/Log* 63:78 My '58
Stress and deflexion studies of pipeline expansion bellows. C. E. Turner and H. Ford. *bibliog il diags Inst Mech Eng Proc* 171 no 15:526-44; Discussion. 544-50; Reply. 551-2 '57

Reconstruction

Converted Liberty delivers 9000 tons of cement per trip. *il plans diags Marine Eng/Log* 63:79-81 Mr '58

Refueling

Efficient hose control, big must on sea-going filling stations. *il Marine Eng/Log* 63:72-4 Je '58

Registration and transfer

Transfers to foreign flags slow down; with tabulation. *il Marine Eng/Log* (Yearbook no) 63:243+ My 31 '58

Repair

Fresh air for shipboard repairs. *il Safety Maint* 115:40-1 Ap '58
Maryland shipbuilding finds one good way to cut costs. F. C. Simon. *il Marine Eng/Log* 63:76-7 Mr '58
Todd's New Orleans div.; service station for the ship operator. *il Marine Eng/Log* 63:61-3 Je '58
When know-how and ingenuity paid-off. *il diags Marine Eng/Log* 63:76-7 Ap '58

Safety measures

See Safety at sea

Scrapping

Outlook for ship scrapping. *il Marine Eng/Log* (Yearbook no) 63:251-2+ My 31 '58

Stability

Linear theory for the steered motion of ships in waves; abstract and discussion. L. J. Rydill. *Engineer* 206:170 Ag 1 '58
Queen + two pair = smooth sailing; two sets of Denny-Brown stabilizing fins installed in the Queen Mary. *il diags Marine Eng/Log* 63:78-9 Je '58
Stabiliser for small ships. *il diag Engineer* 205:107 Ja 17 '58; Same. *Engineering* 185:122 Ja 24 '58

Strains and stresses

Calculating stresses in ships' masts. F. J. Halligey. *diags Engineering* 186:153-4 Ag 1 '58
How boom calculations are simplified. H. Benford. *diags Marine Eng/Log* 63:80-1+ Ap '58

Testing

Differential reluctance measuring system and its application to model and ship testing. M. W. Wilson. *il diags Applications & Ind* p245-9 S '58

See also

Ships—Model testing

Vibration

Progress in naval architecture; a review of the principles of ship resistance, strength, performance and vibration. J. F. C. Conn. *Engineering* 186:386-8 S 19 '58
Vibration in ships; discussion. *Engineer* 206:166-8 Ag 1 '58

Water supply

See Water supply for ships

SHIPS, Aluminum

All-welded aluminum alloy yawl. *il Welding J* 37:142 F '58
First aluminum tugboat. *il Light Metal Age* 16:27 Ag '58
First aluminum tugboat features all-welded construction. *il Welding J* 37:803-4 Ag '58
My Sumter, first all aluminum tug. C. W. Leveau. *il Marine Eng/Log* 63:73-5 J1 '58

SHIPS, Atomic powered. See Ship propulsion, Atomic

SHIPS, Bureau of. See United States—Ships, Bureau of

SHIPS masts. See Masts and rigging

SHIPWRECKS

See also

Salvage

SHIPYARDS

Principal shipbuilding and ship repair yards of the United States, map *Marine Eng/Log* (Yearbook no) 63:124-5 My 31 '58
Todd's New Orleans div.; service station for the ship operator. *il Marine Eng/Log* 63:61-3 Je '58

See also

Shipbuilding

Equipment

British shipyard with new ideas; Bartram and sons, ltd. *il plan Engineering* 185:140-1 Ja 31 '58
Electronic brain flame-cutting. W. Sekules. *il diag Marine Eng/Log* 63:64-5+ My '58
Electronically controlled flame-cutting machine reduces steel-fabrication costs. *il Marine Eng/Log* 63:66-8 F '58
Quasi-Arc welding gantry for shipyards. *il diag Engineer* 204:865-6 D 13 '57

Layout

British shipyard with new ideas; Bartram and sons, ltd. *il plan Engineering* 185:140-1 Ja 31 '58

Safety measures

NSC meetings hit shipyard hazards and stress safe practice at sea; abstracts of papers. *Marine Eng/Log* 63:76-7 Je '58

SHOCK

Oral treatment of burn shock. K. Markley. A M A Archives Ind Health 16:427-34; Discussion. 436 N '57

SHOCK absorbers

Driver controls rideability with new automotive shocks. *diag Machine Design* 30:8 Ja 23 '58

Driver dials ride quality; new device adjusts reaction rate of shock absorbers; Selectric. *il diag Steel* 142:79 Ja 20 '58

Honeycomb absorbs shock. *il Materials in Design Eng* 47:184+ Mr '58

Honeycomb termed ideal absorber. *il Light Metal Age* 15:40 O '57

New shock absorber. R. M. Sando and F. E. England. *diags Product Eng* 29:86-8 My 12 '58

Rheostats regulate shock absorbers. *il diags Product Eng* 29:114 Mr 31 '58

Rubber shock absorber reduces cart impact. *il Plant Eng* 12:101 J1 '58

Shock-absorbing bus-duct system provides power-distribution framework for earthquake-resistant skyscraper in San Francisco. A. Lera. *il plans diags Elec Constr & Maint* 57:84-9 Ag '58

Manufacture

Advanced equipment increases production of shock absorbers; Gabriel co. *il diags Automotive Ind* 118:70-2 F 1 '58

Swagers point, form, assemble auto shock absorbers. *il diags Steel* 141:157-60 D 9 '57

SHOCK tube

Abnormally high detonation pressures in a shock tube. I. Ginsburg. *J Ap Phys* 29:1381-2 S '58

Development of the calorimeter heat transfer gauge for use in shock tubes. P. H. Rose. *bibliog il diags R Sci Instr* 29:557-64 J1 '58

Electrically driven shock tube. D. E. Bloxson, jr. *bibliog diags J Ap Phys* 29:1128-9 J1 '58

Experimental study of the turbulent boundary layer behind the initial shock wave in a shock tube. W. A. Martin. *bibliog il diags J Aero/Space Sci* 25:544-52 O '58

Hydrogen as a real-gas driver for shock tubes. P. W. Huber. *bibliog J Aeronautical Sci* 25:269 Ap '58

SHOCK tube—Continued

- Measurement of turbulent heat transfer rates on the aft portion and blunt base of a hemisphere cylinder in the shock tube. J. Rabinowicz, biblog II diags Jet Propulsion 28:615-20 S '58
- Missile tests and records set. II Elec Eng 76:1113-14 D '57
- Performance of a double-diaphragm shock tube using the reflected-shock method and a light-gas buffer. C. J. Schexnayder, jr. diag J Aero/Space Sci 25:527-3 Ag '58
- Probing into chemical and physical phenomena with shock tube and synchrotron: illustrations with text. Gen Elec R 61:28-9 J '58
- Shock tube as a tool for solid propellant ignition research. M. Summerfield and R. F. McAlevy, 3d, biblog II diags Jet Propulsion 28:478-81 JI '58
- Shock tube technique for study of autoignition of liquid fuel sprays. G. J. Mullaney, biblog II diags Ind & Eng Chem 50:53-8 Ja '58
- Shock tube works for research. II diags Ind Lab 9:6-9 F '58
- Space tools. II Elec Eng 77:825 S '58
- Stagnation point heat-transfer measurements in dissociated air. P. H. Rose and W. I. Stark, biblog II diags J Aeronautical Sci 25:86-97 F '58
- SHOCK waves**
- Apparatus for precision flash radiography of shock and detonation waves in gases. H. T. Knight and D. Venable, biblog II diags R Sci Instr 29:92-8 F '58
- Calculation of axisymmetric isentropic spike surfaces. E. C. Kennedy, J Aero/Space Sci 25:463-4 JI '58
- Collision of plane shock waves with wire screens. W. J. Franks and J. G. Hall, J Aeronautical Sci 24:917-18 D '57
- Cutting of metal plates with high explosive charges. W. E. Drummond, II diags J Ap Mech 25:184-8 Je '58
- Detached shock waves ahead of gas-sampling probes. R. Friedman and D. R. Boldman, II diag J Aero/Space Sci 25:526-7 Ag '58
- Effect of shock waves on the isentropic efficiency of convergent-divergent nozzles. B. W. Martin and F. J. Bayley, diags Roy Aeronautical Soc J 62:377-82 My '58
- Experimental investigation of the flow over simple two-dimensional and axial symmetric bodies at hypersonic speeds. I. E. Vas and others, biblog II Jet Propulsion 28:97-104 F '58
- Experimental study of the turbulent boundary layer behind the initial shock wave in a shock tube. W. A. Martin, biblog II diags J Aero/Space Sci 25:644-52 O '58
- Experiments on interaction between a traveling shock wave and a turbulent jet. D. S. Dosanjh, biblog II diags J Aeronautical Sci 24:838-44 N '57
- Explosive induced shock waves. W. E. Drummond, biblog diags J Ap Phys 28:1437-41; 29:187-70 D '57, F '58
- Fragmentation of waterdrops in the zone behind an air shock. O. G. Engel, biblog II diags J Res Nat Bur Stand 60:245-80 Mr '58
- Glow discharge trigger for shock wave studies. H. Harrison, biblog diag R Sci Instr 29:175-6 F '58
- Hydromagnetic shocks used in nuclear fusion engine. C. F. Johnson, biblog diags Aviation Age 30:30-6 Ag; 118-20+ S '58
- Initial wave phenomena in a weak spherical blast. R. G. Campbell, biblog II J Ap Phys 29:55-60 Ja '58
- Interaction of shock waves and turbulent boundary layers. A. G. Hammit, biblog II diags J Aeronautical Sci 25:345-56 Je '58
- Inviscid hypersonic flow near the stagnation point of oblate ellipsoidal noses. M. Vinokur, J Aero/Space Sci 25:469-70 JI '58
- Ionizing shock waves in monatomic gases. W. J. Guman, biblog J Ap Phys 29:109 Ja '58; Correction. 29:873-4 My '58
- Mach-150 shock waves aid study of ionized gases. Machine Design 29:5-6 O 31 '57
- New capacitor bank speeds shock research. II Nucleonics 16:116 Ap '58
- Numerical calculation of detached bow shock waves in hypersonic flow. P. R. Garabedian and H. M. Lieberstein, biblog diag J Aeronautical Sci 25:109-18 F '58
- Numerical data on blunt bodies. H. M. Lieberstein, J Aero/Space Sci 26:660-1 O '58
- Oscillating shock boundary-layer interaction. L. Trilling, diag J Aeronautical Sci 25:301-4 My '58

- Performance of thin-film gauges in high-temperature shock tube flows. R. G. Jahn and D. Weimer, diag J Ap Phys 29:741-2 Ap '58
- Photographs shock waves in broad daylight. II Machine Design 30:14 Je 12 '58
- Piezoelectric detector for low-pressure shock waves. H. T. Knight, diag R Sci Instr 29:174-5 F '58
- Production of high-velocity shocks. V. Josephson, II diags J Ap Phys 28:30-2 J '58
- Pulse generator based on high shock demagnetization of ferromagnetic material. R. W. Kulterman and others, diags J Ap Phys 29:500-1 Mr '58
- Reflection of sound waves at an oblique shock. C. T. Chang, diag J Aeronautical Sci 25:70-1 Ja '58
- Rotational field behind a curved shock wave calculated by the method of flux analysis. S. Uchida and M. Yasuhara, biblog II diags J Aeronautical Sci 23:830-45 S '56; Discussion. E. S. Love, 25:199-200 Mr '58
- Shock test machine for missile components. Franklin Inst J 265:526 Je '58
- Shock wave and flame interactions; abstract. G. Rudinger, Aircraft Eng 30:234 Ag '58
- Shock wave photography of large subjects in daylight. H. E. Edgerton, II diag R Sci Instr 29:171-2 F '58; Ind Lab 9:6-8 JI '58
- Shock waves in chemical kinetics; the decomposition of NaO_2 at high temperatures. G. Schott and N. Davidson, biblog II Am Chem Soc J 80:1841-53 Ap 20 '58
- Solutions to Stoolman's external diffusion equation for instability of a normal shock inlet diffuser. C. C. Chang and C. T. Hsu, biblog diag Jet Propulsion 28:457-60 JI '58
- Some shock spectra characteristics and uses. Y. C. Fung and M. V. Barton, biblog diag J Ap Mech 25:365-72 S '58
- Supersonic blunt-body problem: review and extension. M. D. Van Dyke, biblog II diags J Aero/Space Sci 25:485-96 Ag '58
- Unsteady interaction between a weak thermal layer and a strong plane oblique shock. C. T. Chang, biblog diags J Aeronautical Sci 25:317-23 My '58
- Use of shock wave observations for the determination of the equation of state. E. F. Lyne, diags A S M E Trans 80:1-8; Discussion. 8-10 Ja '58

See also

Shock tube

SHOE factories**Equipment**

- Automation ends shoe production bottlenecks: Skippy footwear corp. T. Ballots, II Elec World 149:96 My 26 '58

SHOE machinery

- Intermittent die with reverse-locking feature. J. J. Decoulos, diags Mach 64:113 Ag '58

SHOES

- Plastics' stake in footwear. II Mod Plastics 35:90-2+ Ag '58

Manufacture

- Adhesives applications in the shoe, flooring, and automotive industries. L. L. Blyler, Rubber World 137:893-4+ Mr '58

See also

Shoe machinery**SHOES, Animal**

- Vinyl shoes, for sheep and dogs. II Mod Plastics 35:168 Ag '58

SHOES, Rubber, plastic, etc.

- Plastics' stake in footwear. II Mod Plastics 35:90-2+ Ag '58
- Polystyrene one-piece shoe base. II Brit Plastics 31:24 Ja '58

SHOES, Safety

- Get your safety shoe program off the ground. T. M. Gray, II Safety Maint 116:11-13+ JI '58
- Longer life for work shoes and gloves processed with Du Pont Quilon chrome complex. II Safety Maint 114:19 O '57
- Navy makes safety shoes mandatory. Safety Maint 115:33 My '58
- Right shoe on the right foot. II Safety Maint 115:13 My '58

SHOP courses. See High schools—Shop courses**SHOPPING centers**

- Distribution for shopping centers; special report. II plans diags Elec World 149:69-78 Ap 7 '58

- Shopping in a garden; Don Mills shopping center in Toronto. II Arch Forum 109:120 JI '58

SHOPPING centers—Continued

Underground sewage pumping station solves difficult site problem; shopping center in Paramus, N.J. C. R. Walter, plans Pub Works 89:122-4 O '58

Air conditioning

See Store buildings—Air conditioning

Electric equipment

High voltage in a shopping center; Garden State plaza, Paramus, N.J. B. F. Thomas, jr. II plans diags Elec Constr & Maint 57:80-5 S '58
Load-center layout in a shopping center. J. Ownby, II plans diags Elec Constr & Maint 57:90-5 Ap '58

Lighting

Lighting of parking lots at shopping centers. W. Harrison, II plans Elec Constr & Maint 57:82-3 Ag '58
Portable-adjustable maintenance lighting; Garden State plaza shopping center, II Elec Constr & Maint 57:102-4 J1 '58

Sanitation

Sewage treatment for a modern shopping center. F. R. Burde, flow sheet II plan Pub Works 88:96-8 N '57

SHOPS, Railroad. See Railroads—Shops**SHORE lines**

Lake Michigan dune development; lake-level, beach and dune oscillations. J. S. Olson, bibliog diags J Geol 66:473-83, pl 1 S '58
Littoral drift problem at shoreline harbors. J. W. Johnson, maps diags Am Soc C E Proc 83 [WW 1 no 1211]:1-37 bibliog(p34-7) Ap '57; Discussion. R. Silvester, 84 [WW 1 no 1523]:13-18 Ja '58, Reply, 84 [WW 3 no 1653]:3-9 bibliog(p5-7) My '58
Model relating dynamics and sediment pattern in equilibrium in the region of shoaling waves, breaker zone, and foreshore. R. L. Miller and J. M. Zeigler, bibliog map diags J Geol 66:417-41 J1 '58
Rip-current systems. F. McKenzie, bibliog diags J Geol 66:108-13, pl 1-2 Mr '58

See also

Coast changes
Continental shelf

SHORE protection**See also**

Breakwaters
Flood control
Groins

SHORING and underpinning

Broken-back friction piles will underpin building; California bank building in Los Angeles, II diag Eng N 161:35-9 Ag 21 '58
Safety rules for shoring concrete, II Roads & Sps 100:78 N '57; Same, diag Safety Maint 115:24-5 Ja '58

SHORT circuits

Basic concepts in the design of electric bus for short-circuit conditions. A. C. Bates, diags Power Apparatus & Systems p29-36; Discussion. O. R. Schurig, 36-9 Ap '58
Be wary of short circuits; modern motor control centers provide much-needed protection. R. E. Gasparoli, II Plant 17:64-6 Ja '58
Digital short-circuit solution of power system networks including mutual impedance. M. J. Lantz, diag Power Apparatus & Systems p 1230-3; Discussion, 1233-5 F '58
Investigation of the current gain of transistors at frequencies up to 105 mc/s. F. J. Hyde and R. W. Smith, bibliog diags Inst E Proc 105 pt B:221-3 My '58
Junction transistor short-circuit current gain and phase determination. D. E. Thomas and J. L. Moll, Inst Radio Eng Proc 46:1177-84 Je '58
Measure short circuit forces on spacers. A. L. Malmstrom, II Elec World 149:45 Je 30 '58
Moisture shorts out electric circuits, diags Aviation Age 28:138 Mr '58
New way to repair shorted casings. T. Pazdral and J. Duke, diags Pet Eng 30:148-9 My '58
Short-circuit tests on bundle conductors. A. L. Malmstrom and others, II Elec Eng 77:724-7 Ar '58
Transient response of drift transistors. R. C. Johnston, bibliog diags Inst Radio Eng Proc 46:830-8 My '58
Two ways to figure s-c current. A. H. Knable, diags Power 102:97-102 Ja '58

SHORTENING

Use of solid triglyceride stearines as fluid shortening ingredients. L. L. Linteris and S. W. Thompson, bibliog Am Oil Chem Soc J 35:28-32 Ja '58

SHOT

Why metallurgy of iron shot is important. A. M. Hall, II Iron Age 181:84-6 Ja 16 '58

SHOT blasting

Abrasive blast cleans weldments; Hyster co. II Steel 141:78 D 23 '57
Blast cleaners treat parts in line, II Iron Age 180:52-3 D 26 '57
Blast cleaning the big pieces; Westinghouse electric corp. II Plant Eng 12:152 Ja '58
Blast unit cuts cleaning costs; railroad car cleaning, II Iron Age 181:109 Mr 20 '58
Blasting machine cleans six tons of parts in five minutes, II Steel 142:133 F 3 '58
Blasting with three-micron particles; panel discussion. S. A. E. J. 65:31 N '57
Damage by uncontrolled shot blasting. K. Kornfeld, II Metal Prog 73:92 F '58
How far can you go with shotblasting? G. E. Gollwitzer, II Steel 143:98-9 Ag 18 '58
Shot sales are strong, II Steel 142:65 Ap 28 '58

Shotblasting cuts costs; International harvester co. II Steel 142:142 Ap 14 '58
Shot blasting of plates and sections, II Engineer 206:331-3 Ag 29 '58

Shot-blasting removes scale economically; Oldsmobile div. of General motors corp. H. Chase, II Mach 65:167-9 O '58
Strip descaled automatically; shotblasting at Midland-Ross corp. II Steel 142:136 Mr 10 '58

Surface conditioning to create form; shaping Vanguard wing planks, II Engineering 186:379 S 19 '58
Tube cleaning equipment; Vacu-Blast machine, Engineer 206:187 Ag 1 '58
Unit saves cleaning time; Porcelain enameling co. II Steel 142:106 Ap 7 '58
Wet blast finishing goes automatic, II Steel 141:106-7 D 16 '57

See also

Shot peening

SHOT effect

Electron emission in moderate accelerating fields; Schottky effect. D. W. Juenger, bibliog(31 ref) diags J Ap Phys 28:1398-405 D '57
Transmission of electrons through metal surfaces; Schottky effect. R. H. Good, jr. bibliog(30 ref) J Ap Phys 28:1405-8 D '57

SHOT peening

Blasting with three-micron particles; panel discussion. S. A. E. J. 65:31 N '57
Holloid conveyor drives shot-peening nozzle carrier, II Tool Eng 41:61 Ar '58
Influence of repeated bending loads on biaxial residual stresses in shot-peened plates. T. M. Elsesser, bibliog II diags A S M E Trans 79:1904-10 N '57
Machine peen-forms wing sections, II Tool Eng 39:86 D '57
Peening cuts stresses in plated parts. W. W. Safer, Product Eng 28:92-3 D 9 '57
Screw positions nozzles for shot peening, II diag Product Eng 29:63 J1 7 '58
Shot peening. H. O. Fuchs and E. R. Hutchinson, bibliog II diags Machine Design 30:116-25, cover P 6 '58
Shot peening improves jet blades, II Tool Eng 39:122 N '57
Steel shot blasts panel contour; Boeing airplane co. II diags Steel 143:68-70 J1 7 '58

Testing

Electromagnetic test measures effects of shot peening. P. M. Unterweiser, Iron Age 181:121-3 Je 5 '58

SHOVELING machines

Better boom supports for big shovels; Hanna coal co. II diag Coal Age 63:96-7 Ag '58
Better rope clamp cuts downtime, boosts shovel range; Hanna coal co.'s Mountaineer shovel, II Coal Age 63:88-4 Je '58
Drill on shovel boom solves problem, II Coal Age 63:136 Ja '58
Economy of larger shovels. E. F. Hanson, II Min Cong J 44:50-3 Je '58
Miniature tractor shovel clears snow, cleans the yard, does other odd jobs, II Power Ind 74:25 Je '58
Pit operation using power shovels and trucks; clay pit. L. C. Gresham, jr. Am Cer Soc Bul 37:197-8 Ap 15 '58
Power shovels for city utility work, II Pub Works 89:160 Ap '58

SHOVELING machines—Continued

70-yd King of spades; pacesetter at new River King mine, Peabody coal co. A. E. Flowers. *il* map diag Coal Age 63:76-81 Ja '58

This tractor shovel works as an all-purpose tool. *il* Pub Works 89:169 My '58

Torque converter is ideally suited for shovel-cranes. F. J. Strnad. S. A. E. J 66:95 Mr '58

Tractor shovel handles landfill on part-time basis. *il* Pub Works 89:144 Mr '58

Tractor-shovel in today's mine. W. A. Haley. *Min Cong J* 43:72 D '57

Two seam stripping and parting removal; River queen mine, Peabody coal co. F. Gilbert. *il* Min Cong J 44:27-8+ My '58

White Diesel direct drives shovel crane. *il* Diesel Power 35:42-3 N '57

See also Buckets

Electric equipment

Electrical maintenance, a key to good shovel operation. E. D. Elwonger. *il* diags Pit & Quarry 50:91-4 Je '58

Maintenance and repair

Maintenance of tractor shovels. A. E. York. *il* Mill & Factory 63:101-3 S '58

Preventive maintenance lengthens tractor shovel life. A. E. York. *il* Foundry 86:202+ O '58

Manufacture

Super shovel hefts tons of earth in a quest for coal; River queen coal co. T. Learmont. *il* diags Welding Eng 43:116+ Ap '58

SHOW rooms. See Showrooms**SHOWER baths**

Chemical burns, proper treatment of. S. M. MacCutcheon. *il* Ind & Eng Chem 50: sup81A-2A My '58

For a durable finish on steel shower cabinets; bonderized or phosphatized sheet steel compared with plain galvanized sheet steel. *Ind Finishing* 34:100+ Ap; 99-100 Je '58

Rocket propellant safety shower. *il* Safety Maint 115:41-2 Ja '58

SHOWROOMS

Business-machines showroom. New York. *il* plan diag Prog Arch 39:140-5 Ap '58

Flexibility exploited in design for furniture display; Galloway's furniture showroom, Tampa. G. A. Sanderson. *il* plan Prog Arch 39:104-6 Je '58

Stage set for business; Olivetti's new Chicago showroom. *il* plans Arch Forum 107: 128-9 D '57

Two showrooms of Knoll associates, Inc. L. Sloane. *il* Prog Arch 39:137-43 Jl '58

SHOWROOMS, Traveling

Mountain goes to Mahomet; Northern Illinois gas company's mobile unit has helped to bring gas appliance story to its customers. R. E. Winter. *il* Gas Age 121:20-2 Ap 17 '58

Square D mobile showrooms go on area tours. *il* Elec World 149:59+ Je 30 '58

SHRIMPS

Effect of delayed handling upon shrimp quality during subsequent refrigerated storage. E. A. Fieger and others. *bibliog Food Tech* 12:297-300 Je '58

5,250 shrimp an hour; DeJean packing co. W. Fornea and J. V. Ziemba. *diag Food Eng* 30:80 Jl '58

SHRIMPS, Frozen

Biochemical methods for determining shrimp quality. M. Gagnon and C. R. Fellers. *bibliog Food Tech* 12:340-6 Ji '58

Super-cold freezes food super-fast; SeaPak corp. *il* Food Eng 30:114 F '58

SHRINKAGE of concrete. See Concrete—Expansion and contraction**SHRINKAGE of metals**

Shrinkage in tin bronze castings. C. L. Frear. *il* Foundry 85:81-5 D '57; 86-84-8 Ja; 92-7 F '58

Shrinkage prevention in bronze castings. C. L. Frear. *diags Foundry* 86:73-7 S; 84-9 O; 96-101 N '58

Transverse weld shrinkage; abstract. W. Glide. *Welding J* 37:sup48 F '58

SHRINKPROOFING. See Wool—Shrinkproofing**SHUFFLEBOARD courts****Lighting**

Lighting a shuffleboard court; lighting data sheet. S. Bell. *il* Illum Eng 52:568 N '57

SHUTTERS (photography). See Camera shutters**SHUTTERS, Optical**

Single-flash rotary disk optical shutter. R. L. Gregory. *diag J Sci Instr* 34:463-4 N '57

SHUTTLE cars. See Mine cars**SHUTTLES, Plastic**

Alabama mill executives go for plastic shuttles. *Textile World* 108:55+ Ag '58

SICKNESS

Effective return to work of the cardiac employee. J. J. Thorpe and N. K. Weaver. A. M. A Archives Ind Health 18:168-77 Ag '58

SIDEWALKS

Curb, gutter and sidewalk repair program. D. Atkinson. *il* Pub Works 89:106-7 S '58

SIDEWALKS, Moving. See Moving platforms**IEGLER corporation**

Heaters to missiles; history of Siegler corp. *Electronics* 30:6 D 20 '57

SIEMENS, William

Siemens centenary. J. N. Aldington. *por Engineer* 205:393-5 Mr 14 '58

SIGERIST, Henry

H. Sigerist and international medicine. M. I. Roemer. *Am J Pub Health* 48:425-7 Ap '58

SIGHT

Driver vision unsafe. *Safety Maint* 114:49 N '57

Electronics aids vision studies. *Electronics* 31:12+ S 12 '58

How and why of a vision program. R. F. Ash. *il* Safety Maint 115:14-17 Mr '58

Human-factors engineering; design for seeing. J. D. Vandenberg and C. T. Goldsmith. *bibliog il* diags Machine Design 30:104-9 My 1 '58

New method of determining illumination required for tasks. C. L. Crouch. *il* Illum Eng 53:416-22 Ag '58

Recommendations for quality and quantity of illumination. *Illum Eng* 53:422-4 Ag '58

See also Eye

Visibility**SIGNALS and signalling**

Method for determining the average audible range of a sound signal. J. E. Wesler. *Am Soc Naval Eng J* 70:341-7 My '58

See also

Electric signals

Light signals

Mine signals

Railroads—Signals

Subways—Signals

SIGNS

Building identification. R. Stoetzel. *il* Prog Arch 39:137-9 F '58

See also

Decalcomania

Road signs

Traffic signs

SIGNS, Plastic

Giant outdoor sign-package. *il* Mod Plastics 35:192 Ap '58

SILAGE

Production of toxic gas (nitrogen oxides) in silage making. W. H. Peterson and others. *bibliog J Agri & Food Chem* 6:121-6 F '58

Silage machinery. *il* Engineer 205:821 My 30 '58

SILANES

Cleavage of symmetrically substituted disilanes by lithium in tetrahydrofuran. H. Gilman and G. D. Lichtenwalter. *bibliog Am Chem Soc J* 80:608-11 F 5 '58

Dipole moment and steric strain in hexaaryl-disilanes. A. J. Petro and C. P. Smyth. *bibliog Am Chem Soc J* 79:6147-9 D 5 '57

Electrical effects in the biphenyl and naphthalene systems; the influence of alkyl groups attached to silicon on desilylation reactions. R. A. Benkeser and others. *bibliog Am Chem Soc J* 80:2283-7 My 5 '58

Inductive effects of alkyl groups as determined by desilylation reactions. R. A. Benkeser and others. *bibliog Am Chem Soc J* 80:2279-82 My 5 '58

Interaction of boron trichloride with alkoxy-silanes. W. Gerrard and J. A. Strickson. *Chem & Ind* p860 Jl 5 '58

Isomerism of some α -hydroxysilanes to silyl ethers. A. C. Brook. *bibliog Am Chem Soc J* 80:1886-9 Ap 20 '58

Meerwein reactions on isolated olefinic bonds; free radical addition reactions on vinylsilanes. R. A. Benkeser and others. *bibliog Am Chem Soc J* 79:8253-6 D 5 '57

Occlusion of organosilanes by urea. J. Radell and P. D. Hunt. *bibliog Am Chem Soc J* 80:2683-5 Je 5 '58

Organic-glass scintillators. J. W. Downs and F. L. Smith. *Nucleonics* 16:94-6 Mr '58

SILANES—Continued

- Preparation of some fluoroalkylmethyldichlorosilanes and their hydrolysis products. F. Tarrant and others. *bibliog Am Chem Soc J* 79:6536-40 D 20 '57
- Reactions of triethylsilane and diethylsilane with inorganic halides and acids. H. H. Anderson. *bibliog Am Chem Soc J* 80:5083-5 O 5 '58
- Silanes in drugs, pesticides and cosmetics. *Manuf Chem* 29:393 S '58
- Substituted phenylsilanes; the bromination of the tolyltrimethylsilanes. R. G. Severson and others. *Am Chem Soc J* 79:6540-2 D 20 '57
- Trialkyl- and triaryl(iso)cyanosilanes. T. A. Bither and others. *bibliog Am Chem Soc J* 80:4151-3 Ag 20 '58

See also

Trichlorosilane
Triphenylsilane

SILANOLS. See Silicols

SILICA

- Adsorption at inorganic surfaces; adsorption of dyes and related compounds by silica. M. M. Allingham and others. *bibliog (32 ref) J Ap Chem* 8:108-16 F '58
- Control of the properties of glazes by the aid of eutectics; alkali-alumina-silica and lead-alumina-silica systems separately and in combinations. A. S. Watts. *diags Am Cer Soc J* 41:249-53 J1 1 '58
- Crystallization of amorphous silica. R. M. Carr and W. S. Fyfe. *Am Mineralogist* 43: 908-16 S '58
- Determination of the specific surface of different modifications of silica; comparison of results by different methods. J. Cartwright and others. *bibliog J Ap Chem* 8:559-64 Ap '58
- Diatomaceous and other silicas. R. J. Fabian. *Materials in Design Eng* 47:127-8 Mr '58
- Distribution of particle size in colloidal silica by ultracentrifugation. J. J. Hermans and A. M. Ryke. *J Colloid Sci* 13:508-9 O '58
- Fibrosis and collagen in rats' lungs produced by etched and unetched free silica dusts. F. M. Englebrecht and others. *bibliog J A M A Archives Ind Health* 17:287-94 Ap '58
- Going underground for a pure white silica; Clayton silica co. E. Meschter. *il Rock Prod* 61:78-81+ Je '58
- Increased activity of silica-alumina catalysts. H. G. Weiss and I. Shapiro. *bibliog Am Chem Soc J* 80:3195-8 J1 5 '58
- Interaction of water vapor with silica surfaces. G. J. Young. *bibliog J Colloid Sci* 13: 67-85 F '58
- Low-temperature thermal conductivity in neutron irradiated vitreous silica. A. F. Cohen. *bibliog J Ap Phys* 29:591-3 Mr '58
- New method of preparing activated silica sols. C. R. Henry. *bibliog flow diag Am Water Works Assn J* 50:61-71 Ja '58
- Partition separation of carotenoids by silica-methanol columns. A. E. Purcell. *bibliog Anal Chem* 30:1049-51 Je '58
- Phase equilibrium relationships at liquidus temperatures in the system FeO-FeO₂-Al₂O₃-SiO₂. A. Muan. *bibliog diags Am Cer Soc J* 40:420-31 D 1 '57
- Phase equilibrium studies in the system CaO-Cr₂O₃-SiO₂. F. P. Glasser and E. F. Osborn. *bibliog diags Am Cer Soc J* 41: 358-67 S 1 '58
- Physical structure of silica-alumina catalysts. J. H. Ramser and P. B. Hill. *bibliog diag Ind & Eng Chem* 50:117-24 Ja '58
- Reactions between iron oxides and alumina-silica refractories. A. Muan. *Am Cer Soc J* 41:275-86 Ag 1 '58
- Reactions in silica-alumina mixtures. R. R. West and T. J. Gray. *bibliog (29 ref) Am Cer Soc J* 41:132-6 Ap 1 '58
- Resin-silica vs. missile-made heat; Astrolite. *il Chem Eng* 65:74+ Ja 27 '58
- Shape of liquid immiscibility volume in the system barium oxide-boric oxide-silica. E. M. Levin and G. W. Cleek. *bibliog Am Cer Soc J* 41:175-9 My 1 '58
- Silica kills bugs; inorganic coated silica aerogel. *Chem & Eng N* 36:21 O 27 '58
- Silica strains helium from natural gas. *diag Electronics* 31:20-1 J1 25 '58
- Some properties of glasses in the system barium oxide-boric oxide-silica. E. H. Hamilton and others. *bibliog Am Cer Soc J* 41:209-15 Je 1 '58

- Studies in the system CaO-Al₂O₃-SiO₂-H₂O; new data on the polymorphism of CaSiO₄ and its stability in the system CaO-SiO₂-H₂O. D. M. Roy. *bibliog Am Cer Soc J* 41: 293-9 Ag 1 '58
- Studies of the system iron oxide-silica-water at low oxygen partial pressures. S. S. Flaschen and E. F. Osborn. *bibliog diags Econ Geol* 52:323-43 D '57
- Thermodynamic behavior of quartz and other forms of silica in pure water at elevated temperatures and pressures with conclusion on their mechanism of solution; discussion. K. Jasmund. *bibliog J Geol* 66:595-6 S '58
- Use of alum-activated silica as a coagulant aid. V. W. Langworthy. *bibliog Am Water Works Assn J* 50:56-60 Ja '58

See also

Quartz
Quartzite

Analysis

- Automatic analysis for silica and hardness. G. Schneider. *il diag Water & Sewage Works* 105:270-2 J1 '58
- Salt effect correction in determining soluble silica in sea water by the silicomolybdic acid method. G. S. Bien. *bibliog Anal Chem* 30:1525-6 S '58

Physiological effect

- Biological action of Degussa submicron amorphous silica dust (Dow Corning silica). G. W. H. Schepers and others. *bibliog il diag A M A Archives Ind Health* 16:125-45; 203-24. 280-301. 363-79. 499-513 Ag-D '57

SILICA, Fibrous

- New use for quartz; metal-coated silica fibers. *il Chem & Eng N* 36:41 Ap 14 '58
- Quartz fiber machine. A. S. Brill. *diag R Sci Instr* 29:243 Mr '58

SILICA, Fused

- Forged quartz reduces waste; new fusing process reheats and shapes blanks to give better properties than molded quartz. *il Chem & Eng N* 36:48 Mr 10 '58
- Fused silica looks like good insulation; Foamil. *il Chem N* 161:49 J1 31 '58
- Georgia Tech develops fused silica process. *Am Cer Soc Bul* 37:51 Ja 15 '58
- Silica foams, forms insulation; refractory material of fused silica. *il Chem & Eng N* 36:48+ J1 14 '58
- Spectra of simple glasses in the infrared range and their relations to the structure of glass; tr. by W. Eitel. V. A. Florinskaya and R. S. Pechenkina. *bibliog Glass Ind* 39:27-31 Ja '58

SILICA gel

- Chromatography of a mixture of hexane, chloroform, and benzene on silica gel. J. W. Blair and E. S. Amis. *Anal Chem* 30:329-32 Mr '58
- Cure that cures instability; meat-treating formulation's silica gel approved by MIB. *il Food Eng* 30:114 Ap '58
- GE gel may hold radioactive waste. *il Chem & Eng N* 36:42 Ja 13 '58
- Renewing a primary system by drying varnished cable in conduit; using silica gel. H. D. Jefferson. *il Elec Constr & Maint* 57: 112 Ja '58

Temperature effect

- Effect of heat treatment on silica gel. M. Malanchuk and E. B. Stuart. *bibliog Ind & Eng Chem* 50:1207-10 Ag '58

SILICATES

- Bigger plant for silicates production; Joseph Crossfield and sons. *il Manuf Chem* 29:36-7 Ja '58
- Development of a modified silicate adhesive for corrugator use. J. L. Foster and others. *bibliog Tappi* 41:sup 143A-6A Ja '58
- Fluoride analysis of glasses and silicate materials by pyrohydrolysis separation. P. B. Adams and J. P. Williams. *bibliog il diag Am Cer Soc J* 41:377-80 S 1 '58
- Glass formation and properties of glasses in the system Na₂O-B₂O₃-SiO₂-TiO₂. J. H. Strimble and E. A. Gless. *diags Am Cer Soc J* 41:231-7 J1 1 '58
- Modern silicate adhesive developments. R. L. Kreyling. *Tappi* 41:sup 146A-9A Ja '58
- Role of vitrons in alkali silicate binary glasses. W. Tilton. *bibliog il diags J Res Nat Bur Stand* 60:351-64 Ap '58
- Separation of uranium from other metals in sulphate solution by fractional hydrolysis; precipitation in the presence of phosphate, arsenate and silicate. T. V. Arden and others. *J Ap Chem* 8:151-9 Mr '58

SILICATES—Continued

Silicate esters and related compounds; synthesis of certain tetraalkoxysilanes, polyalkoxysiloxanes, bis-(trialkoxysilyl)-alkanes and related intermediates. J. R. Wright and others, *bibliog Am Chem Soc J* 80:1733-7 Ap 5 '58

See also

Albite
Aluminum silicates
Amphiboles
Beryl
Bismutoferrite
Calcium silicates
Celite
Chapmanite
Gillespite
Glaucanite
Iron silicates
Kaolin
Lead silicates
Magnesium silicates
Mica
Mullite
Pegmatites
Potassium silicate
Fumice
Serpentine
Sodium silicates
Spodumene
Talc
Vermiculite
Wollastonite
Zeolites
Zircon

SILICIC acid

Complex formation between molybdic acid and silicic acid in the presence of polyhydroxy compounds. E. Richardson, *bibliog Research* 11:163-4 Ap '58
Simplified technique for the preparation of glass paper impregnated with silicic acid. J. W. Dieckert and others, *Anal Chem* 30:1442 Ag '58

Physiological effect

Studies on the toxicity of silicic acid. J. Glömmé and others, *bibliog* (23 titles) *A M A Archives Ind Health* 17:204-9 Mr '58

SILICIDES

Predicting the thermodynamic stabilities and oxidation resistances of silicide cermets. A. W. Searcy, *bibliog Am Cer Soc J* 40:431-5 D 1 '57

SILICOCHLOROFORM. See Trichlorosilane

SILICOLS

Condensation of trimethylsilanol with titanium isopropylate. J. D. Danforth, *Am Chem Soc J* 80:2685 My 20 '58

Analysis

Determination of silanol with Grignard reagent. F. O. Guenther, *bibliog diag Anal Chem* 30:1118-20 Je '58

SILICON

Application of silicon and germanium power rectifiers in the steel industry. R. J. Moran, *il diags Iron & Steel Eng* 35:117-22 Ag '58
Arrangements of dislocations in plastically bent silicon crystals. J. R. Patel, *bibliog il diags J Ap Phys* 29:170-6 F '58

Bonding materials for making contacts to p-type silicon. D. R. Mason and J. C. Sarace, *bibliog il diag Electrochem Soc J* 105:594-8 O '58

Crack-free alloyed junctions in silicon using pure aluminum. T. C. Taylor, *il J Ap Phys* 29:865-6 My '58

Cutting silicon crystal for rectifier production. *il Elec Eng* 77:770 Ar '58

Distorted layers in silicon produced by grinding and polishing. W. C. Dash, *diags J Ap Phys* 29:228-9 F '58

Effect of dislocations on breakdown in silicon p-n junctions. A. G. Chynoweth and G. L. Pearson, *bibliog il diags J Ap Phys* 29:1103-10 Jl '58

Effect of heat treatment upon the electrical properties of silicon crystals. C. S. Fuller and R. A. Logan, *bibliog J Ap Phys* 28:1427-36 D '57

Effect of oxygen on etch-pit formation in silicon. R. A. Logan and A. J. Peters, *bibliog il J Ap Phys* 28:1419-23 D '57

Effective power with transistors. *Electronics* 31:120-4 Ap 11 '58

Effects of neutron irradiation on germanium and silicon. G. C. Messenger and J. F. Spratt, *bibliog diags Inst Radio Eng Proc* 46:1038-44 Je '58

Electrical characteristics of silicon p-n-p-n triodes. I. M. Mackintosh, *bibliog diags Inst Radio Eng Proc* 46:1229-35 Je '58

Electropolishing silicon in hydrofluoric acid solutions. D. J. Archer, *bibliog diag Electrochem Soc J* 105:402-3 Jl '58

Emissivity at 0.65 micron of silicon and germanium at high temperatures. F. G. Allen, *J Ap Phys* 28:1510-11 D '57

Evaluation of the surface concentration of diffused layers in silicon. G. Backenstoss, *bibliog Bell System Tech J* 37:699-710 My '58

Evidence of dislocation logs in deformed silicon. W. C. Dash, *bibliog il J Ap Phys* 29:705-9 Ap '58

Recovery of silicon diodes in high-volume production. *il Elec Eng* 77:463-4 My '58

Field emission from silicon. L. A. D'Asaro, *il diag J Ap Phys* 29:33-4 Ja '58

Germanium and silicon take the lead among semiconductor rectifiers. R. A. York, *Product Eng* 29:89-91 My 12 '58

Gold in silicon. G. Benski and J. D. Struthers, *bibliog il Electrochem Soc J* 105:588-91 O '58

Gold on silicon surfaces. R. O. Carlson, *J Ap Phys* 29:1001-2 Je '58

Grace forms silicon maker; Sperry Rand enters market. *Control Eng* 5:167-8 F '58

Grinding hemispheres of germanium and silicon. D. B. Gasson, *J Sci Instr* 35:33 Ja '58

Growth of silicon and germanium disks. J. R. O'Connor and W. A. McLaughlin, *il diag J Ap Phys* 29:222 F '58

Heat treatment of silicon using zone heating techniques. H. C. Theuerer and others, *diags Electrochem Soc J* 104:721-3 D '57

High purity needed. *il Chem & Eng N* 36:31 Mr 31 '58

Improved diffusion boundary junctions in silicon due to scratch-free polishing. F. Keywell, *il J Ap Phys* 29:871-2 My '58

Interactions between oxygen and acceptor elements in silicon. C. S. Fuller and F. H. Doleiden, *bibliog J Ap Phys* 29:1264-5 Ag '58

Intramolecular cleavage-cyclization reaction of silicon-containing organolithium compounds. D. Wittenberg and H. Gilman, *Am Chem Soc J* 80:2677-80 Je 5 '58

Junction delineation in silicon by gold chemiplating. S. J. Silverman and D. R. Benn, *bibliog il diag Electrochem Soc J* 105:170-2 Mr '58

Large-size silicon crystals for infrared applications. *Elec Manuf* 61:11-12 Je '58

Lifetime in pulsed silicon crystals; Shockley-Read recombination theory. C. A. Bittmann and G. Benski, *bibliog J Ap Phys* 28:1423-6 D '57

Lifetime nickel precipitation in silicon. W. J. Shattles and H. A. R. Wegener, *il J Ap Phys* 29:866 Mr '58

Light diffracting striations in silicon. R. L. Hopkins, *bibliog il diag J Ap Phys* 29:1378-9 S '58

Manufacture of silicon transistors. J. T. Kendall, *il diags Electronic & Radio Eng* 35:202-7 Je '58; Discussion, M. Smollett, 35:316-17 Ar '58

Measurement of ternary distribution coefficients in silicon. D. Navon, *bibliog diags J Ap Phys* 29:579-82 Mr '58

Microwave transients from avalanche silicon diodes. J. L. Moll and others, *diags Inst Radio Eng Proc* 46:1306-7 Je '58

Multiterminal p-n-p-n switches. R. W. Aldrich and N. Holonyak, Jr, *diags Inst Radio Eng Proc* 46:1236-9 Je '58

New six-coordinate cation; abstract. S. Kirschner, *Chem & Eng N* 36:49 Ap 28 '58

Optical measurement of film growth on silicon and germanium surfaces in room air. R. J. Archer, *bibliog Electrochem Soc J* 104:619-22 O '57; Discussion, 105:365-6 Je '58

Passivity during the oxidation of silicon at elevated temperatures. C. Wagner, *bibliog J Ap Phys* 29:1295-7 S '58

Piezobirefringence in silicon. A. A. Giardini, *bibliog diags Am Mineralogist* 43:249-62 Mr '58

Preparation of large-area p-n junctions in silicon by surface melting. E. Billig and D. B. Gasson, *il diags J Ap Phys* 28:1242-5 N '57

Preparation of pure silicon by the hydrogen reduction of silicon tetrachloride. G. Szekely, *il diags Electrochem Soc J* 104:663-7 N '57

Properties of silicon and germanium. E. M. Conwell, *diags Inst Radio Eng Proc* 46:1281-300 *bibliog* (p1298-300) Je '58

SILICON—Continued

- Protection of sensitive current devices with silicon diodes. F. L. Toback. *diags Control Eng* 5:91-3 J '58
- Selective electrolytic etching of germanium and silicon junction transistor structures. I. A. Lesk and R. E. Gonzalez. *bibliog* *il diags Electrochem Soc J* 105:469-72 Ag '58
- Semi-conductor diode specifications; 1958-59 international listings for germanium and silicon types; including type number, manufacturer, forward and inverse currents and voltages, operating temperature. *diags Electronic Ind* 17:71+ Je '58
- Semiconductor properties of recrystallized silicon in aluminum alloy junction diodes. R. A. Gudmundsen and J. Maserian, Jr. *bibliog* *il diags J Ap Phys* 28:1308-16 N '57
- Silicon crystal counters. W. D. Davis. *J Ap Phys* 29:231-2 F '58
- Silicon crystals free of dislocations. W. C. Dash. *il J Ap Phys* 29:736-7 Ap '58
- Silicon diodes as protective meter shunts. A. S. Penfold and E. L. Garwin. *diag R Sci Instr* 29:252-3 Mr '58
- Silicon diodes improve reactor period meters. W. K. Brookshier. *diags Nucleonics* 16: 108+ Ar '58
- Silicon good for high-voltage rectifiers. E. E. Willson. *il Elec World* 148:78 N 4 '57
- Silicon market; shrinking as it grows. *Chem Eng* 65:102+ Mr 10 '58
- Silicon plays three roles; miniature silicon semiconductors. *il Chem & Eng N* 36:60 Ap 14 '58
- Silicon semiconductor devices. *diags Electronic Ind* 17:62+ Je '58
- Silicon supply to pass needs. *Electronics* 31: 34-5 F 21 '58
- Silicon transistor neon drivers. C. F. Kezer and M. H. Aronson. *diag Instruments & Automation* 31:1529 S '58
- Silicon transistors; some industrial manufacturing techniques. J. T. Kendall. *il diags Research* 11:381-6 O '58
- Slicing and dicing crystals of silicon and germanium. *il Mach* 85:128-30 O '58
- Study of the directional hardness in silicon. A. A. Giardini. *bibliog* *il diag Am Mineralogist* 43:957-69 S '58
- Technique for preserving lifetime in diffused silicon. S. J. Silverman and J. E. Singleton. *bibliog Electrochem Soc J* 105:591-4 O '58
- Twinning in diamond-type structures; a proposed boundary-structure model. J. A. Kohn. *bibliog* (28 ref) *il diags Am Mineralogist* 43:263-84 Mr '58
- Two chemical stains for marking *p-n* junctions in silicon. F. J. Whoriskey. *il J Ap Phys* 29:867-8 My '58
- Two-five amp silicon power transistors; abstract. H. W. Henkels and T. P. Nowalk. *il Elec Manuf* 62:64-5 J1 '58
- Work function and sorption properties of silicon crystals. J. A. Dillon, Jr. and H. E. Farnsworth. *bibliog* *il diags J Ap Phys* 29:1195-202 Ar '58
- Zone purification of silicon. E. A. Taft and F. H. Horn. *il diags Electrochem Soc J* 105:81-3 F '58

Analysis

- Detection of urea, melamine, isocyanate, and urethane resins; rapid group test for nitrogen, silicon, phosphorus, and titanium in coating materials. H. M. Swann and G. G. Esposito. *Anal Chem* 30:107-9 J '58
- Gamma spectrometric and radiochemical analysis for impurities in ultrapure silicon. B. A. Thompson and others. *bibliog Anal Chem* 30:1023-7 Je '58
- Investigations on colorimetric methods of metallurgical analysis; estimation of silicon in cast iron using the Dubosq type of colorimeter. G. V. L. N. Murty. *bibliog Metallurgia* 58:52-4 J1 '58
- Methods for the rapid determination of silicon in ferro-silicon. S. Velken. *bibliog Iron & Steel Inst J* 188:119-21 F '58
- Microdetermination of silicon in plants. R. J. Volk and R. L. Weintraub. *bibliog Anal Chem* 30:1011-14 My '58
- Photometric determination of traces of boron in silicon after separation by a hydrothermal refining technique. C. L. Luke and S. S. Flaschen. *diags Anal Chem* 30:1406-9 Ag '58
- Silicon determination in tool steels, high alloys. W. B. Sobers. *Foundry* 86:206 Ja '58
- Spectroscopic detection of silicon in organic silicon compounds. J. Radell and others. *bibliog Anal Chem* 30:1280-1 J1 '58

Cleaning

- Application of the ion bombardment cleaning method to titanium, germanium, silicon, and nickel as determined by low-energy electron diffraction. H. E. Farnsworth and others. *bibliog diags J Ap Phys* 29:1150-61 Ar '58

Prices

- Silicon prices fall. *Control Eng* 5:56+ Ja '58

SILICON, Molten

- Factors determining the oxygen content of liquid silicon at its melting point. W. Kaiser and J. Breslin. *bibliog J Ap Phys* 29:1292-4 S '58

SILICON alloys

- Blocking capability of alloyed silicon power transistors. R. Emeis and A. Herlet. *bibliog Inst Radio Eng Proc* 46:1216-20 Je '58
- Electron mobility in the germanium-silicon alloys. B. Goldstein. *bibliog diags RCA R* 18:458-65 D '57
- Modification of aluminum-silicon alloys by sodium. R. C. Plumb and J. E. Lewis. *bibliog* *il diags Inst Metals J* 86:393-400 Ap '58
- Selection of welding-rod chemical composition through mathematics. G. H. Bohn. *Welding J* 36:sup541-9 D '57
- Thermally precipitated phases and their distribution in an aluminum-silicon-cadmium alloy. R. E. Marburger and A. W. Schlachter. *il J Ap Phys* 29:184-8 F '58

See also**Iron alloys—Silicon alloys****Analysis**

- Spectrographic analysis of silicon-germanium alloys. M. C. Gardels and H. H. Whitaker. *bibliog Anal Chem* 30:1496-8 S '58

SILICON bronze

- Inert-gas-shielded arc welding of silicon and aluminum bronze. P. L. Hemmes. *il Welding J* 37:779-88 Ag '58

SILICON carbide

- Design of function generators using silicon carbide non-linear resistors. E. Brown and P. M. Walker. *il diags Electronic Eng* 30: 164-7 Mr '58
- Electrical contacts to silicon carbide. R. N. Hall. *bibliog J Ap Phys* 29:914-17 Je '58
- How they make silicon carbide heating elements. *il diags Cer Ind* 71:104-6 O; 93-5+ N '58
- Oxidation behavior of silicon carbide. G. Ervin, Jr. *bibliog Am Cer Soc J* 41:347-52 S 1 '58
- Thermal expansion apparatus with a silicon carbide dilatometer for temperatures to 1500°C. S. D. Mark, Jr. and R. C. Emanuelson. *bibliog* *il diags Am Cer Soc Bul* 37: 193-6 Ap 15 '58
- Spectra**
- Infrared emission spectrum of silicon carbide heating elements. J. E. Stewart and J. C. Richmond. *bibliog diags J Res Nat Bur Stand* 59:405-9 D '57

SILICON compounds

- Cyclic organosilicon compounds; reactions involving certain functional and related dibenzosilole compounds. H. Gilman and R. D. Gorsich. *bibliog Am Chem Soc J* 80:3243-6 J1 '58
- Cyclic organosilicon compounds; synthesis of compounds containing the dibenzosilole nucleus. H. Gilman and R. D. Gorsich. *bibliog Am Chem Soc J* 80:1883-6 Ap 20 '58
- Resolution of a hexavalent silicon(IV) complex. S. K. Dhar and others. *bibliog Am Chem Soc J* 80:753-4 F 5 '58
- Resolution of an asymmetric silicon compound. C. Eaborn and C. Pitt. *Chem & Ind* p380 Je 28 '58
- Silicon and organosilicon derivatives of acetylacetone. R. West. *bibliog Am Chem Soc J* 80:3246-9 J1 '58
- Silicon aromatics; abstract. G. Urry. *Chem & Eng N* 36:48 Ap 28 '58

See also**Silica
Silicates
Silicones****Analysis**

- Spectroscopic detection of silicon in organic silicon compounds. J. Radell and others. *bibliog Anal Chem* 30:1280-1 J1 '58

SILICON dioxide. See Silica

SILICON hydrides

Addition of silicon hydrides to olefinic double bonds; the addition to non-terminal olefins in the presence of chloroplatinic acid. J. C. Saam and J. L. Speler. *Am Chem Soc J* 80:1104-6 Ag 5 '58

γ -ray initiated reactions; the addition of silicon hydrides to alkenes. A. M. El-Abbady and L. C. Anderson. *bibliog Am Chem Soc J* 80:137-9 Ap 5 '58

SILICON iodides

Preparation of pure silicon by the hydrogen reduction of silicon tetraiodide. G. Szekely. *bibliog il diags Electrochem Soc J* 104:663-7 N '57

Transistor-grade silicon; preparation of ultrapure silicon tetraiodide. E. Rubin and others. *bibliog Electrochem Soc J* 104:656-66 N '57

SILICON molybdenum steel

Properties of some silicon-molybdenum steels. A. S. Kenneford. *bibliog Iron & Steel Inst J* 138:16-22 Ja '58

SILICON nitride

Silicon nitride refractory. T. F. Frangos. *il Materials in Design Eng* 47:115-17 Ja '58
Silicon nitrides; some physico-chemical properties. E. T. Turkdogan and others. *bibliog J Ap Chem* 8:296-302 My '58

SILICON rectifiers. See Electric rectifiers; Radio rectifiers**SILICON steel**

Cube-oriented steel magnetizes more easily. *il Electronics* 31:108-4 Ja 17 '58

Cube-oriented steel; silicon-iron magnetic steel. *il Electronics Bsns ed* 30:34 N 20 '57

Electrical steels; how to choose and improve them. B. A. Ruediger. *il diags Steel* 142:116-18-4 Je 9 '58

Energy loss in transformer steel. G. M. Leak. *bibliog Research* 1:56-60 F '58

Magnetic steel is doubly oriented; Cubex. *il Steel* 141:131 N 11 '57

Method of processing grain-oriented silicon steel; patent. Iron & Steel Eng 35:24-4 Ag '58

New magnet steel. *il Electronic Ind* 16:66 D '57

New magnetic steel claims greater efficiency. *il Iron Age* 180:68-9 O 31 '57

Researchers work on new type magnetic steel; Cubex. *Tool Eng* 40:193-4 Ja '58

Scientists develop four-way magnetic steel; Cubex steel. C. Zener. *il Elec Eng* 77:106-8 Ja '58

Some aspects of tempering 3/4 per cent silicon steel as followed by time decay of permeability. E. S. Anolik and J. F. Singer. *bibliog J P Phys* 29:412-13 Mr '58

SILICONE rubber. See Rubber, Artificial**SILICONES**

Automatic silicone lubricator for recording tapes and motion picture films. Franklin Inst J 264:373 N '57

Effect of antifoaming compounds on mortality and pulmonary edema. C. L. Punte and E. J. Owens. *bibliog Ind Med* 27:313-15 Ji '58

Effect of silicone softeners on resin-treated cottons. B. G. Simpson. *Am Dyestuff Rep* 46:991-8 D 30 '57; Same. *Textile Res J* 28:170-9 F '58; Abstract. *Textile World* 107:121 D '57

Firm develops new silicones. *Electronics* 31:30 My 16 '58

How to determine stock requirements for tubing. *Rubber Age* 82:1023 Mr '58

Importance of fabrication on the properties of silicone-glass laminates. E. C. Elliott and K. R. Hoffman. *Plastics Tech* 4:235-9 Mr '58

Improved silicone lubricants operate at 700 F. *il Materials in Design Eng* 47:151-4 Ja '58

Industrial chemistry, properties, and application of silicones; abstract. C. E. Reed. *Am Dyestuff Rep* 46:380-1 D 16 '57

Insulator contamination problem as influenced by silicone surface coatings; abstract. J. E. Conner and A. D. Lantz, Jr. *il Elec Eng* 77:297 Ap '58

Modified silicone varnish coating for printed wiring boards. D. M. Hudson. *Elec Manuf* 61:148-6 Ap '58

New tubes for the jet age. *il Chem & Eng N* 35:53 N 18 '57

New lubricants, hydraulic fluids for high temperatures; three new silicone fluids. E. D. Brown, Jr. *Materials in Design Eng* 47:124-6 Ap '58

New silicone fluids developed. *Automotive Ind* 117:96 D 1 '57

Properties of materials. *Materials in Design Eng* 48:160 Mid-O '58

700 F hydraulic fluid, but no seals, bearings. *Product Eng* 28:118 N 11 '57

Silicone cream controls dermatitis. *il Safety Maint* 115:22 M '58

Silicone defoamers. R. C. Gergle and others. *bibliog il Drug & Cosmetic Ind* 82:36-7+ Ja '58

Silicone insulation for traction motors. *il diags Engineer* 205:528-9 Ap 11 '58

Silicone paper coatings. J. W. Kell. *Tappi* 41:sup 232A-5A Je '58

Silicone wax fish eye trouble and remedies. J. J. Vaughn; G. A. Soderberg. *Ind Finishing* 34:109-10+ D '57

Silicones and their applications. J. Ames. *bibliog J Sci Instr* 35:1-3 Ja '58

Silicones and their use in aerosols. T. H. Reilly and D. V. Brown. *bibliog il Soap & Chem Spec* 34:113-15+ F '58

Silicones join epoxies; abstract. E. P. Plueddemann. *il Chem & Eng N* 36:72 S 22 '58

Tailor-made cyanosilicones; abstract. T. C. Williams. *Chem & Eng N* 36:73 S 22 '58

Toxicity of ozone; silicone aerosols and alcohol vapor therapy in ozone poisoning. S. Mittler. *bibliog Ind Med* 27:43-5 Ja '58

Using silicone in traction motors. *il Engineering* 185:319-21 Je 27 '58

Water repellent treatment of textiles with silicones; abstract. J. A. C. Watt. *Am Dyestuff Rep* 46:792 N 4 '57

Manufacture

For host of silicones; one versatile process; General electric co. process flowsheet. *il Chem Eng* 64:23-31 D '57

Manufacture of basic silicone products. D. G. Weaver and R. J. O'Connors. *bibliog flow sheet il Ind & Eng Chem* 50:132-6 F '58

Silicone fluid manufacture. R. Gutoff. *bibliog diags Ind & Eng Chem* 49:1807-11 N '57

Radioactivity effect

How much radiation can a motor take? *Iron Age* 180:189-90 N 14 '57

Testing

Silicone-insulated motor exposed to radiation source. *Elec Eng* 77:274-5 Mr '58

SILICOSIS

Fatal silicosis with complicating infection by an atypical acid-fast photochromogenic bacillus. G. W. H. Schepers and others. *bibliog il Ind Med* 27:27-36 Ja '58

Silicosis in Japan: history and tradition. M. Suzuki. *bibliog Ind Med* 27:172-4 Ap '58

SILK industry and trade

See also

International silk congress

SILK screen printing

Installing a silk screen department. E. Stanton. *Ind Phot* 7:44-4 Je '58

Mechanized screen printing speeds production at Bernard screen printing co. *il diags Textile World* 108:76-7 My '58

Screen prints produced continuously; Avakian textile printing corp. *il Textile World* 108:83-4 S '58

Screen process developments. J. I. Biegeleisen. *Ind Finishing* 34:78+ D '57

Silk screen reproduction uses new materials. E. Stanton. *Ind Phot* 7:54+ F; 60+ Mr '58

SILL process. See Hydrometallurgy**SILOS**

Level indicator for silos. *il Engineering* 186:384 S 19 '58

See also

Silage

Protection

P.V.C. sheet for silo covers. P. P. Birnbaum and A. D. Clarke. *il Brit Plastics* 31:241 Je '58

SILOXANES

Interaction of disiloxane with aluminum halides. W. A. Kriner and others. *bibliog Am Chem Soc J* 80:1546-9 Ap '58

New method for the preparation of trialkylsiloxy-derivatives of metals. D. C. Bradley and I. M. Thomas. *Chem & Ind p* 1231-2 S 20 '58

1-Oxa-2-silacycloalkanes and their conversion to bis-(hydroxyalkyl)-disiloxanes. W. H. Knott, Jr. and R. V. Lindsey. *il bibliog Am Chem Soc J* 80:4106-8 Ag 5 '58

Reactions of haloboranes with organocyclosiloxanes; boron chloride with methyl and ethyl trimer and tetramer. P. A. McCusker and T. Ostlick. *bibliog Am Chem Soc J* 80:1103-6 Mr 5 '58

Silicate esters and related compounds; synthesis of certain tetraalkoxysilanes, polyalkoxysiloxanes, bis-(trialkoxysilyl)-alkanes and related intermediates. J. R. Wright and others. *bibliog Am Chem Soc J* 80:1733-7 Ap 5 '58

SILOXANES—Continued

- Spectrum and structure of disiloxane. R. F. Curl, Jr. and K. S. Pitzer. *Am Chem Soc J* 80:2371-3 May 20 '58
- Statistical-graphical survey of series of linear and cyclic dimethylsiloxanes. H. I. Waterman and others. *Bibliog J Ap Chem* 8:625-31 O '58
- Trialkylsiloxyl-derivatives of transition metals. D. C. Bradley and I. M. Thomas. *Bibliog Chem & Ind p 17 Ja 4 '58*

SILT

- Complex origin of silts in the vicinity of Fairbanks, Alaska. S. Taber. *map Geol Soc Bul* 69:131-6 Ja '58
- Marginal zones of vanished glaciers reconstructed from the preconsolidation-pressure values of overriden silts. W. Harrison. *pi maps diags J Geol* 66:72-95 bibliog(55 titles, p89-90) Ja '58
- Radioactive gold to seek silting patterns in San Francisco bay. *Eng N* 161:73 Ag 21 '58

SILURIAN period. See Geology, Stratigraphic—Silurian**SILVER**

- Changes in thermoelectric power of silver and gold with cold work at liquid nitrogen temperature. E. W. Kammer. *J Ap Phys* 29:1122 JI '58
- Constitution of alloys of iron with ruthenium, rhodium, palladium, and silver. W. S. Gibson and W. Hume-Rothery. *diags Iron & Steel Inst J* 189:243-50 JI '58
- Correlation of thermal etch pits with dislocations in silver. J. P. Hirth and L. Vassamillet. *bibliog J Ap Phys* 29:595 Mr '58
- Corrosion of the zinc electrode in the silver-zinc-alkali cell. T. P. Dirkse and F. De Haan. *bibliog Electrochem Soc J* 105:311-15 Je '58
- Kinetics and mechanism of the reactions between chloroaquochromium(III) ions and silver ion. P. J. Elving and B. Zemel. *Am Chem Soc J* 79:5855-9 N 20 '57
- Kinetics of the silver(I)-silver(II) exchange reaction. B. M. Gordon and A. C. Wahl. *bibliog diags Am Chem Soc J* 80:273-6 Ja 20 '58
- Recovery of gold, silver and nickel from alkaline cyanide solutions by means of weak-base ion-exchange resins. J. Aveston and others. *J Ap Chem* 8:77-86 F '58
- Research anticipates problem and solves it; Martin engineers started to recover silver by soaking brazed stainless steel honeycomb panels in a tank of 50 per cent nitric acid solution for approximately 20 hours. *il Ind Lab* 9:73 Je '58
- Room temperature tarnishing of silver in bromine and iodine. J. L. Weinger. *bibliog J Electrochem Soc J* 105:577-81 O '58
- Silver, cobalt, and positive-grid corrosion in the lead-acid battery. J. J. Lander. *bibliog Electrochem Soc J* 105:289-92 Je '58; Discussion. *il* 105:761 D '58
- Silver-recovery apparatus for operation at high current densities. N. J. Cedrone. *bibliog il diags SMPTE J* 67:172-4 Mr '58
- X-ray silver mine; recover silver from old X-ray films and from fixer solution. *il Iron Age* 181:79 F 13 '58

Analysis

- Analysis for industry; colorimetric determination of silver. R. Goulden. *bibliog(56 ref) Ind Chem* 34:137-8, 200-2 Mr-Apr '58

Industrial applications

- Industrial uses for silver increase. *il Steel* 143:104-5 S 15 '58

See also**Silver solder****SILVER acetate**

- cis-hydroxylation of a synthetic steroid intermediate with iodine, silver acetate and wet acetic acid. R. B. Woodward and F. V. Brutcher, Jr. *bibliog Am Chem Soc J* 80:209-11 Ja 5 '58

- Proximity effects; reaction of *trans*-1,2-dibromocyclohexane with silver acetate. A. C. Cope and others. *Am Chem Soc J* 79:6292-6 D 5 '57

SILVER alloys

- Activation of silver-magnesium and copper-beryllium dynodes. A. H. Sommer. *J Ap Phys* 29:598-9 Mr '58

- Ag-In-Cd could replace Hf for pressurized water reactor control rods. I. Cohen and others. *bibliog il Nucleonics* 16:122-7 Ag '58

- Electroplating 22 karat gold-silver alloy. R. E. Harr and A. G. Cafferty. *Metal Finishing* 56:55-7 Ja '58

- Thermodynamic properties of the silver-cadmium system. P. D. Anderson. *bibliog Am Chem Soc J* 80:3171-5 JI 5 '58

See also**Silver solder****SILVER as money**

- Review of silver in 1957. L. J. Randall. *il Min Cong J* 44:118-20 F '58
- Silver, 1957. F. H. Wemple. *Eng & Min J* 159:130-2 F '58

SILVER brazing. See Silver solder**SILVER compounds**

- Interaction of metal ions with heterocyclic amines; silver(I) complexes. W. J. Peard and R. T. Pfau. *bibliog Am Chem Soc J* 80:1593-6 Ap 5 '58
- New silver-containing catalysts for elemental combustion analysis. J. Horáček and J. Kórbil. *Chem & Ind p* 101-2 Ja 25 '58

SILVER halides

- Formation of silver halide sols in the presence of cationic detergents. B. Matijević and R. H. Ottewill. *bibliog J Colloid Sci* 13:242-56 Je '58

SILVER industry and trade

- Review of silver in 1957. L. J. Randall. *il Min Cong J* 44:118-20 F '58
- Silver, 1957. F. H. Wemple. *Eng & Min J* 159:130-2 F '58

SILVER iodide

- Electroviscous effect in sols of silver iodide. A. J. Rutgers and P. Nagels. *J Colloid Sci* 13:148-50 Ap '58
- Structure of the double layer surrounding the particles of the sol of silver iodide. A. J. Rutgers and P. Nagels. *bibliog il J Colloid Sci* 13:140-7 Ap '58

SILVER iodomercurate

- Electrical conductivity of Ag_2HgI_4 . T. J. Neubert and G. M. Nichols. *bibliog Am Chem Soc J* 80:2619-23 Je 5 '58

SILVER nitrate

- Equivalent conductivities of AgNO_3 - KNO_3 mixtures. F. R. Duke and R. A. Fleming. *Electrochem Soc J* 105:412 JI '58
- Mobilities of the ions in fused KNO_3 - AgNO_3 mixtures. F. R. Duke and B. Owens. *bibliog Electrochem Soc J* 105:476-7 Ag '58
- Organic sulfides and polysulfides; reactions with doctor solution, silver nitrate, cupric acetate and lead acetate. Y. Minoura. *bibliog Rubber Chem & Tech* 31:618-20 JI '58
- Preparation or regeneration of a silver bleach solution by oxidizing ferrocyanide with persulfate. B. A. Hutchins and L. E. West. *SMPTE J* 66:764-8 D '57
- Transport numbers in pure fused salts: lead chloride, lead bromide, thallous chloride, and silver nitrate. R. W. Laity and F. R. Duke. *bibliog Electrochem Soc J* 105:497-9 F '58

SILVER oxides

- Higher oxides of silver. W. S. Graff and H. H. Stadelmaier. *bibliog Electrochem Soc J* 105:446-9 Ag '58
- Silver-oxide, zinc alkaline cells; polymeric membrane separators. H. H. Bieber and others. *bibliog il Ind & Eng Chem* 50:1273-8 S '58

SILVER perchlorate

- Silver perchlorate-benzene complex, $\text{C}_6\text{H}_6\cdot\text{AgClO}_4$, crystal structure and charge transfer energy. H. G. Smith and R. E. Rundle. *bibliog diags Am Chem Soc J* 80:5075-80 O 5 '58

SILVER peroxide. See Silver oxides**SILVER plating**

- Modern silver plating practice. L. Greenspan. *Metal Finishing* 56:61-3 Je '58

SILVER solder

- Alloy selection for brazing. L. V. LaRou. *il Machine Design* 29:132-5 N 14 '57
- Brazing strip eliminates rejects; silver brazing alloy doesn't run on heating. *il diags Steel* 142:83-4 F 10 '58

- Coiling wire on shop lathe produces several hundred brazing rings in ten minutes. *il Mill & Factory* 63:128 Ag '58

- Fatigue strength of silver-alloy brazed joints in steel. C. H. Chatfield and S. Tour. *il Welding J* 37:sup37-40 Ja '58

- One-third billion dollar brazing job; magnets for magnetic separator. H. O. Quartz. *il Welding J* 37:127 F '58

- Salvaging silver from brazed honeycomb. *il Welding Eng* 43:62-3 Je '58

Analysis

- Analysis of silver solder alloys. E. Jackson. *bibliog Metallurgia* 56:307-9 D '57

SILVER tungstate

Thermochemistry of sodium tungstate, silver tungstate and tungstic acid. R. L. Graham and L. G. Hepler, bibliog Am Chem Soc J 80:3538-40 J1 20 '58

SILVERING

Thickness of a silver mirror film and the iodine ring method. H. Fry, Glass Ind 39: 328-30 Je '58

SILVERMAN, Alexander

Bleining award. To Silverman, por Am Cer Soc Bul 37:260 My 15 '58
Receives Bleining award, por Glass Ind 39: 210-11 Ap '58

SILYL group

Additivity of electrical effects in aromatic electrophilic substitutions as determined by desilylation reactions. R. A. Benkeser and others, bibliog Am Chem Soc J 80:5283-94 O 5 '58

SIMPLEX method

Simplex method for beginners. H. M. Wagner, bibliog Op Res 6:190-9 Mr '58

SIMPLITE. See Calcium vanadate**SIMULATORS. Flight. See Flight simulators****SIMULTANEOUS equations. See Equations, Simultaneous****SINE bars**

Sine bar for use with a combination square. H. J. Gerber, il diags Mach 64:198-9 D '57
Special height blocks convenient for setting sine bars. H. J. Gerber, il Mach 65:158 S '58

Tri-sine bar. D. Schilling, diags Tool Eng 41:104 S '58

Tri-sine bar checks precision angles. D. Schilling, diags Am Mach 101:98 D 30 '57

SINGAPORE

See also
Medical service—Singapore

SINGING

Some aspects of singing. J. E. Hardy, bibliog il diag Research 11:356-9 S '58

SINGLE sideband system. See Radio transmission—Single sideband system**SINK and float process**

Advances in the art of dense media cleaning. E. O. Milligan, il Min Cong J 44:72-4 Je '58

Applications of the DSM screen. P. L. Stavenger and V. R. Reynolds, il diags Min Cong J 44:48-51 J1 '58

Dense medium units. H. E. Steinmann, Min Eng 9:1327 D '57

Distribution curves for sink-and-float separation of iron ores. R. G. Wuertler, bibliog Min Eng 10:Trans 788-91 J1 '58

Heavy media processing of gravels in New Brunswick. D. MacKenzie, il Am Concrete Inst J 30:133-8 J1 '58

Heavy media separation boosts gravel value. I. S. Thyle and C. E. Golsen, diags Rock Prod 61:126+ My '58

Heavy media turns waste to profit; Satcoy rock co, flow diag il Rock Prod 61:114+ F '58

Low-cost heavy-media cleaning. il diags Coal Age 63:80-2 J1 '58

South River mine whips a tough manganese ore problem in Virginia. R. C. Spurgeon and E. J. O'Connell, flow sheet il Eng & Min J 159:107-11 My '58

SINKS**Manufacture**

Engineered automation for kitchen sinks, too; mash-seam welding, il Welding Eng 43:126-7 Ap '58

SINTERING

Alumina puts hot work in harness. il Iron Age 180:138 D 12 '57
Armco adds sinter plant, il Steel 143:105 S 15 '58

Characterization of sinterable oxide powders; BeO, J. F. Quirk and others, il Am Cer Soc J 40:416-19 D 1 '57

Correlation of surface characteristics of uranium dioxide powders with their sintering behavior. D. R. Stenquist and others, il Am Cer Soc J 41:273-4 J1 1 '58

Effect of oxide additions on sintering of magnesia. J. W. Nelson and I. B. Cutler, bibliog Am Cer Soc J 41:406-9 O 1 '58

Electron microscope and electron diffraction studies of sintering of magnesite. A. Pande and R. Singh, il Am Cer Soc J 41:394-7 O 1 '58

Experience with sinter burden in Swedish blast-furnaces. U. Notini, Iron & Steel Inst J 189:322-6 Ag '58

French get two-layer sinter plant, diags Steel 141:74+ D 23 '57

Get tailor-made properties with sintered steel. R. Tainage, il Iron Age 181:104-6 Ap 3 '58

How sinter boosts steel growth; U.S. Steel's plans. G. J. McManus, il Iron Age 181:60 Je 26 '58

How theory can help make more sinter. E. W. Voice and R. Wild, bibliog diag J Metals 10:106-10 F '58

How UO₂ fuel cores are extruded. D. R. Stenquist and R. J. Anicetti, il Cer Ind 71:102-3 O '58

Influence of copper and vanadium on the sintering of magnesium-type ferrites. L. C. F. Blackman, J Ap Phys 23:1511-12 D '57

Initial sintering of alumina and hematite. R. L. Coble, bibliog il diags Am Cer Soc J 41:55-62 F 1 '58

Jones & Laughlin installs sintering plant at Ois works, il Iron & Steel Eng 35:174+ Mr '58

Lead lining stops flue gas corrosion; Consolidated mining & smelting co. of Canada sinter gas handling facilities, il Eng & Min 159:104 Je '58

Matakam story, from prehistoric iron to modern sintered steel; abstract, Metal Prog 73:152-3 Mr '58

Method of sintering ore fines; patent, diag Iron & Steel Eng 35:23-4 Ag '58

Mix is key to better sinter; Dwight-Lloyd div., McDowell co, il Steel 143:120+ J1 21 '58

New iron ore sintering plant emphasizes industry trend. G. J. McManus, il Iron Age 182:88-9 S 18 '58

New sintering plant at Port Kembla. N.S.W. Engineer 204:307 Ap 30 '58

Pick right atmosphere to sinter iron. Steel 143:80-1 J1 28 '58

Preferential volatilization of cations from ferrites during sintering. J. M. Brownlow, J Ap Phys 29:373-5 Mr '58

Role of structural defects in the sintering of alumina and magnesia. J. T. Jones and others, bibliog Am Cer Soc J 41:353-7 S 1 '58

Sinter-bed ignition. H. Bates, Iron & Steel Inst J 187:310-14 '57

Sinter-plant assessment. 57 trials at John Summers and sons, Shotton. H. Bates and others, diags Iron & Steel Inst J 188:45-54 Ja '58

Sinter treating apparatus; patent, il Iron & Steel Eng 35:30+ S '58

Sintered metals approach properties of wrought alloys, il Iron Age 181:88-90 Ja 23 '58

Sintering and hot pressing of uranium tetrafluoride. E. Barnes and P. Murray, bibliog il diag Am Cer Soc J 41:246-8 J1 1 '58

Sintering, 5000 tons a day! United States steel corp, il diag Metal Prog 74:74-7 S '58

Sintering method for semiconductor material. K. K. Gaulé and others, il diags R Sci Instr 29:565-7 J1 '58

Sintering of high-purity nickel oxide. Y. Iida, bibliog il diag Am Cer Soc J 41:397-406 O 1 '58

Sintering-plant instrumentation. A. A. Latowski, il diag Instruments & Automation 31:270-2 F '58

Steam sintering of uranium dioxide. C. A. Arenberg and P. Jahn, Am Cer Soc J 41: 179-83 My 1 '58

System controls flow rates; Jones & Laughlin steel corp.'s sintering plant, il Steel 143:188 S 15 '58

Trend to sintering grows, il Steel 141:71 N 25 '57

U.K. uses no pressure in powder route to beryllium. Chem Enr 65:74+ O 20 '58

SINTERING (non-metals)

Role of grain boundaries in sintering. J. E. Burke, bibliog il diags Am Cer Soc J 40:80-5 Mr 1 '57; Abstract, Metal Prog 73:202 My '58

SIPHONS

Conduit within conduit solves crossing problem, says siphon. J. Clapton, il diag Water & Sewage Works 105:308-9 J1 '58

Tank siphon never loses prime. C. E. A. Roberts, diags Chem Eng 65:153-4 O 6 '58

Use a steam jet syphon for versatility, economy, il diag Power Eng 61:75 N '57

Velocity controlled sewage siphons solve pumping problems. T. M. Riddick, il Pub Works 89:101-3 Je '58

SIRUPS

These nomographs simplify syrup calculations. M. A. Joslyn and A. S. Levens, bibliog Food Eng 30:108-10 S '58

SITOSTEROL

Effects of the esterification of supplemental cholesterol and sitosterol in the diet. M. M. Best and C. H. Duncan, *bibliog* J Nutrition 56:169-81 Je '58

SIZE of particles. See **Particles—Size determination**

SIZING (textiles)

For better warp sizing; Cato, Nu-film, and Kofilm. Chem & Eng N 36:58 O 20 '58
Modern machines and methods reduce slashing problems. Textile World 107:115+ D '57
Starch derivatives offer savings and processing advantages in textile uses. E. King and G. Wood. *il* Textile Ind 122:105-6 Mr '58

See also

Cotton sizing
Desizing (textiles)
Nylon sizing
Slashers (textile mills)

SIZING of paper. See **Paper sizing**

SKAGIT county, Washington

See also

Water supply—Skagit county, Washington

SKATING rinks

Arches and catenaries carry rink roof; Yale's hockey rink. New Haven. *il* diags Eng N 160:30-1+ Ap 10 '58
Cable-suspended roof for Yale hockey rink. F. N. Severud. *il* plan diags Civil Eng 28:666-9 S '58
Miles of steel piping maintain ice at air temperatures to 5° F; Mark C. Steinberg memorial rink. L. L. Hamig. *il* diags Heating-Piping 30:116-17 Mr '58
Plastic piping serves portable ice rink. *il* Heating-Piping 30:83 F '58

SKELETONS

Small skeletons for mass markets. *il* Mod Plastics 36:100-1+ S '58

SKIDS

Industrial know-how handbook; skids and pallets. *il* diags Mill & Factory 62:MH25 My '58

SKILLED labor. See **Technical workers**

SKIM rubber. See **Rubber**

SKIN

Acid mantle of the skin surface. H. Goodman. *bibliog* Ind Med 27:105-3 F '58
Effect of cosmetic ingredients and preparations on moisture loss from the skin. D. H. Powers and C. Fox. *il* Drug & Cosmetic Ind 82:32-3+, 233-4+ Ja-F '58
Skin absorption of carbon disulfide vapor in rabbits. A. E. Cohen and others. *bibliog* *il* A M A Archives Ind Health 17:164-9 F '58
Skin research. Published in monthly numbers of Drug and cosmetic industry
Study of human horny layers. P. Fleisch. *bibliog* *il* Drug & Cosmetic Ind 83:168-70+ Ag '58
Study of the penetration of aluminum salts into excised human skin. I. H. Blank and others. *diags* Am Perfumer & Aromatics 72:32-5 Jl '58

Diseases

Control of emotional factors in dermatoses; scientific exhibits. H. M. Robinson, Jr. and others. A M A Archives Ind Health 17:340-4+ Ap '58
Control program for epoxy-caused dermatitis. J. A. Sifter. *il* Plastics Tech 4:138-41+ F '58
Cosmetic dermatitis. F. Reiss. Drug & Cosmetic Ind 83:227 Ag '58
Cutaneous reaction to fiberglass. E. B. Heisel and J. H. Mitchell. *Ind Med* 26:547-50 D '57
Dermatitis: a report on the five-and-one-half-year experience of an ammunition plant. A. L. Knight. *bibliog* *il* A M A Archives Ind Health 18:155-67 Ag '58
Dermatitis in industry. D. C. Braun and R. Sitgreaves. *bibliog* A M A Archives Ind Health 17:253-72 Ap '58
Dermatitis eruptions can be surprisingly simple. J. S. T. Swanson. Safety Maint 115:39-40 Mr '58
Dermatological lotions. Drug & Cosmetic Ind 82:663+ My '58
Dermatology in industrial medicine. J. V. Klauder; E. D. Osborne. *il* Ind Med 27:147-9 Mr '58
Fundamental question of dermatitis at Lone star Ordnance plant. N. B. Daniel. *Ind Med* 27:421-2 Ag '58
Germicides versus antibiotics and chemotherapeutics in the control of resistant staphylococcal infections of the skin. S. M. Peck and I. Kantor. *bibliog* *il* Am Perfumer & Aromatics 72:27-31 Jl '58

How to control dermatitis. Safety Maint 144:40-3+ O '57

Industrial dermatology in general practice. A. W. Neilson. *Ind Med* 27:472-4 S '58

Industry pampers its complexion. *il* Mill & Factory 62:109-10 Ja '58

International congress on dermatology. 11th. Stockholm, July 31-August 6; with reference to occupational dermatoses. *Ind Med* 27:83-4 F '58

Silicone cream controls dermatitis. *il* Safety Maint 115:22 Mr '58

Sunlight and skin cancer. Drug & Cosmetic Ind 82:380 Mr '58

Use of the patch test in estimating hazards to the skin. H. L. Rubenkoenig and E. A. Quinsio. *il* Am Perfumer & Aromatics 71:33-5 Jm '58

Vioform-hydrocortisone cream in selected dermatoses with emphasis on industrial cases. B. M. James and J. A. Hunt. *bibliog* *Ind Med* 27:199-201 Ap '58

See also

Pellagra
Poison ivy
Psoriasis

Protection

Choose the right skin cleaner. *il* Safety Maint 115:42-4+ Ap '58

Keeping up with a skin protection developments. *il* Safety Maint 115:50-4 My '58

SKIN diving. See **Diving, Submarine**

SKIN friction

Expressions for the local heat-transfer coefficient. R. R. Gold. J Aeronautical Sci 25:208-9 Mr '58

Skin friction experiments on rough walls; Reynolds numbers. G. M. Sacks. *bibliog* *diags* Am Soc C E Proc 84 1HY 3 no 16641:1-19 Je '58

SKIN grafting

Treatment of burns. R. D. Pillsbury. *diags* A M A Archives Ind Health 16:422-6 N '57

SKIPPING stones

Amateur scientist; skipping stone along the beach. E. H. Wright. *il* Sci Am 196:185-6 Ap '57; Discussion. W. Van Riper. 198:136+ Ap '58

SKULL

New method of identifying disaster victims; using computer handling of skull measurements. V. Sassouni. Franklin Inst J 266:147-8 Ag '58

SKY

Visibility; detection and recording of objects against a sky background. E. P. Martz, Jr. *diags* SMPTE J 67:228-31 Ap '58

SKYLIGHTS

Efficiency of domed acrylic skylights; abstract. E. Linforth. *diags* Illum Eng 53:475-6 S '58

SKYSCRAPERS. See **High buildings**

SLABS, Concrete. See **Concrete slabs**

SLAG

Blast-furnace slag output hits 35,000,000 tons in 1957. Pit & Quarry 51:126 Ag '58

Hydrogen in steelmaking slags. J. H. Walsh and others. *bibliog* *diags* J Metals 8:Trans 1568-76 N '56; Abstract. Metal Prog 73:174+ Mr '58; Discussion. P. Herasymenko. J Metals 9:Trans 1288-90; Reply. 1290-1 sec 2 O '57

Influence of slag properties on pig-iron composition. A. J. Burgess and B. G. Baldwin. *bibliog* Iron & Steel Inst J 186:227-35 Je '57; Discussion. 188:360-4 Ap '58

Iron and phosphate slag from hypoduct ferrophosphorus. J. M. Potts and others. *bibliog* *diags* Electrochem Soc J 105:148-51 Mr '58

Iron-silicate slag network helps wrought iron resist corrosion; abstract. E. P. Best. *bibliog* *il* Corrosion 14:118+ F '58

Ladle slag-refining of electric furnace steel. R. Perrin; F. W. Starratt. *il* J Metals 9:1517-20 D '57

Liquidus and high-temperature properties of blast-furnace slags. B. G. Baldwin. *bibliog* *il* diags Iron & Steel Inst J 186:388-95 Ag '57; Discussion. 188:360-4 Ap '58; Engineer 204:484-5 O 4 '57

New use for slag and fly ash. G. W. Hollon. Power Eng 62:102 Ap '58

Slag production plant at Teesport. *il* diags Engineer 205:577-82 Ap 18 '58

Study of slag-metal mixing efficiency by models. C. E. A. Shanahan and F. Cooke. *bibliog* *diags* J Ap Chem 7:645-54 D '57

Thermodynamic study of Fe-Ca-P-O. Fe-Ca-Si-P-O and some complex molten silicophosphate systems. E. T. Turkdogan and P. M. Bills. *bibliog* *il* Iron & Steel Inst J 188:143-53 F '58

SLAG—Continued

TiO₂ process taps Sorel slag for savings; process flowsheet; Canadian Titanium Pigments. *Chem Eng* 65:98-101 Ja 27 '58
 Uranium distribution in pseudowollastonite slag. E. Young and Z. S. Altschuler. *biblog* *il Ind & Eng Chem* 50:793-6 My '58

Analysis

Rapid analysis of steelmaking slags. S. Muir and A. D. Ambrose. *biblog* *diag Metallurgia* 56:755-7 N '57
 Spectrographic analysis of slags. *biblog* *diags Iron & Steel Inst J* 189:49-55 My '58

SLAG (in boilers)

Determination of ferrous iron in pulverized fuel ash and slags from pulverized fuel-fired boilers. P. J. Jackson. *biblog* *J Ap Chem* 7:605-10 N '57
 Soot blower shock slag with h-p water. slash boiler outage. E. Marshall. *diags Power* 102:112-14 My '58

SLAG association, National. See National slag association

SLASH pine. See Pine

SLASHERS (textile mills)

Alabama mill men review new multicylinder slashers. *Textile World* 108:60 JI '58
 Checklist for slashers; gives better-slashed warps. J. E. Allen. *Textile World* 108:180 My '58

Consider these points to select a slasher drive. *Textile World* 108:79+ Ap '58
 Drapery and upholstery fabric mill has a nine-can slasher that sizes 1500 lb of yarn per hour. *il Textile Ind* 122:131-2 F '58

Improved drives and controls aid slasher speed-up. *Textile World* 108:91-2 F '58
 New slashers prove to be one of the best investments. *Textile World* 108:60-2 O '58

No more waiting for warps! Dundee's new multi-cylinder slashers. *il Textile Ind* 122:54-5 JI '58

Two slashers replace four at Arkwright mills. *il Textile World* 108:145+ F '58

SLASHING. See Sizing (textiles)

SLATE

Delabole slate co. *il Chem & Ind* p791-2 Je 28 '58

Utilization of Pennsylvania slate for expanded aggregate. F. D. Hoyt. *il Min Eng* 10:874-6 Ag '58

SLAVIK, František

Memorial. J. Kutina. *por Am Mineralogist* 43:325-30 *biblog*(p328-30) Mr '58

SLEEPING cars

Plastics form sleeper compartments. *il Product Eng* 29:115 Mr 31 '58

SLIDE films

Answers to your audio-visuals questions. H. J. Highland. *il Ind Phot* 7:17-19+ JI '58

Cure for industrial stage-fright; let color slides go to work for you. G. Lyle. *il Ind Phot* 7:20-1+ JI '58

Film strip progress report on NAM's activities. *il Ind Phot* 7:82 Mr '58

Growth of a slide training program; Hawaiian pineapple co. V. Barnes. *il Ind Phot* 7:28 JI '58

Needed, floor care expert film strip training program; Multi-Clean Products. D. McNeely. *il Ind Phot* 7:28-9+ JI '58

New color projection technique; ripples in film serve as diffraction-grating system; abstract. W. Glenn. *Franklin Inst J* 265:498 Je '58

Root-parasites beware! audio-visual helps farmers; slide kits in Shell chemical co. war against nematode menace. M. M. Badier. *il Ind Phot* 7:30+ Ag '58

35 mm project grows and grows. H. Berggren. *il Ind Phot* 7:24-5+ Ag '58

See also

Lantern slides
 Television broadcasting—Slide films
 Transparencies

Projectors

Bausch & Lomb Balomatic projector prepops slides. *il Mod Phot* 22:106 Mr '58

Fit your slide projector and screen to your needs. N. Rothschild. *Mod Phot* 22:32 Je '58

Projector with long, low look uses horizontal-burning projection lamp. *il diags Machine Design* 30:137 Mr 6 '58

Viewers

Strong case for plastics; housings of two new film viewers. *il Mod Plastics* 35:100-1 Ap '58

SLIDE rule

Cost projector slide rule speeds preparation of an estimate. *diag Oil & Gas J* 55:69 D 23 '57

Here's your wallet-size slide rule. E. C. Pirie. *il Chem Eng* 65:175 S 22 '58

Hydraulic slide-rule for sanitary engineers. J. Tarrant. *diags Water & Sewage Works* 105:206 My '58

New slide rule for transfer functions. J. E. Valstar. *il Control Eng* 5:135 F '58

Sewer design slide rule. I. Goldfern. *diag Water & Sewage Works* 105:80 F '58

Slide rule for automatic welding. A. J. Rosenberg. *diags Welding Eng* 48:91+ Ap '58

Slide rule for correcting Uster evenness calculations. P. W. Mullen. *Textile Res J* 28:272-3 Mr '58

Slide rule for near-surface refraction problems. W. A. Knox. *diags Geophysics* 23:154-63 Ja '58

Slide rule mathematics. I. Ritow. *diags Elec Manuf* 61:97-109 Mr; 101-8 Ap '58 (reprints \$1)

SLIDES, Microscopic. See Microscopic slides

SLIME

Effect of high sodium chloride concentration on trickling filter slimes. G. W. Lawton and C. V. Ezzeert. *biblog* *Sewage & Ind Wastes* 29:1223-36 N '57

Flocculation of slimes by guar. L. E. Peterson and J. W. Opie. *biblog* *il diags Ind & Eng Chem* 50:1013-16 JI '58

Important to control slime and algae in the maintenance of air conditioning systems; abstract. S. Sussman. *Air Cond Heat & Ven* 55:56 JI '58

Iron oxide slime coatings in flotation. D. W. Fuerstenau and others. *biblog* *Min Eng* 10:Trans 792-5 JI '58

Natural gasoline; slime control, what you should know. M. C. Forbes. *Pet Refiner* 37:141-4 Ap '58

Slime infestation. Literature review; spherotholus; leptomitius. M. E. Harrison and H. Henkel. *diags Sewage & Ind Wastes* 30:1278-302, 1363 *biblog*(p 1299-302, 1363) O-N '58

See also

Paper making—Slime problem

SLINGS and hitches

Stop sling failures. *il Plant Eng* 12:107-8 Ap '58

SLIPS (ceramics)

Casting of magnesium oxide in aqueous slips. S. D. Stoddard and A. G. Allison. *biblog* *il diags Am Cer Soc Bul* 37:409-13 S 15 '58

How to control variables in slip casting. *il Cer Ind* 71:82-3 Ag '58

Processing high-temperature alloys; slip casting. L. M. Schifferli, jr. *diags J Metals* 10:517-21 Ag '58

Slip casting of metals, ceramics, and cermets. P. E. Rempes and others. *biblog* *il Am Cer Soc Bul* 37:334-9 JI 15 '58

SLITTING machines**Control**

Control reduces trim waste; edge splitter for tantalum foil. *il diags Steel* 142:104 Je 23 '58

SLOPES

Slope stability in open pit mines. W. A. Vine. *il diags Min Cong J* 44:78-81 Ag '58

SLOTS

Screw machine mills intricate slots. *il Am Mach* 102:142-3 My 5 '58

SLOTING machines

New developments in printer slotters. L. J. Baudis. H. W. Moser. *Tappi* 40:sup 189A-92A N '57

SLUDGE

Paper chromatography as applied to refrigeration sludge analysis. G. D. Stevens and J. D. Bopp. *il diag Refrig Eng* 66:41-3 My '58

SLUDGE, Sewage. See Sewage sludge

SLUICE gates. See Gates, Hydraulic

SLUMS

What's wrong with public housing? *il Arch Rec* 124:182-6 JI '58

SLURRY

Controlling flow of rapid-settling slurries. C. W. Roos. *diag Chem Eng* 64:290+ D '57

Flocculation improves vacuum filtration. P. S. Jacobsen and J. E. Mauser. *diag Coal Age* 82:74-5 D '57

Flow formulas for slurries. M. Brooke. *Chem Eng* 65:170 Ja 13 '58

Nuclear gauge sees through slurry pipe to control density; Permanente cement co. H. F. Utley. *Pitt & Quarry* 51:162 JI '58

SLURRY—Continued

- Phosphate slurry thinner used at Keystone Portland's bath plant. J. P. Allen and J. W. Lyons. *Il plan Pit & Quarry* 51:135-44 J1 '58
- Return of dust to cement rotary kilns. D. A. Wadia. *diag Ind Chem* 34:555-7 O '58
- Slurry storage of light soda ash. J. H. McCracken. *diags Am Oil Chem Soc J* 35:8-10 Ja '58
- Stock slurry hydraulics. V. P. Head and R. E. Durst. *Il Tappi* 40:931-6 D '57
- Viscosity measurements for thick slurries. D. J. Kenny and P. A. Rutt. *Il diag Foundry* 86:238+ My '58

SMALL business. See Business—Small business**SMELL**

- Anatomy and physiology. V. G. Dethier. *A M A Archives Ind Health* 17:535-6 My '58
- Chemical senses. H. Kalms. *Il diags Sci Am* 198:97-102+ Ap '58
- Mechanism of the olfactory stimulus. R. W. Moncrieff. *bibliog diags Am Perfumer & Aromatics* 71:50-8 Mr '58
- Perfumer. J. R. Elliott. *Il Drug & Cosmetic Ind* 82:162-3+ F '58

SMELTING

- Experimental electric smelting of ores and related materials, at the Department of mines and technical surveys, Ottawa: abstract. G. E. Viens and others. *Metal Prog* 73:152+ Ja '58
- Flash smelting copper concentrates. P. Bryk and others. *bibliog flow sheet Il diags J Metals* 10:395-400 Je '58; *Excerpts. Min Eng* 10:633-4 Je '58
- Recent developments in iron smelting and steelmaking processes. W. M. Armstrong. *bibliog Can Min & Met Bul* 51:574-6 S '58
- Smelting and refining. *Il Eng J* 41:101-2 Ap '58
- Smelting titaniferous ores. H. U. Ross. *bibliog diags J Metals* 10:407-11 Je '58
- See also*
- Blast furnaces
- Slag

History

- Unconventional iron smelting processes. M. O. Holowaty and C. M. Squarcy. *Il diag J Metals* 10:458-9 J1 '58

SMELTING, Electric

- Experimental electric smelting of manganese ores; production of iron, silicoplegeleisen, and portland cement from a low-grade ore. R. A. Campbell and others. *bibliog diag Can Min & Met Bul* 51:228-33 My '58
- New aluminum smelter in production at Bale Comeau. *Il Metallurgia* 57:31-2 Ja '58

SMELTING works

- See also*
- Metallurgical plants

Equipment

- Canadian British Aluminum's new smelter. *Il Chem & Ind* p90-1 Ja 25 '58
- New Canadian smelter pours first aluminum. *Canadian British aluminum co. Mod Metals* 14:70-1 F '58

SMITH diagram

- Mechanical version of the Smith chart. J. E. Knowles. *Il diags J Sci Instr* 35:233-7 J1 '58
- T and pi network design, using Smith chart; reference sheet. H. F. Mathis. *diags Electronics* 31:94 Ja 17 '58
- Two-sided matching design; curve plotted on Smith chart; reference sheet. H. F. Mathis. *diags Electronics* 31:104 Ap 11 '58

SMITH Kline and French laboratories

- Career opportunities. *Il Chem & Eng N* 36: 57 pt 2 Ja 27 '58

SMITH-MUNDT law. See Scholarships and fellowships, International**SMITHSONIAN institute**

- National oil museum planned by Smithsonian institute. *Oil & Gas J* 56:81 J1 7 '58

SMOG. See Air pollution**SMOKE**

- Flow visualization: two-dimensional smoke tunnel teaching aid for aerodynamics. A. M. Lippisch. *Il diags Aeronautical Eng* R 17:24-32+ F '58
- Wind-tunnel photography aids aircraft design; James Forrestal research center. S. Hight. *Il Ind Phot* 7:20-1+ Ap '58

See also

- Flues
- Fumes
- Soot

SMOKE prevention

- See also*
- Electric precipitation

SMOKEHOUSES, Electric

- Modern meat locker has electric smokehouse. W. A. Newman. *Il Elec World* 149:102 Mr 2 '58

SMOKING

- Smokers' deaths. *Ind Med* 27:sup33-4 Ag '58
- Smoking habits and mortality among workers in cigarette factories. H. B. Haag and H. E. Hammer. *bibliog Ind Med* 26:558-62 D '57

SMOOTHNESS of paper. See Paper—Smoothness measurement**SMOOTHNESS testing. See Surfaces—Smoothness testing****SNAILS**

- Digester cleaning reveals snails by the ton. B. C. Smith and E. M. Allgeier. *diag Pub Works* 89:69-70 J1 '58

- Snails associated with sewage treatment installations. W. M. Ingram and others. *flow chart Il Sewage & Ind Wastes* 80:821-5 Je '58

- Structure and constitution of a mucus; the polyelectrolyte nature of mucus solutions derived from busycon canalculatum. H. Kwart and V. E. Shashoua. *bibliog Am Chem Soc J* 80:2230-6 My 5 '58

SNAKES

- See also*
- Rattlesnakes
- Venom

SNOW, John

- Reflections on a centennial; John Snow as an anesthetist and epidemiologist. *Am J Pub Health* 48:776-7 Je '58

SNOW

- New look at snow; Erich Angenendt's techniques. *Il Mod Phot* 22:62-3 Mr '58
- Snow pit yields history of Antarctic. *Franklin Inst J* 264:527-8 D '57

SNOW-mud tires. See Tires, Motor truck**SNOW removal**

- Deep snow, bad slides, one of West's toughest snow fighting jobs. F. Wells. *Il Roads & Str* 100:93-4 D '57
- Jet engine falls its test as snow-removal device. *Eng N* 160:64-5 Je 12 '58
- Rock salt for snow and ice removal. C. A. Rogus. *Il diags Pub Works* 88:113-17 N '57
- Turnpikes are expected to be snow free. L. W. Newcomer. *Il Pub Works* 89:100-2 Ag '58

- Winter maintenance on Maryland highways. R. P. Scrivener. *Il Pub Works* 89:93-5+ Ag '58

*See also***Pavements—Heating****SNUBBERS, Pulsation. See Compressors—Control****SOAP**

- Automatic soap batching. *Il Soap & Chem Spec* 34:139+ Je '58
- Defoaming of synthetic detergent solutions by soaps and fatty acids. H. Feber. *bibliog J Colloid Sci* 13:199-207 Je '58
- Effect of soaps and detergents on the critical solution temperature of triethylamine and water. R. J. Kline and A. J. Ihde. *bibliog J Colloid Sci* 13:163-9 Ap '58
- Electron microscope study of certain dispersions of detergents in oil. J. B. Peri. *Il Am Oil Chem Soc J* 35:37-41 Ja '58
- Improvement of soap with ethylene oxide condensation products. H. E. Tschakert. *Il Manuf Chem* 29:233-6 Je '58
- Improving soap with nonionics; ethylene oxide condensates. H. E. Tschakert. *Soap & Chem Spec* 33:213+ D '57
- Incomplete equilibrium in dilute solutions of a cationic soap by the foam density method. T. Nash. *bibliog diag J Am Chem* 8: 440-4 J1 '58
- Interaction of some naphthalene derivatives with a cationic soap below the critical micelle concentration. T. Nash. *bibliog diags J Colloid Sci* 13:124-9 Ap '58
- Is soap outdated? A. K. Prince and W. R. Merrihan. *Il Soap & Chem Spec* 34:39-42+ J1 '58
- Lectures of the 1958 short course on syndets and soaps. *bibliog flow diag Il diags Am Oil Chem Soc J* 35:519-80 O '58
- Phase relations and specific salt effects in soap solutions. T. Nash. *Chem & Ind* p590 My 17 '58
- Shape of soap micelles and other polyions as obtained from anisotropy of electrical conductivity. K. G. Götz and K. Heckmann. *bibliog diags J Colloid Sci* 13:266-72 Je '58
- Soaps vs. synthetics for stain removal. *Soap & Chem Spec* 34:137 J1 '58
- Test for nonionic in soap mixtures. *Soap & Spec* 34:147 Je '58
- See also*
- Soap industry and trade

SOAP—Continued

Drying

Flash drying of soap, *Il Soap & Chem Spec* 34:155+ F '58

Soap plant observer; construction of a soap and detergent spray tower, *J. W. McCutcheon, Il Soap & Chem Spec* 34:203+ My '58

Spray drying for the large scale production of soap and detergent powders, *J. W. McCutcheon, Il Soap & Chem Spec* 34:159+ Ap '58

Moisture content

Error in the sampling of soap and detergent bars for moisture determination, *L. Gildenberg and E. W. Blank, diag Am Oil Chem Soc J* 35:102-3 F '58

Testing

Effectiveness of soaps and detergents, *F. Ehrenkranz and E. H. Jebe, Il Soap & Chem Spec* 34:47-50+ Ap '58

SOAP, Antiseptic

New germicide for soap; trichlorocarbanilide, *D. P. Roman and others, bibliog Soap & Chem Spec* 36:35-8+ Ja '58

SOAP, Deodorant

Bacteriostatic soaps, *D. N. Mitchell, Drug & Cosmetic Ind* 82:77-8 Ja '58

SOAP, Metallic

Action of lead pigments and lead soaps on aluminum, *M. J. Pryor and others, bibliog diag Electrochim Soc J* 105:19-17 Ja '58; Discussion, 105:764-6 D '58

Mesomorphic behaviour of the sodium and lithium soaps prepared from oxidized paraffin wax, *K. U. Ingold and I. E. Puddington, bibliog(36 ref) Inst Pet J* 44:41-4 F '58

Preparation of aluminum soaps by a continuous process, *D. E. Woods and A. J. Taylor, bibliog J Ap Chem* 8:237-51 Ap '58

Solvent solutions of metallic soaps; gluconic acid as viscosity reducing agent; patent, *Am Dyestuff Rep* 47:50 Ja 27 '58

Zirconium soaps, *R. N. Kapoor and R. C. Mehrotra, bibliog Chem & Ind p68 Ja 18 '58*

SOAP, Powdered

Soap and detergent containers, *E. G. Astolfi and others, Il Soap & Chem Spec* 34:47-9+ Je; 101-3 J1 '58

SOAP, Transparent

Transparent soap, *Soap & Chem Spec* 34:197 My '58

SOAP and glycerine producers, Association of American. See Association of American soap and glycerine producers

SOAP factories

Electric equipment

Development of electrical services in a soap and chemicals factory, *T. Makin, diag Inst E E Proc* 105 pt A:22-3 F '58

Employees

U.S. Department of labor announces soap industry minimum wage, *J. P. Mitchell, Soap & Chem Spec* 34:43-4+ Ag '58

Equipment

Equipment for the continuous manufacture of toilet soap without milling, *J. W. McCutcheon, diag Soap & Chem Spec* 34:135+ Mr '58

MIAG-Muehlenbau unique toilet soap vacuum plodder, *H. Zilske, Il diag Soap & Chem Spec* 34:127-3 F '58

Monsavon plant and process, *E. T. Webb, Il Soap & Chem Spec* 34:145+ O; 129+ N '58

New home for Adell's Lestoll, *Il Soap & Chem Spec* 33:37-40+ N '57

Soap plant observer; automation of process control through use of refractive index, *J. W. McCutcheon, Soap & Chem Spec* 33:233+ D '57

Soap plant observer; provisions for safety made in construction of a detergent spray drying tower, *J. W. McCutcheon, Soap & Chem Spec* 34:153+ Je '58

Spray drying for the large scale production of soap and detergent powders, *J. W. McCutcheon, Il Soap & Chem Spec* 34:159+ Ap '58

Management

Soap plant observer, *J. W. McCutcheon, Soap & Chem Spec* 34:151+ Ag '58

SOAP industry and trade

Household detergent sales, *A. C. Nielsen, jr, Soap & Chem Spec* 34:64-8+ Mr; 53-4+ Ap '58

Syndets and soaps; annual review 1957, *F. D. Snell, Il Ind & Eng Chem* 50:sup41A-3A Ja '58

See also

Association of American soap and glycerine producers

Advertising

Soap as a sales tool; Hewitt soap co. *Il Soap & Chem Spec* 34:47-8+ O '58

History

Changing scenes of syndets and soaps, *R. W. Peet, Am Oil Chem Soc J* 35:537-42 O '58

Oldest soap in history, *M. Levey, Il Soap & Chem Spec* 33:53-4 D '57

Laws and regulations

Soap companies and the law, *L. T. Parker, Soap & Chem Spec* 34:52-5+ O '58

Statistics

Annual statistical review; soaps and detergents, *Can Chem Process* 42:sup 17 Je '58

Changing scenes of syndets and soaps, *R. W. Peet, Am Oil Chem Soc J* 35:537-42 O '58

Detergent, soap sales up in second quarter; with table, *Soap & Chem Spec* 34:53+ S '58

Record soap and detergent sales in 1958; with table, *Soap & Chem Spec* 34:207-8 Mr '58

Soap and syndet sales reach record high in first nine months of 1957 and 1958; with table, *Soap & Chem Spec* 34:163 Ja '58

Canada

Soaps and detergents; Canadian alkylates for surfactants, *H. Lomas, Can Chem Process* 42:sup26A-7A Ja '58

Europe

European soap, detergent sales, *Soap & Chem Spec* 34:51-2+ Ap '58

Modernization of European toilet soap making, *H. Zilske, Il diag Soap & Chem Spec* 34:187+ My; 137+ Ag '58

SOAP manufacture

Continuous soap making, flow sheets *Il Soap & Chem Spec* 33:135+ N '57

Equipment for the continuous manufacture of toilet soap without milling, *J. W. McCutcheon, diag Soap & Chem Spec* 34:135+ Mr '58

Modernization of European toilet soap making, *H. Zilske, Il diag Soap & Chem Spec* 34:187+ My; 137+ Ag '58

Monsavon plant and process, *E. T. Webb, Il Soap & Chem Spec* 34:145+ O; 129+ N '58

Soap stamping, *E. T. Webb, Il Soap & Chem Spec* 34:53-6+ My '58

See also

Soap—Drying

By-products

See also

Glycerin—Manufacture

Perfuming

Measurement of soap perfume survival, *Soap & Chem Spec* 34:91 F '58

Minimum purity of soap perfumery ingredients, *P. I. Smith, Am Perfumer & Aromatics* 72:31 J1 '58

Perfuming of cold made soaps, *K. Bergwein, Soap & Chem Spec* 34:149 Je '58

Spray dried perfumes, *R. T. Maleeny, bibliog diag Soap & Chem Spec* 34:135+ Ja '58

Toilet soap perfuming, Indian style, *Soap & Chem Spec* 33:54+ D '57

When citronellal causes trouble in soap, *P. I. Smith, Am Perfumer & Aromatics* 72:37 S '58

SOAP materials

See also

Tail oil

SOAP packages

Soaps win folding box merit awards, *Il Soap & Chem Spec* 34:121 Ap '58

Three soap boxes win four awards in 1958 set-up paper box competition, *Il Soap & Chem Spec* 34:161+ My '58

SOAP perfuming. See Soap manufacture—Perfuming

SOCIAL Insurance. See Insurance, Social

SOCIAL psychology

See also

Human relations

SOCIAL sciences

Engineer comes into his own; engineer and social scientist; towards a meeting of minds, *H. V. Perlmutter, Product Eng* 29: 93-6 Mr 31 '58

SOCIAL sciences—Continued

Fabric of society an introduction to the social sciences. R. Ross and E. van den Haag. Review, by M. B. Smith. *Sci Am* 198:123-4+ F '58

SOCIAL security. See Insurance, Social**SOCIAL workers, Medical**

Auxiliary personnel in medical practice. J. L. Caughey, Jr. *Am J Pub Health* 48:1049-53 Ar '58

SOCIALISM

Goldbrick schemes; fundamental nature of socialism. R. Arden. *Textile Ind* 122:193+ O '58

SOCIETIES

See also Engineering societies

SOCIETY buildings

American society for metals new headquarters. W. H. Eisenman. *Ind* 118:73:67-9 My '58

New home for ASM. *Product Eng* 29:28+ Ap '58

Two shelters admit the open air; in Ohio, a geodesic dome, without cover, for Metals society. *Ind* 118:123:197-8 Ap '58

See also

New York (city)—United engineering center

SOCIETY of automotive engineers

Annual meeting, Detroit. *Automotive Ind* 118:48-52 F '58

Annual meeting, Detroit, Jan 13-17. *S A E J* 66:25+ F '58

Financial progress in 1957. *S A E J* 66:92-6 J '58

How an SAE paper is born. J. M. Callahan. *S A E J* 66:27-8 Je '58

National aeronautic meeting, Los Angeles. *Automotive Ind* 117:68-9+ N '57

National aeronautic meeting, Los Angeles, Sept. 30-Oct. 5. *S A E J* 65:84-91 N '57

National aeronautic meeting, Los Angeles, Sept. 30-Oct. 5; abstracts of papers. *Aircraft Eng* 30:48-54 F '58

National aeronautic meeting, New York, April 8-11. *S A E J* 66:89-91 My '58

National aeronautic meeting, New York, April 8-11; abstracts of papers. *Aircraft Eng* 30:236-42 Ag '58

National aeronautic meeting, New York; with abstracts of papers. *Automotive Ind* 118:49+ My '58

National passenger car, body and materials meeting, Detroit, March 4-6. *S A E J* 66:94-6 Ap '58

National passenger car, body and materials meeting, Detroit, March 4-6; with abstracts of papers. *Automotive Ind* 118:68-9 Ap '58

National production meeting and forum, Chicago, March 31-April 2. *Automotive Ind* 118:77+ My '58

National transportation meeting, Cleveland. *Automotive Ind* 117:68+ D '57

Planning for progress. R. J. S. Pigott. *S A E J* 66:25-7 Ja '58

SAE ahead on all fronts in 1957. *S A E J* 66:89-96 Ja '58

Summer meeting, Atlantic City. *S A E J* 66:26-33 J '58

Summer meeting, Atlantic City, June 8-13; with abstracts of papers. *Automotive Ind* 119:46-50 J '58

30 technical committee members awarded certificates of appreciation. *S A E J* 66:96-8 F '58

SOCIETY of chemical industry

Annual general meeting, Canada, 1958; programme and itinerary, abstracts of papers, visits to works and scientific institutions. *Chem & Ind* p 1014-74 Ag '58

Annual meeting, 39th, London, June 3. *Chem & Ind* p700-2 Je '58

Annual report of the council, 77th, for the year ended Dec. 31, 1957. *Chem & Ind* p 1065-74 Ag '58

Canadian section of the Society of chemical industry. *Chem & Ind* p280 Mr '58

Conference, Exeter, July 7-11. *Chem & Ind* p334-46 J '58

Conference, Exeter, July 7-11; program, conference visits and abstracts of papers. *Chem & Ind* p773-4, 779-815 Je '58

First annual meeting in Canada since 1938. *Chem & Eng N* 36:122-3 O '58

Income and expenditure account, year ended Dec. 31. *Chem & Ind* p738-49 Je '58

Joint meeting with Italian chemical society, Turin, Italy, May 26-June 2. *Chem & Ind* p 1162-70 S '58

Joint meeting with Italian chemical society, Turin, Italy, May 26-June 2. *Manuf Chem* 29:290-4 J '58

Liverpool section and food group meeting, Liverpool; with abstracts of papers. *Chem & Ind* p810-13 J '58

Society of chemical industry Canadian section. D. C. Lloyd. *Chem & Ind* p 1020-3 Ag '58

Society of chemical industry South western section. H. T. S. Britton. *Chem & Ind* p775-6 Je '58

SOCIETY of cosmetic chemists

Annual meeting, New York, Dec. 10; with abstracts of papers. *Am Perfumer & Aromatics* 71:36-42 Ja '58; Soap & Chem Spec 34:63-4 Ja '58

Annual meeting, 13th, New York, Dec. 10. *Drug & Cosmetic Ind* 82:40 Ja '58

International federation of cosmetic chemists; suggestions to replace those offered by Société française de cosmétologie for the formation of international federation of societies of cosmetology. *Drug & Cosmetic Ind* 83:298-9+ S '58

Mid-year meeting, June 4. *Drug & Cosmetic Ind* 83:40-1 J '58

Mid-year meeting, New York, June 4; with abstracts of papers. *Am Perfumer & Aromatics* 71:33-4 Je '58

SOCIETY of dyers and colourists

Annual meeting, 74th, Glasgow, April 25. *Soc Dyers & Col J* 74:517-30 J '58

Examination for the associateship (A.S.D.C.) 1958. *Soc Dyers & Col J* 74:621-8 S '58

Officers and committee membership. *Soc Dyers & Col J* 74:509-16 J '58

SOCIETY of exploration geophysicists

Annual meeting, 27th, Dallas, Nov. 11-14. *Pet Eng* 29:B 119 D '57

Annual meeting, 27th, Dallas, Tex, Nov. 11-14; with abstracts of papers. *Geophysics* 23:338-405 Ap '58

Professional and technical interests of members. W. O. Heap. *Geophysics* 23:363-72 Ap '58

SOCIETY of mining engineers. See American institute of mining, metallurgical and petroleum engineers—Society of mining engineers

SOCIETY of motion picture and television engineers

Achievements and responsibilities; presidential address. B. Kreuzer. *SMPTE J* 66:695-6 N '57

Directory for members. *SMPTE J* 67:1-80 pt 2 Ap '58

Meeting, 82d, Philadelphia, Oct. 4-9; with abstracts of papers. *SMPTE J* 66:698+ N '57

Meeting, 83d, Los Angeles, April 21-25; abstracts of papers. *SMPTE J* 67:488+ J '58

Meeting, 83d, Los Angeles, April 21-25; program and abstracts of technical papers. *SMPTE J* 67:177-8+ Mr '58

Meeting, 84th, Detroit, Oct. 20-24; program with abstracts of papers. *SMPTE J* 67:611-12+ S '58

Progress committee report for 1957. *Ind* maps diag SMPTE J 67:289-343 bibliog(p340-3) My '58

Society awards; annual presentations. *SMPTE J* 66:704-6+ N '57

SOCIETY of naval architects and marine engineers

Annual meeting, 65th, New York; abstracts of papers. *Marine Eng/Log* 63:48-51 Ja '58

Spring meeting, Old Point Comfort. *Marine Eng/Log* 63:70-2+ J '58

SOCIETY of petroleum engineers. See American institute of mining, metallurgical and petroleum engineers—Society of petroleum engineers

SOCIETY of plastics engineers

Annual technical conference, 14th, Detroit, Jan. 28-31; abstracts of papers. *Mod Plastics* 35:144+ Ja '58; *Plastics World* 16:20-3 Ja '58

National technical conference, Detroit; abstracts of papers on automotive uses for plastics. *Automotive Ind* 118:100+ F '58

SOCIETY of rheology

Annual meeting, Princeton, N.J. Nov. 7-9. *Phys Today* 11:22-3 F '58

SOCIETY of the plastics industry

National plastics exposition, 8th, Chicago, Nov. 17-21; list of exhibitors, floor plan. *Plastics Tech* 4:931-5 O '58

Reinforced plastic division 13th annual conference, Chicago, Feb. 4-6. *Automotive Ind* 118:34 Mr '58

SOCIETY of the sigma xi

Annual convention, 58th, Indianapolis, Dec. 27; proceedings. *Am Scientist* 46:sup64+ Mr '58
Report of the treasurer for 1957. *Am Scientist* 46:75-9 Mr '58

SODA. See Sodium carbonates

SODA ash

Interrelationship between soda ash and the chlor-alkali industry. M. E. Clark and G. F. Gerlach. *Chem Eng Prog* 53:537-40 N '57
Soda ash air pollution; Mead corp. *Tappl* 40: sup 135A-6A N '57
Soda ash: how to handle it and store it. *Il Cer Ind* 71:66-7 J1 '58

Storage

Slurry storage of light soda ash. J. H. McCracken. *diags Am Oil Chem Soc J* 35:3-10 Ja '58

SODA process. See Paper making—Soda process

SODIUM

Chemical evidence for the structure of the diammoniate of diborane; a tracer study of the reaction between sodium and the diammoniate of diborane. S. G. Shore and others. *bibliog Am Chem Soc J* 80:20-4 Ja '58

Chemical evidence for the structure of the diammoniate of diborane; the reaction of sodium with Lewis acids in liquid ammonia. R. W. Parry and S. G. Shore. *bibliog Am Chem Soc J* 80:15-20 Ja '58

Determination of total chlorine in pesticides by reduction with a liquid anhydrous ammonia-sodium mixture. H. F. Beckman and others. *bibliog diag J Agri & Food Chem* 6:104-5 F '58

Effect of radiation on sodium. *Nucleonics* 16: 120+ S '58

Experiments to establish conditions for the continuous reduction of titanium tetrachloride to the metal by sodium. J. Smolinski and others. *bibliog il diags J Ap Chem* 8:375-86 Je '58

Flame method measures sodium. K. G. Stoffer. *Oil & Gas J* 56:111 F 3 '58

Influence of sodium on magnesium-lithium alloys. R. J. M. Payne and J. D. L. Eynon. *bibliog Inst Metals J* 86:351-2 Ap '58

Interconversions of amaryllidaceae alkaloids by sodium and amyl alcohol. H. M. Fales and W. C. Wildman. *bibliog Am Chem Soc J* 80:4395-404 Ag 20 '58

α -Ketoothers; the reaction of α -phenoxyacetophenone with sodium and with sodium amide. P. Yates and others. *bibliog Am Chem Soc J* 80:196-201 Ja '58

Modification of aluminium-silicon alloys by sodium. R. C. Plumb and J. E. Lewis. *bibliog il diags Inst Metals J* 86:393-400 Ap '58

Reaction of α -methylstyrene catalyzed by sodium. M. Kolobielski and H. Pines. *bibliog Am Chem Soc J* 79:5820-5 N 5 '57

Reaction rate of solid sodium with air. W. H. Howland and L. F. Epstein. *diag Ind & Eng Chem* 49:1931-2 N '57; *Correction*. 50:58 Ja '58

Sodium-diborane reaction. V. W. Hough and others. *bibliog Am Chem Soc J* 80:1828-9 Ap 20 '58

Sodium-reduction route yields titanium; process flowsheet. T. P. Forbath. *il diag Chem Eng* 65:124-7 Mr 10 '58

Sodium, terphenyl, water, vie for role as reactor coolant; process flowsheet. C. H. Chilton. *il Chem Eng* 65:90-3 Je 30 '58

Isotopes

Portable apparatus for recording the rate of clearance of radioactive sodium from human calf muscle. L. Molynse and others. *diags J Sci Instr* 35:259-61 J1 '58

SODIUM, Molten

Use of molecular sieves to maintain clean surfaces on liquid sodium and liquid bismuth. C. C. Addison and others. *Chem & Ind* p96 Ja 25 '58

SODIUM alcoholate

Synthesis of alkyl aryl phosphates from aryl phosphorochloridates; the sodium alkoxide route. H. D. Orloff and others. *Am Chem Soc J* 80:727-34 F 5 '58

SODIUM alginate

Influence of high oxygen pressures on the viscosity of solutions of sodium desoxyribonucleic acid and of sodium alginate. D. L. Gilbert and others. *bibliog Am Chem Soc J* 79:5677-80 N 5 '57

SODIUM aluminate

Effect of conditions of preparation on the form of alumina; precipitation and subsequent calcination of products in the system aluminium sulphate-sodium aluminate-water. J. A. Lewis and C. A. Taylor. *bibliog J Ap Chem* 8:223-8 Ap '58

SODIUM amide

α -Ketoothers; the reaction of α -phenoxyacetophenone with sodium and with sodium amide. P. Yates and others. *bibliog Am Chem Soc J* 80:196-201 Ja '58

Reactions of methiodides of certain *exo*-methylenecyclohexadienamines with sodium amide; relation to *ortho* substitution rearrangement. C. R. Hauser and D. N. Van Eenam. *Am Chem Soc J* 79:6280-3 D 5 '57

SODIUM ascorbate

Effect of sodium ascorbate and sodium isoscorbate on the quality of frankfurters. F. Mills and others. *bibliog Food Tech* 12: 311-14 Je '58

SODIUM borohydride

First tonnage sodium borohydride; vital link to high-energy fuels. *il diag Chem Eng* 64: 146-8 D '57

Heat content of sodium borohydride and of potassium borohydride from 0° to 400°C. T. B. Douglas and A. W. Harman. *bibliog J Res Nat Bur Stand* 60:117-24 F '58

Reaction of sodium borohydride with glycosyl nitrates as compared to its reaction with the nitrate esters of the primary and secondary alcohol groups of sugars. F. H. Rice and M. Inatome. *bibliog Am Chem Soc J* 80:4709-11 S 5 '58

Reaction of sodium borohydride with muscle phosphorylase. E. H. Fischer and others. *bibliog Am Chem Soc J* 80:2906-7 Je 5 '58

SODIUM bromide

Molecular dimensions and interactions of long-chain polyphosphates in sodium bromide solutions. U. P. Strauss and P. L. Wineman. *bibliog Am Chem Soc J* 80:2366-71 My 20 '58

SODIUM carbonates

Chemistry of water softening by the lime-soda process. A. P. Black. *Water Works Eng* 111:231, 48, 582+ Mr. Je '58

Drying and decomposition of sodium carbonate. A. E. Newkirk and I. Aliferis. *bibliog Anal Chem* 30:982-4 My '58

Neutralisation of acid-treated wool by solutions of sodium carbonate. E. P. Harker. *bibliog Soc Dyers & Col* 77:554-60 D '57

Reactions of the group VB pentoxides with alkali oxides and carbonates; heterogeneous equilibria in the system Na₂O or Na₂CO₃-Nb₂O₅. A. Reisman and others. *bibliog Am Chem Soc J* 80:37-42 Ja 5 '58

Sodium ethyl carbonate as a carboxylating agent. J. J. Jones. *bibliog Chem & Ind* p228-9 F 22 '58

See also

Soda ash

Trona

SODIUM chloride. See Salt

SODIUM chromates

Polymerization of anions; the hydrolysis of sodium tungstate and of sodium chromate. M. L. Freedman. *bibliog il Am Chem Soc J* 80:2072-7 My 5 '58

SODIUM citrate

Chemical solution of evaporator scale. N. O. Schmidt and W. S. Wise. *bibliog Ind & Eng Chem* 50:811-14 My '58

SODIUM compounds

Heats of formation at 25° of the crystalline hydrides and deuterides and aqueous hydroxides of lithium, sodium and potassium. S. R. Gunn and L. G. Green. *bibliog Am Chem Soc J* 80:4782-6 S 20 '58

Kinetics of the decomposition of sodium *p*-toluenesulfonylacetate in water-ethylene glycol and water-dioxane mixtures. D. J. O'Connor and F. H. Verhoek. *bibliog Am Chem Soc J* 80:289-90 Ja 20 '58

Mesomorphic behaviour of the sodium and lithium soaps prepared from oxidized paraffin wax. K. U. Ingold and I. E. Puddington. *bibliog(36 ref)* *Inst Pet J* 44:41-4 F '58

Metal-halogen interchange reactions with sodium-*n*-amyl. A. G. Lidstone and T. A. Morris. *bibliog Chem & Ind* p560-1 My 10 '58

Sodium α -sodio acetate, its preparation and proof of structure. D. O. DeFree and R. D. Closson. *bibliog Am Chem Soc J* 80:2311-13 My '58

SODIUM dichloroisobutyrate

FW-450 makes plants male-sterile; abstract. D. H. McRae and H. F. Wilson. *il Chem & Eng N* 36:66 S 22 '58

SODIUM diethyl dithiocarbamate

Photometric determination of zinc oxide in rubber products; absorptiometric and turbidimetric methods using sodium diethyl dithiocarbamate. K. E. Kress. bibliog Anal Chem 30:432-40 Mr '58

SODIUM fluoride

Dissociation pressure of sodium bifluoride; the free energy and enthalpy change for the reaction $\text{NaHF}_2(\text{s}) \rightarrow \text{NaF}(\text{s}) + \text{HF}(\text{g})$ from 157 to 269°. J. Fischer. Am Chem Soc J 79:6363-4 D 20 '57

Heats of formation of cryolite and sodium fluoride. J. P. Coughlin. bibliog Am Chem Soc J 80:1302-4 Ap 20 '58

High temperature heat contents of cryolite, anhydrous aluminum fluoride and sodium fluoride. C. J. O'Brien and K. K. Kelley. Am Chem Soc J 79:5616-18 N 5 '57

Phase equilibria in the alkali fluoride-uranium tetrafluoride fused salt systems; systems LiF-UF_4 and NaF-UF_4 . C. J. Barton and others. bibliog il diag Am Cer Soc J 41:63-9 F 1 '58

Studies of the effects of dietary sodium fluoride on dairy cows. J. W. Suttle and others. bibliog il J Nutrition 65:293-304 Je '58

Thermal conductivity of sodium fluoride crystal at low temperatures. A. F. Cohen. bibliog J Ap Phys 29:870 My '58

SODIUM glutamate

Influence of added monosodium glutamate on the flavor of processed green beans. L. A. Sather and others. bibliog Food Tech 12:372-4 Jl '58

Merck enters new field; starts to make monosodium glutamate. il Chem & Eng N 36:21 My 5 '58

SODIUM hydride

Reaction of Lewis acids of boron with sodium hydride and borohydride. H. C. Brown and P. A. Tierney. bibliog Am Chem Soc J 80:1552-8 Ap 5 '58

SODIUM hydrogen diglycolate

New alkalimetric primary standard, sodium hydrogen diglycolate. D. A. Keyworth and R. B. Hahn. bibliog Anal Chem 30:1343-4 Ag '58

SODIUM hydrosulfite. See Sodium sulfites**SODIUM hydroxide**

Caustic soda; shortages ahead? B. Cremers. Chem & Eng N 36:31 F 3 '58

Corrosion and metal transport in fused sodium hydroxide. G. P. Smith and others. bibliog il Corrosion 14:65-70 Ja '58

Corrosive water survey leads to liquid caustic soda treatment. Il Brown. il plan Water Works Eng 111:846-8 S '58

Effect of solvent change on the standard chemical potential of electrolytes; comparison of vapor pressure and e.m.f. data for HCl, NaOH and K_2 in the system dioxane-water. G. Baukman and E. Grunwald. bibliog Am Chem Soc J 80:3344-6 Ag 5 '58

Equilibrium solubility of sodium chloride in concentrated sodium hydroxide; data sheet. Tappi 41:sup 140A Mr '58

Hydrogen overpotential on electrodeposited Ni in NaOH solutions. I. A. Ammar and S. A. Awad. bibliog Electrochem Soc J 104:686-90 N '57

Metal ion complexes of 2-(2-aminoethylamino)-ethanol; reaction of the copper(II) complexes with sodium hydroxide. J. L. Hall and W. E. Dean. bibliog Am Chem Soc J 80:4183-8 Ag 20 '58

Nucleophilic displacement reactions in aromatic systems; the rates of reaction of 2,4-dinitrochlorobenzene with *n*-butylamine and with hydroxide ion in 50 per cent dioxane-50 per cent water. S. D. Ross. bibliog Am Chem Soc J 80:5319-22 O 5 '58

Solubility of pulp in cold sodium hydroxide; new TAPPI tentative standard. T 235 m. diag Tappi 41:sup 134A-5A My '58

Manufacture

Interrelationship between soda ash and the chlor-alkali industry. M. E. Clark and G. F. Gerlach. Chem Eng Prog 53:537-40 N '57

SODIUM hypochlorite

NaOCl solves odor problem. diag Chem Eng 64:164+ D '57

SODIUM in the body

Diet lists; moderately low sodium diet. Am J Clinical Nutrition 6:180-1 Mr '58

Sodium intake of the American male; implications on the etiology of essential hypertension. L. K. Dahl. bibliog (27 titles) Am J Clinical Nutrition 6:1-7 Ja '58

SODIUM iodide

Efficiencies of sodium iodide crystals. A. L. Stanford, jr. and W. K. Rivers, jr. diag R Sci Instr 29:406-10 My '58

Elastic constants by the ultrasonic pulse echo method. single-crystal KCl and NaI. S. Eros and J. R. Reitz. il diags J Ap Phys 29:683-6 Ap '58

Fast sodium iodide spectrometer and its application to millimicrosecond time measurement. L. D. Berghian and others. bibliog diags R Sci Instr 29:752-7 S '58

NaI summing spectrometer. P. Shapiro and R. W. Higgs. bibliog diag R Sci Instr 28:939-41 N '57

Response of a large sodium-iodide detector to high-energy X-rays. J. H. Hubbell. bibliog diag R Sci Instr 29:65-8 Ja '58

SODIUM mandelate

Racemization and exchange of sodium mandelate in alkaline H_2O and D_2O . Y. Pocker. bibliog Chem & Ind p 1117-18 Ag 23 '58

SODIUM metaphosphates

Sodium metaphosphate glass in water treatment. D. H. Howells. diag Am Soc C E Proc 83 [SA 6 no 1464]:1-16 bibliog (57 titles, p 13-16) D '57

SODIUM methoxide

Correlation of reaction rates with the E-function in concentrated solutions of sodium methoxide. M. F. L. Allison and others. Chem & Ind p718-19 Je 14 '58

SODIUM niobate

Reactions of the group VB pentoxides; thermal, density and X-ray studies of the systems KNbO_3 - NaNbO_3 and KTAO_3 - KNbO_3 . A. Reisman and E. Banks. bibliog Am Chem Soc J 80:1877-82 Ap 20 '58

SODIUM nitrate

Diffusion and activity coefficient of sodium nitrate in dilute aqueous solutions at 25°. H. S. Harped and J. A. Shropshire. Am Chem Soc J 80:2618-19 Je 5 '58

SODIUM nitrite

Reaction of sodium nitrite with ethyl bromoacetate and with benzyl bromide. N. Kornblum and W. M. Weaver. bibliog Am Chem Soc J 80:4333-7 Ag 20 '58

Sodium β -formyl- β -keto- α -nitropropionate from the reaction of mucochloric acid with sodium nitrite. P. E. Fanta and others. bibliog Am Chem Soc J 80:4577-9 S 5 '58

Study of the effect of chloride ion on films formed on iron in sodium nitrite solutions. G. W. Mellors and others. bibliog il Electrochem Soc J 105:332-8 Je '58

SODIUM oxide

Glass formation and properties of glasses in the system $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2\text{-TiO}_2$. J. H. Strimple and E. A. Giess. diag Am Cer Soc J 41:231-7 Jl '58

Hydrothermal reactions in the $\text{Na}_2\text{O-GeO}_2$ system. E. R. Shaw and others. bibliog Am Chem Soc J 80:1536-9 Ap 5 '58

Reactions of the group VB pentoxides with alkali oxides and carbonates; heterogeneous equilibria in the system Na_2O or Na_2CO_3 - Nb_2O_5 . A. Reisman and others. bibliog Am Chem Soc J 80:37-42 Ja 5 '58

SODIUM perchlorate

Electrolytic production of sodium perchlorate using lead dioxide anodes. J. C. Schumacher and others. bibliog il Electrochem Soc J 105:151-5 Mr '58

SODIUM phosphates

Dynamic heat storage system; using the latent heat of fusion of disodium phosphate dodecahydrate. T. L. Etherington. bibliog diags Heating-Piping 29:147-51 D '57

Transition between the low- and the high-temperature form of sodium tripolyphosphate. G. W. Morey. Am Chem Soc J 80:775 F 20 '58

See also

Sodium metaphosphates

Testing

Identification of sodium phosphates with an X-ray focusing camera. D. E. C. Corbridge and F. R. Tromans. bibliog il diags Anal Chem 30:1101-10 Je '58

New method for determining sodium triphosphate purity. il Soap & Chem Spec 34:157 F '58

SODIUM potassium alloys**Physiological effect**

Sodium-potassium alloy; an experimental study of its hazards. A. J. Finkel and W. B. Lyons. bibliog il A M A Archives Ind Health 17:624-33 Je '58

SODIUM reactor. See Nuclear reactors

SODIUM silicates

Influence of bicarbonate ion on inhibition of corrosion by sodium silicate in a zinc-iron system. H. L. Shuldener and L. Lehrman, *ibid* 11 *diag* Am Water Works Assn J 49:1432-40 N '57

Relative effectiveness of sodium silicates of different silica-soda ratios as gangue depressants in nonmetallic flotation. C. L. Sollenberger and R. B. Greenwalt, *Min Eng* 10:Trans 691-3 Je '58

Sodium-silicate bonded shell molds. P. J. Ahearn and G. I. Gartner, *ibid* *diag* Foundry 86:98-101 F '58

Spectra of simple glasses in the infrared range and their relations to the structure of glass; sodium silicate glasses; tr. by W. Eitel. V. A. Florinskaya and R. S. Pechenikina, *ibid* *diag* Glass Ind 39:151-4-Mr '58

SODIUM sorbate

Effects of sodium sorbate and ascorbic acid on attempted gamma radiation pasteurization of apple juice. E. A. Asselbergs and others, *Food Tech* 12:156-8 Mr '58

SODIUM sulfates

Estimation of bisulfate ion dissociation in sulfuric acid-sodium sulfate solutions. C. F. Baes, Jr., *ibid* *Am Chem Soc J* 79:5611-16 N 5 '57

Heat of hydration of sodium sulfate; low temperature heat capacity and entropy of sodium sulfate decahydrate. G. Brodale and W. F. Glauque, *ibid* *Am Chem Soc J* 80:2042-4 My '58

Properties, storage, and conveying of salt cake. H. A. Stoess, Jr., *ibid* *diag* Tappi 41:sup 221A-6A Ap '58

There's profit in preventing pollution; Ansul chemical co., claims sodium bisulfate, *ibid* *Safety Maint* 115:45 Ap '58

See also

Paper making—Sulfate process

Sodium thiosulfate

SODIUM sulfites

Action of sodium sulphite on Stenhouse dyes. J. C. McGowan and F. M. Page, *ibid* *Chem & Ind* p 1648 D 21 '57

Fixation of atmospheric carbonyl compounds by sodium bisulfite. K. W. Wilson, *ibid* *Anal Chem* 30:1127-9 Je '58

Use of sodium hydrosulphite for bleaching Italian wood pulp. L. Merlo and others, *Tappi* 41:sup 216A-18A My '58

See also

Paper making—Sulfite process

SODIUM sulfosuccinate

Conductance of dialkyl sodium sulfosuccinate surface-active agents. M. L. Miller and J. K. Dixon, *ibid* *J Colloid Sci* 13:411-17 O '58

SODIUM tetraborate

Heat capacities of sodium tetraborate on the basis of the theory of the specific heat of chain structures. V. V. Tarasov, *ibid* *Am Chem Soc J* 80:5052-5 O 5 '58

SODIUM tetraphenylborate

Potentiometric titration of some organic and inorganic bases with sodium tetraphenylborate. W. J. Kirsten and others, *Anal Chem* 30:237-40 F '58

SODIUM thiophenoxide

Nucleophilic reactivity of sodium thiophenoxide with aromatic substrates. J. F. Bunnett and W. D. Merritt, Jr., *ibid* *Am Chem Soc J* 79:5967-9 N 20 '57

SODIUM thiosulfate

Study of the effect of sodium thiosulphate in neutral sodium sulphite semichemical pulping. M. N. May and J. R. Pechkam, *ibid* *Tappi* 40:914-17 N '57

SODIUM tungstate

Polymerization of anions; the hydrolysis of sodium tungstate and of sodium chromate. M. L. Freedman, *ibid* *J Am Chem Soc* 80:2072-7 My '58

Thermochemistry of sodium tungstate, silver tungstate and tungstic acid. R. L. Graham and L. G. Hepler, *ibid* *Am Chem Soc J* 80:3538-44 J1 20 '58

SODIUM zincates

Characterization of dissolving pulps by their solubility in alkaline sodium-zincate solutions. T. N. Kleinhert, *ibid* *Tappi* 41:134-6 Mr '58

SOFTENING agents

Ahcovel T and Ahcovel P series; cationic substantive softeners. *Am Dyestuff Rep* 47:187 Mr 1 '58

Effect of silicone softeners on resin-treated cottons. B. G. Simpson, *Am Dyestuff Rep* 46:991-8 D 30 '57; *Abstract. Textile World* 107:121 D '57

Preparation of 3-stearoyl-D-glucose, a bread-softening agent. F. H. Otey and C. L. Mehlretter, *Am Oil Chem Soc J* 35:455-7 S '58

SOIL analysis

Cobalt determination in soils and rocks with 2-nitroso-1-naphthol. L. J. Clark, *ibid* *Am Chem Soc J* 80:1153-6 Je '58

Determination of the 0.02 mm fraction in granular soils. R. W. Johnson, *Am Soc C E Proc* 83 [SM 3 no 1309]:1-10 J1 '57; *Discussion. H. Y. Fang. 83 [SM 4 no 1430]:35-42 N '57*

Occurrence of zinc in soil. M. L. White, *ibid* *Econ Geol* 52:645-51 S '57

Significance of geochemical distribution trends in soil. D. H. Yardley, *ibid* *diag* Min Eng 10:Trans 781-6 J1 '58

Soil properties and phosphate retention; abstract. E. G. Williams, *Chem & Ind* p 1533; *Discussion. 1534-5 N 23 '57*

Thermogravimetry of soils. I. Hoffman and others, *Chem & Ind* p261 Mr 1 '58

Use of Dowex-50 to separate interfering ions in the determination of magnesium in soil extracts by titan yellow. S. K. Tobia and N. E. Milad, *ibid* *J Agri & Food Chem* 6:358-60 My '58

SOIL bacteriology

See also

Azotobacter

SOIL burial method. See Cotton fabrics—Testing

SOIL-cement mixtures

Determination of the cement content of soil-cement; an investigation of some of the factors involved. P. T. Sherwood, *ibid* *diag J Ap Chem* 7:596-604 N '57

See also

Roads—Foundations—Soil-cement

SOIL conditioners

Use of soil conditioner in soil research; abstract and discussion. D. Gunary and S. Larsen, *Chem & Ind* p 1535-6 N 23 '57

SOIL conservation

Engineer aids worldwide conservation of soil and water. O. W. Israelsen, *ibid* *ibid* *diag* Am Soc C E Proc 84 [IR 3 no 1775]:1-22 S '58

See also

United States—Soil conservation service

SOIL consolidation. See Soils—Consolidation

SOIL disinfection

Urea formaldehyde concentrate-85, a promising control for potato scab. J. F. Bartz and K. C. Berger, *ibid* *J Agri & Food Chem* 6:675-7 S '58

SOIL erosion. See Erosion

SOIL laboratories

Fertilizing for optimum crop production. F. App, *ibid* *J Agri & Food Chem* 6:508-11, cover J1 '58

SOIL mechanics

Effects of ground on destructiveness of large earthquakes. C. M. Duke, *Am Soc C E Proc* 84 [SM 3 no 1730]:1-23 *ibid* (p 12-16) Ag '58

Engineering behavior of compacted clay. T. W. Lambe, *diag* Am Soc C E Proc 84 [SM 2 no 1655]:1-35 *ibid* (p34-5) My '58; *Discussion. 84 [SM 4 no 1828]:47-50 O '58*

Geotechnical properties of glacial lake clays. T. H. Wu, *ibid* *ibid* *diag* Am Soc C E Proc 84 [SM 3 no 1732]:1-34 Ag '58

How firm a building foundation? D. Allison, *ibid* *diag* Arch Forum 109:114-19 Ag '58

Increased resistance to deformation of clay caused by repeated loading. H. E. Seed and others, *ibid* *Am Soc C E Proc* 84 [SM 2 no 1645]:1-28 My '58; *Discussion. diag* 84 [SM 5 no 1881]:3-7 D '58

Laterite soils and their engineering characteristics. K. S. Bawa, *map* Am Soc C E Proc 83 [SM 4 no 1423]:1-15 *ibid* (56 titles, p 11-14) N '57; *Discussion. 84 [SM 1 no 1559]:13-14 F; [SM 2 no 1657]:33-9 My '58; Reply. 84 [SM 4 no 1828]:9-10 O '58*

Marginal zones of vanished glaciers reconstructed from the preconsolidation-pressure values of overridden silts; with glossary of soil mechanics terms. W. Harrison, *pl* maps *diag* J Geol 66:72-95 *ibid* (55 titles, p89-90) Ja '58

Nature of soil workability; abstract. P. C. J. Payne, *Engineer* 205:283-21 '58

Pore pressures in base courses. E. S. Barber and G. P. Steffens, *ibid* *diag* Pub Roads 30:53-62 Ag '58

St Lawrence seaway: soil and foundation problems. F. L. Peckover and G. G. Tustin, *ibid* *diag* Plan Eng J 41:69-74 S '58

Soil behavior during shear. C. P. Wroth, *ibid* *diag* Engineering 186:409-13 S 26 '58

SOIL mechanics—Continued

Soil mechanics, a tool in plant site selection. B. S. Persons. *il diag Paper Ind* 40:97-8 My '58

See also

Landslides
Soil stabilization
Soils—Classification

SOIL microorganisms

What pesticides do to soils. *il J Agri & Food Chem* 6:344-53 My '58

SOIL moisture

Crop growth and availability of moisture; abstract. W. C. Visser. *Chem & Ind* p32; Discussion. 33-4 Ja 11 '58
Some aspects of the irrigation of vegetables; abstract. E. J. Winter. *Chem & Ind* p32-3; Discussion. 33-4 Ja 11 '58

SOIL research

See also

Soil laboratories

SOIL resistivity

Distribution of soil conductivities and some consequences. G. N. Scott. *bibliog Corrosion* 14:60-4 Ag '58

SOIL sampling

Amphibious rig samples soils. *il Eng N* 161: 106 S 18 '58
Foundation explorations, drilling and sampling. D. M. Greer. *il Pub Works* 89:112-13 My '58
Great Salt Lake crossing; new sampler speeds design of 31,000,000-cu yd fill. H. V. Anderson. *il diags Civil Eng* 27:846-9 D '57

SOIL stabilization

Acidic phosphorus compounds as soil stabilizers. A. S. Michaels and others. *bibliog Ind & Eng Chem* 50:883-94 Je '58
County road stabilization with calcium chloride. L. J. Waldenberger. *il Pub Works* 89:120 Mr '58
Sodium chloride stabilized base secondary project. *il Roads & Sts* 101:66+ Je '58

See also

Roads—Foundations—Soil-cement

SOIL temperature

Method to describe soil temperature variation. E. B. Penrod and others. *bibliog il Am Soc C E Proc* 84 [SM 1 no 1537]:1-21 F '58; Discussion. D. C. Pearce. 84 [SM 2 no 1657]:45 My '58

SOILING of textiles

Mode of operation of antiredeposition agents in detergent solutions. H. S. Stillo and R. B. Kolat. *bibliog Textile Res J* 27:949-61 D '57
Soil retention by textile fibres. A. S. Weatherburn and C. H. Bayley. *bibliog Research* 11: 141-6 Ap '58
Surface of cotton fibers; distribution of dry soil. V. W. Tripp and others. *bibliog il Textile Res J* 28:447-52 Je '58
Surface of the cotton fiber; effects of modification on soil resistance. B. R. Porter and others. *bibliog*(31 ref) *il Textile Res J* 27: 833-45 N '57
Wet soiling of resin-treated cotton fabrics; abstract. L. W. Mazzeno and others. *Textile World* 108:121 Ja '58

SOILS

Application of aerial photographic interpretation to engineering soils studies. D. R. Lueder. *Pub Works* 89:179-81 My '58
Freezing of liquids in porous media with special reference to frost heave in soils. K. A. Jackson and B. Chalmers. *diags J Ap Phys* 29:1178-81 Ag '58
Geology and soils of the Newark (N.J.) metropolitan area. A. R. Jumkila. *bibliog il maps diags Am Soc C E Proc* 84 [SM 2 no 1646]:1-41 My '58
Status of soils in stratigraphic nomenclature. G. M. Richmond and J. C. Frye. *Am Assn Pet Geologists Bul* 41:758-63 *bibliog* (p761-3) Ap '57; Discussion. 42:1978-9, 1987-8 Ag '58

See also

Clay
Foundation soils
Highway engineering
Irrigation
Sand
Silt
Soil mechanics
Soil moisture
Tillage

Analysis

See Soil analysis

Carbon dioxide content

Effect of certain herbicides on rate of nitrification and carbon dioxide evolution in soil. R. W. Teater and others. *bibliog J Agri & Food Chem* 6:214-16 Mr '58

Chemical consolidation

Chemical grouting progress report of the task committee; with patent abstracts. *diags Am Soc C E Proc* 83 [SM 4 no 1426]: 1-106 *bibliog*(210 titles, p87-104) N '57
Field experiences with chemical grouting. M. Polivka and others. *bibliog il diags Am Soc C E Proc* 83 [SM 2 no 1204]:1-31 Ap '57; Discussion. 83 [SM 4 no 1430]:21-6 N '57; Reply. 84 [SM 2 no 1657]:9 My '58

Classification

Soils classification, exploration and testing. W. W. McLaughlin. *il diag Pub Works* 89: 112-16 Ja '58

Consolidation

Contractors and engineers both like it: results, specification for compaction. *Roads & Sts* 101:58-9 F '58
Engineering behavior of compacted clay. T. W. Lambe. *diags Am Soc C E Proc* 84 [SM 2 no 1655]:1-35 *bibliog*(p34-5) My '58; Discussion. 84 [SM 4 no 1828]:47-50 O '58
Procedure for rapid consolidation test. H. L. Su. *bibliog diags Am Soc C E Proc* 84 [SM 3 no 1729]:1-13 Ag '58
Review of the theories for sand drains. F. E. Richart, Jr. *bibliog diags Am Soc C E Proc* 83 [SM 3 no 1301]:1-38 Jl '57; Discussion. 84 [SM 1 no 1559]:7 F '57; [SM 2 no 1657]:15-20 My '58
Some practical aspects of vibratory compaction. G. O. Garis. *il Roads & Sts* 101:82-4 Ap '58
Structure of compacted clay. T. W. Lambe. *diags Am Soc C E Proc* 84 [SM 2 no 1654]: 1-34 *bibliog*(p32-4) My '58; Discussion. 84 [SM 4 no 1828]:39-46 O '58
Thixotropic characteristics of compacted clays. H. B. Seed and C. K. Chan. *bibliog diags Am Soc C E Proc* 83 [SM 4 no 1427]: 1-35 N '57; Discussion. 84 [SM 1 no 1559]: 11-12 F '57; [SM 2 no 1657]:21-31 My '58; Reply. 84 [SM 4 no 1828]:5-7 O '58
Vibration of sand cuts foundation costs 20 per cent. E. H. Wells. *il Eng N* 161:30-2 Ag 28 '58
What's new in soils stabilization. T. W. Lambe. *Pub Works* 89:177-9 My '58

See also

Rollers (earthwork)

Freezing

Battling permafrost, sub-arctic weather and tough soil to give Fairbanks water. H. C. Westfall. *il map Water Works Eng* 111:128-31+ F '58
Refrigerated mud supports building during re-foundation. J. R. Pelikan. *il diags Refrig Eng* 65:51-2 D '57
Thermal effects of the ocean on permafrost. A. H. Lachenbruch. *bibliog diag Geol Soc Bul* 68:1515-29 N '57

See also

Frost heaving

Magnesium content

Use of Dowex-50 to separate interfering ions in the determination of magnesium in soil extracts by Titan yellow. S. K. Tobia and N. E. Milad. *bibliog J Agri & Food Chem* 6:358-60 My '58

Nitrate content

Effect of certain herbicides on rate of nitrification and carbon dioxide evolution in soil. R. W. Teater and others. *bibliog J Agri & Food Chem* 6:214-16 Mr '58

Phosphorus content

Organic acids produced in farmyard manure and their influence on the solubility of soil phosphate; abstract. I. J. Cooke. *Chem & Ind* p 1535; Discussion. 1535-6 N 23 '57
Use of soil conditioner in soil research; abstract and discussion. D. Gunary and S. Larsen. *Chem & Ind* p 1535-6 N 23 '57

Testing

Highway construction can be speeded by radioactivity instrument that measures soil moisture and density. S A E J 66:65 Ja '58
In-place density tests of cohesionless coarse-grain base-course material. D. F. Griffin. *il A S T M Bul* p31-8 My '58
Soils classification, exploration and testing. W. W. McLaughlin. *il diag Pub Works* 89: 112-16 Ja '58

SOILS. Flooding of

Effect of flooding on plant availability of phosphorus from various phosphate rocks. R. E. Shapiro and W. H. Armiger. *J Agri & Food Chem* 6:453-5 Je '58

SOILS, Podzol

Mobilization of iron in podzol soils by aqueous leaf extracts. M. Schnitzer. *bibliog Chem & Ind* p 1594-5 D 7 '57; Reply. C. Bloomfield. *bibliog* p259-60 Mr 1 '58

SOLAR batteries

Batteries for Sputniks. *diag Metal Prog* 73: 112-4 F '58
 Hear by sunlight. *il Product Eng* 29:5 Je 2 '58
 More uses for solar cells. *il Electronics* 31: 20-1 Ag 8 '58
 Photocell-powered receiver; generator for operating a transistor set from light energy. R. C. T. Stead. *il Wireless World* 64: 428-8 S '58
 Reds boast of solar battery. *Electronics* 31:33 Jl 11 '58
 Ruggedized solar cells for missiles. *Electronic Ind* 17:138 Ag '58
 Solar battery heralds sun-power age; abstract. R. T. Kiefenstahl. *S A E J* 66:122 Jl '58
 Solar converters power satellite. *Electronic Ind* 17:14 My '58
 Solar generator works to 750 C. *Electronics* 31:26 S 19 '58
 Solar powered electric fence charger. G. W. Isaacs. *il Electronics* 30:188-9 D 1 '57

SOLAR corona. See Sun-Corona**SOLAR distillation.** See Distillation, Solar**SOLAR eclipses.** See Eclipses, Solar**SOLAR energy.** See Solar power; Solar radiation**SOLAR flares.** See Sun-Prominences**SOLAR furnaces**

Army uses sun; solar furnace studies protection against nuclear thermal effects. *il Chem & Eng N* 36:35-8 O 13 '58
 Army's giant solar furnace. *il (cover) Glass Ind* 39:542 O '58
 Engineering research with a solar furnace. P. E. Glaser. *bibliog il diags Mech Eng* 80:78-80 Je '58; Abstract. *Product Eng* 29: A 14 Mid-S '58; Discussion. *Mech Eng* 80: 103-4 D '58
 Hot spot assists research; Stanford research institute new solar furnace. *Elec Eng* 76: 1117 D '57
 Solar furnace in ceramic research. P. Duwez. *il diags Am Cer Soc Bul* 36:410-11 N 15 '57

SOLAR heating

High-flux low-temperature solar collector. R. G. Nevins and P. E. McNall, Jr. *diags Heating-Piping* 29:171-6 N '57
 M.I.T. completes solar house. *Glass Ind* 39: 166 Mr '58
 MIT solar-heated house designed for cloudless living. *diag Elec World* 149:131 Ap 7 '58
 Performance of a solar heated office building. F. H. Bridgers and others. *bibliog flow diags il Heating-Piping* 29:165-70 N '57
 Prize-winning designs for a solar-heated residence. *diags Air Cond Heat Ven* 55:76-7 My '58
 Rising solar heat. *il Arch Forum* 108:135 Ja '58
 Solar energy, possibilities unlimited. J. I. Yellott. *diags Machine Design* 30:22-5 Je 26 '58; Abstracts. *Heating-Piping* 30:134 Ag '58; *Elec Eng* 77:859-60 S '58
 Solar energy utilization for heating, cooling, distillation and drying; ASHAE technical advisory committee on solar energy utilization discussion and decimal-divided outline, to show broadly the technical information needed in the solution for solar utilization problems. *il Heating-Piping* 30:147-52 Je '58
 Solar heat experiment may lapse, no money. *Product Eng* 29:30 Ag 11 '58
 Solar-heated homes. *il Mech Eng* 80:90 Je '58
 Solar heating may brighten dark continent. *Product Eng* 29:25 My 19 '58
 Solar heating on trial in Northeast, Southwest. *Product Eng* 29:26 Mr 10 '58
 Solar heating test. *il Arch Forum* 108:138 Ap '58
 Solar house uses heat pumps for summer cooling, auxiliary heating. *il plan diags Arch Rec* 123:222-4 Je '58
 Sun energy assistance for air-type heat pumps. C. P. Davis, Jr. and R. L. Lipper. *il diag Heating-Piping* 29:123-8 D '57
 Sun works for solar house. *il Steel* 142:63 Ap 21 '58
 Winning designs for Living with the sun. *diags Arch Rec* 122:10 N '57

See also**Solar furnaces****SOLAR noise.** See Radio noise, Solar**SOLAR power**

Nuclear, solar energy to aid gas. M. A. Elliott and M. Chandler. *Am Gas Assn Mo* 40:29-30-1 Ap '58
 Portable radio plays on free power from sun. *Elec Eng* 77:856-7 S '58
 Power from the sun. W. T. Reid. *Combustion* 29:55-8 O '57
 Solar electric station; abstract. V. Khashchinsky. *Eng J* 41:38 Mr '58
 Solar energy, possibilities unlimited. J. I. Yellott. *diags Machine Design* 30:22-5 Je 26 '58
 Solar-powered car foreseen. J. C. Zeder. *S A E J* 66:59-60 Ja '58
 Solar sailing; a practical method of propulsion within the solar system. R. L. Garwin. *diag Jet Propulsion* 28:188-90 Mr '58
 Soviets claim world's top solar power station. *Product Eng* 29:30 Ap 21 '58
 Utilization of solar energy. F. Daniels. *bibliog Am Cer Soc Bul* 36:406-9 N 15 '57

See also**Solar batteries****SOLAR radiation**

Climate and the changing sun. E. J. Öpik. *il map Sci Am* 198:85-90+ Je '58
 Direct solar radiation available on clear days. J. L. Threlkeld and R. C. Jordan. *bibliog maps diag Heating-Piping* 29:185-45 D '57
 Discussion of 10.7-cm solar radio flux measurements and an estimation of the accuracy of observations. W. J. Mead and A. E. Covington. *bibliog diags Inst Radio Eng Proc* 46:112-13 Ja '58
 Heat gain through windows shaded by canvas awnings. N. Ozisik and L. F. Schutrum. *il diags Heating-Piping* 30:159-66 My '58
 Heat gain through windows shaded by metal awnings. N. Ozisik and L. F. Schutrum. *il diags Heating-Piping* 30:121-5 Jl '58
 Measurements of solar radiation and atmospheric attenuation at 4.3-millimeters wavelength. R. J. Coates. *bibliog il diags Inst Radio Eng Proc* 46:122-6 Ja '58
 Measurements of the total absorptivity for solar radiation of several engineering materials. R. C. Birkebæk and J. P. Hartnett. *il diags A S M E Trans* 80:373-8 F '58
 Planetary and solar radio emission at 11 meters wavelength. J. D. Kraus. *bibliog il diags Inst Radio Eng Proc* 46:266-74 Ja '58
 Radio spectrum of solar activity. A. Maxwell and others. *bibliog il Inst Radio Eng Proc* 46:142-8 Ja '58
 Solar energy utilization for heating, cooling, distillation and drying; ASHAE technical advisory committee on solar energy utilization discussion and decimal-divided outline, to show broadly the technical information needed in the solution for solar utilization problems. *il Heating-Piping* 30:147-52 Je '58
 Sweep-frequency interferometer for the study of high-intensity solar radiation at meter wavelengths. J. P. Wild and K. V. Sheridan. *bibliog il diags Inst Radio Eng Proc* 46:160-71 Ja '58
 Vast antarctic solar resources go to waste; abstract. H. C. Hoinkes. *Air Cond Heat & Ven* 55:95 Ap '58

See also**Solar heating****Solar power****Sunspots****SOLAR system****See also****Meteors****Planets****SOLASODINE**

Conversion of tomatidine and solasodine into neotigogenin and diosgenin and into a common constituent. 5a-22,25-epoxyfurostan-3 β -ol. Y. Sato and others. *bibliog Am Chem Soc J* 79:6093-90 N 20 '57

SOLDER and soldering

Aluminum soldered ultrasonically. L. Walter. *il Mach* 64:160 N '57
 Aluminum soldering. *Mech Eng* 79:1155 D '57
 Aluminum welding easy with low temperature fluxless solder; abstract. S. Freedman. *Eng J* 41:78-9 F '58
 Cerium raises solder strength. *Electronics* 31:20 Ag 8 '58
 European solder developments; reference book sheet. *Product Eng* 29:97-4 Je 23 '58
 Flowsolder method of soldering printed circuits. R. Strauss and A. F. C. Barnes. *il diags Product Eng* 28:G 17 Mid-O '57
 Flux-solder pastes automate assembly. *il Electronics* 31:132-3 S 12 '58

SOLDER and soldering—Continued

- Fluxless process simplifies aluminum soldering. S. Freedman. *il Aviation Age* 28:126-9 Mr '58
- How to solder; tips for the beginner. L. G. McCov. *il Q S T* 42:16-17-S '58
- How to solder without flux; ultrasonic soldering iron; illustrated instructions. *Power* 102:138 Ag '58
- Joining and fastening of materials; brazing and soldering alloys. Materials in Design Eng 48:37-7 Mid-Q '58
- Method for soldering aluminum. G. M. Bouton and P. R. White. *il Bell Lab Rec* 36:157-60, cover My '58; Same cond. *Product Eng* 29:G 10-11 Mid-S '58; Abstracts. *Electronics* 30:222+ D 1 '57; *Franklin Inst J* 264:523 D '57
- Oxide problem solved; chlorides bond non-ferrous metals. *il Electronics Bsns* ed 30:35 N 10 '57
- Paste solders automate assembly. *il Steel* 142:68-9 Je 2 '58
- Put soldering to work and save! *il diags Welding J* 37:143-5 F '58
- Solder aluminum without flux. *il Iron Age* 180:133 N 7 '57
- Soldering aluminum. *il Steel* 141:119 D 2 '57
- Soldering and soldering accessories. B. Fishback and others. *il diags Q S T* 42:72-3 Je '58
- Soldering in the space age. A. B. Kaufman. *bibliog Instruments & Automation* 31:1202-3 J '58
- Soldering process needs upgrading for missile work. C. O. Stump. *S A E J* 66:72 F '58
- Welding galvanized steel and soldering stainless. *Welding Eng* 43:63 Ap '58

See also

Brazing**SOLDERING apparatus**

- Dip solder machine uses solder pumps. A. S. King and W. H. Hourch. *il diags Electronics* 31:108-13 Ja 3 '58
- Industrial know-how handbook; soldering and brazing. *il Mill & Factory* 62:MW32 My '58
- Interchangeable-element soldering irons. G. Grammar. *il Q S T* 42:17 F '58
- Machine soldering cuts costs, doubles small shop's output; Louis Johnson co. R. Mortensen. *il Iron Age* 181:100-1 Mr 27 '58
- Ripples hasten dip soldering. W. L. Oates; H. H. Hagens. *diag Electronics* 31:25 Ap 18 '58
- Soldering gun uses chassis resistance. J. Tartas. *diags Electronics* 31:106-8 Ja 3 '58

SOLENOIDS

- Applying rotary solenoids and selectors. J. R. Dunbar and A. L. Cuch. *il Machine Design* 30:169-74 Mr 20 '58
- Built-in mechanical memory for indicating instrument. *il diags Machine Design* 30:133 Ap 3 '58
- Hot solenoid. O. K. Smith. *il Product Eng* 29:61 Ja 6 '58
- Leakage in foil solenoids. G. M. Clarke and G. B. Lees. *Inst Radio Eng Proc* 46:144 My '58
- Magnetically operated needle valve. J. O. Cope. *diags R Sci Instr* 29:232-4 Mr '58
- Minimum weight solenoid systems. G. M. Clarke. *Inst Radio Eng Proc* 46:1652-3 S '58
- New solenoid relay for industrial controls. *il Elec Manuf* 61:154 Je '58
- Recent advances in the design of high-field dc solenoid magnets. H. H. Kolm. *bibliog J Ap Phys* 29:489-91 Mr '58
- Servicing the solenoid. R. W. Hanemann. *il diags Plant Eng* 12:122-6 My '58
- Solenoid valves for nuclear power. A. W. Churchill. *il Power Eng* 62:47-8 F '58

Testing

- Labs use power supply for solenoid testing. *Ind Lab* 9:33 Mr '58
- Procedures for testing a-c solenoids. D. O. Myers and I. Gebel. *diags Elec Manuf* 61:92-5 My '58

SOLID catalysts. See Catalysts**SOLID gasoline. See Gasoline, Solid****SOLID propellant rockets. See Propellants****SOLID solutions. See Solutions, Solid****SOLID-state phenomena. See Solids****SOLIDS**

- Apparatus for measurement of thermal conductivity of solids at low temperatures. R. L. Powell and others. *bibliog il diags J Res Nat Bur Stand* 59:349-55 N '57

- Conductors and insulators; electron energy levels in solids. *diags Wireless World* 64:227-30 My '58
- Conference on the mechanical properties of non-metallic solids. Leningrad. *J Metals* 10:606-8 S '58
- Differential thermal analysis of organic solids. M. C. P. Varma. *J Ap Chem* 8:117-21 F '58
- Displacement discontinuity in the elastic half-space. L. Rongved and J. T. Frasier. *diag J Ap Mech* 25:125-3 Mr '58
- Displacement discontinuity on the interface of two joined dissimilar semi-infinite elastic solids. J. T. Frasier. *J Ap Mech* 25:292-3 J '58
- Explosive induced shock waves. W. E. Drummond. *bibliog diags J Ap Phys* 28:1437-42 D '57
- Formulas for suspensions and solids. M. Brooke. *Chem Eng* 65:140 Ja 27 '58
- Future circuit aspects of solid-state phenomena. E. W. Herold. *bibliog(26 ref) il(cov-er) diags Inst Radio Eng Proc* 45:1463-74 N '57
- Improved instrument for the measurement of linear pyrolysis rates of solids. M. K. Barsh and others. *il diags R Sci Instr* 29:392-5 My '58
- Mixing of solids; chl square as a criterion. J. E. Gayle and others. *bibliog diags Ind & Eng Chem* 50:1279-82 S '58
- New method of impact shattering; breaking down solids into extremely fine sizes without the aid of mechanical moving parts. T. Nagel. *il diag Eng & Min J* 159:110-11 Ap '58
- Nuclear plate camera for angular distribution measurements with gaseous or solid targets over a wide range of angles. W. M. Jones and D. G. Waters. *diags J Sci Instr* 35:286-8 Ag '58
- Photochemical decomposition of the halides of tris-(ethylene)diamine-cobalt(III) in the solid state. D. Klein and others. *bibliog Am Chem Soc J* 80:265-9 Ja 20 '58
- Plasticity of solids explored by new technique. J. J. Gilman. *il diags Gen Elec R* 61:9-12 J '58
- Potential applications of solid-state physics in chemical engineering. H. G. Drickamer. *diags Ind & Eng Chem* 50:1023-4 J '58
- Pressure-volume relations in solids. G. E. Duvall. *Am J Phys* 26:235-8 Ap '58
- Solid—proof of solid state reactions. *Chem & Eng N* 35:56-7 S 22 '58
- Solid state image amplifiers. G. F. J. Garlick. *bibliog il diags J Sci Instr* 34:473-9 D '57
- Solid-state maser; a supercooled amplifier. J. W. Meyer. *bibliog il diags Electronics* 31:66-71, cover Ap 25 '58
- Solid-state physics unveils atomic mysteries. M. Ference, Jr. *diags S A E J* 66:36-41 My '58
- Solubility of solids in gases. G. W. Morey. *diags Econ Geol* 52:225-51. *bibliog(p249-51) My '57; Discussion. F. G. Smith and R. E. Jones. 53:340-8; Reply. 348-9 My '58*
- Temperature-dependent equations of state of solids. J. J. Gilvarry. *bibliog(40 ref) J Ap Phys* 28:1253-61 N '57
- Thermal stresses in transversely isotropic semi-infinite elastic solids. B. Sharma. *J Ap Mech* 25:36-8 Mr '58
- Transient conduction in a semi-infinite solid with variable thermal conductivity. K. T. Yang. *J Ap Mech* 25:146-7 Mr '58

See also

Crystals**Expansion (heat)****Particles****Solutions, Solid****Surface phenomena****SOLUTIONS. See Electrochemical apparatus****SOLS. See Colloids****SOLUBILITY**

- Determination of the solubilities of beryllium and molybdenum in liquid bismuth. G. W. Horsley and J. T. Maskrey. *diag Inst Metals J* 86:401-2 Ap '58

- High molecular weight polymers of ethylene oxide; solution properties. E. E. Bailey, Jr. and others. *il Ind & Eng Chem* 50:3-11 Ja '58

- Intermolecular metal-metal bonds and solubility of some nickel and palladium complexes of *vic*-dioximes. C. V. Banks and D. W. Barnum. *bibliog Am Chem Soc J* 80:3579-82 J '58

- Mutual solubility of polymers. N. F. Komskaya and G. L. Slonimskii. *bibliog Rubber Chem & Tech* 31:49-57. 244-61 Ja-Ap '58

SOLUBILITY—Continued

- Pilot-plant development of the alkali-cooking process for cottonseed meats; quantitative effect of cooking variables on solubility of meal nitrogen, W. H. King and others, *bibliog Am Oil Chem Soc J* 35:46-9 Ja '58
- Solubilities and volume changes attending mixing for the system; perfluoro-*n*-hexane-*n*-hexane, R. G. Bedford and R. D. Dunlap, *bibliog Am Chem Soc J* 80:282-5 Ja '58
- Solubilities of fatty acids and derivatives in acetone, O. S. Frivett and others, *bibliog diag Am Oil Chem Soc J* 35:366-70 Ji '58
- Solubility and mechanism of dye-uptake in protein-dye salts, D. B. Wetaufer and M. A. Stahmann, *bibliog Am Chem Soc J* 80:1493-500 Mr '58
- Solubility, entropy and partial molar volumes in solutions of gases in non-polar solvents, J. E. Jolley and J. H. Hildebrand, *bibliog Am Chem Soc J* 80:1050-4 Mr '58
- Solubility measurements test Debye-Hückel; abstract, M. H. Lietzke, *Chem & Eng N* 36:50-1 S '58
- Solubility of carbon in thorium; abstract, R. Mickelson and D. Peterson, *Metal Prog* 72:146+ N '57
- Solubility of cottonseed proteins in hydrochloric acid, G. E. Mann and others, *Am Oil Chem Soc J* 35:244-6 My '58
- Solubility of hydrogen chloride in organic compounds, W. Gerrard and others, *Chem & Ind* p894 Ji '58
- Solubility of long-chain amines in water, D. J. Brown, *J Colloid Sci* 13:286-7 Je '58
- Solubility of metal sulfides in dilute vein forming solutions, F. L. Cloke, *Econ Geol* 53:494-6 Je '58
- Solubility of pulp in cold sodium hydroxide; new Tappi tentative standard T 235 m, *diag Tappi* 41:sup 134A-5A My '58
- Solubility of quartz in supercritical water as a function of pressure, G. J. Wasserburg, *bibliog J Geol* 66:559-78 S '58
- Solubility of solids in gases, G. W. Morey, *diag Econ Geol* 52:225-51 *bibliog*(p249-51) My '57; Discussion, F. G. Smith and R. E. Jones, 53:340-8; Reply, 348-9 My '58
- Solubility of water in molten mixtures of LiCl and KCl, W. J. Burkhard and J. D. Corbett, *bibliog Am Chem Soc J* 79:6361-3 D '57
- Solubility product and ore precipitation, N. Street, *Econ Geol* 53:617-18 Ag '58
- Solubility relationships in hydrogen peroxide solutions containing pyrophosphate and stannate inhibitors, G. C. Hood and others, *Ind & Eng Chem* 50:1211-12 Ag '58
- Swelling and solution of synthetic fibre-forming polar polymers in liquids, W. R. Moore, *bibliog diag Soc Dyers & Col J* 73:500-6 N '57
- Ultraviolet absorption spectrum as a criterion of the type of solubilization, S. Riegelman and others, *bibliog il J Colloid Sci* 13:208-17 Je '58
- See also*
Solution (chemistry)
Tables, calculations, etc.
- Equilibrium solubility of sodium chloride in concentrated sodium hydroxide; data sheet, *Tappi* 41:sup 140A Mr '58
- SOLUBLE** coffee. *See* Coffee, Soluble
- SOLUTION (chemistry)**
Anodic polarization as a possible rapid method of deciding whether a given solution is corrosive or inhibitive, P. Hancock and J. E. O. Mayne, *bibliog diag J Ap Chem* 7:700-8 D '57
- Apparatus for the observation of infrared streaming dichroism of polymer solutions, G. E. Bird and others, *bibliog diag R Sci Instr* 29:305-9 Ap '58
- Chemical effects of atomic hydrogen in aqueous solutions, T. W. Davis and others, *bibliog diag Am Chem Soc J* 80:4487-91 S '58
- Concentration dependence of flow birefringence of polymer solutions, J. T. Yang, *bibliog Am Chem Soc J* 80:5139-46 O '58
- Continuous dissolution of copper by nitric acid, R. L. Johnson and others, *bibliog Ind & Eng Chem* 50:1194 Ag '58
- Diffusion measurements in aqueous solutions of different viscosities, A. Biancheria and G. Kegeles, *bibliog Am Chem Soc J* 79:5908-12 N '57
- Dissolution of metals in aqueous acid solutions; depolarized dissolution of mild steel, A. C. Makrides and N. Hackerman, *bibliog Electrochem Soc J* 105:156-62 Mr '58
- Effects of capillary shape on flow characteristics and degradation of polymer solutions, H. S. White and H. V. Belcher, *bibliog il diag J Res Nat Bur Stand* 60:216-19 Mr '58
- Errors in infra-red absorption analysis due to solute-solvent interactions, W. R. Ward and A. R. Philpotts, *bibliog J Ap Chem* 8:265-7 Ap '58
- Gas transfer to and from aqueous solutions, T. R. Camp, *bibliog Am Soc C E Proc* 84 [SA 4 no 1701]:1-11 Ji '58
- General relative volatility for binary solutions, R. F. Sweeny, *Chem Eng* 65:148+ My '58
- Increase of surface tension of certain solutions when brought into contact with hot gases, N. Skogen, *il Am J Phys* 26:25-7 Ja '58
- Mutual solubility of polymers; the viscosity of mixed rubbers and the behavior of solutions of these, G. L. Slonimskil and N. F. Komsikaya, *Rubber Chem & Tech* 31:244-9 Ap '58
- New twist to electroanalysis; novel method of analyzing solutions; abstract, M. J. Joncich and H. F. Holmes, *Chem & Eng N* 36:54 Ap '58
- Simplified method of preparing solutions of glycerol and water for humidity control, J. V. Braun and J. D. Braun, *Corrosion* 14:17-18 Mr '58
- Solubilization, a micellar phenomenon, J. C. Harris, *bibliog diag Am Oil Chem Soc J* 35:428-35 Ag '58
- Solubilization by means of lanolin derivatives, L. I. Conner and others, *il Drug & Cosmetic Ind* 83:160-1+ Ag '58
- Solution kinetics of calcite, P. K. Weyl, *bibliog diag J Geol* 66:163-76 Mr '58
- Solution properties of branched dextrans, K. A. Granath, *bibliog J Colloid Sci* 13:308-28 Ag '58
- Some thermodynamic properties of the systems polybutadiene-benzene and polyisobutene-benzene, R. S. Jessup, *bibliog diag J Res Nat Bur Stand* 60:47-53 Ja '58
- Studies on aminoanthraquinone compounds; absorption spectra in solution and in the solid state, G. S. Egerton and A. G. Roach, *bibliog Soc Dyers & Col J* 74:401-7 My '58
- Use of ultrafine filters in the osmometry of non-aqueous solutions, M. F. Vaughan, *Chem & Ind* p555 My '58
- Use specific gravity like molarity, C. L. Murray, *Chem Eng* 65:155 O '58
- Volumetric and thermodynamic properties of fluids; two component solutions, K. S. Pitzer and G. O. Hultgren, *bibliog Am Chem Soc J* 80:4793-6 S '58
- See also*
Electrolysis
Ions
Solubility
- SOLUTION, Heat of**
Rocking-bomb calorimeter for measuring heats of solution, S. R. Gunn, *diag R Sci Instr* 29:377-80 My '58
- SOLUTIONS, Isotonic.** *See* Isotonic solutions
- SOLUTIONS, Solid**
Selective oxidation of Al from Al-Fe alloy, R. E. Grace and A. U. Seybolt, *bibliog diag Electrochem Soc J* 105:582-5 O '58
- Solid-state dissolution of germanium by indium in semiconductor devices, J. Roschen and C. G. Thornton, *il J Ap Phys* 29:923-8 Je '58
- Subsolidus relations between mullite and iron oxide, W. B. Brownell, *bibliog Am Cer Soc J* 41:226-30 Je '58
- UO₂-PuO₂ solid solutions, R. N. R. Mulford and F. H. Ellinger, *Am Chem Soc J* 80:2023 Ap '58
- SOLUTIONS, Viscosity of.** *See* Viscosity
- SOLVENT** extraction. *See* Extraction processes
- SOLVENTS**
Central system simplifies solvent storage; AlResearch manufacturing div. of the Garrett corp. *il Plant Eng* 12:119-20 Je '58
- Control solvent vapors and put them to work, P. C. Bardin, *il Ind Finishing* 34:48-50+ Ji '58
- Effect of oil field use of chlorinated solvents on catalytic reforming, J. A. Guthrie and E. S. Hepp, *Pet Eng* 29:C40+ D '57
- Effect of solvent change on the standard chemical potential of electrolytes; comparison of vapor pressure and e.m.f. data for HCl, NaOH and K₂ in the system dioxane-water, G. Baughman and E. Grunwald, *bibliog Am Chem Soc J* 80:3844-6 Ag '58

SOLVENTS—Continued

- Effect of solvent change on the standard chemical potential of electrolytes, from precision measurement of the activities of the solvent components; the system NaCl-dioxane-water. E. Grunwald and A. L. Bacarella. *Am Chem Soc J* 80:3840-4 Ag 5 '58
- Effect of solvent on spectra. E. M. Kosower. *bibliog diags Am Chem Soc J* 80:3263-70 J 5 '58
- Effect of solvent on the catalytic activity of aliphatic amines in elimination reactions. R. G. Pearson and D. C. Vogelsong. *Am Chem Soc J* 80:1048-50 Mr 5 '58
- Effect of solvents in dyeing. L. Peters and C. B. Stevens. *Soc Dyers & Col J* 73:23; 74:183 Ja '57, Mr '58
- Effect of solvents on the liquid phase photolysis of alkyl esters. P. Ausloos. *Am Chem Soc J* 80:1310-13 Mr 20 '58
- Emphasis on solvent recovery at film base plant; Bexford Ltd. *il Manuf Chem* 29:353 Ag '58
- Errors in infra-red absorption analysis due to solute-solvent interactions. W. R. Ward and A. R. Philpotts. *bibliog J Ap Chem* 8:265-7 Ap '58
- Gas chromatography, effect of type and amount of solvent on analysis of saturated hydrocarbons. F. T. Eggertsen and H. S. Knight. *bibliog Anal Chem* 30:16-20 Ja '58
- How to test solvent quality. C. E. Kircher. *il Steel* 142:86-7+ Ja 13 '58
- Influence of solvents on the bacteriostatic and bactericidal action of organic acids. E. A. Cooper and A. E. Goddard. *bibliog J Ap Chem* 7:613-19 N '57
- Kinetic studies of the reaction of phenyl isocyanate with alcohols in various solvents. S. Ephraim and others. *bibliog Am Chem Soc J* 80:1326-8 Mr 20 '58
- Lab study okayes two solvent classes. W. A. Garrison. *Elec World* 149:66 My 12 '58
- Nature of amino acids in solvents of low dielectric. G. M. Barrow. *Am Chem Soc J* 80:86-8 Ja 5 '58
- Production of photographic film base; Bexford Ltd. *il Ind Chem* 34:445-6 Ag '58
- Rate constants for combination of iodine atoms in inert solvents. H. Rosman and R. M. Noyes. *bibliog Am Chem Soc J* 80:2410-15 My 20 '58
- Resolution of acid mixtures in nonaqueous solvents; potentiometric titration of dibasic acids with quaternary ammonium titrants. G. A. Harlow and G. E. A. Wyld. *bibliog Anal Chem* 30:69-72 Ja '58
- Simulation of a solvent recovery process. L. G. Lewis. *diags Instruments & Automation* 31:644-7 Ap '58
- Solubility, entropy and partial molal volumes in solutions of gases in non-polar solvents. J. E. Jolley and A. H. Hildebrand. *bibliog Am Chem Soc J* 80:1050-4 Mr 5 '58
- Solvent effects in the reactions of free radicals and atoms; effects of solvents on the position of attack of chlorine atoms upon 2,3-dimethylbutane, isobutane and 2-deuterio-2-methylpropane. G. A. Russell. *bibliog Am Chem Soc J* 80:4987-96 S 20 '58
- Solvent effects in the reactions of N-bromosuccinimide with toluene, fluorene and acenaphthene; evidence for a polar mechanism in propylene carbonate. S. D. Ross and others. *bibliog Am Chem Soc J* 80:4327-30 Ag 20 '58
- Solvents having high dielectric constants; conductimetric behavior of some alkaline earth salts in N-methylacetamide at 40°. L. R. Dawson and others. *bibliog Am Chem Soc J* 80:4233-5 Ag 20 '58
- Spectrophotometric studies of chelates of 8-quinolinol in some water-miscible organic solvents. W. G. Boyle, Jr. and R. J. Robinson. *bibliog Anal Chem* 30:958-61 My '58
- Titration of acids in nonaqueous solutions with tetrabutylammonium hydroxide; reaction of solvents with strong acids. R. H. Cundiff and P. C. Markunas. *Anal Chem* 30:1447-9 S '58
- Tributyl phosphate, hydrocarbon systems; organizing equilibrium data. J. W. Coddling and others. *bibliog diag Ind & Eng Chem* 50:145-52 F '58
- Use of isopropylbiphenyl as solvent in liquid scintillators. W. L. Buck and R. K. Swank. *R Sci Instr* 29:252 Mr '58
- Water transfer between aqueous systems by a partially miscible solvent. A. Baniel. *diags J Ap Chem* 8:611-16 S '58
- See also Acetonitrile Alcohol Benzene Chloroform Cleaning compositions Extraction processes Furfural Methyl isobutyl ketone Propane
- Physiological effect
- Health hazards from maintenance solvents and their control. K. M. Morse. *il Safety Maint* 115:34-9 Ja '58
- Safety measures
- Health hazards from maintenance solvents and their control. K. M. Morse. *il Safety Maint* 115:34-5 Ja '58
- Pitfalls of modern solvents. J. B. Moore. *Safety Maint* 115:23-5+ Je '58
- Vent breather protects solvent storage tanks. C. W. Hamilton. *diag Chem Eng* 65:169-70 O 20 '58
- SOLVOLYSIS
- Correlation of solvolysis rates; solvent effects on enthalpy and entropy of activation for solvolysis of *t*-butyl chloride. S. Weinstein and A. H. Fainberg. *bibliog Am Chem Soc J* 79:5937-50 N 20 '57
- Imidazole catalysis; the solvolysis of 4-(2'-acetoxyphenyl)-imidazole. G. L. Schmir and T. C. Bruice. *bibliog Am Chem Soc J* 80:1173-7 Mr 5 '58
- Kinetics and mechanism of solvolysis of steroid hydrogen sulfates. S. Burstein and S. Lieberman. *bibliog Am Chem Soc J* 80:5235-9 O '58
- Proximity effects; *cis*-1,4-cycloheptanediol from solvolysis of cycloheptene oxide. A. C. Cope and others. *bibliog Am Chem Soc J* 79:6287-92 D 5 '57
- Rates of solvolysis of *m*-alkylbenzhydriyl chlorides. E. Berliner and M. M. Chen. *bibliog Am Chem Soc J* 80:343-7 Ja 20 '58
- Rates of solvolysis of *p*-substituted benzyl-dimethylcarbinyl chlorides. A. Landis and C. A. VanderWerf. *bibliog Am Chem Soc J* 80:5277-80 O 5 '58
- Rates of solvolysis of phenyldimethylcarbinyl chlorides containing meta directing substituents. Y. Okamoto and others. *bibliog Am Chem Soc J* 80:4969-72 S 20 '58
- Rates of solvolysis of phenyldimethylcarbinyl chlorides containing substituents (-NMe₂, -CO₂) bearing a charge. Y. Okamoto and H. C. Brown. *bibliog Am Chem Soc J* 80:4976-9 S 20 '58
- Rates of solvolysis of some deuterated 2-phenylethyl *p*-toluenesulfonates. W. H. Saunders, Jr. and others. *bibliog Am Chem Soc J* 80:2421-4 My 20 '58
- Rates of solvolysis of substituted phenyldimethylcarbinyl chlorides in methyl, ethyl and isopropyl alcohols; influence of the solvent on the value of the electrophilic substituent constant. Y. Okamoto and others. *bibliog Am Chem Soc J* 80:4972-6 S 20 '58
- Rates of solvolysis of the *m*- and *p*-phenyl-*m*- and *p*-methylthio- and *m*- and *p*-trimethylsilylphenyldimethylcarbinyl chlorides; steric inhibition of resonance as a factor in electrophilic substituent constants. H. C. Brown and others. *bibliog Am Chem Soc J* 80:4964-8 S 20 '58
- Salt effects and ion pairs in solvolysis and related reactions. S. Weinstein and others. *bibliog Am Chem Soc J* 80:169-81, 459-65 Ja 5-20 '58
- Solvolysis of alkyl borates; catalysis by amines and phenols. C. L. Denson and T. I. Crowell. *bibliog Am Chem Soc J* 79:5556-8 N 5 '57
- Solvolysis of benzyl tosylates; some solvent effects. G. S. Hammond and others. *bibliog Am Chem Soc J* 80:563-73 F 5 '58
- Solvolysis of *cis*- and *trans*-2-chlorocycloalkyl aryl sulfides in 80 per cent aqueous ethanol. H. L. Goering and K. L. Howe. *bibliog Am Chem Soc J* 79:6542-6 D 20 '57
- Solvolysis of the 3-tropanyl chlorides. A. T. Bottini and others. *bibliog Chem & Ind* p757-8 Je 21 '58
- Synthesis of alkyl aryl phosphates from aryl phosphorochloridates; the solvolysis route. H. D. Orlow and others. *Am Chem Soc J* 80:734-9 F 5 '58

SOLVOLYSIS—Continued

Transmission of electrical effects through homoallylic systems; kinetics of solvolysis of some 6-arylcholesteryl *p*-toluenesulfonate esters. R. A. Snee. *bibliog* *Am Chem Soc J* 80:397-31 Ag 5 '58

Transmission of electrical effects through homoallylic systems; synthesis and kinetics of solvolysis of 6-methylcholesteryl *p*-toluenesulfonate. R. A. Snee. *Am Chem Soc J* 80:3982-6 Ag 5 '58

SONAR

Modern sonar systems guide atom subs. J. A. Rummell. *il diags Electronics* 31:56-62, cover Ja 3 '58

Sonar caliper simplifies LPG storage surveys. J. P. Chisholm and G. D. Patterson. *il Pet Eng* 30:E90-2 Ja '58

Sonar: key to sub war. *map Electronics* 31:15-16 Je 27 '58

Standards to aid sonar; calibration of electroacoustic transducers. W. J. Trott. *il Mag of Stand* 29:166-7 Je '58

SONIC interferometers. See *Interferometers, Sonic*

SOOT

What causes oily soot problem in high velocity air conditioning? answers. *Heating-Piping* 30:83+ Ap '58

SOOT blowers

Soot blowers shock slag with h-p water, slash soiler outage. M. E. Marshall. *diags Power* 102:112-14 My '58

Soot blowing to keep modern boilers on the line. R. G. Elmendorf. *il diag Power* 101:84-6+ N; 107-9+ D '57

SORBITOL

Absorption of vitamin B₁₂ enhanced by D-sorbitol. B. W. Chow and others. *bibliog Am J Clinical Nutrition* 6:30-3 Ja '58; Discussion. R. D. Barnard. 6:333-4 My '58

For better absorption; Smith, Kline & French is bringing out a new vitamin supplement and hematonic combined with D-sorbitol. *Chem & Eng N* 36:59-60 P 24 '58

Hydrogenolysis of sorbitol; glycerol can be obtained in 40 per cent yield from sorbitol. I. T. Clark. *Ind & Eng Chem* 50:1125-6 Ag '58

Iron absorption and metabolism. J. F. Hernon and others. *bibliog J Nutrition* 64:615-23 Ap '58

SORBOSE

Isomerization of D-glucose-1C¹⁴ to D- and L-sorbose-C¹⁴ by a strong base resin. J. C. Sowden and R. R. Thompson. *bibliog Am Chem Soc J* 80:1435-7 Mr 20 '58

SORGHUM

Amino acid adequacy of milo (grain sorghum) for the growth of rats. W. G. Pond and others. *bibliog J Nutrition* 65:493-502 Ag '58

Countercurrent distribution of sorghum lipides in leaf and stem extract. M. C. Burnett and others. *bibliog J Agri & Food Chem* 6:374-7 My '58

SORPTION. See *Adsorption***SORTING**

United parcel service sorts from moving storage: package sorting and distributing center. J. Joseph. *il Mod Materials Handling* 13:100-3 Jl '58

SORTING devices

Automatic operation in package sorting; a Railway Express terminal. *il plan diags Elec Manuf* 62:118-20 Ag '58

Automatic reading and sorting of intermixed random-size checks. *il diags Machine Design* 30:114-16 Ag 21 '58

Automatic sorting technique slashes handling costs; photoelectric cells and microswitches; Lever Brothers' process lines. E. F. Hanford. *il diag Plant* 13:45-7 O '58

Chips flushed from parts in seconds. *il diag Am Mach* 102:141 My 5 '58

Coded mail sorting; illustrations with text. *Elec Eng* 71:730-1 Ag '58

Conveyor sorts vari-sized packages. *il Plant Eng* 12:107 S '58

Letter sorting machine. *il Engineer* 206:260-2 Ag 15 '58

Mail sorter. *diag Electronics* 31:65 Ap 25 '58

Mail sorter borrows computer methods; Pennsylvania railroad's 30th street station. Philadelphia. *il diag Control Eng* 5:21 Je '58

Mechanized letter sorting; electromechanical machine with electronic memory. *il diags Electronic & Radio Eng* 35:390-2 O '58

Post office electronic letter sorter. *il Electronic Eng* 30:548 S '58

Post office letter sorter. *il Engineering* 186:243-4 Ag 22 '58

Printed circuits for Canadian post office's; electronic postal sorting machinery. *il Electronic Ind* 17:63+ S '58

Sizes 3,800 lemons a minute. M. Johnson, jr. *il Food Eng* 30:101 Je '58

Sort peas, beans, nuts by color electronically. *Product Eng* 29:20 Ag 25 '58

Sorting unit set for British post office. *Electronics* 31:14 S 12 '58

This conveyor looks and remembers; electro-automated sorter-conveyor at Railway Express terminal. *il Mill & Factory* 63:132+ S '58

U.S. automatic letter sorter. *Engineering* 186:149-50 Ag 1 '58

SOULE, Lawrence Clement

Obituary. *por Heating-Piping* 30:145 F '58

SOUND

Acoustics and lighting. G. W. Clark. *diags Illum Eng* 55:93-9; Discussion. 99-102; *Rec.* 102 F '58

Conversion chart; pressure to pressure level. L. S. Goodfriend. *Noise Control* 4:58 Jl '58

Effect of sound on heterogeneous catalysis. H. B. Wiener and P. W. Young. *bibliog diags J Ag Chem* 3:336-41 My '58

Unsolved problems in acoustics; Acoustical society of America 54th meeting, Ann Arbor, Oct. 27; abstracts of papers. *Phys Today* 11:14-17 Ag '58

See also

Acoustics, Architectural
Amplifiers
Echo
Hearing
Pitch (sound)
Soundproofing
Speech
Tones
Vibration

Absorption

Acoustical plenum chambers. R. J. Wells. *bibliog il diags Noise Control* 4:9-15 Jl '58

Moving air absorbs sound. *Arch Rec* 124:228 Ag '58

See also

Sound absorbent materials
Ultrasonic waves—Absorption

Apparatus

Acoustic cavity detects breaks in film. E. L. Withey and R. G. Seed. *il diag Electronics* 31:50-1 Mr 28 '58

Acoustic radiator for high-intensity noise studies. *il Elec Manuf* 62:9 S '58

Avco noise-maker will assist in missile-rocket tests. *il Product Eng* 29:17 Je 30 '58

Component failures in acoustic environment. *diags Elec Manuf* 61:10-11 Ap '58

Develop noise generator for lab use. *Ind Lab* 9:42 Mr '58

Don't forget the simple sound-level meter. R. W. Young. *bibliog Noise Control* 4:42-3 My '58

New products. Published in bi-monthly numbers of Noise control

Noise analysis with the modified sound level indicator. D. M. A. Mercer. *il Noise Control* 4:44-5+ My '58

Seven schools in one city protected by vandal alarm system. J. F. McPartland. *il diags Elec Constr & Maint* 57:98-100 Mr '58

Sonic gas analyzer for measurement of CO₂ in expired air. F. D. Stott. *diags R Sci Instr* 28:914-15 N '57

Study new sound barrier with high-intensity acoustics. W. D. Burton. *Ind Lab* 9:12-16 My '58

Volume unit recorder has standard response. D. H. McRae. *diags Electronics* 31:78+ Ap 25 '58

See also

Audometers
Earphones
Hearing aids, Mechanical
Hydrophone
Interferometers, Sonic
Loud speaking apparatus
Microphones
Phonograph
Reflectoscope
Sonar
Spectrograph, Sonic
Stethoscope

Exhibitions

London audio fair; recent trends in sound reproduction. *il Wireless World* 64:291-3 Je '58

Attenuation

Acoustical plenum chambers. R. J. Wells. *bibliog il diags Noise Control* 4:9-15 Jl '58

SOUND—Attenuation—Continued

- Method for determining the average audible range of a sound signal. J. E. Wesler. *Am Soc Naval Eng J* 70:341-7 My '58
- Silencing air channels; attenuation in rock-wood-lined ducts. A. J. King. *Engineering* 185:29 Ja 3 '58
- Sound propagation outdoors; estimating attenuation. F. M. Wiener. *bibliog diags* Noise Control 4:16-20+ J1 '58

Bibliography

- Books. Published in bi-monthly numbers of Noise control

Measurement

- Analysis of tape noise in a 100-kc bandwidth. R. E. Glendon. *diag Audio Eng Soc J* 6: 35-40; Discussion. 40-1 Ja '58
- Don't forget the simple sound-level meter. R. W. Young. *bibliog Noise Control* 4:42-3 My '58
- Industrial hygienist's part in the solution of the industrial noise problem. W. F. Scholtz. *A M A Archives Ind Health* 16:469-74 D '57
- Loudness, its definition, measurement and calculation. H. Fletcher and W. A. Munson. *diag Audio* 42:32+ Ja; 34+ F '58
- Measurement of industrial noise. K. Eldred. *il Noise Control* 4:40-6+ J1 '58
- New standard on measurement of sound insulation. R. V. Waterhouse. *il Mag of Stand* 29:76-7 Mr '58
- Noise analysis with the modified sound level indicator. D. M. A. Mercer. *il Noise Control* 4:44-5+ My '58
- Noise-measuring and sound-control. E. E. Gross, jr. *bibliog il diags Refrig Eng* 66: 49-53+ My '58
- Portable magnetic tape recorder for acoustical measurements. G. W. Kamperman. *il diags Noise Control* 4:23-7 Ja '58
- Sound propagation outdoors; estimating attenuation. F. M. Wiener. *bibliog diags Noise Control* 4:16-20+ J1 '58
- Sound-survey meter. R. P. Turner. *il diag Radio-Electronics* 29:114-17 F '58
- Techniques for measuring and evaluating noise. J. J. Hamrick. *il Audio Eng Soc J* 6:19-25 Ja '58
- Wow and flutter; measurement in tape recorders. R. G. T. Bennett and R. L. Currie. *il diags Electronic & Radio Eng* 35:162-4 My '58

See also

Sound—Velocity

Recording and reproducing

- About music. H. Lawrence. Published in monthly numbers of Audio
- Comb filters, anyone? N. H. Crowhurst. *Audio* 42:17+ Je '58
- Electronic music. *il Engineering* 185:160 Ja 31 '58
- Les Paul, technician and musician. E. Leslie. *il Radio-Electronics* 29:38-9, cover O '58
- London audio fair; recent trends in sound reproduction. *il Wireless World* 64:291-3 Je '58
- New system of sound recording. H. C. Harrison. *diags Audio* 42:34+ My '58
- Radio show review; sound receivers and reproducers. *il Wireless World* 64:480-3 O '58
- Some observations on reproduced sound in an automobile. B. A. Schwarz and D. E. Brinkhoff. *bibliog diags Audio Eng Soc J* 6:58-63 Ja '58
- Sound reproducing systems; monaural, binaural, monophonic, and stereophonic. H. F. Olson. *diags Audio* 42:28+ S '58
- Techniques for measuring and evaluating noise. J. J. Hamrick. *il Audio Eng Soc J* 6:19-25 Ja '58
- Universal phonograph reproducer. H. A. Henning. *il Audio* 42:40+ Mr '58

See also

- High fidelity sound systems
- Moving picture sound recording
- Moving picture theaters—Sound equipment
- Radio broadcasting—Program recording
- Sound—Stereophonic recording and reproducing

Magnetic recording

- Air force tape recorder has 28 channels. *il Electronic Ind* 17:22 J1 '58
- Ampex A-122 recorder-reproducer. *il diags Audio* 42:43+ Mr '58
- Audio etc. E. T. Canby. *Audio* 42:12+ S '58
- Automatic announcing techniques for television stations; magnetic tape recordings. R. A. Isberg. *il diags SMPTE J* 67:87-91 F '58

- Circuit generates tape stop signal. H. J. Wilhelm. *diag Electronics* 31:116-16 S 12 '58
- Design and performance of magnetic tape recording heads. C. W. Ross. *bibliog diags Brit Inst Radio Eng J* 18:561-60 S '58
- Equalization in tape recorders. H. Burstein. *diags Audio* 42:28-30+ Mr '58
- Error protection. R. S. Houston. *diag Electronic Ind* 16:supO 12 D '57
- Flux sensitive heads for playback in data magnetic-tape recording. *diag Wireless World* 64:329 J1 '58
- Frequency modulator covers 25-75 kc; for use with magnetic tape recorder. P. S. Bangston. *diags Electronics* 31:100+ Ag 1 '58
- How we finish tape recorders. M. Prosk. *il Ind Finishing* 34:50-2+ D '57
- Improving the tape amplifier. H. Burstein and H. C. Pollak. *diags Audio* 42:17-20+ J1 '58
- Is tape the ideal medium for audio? R. H. Snyder. *bibliog Audio Eng Soc J* 6:99-101 Ap '58
- Mirror for the novice flst. W. G. Carter. *il Q S T* 42:50-1 Mr '58
- Phonic generator controls recorder speed. *il Electronic Ind* 17:148-7 Ag '58
- Portable magnetic tape recorder for acoustical measurements. G. W. Kamperman. *il diags Noise Control* 4:23-7 Ja '58
- Recording in the small station. H. Sheets. *diags Electronic Ind* 17:supO 24-5 Mr '58
- Research and progress in exploration. H. F. Dunlap and C. H. Johnson. *il map diags Geophysics* 23:267-84 Ap '58
- Spot tape recorder. *il Electronic Ind* 17:supO 28 Ap '58
- Squelch circuit mutes magnetic tape echoes. I. Cronin. *il diags Electronics* 31:66-7 My 9 '58
- Starting tape driving mechanisms; mechanical design to avoid loop formation and snatching. *diags Wireless World* 64:33-5 Ja '58
- Stereo tape standards; symposium. *Audio Eng Soc J* 6:131-43 Ap '58
- Subjective effects of frequency modulation distortion. P. W. Klipsch. *Audio Eng Soc J* 6:143 Ap '58
- Survey of automation and the applications of tape recording in broadcasting and telecasting; abstract. R. A. Isberg. *Inst Radio Eng Proc* 46:669 Mr '58
- Tandberg model three stereo tape recorder. *il Audio* 42:28+ J1 '58
- Tape cartridge. *Audio* 42:12+ J1 '58
- Tape position indicator; light operated relay system giving accurate location. E. H. Parks. *il diags Wireless World* 64:308-10 J1 '58
- Tape recorder test adapter; illustrations with text. L. B. Hoffman. *Radio-Electronics* 29:38 Ag '58
- Tape recorders grow in business and industry usage. M. M. Badler. *il Ind Phot* 7:22-3+ J1 '58
- Taped talk helps operators learn new power equipment; steam generating plant, Richmond state hospital, Indiana. W. Brenizer. *il Power Eng* 62:77 O '58
- This tape recorder rides planes. *il Product Eng* 29:40 S 1 '58
- Transistor miniature tape recorder; Stuzzi Makette. *il Wireless World* 64:276 Je '58
- Variable-speed scanning of recorded magnetic tapes. W. S. Latham. *il diags Audio Eng Soc J* 6:26-33; Discussion. 33-4 Ja '58
- Wow and flutter; measurement in tape recorders. R. G. T. Bennett and R. L. Currie. *il diags Electronic & Radio Eng* 35:162-4 My '58

See also

- Magnetic tape recording
- Moving picture sound recording—Magnetic recording

Reflection

- Reflection of an acoustic step wave from an elastic cylinder. R. Skalak and M. B. Friedman. *bibliog diags J Ap Mech* 25:103-8 Mr '58
- Reflection of sound from a surface of saw-tooth profile. J. M. Proud, jr. and others. *diag J Ap Phys* 28:1298-301 N '57
- Reflection of sound waves at an oblique shock. C. T. Chang. *diag J Aeronautical Sci* 25:70-1 Ja '58

Stereophonic recording and reproducing

- Amplifiers for stereo. H. Burstein. *diags Radio-Electronics* 29:40-5 O '58
- Artificial stereophonic effect obtained from a single audio signal. M. R. Schroeder. *diags Audio Eng Soc J* 6:74-9 Ap '58

SOUND—Stereophonic recording and reproducing—Continued

- Audio etc. E. T. Canby. Audio 42:12+S '58
Available stereophony. Engineering 186:576 My 2 '58
Big stereo push coming. Electronics 31:14 Ag 15 '58
Binaural and stereophonic sound in retrospect. W. H. Offenhausser, Jr. Audio Eng Soc J 6:67-9 Ap '58
Compact two-channel amplifier for stereo systems. C. G. McProud. II diag Audio 42:54+ Ag '58
Compact ultra-linear speakers for stereo. V. Brocner. II diag Audio 42:38+ Ag '58
Compatible stereo disk uses f-m multiplexing. J. B. Minter and J. H. McConnell. II diag Electronics 31:55-7 Je 6 '58
Convert your Colloare to stereo. S. G. Neufeld. II diag Audio 42:42 Ag '58
Crystal gives low-cost stereo. diags Electronics 31:102+S 26 '58
Expand-to-stereo unit. II diags Radio-Electronics 29:36 II '58
Four-track stereo tapes coming. II Radio-Electronics 29:29 JI '58
H. H. Scott model 135 Stereo-Daptor. II Audio 42:39-40 My '58
Improvements in and relating to sound-transmission, sound-recording and sound-reproducing systems; British patent specification 394,325. A. D. Blumlein. diags Audio Eng Soc J 6:91-8+ Ap '58
Madison Fielding series 320 stereo amplifier. Audio 42:42+S '58
Manufacture of a high-quality cartridge. R. E. Carlson. II diags Audio 42:30-2+ Ag '58
New discs and stereo tapes reviewed. C. Santon. Radio-Electronics 29:41 Mr; 43 Ap; 46-7 My; 43 Je; 35 JI; 38-9 Ag; 45 S; 51 O '58
New Isodyne phase splitter. E. F. Worthen. diags Audio 42:26-7 Ag '58
News for the audiophile: Minter compatible stereo disc system. H. Burstein. diags Radio-Electronics 29:38-9 Ap '58
Play-back preamp for stereo tapes. A. C. Moller, Jr. II diags Radio-Electronics 29:37 Ap '58
Possible simplification of stereophonic audio systems. A. Sobel. Inst Radio Eng Proc 46:1428 JI '58
Ready for stereo? D. C. Hoefler. diags Radio-Electronics 29:36-7 O; 92+N; 50-1 D '58
Sound reproducing systems; monaural, binaural, monophonic, and stereophonic. H. F. Olson. diags Audio 42:28+S '58
Sounds for two ears. Engineering 185:224 F 14 '58
Speaker system for the stereo age. A. S. Hegeman and N. Eisenberg. II diags Radio-Electronics 29:42-4, cover S '58
Stereo boosts hi-fi market. Electronics 31:17 Je 27 '58
Stereo compatibility translator. H. M. Honig. diag Audio 42:24-5+ Ag '58
Stereo phasing problem. C. G. McProud. diags Audio 42:38+S '58
Stereo phono cartridges. J. D. Hirsch. II diags Radio-Electronics 29:37-9 S; 48-50 O; 83+N '58
Stereo pickup review; with specification chart. II Audio 42:90-1 Ag '58
Stereo-reverberation. R. Vermeulen. II diags Audio Eng Soc J 6:124-30 Ap '58
Stereo tape standards; symposium. Audio Eng Soc J 6:131-43 Ap '58
Stereophonic recording and playback amplifier. W. B. Denny. II diags Audio 42:24-7+S '58
Stereophonic sound reproduction in the home. H. F. Olson. bibliog diags Audio Eng Soc J 6:80-90 Ap '58
Stereophonic sound with two tracks, three channels by means of a phantom circuit (2PH3). P. W. Kipsch. bibliog diags Audio Eng Soc J 6:118-23 Ap '58
Stereosonic recording and reproducing system; a two-channel system for domestic tape records. H. A. M. Clark and others. bibliog diags Inst E E Proc 104 pt B:417-30 S '57; Same. Audio Eng Soc J 6:102-15 Ap '58; Discussion. Inst E E Proc 104 pt B:430-2 S '57; Audio Eng Soc J 6:115-17 Ap '58
Tandberg model three stereo tape recorder. II Audio 42:28+ JI '58
Tape cartridge. Audio 42:12+ JI '58
Tracing distortion in stereophonic disc recording. M. S. Corrington and T. Murakami. diags RCA R 19:216-31 Je '58
Unganged stereo. E. T. Canby. Audio 42:12+ Ag '58

Variable stereo suppression control. J. E. D'Errico. diags Audio 42:23+ Ag '58
Westrex Stereodisk system. C. C. Davis and J. G. Frayne. bibliog II diags Inst Radio Eng Proc 46:1686-93 O '58

See also

Phonograph records—Stereophonic records
Radio broadcasting—Stereophonic programs

Transmission thru sea water

Technical aspects of sound, volume II, Ultrasonic range, underwater acoustics. E. G. Richardson, ed. Review, by C. M. McKinney. Noise Control 4:52 Ja '58

See also

Sonar

Velocity

Method of measuring sound velocity amplitude in tubes over the audio and near ultrasonic range. K. Landecker and K. S. Imrie. diags R Sci Instr 29:396-8 My '58

SOUND absorbent materials

Absorption as a noise control measure in an industrial plant. C. L. Coyne. plans diags Noise Control 4:47-52 Mr '58
Acoustical materials for use in monumental spaces. W. R. Farrell. II Noise Control 4:32-9 Ja '58
Flock, a sound deadener for window balance springs. T. P. Koebel. II Ind Finishing 34:42-4+ Mr '58
Give your noise problems the acoustical treatment. I. P. Yerges. II diags Safety Maint 116:23-31 JI '58

Standards

New standard on measurement of sound insulation. R. V. Waterhouse. II Mag of Stand 29:76-7 Mr '58

SOUND laboratories

Chamber of horrors; portable anechoic chamber. E. T. Canby. Audio 42:12+ Ap '58
Elliott co. lab permits studies, improvements in noise levels. II Elec World 149:76 Ap 14 '58
Investigating fan noise; Keith Blackman acoustics laboratory. II Engineering 184:696 N 29 '57
Laboratory for study of fan acoustics. Engineering 204:680 N 8 '57
Low-cost sound lab. Elliott co. II diag Product Eng 29:91 Ap 28 '58
Million dollars worth of silence; Thomas A. Edison acoustical research laboratory. II Elec World 149:69 Mr 3 '58
New mobile laboratory; Building research station acoustics laboratory. F. H. Parkin. II plan Engineer 205:463-4 Mr 28 '58

Equipment

Facilities for the Westinghouse power-transformer sound room. T. R. Specht. II Noise Control 4:10-13+ Ja '58

SOUND waves

Apparatus for the measurement of the velocities of sonic pulses in flawed materials. R. F. Seaborne and N. B. Terry. Engineering 186:179 Ag 3 '58
Directivity effect of elongated charges. A. W. Musgrave and others. II diags Geophysics 23:81-96 Ja '58
Sonic sudden enlargements. R. H. Page. bibliog diag Jet Propulsion 28:256-7 Ap '58
Standing waves in listening rooms; aural effects under steady state and transient conditions. J. Moir. diags Wireless World 64:254-9 Je '58
Teaching of standing waves. J. Rekveld. Am J Phys 26:159-63 Mr '58

See also

Resonance
Shock waves
Ultrasonic waves

Industrial applications

Formation evaluation by sonic logging. W. P. Biggs. diags Pet Eng 30:B76-9 JI '58
Growth of sonics in industry; abstract. R. L. Rod. Combustion 29:59 Ag '57
Sonic pump is ready. II Oil & Gas J 56:66-7 JI 7 '58
Sonic waves may upgrade uranium ore. Product Eng 28:22 D 16 '57
United Specialties new filter machines use sonic principle. Ind Lab 9:95 Ap '58

Measurement uses

Method of continuous measurement of heart diameter utilizing sonic energy. L. S. Higgins and others. diag R Sci Instr 29:71-2 Ja '58

SOUNDING

- Marine Sonoprobe system, new tool for geologic mapping; low-frequency seismic system. C. D. McClure and others. *bibliog* *il* maps diags *Am Assn Pet Geologists Bul* 42: 701-16 *Ap* '58
- Recent underwater surveys using low-frequency sound to locate shallow bedrock. W. O. Smith. *bibliog* *il* maps diags *Geol Soc Bul* 69:69-97, pl 1-3 *Ja* '58
- Underwater acoustic echo-ranging. J. W. R. Griffiths. *bibliog* *diag* *Electronic & Radio Eng* 35:29-32 *Ja* '58

SOUNDPROOFING

- Are your cooling towers noisy? *il* *Power Eng* 61:78-9 *D* '57
- Sound deadening by insulated porcelain-enamel panels. H. R. Spencer. *Prog Arch* 39:132 *Jl* '58
- See also
- Sound—Absorption

SOUTH

- See also
- Chemical industries—Southern states
- Gasoline industry—Southern states
- Irrigation—Southern states
- Mineral industries—Southern states

SOUTH AFRICA

- See also subdivision South Africa under special subjects, e.g.
- Bridges
- Chemical engineering
- Electric railroads
- Engineering
- Manganese mines and mining
- Mines and mineral resources
- Railroads
- Steel industry and trade
- Water supply

SOUTH AMERICA

- See also
- Petroleum industry and trade—South America
- Railroads—South America

SOUTH DAKOTA

- See also
- Atomic power plants—South Dakota
- Geology—South Dakota
- Mines and mineral resources—South Dakota
- Petroleum industry and trade—South Dakota
- Water supply—South Dakota

Sanitary affairs

- Waste stabilization ponds. D. C. Kalda. *il* *Pub Works* 89:178-80 *Je* '58

SOUTH POLE

- See also
- Antarctic exploration

SOUTHAMPTON, England**Harbor**

- Designing and building the model. H. J. Sara. *il* *diag* *Engineering* 185:199-201 *F* 14 '58
- Southampton port operation service. *il* *map* *Engineer* 205:133-5 *Ja* 24 '58
- Tidal model for Southampton water. *il* *map* *Engineering* 185:198-9 *F* 14 '58
- Tidal model of the port. *Engineer* 205:293 *F* 21 '58
- Watching the ships go by. *il* *map* *Engineering* 185:156-7 *Ja* 31 '58

SOUTHEAST

- See also
- Gas, Natural—Southeastern states
- Petroleum industry and trade—Southeastern states

SOUTHEASTERN electric exchange

- Annual meeting, 25th, Boca Raton. *Elec World* 149:102 *My* 5 '58
- Engineering and operating section meeting, Biloxi. *Miss. Elec World* 149:55-7 *Je* 16 '58

SOUTHEASTERN gas association

- Annual meeting, 20th, Raleigh. *Sept.* 17-19. *Gas Age* 122:17-18 *O* 16 '58

SOUTHERN gas association

- Annual meeting, 50th, Dallas. *April* 28-30. *Gas Age* 121:40+ *My* 29 '58
- Golden anniversary in a golden age. C. M. Smith. *Gas Age* 121:25-6+ *Ja* 9 '58

SOUTHERN textile association

- Eastern Carolina division meeting, Raleigh. *N.C. Textile Ind* 122:111+ *Ja* '58

SOUTHWEST

- See also
- Ceramic industries—Southwestern states

SOYBEAN meal

- Demand for soybean protein greatly expanded. R. D. Willemin. *Am Oil Chem Soc J* 35:sup8 *Mr* '58

- Properties of the toxic factor in trichloroethylene-extracted soybean oil meal. T. A. Seto and others. *bibliog* *J Agri & Food Chem* 6:49-54 *Ja* '58
- Report on fats and oils; soybean meal comparisons. R. D. Willemin. *Am Oil Chem Soc J* 35:sup6-7 *S* '58

SOYBEAN oil

- Bleaching of soybean oil; a spectrophotometric evaluation. M. R. Armstrong and C. E. Ireland. *bibliog* *Am Oil Chem Soc J* 35:425-8 *Ap* '58
- Correlation of chromatographic absolute loss determinations with the A.O.C.S. cup refining method in soybean oil. E. Sipos. *Am Oil Chem Soc J* 35:233-6 *My* '58
- Relationship of polymorphism to the texture of margarine containing soybean and cottonseed oils. D. R. Merker and others. *bibliog* *il* *Am Oil Chem Soc J* 35:130-3 *Mr* '58

SOYBEANS

- Changes in the composition of soybeans on sprouting. L. L. McKinney and others. *bibliog* *Am Oil Chem Soc J* 35:364-6 *Jl* '58
- Galactomannan from soy bean hulls. R. L. Whistler and J. Saarnio. *bibliog* *Am Chem Soc J* 79:6055-7 *N* 20 '57

Analysis

- Modified indophenol-xylene extraction method for the determination of ascorbic acid in soybeans. F. B. Weakley and L. L. McKinney. *bibliog* *Am Oil Chem Soc J* 35:281-4 *Je* '58

SPACE (architecture)

- Acoustical materials for use in monumental spaces. W. R. Farrell. *il* *Noise Control* 4: 32-9 *Ja* '58
- Frank Lloyd Wright, master of architectural space. P. Blake. *il* *plan diags Arch Forum* 109:120-5+ *S* '58
- Interior space ordered for exterior vistas. *il* *plan* *Prog Arch* 39:118-21 *My* '58
- Space expanded and enclosed for use flexibility. *il* *plan* *Prog Arch* 39:104-9 *My* '58
- Space extended upward and outward. *il* *plans* *Prog Arch* 39:122-6 *My* '58

SPACE, Interstellar

- Blueprint for space research. H. E. Newell, Jr. and K. R. Stehling. *Aviation Age* 28:28-9+ *Mr* '58
- Electron plasma in space? W. H. Pickering. *Electronics* 31:14+ *Jl* 18 '58
- Electronics in space; editorial. H. Gernsback. *Radio-Electronics* 29:31 *Ja* '58
- Gearing up to conquer space. *Electronics* 31: 15-16 *Mr* 7 '58

- Introduction to outer space; extracts from An explanatory statement prepared by President Eisenhower's science advisory committee. J. R. Killian, Jr. *Metal Prog* 74: 76-7 *Jl* '58

- Radio engineering use of the Cayley-Klein model of three-dimensional hyperbolic space. E. F. Bolinder. *bibliog* *diag Inst Radio Eng Proc* 46:1650-1 *S* '58
- Report satellite findings. *Machine Design* 30: 6+ *Ag* 7 '58

- Role of manned balloons in the exploration of space. M. D. Ross and M. L. Lewis. *bibliog* *map* *diag Aero/Space Eng* 17:45-52+ *Ag* '58

- Space challenge to electronics. D. Flickinger. *Electronics* 31:14+ *Mr* 14 '58
- Space technology spurs new development philosophies; interview with G. F. Metcalf. *il* *Gen Eng* 31:13-14 *S* '58

- Where does outer space begin? *Product Eng* 29:10 *Je* 2 '58

SPACE and time

- Structure of space in which we live and gravity. C. Hlavaty. *Aeronautical Eng R* 17:25-9 *Ap* '58

- SPACE chambers.** See Testing laboratories—Vacuum chambers

SPACE charge

- Analogue solution of space-charge regions in semiconductors. L. J. Gioacetto. *il* *diags Inst Radio Eng Proc* 46:1093-5 *Je* '58
- Diode space and space charge. P. A. Clavier. *Inst Radio Eng Proc* 46:318-19 *My* '58
- Effect of space charge on electric breakdown of sulfur hexafluoride in nonuniform fields. D. Berg and C. N. Works. *bibliog* *diags Power Apparatus & Systems* p820-3 *O* '58

- New applications of impedance networks as analog computers for electronic space charge and for semiconductor diffusion problems. G. Česnosnik and others. *bibliog* *il* *diags Inst Radio Eng Proc* 46:863-77 *My* '58
- Parametric amplification of space charge waves. W. H. Louisell and C. R. Quate. *bibliog* *diags Inst Radio Eng Proc* 46:707-16 *Ap* '58

SPACE charge—Continued

- Space charge as a source of flicker effect. C. S. Bull. bibliog diags Inst E E Proc 105 pt B:190-4 Mr '58
- Space-charge-balanced hollow beam with uniform charge distribution. M. Chodorow and C. Süsskind. diag Inst Radio Eng Proc 46: 497-8 F '58
- Space charge calculations for semiconductors. R. Seiwatz and M. Green. bibliog J Ap Phys 29:1034-40 JI '58
- Space-charge grid high-transconductance guns. P. H. Gleichauf. diag Inst Radio Eng Proc 46:142 Ag '58
- Technique of simulation of space charge in an electrolytic tank; abstract. G. Brewer. Instruments & Automation 31:1549 S '58
- SPACE flight**
- Aerodynamics in space travel. F. W. Ross. diags Am Soc Naval Eng J 70:439-42 Ag '58
- Aggressive space program is needed. W. B. Bergen. Aviation Age 28:15 Mr '58
- Air for space travelers. D. C. Wallis. Aviation Age 30:158-9 JI '58
- Aircraft firms gird for space travel. II Product Eng 28:21-2 My '58
- Apparent weightlessness calls for new design approach. J. Makowski. diags Aviation Age 30:196-200+ S '58
- Astronautic system. II Engineering 184:802-4 D 27 '57
- Astronautics symposium. 2d. Denver. April 28-30. Aero/Space Eng 17:10-11, 13 JI '58
- Business implications of future space flight systems. W. H. Dorrance. bibliog II Aeronautical Eng R 17:20-3 F '58
- Departure and return in interplanetary flight. K. J. Bossart. diags Aero/Space Eng 17: 44-52 O '58
- Development of manned space flight; chart. diags Aviation Age 28:14-20 Mr '58
- Disclose test equipment for tomorrow's space craft; GE space tools include plasma jet, shock tunnel. II Machine Design 30:14-15 JI 24 '58
- Earth-moon rocket trajectories. L. Gold. diags Franklin Inst J 266:1-8 JI '58
- Evolution of the air-space industry; editorial. O. R. Cook. Aero/Space Eng 17:28-9 Ag '58
- Experts predict space travel in 20 years. Product Eng 28:109 D 9 '57
- Feeding man during space flights; symposium. bibliog II Food Tech 12:429-63 S '58
- For a trip to the moon; nuclear rockets compared with chemically fueled rockets. C. R. Lewis. diags S A E J 66:85 JI '58
- From aviation to astronautics. J. E. Allen. II map diags Roy Aeronautical Soc J 62: 615-32 bibliog(p630-2) S '58
- Future space vehicles promise long-range weather forecasts. Machine Design 30:26 Mr 6 '58
- Guidance for the space age. C. J. Mundo and E. W. Toohar. II Aero/Space Eng 17:30-3 S '58
- How to find thermal equilibrium in space. R. E. Hess and A. E. Weller. diags Aviation Age 30:174-80 Ag '58
- How to lighten the load; abstract. E. E. Sechler. Product Eng 29:10 My '58
- Hydrox cells and nuclear energy for spacecraft auxiliary power units. C. F. Drexel. II diags Aviation Age 30:140-3 JI '58
- Ike wants space agency created out of NACA. Product Eng 29:22 Ap 21 '58
- Inertial system bridges missile-space-flight; illustrations and drawings with text. B. Kovit. Aviation Age 30:194-5 S '58
- Internal combustion engine has space potential. D. Mackay. Product Eng 29:26 My 19 '58
- Interplanetary communication; abstracts of two papers. H. E. Prew; P. A. Castruccio. Inst Radio Eng Proc 46:792 Ap '58
- Interplanetary communication and navigation. P. A. Castruccio. diags Westinghouse Eng 18:88-92 My '58
- Inter-planetary flight; abstracts of two papers. Y. Khlebtsevitich; G. Chebotarev. Eng J 41:88 Mr '58
- Interplanetary travel will require nuclear propulsion. T. F. Nagey. S A E J 66:79-80 My '58
- Look at metalworking's space markets. II Steel 142:60-1 Ap 28 '58
- Man's first space flight due during '59. II Iron Age 181:58-9 Ap 3 '58
- Mar's moons first? II Ind & Eng Chem 50:sup28A+ Ap '58
- Materials for a space traveller. R. A. Jones. Metal Prog 74:78-82 JI '58
- Meteoritic hazards to space flight; abstract. N. H. Langton. Engineering 186:164 F 7 '58
- Missile-launched manned space capsule. R. Hawthorne. diags Aviation Age 30:172-3 Ag '58
- Moon looks promising as manned space station. K. R. Stehling. II diags Aviation Age 29:22-3+ Mr '58
- Moon refueling for interplanetary vehicles. K. R. Stehling. II diags Aviation Age 30:22-3 Ag '58
- New engineering regime; orbit mechanics. K. E. Gray. Aviation Age 29:174-8+ Je '58
- New frontier, space; abstract. G. G. Quarles. Tool Eng 41:228-9 S '58
- Observations made during Manhigh II flight. D. G. Simons. Jet Propulsion 28:521-2 Ag '58
- Operation Manhigh II. O. C. Winzen and D. P. Parks. bibliog II diags Jet Propulsion 28:523-32 Ag '58
- Our moon won't be first stop. J. Schilt. Product Eng 29:14 Mr 10 '58
- Our philosophy of space missions. K. A. Ehrlicke. II Aero/Space Eng 17:38-43 My '58; Discussion. 17:25 Ag '58
- Preliminary considerations on the instrumentation of a photographic reconnaissance of Mars. J. H. Lanning, Jr. and others. II diags Mech Eng 80:74-6 O '58
- Reliability seen key to space. Electronics 31: 8+ JI 4 '58
- Small power plants for use in space; chemical, solar, and nuclear. L. Rosenblum. bibliog II(cover) diags Aero/Space Eng 17:30-3+ JI '58
- Solar sailing; a practical method of propulsion within the solar system. R. L. Garwin. diags Jet Propulsion 28:188-90 Mr '58
- Some problems of the dynamics of flight to the moon; abstract. V. A. Yegorov. II Engineering 184:642-3 N 22 '57
- Soviet scientist sees need for manned station in space; abstract. N. A. Varvarov. Aero/Space Eng 17:27 S '58
- Space exploration regional meeting. San Diego, Aug. 5-6. Aero/Space Eng 17:23+ O '58
- Space feeding challenges food engineers. R. G. Tischer. Food Eng 30:49-50 S '58
- Space flight at two million miles an hour; abstracts of two papers. W. H. Bostick; E. W. Herold. Elec Eng 77:663 JI '58
- Space flight; special report. II Aviation Age 28:24-112 Mr '58
- Space technology and the NACA; editorial. H. L. Dryden. Aeronautical Eng R 17:32-4+ Mr '58
- Space technology tools. G. F. Metcalf. Franklin Inst J 266:250-1 S '58
- Spacecraft air conditioning. F. H. Green. II Aviation Age 29:174-9 My '58
- Spacemen reveal plans. II Electronics 30:30 D 20 '58
- Spending on space; millions of dollars for years to come. A. N. Weckler. Aviation Age 29:14 Je '58
- Technologists create foods for air- and spacemen. J. V. Ziembra. II Food Eng 30:50-3 Mr '58
- There'll be some changes made as US readies for space age. Am Mach 102:138-9 F 24 '58
- Thin pressurized shells look best for space structures. J. S. Lewin. Aviation Age 29: 178-9+ Ap '58
- Top scientists bullish on space program. A. N. Weckler. Aviation Age 29:14 My '58
- Transfer between vehicles in circular orbits. B. H. Palewsky. bibliog diags Jet Propulsion 28:121-3 F '58
- USSR talks up space plans. Electronics 31:17 My 30 '58
- Upper atmosphere atomic-oxygen power plant. S. T. Demetriades. J Aero/Space Sci 25:653-4 O '58
- Where will electric power come from in space ships? J. Gustavson. diags Aviation Age 29:186-9 Ap '58
- See also**
Rocket propulsion
United States—National aeronautics and space administration
- Medical aspects**
- Interrelations of space medicine with other fields of science. H. Strughold. Aeronautical Eng R 17:30-2+ Ap '58
- Physiological aspects**
- Design for living in outer space; man and dog. II Product Eng 28:24-5 D 2 '57
- Environment of space in human flight. C. A. Berry. bibliog Aeronautical Eng R 17:35-8+ Mr '58
- Getting man into space. W. A. Orr and J. W. Tucker. flow diag Aviation Age 28:30-1+ Mr '58

SPACE flight—Physiological aspects—*Cont.*
Human factors in space flight, E. B. Koneccki, bibliog. il diag Aero-Space Eng 17:34-40+ Je '58

Man into space, R. L. Steadfield, il diag Machine Design 30:22-5+ Mr 20 '58

Space flight; human factors, K. J. K. Buettner, il Aviation Age 28:78-82, 86+ Mr '58

Bibliography

Space feeding problems; a bibliography, J. G. Hodgson and R. G. Tischer, Food Tech 12:459-63 S '58

Terminology

Talk of the universe, Product Eng 28:23 D 2 '57

SPACIFICATORS

High-frequency semiconductor spaciator tetrodes, H. Statz and others, bibliog diags Inst Radio Eng Proc 45:1475-83 N '57

SPAHN, Charles E.

Sketch, por Oil & Gas J 55:307 D 30 '57

SPAIN

See also

Chemical engineering—Spain

SPARE parts, See Repair parts

SPARK, Electric, See Electric spark

SPARK cutting, See Electric cutting

SPARK generators, See Radio generators

SPARK plugs

Manufacture

Controls up output; static control brings about a 10 to 15 per cent increase in production on a sparkplug assembly machine at General Motors' AC spark plug div, il Steel 142:123 An 7 '58

How AC turns out top grade spark plugs, il Cer Ind 69:34-7 N '57

SPARROW I, See Guided missiles

SPEAKERS, See Public speaking

SPEARMINT oil

Cineole in spearmint oil; abstract, P. Z. Bedoukian, Drug & Cosmetic Ind 83:90 J1 '58

SPECIAL weeks and days, See Advertising campaigns—Special weeks and days

SPECIALIZATION in education

Specialization in education and industry; abstract, E. Roscoe, Inst E E Proc 105 pt B: 118-19 Mr '58

SPECIALIZATION in industry

Can you afford that special? variations from manufacturer's standards make costs soar, Mod Materials Handling 13:101-3 S '58

Specialization in education and industry; abstract, E. Roscoe, Inst E E Proc 105 pt B: 118-19 Mr '58

SPECIALTY printing, See Printing, Specialty

SPECIFIC gravity

Air density determination by observation of a satellite, R. E. Roberson, Jet Propulsion 28: 330-1 My '58

Chart for viscosity-gravity constant, Pet Eng 30:E 1g My '58

Comparisons of materials; specific gravity, Materials in Design Eng 48:3 Mid-O '58

Continuous measurement of liquid density, A. Linford, il diags Ind Chem 34:481-8 S '58

Density and resistivity changes in Au-Cd upon quenching, W. J. Sturm and M. S. Wechsler, J AP Phys 28:1509-10 D '57

Density of reservoir crude oil, with reference to the calculation of bottom hole pressures, D. E. Bunyan and others, Inst Pet J 44: 65-70 Mr '58

Density studies on the function of rare-earth ions in glass matrices, R. C. Vickery and R. Sedlacek, bibliog Am Cer Soc J 41:422-6 O 1 '58

Densometer, new tool for drillers; measuring fluid density of cement and drilling mud, il diag Oil & Gas J 55:70-1 J17 '58

Effect of oxide additions on sintering of magnesia, J. W. Nelson and L. B. Cutler, bibliog Am Cer Soc J 41:406-9 O 1 '58

Effect of site and spacing on the specific gravity of wood of plantation-grown red pine, B. A. Jayne, bibliog Tappi 41:162-6 Ap '58

Eliminating air bubbles in measuring density, S. N. Srivastava, bibliog Chem Eng 65:150 F 10 '58

Equilibrium weight of fibers immersed in water as a method for quick consistency determinations, D. A. Feigley, jr, bibliog il Tappi 41:sup 194A-5A Mr '58

Factors affecting density transients in a fluidized bed, J. M. Dotson, diags Chem Eng Prog 54:188+ My '58

Falling-drop timing circuit with automatic reset, D. J. Fisher, diag Anal Chem 30:308 F '58

Gamma density controls extraction column, B. G. Ryle, il diags Chem Eng Prog 53:551-5 N '57

Get maximum accuracy from your dip-tube level and density systems, M. J. Kelly, diags Control Eng 5:79-80 Ag '58

In-place density tests of cohesionless course-grain base-course material, D. F. Griffin, il AS T M Bul 331-3 My '58

Interrelationship between density and dielectric strength of high pressure polyethylene for high voltage applications in insulated wires, A. S. Silver, bibliog Wire & Wire Prod 33:70-2+ Ja '58

Lead-acid storage batteries; changes in positive active material density during various conditions of service, J. F. Dittmann and J. F. Sams, il Electrochem Soc J 105:553-5 O '58

Method for the rapid and precise determination of the densities of liquids, L. Gaines, jr and C. F. Rutkowski, bibliog diag R Sci Instr 29:509-10 Je '58

Molecular interactions at high densities, L. Jansen, bibliog Ind & Eng Chem 49:2031 D '57

Natural variation in wood specific gravity of loblolly pine, and an analysis of contributing factors, B. J. Zobel and R. L. McElwee, bibliog map diags Tappi 41:158-61 Ap '58

Portable liquid density instrument employing transistors, C. W. Hargens, il diags R Sci Instr 28:921-3 N '57

Process control methods in the chlorination of benzene, R. A. Troupe and J. J. Palmer, bibliog flow sheet Anal Chem 30:129-31 Ju '58

Relative density and shear strength of sands, T. H. Wu, bibliog map diags Am Soc C E Proc 83 [ISM 1 no 1161]:1-23 Ja '57; Discussion, 83 [ISM 3 no 1319]:31-3 J1 '57; Reply, 84 [ISM 1 no 1559]:5-6 F '58

Resistivity and density of polycrystalline yttrium iron garnet, L. G. Van Uitert and F. W. Swanekamp, J AP Phys 28:1513-14 D '57

Simple density apparatus, J. W. Smith, diag Chem & Ind p855-6 J1 12 '58

Specific gravity of a neutral sulphate spent liquor; data sheet, Tappi 41:sup 139A Mr '58

Use specific gravity like molarity, C. L. Murray, Chem Eng 65:155 O 6 '58

Variation in the specific gravity of slash pine-wood and its genetic and silvicultural implications, T. O. Perry and W. C. Wu, bibliog Tappi 41:178-80 Ap '58

Wolfe density indicator, S. E. Wolfe, il diag Can Min & Met Bul 51:245-7 Ap '58

See also

Gravimeters

Hydrometers

Pycnometers

SPECIFIC heat

Adiabatic vacuum calorimeter from 600° to 1600° C; specific heats of titanium, 44 per cent Cr-Fe alloy, and a low-alloy steel, I. Backhurst, bibliog diags Iron & Steel Inst J 189:124-21 Je '58

Bromine; the heat capacity and thermodynamic properties from 15 to 300°K, D. L. Hildenbrand and others, bibliog Am Chem Soc J 80:4129-32 Ag 20 '58

Enthalpy and heat capacity from 0° to 900° C of three nickel-chromium-iron alloys of different carbon contents, T. B. Douglas and A. W. Harman, J Res Nat Bur Stand 60:563-8 Je '58

Heat capacities, entropies and enthalpies of tantalum between 12 and 550°K, K. F. Sterrett and W. E. Wallace, Am Chem Soc J 80:3176-7 J1 5 '58

Heat capacities of sodium tetraborate on the basis of the theory of the specific heat of chain structures, V. V. Tarasov, bibliog Am Chem Soc J 80:5052-5 O 5 '58

Heat capacity, heat of fusion, heat of transition and heat of vaporization of chlorodifluoromethane between 16°K and the boiling point, E. F. Neilson and D. White, bibliog Am Chem Soc J 79:5618-21 N 5 '57

Heat capacity ratios; five hydrocarbons, J. Joffe and B. G. Delaney, bibliog Chem Eng 65:138-41 Mr 24 '58

Heat content and vapor pressure of H₂O₂, D. J. Simkin and C. O. Hurd, Chem Eng 65: 155-6 Ja 13 '58

SPECIFIC heat—Continued

- Heat of hydration of sodium sulfate; low temperature heat capacity and entropy of sodium sulfate decahydrate. G. Brodale and W. F. Glaueque, *bibliog Am Chem Soc J* 80:2042-4 My '58
- He³ cryostat for measuring specific heat. G. Seidel and P. H. Keesom, *bibliog diags R Sci Instr* 29:306-11 J '58
- Low temperature heat capacities and entropies at 298.15°K. of some oxides of gallium, germanium, molybdenum and niobium. E. G. King, *bibliog Am Chem Soc J* 80:1799-800 Ap '58
- Modification of Rüdhardt's experiment. R. W. Christy and L. M. Rieser, jr. *diags Am J Phys* 26:37-8 Ja '58
- Perchloryl fluoride; vapor pressure, heat capacity, heats of fusion and vaporization failure of the crystal to distinguish O and F. J. K. Schrier and W. F. Glaueque, *Am Chem Soc J* 80:2659-62 Je '58
- Polynomial expressions for the specific heat and Prandtl number of air. D. W. Boeke-meier, *J Aero/Space Sci* 25:958-9 O '58
- Semiflexible method for the determination of the heat conductivity, the specific heat, and the viscosity of gases. S. Arajs and S. Legvold, *J Ap Phys* 29:1001 Je '58
- Specific heat of plutonium metal. D. J. Dean and others, *Inst Metals J* 86:464 Je '58

SPECIFIC surface

- Determination of the specific surface of different modifications of silica; comparison of results by different methods. J. Cartwright and others, *bibliog J Ap Chem* 8:259-64 Ap '58
- Measurement of the specific surface area of fine powders; a comparison of the gas-adsorption and air-permeability methods. D. H. Mathews, *bibliog J Ap Chem* 7:610-13 N '57
- Specific surface of aggregates related to compressive and flexural strength of concrete. B. G. Singh, *Am Concrete Inst J* 29:897-907 Ap '58; Discussion, 30:1373-8; Reply, 1373-81 pt 2 D '58

SPECIFIC volume

- Changes in the specific volume of rubber during elongation. A. B. Kusov and others, *bibliog Rubber Chem & Tech* 31:513-18 J '58
- Specific volume and degree of crystallinity of semicrystalline poly(chlorotrifluoroethylene), and estimated specific volumes of the pure amorphous and crystalline phases. J. D. Hoffman and J. J. Weeks, *bibliog J Res Nat Bur Stand* 60:465-79 My '58

SPECIFICATIONS

- Analyzing specifications and designing circuits. B. Beizer and S. W. Leibholz, *diags Elec Manuf* 62:100-9 J '58
- Are your specs realistic? N. C. Turner, *Oil & Gas J* 56:123-6 Ap '58
- Guide to materials standards and specifications. S. P. Kaidanovsky, *Materials in Design Eng* 47:96-10 Mr '58; 110-14 Ap, 110-13 My; 113-17 Je; 48:93-5 J '58
- Role of the process engineer in developing equipment specifications. C. H. Brooks, *Pet Eng* 30:C 14 Ap '58
- Shop practice standards take the guesswork out of blueprint specifications and tolerances. J. A. Chingas, *diags Machine Design* 30:92-5 My '58

- Statistics build precision and economy into material specifications. H. R. Sheppard and H. Ginsburg, *Product Eng* 29:76-6 Ag '58

See also

- American society for testing materials
- Standards, Engineering
- also subdivision Specifications under special subjects, e.g.
- Airplane engines
- Airplanes
- Airplanes, Military
- Automobile engines
- Bolts and nuts
- Bridges
- Castings
- Concrete
- Construction equipment
- Control equipment
- Crystal diodes
- Diesel engines
- Diesel engines, Automotive
- Electronic apparatus and appliances
- Gas engines
- Gas turbines, Aircraft
- Gearing
- Grouting
- Helicopters
- Internal combustion engines
- Motor boat engines, Outboard
- Motor buses

- Motor trucks
- Motor trucks, Military
- Motor vehicles
- Paint
- Pipes, Steel
- Piping (power plants)
- Road rollers
- Roads
- Springs (mechanism)
- Tractors
- Transistors

Bibliography

- Indexes to national standards and specifications. *Materials in Design Eng* 47:100 Mr '58

SPECTACLES

- See also
- Lenses, Contact
- Sun glasses

SPECTROGRAPH

- Analyze for these metals; automatic Spectro-Lecteur. *Il Eng & Min J* 158:122 N '57
- Automatic Spectro-Lecteur; -first, instantaneous, direct-reading spectrograph. *Il diags J Metals* 10:44-5 Ja '58
- Bad work detective; Uster evenness tester with spectrograph. *Il Textile Ind* 122:76-8 Ja '58
- Grating polychromator analyzes steel. *Il Mech Eng* 80:99 Ap '58
- High-speed shutter for spectrographs. W. H. Wurster, *Il R Sci Instr* 28:1093-4 D '57
- Introduce European direct-reading analyzer; Automatic Spectro-Lecteur. *Il Light Metal Age* 15:18-19 O '57
- Measurement of spectral line intensities by microphotometry of the photographic plate. D. R. Curry, *bibliog Metallurgia* 57:162-3 Mr '58
- Reflecting curved-crystal X-ray spectrograph; a device for the analysis of small mineral samples. I. Adler and J. M. Axelrod, *Il diags Econ Geol* 52:694-701 S '57
- Stark-effect, resonant cavity microwave spectrograph. P. H. Verdier, *diags R Sci Instr* 29:646-7 J '58
- 20ft Ebert grating spectrograph. G. W. King, *bibliog Il diags J Sci Instr* 35:11-14 Ja '58
- Ultraviolet normal incidence grating vacuum spectrograph. J. Romand and B. Vodar, *bibliog diags R Sci Instr* 29:732-3 Ag '58
- X-rays, new aid for cement process control; spectrograph; Riverside cement co. W. B. Lenhart, *Il diags Rock Prod* 61:90-3 Mr '58

See also

- Monochromators
- Spectrophotometers

SPECTROGRAPH, Sonic

- Technique for the rapid analysis of whistlers; sound spectrograph. J. K. Grierson, *bibliog diags Inst Radio Eng Proc* 45:806-11 Je '57; Discussion, R. C. Moody, 46:782 Ap '58

SPECTROGRAPHY

- Analysis of dried plant material by X-ray emission spectrograph. C. S. Brandt and V. A. Lazar, *bibliog J Agri & Food Chem* 6:306-9 Ap '58
- Automatic computer program for the reduction of routine emission spectrographic data. F. W. Anderson and J. H. Moser, *Anal Chem* 30:879-81 My '58
- Certain rare earths in purified thorium and uranium preparations; chemical isolation and spectrographic determination. C. Feldman and J. Y. Ellenberg, *bibliog diags Anal Chem* 30:418-22 Mr '58
- Determination of microgram quantities of potassium by X-ray emission spectrography of ion exchange membranes. P. D. Zemany and others, *bibliog Anal Chem* 30:299-300 F '58
- Direct ultramicrospectrography. T. O. Caspersson, *Franklin Inst J* 265:432-3 Mr '58
- Electrode holder for the porous cup technique of spectrographic analysis. G. W. J. Kingsbury and A. Fursey, *diags J Sci Instr* 35:350-1 S '58
- Spectrograph attachment for high speed cameras. D. P. C. Thackeray, *bibliog Il diags J Sci Instr* 35:248-52 J '58
- Spectrographic analysis of silicon-germanium alloys. M. C. Gardels and H. H. Whitaker, *bibliog Anal Chem* 30:1496-8 S '58
- Use of an electro-optical method to determine detonation temperatures in high explosives. F. C. Gibson and others, *bibliog Il J Ap Phys* 29:628-32 Ap '58
- SPECTROHELIOGRAPH**
- Amateur scientist; spectrohelio graph to observe details on the disk of the sun. C. L. Stong, *Il diags Sci Am* 198:126-8+ Ap '58
- SPECTRO-LECTEUR.** See Spectrograph

SPECTROMETERS

- Accelerating components in particle spectrometers. H. Mendelowitz. *R Sci Instr* 29:701-3 Ag '58
- Airborne infra-red solar spectrometer. J. T. Houghton and others. *bibliog diags J Sci Instr* 35:329-33 S '58
- Amateur scientist; high-school students constructed a beta-ray spectrometer. *diags Sci Am* 199:197-8+ S '58
- Automatic frequency control for a marginal-oscillator magnetic absorption spectrometer. A. W. Nolle and H. L. Henneke. *diags R Sci Instr* 28:930-2 N '57
- Automatic spectrometer using interference filters. E. Rohner and M. J. O. Strutt. *bibliog diags R Sci Instr* 28:1074-8 D '57
- Design for a multi-channel infra-red spectrometer using transistor electronics. D. G. Avery and R. C. Bowes. *diags J Sci Instr* 35:212-16 Je '58
- Electron absorption spectrometer using an improved velocity analyzer. L. Marton and J. A. Simpson. *diags R Sci Instr* 29:567-70 J '58
- Electronics aids in metal studies. *Electronics* 31:26 Ap '58
- Fast sodium iodide spectrometer and its application to millimicrosecond time measurement. L. E. Berlin and others. *bibliog diags R Sci Instr* 29:753-7 S '58
- Gas-recoil fast neutron spectrometer. R. E. Benenson and M. B. Shurman. *bibliog diags R Sci Instr* 29:1-9 Ja '58
- High-frequency modulation system for the Varian EPR spectrometer. R. G. Bennett and others. *il diag R Sci Instr* 29:659-60 J '58
- High-resolution grating spectrometer for the infra-red region. M. A. Ford and others. *bibliog il diags J Sci Instr* 35:55-8 F '58
- Improved nuclear magnetic resonance spectrometer. J. M. Mays and others. *diag R Sci Instr* 29:300-2 Ap '58
- Limiting resolution of electron spectrometers. L. Marton. *R Sci Instr* 29:438-40 My '58
- Microwave spectrometer for the study of free radicals. L. R. Hurle and T. M. Sugden. *bibliog diags J Sci Instr* 35:319-23 S '58
- Modulation pickup in nuclear magnetic resonance rf spectrometers. G. B. Robinson and F. E. Geiger, jr. *diag R Sci Instr* 29:730-1 Ar '58
- NaI summing spectrometer. P. Shapiro and R. W. Higgs. *bibliog diag R Sci Instr* 28:939-41 N '57
- On-stream control with an infrared analyzer. L. W. Adams and others. *diags Control Eng* 5:84-5 J '58
- Photoprotein scintillation spectrometer. A. Whetstone and others. *diags R Sci Instr* 29:415-19 My '58
- Simplified wide-range spectrometer constructed at the National chemical laboratory. Teddington. *Chem & Ind* p948 J '58
- Small infrared spectrometer. J. U. White and others. *il diags R Sci Instr* 29:611-16 Je '58
- Suppressing side-band interference in super-regenerative rf spectrometers. C. Dean and M. Pollak. *diags R Sci Instr* 29:630-2 J '58
- Use of 8 spectrometers with linearly increasing magnetic field. G. A. Groma and E. F. Poczta. *diag R Sci Instr* 29:442-3 My '58
- Versatile magnetic resonance spectrometer. J. A. Cowen and W. H. Tantilla. *il diags Am J Phys* 26:381-5 S '58

SPECTROMETERS, Gamma ray

- Determination of radionuclides in low concentrations in water. B. Kahn and S. A. Reynolds. *bibliog Am Water Works Assn J* 50:513-20 My '58
- Double γ -ray spectrometer for coincidence counting of positrons. J. W. Weale. *bibliog diag J Sci Instr* 35:297-9 Ag '58
- Use of the gamma spectrometer in the identification of radionuclides in water. G. R. Hagee and others. *il diags Am Water Works Assn J* 50:621-7 My '58

SPECTROMETERS, Mass. See Mass spectrometers

SPECTROMETERS, Photoelectric

- Spectrochemical analysis of nonmetallic samples: pellet-spark technique with a multi-channel photoelectric spectrometer. W. H. Tingle and C. K. Matocha. *bibliog il Anal Chem* 30:494-8 Ap '58

SPECTROMETERS, Recording

- Electron paramagnetic resonance spectrometer of very high sensitivity. H. Misra. *bibliog diag R Sci Instr* 29:590-4 J '58
- Sensitive, quantitative recording X-ray spectrometer. G. E. B. Barstad and L. N. Refsdal. *bibliog il diags R Sci Instr* 29:343-8 My '58

SPECTROMETERS, X ray

- Compact curved-crystal X-ray spectrometer. L. S. Birks and others. *il diags R Sci Instr* 29:425-6 My '58
- Cooling liquid samples for X-ray fluorescence analysis. W. D. Moak. *il Anal Chem* 29:1906 D '57
- Determination of uranium dioxide in stainless steel; X-ray fluorescent spectrographic solution technique. L. Silverman and others. *Anal Chem* 29:762-4 D '57
- Gearing system for a continually-aligned two-crystal X-ray spectrometer. H. P. Hanson and R. Economy. *diags R Sci Instr* 29:420-2 My '58
- Generalized X-ray emission spectrographic calibration applicable to varying compositions and sample forms. H. D. Burnham and others. *diags Anal Chem* 29:1827-34 D '57
- Improved specimen holder for the focusing-type X-ray spectrometer. M. J. Buerger and G. C. Kennedy. *Am Mineralogist* 43:758-7 J '58
- Sensitive, quantitative recording X-ray spectrometer. G. E. B. Barstad and L. N. Refsdal. *bibliog il diags R Sci Instr* 29:343-8 My '58
- Way to speed analysis; foundry uses X-ray spectrometer to analyze heats. *il Steel* 141:156 D 9 '57

SPECTROMETRIC analysis

- Automatic system for spectrometric data. A S T M Bul p67+ J '58

SPECTROMETRY

- Aromatic types in heavily cracked gas oil fraction; combined use of ultraviolet and mass spectrometry. R. J. Gordon and others. *bibliog Anal Chem* 30:1221-4 J '58
- Beta-excited X-ray sources for scintillation spectrometry calibration. J. G. Kerelakes and others. *bibliog Nucleonics* 16:80-2 Ja '58
- Bigger future for spectrometry. M. F. Hasler. *il Chem & Eng N* 36:72+ Ap 21 '58
- Detection of phthalic acid isomers and benzoic acid in alkylid resins by infrared absorption spectrometry. M. L. Adams and M. H. Swann. *Anal Chem* 30:1322-4 Ag '58
- Determination of uranium-235 by gamma scintillation spectrometry. G. H. Morrison and J. F. Cosgrove. *bibliog Anal Chem* 29:1770-1 D '57
- Direct-reaction analysis of steel solutions using a reservoir-cupped centerpost electrode. L. C. Flickinger and others. *diag Anal Chem* 30:502-3 Ap '58
- Gamma spectrometric and radiochemical analysis for impurities in ultrapure silicon. G. A. Thompson and others. *bibliog Anal Chem* 30:1028-7 Je '58
- Instruments for absorption spectrometry; abstract. R. A. C. Isbell. *diags J Sci Instr* 34:431-2 N '57
- Quantitative spectrometry of aqueous neptunium ions at elevated temperatures and pressures. W. C. Waggener. *Am Chem Soc J* 80:3167-8 Je 20 '58
- Review of fundamental developments in analysis; light absorption spectrometry. M. G. Mellon and D. F. Boltz. *Anal Chem* 30:564-69 bibliog(p563-9) pt 2 Ap '58
- Review of fundamental developments in analysis; nuclear magnetic resonance spectrometry. C. A. Reilly. *bibliog diag Anal Chem* 30:839-48 pt 2 Ap '58
- Spectrometric investigations of *n*-heptane pre-flame reactions in a motored engine. K. J. Pipenberg and A. J. Pahnke. *bibliog diag Ind & Eng Chem* 49:2067-72 D '57
- X-ray fluorescent spectrometric determination of yttrium in rare earth mixtures. R. H. Heidel and V. A. Fassel. *bibliog Anal Chem* 30:176-9 F '58

SPECTROPHOTOMETERS

- Adaptation of the Beckman DU spectrophotometer for work involving large temperature changes of the samples. A. Halperin and A. Braner. *diag R Sci Instr* 28:959-60 N '57
- Diffusion cell scanning attachment for Beckman model DU spectrophotometer. E. Back and others. *il diags Anal Chem* 29:1903-4 D '57
- Fluorescence spectrum attachment for Beckman DU spectrophotometer. J. A. McCarty. *bibliog diag Anal Chem* 30:153-9 Ja '58
- Glass pens for Beckman model DK-2 spectrophotometer. A. C. Arcus. *diags Anal Chem* 30:159-60 Ja '58
- Infrared sees more developments. *il Chem & Eng N* 36:104-7 Mr 3 '58

SPECTROPHOTOMETERS—Continued

Small-volume five-centimeter absorption cell for Beckman spectrophotometers. G. Goldberg and others. *diags Anal Chem* 30:1163-4 J '58

Ultra-micro flame spectrophotometer. D. Exley and D. Sprout. *bibliog diags J Sci Instr* 35:202-6 J '58

SPECTROPHOTOMETERS: Recording

Analysis of rare earth mixtures by a recording spectrophotometer. D. C. Stewart and D. Kato. *bibliog Anal Chem* 30:164-72 F '58

Automatic wave length marker and slit control for the Beckman DU spectral energy recording attachment. J. B. F. Champin and H. N. Dunning. *il diag Anal Chem* 30:306-8 F '58

Recording double-beam attachment for the Unicam type SP500 spectrophotometer. J. L. Hales. *bibliog diags J Sci Instr* 35:142-4 Ap '58

Spectroanalyzer obtains rapid chemical data on substances. *il Elec Eng* 77:560-1 J '58

SPECTROPHOTOMETRY

Anions by spectrophotometry; abstract. A. L. Underwood. *Chem & Eng N* 36:54-5 S 29 '58

Application of near infrared spectrophotometry to the study of the autoxidation products of fats. H. T. Slover and L. R. Dugan, Jr. *bibliog Am Oil Chem Soc J* 35:350-5 J '58

Bleaching of soybean oil: a spectrophotometric evaluation. M. R. Armstrong and C. E. Ireland. *bibliog Am Oil Chem Soc J* 35:425-8 Ag '58

Detection and measurement of hydroperoxides by near infrared spectrophotometry. R. T. Holman and others. *bibliog Am Oil Chem Soc J* 35:422-5 Ag '58

Determination of food tannins by ultraviolet spectrophotometry. J. L. Owades and others. *bibliog J Agri & Food Chem* 6:44-6 Ja '58

Determination of *m*-dinitrophenyl pesticides. C. Menzie. *bibliog J Agri & Food Chem* 6:212-13 Mr '58

Determination of tetrachloro-1,4-benzoquinone (Sperton) residues on food crops. J. R. Lane. *bibliog J Agri & Food Chem* 6:667-9 S '58

Determination of titanium in presence of niobium by differential spectrophotometry. R. A. G. de Carvalho. *bibliog Anal Chem* 30:1124-7 J '58

Determination of unsaturation by near-infrared spectrophotometry. R. F. Goddu. *Anal Chem* 29:1790-4 D '57

Differential spectrophotometric determination of rare earths. C. V. Banks and others. *diag Anal Chem* 30:458-62 Ap '58

Differential spectrophotometric determination of zirconium in presence of hafnium. H. Freund and W. F. Holbrook. *Anal Chem* 30:462-5 Ap '58

Direct spectrophotometric determination of chloride ion in water. P. W. West and H. Coll. *Am Water Works Assn J* 49:1485-92 N '57

Dissociation constant of the cobalt(III) hexammine-sulfate ion pair from spectrophotometry. E. W. Davies and C. B. Monk. *bibliog Am Chem Soc J* 80:5032-3 O 5 '58

Evaluating concentrations of spectrally absorbing vapors in dynamic systems; spectrophotometric techniques and equipment. F. A. Gunther and others. *bibliog il diags Anal Chem* 30:1039-95 J '58

Factors affecting the quality of prepackaged meat; determining the proportions of heme derivatives in fresh meat. H. Broumand and others. *bibliog Food Tech* 12:65-77 F '58

Flame method measures sodium. K. G. Stoffer. *Oil & Gas J* 56:111 F 3 '58

Flame spectrophotometric determination of microgram quantities of magnesium. L. Manna and others. *bibliog Anal Chem* 29:1335-7 D '57

High *p*-*t* spectrophotometry possible. *il Chem & Eng N* 36:55-6 S 22 '58

Indirect ultraviolet spectrophotometric determination of phosphorus. C. H. Lueck and D. F. Boltz. *bibliog Anal Chem* 30:133-5 F '58

Ion exchange-spectrophotometric determination of thorium. O. A. Nietzel and others. *bibliog Anal Chem* 30:1182-5 J '58

Method for the evaluation of the spectral characteristics of color screens. K. Weiss. *diags SMPTE J* 67:605 S '58

Microdetermination of 2,3-dichloro-1,4-naphthoquinone (Phygon) in water. J. E. Newell and others. *bibliog J Agri & Food Chem* 6:669-71 S '58

Quantitative determination of dithiocarbamates and thiuram sulfides: a spectrophotometric method. C. L. Hilton and J. E. Newell. *bibliog Rubber Age* 83:381-4 S '58

Rapid spectrophotometric determination of submilligram quantities of uranium. C. A. Francois. *bibliog Anal Chem* 30:50-4 Ja '58

Review of fundamental developments in analysis; ultraviolet spectrophotometry. R. C. Hirt. *Anal Chem* 30:589-93 *bibliog*(p592-3) pt 2 Ap '58

Separation and spectrophotometric determination of microgram amounts of niobium. G. R. Waterbury and C. E. Bricker. *Anal Chem* 30:1007-9 My '58

Separation by paper chromatography and spectrophotometric determination of trace amounts of cobalt, nickel, copper, and zinc. W. J. F. Jones and others. *bibliog il Anal Chem* 30:463-71 Ap '58

Spectral absorption of asphaltic materials. H. E. Schwyer. *bibliog Anal Chem* 30:205-9 F '58

Spectrophotofluorometry for pesticide determinations. I. Hornstein. *bibliog J Agri & Food Chem* 6:32-4 Ja '58

Spectrophotometric assay for reaction of *N*-ethylmaleimide with sulphydryl groups. E. Roberts and G. Rouser. *bibliog Anal Chem* 30:1231-2 J '58

Spectrophotometric assay for sulphydryl groups using *N*-ethylmaleimide. N. M. Alexander. *bibliog Anal Chem* 30:1292-4 J '58

Spectrophotometric determination of carbonyl oxygen. F. H. Lohman. *bibliog Anal Chem* 30:972-4 My '58

Spectrophotometric determination of chloride in sweat and serum with diphenylcarbazone. J. L. Gerlach and R. G. Frazier. *bibliog Anal Chem* 30:1142-6 J '58

Spectrophotometric determination of copper and zinc in animal tissues. J. T. McCall and others. *Anal Chem* 30:1345-7 Ag '58

Spectrophotometric determination of iron in clay and limestone. P. F. Lott and K. L. Cheng. *Anal Chem* 29:1777-8 D '57

Spectrophotometric determination of iron with ethylenediamine di-*o*-hydroxyphenylacetic acid. A. L. Underwood. *Anal Chem* 30:44-7 Ja '58

Spectrophotometric determination of molybdenum as the quercetin complex in an alpha-benzoinoxime-chloroform-ethyl alcohol medium. G. Goldstein and others. *bibliog Anal Chem* 30:539-42 Ap '58

Spectrophotometric determination of nitrite and thiourea. K. Hutchinson and D. F. Boltz. *bibliog Anal Chem* 30:54-6 Ja '58

Spectrophotometric determination of phosphorus in polyethylene terephthalate. G. Teisel and R. Ehrlich. *bibliog Anal Chem* 30:1146-8 J '58

Spectrophotometric determination of rhodium and platinum in plutonium. M. E. Smith. *Anal Chem* 30:912-13 My '58

Spectrophotometric determination of total gossypol in cottonseed meal and cottonseed meats. F. H. Smith. *bibliog Am Oil Chem Soc J* 35:261-5 J '58

Spectrophotometric determination of 2-(*p*-tert-butylphenoxy)-1-methylethyl 2-chloroethyl sulfite (aramite) residues. M. E. Brokke and others. *bibliog diag J Agri & Food Chem* 6:26-7 Ja '58

Spectrophotometric evidence for enzyme inhibitor complexation. B. L. Vallee and others. *bibliog Am Chem Soc J* 80:397-401 Ja 20 '58

Spectrophotometric investigation in the near ultraviolet of the cobalt(II) monothiooxanate complex. P. Denise and M. Perrier. *bibliog Am Chem Soc J* 80:4194-6 Ag 20 '58

Spectrophotometric investigation of vanadium(V) species in alkaline solutions. L. Newman and others. *bibliog Am Chem Soc J* 80:4491-5 S 5 '58

Spectrophotometric method for the chromatographic analysis of sugars. C. V. Piper and L. J. Bernardin. *Tappi* 41:16-18 Ja '58

Spectrophotometric microdetermination of copper in copper oxides using oxalylhydrazide. G. R. Stark and C. R. Dawson. *bibliog Anal Chem* 30:191-4 F '58

Spectrophotometric quality control of welding glass density. R. H. Peckham. *diag Am Cer Soc Bul* 36:460-3 D 15 '57

Spectrophotometric studies of chelates of 8-quinolinol in some water-miscible organic solvents. W. G. Boyle, Jr. and R. J. Robinson. *bibliog Anal Chem* 30:958-61 My '58

SPECTROPHOTOMETRY—Continued

- Spectrophotometric study of some molybdenum thiocyanate complexes. D. D. Perrin. *bibliog Am Chem Soc J* 80:3540-7 J1 20 '58
- Spectrophotometric study of the interaction of bromine with tetrakis-(*p*-methoxyphenyl)-ethylene. R. E. Buckles and W. D. Womer. *bibliog Am Chem Soc J* 80:5055-8 O 5 '58
- Spectrophotometric study of the stability of lead(IV) in hydrochloric acid solutions. H. G. Heal and J. May. *Am Chem Soc J* 80:2374-7 My 20 '58
- Spectrophotometric study of the system titanium(IV)-peroxide-fluoride. K. Herrington and D. E. Kingsbury. *bibliog Am Chem Soc J* 79:5893-5 N 20 '57
- Steroid-protein interactions: comparison of spectrophotometric and equilibrium-dialysis procedures for determination of binding constants. U. Westphal and others. *bibliog Am Chem Soc J* 80:5135-8 O 5 '58
- Thiocyanate spectrophotometric determination of technetium. C. E. Crouthamel. *bibliog Anal Chem* 29:1756-60 D '57
- Ultraviolet spectrophotometric determination of nitrate; application to analysis of alkaline earth carbonates. R. Bastian and others. *Anal Chem* 29:1795-7 D '57
- Ultraviolet spectrophotometric determination of sulfide, cyanide and fluoride with chloranilic acid. R. J. Bertolacini and J. E. Barney, 2d. *bibliog Anal Chem* 30:202-5 F '58
- Ultraviolet spectrophotometric determination of total pyridines and quinolines in low temperature coal-tar distillates. T. C. L. Chang and C. Karr, jr. *bibliog Anal Chem* 30:371-2 My '58
- Use of substitute standards in infrared differential spectrophotometry. W. H. Washburn and M. J. Mahoney. *bibliog Anal Chem* 30:1053-5 Je '58
- SPECTRORADIOMETERS**
Design and construction of a blackbody and its use in the calibration of a grating spectroradiometer. G. T. Lalos and others. *bibliog Jt diags R Sci Instr* 29:505-9 Je '58
- SPECTROSCOPE**
Investigation of magnetic storms with radio spectroscopy. *Electronic Eng* 30:204 Ap '58
- SPECTROSCOPY**
Application of vacuum ultra-violet techniques to the continuous monitoring of trace concentrations of water in several gases. W. R. S. Garton and others. *bibliog Jt diags J Sci Instr* 34:496-500 D '57
- Applications of infrared absorption spectroscopy to investigations of cotton and modified cottons. R. T. O'Connor and others. *bibliog Textile Res J* 28:382-92, 542-54 My, J1 '58
- Determination of alkylpyridines by infrared spectroscopy; rapid methods of analysis. R. L. Bohon and others. *bibliog (27 ref) Anal Chem* 30:245-51 F '58
- Determination of 1,1'-ferrocene dicarboxylic acid in presence of ferrocene monocarboxylic acid by infrared spectroscopy. E. F. Wolfarth. *Anal Chem* 30:185-6 F '58
- Fast gray wedge analyzer for high input rates. J. T. Flynn and F. A. Johnson. *diags R Sci Instr* 28:367-74 N '57
- High-temperature cell for infrared spectroscopy. A. L. Olsen. *diags Anal Chem* 30:158 Jm '58
- Identification of mixed plasticizers by a combination of chromatography and infrared spectroscopy. M. Cachia and others. *J Ap Chem* 8:291-3 My '58
- Infrared analysis of emulsion polishes. J. E. Murphy and W. C. Schwemer. *bibliog Anal Chem* 30:116-26 Ja '58
- Infrared quantitative analysis data. *Anal Chem* 29:1551-4, 1717-18, 1895-6, 30:155-6, 304-5, 454, 549-50, 1016, 1162, 1303, 1441, 1577 O '57-S '58
- Introduction to analytical spectroscopy. T. H. Zink. *Jt Ind Lab* 9:15-18 S; 116-20 O '58
- Magnetic resonance determines moisture. T. F. Conway and R. J. Smith. *Jt diags Electronics* 31:51-3 F 28 '58
- Microwave-spectroscopy wave-guide Stark cell with high performance capabilities. M. W. P. Strandberg. *diags R Sci Instr* 29: 656-7 J1 '58
- Nuclear resonance spectroscopy; abstract and discussion. R. E. Richards. *Chem & Ind* p 145-6 F 8 '58
- Preparation and use of large KBr discs for absorption spectroscopy. C. J. Timmons. *diag Chem & Ind* p 1110 Ag 23 '58

- Pulsed cyclotron method for 2-25 mev neutron spectroscopy. J. E. Draper. *bibliog diags R Sci Instr* 29:137-42 F '58
- Reactor spectra by pulse method. M. J. Poole. *Nucleonics* 16:106 Je '58
- Review of fundamental developments in analysis: emission spectroscopy. B. F. Scribner. *Anal Chem* 30:596-604 *bibliog (36 ref)* pt 2 Ap '58
- Review of fundamental developments in analysis: infrared spectroscopy. R. C. Gore. *Anal Chem* 30:570-9 *bibliog (p572-9) pt 2 Ap '58*
- Scattered X-rays as internal standards in X-ray emission spectroscopy. G. Andermann and J. W. Kemp. *bibliog Anal Chem* 30:1306-9 Ag '58
- Simple mulling technique for the preparation of samples for infrared spectroscopy. A. Crook and P. J. Taylor. *Chem & Ind* p95 Ja 25 '58
- Spectroscopic assignment of geometrical configuration to rethirins-I. L. Crombie and S. H. Harper. *Chem & Ind* p 1001-2 Ag 9 '58
- Spectroscopic detection of silicon in organic silicon compounds. J. Radell and others. *bibliog Anal Chem* 30:1280-1 J1 '58
- Study of explosions by flash absorption spectroscopy. F. R. Taylor. *Franklin Inst J* 265:501-2 Je '58
- Technical applications of microwave physics. D. J. E. Ingram. *bibliog Jt diags Research* 11:401-7 O '58
- Thermal stability of resins. A. L. Smith and others. *bibliog Ind & Eng Chem* 49:1903-6 N '57
- Vacuum spectroscopy starts to move. *diag Chem & Eng* N 36:58 Mr 17 '58
- Velocity filter for nuclear spectroscopy: crossed magnetic and electric fields. L. H. T. Rietjens and others. *diags R Sci Instr* 29:763-9 S '58
- What nuclear magnetic resonance has to offer. *Jt diag Can Chem Process* 42:89-91 My '58
- SPECTRUM**
Effect of solvent on spectra. E. M. Kosower. *bibliog diags Am Chem Soc J* 80:3253-70 J1 5 '58
- High approximation to relaxation spectra from dynamic measurements. H. Fujita. *bibliog J Ap Phys* 29:943-6 Je '58
- Lamb shift. *diags Electronic & Radio Eng* 35:52-5 F; 89-91 Mr '58
- Spectral characteristics of the radiation emitted by electrons accelerated in a synchrotron. D. H. Tomboulion and D. E. Bedo. *J Ap Phys* 29:804-3 My '58
- Spectral effects in the comparison of scintillators and photomultipliers. R. K. Swank and others. *bibliog diags R Sci Instr* 29: 279-84 Ap '58
- See also*
Light
Mass spectra
Raman effect
Spectrum analysis
Stark effect
Zeeman effect
also subdivision Spectra under special subjects, e.g.
Carbon black
Ferrites
Garnet
Glass
Hydrogen
Manganese ferrates
Methane
Molybdenum
Neutrons
Oxygen
Phenyl compounds
Rhenium
Silicon carbide
Vinyl chloride
Water
- Absorption spectra**
Absorbance of liquid water and deuterium oxide between 0.6 and 1.8 microns; comparison of absorbance and effect of temperature. W. C. Waggener. *bibliog Anal Chem* 30:1569-7 S '58
- Absorption spectrum of carbon black dispersions. A. Voet. *Rubber Age* 82:657-63 Ja '58
- Ion Fe(CNS)₂*; its association constant and absorption spectrum. D. D. Perrin. *bibliog Am Chem Soc J* 80:3552-6 Ag 5 '58
- γ -Keto- and γ -hydroxy- γ -phenylbutyramides; synthesis, absorption spectra and structure studies. N. H. Cromwell and K. E. Cook. *bibliog Am Chem Soc J* 80:4573-7 S 5 '58

SPECTRUM—Absorption spectra—Continued

Relation between the absorption spectra and the chemical constitution of dyes; interaction of direct azo dyes in aqueous solution. M. N. Insoe and others. *bibliog* (30 ref) *J Res Nat Bur Stand* 60:65-83 Ja '58

Studies on aminoanthraquinone compounds; absorption spectra in solution and in the solid state. G. S. Egerton and A. G. Roach. *bibliog* *Soc Dyers & Col J* 74:401-7 My '58

See also

Absorption of rays
Spectrum, Infrared—Absorption spectra
Spectrum, Microwave—Absorption spectra
Spectrum, Ultraviolet—Absorption spectra

Doublets

Relativistic doublets of spectral lines. R. H. Penfield and J. Zatzkis. *bibliog* *diag* *Franklin Inst* 265:117-24 F '58

Resolution of doublet lines in spectra by a Fourier series technique. B. F. Canty and A. D. Franklin. *J Ap Phys* 29:870-1 My '58

Fine structure

Term analysis of the first spectrum of rhenium (Re I); with table of energy levels of the Re atom and table of classified lines of Re I. P. F. A. Klinkenberg and others. *bibliog* *il J Res Nat Bur Stand* 59:319-48 N '57

Intensity

Infrared carbonyl band intensity in some substituted ethyl acetates. T. L. Brown. *bibliog* *Am Chem Soc J* 80:3513-15 Ji '58

Measurement of spectral line intensities by microphotometry of the photographic plate. D. R. Curry. *bibliog* *Metallurgia* 57:162-3 Mr '58

Line breadth

Inhomogeneous broadening of magnetic resonance lines. A. M. Clogston. *J Ap Phys* 29:334-6 Mr '58

Origin of ferromagnetic resonance line broadening in manganese-rich manganese ferrites. S. E. Harrison and others. *J Ap Phys* 29:337-8 Mr '58

Vibrational spectra

Correlation of vibrational band intensities with electrophilic substituent constants. C. N. R. Rao. *bibliog* *Chem & Ind* p391-2 Ji '58

Vibrational spectra and geometrical configuration of 1,3,5-hexatriene. E. R. Lippincott and others. *bibliog* *Am Chem Soc J* 80:2926-30 Je '58

SPECTRUM, Infrared

Cholesteryl esters of long-chain fatty acids; infrared spectra and separation by paper chromatography. J. A. Labarrère and others. *bibliog* *Anal Chem* 30:1466-70 S '58

Infrared emission spectrum of methane at 2.3 microns. E. K. Plyler and L. R. Blaine. *J Res Nat Bur Stand* 59:317-18 N '57

Infrared emission spectrum of silicon carbide heating elements. J. E. Stewart and J. C. Richmond. *bibliog* *diag J Res Nat Bur Stand* 59:405-9 D '57

Infrared quantitative analysis data. *Anal Chem* 28:1551-1571-18, 1895-6, 30:155, 304-5, 454, 549-50, 1016, 1162, 1303, 1441, 1577 O '57-S '58

Infrared spectra of thermally degraded poly(vinyl chloride). R. R. Stromberg and others. *bibliog* *J Res Nat Bur Stand* 60:147-52 F '58

Infrared spectrum, vibrational assignment and spectroscopic entropy of carbonyl chloride. E. Catalano and K. S. Pitzer. *bibliog* *Am Chem Soc J* 80:1054-7 Mr '58

Properties and infrared spectra of ethylenediaminetetraacetic acid complexes; alkaline earth chelates. D. T. Sawyer and P. J. Paulsen. *bibliog* *Am Chem Soc J* 80:1597-600 Ap '58

Review of fundamental developments in analysis; infrared spectroscopy. R. C. Gore. *Anal Chem* 30:570-9 *bibliog* (p572-9) pt 2 Ap '58

Spectra of simple glasses in the infrared range and their relations to the structure of glass; tr. by W. Eitel, V. A. Florinskaya and R. S. Pechenikina. *bibliog* *Glass* *Ind* 39:27-31, 93-6, 151-4+ Ja-Mr '58

Absorption spectra

Applications of infrared absorption spectroscopy to investigations of cotton and modified cottons. R. T. O'Connor and others. *bibliog* *Textile Res J* 28:382-92, 542-54 My, Ji '58

Determination of oxygenated materials as group types by infrared absorption. E. L. Saier and R. H. Hughes. *bibliog* *Anal Chem* 30:513-17 Ap '58

Errors in infrared absorption analysis due to solute-solvent interactions. W. R. Ward and A. R. Philpotts. *bibliog* *J Ap Chem* 8:265-7 Ap '58

Identification of reclaimed oils by statistical discrimination of infrared absorption data. A. Ungar and A. M. Trozzolo. *bibliog* *Anal Chem* 30:187-91 F '58

Improved infrared absorption spectra hygrometer. R. C. Wood. *diag R Sci Instr* 29:36-42 Ja '58

Infrared measurements with a small grating from 100 to 300 microns. E. K. Plyler. *L. R. Blaine. diag J Res Nat Bur Stand* 60:55-7 Ja '58

Infrared spectra of crystalline polyphenyls. J. E. Stewart and M. Hellmann. *bibliog* *J Res Nat Bur Stand* 60:125-36 F '58

Infrared study of some structural changes in natural rubber during vulcanization. F. J. Linnig and J. E. Stewart. *bibliog* (38 ref) *J Res Nat Bur Stand* 60:9-21 Ja '58

Relation between infrared and ultraviolet absorption frequencies. O. Exner and others. *Chem & Ind* p1174-5 S '58

Spectrum and structure of disiloxane. R. F. Curl, jr. and K. S. Pitzer. *Am Chem Soc J* 80:2371-3 My '58

Band spectra

Characteristic infrared absorption bands for substituted furans. A. H. J. Cross and J. H. E. Watts. *Chem & Ind* p1161 S '58

SPECTRUM, Microwave

Absorption techniques as a tool for 21-cm research. A. E. Lilley and E. F. McClain. *bibliog* (25 ref) *diag Inst Radio Eng Proc* 46:221-9 Ja '58

Measurements of planetary radiation at centimeter wavelengths. C. H. Mayer and others. *bibliog* *il diag Inst Radio Eng Proc* 46:260-6 Ja '58

Spectral lines in radio astronomy. A. H. Barrett. *bibliog* (30 ref) *diag Inst Radio Eng Proc* 46:250-9 Ja '58

Absorption spectra

Experimental evaluation of the oxygen microwave absorption as a possible atomic frequency standard. J. M. Richardson. *bibliog* *diag J Ap Phys* 29:137-45 F '58

Micromodulator, device for measuring the intensities of microwave absorption lines. R. D. Mattuck and M. W. P. Strandberg. *bibliog* *il diag R Sci Instr* 29:711-21 Ag '58

Origin of ferromagnetic resonance line broadening in manganese-rich manganese ferrites. S. E. Harrison and others. *J Ap Phys* 29:337-8 Mr '58

SPECTRUM, Shock. See Shock waves**SPECTRUM, Ultraviolet****Absorption spectra**

Abnormal ultraviolet absorption in some heterocyclic systems. V. Georgian. *bibliog* *Chem & Ind* p1480-1 N '57

Application of vacuum ultra-violet techniques to the continuous monitoring of trace concentrations of water in several gases. W. R. S. Gair and others. *bibliog* *il diag J Sci Instr* 34:496-500 D '57

Identification and estimation of phenolic fungicides in mildewproof materials. C. L. Hilton. *bibliog* *Textile Res J* 28:263-6 Mr '58

Raman spectra and ultraviolet absorption of glutathione and possible thiazoline derivative formed from it. D. Garfinkel. *bibliog* *Am Chem Soc J* 80:4833-5 S '58

Relation between infrared and ultraviolet absorption frequencies. O. Exner and others. *Chem & Ind* p1174-5 S '58

Review of fundamental developments in analysis; ultraviolet spectrophotometry. R. C. Hirt. *Anal Chem* 30:589-93 *bibliog* (p592-3) pt 2 Ap '58

Study of explosions by flash absorption spectroscopy. F. E. Taylor. *Franklin Inst J* 265:501-2 Je '58

Ultraviolet absorption spectrum as a criterion of the type of sublimization. S. Riegelman and others. *bibliog* *il J Colloid Sci* 13:208-17 Je '58

SPECTRUM, X ray

Scattered X-rays as internal standards in X-ray emission spectroscopy. G. Andermann and J. W. Kemp. *bibliog Anal Chem* 30:1306-9 *Ag* '58

SPECTRUM analysis

Chemical spectra taped. *il Chem & Eng N* 36: 52 *Ap* 7 '58

Condensed direct current arc excitation for spectrochemical analysis of plant materials. H. E. Braun. *bibliog diag Anal Chem* 30:1076-9 *Je* '58

Electronics aids spectroanalysis. *il Ind Lab* 3:33 *My* '58

Infrared identification of disaccharides. J. W. White, Jr. and others. *bibliog Anal Chem* 30:506-10 *Ap* '58

New electronic spectroanalysis system promises to speed analyses. R. H. Müller. *il diag Anal Chem* 30:sup5A-6A+ *My* '58

Quantitative application of sample dispersion in potassium bromide for infrared analysis of steroids. H. Rosenkrantz and others. *bibliog il Anal Chem* 30:975-7 *My* '58

Quantitative spectrochemical determination of barium and strontium. R. J. Grabowski and R. C. Unice. *bibliog Anal Chem* 30: 1374-9 *Ag* '58

Review of fundamental developments in analysis; emission spectroscopy. B. F. Scribner. *Anal Chem* 30:596-604 *bibliog* (p601-4) *pt* 2 *Ap* '58

Review of fundamental developments in analysis; infrared spectroscopy. R. C. Gore. *Anal Chem* 30:570-9 *bibliog* (p572-9) *pt* 2 *Ap* '58

Spectrochemical analysis of nonmetallic samples; pellet-spark technique with a multichannel photoelectric spectrometer. W. H. Tingle and C. K. Matocha. *bibliog il Anal Chem* 30:494-8 *Ap* '58

Spectrochemical determination of fluorine in porcelain enamel frits. D. C. Spindler and M. F. Smith. *bibliog Anal Chem* 30:1330-2 *Ag* '58

Spectrochemical determination of lead in steel. L. C. Flickinger and others. *Anal Chem* 29:1778-9 *D* '57

Spectrochemical determination of trace impurities in commercial grade ammonium chloride. K. W. Beyer and O. T. Aeppli. *Anal Chem* 29:1779-80 *D* '57

Spectrochemical method for the determination of selenium. C. L. Waring and others. *bibliog Anal Chem* 30:1504-6 *S* '58

Spectrographic analysis of slags. *bibliog diags Iron & Steel Inst J* 139:49-55 *My* '58

Wet ash spectrochemical method for determination of trace metals in petroleum fractions. J. Hansen and C. R. Hodgkins. *bibliog diags Anal Chem* 30:368-72 *Mr* '58

See also

Mass spectrometric analysis
Spectrophotometers

SPECULATION

See also

Futures**SPEECH**

Automatic speech amplitude control. L. R. Battersby. *il diag Electronics* 31:71-3 *My* 23 '58

Experiments with speech using digital computer simulation; abstract. E. E. David, Jr. and others. *il Bell Lab Rec* 36:349 *S* '58

Noise-reducing speech transmission system. *diag Electronic & Radio Eng* 35:274 *Jl* '58

Split-information speech transmission system; Frena; abstract. F. de Jager and J. A. Greefkes. *diags Wireless World* 64:131-2 *Mr* '58

See also

Public speaking

SPEED

Presidential address; influence of speed on transport. C. Edwards. *maps Roy Aero-nautical Soc J* 62:239-48; Discussion. 248 *Ap* '58

See also

Airplanes—Speed
Animal locomotion
Electric motors—Speed
Railroads—Train speed
Velocity

SPEED indicators

Hermetic compressor motor speed indicator. W. W. Sutherland. *il diags Refrig Eng* 66:45-8 *Ja* '58

See also

Accelerometers
Tachometers

SPEED variation

At last! an adjustable-speed drive gives any range at constant hp.; Bullard co. W. M. Stocker, Jr. *il Am Mach* 102:100-1 *Mr* 24 '58
Britain's new variable-speed motor. J. Tunstall. *il diags Product Eng* 29:68-9 *Jl* 7 '58
Combined pulley and gearshift gives 30-to-1 speed range. *il Machine Design* 30:119 *Jl* 10 '58

Controlled acceleration devices. J. R. Eastman. *diags Product Eng* 29:75-80 *Mr* 3 '58
Conveyor drives. R. G. Zilly. *il diags Mod Materials Handling* 13:123-8 *S* '58

Electronic a-c adjustable speed drive; thyristor control. C. Marx and H. Dessmer. *il diags Elec Manuf* 61:148-50 *My* '58

Figuring size of helical gear speed reducers. W. L. Byler. *diags Automotive Ind* 118: 74-5 *My* 1 '58

Formula for epicyclic gear train of large reduction. M. F. Spotts. *diags Product Eng* 28:12 *Mid-O* '57

Geared speed reducer changeable under load. J. B. Popper. *diags Mach* 64:177-9 *Ja* '58

How to choose and use electrical adjustable-speed drives. E. H. Dinger and P. A. Herrman. *il diags Am Mach* 102:97-104 *Jl* 14 '58

Hydro-mechanical drive developed. *Tool Eng* 41:144 *Jl* '58

Induction-motor speed-changing by pole-amplitude modulation. G. H. Rawcliffe and others. *diags Inst E E Proc* 105 *pt* A:411-19 *Ag* '58

Industrial know-how handbook; variable speed drives. *il diags Mill & Factory* 62: PT23-5 *My* '58

Infinitely variable speed drive delivers constant horsepower. *il Mach* 64:125 *Je* '58

Liquid rheostats; an old-timer struts to tackle the big jobs. E. S. Avery. *il diag Power* 101:124-6 *D* '57

Modern adjustable-speed drives for textile machinery; abstract. A. T. Bacheler. *Machine Design* 29:178 *N* 14 '57

Modified adjustable-speed brushless induction motor. A. M. El Gammal. *il diags Power Apparatus & Systems* p431-6 *Ag* '58

Multiple-speed gear reducer adjusts without disengaging. *il diag Product Eng* 28:121-2 *D* 9 '57

New seamless tube mill uses almost 600 double-enveloping gear reducers. *il diag Iron & Steel Eng* 34:186-1 *N* '57

Pneumatic variable-speed pump control. E. R. Forman and W. R. Jensen. *il diags I S A* 9: 5:36-9 *Mr* '58

Pointers on selection of variable speed drives. R. C. Anzell. *il diag Plant* 17:47-9 *Je* '58

Recent applications of hydraulics to steel mill drives. C. R. Taylor. *il diags Iron & Steel Eng* 34:100-7; Discussion. 107-9 *O* '57

Reluctance motors for adjustable frequency drives. C. G. Helmick and A. T. Bacheler. *il diags Westinghouse Eng* 16:118-22 *Jl* '56; Same. *Product Eng* 28:H22-5 *Mid-O* '57; Same *abr. Machine Design* 28:142-4+ *O* 18 '56

Selective speed control. *diag Machine Design* 30:100 *Jl* 10 '58

Speed control of large wind tunnels. L. S. Drake and others. *plan diags Inst E E Proc* 105 *pt* A:204-17; Discussion. 228-32 *Jm* '58

Spindle drive for milling machine; Dominion bridge co. L. Braun. *il diags Ap Hydraulics* 11:66 *Jl* '58

Transductor-controlled variable speed drive; Nevimag. *il Engineer* 206:187 *Ag* 1 '58

Variable speed belt drive. *il Engineer* 205:405 *Mr* 14 '58

Variable-speed control as applied to water pumping. M. H. Owen. *il Am Water Works Assn J* 50:639-44 *My* '58

Variable-speed d-c motor drive employing the Xatron, a grid-controlled mercury arc rectifier. A. J. Humphrey and K. L. Shrier. *bibliog il diags Power Apparatus & Systems* p 1245-51 *F* '58

Variable speed for sewage pumps. R. H. Deurer. *il diags Pub Works* 89:103-5 *S* '58

Variable-speed pulley. *diag Engineering* 186: 165 *Ag* 8 '58

Variable-speed torsional-vibration absorber. C. U. Ip and I. E. Morse. *diags Machine Design* 30:93-5 *Ag* 7 '58

Why adjustable speed drives? production advantages pay for higher cost. J. W. O'Leary. *diags Plant Eng* 12:124-5 *O* '58

See also

Electric motors—Control

SPEEDOMETERS

Speedometer calibration; Ferodo development for use in a moving vehicle. A. D. M. Frood. *Il diags Automobile Eng* 47:524 D '57

Transistorized vehicle speedometer. D. R. Ollington. *Il diags Electronic & Radio Eng* 35:322-4 S '58

SPELTER. See Zinc**SPHAEROTILUS**

Effect of biological imbalance in streams; sphaerotilus natans infestation. W. A. Cawley. *bibliog Il Sewage & Ind Wastes* 30:1174-82 S '58

Slime infestation. literature review; sphaerotilus natans. M. E. Harrison and H. Heukelekian. *Sewage & Ind Wastes* 30:1278-302, 1363 *bibliog*(p 1299-302, 1363) O-N '58

SPHALERITE

Differential thermal analysis of sphalerite. O. C. Kopp and P. F. Kerr. *bibliog Am Mineralogist* 43:732-48 J1 '58

SPHERES

Boundary-layer equation for axially symmetric flow past a body of revolution; motion of a sphere. D. Meksyn. *bibliog J Aero/Space Sci* 25:631-4+ O '58

Contact stresses under combined pressure and twist. M. Hetényi and P. H. McDonald, Jr. *bibliog Il diags J Ap Mech* 26:396-401 S '58

Drag of a sphere at extremely high speeds. V. C. Liu. *diag J Ap Phys* 29:194-5 F '58

Effect of a tangential contact force upon the rolling motion of an elastic sphere on a plane. K. L. Johnson. *bibliog diags J Ap Mech* 25:339-46 S '58

Effect of spin upon the rolling motion of an elastic sphere on a plane. K. L. Johnson. *bibliog diags J Ap Mech* 26:332-8 S '58

Form thick titanium spheres by hot spinning. *Il iron Eng* 180:142-3 D '57

Hypersonic flow around a sphere. R. D. Linnell. *J Aeronautical Sci* 25:6-6 Ja '58

Spherical symmetry in the theory of elasticity. F. Gode. *bibliog diags J Ap Mech* 25:136-40 Mr '58

SPHERICAL aberration. See Aberration (optics)**SPHERICAL surfaces**

General formula for radius of curvature of a spherical surface with a spherometer. S. K. Trikha and A. S. Bhatia. *Am J Phys* 26:193 Mr '58

Opposed tools simultaneously machine hollow hemispheres. *Il Mach* 64:138 Ag '58

Use of the optical path concept in the study of spherical surfaces. D. G. Douglas. *Am J Phys* 26:14-16 Ja '58

SPHEROIDS

Resonant modes of ferromagnetic spheroids. L. R. Walker. *bibliog diags J Ap Phys* 29:318-23 Mr '58

SPHEROMETERS

General formula for radius of curvature of a spherical surface with a spherometer. S. K. Trikha and A. S. Bhatia. *Am J Phys* 26:193 Mr '58

SPHINGOLIPIDES

Biochemistry of the sphingolipides; phytoglycolipide, a complex phytosphingosine-containing lipid from plant seeds. H. E. Carter and others. *bibliog Am Oil Chem Soc J* 35:335-43 J1 '58

SPHINGOSINE

Synthesis of long chain fatty acid amines of sphingosine and dihydrosphingosine. B. Weiss and P. Raizman. *bibliog Am Chem Soc J* 80:4657-8 S '58

Total synthesis of sphingosine. D. Shapiro and others. *bibliog Am Chem Soc J* 80:1194-7 Mr '58

SPICES

Balanced handling trims costs; McCormick co.'s Schilling div. *Il Food Eng* 30:87-8 Mr '58

See also

SPIEGELEISEN

Experimental electric smelting of manganese ores; production of iron, silicospiegeleisen, and portland cement from a low-grade ore. R. A. Campbell and others. *bibliog diag Can Min & Met Bul* 51:283-93 My '58

SPILLWAYS

Artesian aquifer is held down in spillway cut. *Il plan diags Eng* N 160:42-4 F 27 '58

Box Canyon hydroelectric project; main spillway dam. A. P. Geuss. *Il map plan diags Am Soc C E Proc* 84 [PO 3 no 1672]:1-24 Jm '58

Dewatering excavation, low sill structure. Old River, La. C. I. Mansur and R. I. Kaufman. *plans diag Am Soc C E Proc* 84 [SM 1 no 1536]:1-32 F '58

Flow characteristics on the ogee spillway. R. B. Jansen. *diag Am Soc C E Proc* 83 [HY 6 no 1452]:1-11 D '57; Discussion. D. P. Thayer. 84 [HY 6 no 1856]:25-32; Reply. 32-7 N '58

Hydraulic design of stilling basins; short stilling basin for canal structures, small outlet works, and small spillways (basin III). J. N. Bradley and A. J. Peterka. *diags Am Soc C E Proc* 83 [HY 5 no 1403]:1-22 O '57; Discussion. A. R. Thomas. *bibliog 84 [HY 2 no 1616]:33-9 Ap '58; Reply. 84 [HY 5 no 1832]:67-9 O '58*

Loose-rock spillway for low-head dam; enlarging Municipal reservoir at Osceola, Iowa. D. W. Barr and R. W. Rosene. *Il diags Civil Eng* 28:246-7 Ap '58; Discussion. W. F. Emmons. 28:441 Je '58

Study of bucket-type energy dissipator characteristics. M. B. McPherson and M. H. Karr. *bibliog flow diags Am Soc C E Proc* 83 [HY 3 no 1266]:1-18 Je '57; Discussion. 83 [HY 5 no 1417]:33-6 O '57; 84 [HY 1 no 1558]:43-5 F '58; Reply. 84 [HY 5 no 1832]:41-8 O '58

Trajectory bucket-type energy dissipators. E. A. Elevatorski. *bibliog Il diags Am Soc C E Proc* 84 IPO 1 no 1553:1-17 F '58

See also

Stilling basins**Testing**

Field investigations of spillways and outlet works. B. Guyton. *bibliog Il diags Am Soc C E Proc* 84 [HY 1 no 1532]:1-21 F '58

SPIN, Nuclear. See Atomic nuclei—Spin

SPIN of electrons. See Electrons—Spin

SPIN-wave resonance. See Magnetic resonance

SPINDLES (machine tools)

Cam varies spindle speed; illustrations with text. *Product Eng* 29:66 Ja 20 '58

Maintenance of ball bearings on machine tool spindles. R. W. Moran. *Il diags Mach* 64:141-52 Je '58

Minimum diameters of machine spindles at point of mounting for overhung wheels of various diameters and thicknesses operating at speeds up to 9,500 peripheral feet per minute; tabulation; data sheet. *Mach* 64:139 Ag '58

Multiple spindles cut holes faster, cheaper, better. C. Emerson. *Il diags Am Mach* 102:113-28 My 19 '58

SPINE

Pre-employment X-ray survey of the lumbosacral spine in bus drivers. L. Reiner. *bibliog Ind Med* 27:15-17 Ja '58

Preplacement low back X-ray program. W. F. McDonald. *Ind Med* 27:475-6 S '58

See also

Back

SPINELS

Crystallographic and magnetic studies of the system (NiFeO)_{1-x} + (NiMnO)_{4-x}. P. K. Baltzer and J. G. White. *J Ap Phys* 29:445-7 Mr '58

Ionic valences in manganese-iron spinels. A. H. Eschenfelder. *bibliog J Ap Phys* 29:378-80 Mr '58

Olivine-spinel transition in fayalite. A. E. Ringwood. *Geol Soc Bul* 69:129 Ja '58

SPINNERETTES

Manufacture

We can't do without them. L. Levitt. *Il Mod Textiles Mag* 38:50 D '57

SPINNERS

I et spinners spin; discussion. *Textile Ind* 122:171 Je '58

SPINNING

Evaluation of the spinning properties of man-made staple fibers. H. L. Röder. *bibliog Il diags Textile Res J* 28:819-39 O '58

Here are three ways to spin splice-slub yarn. G. B. Peeler. *diags Textile World* 107:130-2+ D '57

How Rhyno-Houser cards and spins Deacon-cotton blends. *Il Textile World* 107:116-19 D '57

How to process Zefran. H. N. Woessner and J. R. Overby. *Il Textile Ind* 122:86-91 Ag '58

No slubbers allowed! silver-to-yarn spinning; Rockford mfg. co. *Il Textile Ind* 122:115-18 Ag '58

Reaction spinning of fibers. H. A. Pohl. *bibliog diag Textile Res J* 28:473-7 Je '58

SPINNING—Continued

Slip-draft vs. apron-draft spinning. Textile Ind 122:165 F '58; Discussion. 122:181+ My '58

See also

Bobbins
Cotton spinning
Nylon spinning
Rayon spinning
Woolen and worsted spinning

SPINNING, Metal. See Metal spinning

SPINNING machinery

Change travelers only as needed. C. H. Ashe. *il* diag Textile Ind 122:107-8 My '58
Changing over to 12x7 roving? R. S. Crosley. Textile World 107:141+ D '57
Coming, better spinning frames. R. E. Pomeranz. Mod Textiles Mag 39:37-8 My '58
Controlled motor heat levels spinning-room temperature; Springs cotton mills heat exhaust system. *il* Textile World 108:59+ My '58

Don't blame the traveler; very little lost twist is traceable to the traveler. M. Chagro. *il* Textile Ind 122:135-6+ Ap '58
How to start up new spinning rings. W. P. Dutemple. Textile World 108:92+ Ja '58
Make twisted novelty yarn on surplus spinning frames. G. B. Peeler. diags Textile World 108:76-8+ Ap '58
Modern spinning machinery slashes yarn labor cost. *il* Textile World 108:54-6 O '58
New type travelers run 19.5 days longer. *il* Textile Ind 122:53 JI '58
Quaker Meadows installs large-package spinning. *il* Textile World 108:80-1 Ja '58
Spinning mills capitalize on modern machines and methods. Textile World 108:39-50 F '58
Spinning tapes and spindles highlight Georgia TOE forum. Textile World 108:58-9 JI '58
Top drive filling. M. Turner. diags Textile Ind 122:129+ S '58
Whitin machine works million-dollar spinning frame. *il* Textile Ind 122:73-6 S '58
Whitin unveils new Piedmont spinning frame. *il* Mod Textiles Mag 39:35-6 S '58

See also

Creeks
Twisting machines

Cleaning

Cleaning and overhauling spotlight Alabama spinning forum; panel discussion. Textile World 107:138-9 D '57
Vacuum ends down collection; yields better yarns. G. A. Archer. *il* Mod Textiles Mag 39:33-4+ Ja '58

Control

Annual saving, \$5,500; mill spinning slub yarns installed tungsten carbide contacts. C. McAlister. *il* Textile Ind 122:177 O '58
Tester for relays on random slubbing device. *il* diags Textile Ind 122:225 O '58

Lubrication

Portland Woolen Mills switches to centralized lubrication; wool spinning frames. C. F. Wagner. *il* Textile World 108:95+ My '58

Maintenance and repair

Cleaning and overhauling spotlight Alabama spinning forum; panel discussion. Textile World 107:138-9 D '57

What is your spinning overhaul cycle? practices reported by Alabama operating executives. Textile Ind 122:79-81 Ja '58

SPINNING of airplanes. See Airplanes—Spinning

SPIRAL gearing. See Gearing, Spiral

SPIRES

Helicopter joins erection crew. N. O. Sautler. *il* Civil Eng 27:876 D '57

SPLINES. See Keys and keyways (machinery)

SPODUMENE

Lithium extraction from run-of-mine spodumene ore. H. J. Andrews. *il* Chem Eng Prog 54:54-5 Ja '58

SPONGE iron. See Iron, Sponge

SPONGE rubber. See Rubber, Sponge

SPONTIN. See Antibiotics

SPOOLING machines

Latest preparatory machines make better yarn packages; spooling, winding, and twisting. *il* Textile World 108:57-8 O '58

Unique spooler cuts yarn handling; Dan River mills, Inc. *il* Textile Ind 122:69-70 Jm '58

SPOROTRICHOSIS

Sporotrichosis as an occupational disease; editorial. Ind Med 27:167-8 Mr '58

SPORTS**See also**

Photography of sports
SPOT tests. See Chromatographic analysis; Microanalysis

SPOT welding. See Electric welding

SPRAY booths. See Paint spraying—Booths

SPRAY drying. See Drying

SPRAY guns. See Spraying apparatus

SPRAY irrigation. See Irrigation, Overhead

SPRAY painting. See Paint spraying

SPRAY residues on fruits and vegetables

Demeton residues in collards, lettuce, and mustard. C. H. Van Middelom and R. E. Wailes. bibliog J Agri & Food Chem 6:594-7 Apr '58

Determination of diphenylamine residues on apples. R. B. Bruce and others. J Agri & Food Chem 6:597-600 Apr '58

Determination of tetrachloro-1,4-benzoquinone (Spergon) residues on food crops. J. R. Lane. bibliog J Agri & Food Chem 6:667-9 S '58

Extension of the residue methods for 1,2-dihydro-3,6-pyridazinedione (maleic hydrazide) and N-1-naphthylphthalamic acid (Alanap). J. R. Lane and others. bibliog J Agri & Food Chem 6:671-4 S '58

Study of exposure to parathion in a greenhouse. D. Culver and others. bibliog *il* A M A Archives Ind Health 18:235-47 S '58

SPRAY towers. See Drying apparatus

SPRAYING and dusting

Gypsy moth case; court refuses to enjoin mass spraying of DDT, calls spraying a proper use of police power. J Agri & Food Chem 6:496-8 JI '58

Hopper flight by insecticides. *il* J Agri & Food Chem 6:571-2 Apr '58

Wetting agents for agricultural sprays. J. S. Stanley. bibliog Manuf Chem 29:334-6+ 385-8 Apr '58

See also

Airplanes in agriculture

SPRAYING apparatus

Corrosion of spraying and dusting machinery; abstract. R. J. Courshee. Chem & Ind 5:13; Discussion. 5:13-14 My 3 '58

Development and application of spray lubrication. E. J. Gesdorf. *il* plan diags Iron & Steel Eng 35:115-24; Discussion. 124-6 My '58

Fog lubrication of machine tools. D. G. Faust. *il* diag Lub Eng 14:54-7 F '58

Metal spraying pistol. *il* diags Engineer 206:302-3 Ag 22 '58

Some experiments on orifice sprays. W. E. Ranz. bibliog *il* diags Can J Chem Eng 36:175-81 Apr '58

Sprayers can help sell insecticides. P. L. Hauser. *il* Soap & Chem Spec 34:82+ S '58

Spraying of coolants increases tool life. A. Wilcox. *il* Tool Eng 40:111-12 Ap '58

Three-way gun for resin-fiber lamination. *il* Plastics World 16:22 F '58

See also

Containers, Dispensing—Pressurized containers

SPRAYING of plastics. See Plastic spraying

SPRINGFIELD, Missouri**Streets**

Pavement markings improve traffic flow. H. M. DeNoble. *il* Pub Works 89:78 JI '58

SPRINGS**See also**

Hot springs

SPRINGS (mechanism)

Airsprings and their application to automotive, aircraft, and industrial uses. H. H. Deist. *il* diags Rubber World 138:563-70+ JI '58; Same cond. Machine Design 30:141-4+ F '58; Excerpts. Mech Eng 80:61-3 Je '58

Automotive type differential and coil springs applied in lawn mower; illustrations with text. Machine Design 30:126-7 Ap 17 '58

Commonly used spring materials; table. Product Eng 29:B 12 Mid-S '58

Design details of a spring-loaded differential drive for automatic tensioning and take-up in reel mechanisms. G. R. Heidler. *il* diag Machine Design 30:140 Ap 3 '58

SPRINGS (mechanism)—Continued

- Disk springs of reinforced plastics make vibratory feeder last longer; receives citation in *Materials in design engineering competition*. *Il diags Materials in Design Eng* 47:144-6 Ap '58
- Flock, a sound deadener for window balance springs. T. P. Koebel. *Il Ind Finishing* 34: 42-4 Mr '58
- For spring action, which cantilever beam is best? K. Maier. *diags Product Eng* 29:83-7 F 17 '58
- How to pick stainless springs. *Il Steel* 142: 120-1 Je 16 '58
- Mechanical springs; materials, finishes and embrittlement. L. F. Spencer. *bibliog diag Metal Finishing* 56:65-9 F '58
- Now, ceramics that bounce; sintered alumina can provide elastic action at high temperatures. R. H. Rudolph. *Il Product Eng* 29:76 F 3 '58
- Prestressed spring drives camera aid. *Il diag Product Eng* 29:80 J1 7 '58
- Problems in spring making. W. K. Gardner. *Wire & Wire Prod* 33:871 Ag '58
- Selection of steels for springs. H. J. Elmen-dorf. *Il Metal Prog* 73:80-4 Ap '58
- Spring back of coil springs. F. J. Gardiner and H. C. R. Carlson. *diag Mech Eng* 80: 74-6 Ap '58
- Spring clutches for faster response. E. V. Leonard. *diags Product Eng* 29:57-9 Ap 14 '58
- Springs cushion shock loads in gear drive. C. McLaughlin. *diag Mach* 64:157-8 F '58
- Springs fit tight spots. F. Strasser. *diags Steel* 142:148 Mr 10 '58
- Springs in manual circuit breaker automatically control closing speed. *Il diags Machine Design* 29:146-7 D 12 '57
- Statics and dynamics of a helical spring. R. Geballe. *Am J Phys* 26:287-90 My '58
- Torque values of spring wire. *Il Mech Eng* 80: 101 Mr '58
- See also
- Automobiles—Springs and suspension
- Motor trucks—Springs and suspension

Design

- Cantilever springs that roll with the load. J. D. Howell. *diags Product Eng* 29:58-9 J1 7 '58
- Design of helical springs. R. C. Johnson. *diags Machine Design* 30:155-60 S 18 '58
- Design of helical springs for minimum values. R. T. Hinkle and L. E. Morse. *Product Eng* 29:F4-6 Mid-S '58
- How to design multi-rate helical springs. K. A. Fleisher. *diags Product Eng* 29:76-8 Jm 20 '58
- Spring design charts; data sheets. H. J. Boll. *diags Machine Design* 30:137-45 Ap 17; 127-32 My 1 '58
- Tables and equations simplify design of conical-disc springs; data sheet. E. T. Fortini. *diags Machine Design* 30:139-45, cover S 4 '58

Manufacture

- Also interchanges pre-tooled lathes in spring-winding line. J. K. Grusdis. *Il diag Am Mach* 102:102-3 Je 30 '58
- Furnace line speeds spring output; Union spring & mfg. co. *Il Steel* 143:101 Ag 18 '58
- Miller makes heavy springs. M. W. Loveland. *diags Am Mach* 101:126 D 2 '57
- Tables facilitate lathe winding of conical coil springs. G. G. Herzl. *diag Mach* 64: 172 N '57

Specifications

- Functional gaging for flat springs. A. W. Uilmann. *diags Product Eng* 28:76-9 D 9 '57

Testing

- Attachment for comparing springs. F. E. Riley. *diags Power Eng* 61:100 D '57
- Elevated temperature relaxation properties of 17-7 PH stainless steel helical compression springs. M. Clogr. jr. *Il diag Wire & Wire Prod* 33:401-5 Ap '58
- 17 ways of testing springs; drawings with text. C. J. McClintock. *Product Eng* 28: F36-7 Mid-O '57
- Torque values of spring wire recorded. *Il Wire & Wire Prod* 33:545-4 My '58

SPRINKLERS

- Epidemic of enteritis blamed on cross-connection. P. C. Miller and B. Freedman. *Pub Works* 89:150-1 O '58
- Successful control of an extensive lawn-sprinkling load. R. M. Grieve. *Am Water Works Assn J* 50:703-6 My '58

Tell them how, as well as when. *Water Works Eng* 111:662-3 J1 '58

When the heat is on, sprinkling bans make the headlines. *Water Works Eng* 111:849-8 S '58

SPRINKLING systems

- Sprinklers save insurance dollars; Falls steel tube & mfg. co. *Il Steel* 142:86 F 24 '58
- Sprinklers save the headlines of the Pittsburgh post-gazette. *Il Safety Maint* 115:47 Mr '58
- Unsprinklered plants make neither dollars nor sense. R. J. Casey. *Il Plant* 17:27-9 My '58
- Use of automatic sprinkler systems. *Safety Maint* 115:46-7 Mr '58
- Water in modern fire control. M. M. Braidech. *Il diags Am Water Works Assn J* 50:1315-29 O '58

SPROCKETS

- Boron steel sprockets. *Il Foundry* 85:140-1 N '57
- Interrupted sprocket profile for roller-chain applications. *diag Machine Design* 30:122 Je 12 '58
- Modified sprockets cut costs \$1,500; traveling screens for circulating water. W. E. Adams. *diag Elec World* 149:50 Je 2 '58

SPROUTING. See Germination**SPRUCE**

- Biochemistry of sprucewood decay; abstract. O. Gadd. *Il Paper Ind* 39:940 F '58
- Chemical studies on a glucomannan isolated from unbleached Mitscherlich pulp. E. Merler and L. E. Wise. *bibliog (27 ref) diags Tappi* 41:80-6 F '58
- Constitution of the hemicelluloses of sitka spruce (*Picea sitchensis*); composition of the hemicellulose and identification of 2-O-(4-O-methyl-D-glucopyranosiduronic acid)-D-xyllose. G. G. S. Dutton and K. Hunt. *bibliog Am Chem Soc J* 80:4420-2 Ag 20 '58
- High-temperature semichemical pulping of mixed species; abstract. W. Riese. *Paper Ind* 39:802-3 D '57
- Kraft pulping of spruce pine. R. O. Koch and others. *Tappi* 41:349-53 J1 '58
- Storage and its effect on bark stain in sprucewood; abstract. J. Alhojärvi and A. A. Alm. *Paper Ind* 39:726 N '57

SPUR gearing. See Gearing, Spur**SPUTNIK. See Satellites, Artificial****SPUTTERING. See Surface phenomena****SQUALENE**

- Isolation and identification of squalene from cigarette smoke condensate. L. Van Duuren and F. L. Schmitt. *bibliog Chem & Ind* p 1006-7 Ag 9 '58
- 1,2-Methyl shifts in the cyclization of squalene to lanosterol. R. K. Maudgal and others. *bibliog Am Chem Soc J* 80:2589-90 My 20 '58
- Presence of squalene in cigarette smoke. A. I. Kosak and J. S. Swinehart. *bibliog Chem & Ind* p 1007 Ag 9 '58

SQUARE (instrument)

- Sine bar for use with a combination square. H. J. Gerber. *Il diags Mach* 64:198-9 D '57

SQUARE root

- Square root approximation. L. R. Axelrod. *Instruments & Automation* 31:1042 Je '58

SQUIRREL cage motors. See Electric motors, Induction**SQUIRTING cucumbers**

- Constituents of ecballium elaterium L. D. Layie and others. *bibliog Am Chem Soc J* 80:707-14 F 6 '58

STABILENE. See Plastic films**STABILITY**

- See also
- Airplane stability and stabilizers

STABILITY, Chemical. See Chemical stability**STABILIZATION ponds. See Trade waste disposal—Lagoons****STACK, Herbert J.**

- H. J. Stack succeeded by Walter A. Cutter at N.Y.U. safety center. *por Safety Maint* 114:18 O '57

STACKS. See Chimneys**STADIUMS**

- Amphitheaters; civic arena, Los Angeles memorial sports arena. *Il plan Arch Rec* 123:212 My '58
- Amphitheaters; college arena, University of Illinois. *Il plan diags Arch Rec* 123:210-11 My '58
- Amphitheaters; Olympic arena, Rome, Italy, for the 17th Olympiad, 1960. *Il plan Arch Rec* 123:207-9 My '58
- Arena will be a 1,200 ft dia plastic and concrete bowl. *Il Eng N* 160:48-9 Je 5 '58

STADIUMS—Continued

- Auditorium-stadium will have roll-back roof; Pittsburgh. *Il plan diag* Eng N 160:30-2 Ja 30 '58
- Cable-supported roof cuts cost; stadium at Montevideo, Uruguay. *M. Schupack. il diag* Civil Eng 28:248-50 Ap '58
- Los Angeles votes to give Chavez Ravine site to Dodgers for new baseball stadium. *Il Arch Forum* 109:13 Jl '58
- Nervi's olympic dome; Olympic sports palace, Rome. *Il plan diag Arch Forum* 108:82-5 Mr '58
- Progressive Architecture design awards seminar; Olympic arena for 1960 Olympic winter games. *Il Prog Arch* 39:183-4 S '58
- Recreation; design award and citation; Olympic arena for 1960 Olympic games, Sausalito yacht club. *Il plans diag Prog Arch* 39:102-4 Ja '58
- Retractable stainless steel dome to roof Pittsburgh civic arena. *Il Arch Rec* 124:268 S '58
- Sports stadium, Bloomington, Minn. *Il plans diag Prog Arch* 39:96-101 Jl '58

STAGE lighting

- Electric control of stage and television lighting. *F. P. Bentham. il diag* Inst E E E Proc 105 pt A:128-38; Discussion. 138-40 Ap '58

STAINED glass

- Arty plastics; stained glass embedded in glass fiber-reinforced polyester resin. *il Ind & Eng Chem* 49:sup37A-8A N '57

STAINLESS steel. See Steel, Stainless**STAINPROOFING of textiles. See Textile fabrics—Stains****STAINS**

- See also*
Textile fabrics—Stains

STAINS and staining (microscopy)

- Estimation of cortical components in various wools. *W. J. Thorsen. bibliog il Textile Res J* 28:185-97
- Two chemical stains for marking *p-n* junctions in silicon. *P. J. Whoriskey. il J Ap Phys* 29:867-8 My '58

STAINS and staining (wood)

- Color control in finishing furniture. *H. Hardesty. Ind Finishing* 34:35-64 N '57
- Staining yardsticks. *Ind Finishing* 34:108-9 D '57

*See also***Wood finishing****STAIRWAYS, Concrete**

- Circular stairway for University City in El Salvador. *M. Schulz. bibliog il diag* Am Concrete Inst J 29:699-705 F '58

STALEY, A. E., manufacturing company

- Career opportunities. *il Chem & Eng N* 36:58 pt 2 Ja 27 '58

STAMPING

- Brazing salvages cracked stampings. *E. H. Conway. il Steel* 142:110-1 Mr 3 '58
- Chrysler automates new stamping plant. *J. Nieminen. flow charts il Mach* 64:188-93 D '57
- Chrysler boosts stamping capacity. *il Steel* 141:136-7 N 11 '57
- Chrysler's new stamping plant will have 28 major press lines. *J. Geschelin. il Automotive Ind* 113:62-4 Ja '58
- Design guide for stamped gears. *F. Strasser. il diag* Machine Design 29:161-5 D 12 '57
- Designing metal stampings. *J. L. Everhart. bibliog il diag* Materials in Design Eng 48:109-24 S '58 (reprints 35c)
- Dieing machine does many jobs for contract stamper. *W. H. Dutcher, jr. il Iron Age* 181:68-9 Ja 9 '58
- Dieing machines save floor space, handling time at Chrysler's Highland Park plant. *J. I. Reibborg. il diag* Am Mach 102:144-6 My 19 '58
- How to cut stamping costs; tips from Pressed metal institute. *Steel* 142:122-4 F 3 '58
- New plant, new presses stamp Chrysler bodies. *G. H. De Groat. il diag* Am Mach 101:129-34 N 4 '57
- New stampings for a new ride; Chevrolet produces its air suspension parts. *il Iron Age* 181:63 F 27 '58
- Practical manual for stamping design. *C. C. Higgins. il diag* Machine Design 30:101-8 Jl 10; 111-17 Ag 7 '58
- Some practical pointers for designing low-cost stampings. *H. A. Daschner. il Machine Design* 30:141-3 Ap 3 '58
- Stamping the unusual; digit-shaped anodes for numerical indicator tube. *H. W. Bredin. il diag* Mach 64:115-17 Mr '58
- Steel-tube stampings; short cut to complex shapes. *J. F. Hullman. il diag* Iron Age 181:122-5 Mr 6 '58

- Tool up for stamping through use of a die bank. *S. J. Maiorana and F. J. Covelli. il diag* Iron Age 181:83-6 Je 12 '58
- Unusual dies for stamping Constellations; Hoover vacuum cleaners. *il diag* Mach 64:117-22 My '58
- Welded stampings form mounting plates. *il diag* Product Eng 29:68 My 26 '58

STAMPS, Postage. See Postage stamps**STANDARD costs. See Cost accounting—Standard costs****STANDARD frequency radio stations. See Radio stations, Standard frequency****STANDARD oil company (New Jersey)**

- Jersey, Shell are close rivals. *Oil & Gas J* 56:129 Ja 27 '58

STANDARD oil company of Indiana

- Indiana foreign family united. *Oil & Gas J* 56:90 Ag 11 '58
- Standard (Ind.) expands into eastern hemisphere. *Oil & Gas J* 56:76 F 10 '58

STANDARD telephones and cables, Ltd. Seventy-five years in telecommunications. Engineer 206:66 Jl 11 '68**STANDARDIZATION**

- Avoid interchangeable differences. *E. R. Friesth. il Mag of Stand* 29:198-201 Jl '58
- Cost improvement through standardization; panel discussion. *Mag of Stand* 28:360-1 F '57
- Drawing standardization speeds component selection. *F. Kirch. il Elec Manuf* 62:115-16 Jl '58
- How to squeeze out extra profits; Rockwell manufacturing co. *F. R. Magill. il Mag of Stand* 29:70-1 Mr '58
- How to standardize gaging techniques; Argus cameras div. *Sylvania electric products inc. H. O. Lesperance. il Mill & Factory* 62:89-91 Je '58
- How to start a standards program. *D. C. Brand and C. W. Sisler. Chem Eng* 65:141-3 F 10 '58; Same. *il Mag of Stand* 29:96-100 Ap '58
- Industrial standardization for defense; panel discussion. *Mag of Stand* 28:366-9 D '57
- Materials standardization in Argentina. *A S T M Bul* p20-2 My '58
- Partnerships in standardization; purchasing, engineering, and design; panel discussion. *Mag of Stand* 28:362-3 D '57
- Seabees hold standardization seminar, Davisville Center, March 31-April 4. *Mag of Stand* 29:132-3 My '58
- Standardization for technical communication; panel discussion. *Mag of Stand* 28:372 D '57
- Standardization in the nuclear industry. *H. H. Hausner. il Mag of Stand* 29:225-31 Ag '58
- Standardization in your company; panel discussion. *Mag of Stand* 28:364-5 D '57

See also

- American standards association
Electric standards
Fits (machinery)
Preferred numbers
Safety codes
Standards, Engineering

STANDARDIZATION, international organization for. See International organization for standardization**STANDARDS**

- Action on standards. *A S T M Bul* p 15 Ja '58
- ASTM standards approved as American standard by American standards assn. *A S T M Bul* p98-4 F '58
- Are standards important to industry? survey of the month. *Mill & Factory* 62:77-8 Mr '58
- Guide to materials standards and specifications. *S. P. Kaidanovsky. Materials in Design Eng* 47:96-100 Mr; 110-14 Ap; 110-13 My; 113-17 Je; 48:93-5 Jl; 101-3 Ag '58
- National conference on standards. 8th. San Francisco, Nov. 13-15. *Mag of Stand* 28:352-72 D '57
- New tentatives and standards accepted at 61st annual meeting of ASTM. *A S T M Bul* p32-7+ Jl '58
- Organizing for standards. *L. G. Harrison. diag* Machine Design 30:92-3 Jl 10 '58
- Proposed standard for facilities for scientific conferences. *A. T. McPherson. Mag of Stand* 29:202-4 Jl '58
- Radiation standard instrument for intercomparison of national primary standards. *il diag* Safety Maint 115:36-8+ Mr '58
- Standards and the new science of materials. *C. A. Hochwalt. A S T M Bul* p27-9 My '58
- Standards; editorial. *Comp Air Mag* 63:33 Ja '58

STANDARDS—Continued

Standards; management resource for difficult times. L. B. Moore. *Mag of Stand* 29:271-3 S '58

USSR reports on standards. *il Mag of Stand* 29:204-6 J1 '58

See also

Electric standards
National conference on standards
Preferred numbers
Production standards
Quality of products
Radio standards
Safety standards
Standards engineers society
Textile standards
Time standards

also subdivision Standards under special subjects, e.g.

Aeronautics
Aluminum work
Belting
Boilers
Brakes, Electric
Bushings, Insulating
Clothing and dress
Concrete, Reinforced
Concrete construction
Containers (for shipping)
Cranes, derricks, etc.
Crystals, Piezoelectric
Drafting room practice
Electric cables
Electric circuits
Electric distribution
Electric motors
Electric motors, Direct current
Electric substations
Electric transformers
Electric welding, Arc
Electroacoustic transducers
Electronic apparatus and appliances
Extrusion process
Files and filing (documents, etc.)
Flanges
Floors, Concrete
Gas appliances
Gas meters
Glass, Colored
Glassware, Laboratory
Grinding machines
Grinding wheels
Hydrants
Hygiene, Industrial
Insulating materials
Insulation (electric)
Iron
Joists, Steel
Lathes
Lenses
Lighting
Lubrication and lubricants
Machine tools
Machinery
Magnetic tape
Measuring instruments, Electric
Metals, Nonferrous
Moving picture films
Moving picture machines
Moving picture photography
Moving picture sound recording
Moving pictures
Paint, Protective
Paper
Petroleum chemicals
Petroleum products
Phonograph records
Photometry
Pins, Machinery
Pipe fittings
Pipes, Steel
Piping (power plants)
Plastics
Pressure vessels
Pyrometers and pyrometry
Radioactivity
Railroads
Rifles
Rivets
Roads
Roofs, Concrete
Rubber
Rubber goods
Screw threads
Semiconductors
Sewage disposal plants
Shipbuilding
Sound absorbent materials
Steel
Steel, Stainless
Tapping
Taps
Television
Television receiving apparatus
Tools

Trade waste disposal

Valves

Water pipes, Asbestos cement

Water supply

Bibliography

American standards underway. Published in monthly numbers of *Magazine of standards* Indexes to national standards and specifications. *Materials in Design Eng* 47:100 Mr '58
Standards from other countries (cont). *Mag of Stand* 28:342; 29:24-5, 80-1, 111, 143-5, 178-9, 209-10, 275 N '57, Ja, Mr-J1, S '58

History

Through history with standards (cont). *Mag of Stand* 29:79, 152, 177, 208 Mr, My-J1 '58

Argentina

Materials standardization in Argentina. A S T M Bul p20-2 My '58

Great Britain

New British standards. *Chem & Ind* p 1478-9 N 9 '57

STANDARDS, Engineering

Partnerships in standardization; purchasing, engineering and design; panel discussion. *Mag of Stand* 28:362-3 D '57
Putting standards to work; American machine & foundry co. E. Woerter. *Machine Design* 30:94-9 Ag 21 '58
Standardized measurements produce compatible components. W. J. Darmody. *il diag* *Mag of Stand* 29:101-6 Ap '58
Standards for surface irregularities. *diag* *Product Eng* 28:A25-7 Mid-O '57

See also

American standards association
Building—Standards
Electric standards
Fits (machinery)
Standardization
Systems engineering—Standards

Bibliography

Engineering standards. Published in monthly numbers of *Electrical manufacturing*

STANDARDS, Government

Federal government standards index changes. A S T M Bul p73 Ja '58

Government and industry use of national standards; panel discussion. *Mag of Stand* 28:356-7 D '57

STANDARDS, International

International screw thread systems studied. R. P. Trowbridge. *Mag of Stand* 29:266-7 S '58

International standards for motor dimensions set for final approval. M. S. Hancock. *diag* *Elec Manuf* 61:118-22+ Mr '58

International standards for rubber testing. *Engineering* 185:113, 150 Ja 24-31 '58

International work on rubber. R. D. Stiehler. *il Mag of Stand* 29:107-9 Ap '58

Progress in international standards; ISO meetings. Harrogate, June 9-21. *Engineering* 185:157-8 Ag 1 '58

Propose new international mechanical standards. *Am Mach* 102:96 Ag 11 '58

Where international cooperation succeeds. J. M. Bryant. *Mag of Stand* 29:237-8 Ag '58

See also

International organization for standardization
STANDARDS association, American. See American standards association

STANDARDS engineers society

Annual meeting, 6th. New York, Sept. 23-25. *Mag of Stand* 28:336-40 N '57

STANDARDS of length

Inch becomes broad barrier to allied unity; abstract. L. Polk. *Tool Eng* 40:161 Ap '58

Inching up on the inch. P. Anderson. *Product Eng* 29:61+ F 17 '58

Precision measurement; new standards laboratory for testing and certifying master mechanical and electrical measuring devices opened by International telephone and telegraph corp. *il Mill & Factory* 62:268+ Mr '58

STANDING waves. See Sound waves**STANDPIPES**

Safety code for the maintenance of standpipe and hose systems. *il Safety Maint* 115:55-7 Ja '58

STANLEY, William

Sketch. E. S. Barr. *Am J Phys* 26:119 F '58

STANNATES

Solubility relationships in hydrogen peroxide solutions containing pyrophosphate and stannate inhibitors. G. Hood and others. *Ind & Eng Chem* 50:1211-12 Ag '58

STANNIC chloride. See Tin chlorides

STANNOSIS. See Lungs—Dust diseases

STAPHYLOCOCCI

American hospital association's report on prevention and control of staphylococcal infections in hospitals. *Am J Pub Health* 48: 1071-4 Ag '58

Effects of unipolar air ions on microorganisms and on evaporation. A. P. Krueger and others. *bibliog diag Franklin Inst J* 266:9-19 J1 '58

Germicides versus antibiotics and chemotherapeutics in the control of resistant staphylococcal infections of the skin. S. M. Peck and I. Kantor. *bibliog il Am J Per-fumer & Aromatic* 72:27-31 J1 '58

Kanamycin stops staph. *diag Chem & Eng N* 36:24 J1 28 '58

National conference to combat hospital acquired staphylococcal disease. Atlanta, Ga. Sept. 15-17. *Soap & Chem Spec* 34:99+ O '58

Prevention and control of staphylococcus infections in hospitals. E. L. Crosby. *Ind Med* 27:393-5 Ag '58

Staphylococcal infections in the hospital and community; symposium. *bibliog il Am J Pub Health* 48:277-318 Mr '58

STAPLES

Staples strengthen corrugated boxes. *il Steel* 142:123-9 F 3 '58

STARCH

Bulk handling system for starch; Consolidated water power & paper co. C. Wittig and F. Kaulakis. *diag Tappi* 40:sup206A-7A D '57

Cornell paperboard products co. uses new method of starch addition. C. H. Fletcher. *il diag Paper Ind* 39:912-15+ F '58

Cuts starch-molding costs. F. Rose. *diag Food Eng* 29:125 N '57

Dispersion of starch granules and the validity of light scattering results on amylopectin. S. R. Erlander and D. French. *bibliog il Am Chem Soc J* 80:4413-20 Ag 20 '58

Electrokinetic changes in the starch medium during zone electrophoresis. I. D. Raacke. *bibliog Am Chem Soc J* 80:3055-60 Je 20 '58

Enzyme converted starches as coating adhesives. M. L. Cushing and C. W. Turner. *bibliog Tappi* 41:345-9 J1 '58

Evaluation of combinations of starches and natural gums as papermaking aids. M. L. Cushing. *bibliog diag Tappi* 41:sup 155A-8A J1 '58

Fingerprinting starch; abstract. B. Carroll and J. W. Liskowitz. *il Chem & Eng N* 36: 44-5 My 5 '58

Further studies on the use of UF concentrate for improving wet rub of starch paper coatings. J. R. Belche, Jr. *il Tappi* 41:318-20 Je '58

Starch derivatives offer savings and processing advantages in textile uses. E. King and G. Wood. *il Textile Ind* 123:105-6 Mr '58

Starch in your wallet; dialdehyde starch. *Chem & Eng N* 35:53-9 D 9 '57

Type, use, and physical properties imparted by starches in wet-end sizing of paper and board. P. J. Shirley, Jr. *Tappi* 41:sup 167A-9A Mr '58

Viscosity behavior; periodate, and hypochlorite-oxidized starches. R. L. Mellies and others. *bibliog Ind & Eng Chem* 50: 1311-14 S '58

See also

Amylopectins

Amyloses

Cornstarch

Potato starch

Analysis

Colorimetric method for determining dialdehyde content of periodate-oxidized starch. C. S. Wise and C. L. Mehlretter. *Anal Chem* 30:174-5 F '58

Polarographic estimation of starch and its application in flotation. S. C. Sun and others. *bibliog Anal Chem* 30:1074-6 Je '58

Transportation

Unique starch handling system: how pellet starch is safely delivered to the Springs cotton mills' plants. *il Textile Ind* 122:111+ My '58

STARK effect

Microwave-spectroscopy wave-guide Stark cell with high performance capabilities. M. W. P. Strandberg. *diag R Sci Instr* 29:656-7 J1 '58

Stark-effect, resonant cavity microwave spectrograph. P. H. Verdier. *diag R Sci Instr* 29: 646-7 J1 '58

STARS

Flux measurements of Cassiopeia A and Cygnus A between 18.5 mc and 107 mc. H. W. Wells. *bibliog diag Inst Radio Eng Proc* 46:205-8 Ja '58

Hydrogen line study of stellar associations and clusters. T. K. Menon. *bibliog diag Inst Radio Eng Proc* 46:230-4 Ja '58

Night vision unit uses starlight; cascaded photosensitive image intensifier. *Electronics* 31:92 S 26 '58

Star sensors for automatic navigation. R. B. Horsfall. *diag Aviation Age* 29:150-2+ Ap '58

Use of radio stars to study irregular refraction of radio waves in the ionosphere. H. G. Booker. *bibliog il diag Inst Radio Eng Proc* 46:298-314 Ja '58; Correction. 46:1085 Je '58

See also

Galactic systems

Meteors

Milky way

Classification

Stellar populations. M. Burbidge and G. Burbidge. *il diag Sci Am* 199:44-50 N '58

STARVATION

Effects of semistarvation on the distribution of erythrocytes and plasma in organs and tissues of the rat. E. P. Lasher and others. *bibliog J Nutrition* 56:317-26 Je '58

Metabolism of serum albumin in man during brief starvation. N. S. Gimbel and C. Riegel. *bibliog Am J Clinical Nutrition* 6:142-5 Mr '58

STATE bonds

Market for tax-exempt bonds. H. L. Severson. *Pub Works* 89:86-7 Ag '58

STATE highway engineers, Western association of

of. See Western association of state highway engineers

STATE highway officials, American association of

of. See American association of state highway officials

STATE highway officials, Western association of

of. See Western association of state highway officials

STATE laws

Role of interim legislative study commissions. T. C. Waters. *A M A Archives Ind Health* 17:453-6 My '58

State legislative action on highways. *Roads & Sts* 101:98-9 Ja '58

Trends in state regulation. Published in bi-weekly numbers of Gas age

STATIC electricity. See Electricity, Static

STATIC switching. See Electric switchgear

STATICS

Statics and dynamics of a helical spring. R. Geballe. *Am J Phys* 26:287-90 My '58

See also

Dynamics

Electrostatics

Hydrostatics

STATION wagons. See Automobiles

STATISTICAL mechanics

See also

Distribution functions

Phase space

STATISTICAL methods

Application of statistical methods in the pulp and paper industry. A. G. Schöning. *Tappi* 41:sup 184A-8A My '58

Application of statistical theory of elastomers to supercontracted keratin fibers. A. R. Haly and M. Feughelman. *bibliog Textile Res J* 27:913-24 D '57

Calculation of energy dissipation by gamma radiation near the interface between two media. M. J. Berger. *bibliog diag J Ap Phys* 28:1502-8 D '57

Carrier-to-noise statistics for various carrier and interference characteristics. K. K. Clarke and J. Cohn. *diag Inst Radio Eng Proc* 46:889-95 My '58

Computers, mathematics, and statistics; annual review. A. Rose and others. *Ind & Eng Chem* 50:512-19 *bibliog* (p518-19) pt 2 Mr '58

Computers permit new statistical analysis concepts to aid design. *Product Eng* 29: 21-2 S 8 '58

Determination of optimum operating conditions by experimental methods; mathematics and statistics fundamental to the fitting of response surfaces. R. A. Bradley. *bibliog Ind Quality Control* 15:16-20 J1 '58

Determination of the 0.02 mm fraction in granular soils. R. W. Johnson. *Am Soc CE Proc* 83 [SM 3 no 1309] 1-10 J1 '57; Discussion. H. Y. Fang. 83 [SM 4 no 1430] 35-42 N '57

STATISTICAL methods—Continued

- Effect of fading on the accuracy of measurement of ionospheric absorption. R. W. Meadows and A. J. G. Moorat, bibliog Inst E E Proc 105 pt B:27-32 Ja '58
- Estimating structural box weight. L. D. Green and J. C. Mudar, bibliog Aeronautical Eng R 17:48-50 F '58
- Fatigue tests proved by three statistical checks. L. G. Johnson. S A E J 66:72-3 Mr '58
- How to determine production tolerances; statistical methods and selective assembly. K. E. Moltrecht and R. M. Caddell, diags Tool Eng 39:85-9 N '57
- Industrial statistics help solve steel plant managerial problems. P. E. Green and I. L. Haines, bibliog diags Iron & Steel Eng 34: 118-23 O '57
- Measurement of power spectra from the point of view of communications engineering. R. B. Blackman and J. W. Tukey, diags Bell System Tech J 37:185-232 bibliog[52 titles: p281-2], 485-569 Ja-Mr '58
- Melting range of rubber chemicals. II A S T M Bul p92-6 JI '58
- Metalworking, 1962; statistical techniques. R. M. Jacobs. Am Mach 101:142-3 N 18 '57
- Other staff grade can use statistics too! S. R. Calhoun and P. E. Green, Ind Quality Control 14:48+- My '58
- Precise evaluation of surface area with indirectly calculated dead space. W. V. Loebeinstein. J Res Nat Bur Stand 60:105-8 F '58
- Reliability achievement and demonstration in a development program. H. R. Lawrence and W. H. Amster. Aero/Space Eng 17:65-9 O '58
- Reliability handbook for design engineers. F. E. Dreste, diags Elec Eng 77:508-12 Je '58
- Reliable properties can be guaranteed; statistical control methods reduce costs, make efforts more productive, and accelerate product and process improvements. R. S. Jackson. Plastics Tech 4:831-5+- S '58
- Sampling oscilloscope for statistically varying pulses. R. Sugarman, bibliog II diags R Sci Instr 28:933-8 N '57
- Series-expansion method for computing random gust responses. K. A. Foss. J Aeronautical Sci 24:850-2 N '57
- Simple statistics beats blend problem. L. E. Louraine. Chem Eng 66:166 Ap 21 '58
- Statistical approach to design of optimizing control. W. Arrott. Elec Manuf 61:11 My '58
- Statistical approach to runway length. R. T. Glasen. Am Soc C E Proc 83 [AT 2 no 1477]:1-10 D '57
- Statistical concepts in the testing of corrosion inhibitors. C. C. Nathan and E. Eisner, bibliog Corrosion 14:47-53 Ap '58
- Statistical design theory for sampled-data feedback control systems. S. S. L. Chang, diags Elec Eng 77:602-3 JI '58
- Statistical design theory for strictly digital sampled-data systems. S. S. L. Chang, bibliog diags Com & Electronics p702-8; Discussion, 708-9 Ja '58
- Statistical encoding for text and picture communication. W. S. Michel, bibliog diags Com & Electronics p33-6 Mr '58
- Statistical methods in fabric development; Orion sweaters. F. J. Evans and others. Mod Textiles Mag 39:67-73; Discussion, 73-5 Ap '58
- Statistical theory. L. Horben. Review, by M. Kiine. Sci Am 198:143-4+- My '58
- Statistics and time dependence of mechanical breakdown in fibers. B. D. Coleman, bibliog J Ap Phys 29:968-83 Je '58
- Statistics build precision and economy into material specifications. H. R. Sheppard and H. Ginsburg. Product Eng 29:75-6 Ag 18 '58
- Tables for one-sided statistical tolerance limits. G. J. Lieberman, bibliog Ind Quality Control 14:7-9 Ap '58
- Theory of extremal values applied in tests. M. L. Godfrey, bibliog Ind Lab 9:9-12 JI; 74-9 Ag '58
- Time saving in statistical fatigue experiments. N. T. Bloomer. Engineering 184:603 N 8 '57
- To beat the complexity barrier; evaluating equipment by reliability analysis. J. D. Coutinho, diags Mech Eng 80:54-6 Ag '58
- See also
Average
Chemistry—Statistical methods
Chi square test
Control charts

- Correlation (statistics)
Curve fitting
Experimental design
Frequency distribution (statistics)
Games, Theory of
Geology—Statistical methods
Graphic methods
Index numbers (economics)
Interpolation
Least squares
Linear programming
Operations research
Physical geography—Statistical methods
Probabilities
Punched card system
Quality control
Sampling (statistical methods)
Sequential analysis
System simulation
Variance analysis
- STATISTICAL quality control.** See Quality control
- STATISTICIANS**
Impertinent questioner; the scientist's guide to the statistician's mind. W. Lurie. Am Scientist 46:57-61 Mr '58; Discussion, C. N. Crain, 46:212A+-; Reply, 224A+- S '58
Teaching of statistics and the training of statisticians for industrial employment. E. E. Marshall. Ind Quality Control 14:28-32 My '58
- STATISTICS**
Basic statistics for the design engineer. J. L. Jenkins, bibliog diags Elec Manuf 61: 105-24 My '58
See also
Census
Variance analysis
also subdivision Statistics under special subjects, e.g.
Accidents, Industrial
Atomic power plants
Building
Chemicals
Coke industry
Concrete industry
Cotton trade
Electric apparatus industry
Electric plants (central stations)
Electric power
Electric utilities
Electricity supply
Electronics industry
Export trade
Food industry and trade
Gas, Natural
Gas industry
Gasoline, Natural
Imports
Liquefied petroleum gas
Petroleum
Petroleum industry and trade
Petroleum products
Plastics industries
Public health
Public works
Radio apparatus industry
Sewage disposal plants
Sewerage
Telephone
Waterworks
Zinc industry and trade
- Study and teaching
Teaching of statistics and the training of statisticians for industrial employment. C. E. Marshall. Ind Quality Control 14:28-32 My '58
- STATUES**
Storybook characters become real for retarded children; playground at Utah state training school for the mentally retarded. M. B. Bennett. II Concrete 65:23 D '57
- STEADYRESTS**
Steadyrest for small work fits lathe tallstock. J. Sobkowiak, diags Mach 64:177 F '58
- STEAM**
Carbon-steam reaction kinetics from pilot plant data. W. G. May and others, bibliog diags Ind & Eng Chem 50:1289-96 S '58
Cost of steam for reciprocating pumps. W. L. Nelson. Oil & Gas J 56:187 JI 28 '58
Here's how steam powers air conditioning in new City Hall. W. G. Moses, II Heating-Piping 29:113-18 N '57
Hot oil to produce steam; Schneider concrete products. II diags Concrete 66:34-5 F '58
How to save on steam. Mod Textiles Mag 39:59 Je '58
Humidified blast furnace operation. R. J. Wilson. J Metals 10:268-71 Ap '58

STEAM—Continued

- Instrument for the measurement of the viscosity of steam and compressed water. J. Kestin and J. R. Moszynski, bibliog diags A S M E Trans 80:1003-14 JI '58
- Introduction to steam power. diags Power Eng 62:82+ My; 96-7 Je; 84+ JI; 110+ Ag; 100+ S; 102+ O; 84+ N; 96+ D '58
- 1957 status of steam properties. F. G. Keyes, bibliog A S M E Trans 80:556-60 Ap '58
- Sight glass checks on exhaust steam quality. E. Minser, diag Chem Eng 65:163 Ap 21 '58
- Simple way to measure steam quality. R. Lemlich, diag Chem Eng 65:162 Ap 7 '58
- Steam calorimetry. J. H. Potter, bibliog diags Combustion 29:51-5 JI '57
- Steam cleaners aid maintenance in iron country. J. Ruona; P. Tarro. II Eng & Min J 159:118 My '58
- Steam purity monitoring permits big savings in blowdown. R. W. Lane. II Power Eng 62:79-80 Je '58
- Throttling of wet steam. J. H. Potter, bibliog diags Combustion 29:55-9 Ag '57
- Vapor phase cooling systems turn waste heat to useful steam. diags Power Eng 62:62-3 My '58
- See also*
 Boilers
 Evaporators
 Steam heating
 Steam turbines
 Superheated steam

Analysis

- Gas content of steam and boiler feed water. W. B. Bartley and E. Moul. II diag Enginner 206:434 S 26 '58

Tables, calculations, etc.

- Formulation of steam properties for digital computer application. W. G. Steltz and G. J. Silvestri. A S M E Trans 80:967-72; Discussion, 972-3 My '58
- Formulations for the thermodynamic properties of steam and water. H. C. Schnackel. A S M E Trans 80:959-66 My '58
- Heat transfer to supercritical water. N. L. Dickinson and C. P. Welch, bibliog II diags A S M E Trans 80:746-52 Ap '58
- How to allocate process steam costs. S. Katell and T. J. Joyce. Chem Eng 65:152-4 Mr 10 '58
- Properties of steam at gage pressures; data sheet. Power 101:103 N '57
- Steam required for bleaching; nomograph. D. S. Davis. Paper Ind 39:783 D '67
- Viscosity of steam; nomograph. D. S. Davis. Power Ind 74:29 S '58

STEAM, Natural

- California firm taps hot water, plans to generate electricity. Oil & Gas J 56:88-9 My 12 '58
- Nature may yield power; steam vents near Carúpano, Venezuela. Chem & Eng N 36:104 Mr 31 '58

- Stress corrosion of austenitic stainless steel in geothermal steam. T. Marshall, bibliog diag Corrosion 14:59-62 Mr '58

STEAM accumulators

- Accumulator volume needed to generate peaking steam; charts; data sheet. B. J. Reitzler and W. C. Gates. Power 102:103 Ja '58

Failure

- Fabrication and service factors involved in failure of welded steam receivers. A. J. Babecki and P. P. Puzak. II diags Welding J 37:sup320-5 JI '58

STEAM boilers. See Boilers**STEAM distribution***See also*

- Electric plants (central stations)—Steam distribution
 Steam pipe lines

STEAM engineering

- Abstracts from the technical press; abroad and domestic. Combustion 29:57-9 JI; 59-60 S; 57-9 N '57; 57-61 Mr; 57-73 My; 54-7 Je; 30:58-9+ JI; 57+ Ag; 60-3+ S; 63-71 O '58

See also

- Boiler plants
 Electric plants (central stations)—Steam distribution
 Steam pipe lines
 Steam plants
 Steam turbines
 Steamboats

Electric analogies

- Performance prediction for a process heat-and-power complex by resistance concept. C. F. Kavan, bibliog diags A S M E Trans 80:547-54 Ap '58

STEAM engines*See also*

- Boilers
 Flywheels
 Steam plants
 Steam turbines

Design

- Extensible steam engine. Mech Eng 79:1158-9 D '57

History

- Water-wheels, horses and steam engines. A. K. Bruce, Engineer 204:781-2 N 29 '57

STEAM flow

- Pressure drops for steam through valves and fittings; nomograph. D. S. Davis. Power Ind 74:29 O '58
- Problems in measuring steam flow at 1250 and 950 F with nozzles and orifices. J. W. Murdock and J. Goldsburly, bibliog II diags A S M E Trans 80:975-84 JI '58

STEAM generators. See Boilers**STEAM heating**

- Before specifying steam coil controls. W. G. Young, diags Air Cond Heat & Ven 55:51-3 Ja '58
- Construction teamwork provides for many types of heating; world assembly center for Moral re-armament. II Heating-Piping 29:88-91 D '57
- Heating and ventilating system design for hospitals. J. E. York, plan diags Air Cond Heat & Ven 55:59-63 Ap; 101-4 My '58; Discussion. L. Smith. 55:124+; Reply. 128+ JI '58
- How and why this heating plant went modern: U.S. naval ammunition depot at Portsmouth, Va. D. L. Gusler. II Power Eng 62:68-71 F '58

- Low pressure steam zone system meets varied heating demands in small apartments, motels. F. S. Amber and G. H. Amber. II Heating-Piping 30:102-4 JI '58

- Mechanical engineering critique; heating and cooling with purchased steam. W. J. McGuinness. Frog Arch 39:9 JI '58

- New college heating plant switches to BCR Coal-Pak units. S. A. Frye. II Power Eng 62:72-3 Ag '58

- Steam heats, cools new arena and theater; Dallas memorial auditorium. G. L. Dahl. II Heating-Piping 30:115 Ap '58

- Substitute individual heating plants after street steam was shut off. S. R. Lewis. Heating-Piping 30:149 My '58

- Two-zone steam and hot water systems heat 225-bed hospital; St. Charles hospital, Toledo. E. J. Flahie. II Heating-Piping 30:136-8 Mr '58

See also

- Boilers, Heating
 Heating from central stations

Control

- Temperature control installations in Boston; abstract. F. C. Meyer. Air Cond Heat & Ven 55:80 JI '58

Conversion to hot water heating

- I converted these systems to forced circulation hot water. S. R. Lewis. Heating-Piping 29:95 D '57

Return systems

- How to size condensate receivers for gravity return systems. T. E. Krieg. Heating-Piping 30:124-7 Je '58

- Revise steam lines, improve metering to keep abreast of heating needs; Harvard university. C. M. Holden and N. Goodwin, Jr. II plan Heating-Piping 30:119-21 My '58

STEAM heating, Industrial

- Eductor cuts noise of live steam heating. J. E. Kuong, diag Chem Eng 65:131 Ag 25 '58

STEAM irons

- How creative engineering cut ironing drudgery: spray iron. T. R. Flowers. II diag Gen Elec R 61:27-9 My '58

STEAM jacketed kettles. See Kettles, Steam jacketed**STEAM jets**

- Application of steam-driven water jets for propulsion purposes. J. M. Burgers and A. Ghaffari. J Res Nat Bur Stand 60:137-41 F '58

- Use a steam jet syphon for versatility, economy. II diag Power Eng 61:75 N '57

STEAM locomotives. See Locomotives

STEAM meters

Revise steam lines, improve metering to keep abreast of heating needs; Harvard university. C. M. Holden and N. Goodwin, Jr. *Il plan Heating-Piping* 30:119-21 My '58

STEAM pipe coverings

Protect pipes with an aluminum jacket; steam-carrying pipelines. *Il Oil & Gas J* 56:131+ F 10 '58

STEAM pipe lines

At what rate should steam lines be heated to avoid damage? answers. *Heating-Piping* 29: 108+ N '57

Ingenious construction scheme hoists steam lines skyward; Convair div., General dynamics corp. E. W. Winchester. *Il Heating-Piping* 30:153-5 Ja '58

Use economical insulation thickness. *Il Power* 101:110-11 D '57

What's the best way to support steam piping in tunnels? answers. *diags Power* 102:128-9 My '58

See also

Piping (power plants)

STEAM pipes

Air eliminator piping; detail sheet. *diags Air Cond Heat & Ven* 55:63 J1 '58

Design data for service steam. F. M. Relter. *Il Air Cond Heat & Ven* 55:92-8 F '58

Don't neglect the lowly drip pocket; a valuable piping accessory. G. W. Hauck. *Il diags Heating-Piping* 30:134-5 Mr '58

Mishandled regulator blows up. *diag Air Cond Heat & Ven* 55:44 Ja '58

Steam piping connections; detail sheet. *diags Air Cond Heat & Ven* 55:77 Je '58

What's the best material to use for steam coils? answers. *diag Power* 102:136+ F '58

See also

Pipe fittings

Pipe hangers

Piping (power plants)

Steam heating

Steam pipe coverings

Steam traps

Corrosion

Corrosion and the destination of corrosion products in a high pressure power plant. R. C. Tucker. *bibliog flow diag Il Corrosion* 14:19-22 My '58

Stress corrosion of austenitic stainless steel in geothermal steam. T. Marshall. *bibliog diag Corrosion* 14:59-62 Mr '58

Use of a condensate-corrosion tester for the survey of return-line deterioration. A. A. Berk. *Il Corrosion* 14:41-4 Mr '58

Freezing

Why steam coils freeze. H. W. Alvea. *diags Heating-Piping* 30:104-7 Ap; 127-9 My '58; Discussion. 30:98+ S; 82-4 D '58

Protection

Cathodic protection of underground steam mains; abstract. J. A. Sheppard, Jr. *Il Air Cond Heat & Ven* 55:81 J1 '58

STEAM plants

Coal in the Northwest? energy source for steam plants. K. M. Robinson. *Il Elec World* 150:58-9 S 8 '58

Ideal site reduces plant cost; Delaware Power's new Indian River power plant. E. M. Sommerfield and R. M. Mullen. *Il diag Power Eng* 62:95-6 O '58

Introduction to steam power. *diags Power Eng* 62:32+ My; 96-7 Je; 84+ J1; 110+ Ag; 100+ S; 102+ N; 96+ D '58

Planning of large thermal generating stations. J. Pimpaneau. *Engineer* 204:899-900 D 20 '57

Power engineering handbook. Published in monthly numbers of Power engineering

TVA uses non-specification fly ash; Johnsonville steam plant and Wilson Dam lock. G. K. Leonard and P. A. Schwab. *Il Civil Eng* 28:188-92 Mr '58

Thermal density underflow diversion, Kingston steam plant. R. A. Elder and G. B. Dougherty. *Il map diags Am Soc C E Proc* 84 (HY 2 no 1583):1-20 Ap '58

Trends in central stations; charts. *Power* 101: 80-1 D '57

Trends in power generation; lessons for nuclear engineers. H. E. Roberts. *map Nuclonics* 16:76-9 J1 '58

Wall of plastic; corrugated panels add new touch to turbine room. St. Joseph lead co. 100,000-kw power plant. J. R. Kester. *Il Plant Eng* 12:102-3 S '58

See also

Boiler plants

Boilers

Feed water heating

Hydroelectric plants—Combination with steam plants

Piping (power plants)

Power plants

Water supply for power plants

Accidents

Central electricity authority probes explosion at Uskmouth. *Il Elec World* 149:49 Je 2 '58

Auxiliaries

Switchgear with stored-energy mechanism applied to steam-station auxiliary transfer arrangements. P. G. Brown and others. *Il diag Power Apparatus & Systems* p310-13; Discussion. 313-18 Je '58

By-product power

By-product steam power. W. E. Knight. *Tappi* 41:sup 135A-7A Ag '58

New Abitibi mill makes the most of process steam for power. E. H. Barry. *Il Power Eng* 62:64-6 Ag '58; Same. *Tappi* 41:sup 60A+ Ag '58

Turbine governors for paper mill power plants simplify control of mill power and heat balance. W. B. Wilson and G. H. Gibb. *Il diags Tappi* 40:385-94 N '57

Combined heating and process steam

Old boilers fighting a losing battle? Canning machine div., Food machinery and chemical corp. M. A. Smith. *Il plan Plant Eng* 12: 143-9 Ja '58

Reorganisation of steam services; Nightingale road works of Rolls-Royce, Ltd. *Il Engineer* 206:308-9 Ag 22 '58

Combined power and heating

Hospital completely air conditioned with low-pressure turbine units; Latter Day Saints hospital in Salt Lake City. E. J. Watts. *Il Power Eng* 62:72-3 F '58

Combined power and process steam

Determination of pulp mill steam plant capacity. F. O. White. *Tappi* 41:sup 184A-5A Ag '58

Figure your industrial steam costs accurately. *Power Eng* 62:74 My '58

Great Northern Paper adds new plant for process steam and power. R. V. Weldon and W. E. Knight. *flow diag Il diag Power Eng* 62:86-9 S '58

Linden generating station; exchange between Public service electric and gas co. of New Jersey and the Esso standard oil co. *Il diags Mech Eng* 80:83-9 Je '58

Linden steam power station. *flow diags Il plan diags Engineer* 205:909-11, 949-51 Je 13-20 '58

Performance prediction for a process heat-and-power complex by resistance concept. C. F. Kayan. *bibliog diags A S M E Trans* 80:547-54 Ap '58

Trends in steel mill power plants. H. G. Kitt and R. W. Worley. *Iron & Steel Eng* 35: 90-3; Discussion. 93- Mr '58

Valve point loading of turbines. G. L. Decker and A. D. Brooks. *Power Apparatus & Systems* p481-4; Discussion. 484-6 Ag '58

Condensate recovery

Breakthrough in condensate purification. V. J. Calise. *bibliog diags Combustion* 29: 40-5 Mr '58

Condensate demineralizers combat deposits for potential one per cent heat-rate gain. S. B. Applebaum. *Il diags Power* 102:94-6+ My '58

Condensate handling; hotwells, air removal, condensate pumps. D. Swift. *Power* 102:98-9+ F '58

Experimental air condenser in Hungary; Heller system for steam condensation. *flow diags Combustion* 30:47-52 S '58

High-temperature condensate systems reduce steam costs. R. J. Lundrigan. *Il diag Plant* 18:42-3 O '58

How to make a steam condensate reboiler. C. E. Wilson. *diag Pet Refiner* 37:218+ Je '58

How to size condensate receivers for gravity return systems. T. E. Kriek. *Heating-Piping* 30:124-7 Je '58

STEAM plants—Condensate recovery—Cont.

Internal self-purification, what it is, how it works. V. J. Calise. *il Power Ind* 74: 11-12+ O '58

Methods for detecting and locating leaks in buried condensate return lines; abstract. S. P. Whirl. *Air Cond Heat & Ven* 55:79 J1 '58

Steam processing speeds up to snuff? high-pressure drainage unit may help. *il diag Plant Eng* 12:116-17 Je '58

Use of a condensate-corrosion tester for the survey of return-line deterioration. A. A. Berk. *il Corrosion* 14:41-4 Mr '58

Costs

Incremental maintenance costs of steam-electric generating stations. M. J. Steinberg. *bibliog Combustion* 29:51-4 N '57; Same. *Elec Eng* 76:1054-7 D '57; Same. *Power Apparatus & Systems* p 1251-4; Discussion. 1254-5 F '58

Process costimating; average cost of refinery steam since 1932. *Oil & Gas J* 56:103 Je 30 '58

Process costimating; cost of steam varies widely. W. L. Nelson. *bibliog Oil & Gas J* 56:137-8 Je 23 '58

Design

Axial flow turbine and monotube boiler are basic design considerations of Portland generating station. J. G. Miller and R. H. Kreisinger. *bibliog plan diags Combustion* 29:34-41 Ja '58

Civil engineering features of Linden generating station of Public service electric and gas co. of New Jersey. A. Verduin. *il map plan diag Am Soc C E Proc*, 84 IPO 3 no 16761:1-38 Je '58

New Albany puts stack, crib house and water facilities in one structure. A. R. LeBailly. *il diag Power Eng* 62:78-80 S '58

1957 design survey of typical new steam central-station installations; tables. *Power* 101: 82-7 D '57

Planning and construction of large modern thermal generating stations. J. Pimpaneau. *Inst E E Proc* 105 pt A:325-7; Discussion. 327-9; Reply. 329-31 Ag '58

Will your new power plant be really modern? P. N. Garay. *plan Power Eng* 62:68-70 S '58

Equipment

Adapter helps spot heater tube leaks. J. B. Osbourn. *il diag Elec World* 150:86 Ag 18 '58

Battle River steam station. J. N. Ford and W. I. McFarland. *il diags Eng* 74:49-57+; Discussion. E. B. Campbell. 79+ Ja '58

Bigger than Battersea; one boiler consumes 220 tons of coal per hour. *il Engineering* 135:237 F 28 '58

Blower-tube scraper saves time and money. C. F. Yonkers. *diags Elec World* 149:86 Ap 7 '58

Bunker grating improved. V. C. Fay. *diag Elec World* 148:84 D 9 '57

Conveyor chute dust seal improved. O. Molmen. *diags Elec World* 149:76 Mr 17 '58

Excavator speeds coal removal. R. L. Nay. *il Elec World* 150:53 S 15 '58

Front Street uses new desuperheater in turbine bypass. *il Power Eng* 61:84 N '57

High pressure steam plant; Meaford B power station. *il Engineering* 134:501 O 18 '57

Hospital steam is big business. J. T. Farris. *il Power Eng* 62:81 Je '58

Hyperbolic cooling towers invade United States power field. J. O. Kadel. *il diag Power Eng* 62:75-6 O '58

Ince power station. *il Engineer* 204:566-8 O 18 '57

Kelvin power station. *il Engineer* 204:875 D 13 '57

Linden steam power station. flow diags *il plan diags Engineer* 205:909-11. 949-51 Je 13-20 '58

Meaford B power station. *il Engineer* 204:533-4 O 11 '57

New controls boost plant output. *diag Elec World* 149:51-2 My 26 '58

Once-thru boiler used for subcritical operation; modernization and expansion of Frank M. Tait station. H. E. Gismond. *il plan diags Elec World* 148:52-4 D 23 '57

Philo six completes year's operation. T. T. Frankenberg and others. *il(cover) Elec World* 149:41-5+ Mr 31 '58

Portland generating station. J. G. Miller and R. H. Kreisinger. *bibliog diags Mech Eng* 80:64-70 F '58

Reorganization of steam services; Nightingale road works of Rolls-Royce, Ltd. *il Engineer* 206:308-9 Ag 22 '58

Revised hopper doors cut labor. O. F. Green. *diag Elec World* 148:87 D 9 '57

Schedule board shows pulverizer status. W. J. Buchanan, Jr. *il Elec World* 150: 71 S 29 '58

Selection and application of cooling towers in steam-electric stations. E. E. Goitein. *bibliog il diags Combustion* 29:38-44 N '57; Discussion. P. Rogers. 29:60 Ja '58

Spring compressor removes poppet valve. W. F. Fry and W. D. Winebrenner. *il Elec World* 149:70 Ap 14 '58

Starting experiences with a 150 mw unit installation; Cherepetskaya state regional power plant (U.S.S.R.). A. G. Prokopenko and others. *diags Combustion* 30:38-45 O '58

Steam generating plants. Nova Scotia light and power co. A. R. Harrington. *il Can Min & Met Bul* 51:401-5 J1 '58

Surge protection of cable-connected power transformers at Scattergood steam plant. C. M. Short and others. *diags Power Apparatus & Systems* p 1494-70 F '58

Taped talk helps operators learn new power equipment; steam generating plant, Richmond state hospital, Indiana. W. Brenizer. *il Power Eng* 62:77 O '58

Tilbury power station. *il Engineer* 205:861-2 Je 6 '58

Tilbury power station. *il Engineering* 135:792 Je 20 '58

Turbo generator installed at Halifax. J. C. MacKeen. *il Eng J* 41:87 Ja '58

240 mw Ince power station; oil firing with semi-outdoor boilers. *il Engineering* 134:534 O 25 '57

Two-stage steam generator at United States Durox gas concrete plant. *diag Chem Eng* 64:160+ D '57

See also
Coal handling
Condensers (steam)
Desuperheaters
Pumps, Feed water
Steam turbines
Stokers, Mechanical

High pressure

Boiler feed pumps for supercritical pressure. H. Gartmann. *bibliog flow diag il diags Mech Eng* 80:51-4 Ja '58

Corrosion and the destination of corrosion products in a high pressure power plant. E. O. Tucker. *bibliog flow diag il Corrosion* 11:19-22 Mr '58

Electrical control features of the Avon supercritical-pressure unit. R. F. Willett. *plan diags Power Apparatus & Systems* p268-75; Discussion. 275-6 Je '58

Feedwater heaters built for 4730 psig. *diag Power* 102:105 Je '58

High pressure steam plant; Meaford B power station. *il Engineering* 134:501 O 18 '57

High pressure valves for high temperature duty. R. A. Handschumacher. *il diag Combustion* 29:49-53 F '58

Now, a 4500-psi standard for valves. W. F. Crawford. *il Power* 101:103-6 D '57; Discussion. 102:86-8+ F '58

Operating experience with high-temperature steam-turbine rotors and design improvements in rotor-blade fastening. J. D. Conrad and N. L. Mochel. *bibliog il diags A S M E Trans* 80:121-23 Ag '58; Excerpts. *Power Eng* 62:77-9 M '58; Discussion. A S M E Trans 80:1223-4 Ag '58

Philo six completes year's operation. T. T. Frankenberg and others. *il(cover) Elec World* 149:41-5+ Mr 31 '58

Portland generating station. J. G. Miller and R. H. Kreisinger. *bibliog diags Mech Eng* 80:64-70 F '58

Lighting

Aerial cage aids yard-light maintenance. E. D. Dabney and R. G. Rosebrock. *il Elec World* 150:48 Ag 11 '58

Maintenance and repair

Air binding in large pipelines flowing under vacuum. R. T. Richards. *diags Am Soc C E Proc* 83 [HY 6 no 1454]:1-10 D '57; Discussion. R. E. Templeton and T. E. Steison. 84 [HY 3 no 1690]:31-2 Je '58

Incremental maintenance costs of steam-electric generating stations. M. J. Steinberg. *bibliog Power Apparatus & Systems* p 1251-4 F '58; Same. *Combustion* 29:51-4 N '57; Same. *Elec Eng* 76:1054-7 D '57; Discussion. *Power Apparatus & Systems* p 1254-5 F '58

STEAM plants—Continued

Process steam

- Design data for service steam. F. M. Reiter. *il* Air Cond Heat & Ven 55:92-8 F '58
 Fuel and steam required in average U.S. refinery. W. L. Nelson. Oil & Gas J 56: 177 Apr 21 '58
 Nuclear heat for paper mills? G. Perazich. Nucleonics 16:68 F '58
 Process costimating; fuel and steam required by major process units. W. L. Nelson. bibliog Oil & Gas J 56:129-30 Apr 14 '58
 Two-stage steam generator at United States Durox' gas concrete plant. diag Chem Eng 64:160+ D '57

Safety measures

- Safety cuts maintenance in regulating stations. E. Grafe. diags Safety Maint 114: 29-30 O '57; Same abr. Heating-Piping 30: 122-3 Je '58

STEAM plants, Outdoor

- Aluminum covers boiler insulation. *il* Elec World 150:62 J1 14 '58
 Should plant be indoor, outdoor? H. C. Schweikart. Elec World 150:63 J1 28 '58
 Unit one goes in for \$112 per kw; Tampa electric co. W. E. Hopkins and A. D. Jones. Elec World 150:47 S 15 '58

STEAM research

See also

- Steam—Tables, calculations, etc.

STEAM traps

- Accessories improve steam trap arrangement. G. W. Hauck. diags Heating-Piping 30:73 F '58
 Design and features of traps. diags Air Cond Heat & Ven 54:83-9 D '57; 55:67-70+ Ja; 101-5 F; 94-7 Mr '58
 Industrial know-how handbook; valves and traps. J. Mill & Factory 62:B 14-15 My '58
 Let's talk about steam traps. J. Ritter. *il* diags Plant 18:40-1 S '58
 This chart simplifies your job of steam trap selection. W. G. Steinnmuller. Plant Eng 12:128-9+ S; 108-9 O '58
 Trap design trend is toward on-the-line maintenance. *il* Plant 17:40 My '58
 What's a good program for maintaining steam traps? answers. *il* diag Power 102:144-5 Mr '58

STEAM turbines

- Advanced concept for turbine-generator stator-winding insulation. E. J. Flynn and others. bibliog *il* diags Power Apparatus & Systems p358-65; Discussion. 365-70; Reply. 370-1 Je '58
 Axial flow turbine and monotube boiler are basic design considerations of Portland generating station. J. G. Miller and R. H. Kreisler. bibliog plan diags Combustion 29:34-41 Ja '58
 Blower skims steam; Republic Steel will install topping turbine for blast furnace blowing. Steel 141:188 N 18 '57
 Eliminate housings on large turbines. G. E. Klapper. *il* Elec World 150:45 J1 7 '58
 Giant turbo-generator. Eng J 41:89 Ag '58
 How to start and stop your turbines with the aid of bar-graphs. R. H. Newton. Power Eng 62:89-91 Je '58
 Mechanical-drive steam turbines serve industry well. H. Steen-Johnson. *il* Power Eng 61:64-6 N '57
 Steam turbine returns to drive boiler-feed pumps at Huntley, replacing motors. R. P. Moore. diag Elec World 149:68-9 Mr 17 '58
 Steam turbines; American power conference; abstracts of papers. Combustion 29:51-2 Ap '58
 Turbines and generators. *il* Westinghouse Eng 18:6-7 Ja '58
 Turbines gain as boiler-feed-pump drives for large units but motors still hold the lead. L. M. Olmsted. diags Elec World 149: 68-71 Mr 17 '58
 Turbo-alternators reach 275 mw. diag Engineering 185:330-1 Mr 14 '58

Bearings

- How fire-resistant lubes affect turbine bearings. A. E. Truran. Power 102:107+ Je '58

Control

- Better governor valve for small steam turbines. C. MacDonald. diags Power 102:140 Mr '58
 Control of back-pressure turbines. diag Engineering 185:606-7 My 9 '58
 Electrical control features of the Avon supercritical-pressure unit. R. G. Willett. plan diags Power Apparatus & Systems p268-75; Discussion. 275-6 Je '58

- Governors regulate turbine and engine speed and load. A. W. Carey, jr. and D. G. Mark. diags Power Eng 62:50-3 My '58
 Turbine governors for paper mill power plants simplify control of mill power and heat balance. W. B. Wilson and G. H. Gibb. *il* diags Tappi 40:883-94 N '57; Excerpts. Power Eng 62:75-7 S '58

Corrosion

- Central electricity authority probes explosion at Uskmouth. *il* Elec World 149:49 Je 2 '58

Cost of operation

- Use your turbine governors to cut operating costs. W. B. Wilson and G. H. Gibb. *il* diag Power Eng 62:75-7 S '58
 You can control mechanical-drive steam turbine costs. S. Styra. Power Eng 62:86-9 F '58

Design

- Cross-compound 3600/3600-rpm machine is near-duplicate of two parallel units; developed for Public service electric & gas co. of N. J. N. D. Gove. *il* diag Power 102:79 F '58
 Experimental turbine laboratory provides design information; Allis-Chalmers manufacturing co. *il* plan Ind Lab 9:70-1 Je '58
 Monotube boiler, axial-flow-exhaust turbine make unique combination; Portland station of Metropolitan Edison co. *il* diags Power Eng 62:66-8+ Ja '58
 Turbo-alternator development, 1927-57; abstract. W. J. Carfrae. Inst E E Proc 105 pt A:35-6 F '58

Failure

- Central electricity authority probes explosion at Uskmouth. *il* Elec World 149:49 Je 2 '58
 Experience with chromium-molybdenum-vanadium steel in high-temperature bolting applications. R. G. Matters and C. D. Dickin. bibliog *il* diag A S M E Trans 80: 330-4 F '58
 Failure of a 60mw steam turbo-generator at Uskmouth power station. L. G. Gledhill and F. H. Brown. *il* Engineer 205:475-8, 508-10, 547-50 Mr 28-Apr 11 '58
 Operating experience with high-temperature steam-turbine rotors and design improvements in rotor-blade fastening. J. D. Conrad and N. L. Mochel. bibliog *il* diags A S M E Trans 80:1210-23 A '58; Excerpts. Power Eng 62:77-9 Mr '58; Discussion. A S M E Trans 80:1223-4 Ag '58
 Solving a corrosion mystery. Product Eng 29: 21-2 Ap 14 '58

Gearing

See also

- Steam turbines, Marine—Gearing

Load

- Valve point loading of turbines. G. L. Decker and A. D. Brooks. Elec Eng 77:501 Je '58

Lubrication

- Fire-resistant turbine lubricants; Duquesne light co. J. J. O'Connor. *il* diag Power 102:73-7 My '58
 How fire-resistant lubes affect turbine bearings. A. E. Truran. Power 102:107+ Je '58

Maintenance and repair

- Computer calculates heat rates to set economic turbine overhauls. C. F. Whitmer and W. M. Stephens. diags Elec World 149:44-6 Ja 6 '58

Manufacture

- British Thomson-Houston build turbines in Ireland. *il* Engineer 204:666-7 N 22 '57
 Butt welding austenitic stainless steel to ferritic steel in cylindrical shapes. J. E. Donahue. bibliog *il* diags Welding J 36:1074-7 N '57
 Process controls for making turbine castings. R. Ahles. Mech Eng 80:61-3 Ap '58
 Turbine production facilitated with continuous cast bronze. *il* Mach 64:176 Ja '58
 Ultrasonic inspection makes turbine forgings safer; Allis-Chalmers mfg. co. R. N. Hafemeister. *il* diags Am Mach 101:85-9 D 30 '57
 Use of nondestructive testing on steel castings for elevated temperature service. C. B. Jennl. bibliog *il* Mech Eng 80:66-70 Ap '58
 Welding metallurgy of Cr-Mo-V steels for high-temperature steam-turbine components. R. J. Christoffel and others. bibliog *il* diag Welding J 37:sup295-303 J1 '58

STEAM turbines—Continued**Specifications**

- How to write specifications for high speed steam turbines. I. Hazlet. *Il Power Eng* 62:31-2 F '58
- Recommended specifications for speed-governing of steam turbines intended to drive electric generators rated 500 kw and larger. Power Apparatus & Systems p 1404-11 F '58

Starting

- Controlled starting and loading of modern central power stations. F. W. Kuehn. *bibliog il diags A S M E Trans* 80:1183-204; Discussion. 1204-7; Reply. 1207-9 Ag '58

Tables, calculations, etc.

- Valve point loading of turbines. G. L. Decker and A. D. Brooks. *Power Apparatus & Systems* p481-4; Discussion. 484-6 Ag '58

Testing

- Easy-to-make device measures turbine stretch. *il diags Power Eng* 61:100 D '57
- Low-pressure turbine testing. J. E. Downs and K. C. Cotton. *il diags Mech Eng* 80: 63-6 Ag '58

Vibration

- High-frequency vibration of steam-turbine buckets. F. L. Weaver and M. A. Prohl. *bibliog il diags A S M E Trans* 80:181-9; Discussion. 189-94 Ja '58
- Method for calculating vibration frequency and stress of a banded group of turbine buckets. M. A. Prohl. *bibliog diags A S M E Trans* 80:169-79; Discussion. 179-80 Ja '58

STEAM turbines, Marine

- Heat distortion effects in impulse steam turbines. *diag Engineering* 185:121 Ja 24 '58
- Machinery for cross-channel passenger ships. E. L. Denny. *flow diag diag Engineer* 206: 125-7, 168-70 Ja 24-31 '58
- Marine propulsion research; Parsons and marine engineering turbine research and development association progress report for 1956. *il Engineer* 204:644-5 N 1 '57
- Propulsion of ships by steam turbine machinery. T. W. F. Brown. *plans diags Engineer* 205:387-93 Mr 14 '58
- Recent developments in British main propulsion steam turbines. F. J. Cowlin and A. F. Veitch. *il diags Am Soc Naval Eng J* 70:305-9 My '58
- Recent developments in British naval main propulsion steam turbines. F. J. Cowlin and A. F. Veitch. *Engineer* 204:556-8, 595-7 O 18-25 '57
- Turbine power for ships. T. W. F. Brown. *Engineering* 185:28 Ja 3 '58

Control

- Weir Valves marine turbine control system. *diag Engineer* 206:222-3 Ag 8 '58

Gearing

- Experimental determination of gear tooth stresses in large marine gears. H. W. Semar and R. E. McGinnis. *il diags A S M E Trans* 80:195-200; Discussion. 200-1 Ja '58

STEAMBOAT lines

- New steamship services to Hawaii and Alaska. *il Marine Eng/Log* 63:38F Ag '58

Insignia

- Ship stack insignia; American offshore passenger and cargo lines and foreign liner services to American ports. *Marine Eng/Log (Yearbook no)* 63:239-42 My 31 '58

United States

- American owned fleets; tabulation. *Marine Eng/Log (Yearbook no)* 63:219+ My 31 '58

STEAMBOATS

- American Export's fast cargo liner. *il diag Marine Eng/Log (Yearbook no)* 63:129+ My 31 '58
- American President's Sea Racers. *il diag Marine Eng/Log (Yearbook no)* 63:131-2 My 31 '58
- Banner's first-class tourist liner, S.S. Atlantic. *il Marine Eng/Log* 63:60-4 Ag '58
- Lykes' bulk and general cargo ship. *il diag Marine Eng/Log (Yearbook no)* 63:130+ My 31 '58
- Moore-McCormack's new freighter. *il diag Marine Eng/Log (Yearbook no)* 63:128+ My 31 '58

- Role of the paddle-wheel in maritime history. R. Taggart. *bibliog il plans diags Am Soc Naval Eng J* 70:443-61 Ag '58
- USNS Comet; vehicle-cargo ship, designated as a roll-on/off carrier, built for the Military sea transportation service. F. Pavlik and D. Mylrea. *il plans diags Marine Eng/Log* 63: 61-9 Mr '58
- USNS Point Barrow, cargo ship (dock). *il plans diags Marine Eng/Log* 63:49-56 Ag '58

See also

- Boilers, Marine
Ship propulsion
Steam turbines, Marine

History

- First steamer to France. H. P. Spratt. *bibliog(33 ref) il Engineer* 204:932-3 D 27 '57

STEARATES

- Comparison of the growth-promoting effects of a proprietary trimethylalkylammonium stearate and a proprietary antibiotic for fattening pigs. R. S. Barber and others. *Chem & Ind p* 18-19 Ja 4 '58
- Composition of poloxethylene (8) stearate. R. L. Birkmeier and J. D. Brandner. *bibliog J Agri & Food Chem* 6:471-5 Je '58
- Metabolic fate of carbon-14-labeled trimethylalkyl ammonium stearate. M. S. Mameesh and others. *J Agri & Food Chem* 6:619-20 Ag '58
- Potentiality of liveweight gain in chicks by trimethylalkylammonium stearate. A. N. Worden. *bibliog Chem & Ind p* 1115-16 Ag 23 '58
- Stability of emulsions containing sucrose esters. L. Osipow and others. *Am Oil Chem Soc J* 35:165-8 F '58

See also
Methyl stearate

STEARIC acid

- Gradient elution of disaccharides on a stearic acid-treated charcoal column. N. Hoban and J. W. White, jr. *bibliog diag Anal Chem* 30:1294-6 J '58
- Vapor pressure equilibrium of stearic acid in triglyceride and in high paraffin solutions. D. S. Sarkadi. *bibliog Am Oil Chem Soc J* 35:479-81 S '58

STEARIN

- Use of solid triglyceride stearines as fluid shortening ingredients. L. L. Linteris and S. W. Thompson. *bibliog Am Oil Chem Soc J* 35:28-32 Ja '58

STEAROYL glucose. See Softening agents

STEATITE

- Ceramic housing for sealed coil. *il diag Materials in Design Eng* 47:226+ Ap '58

STEDMAN, Ernest Walter

- Appreciation. *por Roy Aeronautical Soc J* 61: 651-2 O '57

STEEL

- Atomic age challenge to steel. E. A. Livingstone. *J Metals* 10:111-13 F '58
- Careful selection of diffuser materials improves wind tunnel performance; receives citation in *Materials in design engineering competition*. *il Materials in Design Eng* 47:150-2 Ap '58
- Corrosion of steel in moist air. J. T. Crennell. *il J Ap Chem* 8:270-2 Ap '58; Discussion. W. H. J. Vernon. 8:469-71 Ag '58
- Corrosion of steel in moist air. U. R. Evans. *Chem & Ind* p681 Je 7 '58
- Dissolution of metals in aqueous acid solutions; depolarized dissolution of mild steel. A. C. Makrides and N. Hackerman. *bibliog Electrochem Soc J* 105:156-62 Mr '58
- Effect of fretting on fatigue characteristics of titanium-steel and steel-steel joints. W. L. Starkey and others. *Product Eng* 29:F 15-17 Mid-S '58; Abstract. *Machine Design* 30:140 Ja 9 '58
- Electrical-steel losses at high flux densities; abstract. O. I. Butler. *Inst E E Proc* 105 Pt A:34-5 F '58
- Influence of surface roughness on the fatigue strength of steels and nonferrous alloys; abstract. E. Siebel and M. Gaier. *Metal Prog* 73:174+ Ja '58
- Kinetics of reaction of steel with hydrogen sulfide-hydrogen mixtures. A. Dravnyiks and C. H. Samans. *bibliog(29 ref) il diags Electrochem Soc J* 105:183-91 Ap '58
- Liquid adhesive bonds steel. *il Iron Age* 180: 136 N 7 '57
- Materials for gears. N. E. Woldman. *il Materials in Design Eng* 46:151-6 N '57
- Metalworking, 1962. M. F. Garwood; P. J. Sandmaier. *Am Mach* 101:151-2 N 18 '57

STEEL—Continued

- Percussion drill steel life. L. E. Antonides and others, bibliog (26 titles) *il diags Eng & Min J* 158:90-7 N '57
- Properties of materials; irons and steels. *Materials in Design Eng* 48:38-65 Mid-O '58
- Relative cost and machinability of carbon steels and alloy steels. D. Mascio, *Product Eng* 28:B21-3 Mid-O '57
- Selection of steels for springs. H. J. Elmen-dorf, *il Metal Prog* 73:80-4 Ap '58
- Some preliminary results of an electron microscope study of the oxidation of steels. A. M. Edwards and F. B. Pickering, *il Iron & Steel Inst J* 183:55-7 My '58
- Steels for pressure die casting dies; abstract. K. I. Bengtsson, *Metal Prog* 74:176+ JI '58
- Three new adhesives for steel, other materials. *il Materials in Design Eng* 46:156-7 D '57
- Where to buy steel. *Am Mach* 102:K 153-82 Mid-S '58

See also

- Case hardening
- Concrete piling—Steel encasement
- Manganese steel
- Rolling (metal work)
- Sheet steel
- Steel, Aircraft
- Steel, Structural
- Steel construction
- Steel forgings
- Steel ingots
- Steel metallurgy
- Steel plates
- Tool steel

Aging

- Can an improved nonaging steel be produced commercially? E. R. Morgan, bibliog *il diag Metal Prog* 73:88-94 Je '58
- Nature of strain-age embrittlement. C. J. Osborn, bibliog *Iron & Steel Inst J* 183:97-101 F '58
- Remedies for steel aging closer. *il Steel* 143:38-9 JI 7 '58
- Strain aging can be controlled on low-carbon sheet steels; abstract. E. R. Morgan, *S A E J* 66:150-1 Je '58
- Strain ageing of boron-treated low-carbon steels. E. R. Morgan and J. C. Shyne, bibliog *Iron & Steel Inst J* 185:156-60 F '57; Discussion, 183:55-8 Ja '58

Aluminum content

- Porcelainized aluminized steels; a new design tool. *il Arch Rec* 122:246+ N '57

Analysis

- Analytical solvent extraction of vanadium using acetylacetone. J. P. McKaveney and H. Freiser, *Anal Chem* 30:526-9 Ap '58
- Delivery by pneumatic tubes speeds foundry tests; Adirondack steel castings co. *il Iron Age* 181:106 Ap 10 '58
- Determination of arsenic in iron and steel. *diags Iron & Steel Inst J* 183:331-7 Ap '58
- Determination of boron in carbon and low-alloy steels. bibliog *diag Iron & Steel Inst J* 189:227-32 JI '58
- Determination of tungsten in steel not containing niobium and tantalum. *Iron & Steel Inst J* 190:51-5 S '58
- Determination of uranium dioxide in stainless steel; X-ray fluorescent spectrographic solution technique. L. Silverman and others, *diag Anal Chem* 29:1762-4 D '57
- Direct-reading analysis of steel solutions using a reservoir-cupped centerpost electrode. L. C. Flickinger and others, *diag Anal Chem* 30:502-3 Ap '58
- Effect of nitrides in silicon iron on the determination of oxygen by chlorination, and the possible direct determination of aluminum nitride. F. J. Armson and H. L. Bennett, bibliog *Iron & Steel Inst J* 183:132-7 F '58
- Generalized X-ray emission spectrographic calibration applicable to varying compositions and sample forms. H. D. Burnham and others, *diags Anal Chem* 29:1827-34 D '57
- Grating polychromator analyzes steel. *il Mech Eng* 80:99 Ap '58
- Investigation of a method for the combined determination of niobium and tantalum in steel. *Iron & Steel Inst J* 187:341-3 D '57
- Metallurgy; analyzers determine minute tungsten parts in steel. *il Iron Age* 181:124-5 My 8 '58
- Ross-Meehan completes modern metallurgical laboratory. *il Foundry* 86:172+ O '58

Routine determination of oxygen in steel using a carrier-gas fusion technique. C. E. A. Shanahan and P. Cooke, *il diags Iron & Steel Inst J* 188:138-42 F '58

Silicon determination in tool steels, high alloys. W. B. Sobers, *Foundry* 86:206 Ja '58

Bibliography

Abstracts of current literature and book notices. Published in monthly numbers of the *Journal of the Iron and steel institute*

Blackening

Modern heat treatment facilities; Holo-Krome screw corp. D. A. Tullock, jr. *il Metal Prog* 72:75-8 N '57

Boron content

- Boron in cast steels. *il Metal Prog* 73:112 Ap '58
- Boron steel for control rods and thermal shields. N. Balai, *il Nucleonics* 16:100-1 Ja '58
- Boron steel sprockets. *il Foundry* 85:140+ N '57
- Determination of boron in carbon and low-alloy steels. bibliog *diag Iron & Steel Inst J* 189:227-32 JI '58
- High boron alloy steels. T. H. Middleham and others, bibliog *il Iron & Steel Inst J* 187:1-14 S '57; Abstract, *Metal Prog* 74:184+ Ag '58; Discussion, *Iron & Steel Inst J* 188:354-60 Ap '58; *Engineer* 204:523-4 O 11 '57
- Physical metallurgy of low-carbon low-alloy steels containing boron. K. J. Irvine and others, bibliog *il Iron & Steel Inst J* 186:54-67 My '57; Discussion, 183:55-8 Ja '58
- Properties of some tungsten and titanium steels containing boron; abstract. A. Banerjee and others, *Metal Prog* 73:182+ Mr '58
- Steels and tool bits modified with boron. *Product Eng* 28:B 15-17 Mid-O '57
- Strain ageing of boron-treated low-carbon steels. E. R. Morgan and J. C. Shyne, bibliog *Iron & Steel Inst J* 185:156-60 F '57; Discussion, 183:55-8 Ja '58

Brittleness

- Another turbogenerator failure. R. J. Landrum, *il diag Metal Prog* 74:91-4 S '58
- Brittle fracture. G. M. Boyd, *Engineer* 205:174 Ja 31 '58
- Brittle fracture in steel as related to flash-welded line pipe. M. A. Schell and others, bibliog *Eng J* 41:53-64 Mr '58
- Brittle fracture in welded ships, an empirical approach from recent experience; discussion. *Engineer* 205:503-5 Ap 4 '58
- Brittle-fracture investigations in Sweden. C. Schaub, *diags Engineering* 186:117 JI 25 '58
- Brittleness in high-manganese stainless. H. J. Beattie, jr. *il Metal Prog* 73:114+ F '58
- Cadmium plating; how to avoid embrittlement. *Steel* 141:132+ N 11 '57
- Carbide precipitation and brittleness in austenitic stainless steels; abstracts. A. Kramer and W. M. Baldwin, jr. *Metal Prog* 72:218 N '57; *Steel* 141:134 N 4 '57
- Charpy brittle-fracture transitions by the lateral expansion-energy relationship. G. M. Orner, *il Welding J* 37:sup201-5 My '58
- Effect of phosphorus and manganese on temper brittleness in chromium-nickel steel; abstract. N. V. Tolstoguzov and A. D. Kramarov, *Metal Prog* 73:172+ My '58
- Hydrogen embrittlement of gas carburized steel; abstract. S. Gunnerson, *Metal Prog* 73:196-8 Ja '58
- Initiation of brittle fracture in mild steel; abstract. J. A. Hendrickson and others, *Metal Prog* 72:156+ N '57
- Investigation of the impact properties of vessel steels; abstract. F. B. Hamel, *Pet Refiner* 37:201 My '58
- Lloyd's survey of brittle fracture. *Engineering* 185:497-8 Ap 18 '58
- Mechanical springs; materials, finishes and embrittlement. L. F. Spencer, bibliog *diag Metal Finishing* 56:66-9 F '58
- Nature of strain-age embrittlement. C. J. Osborn, bibliog *Iron & Steel Inst J* 188:97-101 F '58
- New concept of hydrogen embrittlement in steel. J. G. Morlet and others, bibliog *il diags Iron & Steel Inst J* 189:37-44 My '58
- New plating technique checks embrittlement; abstracts. W. F. Hamilton and others. *S A E J* 66:128-9 Ja '58; *Materials in Design Eng* 47:214+ Ap '58
- New technique rids plated steel of hydrogen embrittlement. H. H. Johnson and others. *Iron Age* 182:47-50 JI 31 '58

STEEL—Brittleness—Continued

Problem of embrittlement in the welding of austenitic heat-resisting steels; abstract. H. F. Tremlett. *Metal Prog* 73:178+ Je '58
 Study of the role of carbon in temper embrittlement; abstract. E. B. Mikus and C. A. Siebert. *Metal Prog* 72:174+ N '57
 Today's trend in ship research. D. K. Felbeck. *bibliog* *il Welding J* 37:sup265-8 Je '58

Cathodic protection

Current and potential relations for the cathodic protection of steel in salt water. W. J. Schwerdtfeger. *bibliog* *diags J Res Nat Bur Stand* 60:153-9 Mr '58
 -0.77 volt electric potential protects steel cathodically. *diag Water Works Eng* 111:572 Je '58
 Protection of steel in salt water. *Air Cond Heat & Ven* 55:82 Je '58

Cleaning

Descaling line cuts stock costs; Oldsmobile plant. *il Iron Age* 181:86-7 Ja 23 '58
 Heat treatment and cleaning in wire production. E. Hague. *il Metallurgia* 58:80-3 Ag '58
 Mechanical descaling and drawing of mild steel rod. L. Marsden. *diags Wire & Wire Prod* 33:298-302+ Mr '58
 Pickling stainless to remove scale. W. E. McFee. *il Steel* 141:103-4+ N 25 '57
 Shot blasting of plates and sections. *il Engineer* 206:331-3 Ag 29 '58
 Shot-blasting removes scale economically; Oldsmobile div. of General Motors corp. H. Chase. *il Mach* 65:167-9 O '58
 Shot sales are strong. *il Steel* 142:65 Ap 28 '58

Cobalt content

Is cobalt harmful in stainless steel? J. R. Lane. *Metal Prog* 72:86-7 D '57

Copper content

Copper addition aids machining of steel. *Materials in Design Eng* 46:198+ N '57

Corrosion

See Corrosion and anti-corrosives

Decarburization

Use of oxygen for decarburization in the open-hearth furnace. A. J. Kesterton. *bibliog* *diags Iron & Steel Inst J* 189:22-5 My '58

Defects

Detection of rolling defects in steel sheet; abstract. A. M. Armour. *Metal Prog* 73:174+ F '58
 Lamination detector for the continuous inspection of steel strip. B. O. Smith and A. G. Grimshaw. *il diags Iron & Steel Inst J* 189:66-71 My '58
 Radioactive tracer study of steel surface defects. T. W. Crosta. *il J Metals* 10:285-9 Ap '58
 Surface fatigue of carbo-nitrided steel. G. W. Powell and others. *il diags Metal Prog* 73:67-9 Mr '58

Degassing

See Steel—Gas content

Desulfurization

See Steel—Sulfur content

Deuterium content

Ratio of the diffusion coefficients for the diffusion of hydrogen and deuterium in steel. R. C. Frank and others. *J Ap Phys* 29:898-900 Je '58

Failure

Basis for the design and retirement of petroleum heater tubes. J. J. Heller. *bibliog* *diags A S M E Trans* 80:511-16 Ap '58
 Chemical factors affecting stress corrosion cracking of 18-8 stainless steels. H. H. Uhlig and J. Lincoln, Jr. *bibliog* *il diags Electrochem Soc J* 105:325-32 Je '58
 Comparison of semi-empirical solutions for crack propagation with experiments. J. Frisch. *bibliog* *il A S M E Trans* 80:921-6; Discussion. 926-8 My '58
 Crack initiation and propagation in the V-notch Charpy impact specimen. C. E. Hartbower. *il diags Welding J* 36:sup494-502 N '57
 Crystal growth may explain steel failure; abstracts. E. A. Gulbransen. *il Ind Lab* 9:60-1 Ja '58; *Elec Eng* 77:112 Ja '58; *Tool Eng* 40:207-8 Mr '58

Damage by uncontrolled shot blasting. K. Kornfeld. *il Metal Prog* 73:92 F '58
 Ductility in high-temperature rupture tests. J. Glen. *bibliog Iron & Steel Inst J* 190:30-9 S '58

Effect of fabricated edge conditions on brittle fracture of structural steels. L. A. Harris and N. M. Newmark. *Welding J* 37:sup 137 Ap '58

Effect of heating and cooling on the mechanical properties of an alloy steel; craze cracking of chromium-molybdenum steel. A. S. Kenneford and T. Williams. *diag Inst Mech Eng Proc* 171 no 30:823-8 57

Effects of gaseous detonations upon vessels and piping. P. N. Randall and others. *il diags Chem Eng Prog* 53:574-80 D '57

Inclusions; nuclei for fatigue cracks? technical session at the A.S.T.M. meeting. *Metal Prog* 74:120-2 Ag '58

Ingot cracks resulting from impurities in steel; abstract. P. Bjornson and H. Natvorst. *Metal Prog* 73:142+ F '58

Low crack sensitivity of steel joint by CO₂-O₂ arc welding. H. Sekiguchi and I. Masumoto. *bibliog* *il diags Welding J* 37:sup326-36 J1 '58

Morphological study of rupture surfaces by electron microscopy; abstract. J. Plateau and others. *Metal Prog* 73:195-6 Ap '58

New theory explains stress-corrosion cracking. *il Materials in Design Eng* 47:150 Ja '58

New theory on stress-corrosion cracking. *Metallurgia* 57:147 Mr '58

Seek solution to problem of ductility in steam piping. R. W. Emerson and R. W. Jackson. *Heating-Piping* 30:97-8 F '58

Stress-corrosion cracking; abstract and discussion. P. Hoar and J. G. Hines. *Chem & Ind* p282-3 Mr '58

Stress corrosion cracking of carbon and low alloy steels; abstract. R. N. Parkins. *Chem & Ind* p404-5 Ap '58

Study of fracture surface markings. C. F. Tipper. *bibliog* *il diags Iron & Steel Inst J* 185:4-9 Ja '57; Abstract. *Metal Prog* 73:145 Mr '58

See also

Steel—Brittleness

Finishing

Careful setup design improves finishes; steel office furniture. *il Iron Age* 181:124-5 F 27 '58

Finishing pointers; cleaning and plating steel assemblies. N. Ananias. *Metal Finishing* 56:65 Je '58

How to specify colorful, functional, economical pre-painted steel. E. R. Park. *il Product Eng* 28:99-102 D 9 '57

Lower firing temperatures cut cost for porcelain coatings on steel. L. E. Fussell and H. P. Tripp. *il Product Eng* 28:75-7 F 17 '58

Machine peels ingots in in-line operation. *il Iron & Steel Eng* 34:150-1 Ag '58

Measuring loads of solid flat steel parts. G. C. Field. *Metal Finishing* 56:70-1 Mr '58

Multiple strip processing gains in popularity. E. F. Boening. *Iron & Steel Eng* 34:146 O '57

New finishing setup for steel office furniture. H. C. Walker. *il Ind Finishing* 34:54-6 F '58

Surface finish of steel castings. D. V. Atterton. *bibliog* *il diag Foundry* 86:78-83 Ja; 107-11 F; 92-5 Mr '58

Textured steel. F. R. Park. *il Product Eng* 29:73-8 Mr 17 '58

Gas content

Conditions for stability of graphite, iron, and its oxides and carbides. D. I. Cameron. *Iron & Steel Inst J* 189:251-5 J1 '58

Vacuum casting of steel. J. N. Hornak and M. A. Orehoski. *il diags J Metals* 10:471-5 J1 '58; Abstract. *Metal Prog* 74:142+ Ag '58

Vacuum-flow steel degassing. F. W. Starratt. *diag J Metals* 10:465 J1 '58

Vacuum stream degassing is new tool for steel plant engineers. K. C. Taylor. *il Iron & Steel Eng* 34:142+ O '57

Vacuum stream degassing takes hold; abstracts. K. C. Taylor. *il diag Steel* 141:70-2 D 23 '57; *Materials in Design Eng* 47:170-4 F '58

See also

Steel—Hydrogen content

Hydrogen content

Diffusion of hydrogen in steel at temperatures of -73° to 200°C. J. D. Hobson. *bibliog* *diags Iron & Steel Inst J* 189:315-21 Ag '58

STEEL—Hydrogen content—Continued

- Effect of time after deposition on hydrogen content and mechanical properties of covered-electrode weld metal; abstract. J. Colbus. Welding J 38:sup489 N '57
- Hydrogen in electric steelmaking; abstract. T. W. Merrill. Metal Prog 73:153-4+ Je '58
- Hydrogen in mild steel welds; abstract. M. Lefevre. Welding J 37:sup 168 Ap '58
- Hydrogen treating process for steel; method of improving glass-coating properties of steel. J. H. Healy and J. D. Sullivan, bibliog il Am Cer Soc J 41:141-5 Ap 1 '58
- Low crack sensitivity of steel joint by CO₂-O₂ arc welding. H. Sekiguchi and I. Masumoto. bibliog il diags Welding J 37:sup326-36 J1 '58
- Mass spectrometer measurements of the diffusion coefficient of hydrogen in steel in the temperature range of 25°-90°C. R. C. Frank and others. bibliog diags J Ap Phys 29:832-3 Je '58
- Origin and elimination of hydrogen in basic open-hearth steels. W. L. Kerlie and J. H. Richards. bibliog J Metals 9:Trans 1541-8 D '57
- Present status of measurements of the diffusion coefficients of hydrogen in iron and mild steel. R. C. Frank. J Ap Phys 29:1262-3 Ag '58
- Ratio of the diffusion coefficients for the diffusion of hydrogen and deuterium in steel. R. C. Frank and others. J Ap Phys 29:898-900 Je '58
- Vacuum pouring of ingots for heavy forgings; abstract. J. H. Stoll. diag Metal Prog 74:146+ Ag '58

Hydrogen effect

- Effect of hydrogen on the mechanical properties of steel; abstract. R. V. Sklyuyev and others. Aeronaut. Ing R 17:37 Ja '58
- Effect of hydrogen upon martensite formation in low-alloy steels. R. Kumar and A. G. Quarrell. bibliog Iron & Steel Inst J 187:195-204 N '57
- Hydrogen behavior of metals, a factor in selection of metals for equipment fabrication. G. F. K. Chu. bibliog il diags Ind & Eng Chem 50:sup59A-60A My '58
- Hydrogen embrittlement of gas carburized steel; abstract. S. Gunnerson. Metal Prog 73:196-8 Ja '58
- Mechanical springs; materials, finishes and embrittlement. L. F. Spencer. bibliog diag Metal Finishing 56:66-9 F '58
- New concept of hydrogen embrittlement in steel. J. G. Morlet and others. bibliog il diags Iron & Steel Inst J 189:37-44 My '58
- New technique rids plated steel of hydrogen embrittlement. H. Johnson and others. Iron Age 182:47-50 J1 '58
- Reduction of passive films by hydrogen diffusion through steel. R. T. Davis, Jr. and T. J. Butler. bibliog diag Electrochem Soc J 105:563-8 O '58
- Relationship between hydrogen solubility and reboiling tendency in enameling steels. R. M. Hudson and others. bibliog il diag Am Cer Soc J 41:23-7 Ja 1 '58
- Ultrasonic inspection used to detect hydrogen attack. J. Bland. il diags Pet Refiner 37:118-18 J1 '58
- You can stop hydrogen attack. W. A. Bonner. bibliog il Pet Refiner 37:111-14 J1 '58

Inclusions

- Extraction of minor phases from austenitic steel. J. F. Brown and others. bibliog diags Metallurgia 56:215-23 N '57; Discussion. O. Knop. 57:137-8 Mr '58
- Inclusions; nuclei for fatigue cracks? technical session at the A.S.T.M. meeting. Metal Prog 74:120-2 Ag '58
- Magnetic analysis of ferromagnetic inclusions found in 18/8 stainless steel. S. Yamaguchi. il diags Iron & Steel Inst J 188:361-2 Ap '58
- New electrolytic cell for isolating carbides and nonmetallic inclusions in steel; abstract. N. Backstrom and others. Metal Prog 73:180+ Mr '58
- Some effects of mechanical working on the deformation of non-metallic inclusions. F. E. Pickering. bibliog il Iron & Steel Inst J 189:145-59 Je '58

Lead content

- Fresh look at leaded steels. W. Simon. Prod-uct Eng 29:72-3 Ap 14 '58
- How good are leaded steels in fatigue? G. W. Brock, and G. M. Sinclair. Iron Age 181:59-62 Ja 9 '58

- Machinability of type A leaded steels; abstracts. E. J. Paliwoda. Metal Prog 72:196+ N '57; Steel 141:133 N 4 '57
- Morphology and chemistry of lead in leaded high sulfur steels; abstract. J. W. Thurman and E. J. Paliwoda. Steel 141:133 N 4 '57
- Spectrochemical determination of lead in steel. L. C. Flickinger and others. Anal Chem 29:1778-9 D '57

Machinability

See Steel cutting

Metallography

- Carbide precipitation in several steels containing chromium and vanadium. A. K. Seal and R. W. K. Honeycombe. bibliog 3pls Iron & Steel Inst J 188:9-15 Ja '58
- Clues to stronger steel; abstract. A. Turkalo and J. R. Low, Jr. il Steel 141:98 N 26 '57
- Continuous cooling transformation characteristics of types of weld metal. E. E. Nippes and E. C. Nelson. il Welding J 37:sup30-6 Ja '58
- Cooling transformation diagrams for A.I.S.I. 4024 and 52100; charts; data sheet. R. C. Hess and D. J. Blickwede. Metal Prog 74:963 J1 '58
- Criterion for peritectic and eutectic reactions. M. Hillert. diags Iron & Steel Inst J 189:224-6 J1 '58
- Crystall growth may explain steel failure; abstracts. E. A. Gulbransen. il Ind & Lab 9:60-7 Ja '58; Elec Eng 77:112 Ja '58; Tool Eng 40:207-8 Mr '58
- Dendritic segregation of manganese in steel ingots. R. G. Ward. bibliog il Iron & Steel Inst J 188:337-42 Ap '58
- Effect of heat treatment on the microstructure and low-temperature properties of pressure-vessel steels. J. H. Gross and others. il Welding J 37:sup 160-8 Ap '58
- Effect of microstructure and heat treatment on the mechanical properties of AISI type 431 stainless steel; abstract. G. E. Dieter. Metal Prog 72:184+ D '57
- Effect of tantalum and niobium on the tempering of certain vanadium and molybdenum steels. A. K. Seal and R. W. K. Honeycombe. bibliog 4pls Iron & Steel Inst J 188:343-50 Ap '58
- High boron alloy steels. T. H. Middleham and others. bibliog il Iron & Steel Inst J 187:1-14 S '57; Discussion. 188:354-60 Ap '58
- High-performance steels. E. A. Loria. il Machine Design 30:111-15 S 4 '58
- High-temperature X-ray study on high-speed steel. H. J. Goldschmidt. bibliog il Iron & Steel Inst J 186:68-85 My '57; Discussion. 188:153-4 F '58
- Influence of ferrite banding on the impact properties of mild steel. W. S. Owen and others. bibliog il diag Welding J 37:sup368-74 Apr '58
- Investigation of nitride precipitates in pure iron and mild steels. G. R. Booker and others. bibliog il Iron & Steel Inst J 187:205-15 N '57
- Isothermal transformation of spheroidized pearlite to austenite. A. A. Golestaneh and others. Iron & Steel Inst J 188:237-41 Mr '58
- Low-carbon bainitic steels. K. J. Irvine and F. B. Pickering. bibliog il Iron & Steel Inst J 187:292-309 D '57
- Mechanism of formation of banded structures. 10th Hatfield memorial lecture. F. G. Bastien. bibliog il Iron & Steel Inst J 187:281-91 D '57
- Metallography of low-carbon bainitic steels. K. J. Irvine and F. B. Pickering. bibliog il Iron & Steel Inst J 188:101-12 F '58
- Observations on the physical appearance of chemically attacked glassed steel surfaces. D. K. Priest. bibliog il diag Am Cer Soc Bul 36:416-18 N 15 '57
- Physical metallurgy of low-carbon low-alloy steels containing boron. K. J. Irvine and others. bibliog Iron & Steel Inst J 186:54-67 My '57; Discussion. 188:55-3 Ja '58
- Prediction of weld heat-affected zone microstructures from continuous-cooling transformation data. E. F. Nippes and E. C. Nelson. il Welding J 37:sup289-94 J1 '58
- Refining grain structure by inoculation. il diags Gen Elec 61:26-7 J1 '58
- Relation of Charpy impact properties to microstructure of three ship steels. W. S. Owen and others. bibliog il Welding J 36:sup503-11 N '57

STEEL—Metallography—Continued

- Solve lamellar phase problem in A-286. K. Metcalfe. *Il Iron Age* 182:72-4 J1 '58
- Study of fracture surface markings. C. F. Tipper. *bibliog il diags Iron & Steel Inst J* 185:4-9 Ja '57; *Abstract. Metal Prog* 73:145 Mr '58
- Tempering of low-alloy creep-resistant steels containing chromium, molybdenum, and vanadium. E. Smith and J. Nutting. *bibliog il Iron & Steel Inst J* 187:314-29 D '57
- Thirty years in American metallurgy. J. J. B. Rutherford. *Il Metal Prog* 73:106-11 F '58
- Transformation structures in hypo-eutectoid alloy steels; abstract. W. C. Hagel and M. N. Ruoff. *Metal Prog* 72:176+ N '57
- Twinning in explosively loaded steel. S. Singh and A. Soundararaj. *bibliog il J Ap Phys* 29:111-12 Ja '58
- Veiling in ferrite. Hultgren and others. *bibliog il diags Iron & Steel Inst J* 188:247-61 Mr '58

See also

Austenite
Martensite

Nitriding

See Case hardening—Nitriding process

Nitrogen content

- Nitrogen in stainless steels; summary of six papers presented at the Electric steel conference. *Metal Prog* 74:136+ J1 '58
- Solubility of nitrogen in iron-chromium alloys. E. T. Turkdogan and S. Ignatowicz. *bibliog Iron & Steel Inst J* 188:242-7 Mr '58

Oxygen content

- Evaluation of inert gas fusion method for rapid determination of oxygen in steel. J. I. Peterson and others. *bibliog il Anal Chem* 30:1088-9 Je '58
- Routine determination of oxygen in steel using a carrier-gas fusion technique. C. E. A. Shanahan and F. Cooke. *il diags Iron & Steel Inst J* 188:138-42 F '58

Phosphorus content

- Role of phosphorus in austenitic manganese weld metal. W. T. DeLong and others. *bibliog diag Welding J* 37:sup316-19 J1 '58

Prices

- Commodity price trends; steel, copper and aluminum. D. Williams. *Wire & Wire Prod* 33:277-83+ Mr '58
- Steel-price rise starts costing oil. *Oil & Gas J* 56:65-6 Ag 11 '58

Protection

- Aluminum-coated steel flasks are expendable. W. E. McFee. *il Foundry* 86:196+ S '58
- Antimony plating on steel and zinc. G. R. Schaer and others. *bibliog il Plating* 45:139-43 F '58
- Better shock-resistant glass; new glassed steel. *Chem Eng* 65:144 J1 '58
- Bronze over steel fights wear. *Il Iron Age* 181:109-10 My 29 '58
- Cadmium plating; how to avoid embrittlement. *Steel* 141:132+ N 11 '57
- Chromalized steel; Chromalloy process. R. F. Seelig. *il S A E J* 66:42-4 My '58
- Chromized steel replaces stainless. *il Materials in Design Eng* 47:200+ F '58
- Conditioning and painting the surfaces of zinc coated steels. L. F. Spencer. *il Ind Finishing* 34:28+ D '57
- Corrosion of zinc plated steel. R. H. Wolff. *il Metal Finishing* 55:46-52 Je '58
- Diffusion process makes plain carbon sheet stainless; Chromalizing. *Il Iron Age* 180:128-9 N 7 '57
- Flow coating setup for painting structural steel. E. A. Moenning. *il Ind Finishing* 34:26-8+ F '58
- For a durable finish on steel shower cabinets; bonderized or phosphatized sheet steel compared with plain galvanized sheet steel. *Ind Finishing* 34:100+ Ap; 99-100 Je '58
- Glass-protected steel. *Product Eng* 29:C 10 Mid-5 '58
- Glassed steel for the chemical industry. D. K. Priest. *il Ind & Eng Chem* 50:sup75A-6A My '58
- Gold coatings, paints protect steel, ceramics. *Materials in Design Eng* 47:150+ F '58
- How grit blasting improves phosphate coatings. J. Knanishu. *il Metal Finishing* 55:57-62 Mr '58
- How to specify colorful, functional, economical pre-painted steel. F. R. Park. *il Product Eng* 28:99-102 D 9 '57

- Magnetic rollers help automation timing; coating and baking of flat metal sheet stock. *Ind Finishing* 34:44-5 My '58
- Modern painting setup at Penco Metal Products. G. Kling. *il plan Ind Finishing* 34:20-2+ My '58
- Painting formed steel parts for Glasco premix vendors. W. G. Sanders. *il Ind Finishing* 34:46-8+ N '57
- Painting steel pails. H. L. Cerniak. *il Ind Finishing* 34:62-4 F '58
- Performance of epoxy resin coatings in marine environments. F. A. MacDougall. *il Corrosion* 14:93-4+ Mr '58
- Phosphoric acid treatments for steel; the nature of coatings produced by the action of phosphoric acid on steel. M. Donovan and others. *bibliog J Ap Chem* 8:87-96 F '58
- Prepaint treatment on new truck rims. *Ind Finishing* 34:121-2 Je '58
- Protective linings for steel shipping containers. L. J. Nowacki. *il Corrosion* 14:60-2 F '58
- Protective value of tin-nickel alloy deposits on steel. F. A. Lowenheim and others. *bibliog il Electrochem Soc J* 105:338-46 Je '58
- Rustproofing oils for processing. E. R. Slaby. *Iron & Steel Eng* 35:102-3 Ja '58
- Vacuum deposition avoids embrittlement. V. Dress. *il Iron Age* 180:142-5 D 19 '57; *Abstract. S A E J* 65:125 N '57
- Zirconia and alumina coatings give short-time 3000 F steel protection; abstract. J. V. Long. *il S A E J* 66:74-5 Ag '58

See also

Chromizing
Galvanizing
Steel—Cathodic protection

Rimmed steel

- Effect of nozzle size on pouring rates and slab surface of rimming steels; abstract. A. T. Peters. *Metal Prog* 74:160 Ag '58

Scaling

- Scaling of 18-8 stainless steel in reheating furnace atmospheres. J. O. Edström. *bibliog (45 ref) il diag Iron & Steel Inst J* 185:450-6 Ap '57; *Abstract. Metal Prog* 73:171-2+ Ja '58

Standards

- ASTM and the steel industry; two case histories. N. P. Veeder. *A S T M Bul* p57-8 J1 '58
- Challenge of standards in the steel industry. J. W. Sullivan. *bibliog il Mag of Stand* 29:128-32 Mr '58
- Guide to materials standards and specifications. S. P. Kaidanovsky. *Materials in Design Eng* 47:110-14 Ap '58
- Steelmen view standards. *Steel* 142:77-9 Ja 20 '58

Strength

- Casting alloy enters high-strength field; Wearpac. E. G. Opsahl and W. H. Sparling. *Product Eng* 29:84-5 Ap 23 '58
- Ductility and energy relations in Charpy tests of structural steels. J. H. Gross and R. D. Stout. *bibliog Welding J* 37:sup 151-5; *Discussion. sup* 156-8; *Reply. sup* 158-9 Ap '58
- Effect of alloying elements on the high-temperature tensile strength of normalized low-carbon steel. J. Glen. *bibliog Iron & Steel Inst J* 186:21-48 My '57; *Discussion. 187:219-23 N '57*
- Effect of per cent tempered martensite on endurance limit; abstract. F. Borik and others. *Steel* 141:144 N 4 '57
- For thick wall vessels reduce thickness by overstrain? S. M. Jorgensen. *bibliog il Pet Refiner* 37:163-9 F '58; *Same. A S M E Trans* 80:561-7; *Discussion. 568-70 Ap '58*
- Found. a low-alloy steel for missiles. W. M. Stocker, Jr. *il Am Mach* 102:72-3 Ag 25 '58
- High-strength cast steel; low-alloy, Mn-Cr-Mo steel. C. G. Mickelson and R. D. Engquist. *diags Metal Prog* 73:97-8 Mr '58
- High strength weldable steels. K. J. Irvine. *bibliog il Metallurgia* 58:13-23 J1 '58
- How good are leaded steels in fatigue? G. W. Brock and G. M. Sinclair. *Iron Age* 181:59-62 Ja 9 '58
- How grinding affects fatigue strength of steel. L. P. Tarasov. *bibliog diag Am Mach* 101:72-6 D 30 '57
- New drawing process eliminates heat treating for strong parts. E. S. Nachtmann and E. B. Moore. *J Metals* 10:281-4 Ap '58

STEEL—Strength—Continued

- Report on strength of welded joints in carbon steel at elevated temperatures. *il* diags A S M E Trans 80:571-82; Discussion. 583-5 Ap '58
- Spiral-rolling ups strength even more than shot-peening or induction surface hardening. T. W. Wlodek, *diags* Eng & Min J 158: 95-6 N '57
- Stainless castings with unusual hot strength. C. Tytka, *il* Materials in Design Eng 47:104-5 Mr '58
- Static properties of high strength steel. E. P. Klier and others. *Product* Eng 28:B24-7 Mid-O '57
- Tensile strength of light steel; abstract. E. W. Williams. *Metal Prog* 74:170-4 Ag '58
- Ultra high strength steel looks good for landing gears. *il* Aviation Age 28:110-13 Ja '58
- Ultra-strength steels. *Product* Eng 29:B 13-15 Mid-S '58
- Use high-strength steel to lighten supersonic aircraft. B. Mitchell, *il* diags Ind Lab 9: 61-6 Mr '58; Same cond. S A E J 65:66-8 D '57; Same cond. Iron Age 181:102-4 F 6 '58

Sulfur content

- Desulfurization of iron and steel. S. L. Gertsman, *il* diags Foundry 86:48-53 Ag '58
- Morphology and chemistry of lead in leaded high sulfur steels; abstract. J. W. Thurman and E. J. Paliwoda. *Steel* 141:133 N 4 '57

Testing

- Behavior of steels in hydrogen sulfide environments. L. W. Vollmer, *bibliog* *il* Corrosion 14:38-42 J '58
- Comparison of notched bar tests. A. W. Johnston. *Engineering* 186:107 J 25 '58; Same. *Metallurgia* 58:129 F '58
- Effect of alternate corrosion and abrasion on some ferrous metals. J. Dearden and J. D. Swindle, *bibliog* Iron & Steel Inst J 185:227-34 F '57; Abstract. *Metal Prog* 73: 144-4 Ap '58
- Evaluation of the Kinzel test from its fracture characteristics. R. D. Stout and others. *diags* Welding J 37:sup 107-13 Mr '58
- Fatigue properties of comparable cast and wrought steels; abstract. E. B. Evans and others. *Metal Prog* 73:150-4 Ap '58
- How to measure the effects of slack-quenching. *il* Iron Age 181:80-2 Ja 23 '58
- Improved notch toughness of experimental semikilled steels over one inch in thickness. R. W. Vanderbeck, *bibliog* *diag* Welding J 37:sup 10-20 Ja '58
- Piecewise yielding of mild steel. K. Farnell. *Engineering* 185:92-3 Ja 17 '58
- Pure torsion creep tests on magnesium alloy (2 per cent Al) at 20°C., and on 0.2 per cent C steel at 450°C., at low rates of strain (10⁻⁶ to 10⁻⁹ per hour). A. E. Johnson and others. *Metallurgia* 58:109-17 S '58
- Stress distribution in overstrained mild steel beams. K. Farnell, *diag* *Engineering* 185: 788-9 Je 20 '58

Temperature effect

- Creep characteristics of type 347 stainless steel at 1050 and 1100 F in tension and compression. M. J. Manjoine, *bibliog* *il* A S M E Trans 79:1921-8 N '57
- Diffusion of hydrogen in steel at temperatures of -78° to 200°C. J. D. Hobson, *bibliog* *diags* Iron & Steel Inst J 189:315-21 Ag '58
- Ductility in high-temperature rupture tests. J. Glen, *bibliog* Iron & Steel Inst J 190:30-9 S '58
- Effect of alloying elements on the high-temperature tensile strength of normalized low-carbon steel. J. Glen, *bibliog* Iron & Steel Inst J 186:21-48 My '57; Discussion. 187:219-23 N '57
- Effect of heat treatment on the microstructure and low-temperature properties of pressure-vessel steels. J. H. Gross and others. *il* Welding J 37:sup 160-8 Ap '58
- Effect of heating and cooling on the mechanical properties of an alloy steel; craze cracking of chromium-molybdenum steel. A. S. Kenneford and T. Williams, *diag* *Inst Mech Eng Proc* 171 no 30:823-8 '57
- Effect of rate of stress application and temperature on the upper yield stress of annealed mild steel; abstract. J. A. Hendrickson and D. S. Wood. *Metal Prog* 72:182-4 N '57

- Effect of some common alloying elements on the volume change at A_c of a 0.35 per cent carbon steel. A. S. Kenneford. *Iron & Steel Inst J* 189:135-3 Je '58
- Elevated temperature relaxation properties of 17-7 PH stainless steel helical compression springs. M. Clogg, jr. *il* *diag* Wire & Wire Prod 33:401-5 Ap '58
- High-temperature X-ray study on high-speed steel. H. J. Goldschmidt, *bibliog* *il* Iron & Steel Inst J 186:68-85 My '57; Discussion. 183:153-4 F '58
- Prediction of weld heat-affected zone microstructures from continuous-cooling transformation data. E. F. Nippes and E. C. Nelson, *il* *Welding J* 37:sup289-94 J '58
- Report on strength of welded joints in carbon steel at elevated temperatures. *il* diags A S M E Trans 80:571-82; Discussion. 583-5 Ap '58
- Some aspects of preyield phenomena in mild steel at low temperatures; abstract. W. S. Owen and others. *Metal Prog* 72:112-4 N '55
- Studies of the weld heat-affected zone of T-1 steel. E. F. Nippes and others, *bibliog* *il* *diags* Welding J 36:sup531-40 D '57
- Yield point and high-temperature proof stress of carbon-manganese steel. J. Glen. *Engineer* 205:809 My 30 '58

Transportation

- Mills pay more freight. *il* *Steel* 142:191-3 Ap 14 '58

Uses

- Trends in metals; stainless steels; application. *il* *Steel* 141:113-18 N 4 '57

Welding

- Automatic welding of brackets on fork lift truck rails; Industrial truck div. of Clark equipment co. R. C. Andrews, *il* *Automotive Ind* 119:8 Je 15 '58
- Bonded fluxes for submerged-arc welding of alloy steels. H. C. Campbell and W. C. Johnson, *il* *Welding J* 36:1078-84 N '57
- Butt welding austenitic stainless steel to ferritic steel in cylindrical shapes. J. E. Donahue, *bibliog* *il* *diags* Welding J 36: 1074-7 N '57
- CO₂ welding of steel. R. W. Tuthill, *il* *Tool Eng* 40:82-6 Ja '58
- Casting weldments in a petroleum refinery. J. Bland and others, *il* *diag* Welding J 37: 789-98 Ag '58
- Charpy brittle-fracture transitions by the lateral expansion-energy relationship. G. M. Orner, *il* *Welding J* 37:sup201-5 My '58
- Comparative properties of electrodes for arc welding austenitic manganese steels. W. L. Lutes and H. F. Reid, jr. *il* *diags* Welding J 35:776-83 Ag '55; Discussion. H. J. Chapin. 37:702-5; Reply. 705 J '58
- Composite arc-welded steel crankshaft devised for portable gang saw. W. L. Johnson, *il* *diag* Welding J 37:706-7 J '58
- Continuous cooling transformation characteristics of three types of weld metal. E. F. Nippes and E. C. Nelson, *il* *Welding J* 37: sup30-6 Ja '58
- Development of filler wires for welding SAE 4130, 4140 and 4340 steels. H. W. Mishler and others, *diags* Welding J 37:sup41-8 F '58
- Effect of preheating and postheating on toughness of weld metal. T. N. Armstrong and W. L. Warner, *Welding J* 37:sup27-9 Ja '58
- Effect of time after deposition on hydrogen content and mechanical properties of covered-electrode weld metal; abstract. J. Colbus, *Welding J* 36:sup439 N '57
- Effects of porosity on mild-steel welds. W. L. Green and others, *diags* Welding J 37: sup206-9 My '58
- Effects of steel-making practice on submerged-arc weld porosity. J. T. Lapsley, jr. *il* *diag* Welding J 37:sup 169-78 Ap '58
- Energy absorption studies of welds in tempered martensitic base metal. W. H. Bruckner and C. A. Robertson, *il* *diags* Welding J 37:sup97-100 Mr '58
- Evaluation of the Kinzel test from its fracture characteristics. R. D. Stout and others, *diags* Welding J 37:sup 107-13 Mr '58
- Expert views strap welds. R. G. LeTourneau, *il* *Steel* 141:60 D 30 '57
- Fabrication and service factors involved in failure of welded steam receivers. A. J. Babecki and P. P. Puzak, *il* *diags* Welding J 37:sup220-5 J '58
- From coils of strip steel to continuous-weld pipe. *il* *Welding J* 37:806-7 Ag '58

STEEL—Welding—Continued

- Huge steel ladle built in Australia. *il* Welding Eng 43:70 Mr '58
- Hydrogen in mild steel welds; abstract. M. Lefevre. Welding J 37:sup 168 Ap '58
- Low crack sensitivity of steel joint by CO₂-O₂ arc welding. H. Sekiguchi and I. Masumoto. *bibliog il* diags Welding J 37:sup 326-36 JI '58
- Magnetic-flux gas shielded arc welding. J. E. Dato. *il* diags Iron & Steel Eng 55:160-3; Discussion. 164-5 S '58
- Meaning of weldability. T. B. Jefferson. *il* Welding Eng 43:5-8+ Mid-Je '58
- New demands on gas cylinders are met by reliable welds; Christy Park works of U.S. steel corp.'s National tube div. *il* Welding Eng 43:27-8 Ja '58
- New joint design fills the bill for making root pass welds in steel and stainless steel pipe butt joints. L. C. Lemon and W. R. Smith. *il* diags Heating-Piping 29:135 N '57
- Prediction of weld heat-affected zone microstructures from continuous-cooling transformation data. E. E. Nippes and E. C. Nelson. *il* Welding J 37:sup 289-94 JI '58
- Problem of embrittlement in the welding of austenitic heat-resisting steels; abstract. H. F. Tremlett. *Metal Prog* 73:178+ Je '58
- Report on strength of welded joints in carbon steel at elevated temperatures. *il* diags A S M E Trans 80:571-82; Discussion. 583-5 Ap '58
- Role of high strength weldments in aircraft structure. B. R. Alsbrook. *diags Machine Design* 30:181-2+ F 20 '58; Abstract. S A E J 66:60 Ja '58
- Role of phosphorus in austenitic manganese weld metal. W. T. DeLong and others. *bibliog diag* Welding J 37:sup 316-19 JI '58
- Schedules for spot welding projection hardware to mild-steel sheet and plate. O. K. Barnes, jr. *il* diags Welding J 37:207-19 Mr '58
- Seam welding galvanized steel. W. J. Allen and M. L. Begeman. *il* Welding J 37:sup 138-43 Ap '58
- Seam welding paces high-speed drum fabrication; Dow chemical co.'s Midland (Mich.) div. *il* Welding Eng 43:33 Ja '58
- Spot welding of rail steel. D. Canonic and H. Schwartzbart. *il* diag Welding J 37:484-8 My '58
- Spot welds simplify sheet assembly. *il* Iron Age 181:79 Ja 16 '58
- Steel plant gondola cars fabricated by welding. R. Losee. *il* Welding Eng 43:41-2 JI '58
- Studies of the weld heat-affected zone of T-1 steel. E. F. Nippes and others. *bibliog il* diags Welding J 36:sup 531-40 D '57
- Theory for preheating of plain low-carbon steels. E. P. Degarmo. *bibliog il* Welding J 37:sup 93-6 Mr '58
- Tips on welding thick-walled vessels. *il* Iron Age 180:162-4 N 14 '57
- Weldability of notch-ductile steels. L. Reeve. *bibliog il* diags Welding J 37:sup 74-80 F '58
- Welding and brazing of precipitation-hardening steels. F. K. Lampton. *Machine Design* 29:180+ D 12 '57; Same. S A E J 65:37-8 D '57
- Welding galvanized steel and soldering stainless. Welding Eng 43:68 Ap '58
- Welding heavy steel; Gunderson bros. engineering corp. H. E. Jackson. *il* Welding Eng 43:65-6 Ap '58
- Welding high-tensile steels. K. L. Zeyen and H. Schwarz. Welding J 36:sup 480-2 N '57
- Welding metallurgy of Cr-Mo-V steels for high-temperature steam-turbine components. R. J. Christoffel and others. *bibliog il* diag Welding J 37:sup 295-303 JI '58
- Welding methods fabricate railroad cars. *il* Mach 65:165-6 O '58
- See also*
Piping (power plants)—Welding
- STEEL, Aircraft**
- Are tool steels the answer to high-speed flight? design data. *il* Am Mach 102:106-10 Mr 10 '58
- Corrosion resistance of high strength stainless steels for aircraft. J. Halbig and O. B. Ellis. *bibliog il* diag Corrosion 14:53-9 Ag '58
- Development of filler wires for welding SAE 4130, 4140 and 4340 steels. H. W. Mishler and others. *diags* Welding J 37:sup 41-8 F '58
- Developments in steel and titanium. *il* Aircraft Eng 30:72 Mr '58
- Extruded steel parts help control aircraft. *il* Materials in Design Eng 47:178+ Ja '58

- High strength stainless alloy has heat resistance for Mach 4. *il* Materials in Design Eng 46:174-5+ N '57
- Honeycomb gets new brazing method; Convair div. of General dynamics corp. R. B. Stanton. *il* Welding Eng 43:62-4 Ag '58
- Kingsize sheets on way. U.S. steel corp. *il* Steel 141:92-3 D 23 '57
- New five per cent chromium steel; Vascojet 1000. J. C. Hamaker, jr. S A E J 66:68-73 JI '58
- New process rolls wide alloy sheets; U.S. steel corp. *il* Iron Age 180:21 D 26 '57
- New stainless steel to beat heat barrier; modified 18-8. *il* Materials in Design Eng 47:104-5 My '58
- Paper-thin steel sheet cuts weight of aircraft; Ryan aeronautical co. award winner in Materials in Design engineering competition. *il* diags Materials in Design Eng 47:128-33 Ap '58
- Plastic bending of heavily curved beams. W. Johnson and B. W. Senior. *diags* Roy Aeronautical Soc J 61:824-30 D '57
- Precipitation hardening stainless for hot airframes. R. W. White. *il* Metal Prog 73:74-3 Je '58
- Role of high strength weldments in aircraft structure. B. R. Alsbrook. *diags Machine Design* 30:181-2+ F 20 '58
- Sheet steels for high-speed aircraft and missiles. A. L. Field and M. E. Carruthers. *il* Aero/Space Eng 17:41-4 Je '58
- Stainless gears for aircraft era. T. M. Rohan. *il* Iron Age 181:62-3 Mr 20 '58
- Steel alloys for supersonic aircraft; abstract. A. F. Ensrud. *Tool Eng* 39:194-5 D '57
- Superstrength steel hardens in air; U.S. steel corp.'s new Airsteel X-200. *il* Steel 143:104 S '58
- 301 stainless modified for 800 deg F and up; MicroMach. D. B. Roach and others. *il* Space/Aeronautics 30:58-63 O '58
- Use high-strength steel to lighten supersonic aircraft. B. Mitchell. *il* diags Ind Lab 9:81-6 Mr '58; Same cond. S A E J 65:56-8 D '57; Same cond. Iron Age 181:102-4 F 6 '58; Abstract. *Machine Design* 30:179-81 F 20 '58
- What the aircraft maker wants in a steel casting. L. H. McCreery. *il* Metal Prog 74:75 JI '58
- Where stainless is lighter than aluminum; anti-ice nozzles for F-100 fighter planes. J. B. Teeter and R. Rohrborg. *il* diag Am Mach 102:132-3 Mr 10 '58
- Which high strength steel? R. J. Nekervis and others. *il* Materials in Design Eng 48:34-9 JI '58
- Why jets are going stainless. T. M. Rohan. *Iron Age* 182:46-7 Ag 7 '58
- X-15 has stainless skin. *il* Steel 142:51 Mr 31 '58

Testing

- Die tests elongation. *il* Steel 143:101 S 8 '58
- STEEL, Automobile**
- Choice of stock cuts scrap loss; Buick sheet metal plant. H. Chase. *il* Iron Age 180:90-1 N 28 '57
- STEEL, Clad**
- Channel-clads plate via vacuum method. *il* Iron Age 181:138-9 Mr 6 '58
- See also*
Steel, Copper clad
- STEEL, Cold treatment of**
- Cold treatment of stainless steel improves properties. J. R. Bischoff and C. E. Hover, jr. *il* Tool Eng 41:87-8 Ag '58
- Freezing plus working strengthen stainless. V. N. Krivobok and C. R. Mayne. *Product Eng* 28:D8 Mid-O '57
- STEEL, Cold working of**
- Cold reducing forms strong steel shafts. *il* Materials in Design Eng 47:182+ Ap '58
- Cold reducing yields steel savings. *il* Tool Eng 39:113 N '57
- Cold working methods at LaSalle steel co. E. S. Nachman. *il* Steel 141:69 D 23 '57
- Cold working moves into high-output uses. D. J. Davis. *il* diags Iron Age 181:85-7 My 29 '58
- Effect of cold work on the creep-rupture properties of a series of simple 18-8 stainless steels. F. B. Cuff, jr. and N. J. Grant. *bibliog diag* Iron & Steel Inst J 186:188-97 Je '57; Discussion. *il* 188:155-6 F '58
- Effect of 475°C heat treatment on cold worked 18/8 stainless steel wire. S. Storchheim. *Wire & Wire Prod* 33:172-3+ F '58
- How to upgrade cold-finished steel. L. J. Ebert. *il* diags Steel 141:66-9 D 23 '57
- Progressive cold forming; Swiss machines for bolt-heading and nut-forming. *il* Automobile Eng 48:336-7 S '58

STEEL, Copper clad

Electroforming of telephone drop wire conductor. R. J. Bachman. *Il Metal Prog* 72:88-92 N '57

STEEL, Corrosion resisting

Alloys have field day; corrosive copper plating baths need special handling. *Il Chem & Eng N* 36:50 Ja 20 '58

Corrosion resistance of four French steels; abstract. L. Colombar and J. Hochmann. *Materials in Design Eng* 47:197-8+ Ap '58

Intergranular corrosion resistance of austenitic stainless steels; ferric sulfate-sulfuric acid test. M. A. Streicher. *bibliog Il A S T M Bul* p77-85 Ap '58

Potential technique for studying the acid resistance of alloy steels. C. Edeleanu. *bibliog diag Iron & Steel Inst J* 188:122-32 F '58

Stainless steels for corrosion resistance. L. R. Honnaker. *bibliog Il diag Chem Eng Prog* 54:79-82 Ja '58

Steel pipe, tubing resist corrosive fluids. *Il Materials in Design Eng* 47:220+ Ap '58

See also

Chromium nickel steel**STEEL, Galvanized**

Conditioning and painting the surfaces of zinc coated steels. L. F. Spencer. *Il Ind Finishing* 34:28+ D '57

Corrosion and protection of galvanized steel transmission tower footings. J. D. Piper. *Il diag Corrosion* 14:19-25 Mr '58

Galvanized structural steel in Gulf Coast construction. J. W. Sward. *Il Ind & Eng Chem* 49:sup69A-70A D '57

Improved formability of galvanized sheet. J. R. Kattus. *Il diag Metal Prog* 72:82-5+ D '57

Seam welding galvanized steel. W. J. Allen and M. L. Begeman. *Il Welding J* 37:sup 138-43 Ap '58

Strip preheat ends galvanizing pot downtime. E. J. Udick and C. A. Turner, Jr. *Il diag Iron & Steel Eng* 35:145-6+ Ag '58

Welding galvanized steel and soldering stainless. *Welding Eng* 43:68 Ap '58

STEEL, Hardening of

Designing with precipitation hardening steels. *Product Eng* 29:38-11 Mid-S '58

Ductile stainless work hardens for extra strength. *Iron Age* 181:88-9 My 29 '58

Further development of the end quench hardenability test for deep hardening steels; abstract. A. Rose and L. Rademacher. *Metal Prog* 73:156-7 Ap '58

Hardenability bands for steels; charts; data sheets. *Metal Prog* 72:96B N; 96B D '57; 73:96B Ja; 96B F; 96B Mr; 96B Ap; 96B My '58

How to harden steel rolls. C. J. McCormick. *Il Iron Age* 182:60-2 Ag 28 '58

Mechanism of the effect of hardening on graphitization; abstract. K. P. Bunin and E. N. Fogrebnov. *Aeronautical Eng R* 16:74 N '57

Modern heat treatment facilities; Holo-Krome screw corp. D. A. Tullock, Jr. *Il Metal Prog* 72:75-8 N '57

Problems in simultaneous heat-hardening and ceramic coating of no. 420 stainless steel. B. L. Bradley. *Am Cer Soc Bul* 37:222-6 My 15 '58

Properties of materials; age hardening stainless steels. *Materials in Design Eng* 48:55 Mid-O '58

Stresses alter hardness. S. K. Setty and others. *bibliog Il diag Mech Eng* 79:1127-9 D '57; Abstract. *Eng J* 41:80-1 F '58

Superstrength steel hardens in air; U.S. steel corp.'s new Airsteel X-200. *Il Steel* 143:104 S 8 '58

See also

Case hardening**Steel, Quenching of****STEEL, Heat resisting**

Experience with chromium-molybdenum-vanadium steel in high-temperature bolting applications. R. G. Matters and C. D. Dickinson. *bibliog Il diag A S M E Trans* 80:330-4 F '58

High strength stainless alloy has heat resistance for Mach 4. *Il Materials in Design Eng* 46:174-5+ N '57

High-temperature bolting; new standards for screw threads. P. G. Schulz. *Il Power Eng* 62:68 My '58

High-temperature piping problems solved with new expansion joint design. *Il Power Eng* 62:82 Ag '58

Hot sizing, hottest way yet to precision-form titanium? G. H. De Groat. *Il Am Mach* 102:86-8 Je 2 '58

Hot-sizing titanium and high-temperature steel parts. C. O. Herb. *Il Mach* 64:118-21 Je '58

Materials for hot rocket parts must withstand 1700 deg F plus. R. C. Kopituk. *diag Aviation Age* 28:109-9 Je '58

New native alloy steel for bearings with stands high operating temperatures. *Il Mill & Factory* 62:143 Mr '58

New stainless steel to beat heat barrier; modified 13-8. *Il Materials in Design Eng* 47:104-5 My '58

Precipitation hardening stainless for hot airframes. R. W. White. *Il Metal Prog* 73:74-8 Je '58

Problem of embrittlement in the welding of austenitic heat-resisting steels; abstract. H. F. Tremlett. *Metal Prog* 73:178+ Je '58

Properties of materials; cast heat resistant alloys. *Materials in Design Eng* 48:62-4 Mid-O '58

Stainless castings with unusual hot strength. C. Pytko. *Il Materials in Design Eng* 47:104-5 Mr '58

Use of nondestructive testing on steel castings for elevated temperature service. C. B. Jenni. *bibliog Il Mech Eng* 80:66-70 Ap '58

Which high strength steel? R. J. Nekervis and others. *Il Materials in Design Eng* 48:84-9 JI '58

See also

Steel—Testing—Temperature effect**STEEL, Heat treatment of**

Austenizing and quenching. N. K. Koebel. *Il diag Metal Prog* 73:72-8 F '58

Dependability of nickel steels. *Product Eng* 29:11 Mid-S '58

Designing with heat treated steels. J. L. Everhart. *bibliog Il diag Materials in Design Eng* 47:121-36 Je '58 (reprints 35c)

Effect of 475°C heat treatment on cold worked 18/8 stainless steel wire. S. Storchheim. *Wire & Wire Prod* 33:172-3+ F '58

Effect of heat treatment on the microstructure and low-temperature properties of pressure vessel steels. J. H. Gross and others. *Il Welding J* 37:sup 160-8 Ap '58

Effect of microstructure and heat treatment on the mechanical properties of AISI type 431 stainless steel; abstract. G. E. Dieter. *Metal Prog* 72:184+ D '57

Effect of preheating and postheating on toughness of weld metal. T. N. Armstrong and W. L. Warner. *Welding J* 37:sup 27-9 Ja '58

Fixture design solves heat treat problem. *Tool Eng* 40:102 Je '58

Heat-treat dominates gear-tire output. *Il Am Mach* 102:104 cover Je 2 '58

Heat treating, an important step in punch and die manufacture. J. H. Bockrath. *Il diag Tool Eng* 39:96-9 D '57

Heat treating rocket cases. *Il Metal Prog* 74:65-6 S '58

Heat treatment and cleaning in wire production. E. Hague. *Il Metallurgia* 58:80-3 A '58

Heat treatment of forgings; abstract. A. O. Schaefer. *Metal Prog* 73:140+ F '58

Heating technique minimizes distortion; process for hardening large gas turbine parts of chromalloy steel. R. E. Wright and C. Schuilenberg. *Il Steel* 142:102-3 My 26 '58

How to get more out of type 410 stainless steel. F. J. Poss. *Materials in Design Eng* 46:143 N '57

Mechanized austempering of steel harrow disks; International harvester co. of Canada. *Il diag Metal Prog* 74:78-80 S '58

Modified martem cuts warping; New York air brake co. E. C. Wallace and H. E. Crouse. *Il diag Steel* 141:97-8 D 2 '57

Processing 310 minimizes carbides. H. Brown. *Il Steel* 142:72-3 Ja 27 '58

Relationship between hydrogen solubility and rebolling tendency in enameling steels. R. M. Hudson and others. *bibliog Il diag Am Cer Soc J* 41:23-7 Ja 1 '58

Study of the distortion of high-carbon high-chromium die steels. K. Sachs. *bibliog Il diag Iron & Steel Inst J* 189:216-24 J '58

Two steps to heat treat savings; Chrysler corp. *Steel* 142:100-1 Je 16 '58

Where faster heating saves. C. A. McFadden. *Il diag Steel* 143:68+ S 1 '58

See also

Annealing**Case hardening—Electric hardening****Electric furnaces, Annealing****Steel, Quenching of****Tempering**

STEEL, Heat treatment of—Continued**Terminology**

Definitions of terms relating to heat treatment. J. L. Everhart. *Materials in Design Eng* 47:130-1 Je '58

STEEL, High speed. See Tool steel

STEEL, Lead clad

Automatic lead cladding slashes costs. *Chem Eng* 65:122+ Je 30 '58

STEEL, Powdered

Get tailor-made properties with sintered steel. R. Talmage. *Iron Age* 181:104-6 Ap 3 '58

Powder metallurgy comes of age. R. Talmage. *Iron Age* 181:104-6 Ap 3 '58

STEEL, Quenching of

Automatic marquenching solves distortion problem. *Iron Age* 181:136-9 Ap '58

Automation in heating and quenching. N. K. Koebel. *Iron Age* 181:136-9 Ap '58

Device measures effectiveness of quenching media. *Iron Age* 181:136-9 Ap '58

Effect of slack-quenching on steels. *Mach* 64:138 Ja '58

Electronic signalizer reduces quench-cracking of steels. P. M. Unterwiesing. *Iron Age* 180:79-81 N 28 '57

Hot oil quenching, boon to gear makers; abstract. W. E. Frank. S. A. E. J. 66:84 F '58

How to measure the effects of slack-quenching. *Iron Age* 181:80-2 Ja 23 '58

New quenchant for steel; solution of polyvinyl alcohol in water. P. E. Cary and others. *Iron Age* 181:80-2 Ja 23 '58

New way to measure quenching speed. E. A. Bender and H. J. Gilliland. *Iron Age* 181:80-2 Ja 23 '58

Use magnetic properties to measure quenching; magnetic Quenchometer. *Iron Age* 181:80-2 Ja 23 '58

Use of different modifications of end-quench hardenability tests; abstract. A. A. Goldenberg. *Aeronautical Eng R* 17:17+ Ja '58

STEEL, Reinforcing

High strength steel and concrete result in minimum column sizes. F. W. Chappell. *Iron Age* 181:80-2 Ja 23 '58

Plans diags Am Concrete Inst J 29:929-38 My '58; Discussion. 30:1389-91 pt 2 D '58

Locating metal embedded in concrete. W. M. Jaillite. *Iron Age* 181:80-2 Ja 23 '58

Spacing of spliced bars in beams. S. J. Chamberlin. *Iron Age* 181:80-2 Ja 23 '58

Tabulation for bar selection. P. Rogers. *Iron Age* 181:80-2 Ja 23 '58

See also Concrete, Reinforced

Testing

Test procedure to determine relative bond value of reinforcing bars (ACI 208-58). *Iron Age* 181:80-2 Ja 23 '58

diags Am Concrete Inst J 30:1-16 JI '58

STEEL, Sheet. See Sheet steel

STEEL, Stainless

Brittleness in high-manganese stainless. H. J. Beattie, Jr. *Iron Age* 181:80-2 Ja 23 '58

Cast stainless components protect orange juice. *Iron Age* 181:80-2 Ja 23 '58

Cast stainless pump handles corrosive electrolytes. E. A. Schofer. *Iron Age* 181:80-2 Ja 23 '58

Cast stainless valve body replaces weldment in missile. *Iron Age* 181:80-2 Ja 23 '58

Centrifugal casting upgrades stainless. K. H. Pierce. *Iron Age* 181:80-2 Ja 23 '58

Cold reflow furnace brazes high-temperature honeycomb. R. R. Giler. *Iron Age* 181:80-2 Ja 23 '58

Cold treatment of stainless steel improves properties. J. F. Baich and C. E. Hover, Jr. *Iron Age* 181:80-2 Ja 23 '58

Corrosion of stainless steels in boiling acids and its suppression by ferric salts. M. A. Streicher. *Iron Age* 181:80-2 Ja 23 '58

Corrosion problem solved by stainless steel pump. *Iron Age* 181:80-2 Ja 23 '58

Customers call the temper; Jones & Laughlin steel corp.'s Stainless steel div. *Iron Age* 181:80-2 Ja 23 '58

Details revealed on nose cone; stainless steel used. *Iron Age* 181:80-2 Ja 23 '58

Diffusion process makes plain carbon sheet stainless; Chromallizing. *Iron Age* 181:80-2 Ja 23 '58

Ductile stainless work hardens for extra strength. *Iron Age* 181:80-2 Ja 23 '58

Effect of 475°C heat treatment on cold worked 18/8 stainless steel wire. S. Storchheim. *Wire & Wire Prod* 33:172-3+ F '58

Effect of gamma irradiation on the potential behavior of platinum and stainless steel electrodes. W. E. Clark. *Electrochem Soc J* 105:483-5 Ag '58

Effect of microstructure and heat treatment on the mechanical properties of type 431 stainless steel; abstracts. G. E. Dieter. *Iron Age* 181:113-15 cover Mr 6 '58

diags Metallurgia 56:215-23 N '57

Effect of NO, HNO₃, and H₂O₂ on corrosion of stainless steel by H₂SO₄. W. P. McKinnell, Jr. and others. *Corrosion* 14:27-30 Ja '58

Explorer nose cold formed from 430 stainless. *Iron Age* 181:113-15 cover Mr 6 '58

Extraction of minor phases from austenitic steel. J. F. Brown and others. *Corrosion* 14:27-30 Ja '58

Formation of sulphur trioxide and calcium sulphate in the sulphite process; abstracts from the literature. G. J. C. Potter and others. *Tappi* 41:sup 183A-9A F '58

Forming stainless steel; reference sheet. *Iron Age* 181:113-15 cover Mr 6 '58

Freezing plus working strengthen stainless. V. N. Krivobok and C. R. Mayne. *Product Eng* 28:D8 Mid-O '57

Fuel ash attack on aluminum coated stainless steel. J. E. Srawley. *Corrosion* 14:27-30 Ja '58

Harder stainless practical; nitriding. R. N. Libsch. *Iron Age* 181:113-15 cover Mr 6 '58

High strength stainless alloy has heat resistance for Mach 4. *Iron Age* 181:113-15 cover Mr 6 '58

High-temperature hydrogen sulfide corrosion of stainless steels. E. B. Backensto and others. *Corrosion* 14:27-30 Ja '58

How corrosion affects AISI 201, 202 steels. R. D. Merrick and C. L. Mantell. *Materials in Design Eng* 47:156-1 Mr '58

How to get more out of type 410 stainless steel. F. J. Poss. *Materials in Design Eng* 46:143 N '57

How to pick stainless springs. *Iron Age* 181:113-15 cover Mr 6 '58

Increasing production of wide stainless steel strip. Sheppcott Lane rolling mills. *Iron Age* 181:113-15 cover Mr 6 '58

Intercrystalline corrosion of stainless steel in alkaline solutions. J. N. Wanklyn and D. Jones. *Chem & Ind* p888-9 JI '58

Is cobalt harmful in stainless steel? J. R. Lane. *Metall Prog* 72:86-7 D '57

Looking inside stainless ingots. J. C. Fulton and R. H. Henke. *Iron Age* 181:113-15 cover Mr 6 '58

Magnetic properties of stainless steels. W. S. Eberly. *Elec Manuf* 62:90-4+ S '58

Materials of construction for chemical engineering; stainless steels and other ferrous alloys. W. A. Luce and J. H. Peacock. *Iron Age* 181:113-15 cover Mr 6 '58

Ind & Eng Chem 50:1482-8 bibliog (p 1487-8) pt 2 S '58

Mechanism of stress corrosion of austenitic stainless steels in hot aqueous chloride solutions. K. W. Leu and J. N. Helle. *Corrosion* 14:27-30 Ja '58

Multiple strip processing gains in popularity. E. F. Boening. *Iron & Steel Eng* 34:146 O '57

New stainless steel developed by Firth-Vickers stainless steels. F.V.520. *Engineering* 184:561 N 1 '57

Nitrogen in stainless steels; summary of six papers presented at the Electric steel conference. *Metall Prog* 72:86-7 D '57

Plastics, better use of stainless produces lightweight car; award of merit in Materials in design engineering competition. *Iron Age* 181:113-15 cover Mr 6 '58

Precipitation hardening stainless for hot airframes. R. W. White. *Iron Age* 181:113-15 cover Mr 6 '58

Problems in making stainless steel castings. E. A. Schofer. *Iron Age* 181:113-15 cover Mr 6 '58

Problems in simultaneous heat-hardening and ceramic coating of no. 420 stainless steel. E. L. Bradley. *Am Cer Soc Bul* 37:222-6 My 15 '58

Processing 310 minimizes carbides. H. Brown. *Iron Age* 181:113-15 cover Mr 6 '58

Production and fabrication of new A.I.S.I. types 201 and 202; abstract. G. W. Hinkle. *Metall Prog* 73:204+ Mr '58

Properties of materials; cast stainless steels. *Materials in Design Eng* 48:59-61 Mid-O '58

Properties of materials; chromium-manganese stainless steels. *Materials in Design Eng* 48:59-61 Mid-O '58

Refining grain structure by inoculation. *Iron Age* 181:113-15 cover Mr 6 '58

diags Gen Elec R 61:26-7 JI '58

STEEL, Stainless—Continued

- Relative corrosion resistance of stainless steels; engineering data sheet, diag Welding Eng 43:59 J1 '58
- Satellite launcher; stainless steel is key material, *II* Materials in Design Eng 46:112-13 D '57
- Seek solution to problem of ductility in steam piping, R. W. Emerson and R. W. Jackson, Heating-Piping 30:97-8 F '58
- Selecting materials to avoid cavitation damage, W. J. Rheingans, *II* diag Materials in Design Eng 43:102-6 S '58
- Solubility of nitrogen in iron-chromium alloys, E. T. Turkdogan and S. Ignatowicz, bibliog Iron & Steel Inst J 188:242-7 Mr '58
- Solve lamellar phase problem in A-286, K. Metcalfe, *II* Iron Age 182:72-4 J1 '58
- Stainless castings use growing in nuclear power equipment, *II* Foundry 86:100+ A8 '58
- Stainless castings with unusual hot strength, C. Tylicka, *II* Materials in Design Eng 47:104-5 Mr '58
- Stainless forging takes precise control; Armco steel corp, *II* Steel 142:92-4 Je 9 '58
- Stainless gears for aircraft era, T. M. Rohan, *II* Iron Age 181:62-3 Mr 20 '58
- Stainless protects Atlas, *II* Steel 142:51 My 12 '58
- Stainless-steel nose leads the Explorer, *II* Mach 64:155 Ap '58
- Stainless steel reactor vessel for Enrico Fermi atomic power station, *II* diag Engineer 206:34-7 J1 '58
- Stress corrosion cracking of austenitic stainless steels; abstract, J. G. Hines and T. P. Hoar, Chem & Ind p404 Ap 5 '58
- Sulfuric acid corrosion of stainless steels, W. L. Mathay, *II* diag Ind & Eng Chem 50:sup85A-6A S '58
- Tips on spinning stainless parts, *II* diags Iron Age 181:101-3 Ap 3 '58
- Trends in metallic stainless steels, *II* Steel 141:107-22 N 4 '57
- Weldable stainless steel with high strength and low thermal expansion, Engineer 204:608 O 25 '57
- Welding galvanized steel and soldering stainless, Welding Eng 43:68 Ap '58
- See also
- Chromium nickel manganese steel
- Chromium nickel steel
- Steel, Corrosion resisting

Analysis

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Coloring

- Color coating for stainless withstands severe forming; Permyron process, Machine Design 30:6+ Ap 17 '58
- Colored metal sheet with good formability; process called Permyron, *II* Materials in Design Eng 47:143-4 Je '58
- Colored stainless is on its way; Electromet's Permyron process, *II* Chem & Eng N 36:44+ My 12 '58
- Flexible color for stainless steel; Permyron process, *II* Arch Rec 123:253 My '58
- New coloring process; Permyron process, *II* Iron Age 181:57 Ap 3 '58
- Stainless gets new sales appeal; Permyron, *II* Steel 142:88-9 My 12 '58

Failure

- Crystal growth may explain steel failure; abstracts, E. A. Guibransen, *II* Ind Lab 9:60-1 Ja '58; Elec Eng 77:112 Ja '58

Standards

- Standard stainless steels, wrought and cast; data sheet, Metal Prog 73:96B Je '58
- Standard types of stainless steel; tables; data sheet, Mach 64:237-8 My; 207-8 Je '58

Testing

- Corrosion resistance of five stainless alloys in nitric acid containing chloride, L. I. Tingley, *II* diag Corrosion 14:31-2 Je '58
- Creep characteristics of type 347 stainless steel at 1050 and 1100 F in tension and compression, M. J. Manjoine, bibliog *II* A S M E Trans 79:1921-3 N '57
- Elevated temperature relaxation properties of 17-7 PH stainless steel helical compression springs, M. Clogg, Jr, *II* diag Wire & Wire Prod 33:401-5 Ap '58
- Intergranular corrosion resistance of austenitic stainless steels; ferric sulfate-sulfuric acid test, M. A. Streicher, bibliog *II* A S T M Bul p77-86 Ap '58

- Nitric-hydrofluoric acid evaluation test for type 316L stainless steel, D. Warren, bibliog *II* diag A S T M Bul p45-66 My '58
- Stress corrosion of austenitic stainless steel in geothermal steam, T. Marshall, bibliog diag Corrosion 14:59-62 Mr '58

Welding

- Built welding austenitic stainless steel to ferritic steel in cylindrical shapes, J. E. Donahue, bibliog *II* diags Welding J 36:1074-7 N '57
- Canned energy for the atomic age, *II* Welding J 37:808-9 Ap '58
- How stainless bearings are built-up, R. Schuster, *II* Marine Eng/Log 63:83 Mr '58
- How to prevent weld failures in nuclear power piping, V. T. Malcolm and S. Low, *II* Heating-Piping 30:106-8 J1 '58
- New inland-waterway towboats have welded stainless-steel hulls, *II* Welding J 37:805 A8 '58
- Stress relieving of stainless steels and the associated metallurgy, R. A. Huseby, bibliog *II* Welding J 37:sup304-15 J1 '58
- Tips on welding stainless, H. F. Reid, Jr, *II* Iron Age 180:58-60 D 26 '57
- Tungsten-arc welding of 0.002-in. and 0.005-in. stainless steel and titanium, J. C. Collins and S. P. Jenkins, *II* Welding J 37:342-7 Ap '58
- Welding a 93-ton stainless-steel column, *II* Engineering 185:478 Ap 11 '58
- Welding and stainless maintain water turbines, L. McWilliams, *II* diag Welding Eng 43:38-40 J1 '58
- STEEL, Stainless clad**
- Stainless clad plate; don't look at cost alone, D. T. Smith, diags Iron Age 181:112-13 Ap 17 '58

STEEL, Strip

- Carrier units speed coil delivery, *II* Iron & Steel Eng 35:149-50 Ap '58
- Cold-rolled strip steel, reference book sheet, Am Mach 102:131+ F 24 '58
- Cold rolling mill for very thin strip, *II* diag Engineer 205:272-4 F 21 '58
- Continuous galvanizing of steel strip; Armco-Soudimur line installed at Ebbw Vale, *II* diag Metallurgia 58:76-9 A8 '58
- Continuous stainless steel strip rolling mill extensions; Sheepcote rolling mills, Ltd, *II* Engineer 205:777-8 My 23 '58
- Development of automatic thickness controls for strip mills, G. Orellana, *II* diag Iron & Steel Eng 35:144-8; Discussion, 148-50 Mr '58
- Efficient handlers speed strip from hot mill to finish mills, *II* Iron Age 181:147-8 Je 5 '58
- Fast annealing of sheet-strip coils with helium injection, J. D. Keller, diags Iron & Steel Eng 35:109-13; Discussion, 113-15 Ap '58
- Generation and use of prepared atmospheres in the annealing of low carbon steel strip, G. J. Campbell, Steel 141:160+ N 18 '57
- Increasing production of wide stainless steel strip; Sheepcote Lane rolling mills, *II* plan Engineering 185:632-3 My 16 '58
- Manufacture of tube from strip metal stock; patent, diag Iron & Steel Eng 35:22 My '58
- Method of continuously annealing steel strip; patent, Iron & Steel Eng 35:29-30 S '58
- Methods of control of strip dimensions on hot strip finishing mills, R. A. Phillips, bibliog Iron & Steel Eng 35:100-6; Discussion, 106-7 My '58
- Multiple strip processing gains in popularity, E. F. Boenink, Iron & Steel Eng 34:146 O '57
- Operation of a Canadian strip mill, R. J. Barry, map Iron & Steel Eng 34:90-5; Discussion, 95 N '57
- Rustproofing oils for processing, E. R. Slaby, Iron & Steel Eng 35:102-3 Ja '58
- Three-point plan simplifies scrap handling in steel strip mill, *II* Plant 18:48-9 A8 '58
- Trucks speed coil drying, *II* Steel 142:146 My 19 '58
- Width meter for narrow hot-rolled strip, C. Burns and J. W. Stevens, *II* plans diags Iron & Steel Inst J 189:60-5 My '58
- Testing**
- Lamination detector for the continuous inspection of steel strip, E. O. Smith and J. A. C. Grimsshaw, *II* diags Iron & Steel Inst J 189:66-71 My '58
- Special inspection tests determine the spring-making properties of pre-tempered steel strip, W. R. Johnson, *II* diag Ind Quality Control 14:31-2 F; 36-8 Mr '58

STEEL, Structural

Corrosion of metals in tropical environments; five non-ferrous metals and a structural steel, E. W. Forgeson and others, *Il Corrosion* 14:33-41 F '58

Designing with precipitation hardening steels, Product Eng 29:88-11 Mid-S '58

Fabricated steel to order; J. and H. McLaren, *Il Engineering* 184:634 N 15 '57

Flow coating setup for painting structural steel, E. A. Moenning, *Il Ind Finishing* 34:26-8+ F '58

Galvanized structural steel in Gulf Coast construction, J. W. Sicard, *Il Ind & Eng Chem* 49:sup69A-70A D '57

Satisfactory base-quality steel for both riveted and welded structures, J. O. Jackson, *Il Welding J* 36:1184-8; Discussion, 1188-94 D '57

Structural steel, when you want it, *Il Eng N* 160:21-3 Mr 13 '58

Transfer plant produces structural steelwork; abstract, Eng J 41:85 JI '58

See also

American institute of steel construction
Bridges, iron and steel
Domes, Steel
Steel, Aircraft
Steel, Reinforcing
Steel construction

Testing

Ductility and energy relations in Charpy tests of structural steels, J. H. Gross and R. D. Stout, *bibliog Welding J* 37:sup 151-5; Discussion, sup 156-8; Reply, sup 158-9 Ap '58

Welding

High strength weldable steels, K. J. Irvine, *bibliog Il Metallurgia* 58:13-23 JI '58

How to get better, less costly welded connections, V. P. Saxe, *Il diags Eng N* 161:34-6 Ag 21 '58

Welding does fast job on huge girders; Weirton steel co., J. Angus, *Il Iron Age* 181:94-5 Je 12 '58

Works for heavy welded fabrications, *Il Engineer* 204:609 O 25 '57

See also

Bridges—Welding operations

STEEL, Titanium clad

Cladding on carbon steel opens new fields to titanium, R. C. Bertossa, *Il Iron Age* 180:59-62 O 31 '57

STEEL alloys

Adiabatic vacuum calorimeter from 600° to 1600° C; specific heats of titanium, 44 per cent Cr-Fe alloy, and a low-alloy steel, I. Backhurst, *bibliog diags Iron & Steel Inst J* 189:124-34 Je '58

Casting alloy enters high-strength field; Weirton, E. C. Osahl and W. H. Sparing, *Product Eng* 29:84-5 Ap 28 '58

Ductility in high-temperature rupture tests, J. Glen, *bibliog Iron & Steel Inst J* 190:30-9 S '58

Effect of alloying elements on the high-temperature tensile strength of normalized low-carbon steel, J. Glen, *bibliog Iron & Steel Inst J* 186:21-48 Mr '57; Discussion, 187:219-23 N '57

Effect of some common alloying elements on the volume change at A_c of a 0.35 per cent carbon steel, A. S. Keneford, *Iron & Steel Inst J* 189:135-8 Je '58

High boron alloy steels, T. H. Middleham and others, *bibliog Il Iron & Steel Inst J* 187:1-14 S '57; Abstract, *Metal Prog* 74:184-4 Ag '58; Discussion, *Iron & Steel Inst J* 188:354-60 Ad '58

High-performance steels, E. A. Loria, *Il Machine Design* 30:111-15 S 4 '58

Industrial know-how handbook; ferrous alloys, Mill & Factory 62:MW36 My '58

Materials of construction for chemical engineering; stainless steels and other ferrous alloys, W. A. Luce and J. H. Peacock, *Il Ind & Eng Chem* 50:1482-8 *bibliog* (p 1487-8) pt 2 S '58

Meaning of weldability, T. B. Jefferson, *Il Welding Eng* 43:5-8+ Mid-S '58

Mechanism of inhibiting effect of hydrofluoric acid in fuming nitric acid on liquid-phase corrosion of aluminum and steel alloys, D. M. Mason and J. B. Rittenhouse, *Corrosion* 14:59-61 JI '58

Metal selector; alloy steels: H-steels; stainless and heat-resisting steels; properties and applications, *Steel* 141:169-72 O 28 '57

Modern drilling demands special steel, B. F. Shepherd, *Il Eng & Min J* 158:92-3 B '57

New alloy steels beat process bugaboos, D. B. Roach and A. M. Hall, *Chem Eng* 65:180+ My 19; 134+ Je 2 '58

Physical metallurgy of low-carbon low-alloy steels containing boron, K. J. Irvine and others, *bibliog Il Iron & Steel Inst J* 186:54-67 My '57; Discussion, 138:55-3 Ja '58

Relative cost and machinability of carbon steels and alloy steels, D. Mascio, *Product Eng* 28:B21-3 Mid-O '57

Selecting structural materials for supersonic flight, D. D. Cox, *Aeronautical Eng J* 17:28-31 Ja '58

Spherical tanks used for propane in Venezuela; use of steel alloy Carillo, G. Esnal, *Il diag Pet Eng* 29:C 13-15 N '57

These steels have what the users want; U.S. steel corp.'s T-1, *Il Steel* 142:126-30 F 17 '58

Transformation structures in hypoeutectoid alloy steels; abstract, W. C. Hagel and M. N. Ruoff, *Metal Prog* 72:176+ N '57

Ultra high strength steel looks good for landing gears, *Il Aviation Age* 28:110-13 Ja '58

See also

Chromium molybdenum steel
Chromium molybdenum vanadium steel
Chromium nickel steel
Chromium steel
Chromium vanadium steel
Manganese nickel chromium molybdenum steel

Manganese nickel steel
Manganese silicon steel
Manganese steel
Molybdenum steel
Nickel chromium molybdenum steel
Silicon steel
Steel, Stainless
Steel, Structural
Tool steel
Vanadium steel

Analysis

Photometric determination of tungsten in steel and titanium alloys with dithiol, L. A. Machlan and J. L. Hague, *bibliog Il J Res Nat Bur Stand* 59:415-20 D '57

Testing

Behavior of certain alloys subjected to dynamic loading, R. G. Crum and F. T. Mavis, *bibliog Il diags A S T M Bul* p88-91 JI '58

Corrosion of 2½ per cent Cr-1 per cent Mo steel by liquid bismuth, G. W. Horsley and J. T. Maskey, *bibliog Il diags Iron & Steel Inst J* 189:139-48 Je '58

Potentiostat technique for studying the resistance of alloy steels, C. Edeleanu, *bibliog diag Iron & Steel Inst J* 188:122-32 F '58

Use of different modifications of end-quench high-temperature tests; abstract, A. A. Goldenberg, *Aeronautical Eng J* 17:17+ Ja '58

STEEL arches. See Arches, Steel

STEEL balls. See Balls, Steel

STEEL bars

Extruded steel bars reduce machining time; split clamping rings for fuel injection pumps, *Il diag Automotive Ind* 119:65 S 15 '58

Glass bath heats forging billets, A. di Giulio, *Il Steel* 143:74 Ag 11 '58

Heat billets with molten glass, *Il Iron Age* 182:87 Ag 14 '58

New drawing process eliminates heat treating for strong parts, E. S. Nachtmann and E. B. Moore, *J Metals* 10:281-4 Ap '58

Prestressed bars wind-brace new hotel; Queen Elizabeth hotel in Montreal, *Il diags Eng N* 159:33-4+ N 14 '57

Production furnace turns out scale-free billets, H. C. Bostwick, *Il Iron Age* 182:82-3 Ag 14 '58

Republic starts operation on 11-in. bar mill at south Chicago, *Il Iron & Steel Eng* 35:142 Ar '58

Turn-up and turn-down in hot rolling, G. E. Kennedy and F. Slamar, *Il diags Iron & Steel Eng* 35:71-6; Discussion, 76-9 Mr '58

See also

Steel, Reinforcing
STEEL billets. See Steel bars

STEEL buildings

Buy a whole building, save design time, M. Schulzinger, *Il Civil Eng* 28:510-11 JI '58

Inland Steel building, Chicago, Ill., *Il plan diags Arch Rec* 123:169-73 Ap '58

Inland's steel showcase, *Il plans diag Arch Forum* 108:88-93 Ap '58

Prefabricated steel buildings, *Il diags Engineer* 205:370 Mr 7 '58

STEEL buildings—Continued

Steel fabricator builds his own plant, Herrick iron works, Hayward, Calif. J. D. Naillon. II plan diag. Civil Eng 28:22-5 Ja '58
Take 50 tons of steel, add 25 lb of air; result, two acres of grain-storage space. II Eng N 161:25 Ji 10 '58

STEEL castings

Aircraft and missile castings; Pacific alloy engineering corp. W. G. Gude. II Foundry 85:102-5 N '57
Boron in cast steels. II Metal Prog 73:112 Ap '58
Boron steel sprockets. II Foundry 85:140+ N '57
Cast stainless valve body replaces weldment in missile. II Foundry 86:128+ F '58
Casting alloy enters high-strength field; Wearpac, E. G. Opsahl and W. H. Sparring. Product Eng 29:84-5 Ap 28 '58
Casting for atoms; specifications for reactor valves and fittings can be met by stainless steel castings. diag. Steel 142:98-9 F 10 '58
Casting weldments in a petroleum refinery. J. Eland and others. II diag Welding J 37:789-98 Ag '58
Castings for aircraft. J. H. Garrett. Tool Eng 40:211-12 Ja '58
Centrifugal casting upgrades stainless. K. H. Pierce. II Steel 143:69-70 Ji 21 '58
Continuous casting at Atlas steels. G. C. Olson. II diag Iron & Steel Inst J 190:40-50 S '58
Continuous casting of steel. II Engineering 185:293-4 Mr 7 '58
Continuous casting on the B.I.S.R.A. experimental plant. G. Panton and J. Pearson. II diag Iron & Steel Inst J 189:160-7 Je '58
Continuous casting plant for steel. II Engineer 205:372-3 Mr 7 '58
Continuously cast products for the rolling mill and forge; abstract. J. Hofmaler. Metal Prog 74:174+ Ag '58
Cutting costs; three blue ribbon ideas; third product development contest of Steel founders' society of America. II Steel 142:99-100 Mr 3 '58
D molds make precise steel castings. II Steel 141:110-13 N 11 '57
Design characteristics of magnetic steel castings. W. C. Pierce. II Mech Eng 80:64-6 Ap '58
Designing a large tonnage continuous casting plant. H. B. Skelley and R. Easton. biblog. plans diag Iron & Steel Eng 35:131-42 My '58
Desulfurization of iron and steel. S. L. Gertsman. II diag Foundry 86:48-53 Ag '58
Evaluation of bentonites in the steel foundry. V. E. Zang. II Foundry 86:154-7 My '58
Ferrous castings stretch your dollars. Steel 142:74 Ja 13 '58
Foundry for small precise steel castings; Osborn precision castings, ltd. II Engineer 205:904 Je 13 '58
High-strength cast steel; low-alloy, Mn-Cr-Mo steel. C. G. Mickelson and R. D. Engquist. diag. Metal Prog 73:97-3 Mr '58
How to get more for your metalworking dollars; ferrous castings. II diag Iron Age 181:127-42 F 13 '58
Johnston buffer; an item of British steel foundry history. II diag Metallurgia 57:143-7 Mr '58
Launch castings-for-aircraft research. Am Mach 101:159 D 16 '57
Metal selector; ferrous castings; properties and typical applications. Steel 141:174-5 O 23 '57
New foundry for precision casting steel; Samuel Osborn & Co. II plan diag Metallurgia 58:29-31+ Ji '58
Precision steel foundry; Samuel Osborn and Co. Engineering 185:829-30 Je 27 '58
Problems in making stainless steel castings. E. A. Schoefer. II Foundry 86:114-19 Ap '58
Process controls for making turbine castings. R. Ahles. Mech Eng 80:61-3 Ag '58
Properties of materials; cast steels. Materials in Design Eng 48:56-64 Mid-O '58
Research on steel castings. Engineering 186:144 Ag 1 '58
Rising of steel castings with exothermic sleeves. H. F. Bishop and others. II Foundry 86:54-9 Je '58
Stainless castings use growing in nuclear power equipment. II Foundry 86:100+ Ag '58
Stainless castings with unusual hot strength. C. Tytko. II Materials in Design Eng 47:104-5 Mr '58

Steel castings; abstracts of American foundrymen's society papers. Foundry 86:169-70+ Ji '58
Steel castings for radioactive service. G. Sorkin. II Foundry 86:71-3 O '58
Surface finish of steel castings. D. V. Atterton. biblog. II diag Foundry 86:78-83 Ja; 107-11 F; 92-5 Mr '58
225,000-psi commercial cast steel. C. G. Mickelson and R. D. Engquist. Mech Eng 80:70-1 Ap '58
Use of nondestructive testing on steel castings for elevated temperature service. C. B. Jenni. biblog. II Mech Eng 80:66-70 Ap '58
Vacuum casting of steel. J. N. Hornak and M. A. Orhoski. II diag J Metals 10:471-5 Ji '58; Abstract. Metal Prog 74:142+ Ag '58
What the aircraft maker wants in a steel casting. L. H. McCreery. II Metal Prog 74:71-5 Ji '58
Why and where to use centrifugal castings. J. L. Evershart. biblog. II diag Materials in Design Eng 48:89-93 Ag '58

See also

Steel ingots
Case against the tensile test. J. B. Caine. biblog. II Foundry 85:86-92 N '57; 86:78-85 S '58
STEEL chimneys. See Chimneys, Steel
STEEL columns. See Columns, Steel
STEEL construction
Aluminium reduction plant at Baie Comeau, Que. C. Miller and W. G. Street. II Eng J 41:41-9 Ji '58
Demonstrations of plastic behaviour of steel frames. H. M. Nelson and others. biblog. II diag Am Soc C E Proc 83 [EM 4 no 1390]:1-37 O '57; Discussion. Z. Sobotka. 84 [EM 2 no 1619]:9-12 Ap '58; Reply. 84 [EM 4 no 1831]:3 O '58
Pin connection speeds erection; tubular steel building frame. II diag Eng N 161:57 Ag 14 '58
Tall heavy columns carry long spans; Crown Zellerbach headquarters. II diag Eng N 160:37-8 My 29 '58
Tubular construction system. II Engineer 204:947 D 27 '57
Turn-of-nut method for tensioning bolts. M. H. Frincke. Civil Eng 28:31-2 Ja '58
Welded-steel tubing; curtain-wall applications. II diag Prog Arch 39:140-5 F '58

See also

American institute of steel construction
Arches, Steel
Bridges, Iron and steel
Columns, Steel
Riveted joints
Sewage tanks, Steel
Steel, Structural
Steel buildings
Strains and stresses
Towers, Steel

Concrete composite

Composite construction of bridges using steel and concrete. R. David and G. G. Meyerhof. biblog. diag. Eng J 41:41-7 My '58
Composite steel and concrete construction. II Engineer 204:646 N 1 '57; Discussion. J. Wheeler. 205:66 Ja 10 '58
Load test on flat slab floor with embedded steel grillage caps. D. D. Meisel and others. II diag Am Concrete Inst J 30:123-32 Ji '58
Why composite construction for buildings? II diag Arch Rec 124:245-6, 320 S '58

Design

Design of multi-level guyed towers; structural analysis. E. Cohen and H. Perrin. biblog. diag. Am Soc C E Proc 83 [ST 5 no 1356]:1-29 S '57; Discussion. 84 [ST 2 no 1576]:33-7 Mr; [ST 3 no 1656]:33-8 My '58; Reply. 84 [ST 7 no 1857]:21-4 N '58
Design of multi-level guyed towers; wind loading. E. Cohen and H. Perrin. biblog. II diag Am Soc C E Proc 83 [ST 5 no 1355]:1-29 S '57; Discussion. H. S. Saffir. 84 [ST 2 no 1576]:31-2 Mr '58; Reply. 84 [ST 7 no 1875]:13-19 N '58
Engineering problems of an all-welded two-way truss system; roof of Cadet dining hall at Air force academy. W. Tang and others. II diag Welding J 37:565-9 Je '58
High strength steel and concrete result in minimum column sizes. F. W. Chappell. II plans diag Am Concrete Inst J 29:929-38 My '58; Discussion. 30:1389-91 pt 2 D '58

STEEL construction—Design—Continued

- Plastic design of a four-storey steel frame; Cambridge university's engineering laboratory. M. R. Horne. bibliog il plans diags Engineer 206:204-8, 244-6 Ag 8-15 '58
- Plastic design of cover plated continuous beams. B. F. Popov and J. A. Willis. bibliog il diags Am Soc C E Proc 84 (EM 1 no 1495):1-21 Ja '58; Discussion. D. T. Wright. 84 (EM 2 no 1619):13-14 Ap '58
- Structural design problems and recommended practice for ore bridges and unloaders. W. B. McLean. il diags Iron & Steel Eng 36: 78-86 Ag '58
- Weight-saving in steel structures; abstracts of papers. Engineering 185:734-5 Je 6 '58

Erection

- New way to raise the roof; Air force academy's Cadet dining hall. il diag Arch Forum 108:126-8 Mr '58
- Steel fabricator builds his own plant. Herick iron works, Hayward, Calif. J. D. Nailon. il plan diags Civil Eng 28:22-5 Ja '58

Failure

- Inelastic buckling in steel. G. Haaijer and B. Thürlimann. bibliog il diags Am Soc C E Proc 84 (EM 2 no 1551):1-48 Ap '58
- Synopsis of first progress report of committee on factors of safety. O. G. Julian. Am Soc C E Proc 83 [ST 4 no 1316]:1-22 Ji '57; Discussion. 83 [ST 6 no 1442]:41-3 N '57; 84 [ST 1 no 1522]:59-70 Ja '58

Welding

- Behavior of welded corner connections; welded continuous frames and their components progress report no. 23. J. W. Fisher and others. bibliog il diags Welding J 37:sup216-32 Mv '58
- Engineering problems of an all-welded two-way truss system; roof of Cadet dining hall at Air force academy. W. Beng and others. il diags Welding J 37:565-9 Je '58
- Outside frame skeleton on all-welded building gives clear inner area, cuts cost; Crown Hall at the Technology center of Illinois Institute of Technology. R. Zeh. il diag Welding J 37:136-7 F '58
- Satisfactory base-quality steel for both riveted and welded structures. J. O. Jackson. il Welding J 36:1184-8; Discussion. 1188-94 D '57
- Schoolhouse on stilts. il Welding J 37:149 F '58
- Welded trusses rest on haunches. il Welding J 37:37 Ja '58
- Welded trusses to support newest New York city skyscraper; new Time & Life building. F. T. Tancula. il diag Welding Eng 43:34-6 Je '58
- Welding helps raise the roof; Cadet dining hall at the Air force academy. il Welding Eng 43:37 Je '58
- Welding solves construction problems. il Welding J 37:39 Ja '58
- Wide-span arches for rigid-frame school structure are completely arc welded. W. F. Fischer. il Welding J 37:594-6 Je '58

See also**Bridges—Welding operations****STEEL containers. See Containers, Steel****STEEL cutting**

- Automated crankshaft machining. il Mech Eng 79:1148 D '57
- Behavior of cutting fluids in reaming steels. L. V. Colwell and H. Branders. A S M E Trans 80:1073-7; Discussion. 1077-8 Ji '58
- Economical small-lot machining of large parts. il diags Mech 64:150-4 Ag '58
- Electronically controlled flame-cutting machine reduces steel-fabrication costs. il Marine Eng/Log 63:66-8 F '58
- Feedback controlled steel slab cutoff. T. Filmer and C. C. Roberts. diags Automation 5:72-4 Ji '58
- Flame cutters trace fast patterns; Colorado fuel and iron corp. il Iron Age 181:110 F 6 '58
- Flame-cutting line plays marketing role; Colorado fuel and iron corp.'s Claymont steel fabrication div. A. E. Yoch. il Welding Eng 43:72 Mr '58
- Flame cutting stainless grades. il Welding Eng 43:46 Ji '58
- Found, a low-alloy steel for missiles. W. M. Stocker, Jr. il Am Mach 102:72-3 Ag 25 '58
- GR machines 1045 steel at 18,000 sfpm. Am Mach 102:120 Ap 21 '58
- How steel firm checks machinability; Union drawn steel div. Republic steel corp. il diags Steel 142:108 Je 23 '58

- Machinability can be related to composition. F. W. Boulger and H. J. Grover. Tool Eng 40:114-15 Mr '58
- Machinability of type A leaded steels; abstracts. E. J. Paliwoda. Metal Prog 72: 196-1 N '57; Steel 141:133 N 4 '57
- Natural gas for cheaper cutting. W. J. Semple. il Am Mach 102:69-71 Ag 25 '58
- Quality of oxygen-cut surface; abstract. H. Christoph. Welding J 37:sup53 F '58
- Relative cost and machinability of carbon steels and alloy steels. D. Mascio. Product Eng 28:B21-3 Mid-O '57

Tables, calculations, etc.

- Force components, chip geometry, and specific cutting energy in orthogonal and oblique machining of SAE 1015 steel. D. Kececioglu. il diags A S M E Trans 80:149-57 Ja '58
- Shear-strain rate in metal cutting and its effects on shear-flow stress. D. Kececioglu. bibliog il diags A S M E Trans 80:158-67; Discussion. D. R. Walker. 167-8 Ja '58

STEEL domes. See Domes, Steel**STEEL forgings**

- Carbide tooling and single-purpose lathes speed machining of forged crankpins. il diags Mach 64:173-6 N '57
- Closing of internal cavities in forgings by upsetting. A. Tomlinson and J. D. Stringer. il diags Iron & Steel Inst J 188:209-17 Mr '58
- Economic industrial utilization of steel swarf; abstract. I. N. Goncharov and E. P. Semchenko. Metal Prog 73:176-1 Ap '58
- Gear forging advances; Curtiss-Wright corp. il Steel 143:100-1 S 8 '58
- Heat-treat dominates gear-tire output. il Am Mach 102:104, cover Je 2 '58
- Heat treatment of forgings; abstract. A. O. Schaefer. Metal Prog 73:140-1 F '58
- How to get more for your metalworking dollar; forgings; carbon and low alloy steels. il diags Iron Age 182:89-104 Ag 21 '58
- Making the most of know-how; Thompson products co. Valforgings. il Iron Age 181:58 Ap 10 '58
- Nitriding of large forgings. C. W. Johnson. il Metal Prog 72:99-101 D '57
- Opportunities I see for you; abstract. H. W. McQuaid. Metal Prog 73:208-1 Mr '58
- Stainless forging takes precise control; Armco steel corp. il Steel 142:92-4 Je 9 '58

Testing

- Another turbogenerator failure. R. J. Landrum. il diag Metal Prog 74:91-4 S '58
- Measurement of residual stresses in alloy steel forgings. A. Barker and E. H. Hardy. bibliog il diags Inst Mech Eng Proc 171 no 17:581-95; Discussion. 595-6 '57
- STEEL founders society of America**
- Annual meeting, 56th. Chicago, March 17-18. Foundry 86:224-1 My '58
- Annual technical and operating conference, 12th. Cleveland, Nov. 11-13. Foundry 86:130-1 Ja '58
- Fall meeting, 55th. Hot Springs, Va. Sept. 23-24; with abstracts of papers. Foundry 85:128-1 N '57

STEEL handling

- Better feed methods aid shear operator; lift table. il Iron Age 182:76 Ji 3 '58
- Carrier units speed coil delivery. il Iron & Steel Eng 35:149-50 Ap '58
- Handling system trims cash cost; Bliss steel products corp. diags Steel 143:82-3 S 22 '58
- Material handling time reduced 75 per cent; General machine products co. G. M. Fundt. il Plant 17:34-6 F '58
- Plant-built crane for low-headroom area; Marman div., Aeroquip corp. il Plant Eng 12:88 F '58
- Vacuum crane speeds mill output; Atlas steels ltd. il Steel 141:102-1 D 2 '57

See also**Steel construction—Erection****STEEL industry and trade**

- ASTM and the steel industry; two case histories. N. P. Veeder. A S T M Bul p57-8 Ji '58
- Developments in the iron and steel industry during 1957. I. E. Madsen. il diags Iron & Steel Eng 35:139-89 Ja '58
- Iron ore and steel, 1957. Eng & Min J 159: 118-20 F '58
- 1957 steel output is third highest on record. Civil Eng 28:148 F '58
- Progress, past and future. C. L. Huston, Jr. Iron & Steel Eng 35:69-72 Ag '58

STEEL industry and trade—Continued

Raw material supplies and the future development of the iron and steel industry. C. R. Wheeler. *diag Iron & Steel Inst J* 189:101-9 *Je* '58

Raw materials for the American iron and steel industry. J. C. O. Harris. *bibliog J Metals* 9:1529-32 *D* '57

Structural steel, when you want it. *il Eng N* 160:21-3 *Mr* 13 '58

See also

Iron industry and trade
Steel, Structural
Steel works

Finance

Replacement of steel mill plant and equipment with present depreciation reserves. W. T. Hogan. *il Iron & Steel Eng* 34:79-84 *D* '57

History

History of the British iron and steel industry from c. 450 B.C. to A.D. 1775. H. R. Schubert. *Review*, by C. Singer. *il Iron & Steel Inst J* 188:204-8 *Mr* '58

Argentina

Iron and steel needs of Argentina. J. E. De Nardo. *il Metal Prog* 73:109-11 *Ja* '58

California

Industrial minerals used in California's iron and steel industry. K. W. Mote. *bibliog map diags Min Eng* 10:765-7 *JI* '58

Canada

Growing Canadian steel industry. D. S. Holbrook. *Iron & Steel Eng* 35:133-6 *JI* '58

Iron and steel. *il Eng J* 41:96-101 *Ap* '58

Europe

Balance of steel power shifts. D. L. McBride. *il Steel* 142:92-4 *My* 5 '58

Some impressions of the Continental steel industry. G. R. Bashforth. *diags Metallurgia* 58:135-40+ *S* '58

Germany

German steel dips slightly. *Steel* 142:56 *My* 5 '58

Great Britain

Coal, iron and steel. *Engineer* 205:100-1 *Ja* 17 '58

History of the British iron and steel industry from c. 450 B.C. to A.D. 1775. H. R. Schubert. *Review*, by C. Singer. *il Iron & Steel Inst J* 188:204-8 *Mr* '58

Productivity in the iron and steel industry, 1945-1956. M. D. J. Brisby. *bibliog Engineer* 205:425-6 *Mr* 21 '58

India

India's iron and steel industry grows. *il Engineering* 186:206-7 *Ag* 15 '58

Steel industry of Mexico; yesterday, today and tomorrow. E. F. Warren. *il map Iron & Steel Eng* 34:80-9 *N* '57

Mexico

Steel industry of Mexico; its present and immediate future. P. Gutiérrez Roldán. *Iron & Steel Eng* 35:80-4; *Discussion*. 85-7 *Ja* '58

Russia

Russian steel industry. G. F. Sullivan. *il map Iron Age* 182:89-104 *S* 4 '58

South Africa

Expansion of steel production capacity at Iscor. *il Engineer* 206:347-8 *Ag* 29 '58

Sweden

Early industrial production of Bessemer steel at Edsken. P. Carlberg. *il pl diags Iron & Steel Inst J* 189:201-4 *JI* '58

Western states

Prospects of growth. western steel industry. B. E. Elcheverry. *Iron & Steel Eng* 34:95-9 *O* '57

STEEL ingots

Can ultrasonics improve steel ingot quality? P. M. Unterweiser. *diags Iron Age* 182:178-80 *S* 11 '58

Continuous casting at Atlas steels ltd. G. C. Olson. *il diags Iron & Steel Inst J* 190:40-50 *S* '58

Continuous casting on the B.I.S.R.A. experimental plant. G. Fenton and J. Pearson. *il diags Iron & Steel Inst J* 189:160-7 *Je* '58

Controlled cooling of hot ingots in a single-ingot pit at Appleby-Frodingham. A. Jackson and others. *diags Iron & Steel Inst J* 183:114-18 *F* '53

Dendritic segregation of manganese in steel ingots. R. G. Ward. *bibliog il Iron & Steel Inst J* 188:337-42 *Ap* '58

Development of optimum ingot sizes for flat rolled products. J. G. Sibakin. *Iron & Steel Eng* 34:117 *O* '57

Effects of gravity in the solidification of steel; abstract. B. Gray. *Metal Prog* 72:136+ *D* '57

Forging blooms from ingots. J. E. Decker. *il diags Metal Prog* 74:71-3 *S* '58

Heat flow in ingot hot-tops. G. Fenton. *il diags Iron & Steel Inst J* 186:396-405 *Ag* '57; *Discussion*. 189:263-8 *JI* '58

Ingot cracks resulting from impurities in steel; abstract. P. Bjornson and H. Nathorst. *Metal Prog* 73:142+ *F* '58

Looking inside stainless ingots. J. C. Fulton and R. H. Henke. *il Steel* 142:132+ *F* 17 '58

Machine peels ingots in in-line operation. *il Iron & Steel Eng* 35:150+ *Ag* '58

Nozzle changes pay off; success of the steel pouring operation depends on quality of these fireclay parts; abstracts of papers. *Steel* 142:144+ *Ap* 21 '58

Studies on ingot feeder heads. H. S. Marr and others. *il diag Iron & Steel Inst J* 187:81-92 *O* '57; *Discussion*. 189:263-8 *JI* '58

Vacuum pouring of ingots for heavy forgings; abstract. J. H. Stoll. *diag Metal Prog* 74:146+ *Ag* '58

See also

Steel works

Molds

Consumable glass fiber ingot mold liner; patent. *Glass Ind* 38:693 *D* '57

Hot top practice at Lukens Steel. R. L. Bunting, jr. *il J Metals* 10:525-6 *Ag* '58

Some experiments with steel ingot hot tops. M. E. Hamish and M. C. McQuarrie. *bibliog il diags Am Cer Soc Bul* 37:357-60 *Ag* 15 '58

Weighing

Yield control by means of electronic weighing; abstract. W. A. Black. *Metal Prog* 74:152+ *Ag* '58

STEEL metallurgy

Balance of steel power shifts. D. L. McBride. *il Steel* 142:92+ *My* 5 '58

Can an improved nonaging steel be produced commercially? E. R. Morgan. *bibliog il diag Metal Prog* 73:88-94 *Je* '58

Continuous casting on the B.I.S.R.A. experimental plant. G. Fenton and J. Pearson. *il diags Iron & Steel Inst J* 189:160-7 *Je* '58

Designing a large steel continuous casting plant. H. E. Skelley and R. Easton. *bibliog plans diags Iron & Steel Eng* 35:131-42 *My* '58

Developments in the iron and steel industry during 1957. L. E. Jadsen. *il diags Iron & Steel Eng* 35:139-89 *Ja* '58

Effects of steel-making practice on submerged-arc weld porosity. J. T. Lapsley, jr. *il diag Welding J* 37:sup 169-78 *Ap* '58

European steelmaking today. A. McLeod. *bibliog* (52 ref) *flow diag il Iron & Steel Eng* 35:133-59 *F* '58

Fifty years of steel progress. C. A. Keyser. *il Ind & Eng Chem* 50:sup42A-5A *F* '58

Hot-blast cupola, LD converter steelmaking: Gussstahlwerk Witten. A. Richter and others. *il diags J Metals* 10:599-604 *S* '58

Hydrogen in steelmaking slags. J. H. Walsh and others. *bibliog diags J Metals* 8:Trans 1568-76 *N* '56; *Abstract*. *Metal Prog* 73:174+ *Mr* '58; *Discussion*. P. Herasymenko. *J Metals* 9:Trans 1288-90; *Reply*. 1290-1 *sec* 2 *O* '57

Industrial minerals used in California's iron and steel industry. K. W. Mote. *bibliog map diags Min Eng* 10:765-7 *JI* '58

Iron and steel institute; summaries of papers for special meeting in Belgium and Luxembourg, June 18-28. *Iron & Steel Inst J* 189:109-12+ *Je* '58

Manufacture and metallurgy of flash-welded line pipe. M. A. Scheil and others. *bibliog flow chart il diags Eng J* 41:60-71 *F*; 69-71 *Mr* '58

Matakam story; from prehistoric iron to modern sintered steel; abstract. *Metal Prog* 73:152-3 *Mr* '58

Metallurgy in industry; a look ahead. H. S. Turner. *Metal Prog* 73:109-11+ *My* '58

Mills use more hot metal in steelmaking. A. Adams. *il Iron Age* 180:88-9 *N* 21 '57

New developments in steelmaking processes. D. L. McBride. *J Metals* 10:263-7 *Ap* '58

STEEL metallurgy—Continued

New process reduces iron ores with carbon monoxide; Stelling process. P. M. Unterweiser. flow diag diag Iron Age 181:93-5 Ja 30 '58

Recent developments in iron smelting and steelmaking processes. W. M. Armstrong. bibliog Can Min & Met Bul 51:574-6 S '58

Some impressions of the Continental steel industry. G. R. Bashforth. diags Metallurgia 58:135-40+ S '58

Steel takes technical stock. Engineering 186: 145 Ag '58

Steelmaking; forum on technical progress. Steel 142:120-12+ Ja 6 '58

Steelmaking; German-American style; August Thyssen-hütte. il Steel 142:130+ Mr 10 '58

Sweden; iron powder to rolled steel in one operation; Stora powder steel process. B. Kalling and others. bibliog il diag J Metals 9:1440-4 N '57

Thirty years in American metallurgy. J. J. B. Rutherford. il Metal Prog 73:106-11 F '58

Vacuum-flow steel degassing. F. W. Starratt. diag J Metals 10:465 JI '58

Vacuum stream degassing is new tool for steel plant engineers. K. C. Taylor. il Iron & Steel Eng 34:142+ O '57

Vacuum stream degassing takes hold; abstracts. K. C. Taylor. il diag Steel 141:70-2 D 23 '57; Materials in Design Eng 47:170+ F '58

See also

Bessemer process
Case hardening
Open hearth furnaces
Open hearth process
Steel castings
Steel ingots
Steel works

Electrometallurgy

Electric furnace steel manufacturing. W. E. Lewis. il Iron & Steel Eng 35:98-102 Mr '58

Hydrogen in electric steelmaking; abstract. R. W. Merrill. Metal Prog 73:153-4+ Je '58

Ladle slag-refining of electric furnace steel. R. Perrin; F. W. Starratt. il J Metals 9: 1517-20 D '57

Large electric-arc furnace steelmaking experience in the U.S.A. A. C. Ogan and D. J. Carney. bibliog Iron & Steel Inst J 189:307-14 Ag '58

Nitrogen in stainless steels; summary of six papers presented at the Electric steel conference. Metal Prog 74:136+ JI '58

Stirring in steel production. A. Faerden. bibliog diags Metallurgia 58:57-63 Ag '58

Vacuum melted metals; steel, titanium and zirconium in production. il Metallurgia 57: 139-42 Mr '58

Vacuum steel grows up. J. H. Stoll. il Product Eng 29:70-1 My 26 '58

See also

Electric furnaces, Steel making

History

Early industrial production of Bessemer steel at Edsken. P. Carlberg. il pl diags Iron & Steel Inst J 189:201-4 JI '58

Oxygen processes

Basic-oxygen process at Aliquippa, Pa. works of Jones and Laughlin steel corp. flow diag il Mech Eng 80:86-7 F '58

Basic oxygen steel lists another gain; Brasert process. Chem Eng 65:78 F 10 '58

High purity oxygen for steel making. J. T. Hugill. bibliog flow sheet il Can J Chem Eng 36:169-74 Ag '58

J&L starts oxygen steelmaking process at Aliquippa works. il diag Iron & Steel Eng 35:191-4 Ja '58

J.&L. starts up oxygen steel unit. il Iron Age 180:87 D 12 '57

Jones & Laughlin steel corp. joins oxygen steelmakers. il Steel 141:62+ D 30 '57

Low capital cost spurs swing to oxygen steel. G. J. McManus. il Iron Age 181:55-8. cover F 6 '58

Oxygen and the steel plant; panel discussion. Iron & Steel Eng 35:69-99 My '58

Oxygen in steelmaking. J. A. Charles. il Research 11:102-7 Mr '58

Oxygen process for manufacture of steel from pig iron; patent. Iron & Steel Eng 35:27 Ag '58

Oxygen process for steel production; patent. diag Iron & Steel Eng 35:25 J2 '58

Oxygen rejuvenates the converter process. E. C. Wright. il Metal Prog 73:65-71 Ja '58

Oxygen steelmaking process. F. W. Luerssen and others. bibliog il diag J Metals 9:Trans 1533-40 D '57

O.L.P.; oxygen, lime-powder injection, a new steelmaking process. E. Trentini and M. Alard. bibliog il J Metals 10:466-70 JI '58; Abstract. Metal Prog 73:145-6+ My '58

Rotor steelmaking process. R. Graef and others. il diags J Metals 9:1435-9 N '57

Steel; what the oxygen process means. il Product Eng 29:11 Ja 13 '58

Steelmaking apparatus; patent. diags Iron & Steel Eng 35:27+ My '58

Steel-making equipment; Kaldo process. il Engineer 204:789-9 N 29 '57

Stora's Kal-do rotary oxygen steelmaking process; abstract. B. Kalling and F. Johansson. Metal Prog 73:148+ Ja '58

Tar bonds oxygen vessel bricks. J. P. Holt. il diag Steel 143:74+ JI 7 '58

Thermochemistry of oxygen steel. W. O. Philbrook. bibliog il J Metals 10:477-82 JI '58

Use of oxygen in a modified tilting furnace. A. Jackson and others. il diags Iron & Steel Inst J 190:1-29 S '58

Use of oxygen in degassing soars. Steel 142: 85 My 26 '58

Will the big demand for oxygen come from openhearth? J. J. Obrzut. il Iron Age 182: 172-4 S 11 '58

Russia

Vacuum treatment of steel in the Soviet Union. A. M. Samarin. il diags J Metals 10:190-2 Mr '58

STEEL piling. See Sheet piling

STEEL pipes. See Pipes, Steel

STEEL plates

American Can opens coil stock plant in Hammond, Ind. il Iron & Steel Eng 35:142-3 JI '58

Automatic flame proofing of steel plate. il Engineering 184:774 D 20 '57

Brittle-fracture investigations in Sweden. C. Schaub. diags Engineering 186:117 JI 25 '58

Channel-clads plate via vacuum method. il Iron Age 181:138-9 Mr 6 '58

4500 ton hot plate press installation; Darling-ton works of Whessoe, ltd. il Engineer 205:171-3 Ja 31 '58

Press-shaping of heavy steel plate. il Engineering 184:713 D 6 '57

Study of the oxidation of steel plate as related to wettability and adherence of porcelain enamel. H. P. Sull, jr. bibliog il Am Cer Soc Bul 37:22-6 Ja 15 '58

See also

Ship plates

Testing

Checking strain in power-operated flexible throat plates; transducer system in Bedford wind tunnel. il Engineering 185:25-6 Ja 3 '58

STEEL research

Conditions for stability of graphite, iron, and its oxides and carbides. D. I. Cameron. Iron & Steel Inst J 189:251-5 JI '58

Crucible steel realists; creates new department to deal with changing steel technology. M. J. Day. il Chem & Eng N 36:26-7 Je 23 '58

Electrolytic migration of carbon in steels. W. Hume-Rothery. Iron & Steel Inst J 188: 113 F '58

Extraction of minor phases from austenitic steel. J. F. Brown and others. bibliog diags Metallurgia 56:215-23 N '57

Heat flow in ingot not-tops. G. Fenton. il diags Iron & Steel Inst J 186:396-405 Ag '57; Discussion. 189:263-8 JI '58

IRSID opens pilot-plant laboratories. plan Metal Prog 74:123-4 Ag '58

Low-carbon bainitic steels. K. J. Irvine and F. B. Pickering. bibliog il Iron & Steel Inst J 187:292-309 D '57

Research, foundation of steel's progress today. J. B. Austin. Franklin Inst J 265:385-94 My '58

Research into factors contributing to the output rate of open-hearth furnaces. J. Pearson. Iron & Steel Inst J 189:27-8 My '58

Studies on ingot feeder heads. H. S. Marr and others. il diag Iron & Steel Inst J 187:81-92 O '57; Discussion. 189:263-8 JI '58

Thermodynamic study of Fe-Ca-P-O. Fe-Ca-Si-P-O. and some complex molten silicophosphate systems. E. T. Turkdogan and P. M. Bills. bibliog il Iron & Steel Inst J 188:143-53 F '58

STEEL rings. See Rings, Steel

STEEL roofs. See Roofs, Steel

STEEL scaffolding. See Scaffolding, Steel

STEEL scrap. See Steel waste

STEEL straps

Expert views strap welds, R. G. LeTourneau.

il Steel 141:60 D 30 '57

Industrial know-how handbook: steel strap-

ping, il Mill & Factory 62:MH29 My '58

Steel strap, when and where to use it, H. C.

Bristol, il Mod Materials Handling 13:

90-5 Ja '58

Strapper cuts handling costs; Caine steel

co, il Steel 142:78 Ja 27 '58

STEEL tanks. See Tanks, Steel

STEEL towers. See Towers, Steel

STEEL tubes. See Tubes, Steel

STEEL using industries

Steel-price rise starts costing oil, Oil & Gas

J 56:65-6 Ag 11 '58

What roadbuilding speedup means to business,

il Iron Age 181:55-7 Ap 10 '58

STEEL walls. See Walls, Steel

STEEL waste

Automated steel scrap process still a secret.

Product Eng 29:22 Je 16 '58

Economic industrial utilization of steel swarf;

abstract, L. N. Goncharov and B. P.

Semchenko, il Metal Prog 73:176- Ap '58

Fast scrap-charging boosts openhearth out-

put, G. J. McManus, il Iron Age 181:110-

11 Mr 20 '58

Honeycomb scrap upgraded, il Steel 143:96

S 22 '58

New scrap process scores a hit; Proler plant

cuts automobile bodies to shreds, il Iron

Age 181:88-9 My 22 '58

Scrap upgraded new way; Prolerizing, Steel

142:91 My 19 '58

Self-dumping hoppers speed scrap handling;

Athenia steel co, il Iron Age 180:148 D 19

'57

Three-point plan simplifies scrap handling in

steel strip mill, il Plant 18:48-9 Ag '58

Three ways to handle scrap; Armco steel

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STEEL wire. See Wire, Steel

STEEL work

Forming of flanged and dished heads, H. S.

Beers, il diags Iron & Steel Eng 35:110-13;

Discussion, 113-14 My '58

Forming stainless steel; reference sheet, diags

Tool Eng 40:119-21 F '58

Hot extruded steel shapes can save you

money, R. L. Hugo, il Materials in Design

Eng 46:124-5 N '57

New mill will roll tough steels; Latrobe steel

co, il diags Steel 141:99-100 D 2 '57

Preform blanks from bar stock to cut ma-

chining costs, il diags Iron Age 182:84-6

Ag 14 '58

Shell molds to steel's uses, il Steel 142:70-1

F 24 '58

Tips on turning heat treated steels, il Steel

141:94-5 N 25 '57

Tool steel bows to deep drawing, P. M.

Unterweiser, il diags Iron Age 182:83-5

S 18 '58

Trends in metals; stainless steels; fabrication,

il Steel 141:119-22 N 4 '57

2000-ton steel forging press installation at

Dunkirk, New York, il diags Engineer 206:

274-7 Ag 15 '58

STEEL works

Training the steelmen, Engineering 185:146

Ja 31 '58

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Soviet steelworker, G. F. Sullivan, il Iron

Age 182:101-4 S 4 '58

STEEL works

AISE annual meeting, Cleveland, Sept. 23-

26; abstracts of papers, Iron & Steel Eng

35:181-97 S '58

Arizona gets its first steel mill, R. R. Kay,

il Iron Age 182:81 Ag 21 '58

Ceco Steel to erect steel mill in Illinois, il

Iron & Steel Eng 35:121 Je '58

Changing look of steel plants, il Steel 143:

156-+ S 15 '58

Expansion program at Great Lakes steel

corp. nears completion, il Iron & Steel Eng

34:180+ D '57

Fabricated steel to order; J. and H. McLaren,

il Engineering 184:634 N 15 '57

Giant fume catcher stops fluoride emission;

U.S. steel corp, il Chem Eng 66:66+ F 24

'58

Industrial hygiene program instituted in

Weirton in 1953, Air Cond Heat & Ven 55:

123 Mr '58

Industry's water problems and their solution.

H. I. Riegel, il plan Iron & Steel Eng

34:73-8; Discussion, 78-9 N '57

Jones & Laughlin rounds out modernization,

il Iron Age 182:28 J 3 '58

Republic Steel puts order processing system

into operation, il Iron & Steel Eng 35:126+

Je '58

Republic's expansion program nears com-

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See also

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Construction

For this steel mill under construction in

India, prefab forms turn the trick at Tata,

il Eng N 159:51-2 D 5 '57

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Dollars and sense of pickle-liquor treatment,

J. S. Joseph and E. T. Culver, Iron & Steel

Eng 35:118-20 Mr '58

Electric equipment

Application of silicon and germanium power

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il diags Iron & Steel Eng 35:117-22 Ag '58

Electrical maintenance in iron and steel

works; discussion, Iron & Steel Inst J

190:72-6 S '58

Modern developments of the Ward-Leonard

principle and applications in steelworks, G.

Ovens and C. A. Dodd, bibliog il diags Iron

& Steel Inst J 188:266-76 Mr '58; Discussion,

189:344-50 Ag '58

New ore handling, screening and sintering

facilities at Sparrows Point; electrical

features, E. C. Olson, il Iron & Steel Eng

34:104-8 N '57

Power layouts in steel mills, A. J. Mosso,

il diags Iron & Steel Eng 35:111-19; Dis-

cussion, 119-22 F '58

Proper installation and maintenance of elec-

tric control systems, J. W. Bauer, jr, il diags

Iron & Steel Eng 35:128-31 Ap '58

Trends in electrification and automation of

iron and steel processes, W. E. Miller, il

diags Iron & Steel Eng 34:83-94 O '57

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Automatic pouring ups yield, il Steel 143:

104-+ Ag 4 '58

Bag system handles dust from electric fur-

naces, Air Cond Heat & Ven 64:64 N '57

Big hook for steel mill; ladle cranes, il Pro-

duct Eng 28:67 O 28 '57

Closed-circuit television in the steel industry,

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tion 31:282-3 F '58

Continuous casting at Atlas steels ltd, G. C.

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40-50 S '58

Continuous casting of steel, il Engineering

185:293-4 Mr 7 '58

Continuous casting plant for steel, il Engi-

neer 205:372-3 Mr 7 '58

Continuous galvanizing instrumentation, W.

E. Hand, il Instruments & Automation 31:

278-9 F '58

Continuous galvanizing of steel strip; Armco-

Senzimir line installed at Ebbw Vale, il

diag Metallurgia 58:76-9 Ag '58

Designing a large tonnage continuous casting

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plans, diags Iron & Steel Eng 35:131-42

My '58

Desulfurizing and sulfuric-acid plant; Apple-

by-Frodingham steel co, il Mech Eng 80:81

Ag '58

Developments in the iron and steel industry

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Steel Eng 35:139-89 Ja '58

Dual bridge drives for overhead traveling

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Eng 35:125-7 Ap '58

Expansion of steel production capacity at

Iscor, il Engineer 206:347-8 Ag 29 '58

Getting set for the future; Republic steel

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Hot-blast cupola finds place in steelworks,

bibliog il diag J Metals 10:596-8 S '58

Hydraulic cells weigh ore; scale car for steel

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- J&L starts oxygen steelmaking process at Aliquippa works. *Il diag Iron & Steel Eng 35:191-4 Ja '58*
- Light weight ladle crane trolleys allow larger open hearth heats. *F. C. Schoen. Il diags Iron & Steel Eng 35:107-13; Discussion. 113-14 S '58*
- Mill equipment benefits pushed. *Il Iron Age 181:136 Ap 3 '58*
- Mill uses fireproof hydraulic fluid; Alan Wood steel co. *Il Steel 142:117- F 3 '58*
- Mobile cranes for the steel industry. *Il Metallurgia 57:36 Ja '58*
- Mobile materials-handling plant in a steel works. *Il Engineer 205:217-18 F 7 '58*
- Model studies expect to improve steel plant precipitator operation. *Il Iron & Steel Eng 35:181-2+ Mr '58*
- Modifications to the Fontana open hearth precipitators. *E. V. Akerlow. Il diags Iron & Steel Eng 35:97-102; Discussion. 102-3 J1 '58*
- New ore handling, screening and sintering facilities at Sparrows Point. *M. Becker; E. C. Olson. Il plans diags Iron & Steel Eng 34:96-108; Discussion. 109-12 N '57*
- Organized for electronics; Weirton steel co. *Il Steel 142:112-4 Mr 24 '58*
- Oxygen-plant control. *R. Francy. Il diags Instruments & Automation 31:287-9 F '58*
- Patent reviews. *M. Nord. Published in monthly numbers of Iron and steel engineer*
- Railroad car rebuilds and repair at Kaiser's Fontana works. *A. B. Stoker. Il diags Iron & Steel Eng 35:132-6; Discussion. 136-7 Ag '58*
- Reconstruction of August Thyssen-hütte. *Il Engineer 204:649-50, 685-6 N 1-8 '57*
- Replacement of steel mill plant and equipment with present depreciation reserves. *W. T. Hogan. Il Iron & Steel Eng 34:79-84 D '57*
- Republic in the South. *T. J. Ess. Il diag Iron & Steel Eng 35:supR 1-23 Ap '58*
- Review of European steel plant progress, 1957. *R. C. McMichael. Il diags Iron & Steel Eng 35:73-7 Ag '58*
- Split wind blowing increases furnace production. *Il Iron & Steel Eng 35:174+ F '58*
- Steel mill self-operating valves. *G. A. Coiton. Il diags Instruments & Automation 31:284-5 F '58*
- Steel mills prepare for upturn; expansion and modernization programs being completed. *Steel 143:99 J1 21 '58*
- Steelworks goes in for mobile plant. *Il Engineering 185:218-20 F 14 '58*
- Structural design of steelworks electric overhead travelling cranes. *D. Buchanan and R. G. Tyler. biblog Il diags Iron & Steel Inst J 183:371-88 Ap '58*
- Structural design problems and recommended practice for ore bridges and un. *W. B. McLean. Il diags Iron & Steel Eng 35:78-86 Ag '58*
- U.S. Steel enlarging facilities. *Steel 143:82 S 29 '58*
- Use of oxygen in a modified tilting furnace. *A. Jackson and others. Il diags Iron & Steel Inst J 190:1-29 S '58*
- Vacuum stream degassing is new tool for steel plant engineers. *K. C. Taylor. Il Iron & Steel Eng 34:142+ O '57*
- Yard storage without aisles; Peterson co. put their stock of steel grating on wheels. *Il Mod Materials Handling 13:97 O '58*

See also

Blast furnaces—Charging**Experimental plants**

- Big steel builds a pilot mill. *Il Iron Age 182:46-7 S 18 '58*

Fires and fire protection

- Safeguarding steel production. *R. M. L. Russell. Il Iron & Steel Eng 35:112-21; Discussion. 121-3 J1 '58*

Fuel

- Carnegie Natural builds a big one; six major steel plants in Pittsburgh area served by 13 mile, giant-diameter pipelines. *W. W. Clark. Il map diags Gas 34:61-7 O '58*
- Gas storage for peak demands. *R. Kyle. flow diag Il diags Iron & Steel Eng 35:109-16 Ag '58*

Heating and ventilation

- Ventilation of large industrial buildings under heat load. *F. E. Tucker. Il plans diag A M A Archives Ind Health 17:489-99 My '58; Same. Iron & Steel Eng 35:107-12 Je '58*

Maintenance and repair

- Electrical maintenance in iron and steel works; discussion. *Iron & Steel Inst J 190:72-6 S '58*
- It ain't mechanical. *J. L. Lindberg. Il Iron & Steel Eng 35:166-72 S '58*
- Salvaged by fast arc weld build-up; restoring worn steel mill equipment. *Il Mill & Factory 62:21 Ap '58*

Management

- Computers move into planning. *G. J. McManus. Il Iron Age 181:90-1 Ap 24 '58*
- Industrial statistics help solve steel plant managerial problems. *P. E. Green and I. L. Haines. biblog diags Iron & Steel Eng 34:118-23 O '57*

Painting

- New look versus old look; now, even drab steel plants can be attractive. *W. M. Tomc. Il diag Plant 17:58-9 Ja '58*
- Ten painting reminders for steel plants. *W. T. Yarhouse. Iron & Steel Eng 35:129-33; Discussion. 138-41 S '58*

Power

- First steel-mill gas turbine in Britain. *P. C. Secretan. Il diags Power 102:102-3+ Ag '58*
- Lost uninhabited world soon to have steel mill, power dam, and 100,000 people. *Il Elec Eng 77:764-5 Ag '58*
- Operation of the power system at Fairless works. *G. A. Goetz. Il plans Iron & Steel Eng 34:110-16; Discussion. 116-17 O '57*
- Trends in steel mill power plants. *H. G. Kitt and R. W. Worley. Iron & Steel Eng 35:90-3; Discussion. 93-7 Mr '58*
- Venezuela harnesses river to power new steel plant. *Il Iron & Steel Eng 34:174+ D '57*

See also

Rolling mills—Power**Protection**

- Safeguarding steel production; abstract. *R. M. L. Russell. Iron & Steel Eng 35:109-10 Ja '58*

Quality control

- Basic guides to steel quality; Allegheny Ludlum steel corp. *Il Steel 142:106+ Ap 28 '58*

Records

- Republic's new order network. *Il Iron Age 181:62-3 Ap 10 '58*

Safety measures

- Safety doesn't cost, accidents do; subsidiary companies of Bethlehem steel corp. *Il Steel 142:102+ Mr 3 '58*
- Safety progress in steel mills. *Il Safety Maint 115:28 Ap '58*

Waste

- Acid recovery from spent pickle liquor; Blaw-Knox co. *T. F. Barnhart. flow diag diag Sewage & Ind Wastes 30:296-300 Mr '58*
- Air and water pollution in the iron and steel industry. *A. Parker. Iron & Steel Inst J 189:297-302 Ag '58*
- Dollars and sense of pickle-liquor treatment. *J. S. Joseph and E. T. Culver. biblog Il diags Iron & Steel Eng 35:112-20; Discussion. 120-2 Mr '58*
- Stream pollution reflects operating practices. *J. E. Kinney. Iron & Steel Eng 35:97-100 Ap '58*
- Toughest waste problem beaten; recovering pickling acid cheaper than treating it; Ruthner process. *Eng N 160:25 My 29 '58*
- Treatment of water-borne wastes from steel plants; with cost data. *R. Nebolsine. flow sheets diags Iron & Steel Eng 34:125-50; Discussion. 150-1 D '57*

- Urea from steel mill by-products; Cyanamid of Canada, Ltd. *Il plan Can Chem Process 42:61-4+ Ag '58*

- Waste pickle liquor disposal. *G. A. Howell. Sewage & Ind Wastes 29:1278-81 N '57*

- Water pollution abatement research in the steel industry. *C. A. Bishop. Sewage & Ind Wastes 29:1273-7 N '57*

Canada

- Continuous casting at Atlas steels Ltd. *G. C. Olson. Il diags Iron & Steel Inst J 190:40-50 S '58*

Europe

- Europe expands steel-making capacity. *D. L. McBride. S A E J 66:62-3 Je '58*

STEEL works—Europe—Continued

European steelmaking today. A. McLeod. bibliog [52 ref] flow diag *Iron & Steel Eng* 35:133-59 F '58

Review of European steel plant progress, 1957. R. C. McMichael. *Iron & Steel Eng* 35:73-7 Ag '58

Germany

August Thyssen Hütte. F. W. Starratt. flow sheet *Iron & Steel Eng* 35:1426-31 N '57

Germans develop fast-cast steel plant. *Iron & Steel Eng* 35:21 Ap '58

Open-hearth plant of August Thyssen-Hütte. *Iron & Steel Eng* 35:260 F '58

Reconstruction of August Thyssen-Hütte. *Iron & Steel Eng* 34:649-50, 685-6 N 1-8 '57

Great Britain

European steelmaking today. A. McLeod. *Iron & Steel Eng* 35:133-8 F '58

Iron and steel. Illustrations with text. *Engineer* 205:pl 3 Ja 10 '58

India

Steel industry in India; yesterday, today and tomorrow. B. T. Warren. *Iron & Steel Eng* 34:80-9 N '57

Mexico

Steel industry of Mexico: its present and immediate future. P. Gutiérrez Roldán. *Iron & Steel Eng* 35:80-4; Discussion. 85-7 Ja '58

Russia

Alloyed steel in the Ukraine. D. Swan. *J Metals* 10:135-6 Mr '58

Bring users to materials; Russian steel plants. D. J. Carney. *Steel* 142:129 F '58

Russians plan big expansion. G. F. Sullivan. *Iron & Steel Eng* 35:138-9 S 4 '58

Soviet steel industry. I. H. Such. *Iron & Steel Eng* 34:85-92 S 8 '58

Steel technology is good. G. F. Sullivan. *Iron & Steel Eng* 35:132-5 S 4 '58

Tula, Sverdlovsk, Chelyabinsk, Magnitogorsk, key Russian steel plants. J. Grant and J. Chipman. *Iron & Steel Eng* 35:132-5 S 4 '58

Transvaal

South Africa's first large arc furnace. *Iron & Steel Eng* 35:293-4 D '57

Venezuela

Lost uninhabited world soon to have steel mill, power dam, and 100,000 people. *Iron & Steel Eng* 34:77-8 A '58

Venezuela harnesses river to power new steel plant. *Iron & Steel Eng* 34:174+ D '57

STEERING

Fuel economy on the bridge. J. van Overhagen. *Marine Eng/Log* 63:69-71 F '58

STEERING gear. See Automobiles—Steering gear

STELLING process. See Steel metallurgy

STENCILS and stencil cutting

Revolution in shipping through marking devices. *Paint Oil & Chem R* 121:8-9 Ap 3 '58

STEPPING relays. See Relays

STEPPING stone method. See Linear programming

STERCULIC acid

Sterculic acid; nuclear magnetic resonance spectrum and structure. K. L. Rinehart, Jr. and others. *Biol Chem* 233:503-4 Ja 20 '58

Structure of sterculic acid. D. G. Brooke and J. C. Smith. *Biol Chem & Ind* p 1508-9 N 16 '57

STEREOCHEMISTRY

Absolute configuration of compounds of the cadinane series. V. Herout and V. Sykora. *Biol Chem & Ind* p 130-1 F 1 '58

Absolute configuration of conhydrine. J. Sicher and M. Tichy. *Biol Chem & Ind* p 16 Ja 4 '58

Absolute configuration of costol (sesquiterpene) and alantolactone. V. Benešová and others. *Biol Chem & Ind* p 363-4 Mr 22 '58

Absolute configuration of β -hydroxy- β -phenylpropionic acid. R. Lukes and others. *Biol Chem & Ind* p 527-8 Mr 3 '58

Absolute configuration of the antibiotic actidione. E. J. Eisenbraun and others. *Biol Chem & Ind* p 1261-2 Mr 5 '58

Absolute configurations of the cedines. N. J. Leonard. *Biol Chem & Ind* p 1455-6 N 2 '57

3,6-Anhydro- α -D-galactopyranosyl 1,4;3,6-dianhydro- β -D-fructoside; a chemical proof of the configuration at the anomeric center of the fructose moiety of sucrose. R. U. Lemieux and J. F. Barre. *Biol Chem & Ind* p 80:2243-6 My 5 '58

Bridged polycyclic compounds; the stereochemistry of the free radical addition of *p*-tricycresol to a bicyclo[2,2,1]heptene and a bicyclo[2,2,2]octene. S. J. Cristol and R. P. Arganbright. *Biol Chem & Ind* p 79:6039-41 N 20 '57

Cashew nut shell liquid; an investigation of the geometric configurations of the olefinic components cardanol and some observations concerning ginkgol. B. Loe and C. R. Dawson. *Biol Chem & Ind* p 80:643-5 F 5 '58

Configuration of cevine. S. M. Kupchan and others. *Biol Chem & Ind* p 80:1769 Ap 5 '58

Configuration of the estrones; total synthesis of the remaining stereoisomers. W. S. Johnson and others. *Biol Chem & Ind* p 80:661-73 F 5 '58

Configurational stabilities of stereoisomeric vinyl lithium compounds. D. Y. Curtin and J. W. Crump. *Biol Chem & Ind* p 80:1922-6 Ap 20 '58

Configurations of the 3-methoxycyclohexene oxides; a novel application of proton magnetic resonance spectroscopy to the determination of structure and configuration. R. U. Lemieux and others. *Biol Chem & Ind* p 80:2237-42 My 5 '58

Constitution and stereochemistry of artemisin. M. Sumi. *Biol Chem & Ind* p 80:4369-75 S 20 '58

Constitutions and stereochemistry of the soyasapogenols. H. M. Smith and others. *Chem & Ind* p 889-90 J 12 '58

Effect of structure on the stereochemistry of electrode reactions; unsaturated α -dicarboxylic acids and esters; stereospecific reaction of the double bond. Rosenthal and others. *Biol Chem & Ind* p 80:3050-5 Je 20 '58

Experiments in the colchicine field; the stereochemistry of the tricyclic keto esters obtained from the cyclization of 8-carbomethoxy- β -(2-phenylcyclohexenyl)-propionic acid. C. D. Gutsche and others. *Biol Chem & Ind* p 80:3711-14 J 10 '58

Factors involved in the stereochemistry of diol complexes. H. Kwart and G. C. Gatos. *Biol Chem & Ind* p 80:381-3 F 20 '58

Five- vs. six-membered ring formation in the cyclization of 2,3,4-triphenylbutyric acid; the relative importance of stereochemistry. D. Lednicher and C. R. Hauser. *Biol Chem & Ind* p 80:3409-12 J 5 '58

Kinetics of displacement reactions at the sulfur atom; stereochemistry. A. Fava and A. Ilceto. *Biol Chem & Ind* p 80:3478-9 J 15 '58

Metalated dye complexes; the stereochemistry of copper(II)-dye complexes. H. B. Jonassen and J. R. Oliver. *Biol Chem & Ind* p 80:2347-50 My 20 '58

Molecular structure and stereochemistry of an iresin diester. M. G. Rossmann and N. Lipscomb. *Biol Chem & Ind* p 80:2592-3 My 20 '58

Novobiocin; the configuration of noviose. E. Walton and others. *Biol Chem & Ind* p 80:5168-73 O 5 '58

Proof of the structure and stereochemistry of α -amyrin by synthesis from a β -amyrin derivative, glycerylric acid. E. J. Corey and E. W. Cantrall. *Biol Chem & Ind* p 80:4499-500 Ja 20 '58

Proximity effects; stereochemistry of the cis-bicyclo[3.3.0]octan-2-ols. A. C. Cope and others. *Biol Chem & Ind* p 80:2852-5 Je 5 '58

Stereochemistry and mechanism of reversible polymerization of 2,2-disubstituted 1,3-propanediol carbonates. Sarel and L. A. Pohoryles. *Biol Chem & Ind* p 80:4596-9 S 5 '58

Stereochemistry of addition of dinitrogen tetroxide to *cis*- and *trans*-stilbenes. J. J. Gardikes and others. *Biol Chem & Ind* p 632-3 My 24 '58

Stereochemistry of asymmetric phosphorus compounds; stereospecificity in the irreversible inactivation of cholinesterases by the enantiomorphs of an organophosphorus inhibitor. H. S. Aaron and others. *Biol Chem & Ind* p 80:456-8 Ja 20 '58

Stereochemistry of asymmetric phosphorus compounds; the resolution of O-ethyl ethylphosphonothioic acid. H. S. Aaron and others. *Biol Chem & Ind* p 80:107-10 Ja 5 '58

STEREOCHEMISTRY—Continued

- Stereochemistry of base-catalyzed epoxidation. H. O. House and R. S. Ro. bibliog *Am Chem Soc J* 80:2428-33 *My* 20 '58
- Stereochemistry of bromination of *o*-substituted cyclohexanecarboxylic acids. J. Klein and G. Levin. bibliog *Am Chem Soc J* 80:1707-10 *Ap* 5 '58
- Stereochemistry of complex inorganic compounds; the resolution of racemic substances through optically active complex inorganic compounds. S. Kirschner and others. bibliog *diags Am Chem Soc J* 79:5877-80 *N* 20 '57
- Stereochemistry of conjugate additions; a study of the addition of amines to (2-nitropropenyl)-benzene. P. L. Southwick and J. E. Anderson. bibliog *Am Chem Soc J* 79:6222-9 *D* 5 '57
- Stereochemistry of corynantheine, dihydrocorynantheine and corynantheidine. E. E. va Tamelen and others. bibliog *Am Chem Soc J* 79:6426-30 *D* 20 '57
- Stereochemistry of dextro- and isodextropimaric acid. B. Green and others. bibliog *Chem & Ind* p 1084 *Ag* 16 '58
- Stereochemistry of Diels-Alder adducts; the rearrangement of 2-*exo*-bromonorbornane-2-*endo*-carboxamide. W. R. Boehme. bibliog *Am Chem Soc J* 80:4740-1 *S* 5 '58
- Stereochemistry of elimination reactions involving halohydrin derivatives and metals. H. O. House and R. S. Ro. bibliog *Am Chem Soc J* 80:182-7 *Ja* 5 '58
- Stereochemistry of emetine. A. Bossi and others. bibliog *Chem & Ind* p491-2 *Ap* 26 '58
- Stereochemistry of 7 α -hydroxylation in the biosynthesis of cholic acid from cholesterol. S. Bergstrom and others. bibliog *Am Chem Soc J* 80:2337-8 *My* 5 '58
- Stereochemistry of 11 α -hydroxylation of steroids. E. J. Corey and others. bibliog *Am Chem Soc J* 80:2338 *My* 5 '58
- Stereochemistry of ketonization. H. E. Zimmerman and T. E. Nevins. bibliog *Am Chem Soc J* 79:6554-61 *D* 20 '57
- Stereochemistry of ketonization; decarboxylation of 2-phenylcyclohexane-1,1-dicarboxylic acid. H. E. Zimmerman and T. W. Cutshall. bibliog *Am Chem Soc J* 80:2893-6 *Je* 5 '58
- Stereochemistry of proton transfer reactions. H. E. Zimmerman and B. S. Thyagarajan. bibliog *Am Chem Soc J* 80:3060-4 *Je* 20 '58
- Stereochemistry of the addition of silicon-chloroform to acetylenes. R. A. Benkeser and R. A. Hickner. bibliog *Am Chem Soc J* 80:5298-300 *O* 5 '58
- Stereochemistry of the conversion of organic chlorides to acids by carbonation of the Grignard reagents. H. L. Goering and F. H. McCarron. bibliog *Am Chem Soc J* 80:2287-91 *My* 5 '58
- Stereochemistry of the 1,2,3,4-dibenz-1,3-cyclooctadiene system. L. V. Dvorkin and others. bibliog *Am Chem Soc J* 80:436-92 *Ja* 20 '58
- Stereochemistry of the 2,2'-dihydroxydicyclohexylamines. T. Taguchi and K. Hayashida. bibliog *Am Chem Soc J* 80:2522-6 *My* 20 '58
- Stereochemistry of the hemlock alkaloids. R. K. Hill. bibliog *Am Chem Soc J* 80:1609-13 *Ap* 5 '58
- Stereochemistry of the itaconic acid-cyclopentadiene adduct. B. E. Tate and A. Bayley. bibliog *Am Chem Soc J* 79:6519-21 *D* 20 '57
- Stereochemistry of the pimaric acids. E. Wenkert and J. W. Chamberlin. bibliog *Am Chem Soc J* 80:2912-13 *Je* 5 '58
- Stereochemistry of the primary carbon; acetoxylation of optically active 1-butyl-1-*d* *p*-nitrobenzenesulfonate. A. Streitwieser, Jr. and W. D. Schaeffer. bibliog *Am Chem Soc J* 79:6233-8 *D* 5 '57
- Syntheses in the terpene series; synthesis of 10-methyl-1-decalone; the stereochemical stability relationship in the 9-methyldecalin series. F. Sondheimer and D. Rosenthal. bibliog *Am Chem Soc J* 80:3995-4001 *Ag* 5 '58
- Synthesis of emetine and stereoisomers of emetine. M. Barash and J. M. Osbond. *Chem & Ind* p490-1 *Ap* 26 '58

See also

Molecular rearrangements

STEREOMICROSCOPE. See Microscope and microscopy**STEREOPHONIC** phonograph records. See Phonograph records—Stereophonic records**STEREOPHONIC** radio broadcasting. See Radio broadcasting—Stereophonic programs**STEREOPHONIC** sound. See Moving picture sound recording—Stereophonic recording; Sound—Stereophonic recording and reproducing**STEREOSCOPIC** photography. See Photography, Stereoscopic**STERIC** hindrance

- Dipole moment and steric strain in hexaaryldisilanes. A. J. Petro and C. P. Smyth. bibliog *Am Chem Soc J* 79:6147-9 *D* 5 '57
- Electronic spectra and molecular dimensions; the buttressing effect and other secondary steric interactions in electronic spectra. W. F. Forbes and W. A. Mueller. bibliog *diags Am Chem Soc J* 79:6495-500 *D* 20 '57
- Hydrogen bromide cleavage of hindered 2-methoxyacetophenones. W. J. Horton and J. T. Spence. bibliog *Am Chem Soc J* 80:2453-6 *My* 20 '58
- Kinetics of the exchange reaction between carbon-14-labeled carbonate and carbonatobis-(trimethylenediamine)-cobalt(III) complex in aqueous solution; effect of steric hindrance in a ligand substitution process. J. R. Boyle and G. M. Harris. bibliog *Am Chem Soc J* 80:782-6 *F* 20 '58
- Macro rings; an extreme example of steric inhibition of resonance in a classically-conjugated hydrocarbon. K. C. Dewhirst and D. J. Cram. bibliog *Am Chem Soc J* 80:2115-25 *Je* 20 '58
- Molecular complexes of hindered biphenyl derivatives. C. E. Castro and others. bibliog *Am Chem Soc J* 80:2322-6 *My* 5 '58
- Near ultraviolet absorption of hindered biphenyls. E. Marcus and others. bibliog *Am Chem Soc J* 80:3742-5 *Ja* 20 '58
- Partial degradation and reconstitution of podocarpic acid; a novel method of hydrolysis of highly sterically hindered esters. E. Wenkert and B. G. Jackson. bibliog *Am Chem Soc J* 80:217-19 *Ja* 5 '58
- Polarographic reduction of organic halogen compounds steric hindrance and the polarographic reduction potential. F. L. Lambert and K. Kobayashi. bibliog *Chem & Ind* p449-50 *Ja* 26 '58
- Rates of solvolysis of the *m*- and *p*-phenyl-, *m*- and *p*-methylthio-, and *m*- and *p*-trimethylphenyldimethylcarbinyl chlorides; steric inhibition of resonance as a factor in electrophilic substituent constants. H. C. Brown and others. bibliog *Am Chem Soc J* 80:4964-8 *S* 20 '58
- Reactions of hindered α - and β -substituted acids; monocarboxylic bromoacids. W. R. Vaughan and A. C. Schoenthaler. bibliog *Am Chem Soc J* 80:1956-63 *Ap* 20 '58
- Reactions of hindered α -substituted acids; the effect of a β -methyl group on the acid-catalyzed rearrangement. W. R. Vaughan and A. C. Schoenthaler. bibliog *Am Chem Soc J* 79:5777-80 *N* 5 '57
- Shifts in nuclear magnetic resonance absorption due to steric effects; 2-malobiphenyls. S. Brownstein. bibliog *Am Chem Soc J* 80:2300-2 *My* 5 '58
- Steric considerations in the enzymatic course of the hydroxylation of steroids. M. Hayano and others. bibliog *Am Chem Soc J* 80:2336-7 *My* 5 '58
- Steric inhibition of periodate oxidation of glycosides. E. F. Garner and others. bibliog *Am Chem Soc J* 80:1206-8 *Mr* 5 '58
- Sterically blocked ketones, alcohols and acids. H. A. Bruson and others. bibliog *Am Chem Soc J* 80:3633-6 *Ja* 20 '58

STERILAMP. See Ultraviolet rays—Lamps**STERILITY** in plantsFW-450 makes plants male-sterile; abstract. D. H. McRae and H. F. Wilson. *il Chem & Eng N* 36:66 *S* 22 '58**STERILIZATION**Electron sterilization. *Mech Eng* 80:86 *Ap* '58Fat emulsions; effect of polyethylene and alkyl content of emulsifiers on stability to sterilization. W. S. Singleton and others. bibliog *Am Oil Chem Soc J* 35:265-70 *Je* '58Gas sterilization; abstract. C. R. Phillips. *Drug & Cosmetic Ind* 82:802 *Je* '58Variability of *E. coli* treated with heat or chlorine. A. H. Walters. *Manuf Chem* 29:210-4 *My* '58

See also

Food preservation—Radiation sterilization

Milk—Sterilization

Sewage disposal—Radiation sterilization

Sutures—Sterilization

Water pipes—Sterilization

STERILIZERS

Better thermal process guards product quality; Libby, McNeill & Libby, W. C. Cheal and C. R. Havighorst. *diags Food Eng* 30:89-91 Mr '58
Unit improves high heat sterilizing; Uperizer, F. Lang. *il diag Food Eng* 30:32-3 Ja '58

Control

Cereals get heat treatment, grain products automatically sterilized; Fisher Flouring mills co. *il diag Plant Eng* 12:126-7 O '58

STERLING, Louis Saul

Obituary. *Brit Inst Radio Eng J* 18:330 Je '58

STERIODS

Acid-catalyzed disproportionation reactions of the 17:21-dihydroxylated cortical side chain. R. Hirschsman and others. *Chem & Ind* p582 Je '58

Alopecia areata treatment, Drug & Cosmetic Ind 82:232 F '58

17,20:20,21-Bismethylenedioxy steroids. R. E. Beyler and others. *Am Chem Soc J* 80:1517-18, 5322-3 Mr 20, O '58

cis-hydroxylation of a synthetic steroid intermediate with iodine, silver acetate and wet acetic acid. R. B. Woodward and F. V. Brucher, jr. *bibliog Am Chem Soc J* 80:209-11 Ja '58

Contribution to the anthrasteroid problem; the location of the aromatic C-methyl group and the position of the conjugated double bond. A. W. Burgstahler. *bibliog Am Chem Soc J* 79:6047-50 N '57

Convenient method for preparing 5 α - and 5 β -1-dehydrosteroids. R. C. Meeks and others. *bibliog Chem & Ind* p391-2 Mr 29 '58

Direct introduction of a nitrogen function at C-13 in a steroid. P. Buchschacher and others. *bibliog Am Chem Soc J* 80:2905-6 Je '58

Further aspects of the Wittig reaction in the steroid series; 20-dehydrocholesterol and 20-isocholesterol. F. Sondheimer and R. Mechoulam. *bibliog Am Chem Soc J* 80:3087-90 Je 20 '58

Group transfer and ring contraction phenomena in the steroid series. N. L. Wendler and D. Taub. *bibliog Chem & Ind* p415-17 Ap '58

2-Hydroxy-2 α ,4-3-keto steroids. J. S. Baran. *bibliog Am Chem Soc J* 80:1687-91 Ap '58

7-Keto steroids; steroidal 3-hydroxy-3,5-dien-7-ones. C. W. Marshall and others. *bibliog Am Chem Soc J* 79:6303-13 D '57

Kinetics and mechanism of solvolysis of steroid hydrogen sulfates. S. Burstein and S. Lieberman. *bibliog Am Chem Soc J* 80:5235-9 O '58

Lean-body mass creatinine-coefficient deficit and urinary steroids. H. Sobel. *bibliog Am J Clinical Nutrition* 6:531-4 S '58

6-Methyl steroids in the androstane series. J. A. Campbell and others. *bibliog Am Chem Soc J* 80:4717-21 S '58

Microbiological transformations of steroids; tertiary hydroxylation of steroids by fungi of the order mucorales. S. H. Eppstein and others. *bibliog Am Chem Soc J* 80:3382-9 Jl '58

Microbiological transformations; the microbiological aromatization of steroids. R. M. Dodson and R. D. Muir. *bibliog Am Chem Soc J* 80:5004-5 S 20 '58

Molds, chemical yield new steroids. *Chem & Eng N* 36:54 Mr 31 '58

More punch in steroids; new Merck compound could be most potent antiarthritic steroid. *diags Chem & Eng N* 36:42-3 Je 30 '58

Now, 16 beta steroids. *Chem & Eng N* 36:40 Ag 25 '58

Polarographic reduction of delta-3-keto-steroids in well-buffered media. P. Kabasakalian and J. McGlotten. *bibliog Electrochem Soc J* 105:261-4 My '58; Discussion. 105:758-61 D '58

Review and preview; antibiotics, steroids, pace medicinals. *Chem & Eng N* 36:84-5 Ja '58

Seroflocculating steroids; reduction of the bile acid side chain. R. T. Blickenstaff and F. C. Chang. *bibliog Am Chem Soc J* 80:2726-30 Je '58

Stereochemistry of 11 α -hydroxylation of steroids. E. J. Corey and others. *bibliog Am Chem Soc J* 80:2338 My '58

Steric considerations in the enzymatic course of the hydroxylation of steroids. M. Hayano and others. *bibliog Am Chem Soc J* 80:2336-7 My '58

Steroid-protein interactions; comparison of spectrophotometric and equilibrium-dialysis procedures for determination of binding constants. U. Westphal and others. *bibliog Am Chem Soc J* 80:5135-8 O '58

Steroid research. N. Appenzweig. *il Drug & Cosmetic Ind* 82:730-14; 83:36-74 Je-Jl '58

Steroid studies; studies on the constitution of sarsagsterol. K. Tsuda and others. *bibliog Am Chem Soc J* 80:921-5 F 20 '58

Steroids; introduction of the cortical hormone side-chain. H. J. Ringold and G. Stork. *bibliog Am Chem Soc J* 80:250 Ja '58

Synthesis and reactions of ring A methylated saturated steroids. Y. Mazur and F. Sondheimer. *bibliog Am Chem Soc J* 80:5220-9 O '58

Water-soluble steroid phosphates. G. I. Poos and others. *bibliog Chem & Ind* p 1260-1 S 27 '58

See also
Fluorosteroids
Homosteroids

Analysis

Determination of carbon-14 steroids on paper chromatograms. D. L. Berliner and others. *bibliog il Anal Chem* 29:1797-800 D '57

Determination of steroid alcohols with acetic anhydride. C. L. V. F. Hollander and J. Vincour. *bibliog Anal Chem* 30:1429-31 Ag '58

Quantitative application of sample dispersion in potassium bromide for infrared analysis of steroids. H. Rosenkrantz and others. *bibliog il Anal Chem* 30:975-7 My '58

Spectra

Nuclear magnetic resonance spectra of steroids. J. N. Shoolery and M. T. Rogers. *bibliog Am Chem Soc J* 80:5121-35 O '58

STERIODS, Analogs of

Steroidal hormone analogs; synthesis of 18,19-dinorprogesterone and 14-hydroxy-18,19-dinorprogesterone. N. A. Nelson and R. B. Gariand. *bibliog Am Chem Soc J* 79:6313-20 D '57

STEROLS

Determination of coumarin in the presence of sterols. J. R. Clopton. *J Agri & Food Chem* 6:457-9 Je '58

Isolation and synthesis of a new sterol from rat feces. W. W. Wells and D. H. Neiderhiser. *bibliog Am Chem Soc J* 79:6569-70 D '57

Marine sterols; 24-dehydrocholesterol; isolation from a barnacle and synthesis by the Wittig reaction. U. H. M. Fagerlund and D. E. Idler. *bibliog Am Chem Soc J* 79:6473-5 D '58

Sterol models; 4 α -methyl-*cis*- and *trans*-decahydronaphthalenes and their 4 α -methyl-*da* analogs. M. Idelson and E. I. Becker. *bibliog Am Chem Soc J* 80:908-15 F 20 '58

Structure of citrostadienol, a natural 4 α -methylsterol. Y. Mazur and others. *Am Chem Soc J* 80:1007-8 F 20 '58

Structure of suprasterol-II. W. G. Dauben and others. *bibliog Am Chem Soc J* 80:4116-17 Ag '58

Structure of the cactus sterol lophenol; a link in sterol biogenesis. C. Djerassi and others. *bibliog Am Chem Soc J* 80:1005-6 F 20 '58

See also

Cholesterol

Ergosterol

STETHOSCOPE

Auto doctors use stethoscope. *il Oil & Gas J* 55:168 Mr 10 '58

STIBINE

Decomposition of stibine. R. E. Dixon and P. R. Kiff. *bibliog J Ap Chem* 8:631-6 O '58

Reduction of phosphorus and antimony chlorides by trimethylarsine and trimethylstibine. R. R. Holmes and E. F. Bertaut. *bibliog Am Chem Soc J* 80:2983-5 Je 20 '58

STIFFNESS

Designing stiffness into plastics structures. S. Levy. *diags Mod Plastics* 36:123+ S '58

Evaluation of spar matrices for stiffness analyses. R. J. Melosh and R. G. Merritt. *diags J Aero/Space Sci* 25:537-43 S '58

Loss of torsional stiffness under load. L. E. Hackman. *diags Aero/Space Eng* 17:53-74 O '58

Stiffness measurements of paper. A. H. H. Van Royen. *diags Tappi* 41:sup 194A-6A My '58

Study of some factors which affect the stiffness of folding boxboard. S. W. Trosset and W. H. Aiken. *bibliog Tappi* 41:sup 177A-86A Mr '58

STIGMASTADIENONE

Ozonolysis; the effect of pyridine on the ozonolysis of 4,22-stigmastadien-3-one. G. Slomp, Jr. and J. L. Johnson. *bibliog Am Chem Soc J* 80:915-21 F '58

STILBENE

Stereochemistry of addition of dinitrogen tetroxide to *cis*- and *trans*-stilbenes. J. J. Gardikes and others. *bibliog Chem & Ind* p632-3 *My* 24 '58

Studies of the peroxybenzoic acid oxidation of *p*-methoxy substituted stilbenes. D. R. Campbell and others. *bibliog Am Chem Soc J* 80:5308-12 O 5 '58

STILLING basins

Direct solution for apron elevation. E. A. Elevatorski. *diag Civil Eng* 28:596-7 *Ag* '58
Hydraulic jump at an abrupt drop. W. L. Moore and C. W. Morgan. *il diags Am Soc C E Proc* 83 [HY 6 no 14491:1-21 D '57; Discussion. 84 [HY 3 no 16901:3-9 *Je* '58]

Design

Hydraulic design of stilling basins. J. N. Bradley and A. J. Peterka. *bibliog il diags Am Soc C E Proc* 83 [HY 5 nos 1401-1406] O '57; Discussion. 84 [HY 2 no 16161:25-91 *Ap* '58; Reply. 84 [HY 6 no 18321:61-84 O '58]

STILLINGIA oil

Indian stillingia oil and tallow. S. A. Narang and Sadgopal. *bibliog Am Oil Chem Soc J* 35:68-71 F '58

STIMULANTS

Cerebral stimulant; abstract. F. Lemere and J. H. Laseter. *Drug & Cosmetic Ind* 82: 801-2 *Je* '58

STIMULUS and response

Experiments in discrimination. N. Guttman and E. I. Kalish. *il diags Sci Am* 198:77-80+ *Ja* '58

Mechanism of the olfactory stimulus. R. W. Moncrieff. *bibliog diags Am Perfumer & Aromatics* 71:50-8 *Mr* '58

STIRRERS

Review of the jar test. A. P. Black and others. *bibliog il Am Water Works Assn J* 49:1414-24 *N* '57

Stirring in steel production. A. Faerden. *bibliog diags Metallurgia* 58:57-63 *Ag* '58

STOCK options. See Stock purchase options

Stock options tempt execs. N. Schaffer and others. *Electronics* 31:25 F 21 '58

STOCKHOLM**Subway**

Stockholm tube extension. *il Engineer* 205:149 *Ja* 24 '58

STOCKPIILING

Advisory committee reports on U.S. stockpile program. *Rubber Age* 82:859 F '58

Domestic miners press for uranium stockpiles. *Eng & Min J* 159:142+ *Ag* '58

Natural rubber stockpile; editorial. *Rubber Age* 82:299 *N* '57

No stockpile problems with the 1.2-million natural rubber stockpile. G. Casto. *Rubber World* 137:573 *Ja* '58

ODM civilian commission to review stockpile policy. *Rubber World* 137:267, 393-4 *N* '57, *Mr* '58

Pettibone stockpile report indicates no reduction in rubber planned now. *Rubber World* 137:577 *Ja* '58

Should we stockpile diamond dies? *Am Mach* 102:141 F 10 '58

STOCKS

Stocks poised on a pinnacle. *Chem & Eng N* 36:29-30 S 29 '58

See also

Chemical industries—Securities

STOICHIOMETRY

Stoichiometric numbers and hydrogen overpotential. A. C. Makrides. *bibliog Electrochem Soc J* 104:677-81 *N* '57; Discussion. 105:366-7 *Je* '58

Stoichiometry of the hydration of β -dicalcium silicate and tricalcium silicate at room temperature. S. Brunauer and others. *bibliog Am Chem Soc J* 80:761-7 F 20 '58

STOKERS, Mechanical

Gives better distribution, less fuel bed disturbance with cinder return. *il diag Power Ind* 74:16-17 O '58

How the spreader-fired oscillating grate looks today. J. K. L. Mignacca. *il diags Power Eng* 62:76-8 *Je* '58

Improved stoker control eliminates process lag; Green Giant's, Fox Lake, Wis. canner. *diag Food Eng* 30:87-8 *Je* '58

Stoker operation. L. J. Cohan. *il plan diag Combustion* 29:61-5 *Ja* '58

Lubrication

Automatic lubrication cuts hazards and can chop 90 per cent from coal-handling costs. L. M. Livingston. *il Power* 102:104-5 *My* '58

STOLZITE

Occurrence of molybdenian stolzite in Arizona. J. N. Faick and F. A. Hildebrand. *bibliog Am Mineralogist* 43:156-9 *Ja* '58

STOMACH

Tiny medical flash camera snaps photos inside stomach. *il Machine Design* 30:14-15 *Ag* 21 '58

Diseases

Carcinoma of the stomach. A. Ochsner and J. Blalock. *bibliog Ind Med* 27:406-9 *Ag* '58

Ulcers

Peptic ulcer therapy. J. B. Kirsner. *Drug & Cosmetic Ind* 82:657-8 *My* '58

STONE, Edward Durell

E. Stone to design Manhattan art gallery. *pp Arch Forum* 109:11+ *Jl* '58
Educational work. *Arch Rec* 123:177-96 F '58

STONE

When rock is stone, and stone is rock. N. C. Rockwood. *Rock Prod* 60:25+ *N* '57

See also

Building stone
Granite
Gravel
Marble
Quarries and quarrying
Rocks
Sandstone

STONE, Crushed

Contractor used a special ripper, and crushed material out of his cuts. *il Roads & Sts* 101:76-7 *Ag* '58

Crushed stone; growing production and growing problems. *Rock Prod* 61:86-7 *Ja* '58

Eastern contractor builds permanent crushed stone and agbit plants; George Brox, inc. W. E. Trauffer. *il Pit & Quarry* 61:88-90 *Ag* '58

Expanded plant serves western Tennessee markets; crushed stone plant of Lambert brothers, E. C. Herod. *il Pit & Quarry* 50: 150-3 *My* '58

Loose-rock spillway for low-head dam; enlarging Municipal reservoir at Osceola, Iowa. D. W. Barr and R. W. Rosene. *il diags Civil Eng* 28:246-7 *Ap* '58; Discussion. W. F. Emmons. 28:441 *Je* '58

New British crushed stone plant; Enderby and Stanton granite co. J. Grindrod. *il Pit & Quarry* 50:125-8 *F* '58

Southwest Florida stone plant has unusual washing facilities. W. E. Trauffer. *il Pit & Quarry* 51:82-3, 110 *Ag* '58

Stone plant sets new standards for sizing; aggressive general crushed stone co. E. Meschter. *il Rock Prod* 61:106-9+ *F* '58

Tie your efficiency to equipment selection; Oolite crushed stone co. W. B. Lenhart. *il Rock Prod* 61:76-7+ *Ag* '58

See also

National crushed stone association

STONE houses

Projects of Florida builder baffle engineers. C. Lake. *il Civil Eng* 28:290 *Ap* '58

STONE walls. See Walls, Stone**STOP mechanism**

Drill press spindle stops. E. Jones. *diags Tool Eng* 41:45 *Ag* '58

Retracting stock stop with renewable slide. F. L. Rush. *diags Mach* 64:199 *N* '57

Spring-loaded pilot stops press electrically. N. W. Taylor. *diag Am Mach* 102:127 *F* 24 '58

Two-station drill spindle stop. W. R. Eldridge. *diags Tool Eng* 40:82 *Ap* '58

STOP watches

Watch shows time to tenths of seconds. *il diag Product Eng* 28:93 *N* 25 '57

STORA powder steel process. *See Steel metallurgy*

STORAGE

Certified die storage; Dana corporation's Auburn div. R. McPherson. *il Am Mach* 102:105 S 22 '58

Company puts own products to use to cut costs; Rapids-Standard co. *il Mill & Factory* 61:84-6 *D* '57

Fully automatic reserve storage. *diags Mech Eng* 80:58 *Jl* '58

Gain extra space through good handling; Excel corp. *il Iron Age* 181:106-7 *F* 6 '58

How to put more into storage; Warner electric brake & clutch co. *il Mill & Factory* 62:132-3 *Mr* '58

STORAGE—Continued

- Making the most of plant space; materials handling ideas help fit each piece in place. H. T. Oseih. *Il plan Plant Eng* 12:124-7 Mr '58
- Now, a modular industrial storage system. *Il Am Mach* 102:112 My 5 '58
- Overhead trolley conveyor solves knotty production problem; storing welding jigs and fixtures at the Rapids-standard co. *Il Plant* 17:32 Mr '58
- Reducing storage costs through proper handling. E. W. Fair. *Foundry* 86:355-6-1 My '58
- Reinforced concrete structure for bulk storage. *Il diag Engineer* 206:136 JI 25 '58
- Spread out storage to cut supply bottleneck; Superior tube co. *Il Iron Age* 181:130-1 My 22 '58
- Storage system for press dies cuts space requirements 300 per cent; Rapids-standard co. *Il Plant* 17:47 My '58

See also

- Coal storage
- Cold storage
- Grain storage
- Oil storage
- Pattern storage
- Racks
- Warehousing
- Water storage
- Wood storage
- also subdivision Storage under special subjects, e.g.
- Agricultural products
- Chemicals
- Cotton
- Cottonseed
- Food
- Food, Frozen
- Fruit
- Gas, Natural
- Liquefied petroleum gas
- Liquid fuel
- Machine tools
- Paint
- Pipes
- Potatoes
- Propane
- Radioactive substances
- Soda ash
- Textile fabrics
- Tires, Automobile
- Wheat

STORAGE batteries

- Anodic corrosion and hydrogen and oxygen overvoltage on lead and lead antimony alloys. F. Ruetschi and B. D. Cahan. *bibliog diags Electrochem Soc J* 104:406-13 JI '57; Discussion. 105:360-1; Reply. 361-3 Je '58
- Batteries to control atomic electric generator. *Elec Eng* 76:1112 D '57
- Battery separator requirements from the standpoint of the battery manufacturer. H. C. Burns. *Il Tappi* 41:sup223A-6A Je '58
- Factors in designing generator-battery systems. C. W. King. *Il diag Machine Design* 30:125-8 My 29 '58
- Lead-acid storage batteries; changes in positive active material density during various conditions of service. J. F. Dittmann and J. F. Sams. *Il Electrochem Soc J* 105:553-5 O '58
- Lead-arsenic alloy increases battery life. *Materials in Design Eng* 47:168-7 My '58
- New cranking battery for Diesel locomotive. *Il Diesel Power* 35:43 N '57
- New zinc-iodate primary battery. J. L. Jones and A. B. Arranaga. *Il diag Electrochem Soc J* 105:435-9 Ag '58
- Reliable push button starting depends on battery care. R. H. Hawkins. *Min Cong J* 44:77-8 Mr '58
- Self-discharge reactions in lead-acid batteries. Ruetschi and R. T. Angstadt. *bibliog diags Electrochem Soc J* 105:555-63 O '58
- Silver, cobalt, and positive-grid corrosion in the lead-acid battery. J. J. Lander. *bibliog Electrochem Soc J* 105:289-92 Je '58; Discussion. J. F. Schaefer and H. R. Karas. *Il* 105:761 D '58
- Specifying and applying dry cells and storage batteries. C. E. Wise. *Il diag Machine Design* 30:131-8 My 29 '58
- Storage battery connections. H. C. Jensen. *diag Am J Phys* 26:342 My '58
- See also**
- Motor cars, Railroad—Storage battery
- Charging**
- Batteries punch in for peak performance. *Il Mill & Factory* 63:109-10 JI '58

- Gas-engine battery charger boosts line truck mileage. L. F. Rohan. *Il Elec World* 149:84 F 17 '58
- Idea for battery charging; decentralized stations; Briggs & Stratton co. *Il Steel* 143:103 S 8 '58
- Industrial know-how handbook; batteries and chargers. *Il diags Mill & Factory* 62:MH 10 My '58
- Re-charging primary cells. R. W. Hallows. *diag Wireless World* 64:194-5 Ap '58
- Selecting battery charging methods. F. E. Kinzel. *Il Mod Materials Handling* 13:104-6 JI '58
- They give their batteries nine lives; Nabisco's special care of truck and lifter units. *Il Food Eng* 30:120 Ja '58

Failure

- Low temperature cuts battery output; used to control outdoor switchgear. *Elec World* 149:54 My 26 '58

Maintenance and repair

- Record-keeping key to battery efficiency. R. W. Hopewell. *Il Plant* 17:58-9 Je '58
- Reliable pushbutton starting depends upon battery care. R. H. Hawkins. *Il Pit & Quarry* 50:175-6 My '58

Manufacture

- Atomic instrumentation at Delco-Remy battery plant. *Il diags Automotive Ind* 117:68-9-1 N 1 '57
- Cellulose-base separators for lead-acid batteries. J. R. Thomas. *bibliog* (25 ref) *Tappi* 41:sup 187A-91A Mr '58

STORAGE elements (calculating machines).

- See Magnetic memory (calculating machines)

STORAGE sheds

- Large storage shed built of in situ concrete. *Il Engineering* 186:131 Ag 8 '58

STORAGE tanks. See Tanks**STORAGE tubes**

- High-speed barrier grid store; experimental electronic telephone switching system. T. S. Greenwood and R. E. Staehler. *Il diags Bell System Tech J* 37:1195-230 S '58
- Radechon storage device. A. S. Jensen. *diag Instruments & Automation* 31:1051 Je '58

STORE buildings

- Air survey gives birds-eye view of proposed store sites. *Il Arch Rec* 124:247 S '58
- King-size thin shell roofs Denver shop. *Il Arch Rec* 123:229 F '58
- New shape on Main Street; Joseph Magnin and Jackman's, Las Vegas. *Il plan Arch Forum* 107:130-3 D '57
- Sears, Roebuck new look. O. Tanner. *Il map plan Arch Forum* 109:90-5 JI '58

See also

- Department stores
- Shopping centers

Air conditioning

- Air conditioned retail stores. L. Sloane. *Il plan Prog Arch* 39:181-7 Mr '58
- Cooling tower for shopping center served by stored run-off water. F. H. Kuckhuhn. *flow diag Il Air Cond Heat & Ven* 54:61-4 N '57
- Gas conditioning makes shopping real pleasure. *Il Am Gas Assn Mo* 40:12-14 F '58
- Gas-fired air conditioning, modern kitchen head features of Ohio department store; May co. *Il Gay Age* 120:20-1, D 12 '57
- Heating and cooling a shopping center; tight space controls design. R. J. Bush. *Il plans diag Arch Rec* 124:196-8 JI '58
- Thanks to welding, it's cooler inside; Carson Pipe Scott & co. converts open ventilation system to closed air-conditioning. F. Foerste. *Il Welding Eng* 43:53 JI '58
- Waste paper, plus incinerator, plus refrigeration unit carry ¼ of store's air conditioning load. *Il Power Ind* 74:18-19 Ag '58

Lighting

- Lighting for selling. *Il Illum Eng* 53:169-73 Ap '58

STORES systems

- Extending automatic handling to the small parts storeroom; Western electric co. H. G. Weiss and others. *Il Mod Materials Handling* 13:102-7 F '58
- Incentives can improve your stockroom. N. G. Zay. *Il Mill & Factory* 63:96-3 JI '58
- Motor vehicle tyre stores; Dunlop rubber co. *Il Engineer* 205:903 Je 13 '58
- Optimum stocks of maintenance stores. R. E. Bley. *Mech Eng* 80:61-4 S '58

STORES systems—Continued

Palletised tyre stores; Dunlop rubber co. il
Engineering 185:796 Je 20 '58

See also

Inventories
Office supplies
Storage
Tool rooms
also subdivision Stores systems under
special subjects, e.g.
Coal mines and mining
Electric utilities
Gas companies
Textile mills

STORMS

Synthetic storm pattern for drainage design.
C. J. Keifer and H. H. Chu, Am Soc C E
Proc 83 [HY 4 no 1332] 1:25 Ag '57; Dis-
cussion, M. B. McPherson, bibliog 84 [HY
1 no 1558] 4:59-57 F '58

See also

Electric lines—Damage from storms
Hurricanes
Thunderstorms
Tornadoes

STOVES

See also

Electronic stoves
Gas stoves

STOVES, Electric. See Electric stoves

STOW, Marcellus Henry

Obituary, W. T. Thom, jr. por Am Assn
Pet Geologists Bul 42:1771-3 Jl '58

STRAIGHT edges. See Straightedges

STRAIGHTEDGES

Checking flatness with straightedges, C.
Minaire, diags Mach 64:99-102 Ag '58
Optimum support of straight edges; reference
book sheet, E. G. Loewen, il diags Am Mach
102:131+ My 5 '58

STRAIGHTENING machines

Tube straightening machine, il Engineering
184:619 N 15 '57

STRAIN gages

Accurate hydraulic positioning system uses
air-actuated transducers for sensing, il
diags Machine Design 29:38-90 D 26 '57

Aids for designing better tractor parts;
brittle lacquers, strain gages, E. J. Eckert,
S A E J 66:28-9 Ja '58

Dynamic calibration of fatigue-testing ma-
chines, T. M. Dowell, bibliog il diags Engi-
neering 185:693-6 My 30 '58

Evaluation of casting resins employing strain
gage techniques, R. N. Sampson and J. P.
Lesnick, Mod Plastics 35:150+ F '58

High-temperature strain gages, Elec Manuf
62:9 Ag '58

High-temperature strain gages, L. Herczeg
and P. Beckman, Instruments & Automation
31:460-1 Mr '58

Modification for use with wire resistance
strain gauge circuits, J. Halling, diag J Sci
Instr 35:72 F '58

New strain-gage filament, il Electronic Ind
17:74+ My '58

Optical strain-gage standard, il Instruments
& Automation 31:455 Mr '58

Precision strain gauge techniques, A. Tiffany
and J. Wood, bibliog il diags Electronic
Eng 30:628-35 S '58

Strain gage detects changes in metals, il Ma-
terials in Design Eng 46:206+ N '57

Strain-gage instrumentation, C. M. Hath-
away, diags Instruments & Automation 31:
450-4 Mr '58

Strain-gage instruments; illustrations with
text, Instruments & Automation 31:470-2,
649 Mr-Apr '58

Strain-gage oscillator for flight testing, W. H.
Foster, il diags Electronics 31:40-2 Ja 31
'58

Strain-gage principles, M. A. LeGette, diags
Instruments & Automation 31:447-9 Mr '58

Strain-gage transducer for Bourdon tubes, L.
E. Bollinger, diags I S A J 5:37-9 Ap '58

Strain gages for jet engine research, R. H.
Kemp, il diags Electronic Ind 17:52-7+ My
'58

Strain gages in supersonic aircraft, R. J.
Stewart, il Electronic Ind 17:60-1 Mr '58

Strain gages, their use in airplane stress
analysis, C. R. Smith, il diags Ind Lab
9:104-7 S '58

Use of resistance strain gages, P. H. R.
Lane, il diags Engineer 204:812-15 D 6 '57;
Discussion, M. J. M. Raymond, 205:210 F 7
'58

Rating

Sensitivity ratings for strain gages, P. K.
Stein, il diags Instruments & Automation
31:456-9 Mr '58

STRAINERS

Polyvinyl chloride sediment strainer; Wal-
worth co. il Mod Plastics 35:197 F '58

STRAINS and stresses

Autographic stress-strain recorders, R. R.
Bouche and D. R. Tate, il diags A S T M
Bul p33-42 bibliog(93 titles, p40-2) F '58

Axial-temperature-gradient bending stresses
in tubes, F. G. Hammitt, diags J Ap Mech
25:109-14 Mr '58

Buckling of a thin annular plate under uni-
form compression, N. Yamaki, bibliog diags
J Ap Mech 25:267-73 Je '58

Bursting pressures and safety factors for
thin-walled vessels, J. A. Weil, bibliog
diags Franklin Inst J 265:97-116 F '58

Calculating pipe stress efficiently, H.
Hsiao, diags Heating-Piping 29:98-101 S:
114-17 D '57; 30:172-5 Ja '58; Same, Pet Eng
30:C44-6+ My; C26-7+ Je; C16-18 O '58

Calculation of stresses in rails due to static
vertical loads, C. Storey, bibliog Engineering
185:311-12 Mr 7 '58

Check towers for three-way stress, B. C.
Walton, diags Pet Refiner 37:149-51 Ag '58

Comparison of instruments used to determine
the suitability of elastomers for low tem-
perature service; stress decay, M. Hanok
and others, bibliog(29 ref) il diags Rubber
Age 82:375-85 N '57

Comparisons of metals; stress-rupture
strength of metals, Materials in Design
Eng 48:21 Mid-O '58

Concerning the theory of fatigue failure in
textile materials, W. J. Lyons, bibliog Textile
Res J 28:127-30 F '58

Contact stresses under combined pressure
and twist, M. Hetényi and P. H. McDonald,
jr. bibliog il diags J Ap Mech 25:396-401
S '58

Contribution to the theory of stress corrosion
in Al-4 per cent Cu alloys, W. H. Colner
and H. T. Francis, bibliog il Electrochem
Soc J 105:377-84 Jl '58

Creep and creep recovery of concrete under
high compressive stress, A. M. Freuden-
thal and F. Roll, bibliog il diag Am Con-
crete Inst J 29:1111-42 Je '58; Discussion,
30:1433-7; Reply, 1437-3 pt 2 D '58

Creep and stress-rupture behavior of rigid
PVC pipe, J. H. Faupel, il Mod Plastics
35:120+ Jl; 132+ Ag '58

Creep deflexion and stress distribution in
a beam, W. J. Goodey, Aircraft Eng 30:170-
2 Je '58

Creep of concrete under variable stress,
A. D. Ross, bibliog diags Am Concrete
Inst J 29:739-58 Mr '58; Discussion, E. D.
Davies, 30:1279-80 pt 2 S '58

Creep under changing complex stress sys-
tems, A. E. Johnson and others, Engineer
206:209-16, 251-7, 287-91 Ag 8-22 '58

Dependence of thermal stresses in cylindrical
reactor fuel elements upon the method of
cooling, K. R. Merckx, bibliog A S M E
Trans 80:985-90 Jl '58

Design chart for maximum tangential stress
in thick-walled cylinders, T. Ranov, Product
Eng 28:F 18-19 Mid-O '57

Design of multi-level girded towers; struc-
tural analysis, E. Cohen and H. Perrin,
bibliog diags Am Soc C E Proc 83 [ST 5
no 1566] 1:29 S '57; Discussion, 84 [ST 2
no 1576] 33-7 Mr; [ST 3 no 1565] 33-8 My
'58; Reply, 84 [ST 7 no 1857] 21-4 N '58

Determination of the shear center for a spe-
cial solid symmetrical airfoil, A. J. Sisti-
no, J Aeronautical Sci 25:402-3 Je '58

Drag unit for the artificial generation of
turbulent shear flow, H. G. Elrod, bibliog
diag R Sci Instr 29:762-4 S '58

Effect of construction on certain stress-strain
properties of uncoated and coated Fortisan
fabrics, J. F. Krasny and others, bibliog
Textile Res J 27:983-90 D '57

Effect of deflection on lateral buckling
strength, J. W. Clark and A. H. Knoll, bib-
liog il diags Am Soc C E Proc 84 [EM 2
no 1596] 1:18 Ap '58

Effect of firing schedules on stress-tempera-
ture relations in enamel-metal systems, J.
H. Lauchner and others, bibliog diags Am
Cer Soc J 40:410-15 D 1 '57

Effect of rate of stress application and tem-
perature on the upper yield stress of an-
nealed mild steel; abstract, J. A. Hendrick-
son and D. S. Wood, Metal Prog 72:182+ N
'57

Effect of tensile plastic deformation on yield
condition, L. W. Hu and J. E. Bratt,
bibliog J Ap Mech 25:411 S '58

STRAINS and stresses—Continued

- Examination of the theories for calculating the stresses in pipe bends subjected to in-plane bending. C. E. Turner and H. Ford. *Biblog diags Inst Mech Eng Proc* 171 no 15:513-25 '57
- Examination of the validity of the critical resolved twinning stress hypothesis. A. R. Rosenfield. *diags J Ap Phys* 29:227-3 F '58
- Experimental determination of gear tooth stresses in large marine gears. H. W. Semar and R. E. McGinnis. *il diags A S M E Trans* 80:195-200; Discussion. 200-1 Ja '58
- Experimental study of initial and subsequent yield surfaces in plasticity. P. M. Naghdi and others. *biblog il J Ap Mech* 25:201-9 Je '58
- Experimental study of stresses. R. E. Petersen. *il Franklin Inst J* 266:64-5 Jl '58
- Flow and fracture of nodular cast iron. W. R. Clough and M. E. Shank. *biblog il A S M E Trans* 79:1911-20 N '57
- For thick wall vessels reduce thickness by overstrain? S. M. Jorgensen. *biblog il Pet Refiner* 37:163-9 F '58; Same. A S M E Trans 80:561-7; Discussion. 568-70 Ap '58
- Further large-deflection analysis for a plate strip subjected to normal pressure and heating. M. L. Williams. *biblog J Ap Mech* 25:251-8 Je '58
- Gain growth and flecking in electroplated copper caused by cyclic stress. H. Okubo and N. Nozaki. *il Electrochem Soc J* 105: 334-8 Jl '58
- Graphical method for oblique bending. T. F. W. Smith. *diags Engineer* 206:129-30 Jl 25 '58
- Ground stress investigations in Canadian coal mines. A. E. Brown. *biblog Min Eng* 10:Trans 879-87, Ag '58
- High-speed computer determines beam stress of gear tooth. H. W. Van Gerpen. *diags S A E J* 65:66-7 N '57
- How eight fibers compare in stress-strain properties; with charts and tables. J. F. de Bordenave and others. *il Textile World* 108:97-114 Mr '58
- How to calculate stress in short cylindrical shells; reference book sheet. L. Berko. *diags Product Eng* 29:81 F 3 '58
- How to calculate stresses in adhesive joints. H. A. Perry. *diags Product Eng* 29:64-7 Jl 7 '58
- How to calculate stresses in press-fit bushings; reference book sheet. E. H. Schuette. *diags Product Eng* 29:51-2 S 1 '58
- Influence of strain hardening on the dilation of cylinders under internal pressure. E. Voce. *Engineering* 185:756-9 Je 13 '58
- Lateral deflections and stresses in building frames. R. E. McClellan. *diags Am Soc C E Proc* 83 [ST 3 no 1354]:148 S '57; Discussion. E. N. W. Lane. 84 [ST 3 no 1656]: 29-32 My '58
- Limit design for economical missile structures. L. A. Riedinger. *diags Space/Aeronautics* 30:32-9 O '58
- Linkage measures bending stress. *il diags Product Eng* 29:65 Je 9 '58
- Load-deflection relations and surface strain distributions for flat rubber pads. A. N. Gent. *biblog diag Rubber Chem. & Tech* 31:395-409; Discussion. 409-14 Ap '58
- Material rating based upon true stress-strain properties. J. Marin and M. G. Sharma. *biblog diag Welding J* 37:sun375-8 Ag '58
- Measurement of stresses in cast resins. A. J. Bush. *diags Mod Plastics* 35:143-4 F '58
- Measuring local strain under static load; rapid replica technique. *il diag Engineering* 185:726-7 Je 6 '58
- Mechanism of rupture of jute yarn under tensile stress. B. L. Banerjee and M. K. Sen. *biblog Textile Res J* 27:846-54 N '57
- Method for calculating vibration frequency and stress of a banded group of turbine buckets. M. A. Prohl. *biblog diags A S M E Trans* 80:169-79; Discussion. 179-80 Ja '58
- Nature of strain-age embrittlement. C. J. Osborn. *biblog Iron & Steel Inst J* 188:97-101 F '58
- New techniques of experimental stress analysis; abstract. B. R. Anderson. *il Machine Design* 29:174-2 N 14 '57
- New theory on stress-corrosion cracking. *Metallurgia* 57:147 Mr '58
- Novel mercerizing technique to establish true length of cotton yarn. C. F. Goldthwait and A. L. Murphy. *biblog Textile Res J* 28:15-21 Ja '58
- Peening cuts stresses in plated parts. W. W. Salee. *Product Eng* 28:32-3 D 9 '57
- Permissible concrete shear stresses of the 1957 British code of practice. C. B. Wilby. *Am Concrete Inst J* 29:1146-8 Je '58
- Piecewise yielding of mild steel. K. Farnell. *Engineering* 185:92-3 Ja 17 '58
- Properties of materials at high rates of strain. K. N. Leibovic. *biblog il diags Metallurgia* 56:239-41 N '57
- Reinforcement of openings in pressure vessels. E. O. Waters. *biblog diags Welding J* 37:sun277-88 Je '58
- Relationship between magnesium content and stress-corrosion susceptibility of aluminum-magnesium alloys. W. J. Vance. *biblog J Ap Chem* 8:18-23 Ja '58
- Relative density and shear strength of sands. T. H. Wu. *biblog map diags Am Soc C E Proc* 83 [SM 2 no 1161]:1-23 Ja '57; Discussion. 83 [SM 2 no 1519]:31-3 Jl '57; Reply. 84 [SM 1 no 1559]:5-6 F '58
- Rotation viscometer directly measuring the ratio of the shearing stress to the rate of shear. H. Eisenberg. *biblog diags R Sci Instr* 28:927-9 N '57
- Shear diagonal stresses and bond stresses in reinforced concrete beams; discussion. I. F. Morrison. *Eng J* 41:74; Reply. E. M. Renssaa. 74-6 F '58
- Shear-strain rate in metal cutting and its effects on shear-flow stress. D. Kececioglu. *biblog il diags A S M E Trans* 80:158-67; Discussion. D. E. Walker. 167-8 Ja '58
- Shear-zone temperature in metal cutting and its effects on shear-flow stress. D. Kececioglu. *biblog diag A S M E Trans* 80:541-6 Ap '58
- Shear strength of prestressed lift slabs. A. C. Scordella and others. *biblog il plans diags Am Concrete Inst J* 30:485-506 O '58
- Simple instrument for the periodic application of controlled bi-axial strains. P. U. A. Grossman. *biblog diag J Sci Instr* 35:131-4 Ap '58
- Some common stress-raisers in engineering parts; abstract. G. A. Cottell. *Metal Prog* 74:158-9 S '58
- Some effects of environment on fracture stress of germanium. L. Breidit, jr. and others. *J Ap Phys* 29:226 F '58
- Static and fatigue strength in shear of beams with tensile reinforcement. T. S. Chang and C. E. Kesler. *biblog diags Am Concrete Inst J* 29:1033-57 Je '58; Discussion. 30:1425-6 pt 2 D '58
- Steel penstock assembly stress relieved on the job. *il Eng N* 160:40-1 Ja 9 '58
- Strain hardening behaviour of high purity copper; an appraisal of tests by Carreker and Hibbard. E. Voce. *Metallurgia* 57:111-16 Mr '58
- Strength of concrete under combined stresses. B. Bresler and K. S. Pister. *biblog il diags Am Concrete Inst J* 30:321-45 S '58
- Strength of concrete under combined tensile and compressive stress. D. McHenry and J. Karni. *il diag Am Concrete Inst J* 29: 829-39 Ap '58; Discussion. 30:1301-6; Reply. 1307-3 pt 2 D '58
- Stress and deflexion studies of pipeline expansion bellows. C. E. Turner and H. Ford. *biblog il diags Inst Mech Eng Proc* 171 no 15:526-44; Discussion. 644-50; Reply. 651-2 '57
- Stress computer for the SR-4 testing machine. R. D. Behr and J. A. Gusack. *il diags A S T M Bul* p43-5 F '58
- Stress concentration in heavy-walled cylindrical pressure vessels. J. H. Faupel and D. E. Harris. *biblog diags Ind & Eng Chem* 49:1979-86 D '57
- Stress corrosion cracking in copper alloy weldments. R. T. Phebus. *biblog il diags Am Soc Naval Eng J* 70:543-9 Ag '58
- Stress distribution around a circular inclusion in a semi-infinite elastic plate. E. M. Saleme. *biblog diags J Ap Mech* 25:129-35 Mr '58
- Stress distribution in overstrained mild steel beams. K. Farnell. *diag Engineering* 185: 788-9 Je 20 '58
- Stress distribution in rotating disks and cylinders under elevated temperature creep conditions. A. M. Wahl. *diags J Ap Mech* 25:243-50 Je '58
- Stress-free nickel plating. *il Metal Prog* 73: 90-2 Ap '58
- Stress measurement in circular cylinders. P. M. Sutton. *biblog diag Am Cer Soc J* 41: 103-9 Mr 1 '58

STRAINS and stresses—Continued

- Stress-relaxation behaviour of chromium-molybdenum and chromium-molybdenum-vanadium bolting materials. J. A. Stafford and M. G. Gemmill. *bibliog diag Inst Mech Eng Proc* 171 no 31:834-42; Discussion. 839-70 '57
- Stress relief in aluminum forgings. R. E. Kleint and F. G. Janney. *il diags Light Metal Age* 16:14-21 F '58
- Stress-strain relation of pure-gum rubber vulcanizates in compression and tension. L. A. Wood. *bibliog J Res Nat Bur Stand* 60:193-9 Mr '58
- Stress-strain relations for a simple model of granular medium. H. Deresiewicz. *bibliog diag J Ap Mech* 25:402-6 S '58
- Stress-strain relationships in yarns subjected to rapid impact loading; wave propagation in long textile yarns impacted transversely. J. C. Smith and others. *bibliog diags Textile Res J* 28:288-302 Ap '58; Same. *J Res Nat Bur Stand* 60:517-34 My '58
- Stresses alter hardness. S. K. Setty and others. *bibliog il diag Mech Eng* 79:127-9 D '57; Abstracts Machine Design 30:138-9 Ja '58; *Product Eng* 28:105 D 9 '57; *Eng J* 41:80-1 F '58
- Stresses in a cylindrical pressure vessel on a cylindrical support. R. Hicks. *diags Engineer* 205:274-7 F 21 '58
- Stresses in a dumbbell-shaped disk rotating about an axis lying in its middle plane. B. B. Chatterjee. *diag J Ap Mech* 25:290-2 Je '58
- Stresses in reinforced concrete sections subject to transient temperature gradients. H. Samelson and A. For. *diags Am Concrete Inst J* 30:377-86 S '58
- Temperature stresses in continuous frames. S. Hassid. *diags Am Concrete Inst J* 29:415-20 N '57
- Temperature stresses in the two-phase alloy, WC-Co; abstract. J. Gurland. *Metal Prog* 72:173-4 N '57
- Thermal stresses in design. S. S. Manson. *bibliog il diags Machine Design* 30:114-20 Je 12; 99-103 Je 26; 100-7 Ag 7; 110-13 Ag 21; 126-33 S 4 '58 (to be cont)
- Thermal stresses in transversely isotropic semi-infinite elastic solids. B. Sharma. *J Ap Mech* 25:36-8 Mr '58
- Thermodynamic relations among stresses, deformations, and moisture absorption. J. W. S. Hearle. *bibliog diags Textile Res J* 27:940-5 D '57
- Time and temperature dependence of thermal stresses in cylindrical reactor fuel elements. K. R. Merckx. *bibliog A S M E Trans* 80:505-9 F '58
- True stress; true strain computer. T. S. DeSisto and D. E. Driscoll. *il diags A S T M Bul* p46-9 F '58
- Two-dimensional load-extension tester for fabrics and film. P. B. Checkland and others. *bibliog il diags Textile Res J* 28:399-403 My '58
- Understanding the hyperbolic paraboloid; stress analysis for any hyperbolic paraboloid. F. Candela. *il diags Arch Rec* 124:205-7 Ag '58
- Warming-up stresses in thick hollow cylinders. M. J. Hier. *Engineering* 185:343 Mr 14 '58
- Watch out for stress corrosion in metals. E. H. Phelps. *il diag Product Eng* 29:56-8 Ag 4 '58
- What you can do to reduce stress corrosion. F. J. Poss. *Chem Engr* 65:140-1 J1 28 '58
- When splines need stress control. D. W. Dudley. *il diags Product Eng* 28:56-61 D 23 '57
- Will ultimate strength design of reinforced concrete beams simplify stress calculations? discussion. J. G. MacGregor. *bibliog Eng J* 41:72-3; Reply. E. M. Rensaa. 73-4 F '58
- Yield point and high-temperature proof stress of carbon-manganese steel. J. Glen. *Engineer* 205:809 My 30 '58
- See also
Airplanes—Stresses
Beams and girders
Bending
Bending moment
Bridges—Load
Bridges—Stresses
Columns
Concrete construction—Design
Creep of materials
Creep of metals
Deformation (mechanics)
Elasticity
Fatigue in metals
Fatigue in plastics
Friction, Internal
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Guided missiles—Stresses
Influence lines
Load (mechanics)
Mohr circle diagram
Notched bar testing
Photoelasticity
Poisson's ratio
Ships—Strains and stresses
Soil mechanics
Strain gages
Strength of materials
Torsion
Welding—Stresses
Wind pressure

Brittle coating test

- Aids for designing better tractor parts; brittle lacquers, strain gages. E. J. Eckert. *S A E J* 66:28-9 Ja '58
- Ceramic coatings for experimental stress analysis. F. B. Stern. *il diag Machine Design* 30:147-9 My 29 '58
- Photostress analysis. B. Sutton. *il Instruments & Automation* 31:463-9 Mr '58

Residual stresses

- Analysis of residual stress in ground surfaces of high-temperature alloys. R. D. Halverstadt. *bibliog diags A S M E Trans* 80:929-39; Discussion. 939-40 My '58
- Determination of residual stresses in titanium carbide-base cermets by high-temperature X-ray diffraction. H. W. Newkirk, Jr. and H. H. Sisler. *bibliog diags Am Cer Soc J* 41:93-103 Mr 1 '58
- Distribution of residual stresses in carburized cases and their origin; abstracts. D. P. Koistinen. *Metal Prog* 72:250-4 O '57; *Steel* 141:142-4 N 4 '57
- Factors affecting residual stress in electro-deposited metals. J. B. Kushner. *bibliog il diags Metal Finishing* 56:46-51 Ap; 82-7 My; 58-60 Je; 52-5-1 J1 '58
- Influence of repeated bending loads on biaxial residual stresses in shot-peened plates. T. M. Ellessner. *bibliog il diags A S M E Trans* 79:1904-10 N '57
- Influence of various grinding conditions upon residual stresses in titanium. P. A. Clorite and E. C. Reed. *bibliog A S M E Trans* 80:297-301 F '58
- Measurement of residual stresses in alloy steel forgings. A. Barker and E. H. Hardy. *bibliog il diags Inst Mech Eng Proc* 171 no 17:581-95; Discussion. 595-6 '57
- Measurements of quenching stresses in a bearing ring by interference fringes. T. Mura and H. Yoshimoto. *bibliog il diags J Ap Phys* 29:115-19 F '58
- Preheating; residual stresses, stress relieving. W. Spraragen. *Welding J* 37:sup21 Ja '58
- Quantitative evaluation of residual-stress relief in pipe weldments. J. E. Cook and R. B. McCauley. *Welding J* 37:sup 179-84 Ap '58
- Residual grinding stresses can be minimized. M. W. Gormly. *il Tool Eng* 41:51-4 Ag '58
- Stress relieving of stainless steels and the associated metallurgy. R. A. Huseby. *bibliog il Welding J* 37:sup304-15 J1 '58
- X-ray diffraction for residual stress measurements of restrained weldments. E. H. Kinelski and J. A. Berger. *bibliog il diags Welding J* 36:sup513-17 D '57
- STRAPS, Steel. See Steel straps
- STRATEGIC air command. See United States—Air force—Strategic air command
- STRATEGIC materials
Strategic metals 1957. S. H. Williston. *Min Cong J* 44:127-9 F '58
- STRATEGIC-UDY process. See Iron metallurgy
- STRATIFICATION
Chester cross-bedding and sandstone trends in Illinois basin. P. E. Potter and others. *maps diags Am Assn Pet Geologists Bul* 42:1013-46 *bibliog(p)* 1045-6 My '58
- STRATIGRAPHIC geology. See Geology, Stratigraphic
- STRATOSPHERE. See Atmosphere, Upper
- STRAW
TAPPI agricultural fibers conference, Quincy, Ill. Oct. 16-17. *Tappi* 40:sup 126A-30A D '57
- STRAWBERRIES
Acid content of cherries and strawberries. A. C. Hulme and L. S. C. Wooltorton. *Chem & Ind* p659 My 31 '58
- Bin-on-scale speeds sugar check; Driscoll strawberry associates. O. C. Goodbrod. *il diag Food Eng* 30:94-4 Mr '58

STRAWBERRIES, Frozen

Time-temperature tolerance of frozen foods; effect of regularly fluctuating temperatures in retail packages of frozen strawberries and raspberries. D. G. Guadagni and C. G. Nimmo. *bibliog Food Tech* 12:306-10 *Je* '58

STRAWBERRY flavor. See Flavoring materials

STRAY currents

Stray-current problems created by modernizing direct-current traction lines. H. L. Hamilton. *plans diags Am Water Works Assn J* 50:1231-40 *S* '58

STREAM flow

Columbia Basin streamflow routing by computer. D. M. Rockwood. *diag Civil Eng* 28: 343-51 *My* '58

Measuring streamflow under ice conditions. A. M. Moore. *il Am Soc C E Proc* 83 (HY 1 no 1162):1-12 *F* '57; Discussion. 83 (HY 4 no 1348):9-14 *bibliog*(32 titles, p 11-13) *Ag* '57; Reply. 84 (HY 1 no 1558):5-6 *F* '58

Mechanism of reparation in natural streams. D. J. O'Connor and W. E. Dobbins. *Am Soc C E Proc* 82 [SA 6 no 1115]:1-30 *bibliog*(37 ref, p24-5) *D* '56; Discussion. 83 [SA 2 no 1227]:9-14 *Ap*; [SA 3 no 1288]:3-13 *Je* '57; Reply. 84 [SA 1 no 1557]:3-7 *F* '58

Sediment transport in money creek. J. B. Stall and others. *bibliog maps Am Soc C E Proc* 84 (HY 1 no 1531):1-27 *F* '58

Streamflow recorder with added pen takes guess out of flow gage. *il Eng N* 160:125 *Je* 15 '58

Tests hint water bonanza; boosting streamflow from watersheds. *il Elec World* 150: 53 *Ag* 25 '58

Total sediment load of streams. E. M. Laurson. *il diags Am Soc C E Proc* 84 (HY 1 no 1530):1-36 *bibliog*(33-5) *F* '58; Discussion. 84 (HY 6 no 1856):59-79 *N* '58

STREAM measurement

Gold measures river flow. *il Electronics* 31: 112-*f* *Ja* 17 '58

STREAM pollution. See Water pollution

STREAM surveys

Monitoring of stream water quality; panel discussion. *map Am Water Works Assn J* 50:1211-26 *S* '58

STREET cars

Old streetcars never die; discarded streetcar torn apart to make sides of living room and sun porch. C. Holbrook. *il Comp Air Mag* 62:346 *N* '57

STREET cleaning

Street sweeping operations on county roads. D. J. Murray. *il Pub Works* 89:109-10 *S* '58

Costs

Sanitation service costs. R. R. Robinson. *il Pub Works* 89:103 *Ap* '58

STREET cleaning apparatus

Considerations in the purchase of street sweepers by cities. A. Stenman. *il Pub Works* 89:127-8 *S* '58

Crimped steel wires make broom. *il Eng N* 150:47 *My* 15 '58

New sweeper expands Baltimore county services. *il Pub Works* 89:123 *Mr* '58

Vacuum street cleaner does speedy job. V. Victoria. *il Pub Works* 89:115 *Je* '58

STREET flusher truck. See Tank trucks

STREET lighting

Ammeter speeds test of street light circuit. G. R. Roberts. *il Elec World* 149:54 *My* 26 '58

Application experience with mercury vapor lamps in street lighting service. J. W. Young. *bibliog il diags Illum Eng* 53:253-61; Discussion. 261-5; Reply. 265-6 *My* '58

Automatic photometer for street lighting and other luminaires. abstract. G. A. Horton and others. *il Illum Eng* 53:472-3 *S* '58

Design and evaluation of high utilization fluorescent street lighting luminaire; abstract. D. E. Husby. *Illum Eng* 53:491 *S* '58

Detroit toys with h-f street lighting. *il Elec World* 148:114 *N* 25 '57

Discomfort glare at low adaptation levels; multiple sources. R. C. Putnam and K. D. Bower. *il diags Illum Eng* 53:174-80; Discussion. 180-4 *Ap* '58

High-frequency fluorescent street lighting. H. F. Wall. *Franklin Inst J* 265:79-80 *Ja* '58

New lamp cuts street lighting costs. P. Hirsch. *il Pub Works* 89:104-5 *Ja* '58

Postman shares right-of-way load; Detroit Edison co. securing some rights-of-way by mail. R. E. Brehmer. *il Elec World* 149: 40 *Je* 30 '58

Should pavement brightness and traffic speed enter into design of roadway lighting? W. B. Elmer. *Illum Eng* 53:287-8 *My* '58

Something had to be done about street lighting. H. Hathaway. *il Pub Works* 89:99 *My* '58

Town woos people, business with street lights. *Orland, Calif. H. J. Richardson. il Elec World* 150:129 *Ag* 4 '58

Trends in lighting equipment design; street and highway lighting. B. C. Cooper. *il Elec Constr & Maint* 57:92-3 *O* '58

Control

F-m controls street lights; Chicago's new State street. *il Electronics* 31:16-*f* *S* 26 '58

Costs

Bright lights for Atlanta. G. B. Arthur. *il Pub Works* 89:114-16 *Ap* '58

Estimating the cost of a roadway lighting system. R. Summers, Jr. *bibliog il diags Illum Eng* 53:269-77; Discussion. 278-81; Reply 281-3 *My* '58

Finance

New method for financing ornamental street lighting. W. W. Coburn. *il Pub Works* 89: 99-100 *Mr* '58

STREET lighting fixtures

Analysis of light distributions from linear source street luminaires. R. G. McPhail. *diags Illum Eng* 53:193-7; Discussion. 197-202 *Ap* '58

Integral highway luminaires are here. *il Eng N* 160:114 *My* 15 '58

Plastic panels protect street lights. B. West. *il Pub Works* 89:112 *F* '58

Testing

Automatic processing of photometric test data for street lighting luminaires. G. A. Horton and P. A. Zaphyr. *flow chart il Illum Eng* 53:341-9; Discussion. 349-51 *Je* '58

STREET openings

Proper methods for breaking and repairing pavement. J. M. Rogeven. *Am Water Works Assn J* 50:335-9 *Mr* '58

Public acceptance of inconveniences during utility construction in streets. B. S. Grant. *Am Water Works Assn J* 50:1306-10 *O* '58

Reducing traffic interference during main repairs; abstract. B. E. Payne. *Am Water Works Assn J* 50:302 *F* '58

STREET railroads

See also

Street cars

Trolley buses

STREET traffic

City expressways; drive continues in U.S. for traffic jam solution. *Eng N* 159:28 *D* 12 '57

Detroit is taming its traffic. R. Cantwell. *il plans Arch Forum* 108:96-101-*f* *Mr* '58

Operation of urban expressways. J. Barnett. *Am Soc C E Proc* 83 (HW 4 no 1374):1-7 *S* '57; Discussion. *il* 84 (HW 2 no 1652):5-12 *My* '58; Reply. 84 (HW 3 no 1829):5-6 *O* '58

Should pavement brightness and traffic speed enter into design of roadway lighting? W. B. Elmer. *Illum Eng* 53:287-8 *My* '58

U-drive taxis to the rescue in Paris. *Arch Forum* 107:142-3 *D* '57

See also

Road traffic

Traffic signals

STREETS

Integrated planning of highways and city streets. G. Kelcey and G. Leiland. *il maps plans Am Soc C E Proc* 84 (HW 2 no 1628): 1-31 *My* '58

See also

Driveways

Dust prevention

Sidewalks

Snow removal

also subdivision Streets under names of cities e.g.

Chattanooga, Tennessee

Chicago

Des Moines, Iowa

Detroit

Duluth

Mexico (city)

Mobile, Alabama

New Haven, Connecticut

Portland, Oregon

Seattle

Costs

Baltimore streets get a fast resurfacing; unit prices. *Eng N* 160:112 *Mr* 6 '58

Ice control

Rock salt for snow and ice removal. C. A. Rogus. *il diags Pub Works* 88:113-17 *N* '57

STREETS—Continued

Intersections

- Evaluation of urban intersection design. R. J. Furbeck. *Il diags Pub Works* 89:100-3+ F '58
 Safe movement plans are discussed for emergency vehicles. R. C. Lee. plans Traffic Q 12:80-9 Ja '58

Maintenance and repair

- Cheap and traffic-sparing way to repair streets with heater-planers. C. G. Gilmore. *Il Eng N* 160:68 Mr 13 '58
 Mobile light and power for street maintenance and civil defense. B. R. Paris. *Il Pub Works* 89:178 Ag '58
 Worn-out road rebuilt with lime stabilization. Fox Point, Wis. *Il Pub Works* 88:100-1 N '57

STRENGTH of materials

- Comparison of materials; creep strength of metals. Materials in Design Eng 48:20 Mid-O '58
 Comparisons of materials; tensile strength and elongation. Materials in Design Eng 48:14-17 Mid-O '58
 Comparisons of metals; stress-rupture strength of metals. Materials in Design Eng 48:21 Mid-O '58
 Curves find bending and torsion strength of thin-walled cylinders; reference book sheet. I. Kusmiss. *diags Product Eng* 29:85+ J1 21 '58
 Curves find compression strength of thin-walled cylinders; reference book sheet. I. Kusmiss. *diag Product Eng* 29:77+ J1 7 '58
 Effect of welding speed on strength of 6061-T4 aluminum joints. W. L. Burch. *Il diags Welding J* 37:sup361-7 Ag '58
 Effects of type, thickness, and age of capping compounds on the apparent compressive strength of brick. N. W. Kelch and F. E. Emme. A S T M Bul p88-41 My '58
 Elasticity, strength, and other related properties of some refractory castables. S. J. Schneider and L. E. Mong. *bibliog Il Am Cer Soc J* 41:27-32 Ja 1 '58
 Fatigue strength of specimens cut from pre-loaded blanks. N. E. Frost. *diags Metallurgia* 57:279-82 Je '58
 16 plate-stiffeners compared. K. Lowenfeld. *diags Product Eng* 29:82-3 J1 21 '58
 Loading mechanism of increasing stiffness; testing specimens of unknown strength. E. Spencer. *Il diags Engineering* 185:60-1 Ja 10 '58
 Material rating based upon true stress-strain properties. J. Marin and M. G. Sharma. *bibliog diag Welding J* 37:sup375-8 Ag '58
 Metallurgical designing for strength. C. Zener. *Il diags Westinghouse Eng* 16:146-51 S '56
 Same cond. *Product Eng* 28:B2-5 Mid-O '57
 Necessity of fundamental and widened research in strength of materials; discussion. A S T M Bul p64-5 J1 '58
 Proposed procedure for testing shear strength of brazed joints. F. M. Miller and R. L. Peaslee. *bibliog Il diags Welding J* 37:sup 144-50 Ap '58
 Strength of brittle solids. D. Dollimore and S. J. Gregg. *bibliog Research* 11:180-4 My '58
 Strength of materials; fundamental research required in a wider field than hitherto. Automobile Eng 48:275-6 J1 '58
 Study of factors affecting the strength and ductility of weld metal. C. M. Wayman and R. D. Stout. *bibliog Il Welding J* 37:sup 193-200 My '58
 Tap the reserve strength in metal parts. D. J. Graziano. *diags Product Eng* 29:44-7 S 29 '58

See also

- Deformation (mechanics)
 Elasticity
 Fatigue in metals
 Fatigue in plastics
 Hardness
 Impact
 Stiffness
 Strains and stresses
 Tensile strength
 Torsion
 also subdivision Strength under special subjects, e.g.
 Cast iron
 Concrete
 Glass
 Paper
 Plastics
 Steel
 Titanium

STREPOGENIN

- Isolation and determination of structure of peptides with streptogenin activity; the disulfide of leucylvalylcysteinylglutamy-larginine from insulin. G. L. Tritsch and D. W. Woolley. *bibliog Am Chem Soc J* 80:1490-3 Mr 20 '58

STREPTOCOCCI

- Delayed recovery of streptococci from throat swabs. N. F. Hollinger and L. H. Lindberg. *bibliog Il Am J Pub Health* 48:1162-9 S '58
 Enterococcus-like organisms in citrus juices. R. Patrick and E. C. Hill. *bibliog Food Tech* 12:337-40 J1 '58
 Isolation of enteric viruses and salmonellae from sewage; comparison of coliform and enterococci incidence to the isolation of viruses. W. N. Mack and others. *bibliog Sewage & Ind Wastes* 30:957-62 Ag '58

STREPTOMYCES

- Isolation and characterization of three crystalline antibiotics from streptomyces plicatus. T. H. Haskell and others. *Am Chem Soc J* 80:43-7 F 5 '58
 Isolation of a second antibiotic from streptomyces hygroscopicus. R. L. Mann and W. W. Bromer. *bibliog Am Chem Soc J* 80:2714-16 Je 5 '58

STREPTOMYCIN

- Drug maker runs ion column on thick broth: ion exchange process absorbs streptomycin from unfiltered whole nutrient broth. *Il diags Chem Eng* 65:54-1 Je 2 '58
 Novel ion-exchange method for the isolation of streptomycin. C. R. Bartels and others. *Il diags Chem Eng Prog* 54:49-51 Ag '58

STRESS (physiology)

- Stress factors in industry. D. C. Lipman. *Ind Med* 27:295-7 Je '58
 Ulcers in executive monkeys. J. V. Brady. *Il Sci Am* 199:95-8+ O '58

STRESSCOAT. See Strains and stresses—Brittle coating test

STRESSES. See Strains and stresses

STRETCHING

- How to find final dimensions of stretch-formed parts; reference book sheet. B. Russell. *diags Product Eng* 28:121+ N 25 '57
 Installation of stretch reducing mill; Colorado fuel and iron corp. Pueblo plant. H. L. Mitchell. *flow diag Iron & Steel Eng* 55:139-41 Mr '58

See also

- Rubber—Stretching
 STRETCHING machines
 8000-ton stretching machine for aluminium plate. *Il Engineer* 206:277 Ag 15 '58
 New hydraulic extrusion stretchers. *Il Light Metal Age* 45:33 O '57
 Stretching the wings of a DC-8. O. L. Rumble. *Il Mach* 64:121-4 Ja '58

Control

- Electrosystems, inc. control packages for drilling machines and stretch-forming machines. J. D. Cooney and B. K. Ledgerwood. *Il diags Control Eng* 5:107 Mr '58

STRICKLAND, William R.

- Obituary. *por S A E J* 66:80-1 Ap '58

STRIKE and dip. Determination of. See Dip and strike, Determination of

STRIKES

- Aurora strike settled. *Oil & Gas J* 56:108 S 1 '58
 It's up to you to beat down this dangerous union threat; UAW strike against Kohler co. *Cer Ind* 69:124 D '57
 Kohler strike; test case for the future? A. N. Weekeler. *Il Mill & Factory* 62:85-90 Mr '58
 1956 strikes in '57. *Steel* 142:61 My 5 '58
 OCAW rebels defeated in Detroit court decision; strike threat for Chicago grows. *Oil & Gas J* 56:68 Ag 11 '58
 Service as usual in two strikes. *Elec World* 149:61 Mr 17 '58
 Story of engineers on strike. *Chem Eng* 65:156-8 O 6 '58
 Texas strike ends. *Oil & Gas J* 56:82 Je 23 '58

See also

- Boycott
 Laws and regulations
 Suit challenging Missouri anti-strike law under advisement by state court. *Gas Age* 121:20 Mr 20 '58
 STRIP steel. See Steel, Strip
 STRIPPERS, Electric wire. See Electric wire strippers

- STRIPPING** operations. See Coal mines and mining—Stripping operations; Mining methods—Stripping operations
- STROBOSCOPIC** instruments
Method of flash synchronization for high-speed cinematography. J. D. Lewis and G. T. Peck. II diags J Sci Instr 35:338-40 S '58
Shot counter uses stroboiron. R. L. Ives. diag Electronics 31:94+ Ag 15 '58
Stroboscopic self trainer. patent. diags Radio-Electronics 29:138 O '58
See also
Vibroscope
- STRONTIUM**
Metal-water reactions; kinetics of the reactions of water vapor with strontium and barium. H. J. Svece and H. G. Staley. Electrochem Soc J 105:121-5 Mr '58
Sediment age determination by Rb/Sr analysis of glauconite. L. F. Herzog and others. bibliog Am Assn Pet Geologists Bul 42:717-33 Ap '58
See also
Water supply—Strontium content
- Analysis
Quantitative spectrochemical determination of barium and strontium. R. J. Grabowski and R. C. Unice. bibliog Anal Chem 30:1374-9 Ag '58
Separation of strontium from calcium with potassium riddonate; application to radiochemistry. H. V. Weiss and W. H. Shipman. Anal Chem 29:1764-6 D '57
- Isotopes
Quantitative determination of strontium-89 and strontium-90 in water. J. Kool. Anal Chem 30:532-5 Ap '58
- STRONTIUM** chromate
Strontium chromate primer; epoxy base. C. Brown. Ind Finishing 34:82 My '58
- STRONTIUM** dimethyl. See Dimethyl strontium
- STRONTIUM** in the body
Accumulation of dietary boron and strontium in young and adult albino rats. R. M. Forbes and H. H. Mitchell. bibliog A M A Archives Ind Health 16:489-92 D '57
Radiochemical analysis of strontium and barium in human urine. L. E. Farabee. A M A Archives Ind Health 17:200-3 Mr '58
- STRONTIUM** oxides
Diffusion of tungsten in nickel and reaction at interface with SrO. H. W. Allison and G. E. Moore. bibliog II diags J Ap Phys 29:842-8 My '58
- STRONTIUM** tantalates
Preparation and structure of the strontium and barium tantalates $\text{Sr}_2\text{Ta}_2\text{O}_7$ and $\text{Ba}_2\text{Ta}_2\text{O}_7$. L. H. Brixner. bibliog Am Chem Soc J 80:3214-15 Ji 5 '58
- STRONTIUM** titanate
Phase equilibria in the system $\text{BaTiO}_3\text{-SrTiO}_3$. J. A. Basnajian and R. C. DeVries. bibliog Am Cer Soc J 40:373-6 N 1 '57
- STROPHANTHIDIN**
Ouabagenin; assignment of the sixth hydroxyl group and a structural correlation with strophanthidin. R. B. Turner and J. A. Meschino. bibliog Am Chem Soc J 80:4862-5 S 20 '58
- STROPHOTRON**. See Vacuum tubes
- STROUD, Robert**
Amateur scientist; story of R. Stroud, who studied birds while in solitary confinement. C. L. Stong. Sci Am 197:143-4+ D '57
- STRUCTURAL** aluminum. See Aluminum, Structural
- STRUCTURAL** clay products Institute
Annual meeting. 19th. White Sulphur Springs. Arch Rec 123:48+ Ja '58
- STRUCTURAL** engineering
Advanced structure for flexibility; Texas Instruments semiconductor-components plant. II plans diags Arch Rec 124:238-41 S '58
Are you underrating your present structures? K. E. McKee. II Power Ind 74:16-17+ Mr '58
Eliminating structural interferences in the modern factory. G. O. Rusk. diags Civil Eng 27:344-5 D '57
Engineers can do it; abstract. E. Cohen. Arch Forum 108:156 Mr '58
Nuclear energy and the design professions; panel discussion. II Arch Rec 122:18+, 330 N '57
Structural engineering and research; abstract. A. Pugsley. Engineering 184:509 O 18 '57
- Structures; illustrations with text. Engineer 205:pl 3 Ja '58
Technology misapplied. R. E. Fischer. diags Arch Rec 123:203-6 Je '58
University research in structural engineering. F. Baron. Am Soc C E Proc 83 [ST 5 no 1357]:1-13 S '57; Discussion. 84 [ST 1 no 1522]:95-8 Ja; [ST 2 no 1576]:39-40 Mr '58; Reply. 84 [ST 5 no 1787]:9-11 S '58
See also
Bridge engineering
Building
Columns
Concrete construction
Foundations
Steel construction
Strains and stresses
Wind pressure
- Design
Analysis of continuous beams by Fourier series. S. L. Lee. diags Am Soc C E Proc 83 [EM 4 no 1399]:1-13 O '57; Discussion. S. J. Medwadowski. 84 [EM 1 no 1520]:33-4 Ja '58; Reply. 84 [EM 4 no 1831]:5-8 O '58
Analysis of frames with knee braces. S. L. Lee. diags Civil Eng 28:670-1 S '58
Deflections of structures in the elastic range. K. H. Gerstle. diags Am Soc C E Proc 83 [EM 3 no 1290]:1-21 Ji '57; Discussion. J. H. Percy. 84 [EM 1 no 1520]:25-7 Ja '58
Design of folded plate roofs. H. Simpson. bibliog diags Am Soc C E Proc 84 [ST 1 no 1508]:1-21 Ja '58
Design of rigid frame bents. R. Z. Zimmermann, Jr. diags Am Soc C E Proc 83 [ST 6 no 1434]:1-38 N '57; Discussion. 84 [ST 2 no 1576]:47-58 Mr; [ST 3 no 1566]:43-71 My '58; Reply. 84 [ST 5 no 1787]:17-18 S '58
Direct analog computers for structural dynamics. W. J. Dixon. diags Instruments & Automation 31:1222-3 Ji '58
Earthquake design criteria for stack-like structures. J. E. Rinne. bibliog Am Soc C E Proc 84 [ST 4 no 1696]:1-25 Ji '58
Elastic criterion for plastic design. H. A. Sawyer, Jr. bibliog diags Am Soc C E Proc 84 [ST 2 no 1566]:1-17 Mr '58
Elastic structures with nonlinear load-deflection curves. B. M. Ma. bibliog diags Am Soc C E Proc 83 [ST 6 no 1441]:1-39 N '57
How wrong can elastic calculations get? S. A. Gordon. Product Eng 29:68-71 Ja 6 '58
Laterally loaded plates. R. Hicks. bibliog Engineer 205:350-5 Mr 7 '58
Limit analysis of simply supported circular shell roofs. M. N. Flakow. bibliog diags Am Soc C E Proc 84 [EM 3 no 1706]:1-39 Ji '58; Correction. 84 [EM 4 no 1831]:15-16 O '58
New art of fabrication engineering. F. H. McDonald. Am Soc C E Proc 84 [ST 3 no 1630]:1-10 My '58; Discussion. 84 [ST 7 no 1857]:29-31 N '58
Resistance to overturning of single, short piles. E. Czerniak. bibliog diags Am Soc C E Proc 83 [ST 2 no 1488]:1-25 Mr '57; Discussion. 83 [ST 5 no 1382]:63-71 S '57; Reply. 84 [ST 2 no 1576]:9-14 Mr '58
Short cut to circular cantilever design. H. D. Tabakman. diag Pet Refiner 37:179-82 Je '58
Structural analysis in the elastic-plastic range; floating body analogy. R. J. P. Garden. diags Engineering 185:573 My 2 '58
Structural dynamics in earthquake-resistant design. J. A. Blume. plan diags Am Soc C E Proc 84 [ST 4 no 1695]:1-45 bibliog (p43-5) Ji '58
Suspension structures. L. Lessing. II diags Arch Forum 107:134-41 D '57
Understanding the hyperbolic paraboloid. F. C. Copley. II diags Arch Rec 124:191-5 Ji; 205:7+ Ag '58
See also
Beams and girders
Bridge design
Concrete construction—Design
Steel construction—Design
- Model testing
Cellular cofferdams and docks; theory of design against failure by tilting, substantiated by model tests. E. M. Cummings. bibliog II diags Am Soc C E Proc 83 [WW 3 no 1366]:1-29 S '57; Discussion. 84 [WW 2 no 1579]:3-12 Mr '58; Reply. 84 [WW 4 no 1785]:3-6 S '58

STRUCTURAL engineering—Model testing—

Continued

- Effect of initial eccentricities on column performance and capacity. J. M. Hayes, *Il diags Am Soc C E Proc* 83 [ST 6 no 1440]: 1-40 N '57
- Finding scale factors for structural-test models; data sheet. H. D. Tabakman, *Il diag Machine Design* 30:175-8 F 20 '58
- Full-scale test on a half-scale bridge; experimental and analytical bridge at Northwestern university. *Il Eng N* 160:53-4+ Ja 30 '58
- Model helps on a tough foundation job; Crown-Zellerbach building in San Francisco. *Il Eng N* 160:55-6+ Mr 13 '58
- Model study of a dynamically laterally loaded pile. R. D. Gaul, *bibliog il diags Am Soc C E Proc* 84 [SM 1 no 1535]:1-33 F '58; Discussion. 84 [SM 4 no 1828]:13-19 O '58

Study and teaching

- Developing intuition in structural design. B. G. Johnston. *Civil Eng* 27:781 N '57

Tables, calculations, etc.

- Analysis of braced frames. K. H. Gerstle, *diags Am Soc C E Proc* 84 [ST 2 no 1560]:1-11 Mr '58; Discussion. 84 [ST 3 no 1656]:87-8 My; [ST 6 no 1827]:23-7 O '58
- Analysis of continuous beams by carry-over moments. J. J. Tuma, *bibliog diags Am Soc C E Proc* 84 [ST 5 no 1762]:1-32 S '58
- Analysis of frames with curved and bent members. J. J. Tuma and others, *diags Am Soc C E Proc* 84 [ST 5 no 1764]:1-32 bibliog(p30-2) S '58
- Analysis of multi-story building frames. T. F. Hickerson, *diags Am Soc C E Proc* 83 [ST 3 no 1233]:1-15 Mr '57; Discussion. 83 [ST 3 no 1442]:1-13 N '57; Reply. 84 [ST 3 no 1656]:11-14 My '58
- Analysis of open-spandrel arches. A. F. Diwan, *bibliog diags Am Soc C E Proc* 84 [ST 2 no 1564]:1-36 Mr '58
- Analysis of rigid frames by successive replacement. L. L. Meyer and S. P. Li, *diags Am Soc C E Proc* 84 [ST 5 no 1761]:1-18 S '58
- Building frame analyzed by computer. E. S. Brandon, *plan Eng N* 159:34-5 D 19 '57
- Creep deflexion and stress distribution in a beam. W. J. Goodey, *Aircraft Eng* 30:170-2 Ja '58
- Electronic synthesis of flexible beam behaviour. M. Squires and W. G. Hughes, *bibliog diags Brit Inst Radio Eng J* 18:161-73 Mr '58
- Foundation design handbook for stacks and towers. V. O. Marshall, *diags Pet Refiner* 37:sup 1-16 My '58 (reprints \$1)
- Lateral load analysis of two-column bents. J. E. Goldberg, *bibliog diags Am Soc C E Proc* 84 [ST 3 no 1638]:1-17 My '58; Discussion. 84 [ST 7 no 1857]:43-62 N; [ST 8 no 1882]:13-16 D '58
- Moments in beams by the method of partial moments. H. Posner, *diags Am Soc C E Proc* 84 [ST 2 no 1567]:1-34 Mr '58; Discussion. 84 [ST 4 no 1721]:23-5 Jl; [ST 5 no 1787]:65-6 S '58
- Numerical analysis of two-hinged arches. E. D. Y. Fok and T. Au, *diags Am Soc C E Proc* 84 [ST 5 no 1758]:1-10 S '58
- Numerical solutions for beams on elastic foundations. H. Malter, *bibliog diags Am Soc C E Proc* 84 [ST 2 no 1562]:1-20 Mr '58; Discussion. 84 [ST 5 no 1787]:41-61 S; [ST 6 no 1827]:29-34 O '58
- Practical aspects of ultimate strength design; design charts for selection of critical-load-factor combination. A. L. Parme, *Am Soc C E Proc* 84 [ST 5 no 1757]:1-22 S '58
- Rigid frame analysis with aid of digital computers. E. Czerniak, *diags Am Soc C E Proc* 84 [ST 3 no 1634]:1-31 My '58
- Solving the secant formula for structural steel columns. A. Gordon, *Civil Eng* 28:439-40 Je '58
- Some applications of a digital computer in structural research. A. S. Veletsos, *bibliog il Civil Eng* 28:344-7 My '58
- Use graphs to simplify footing design. J. B. Grant and R. J. Smith, *diags Pet Refiner* 36:130-2 D '57
- Use of modern computers in structural analysis. R. W. Clough, *diags Am Soc C E Proc* 84 [ST 3 no 1636]:1-20 bibliog(p 13-16) My '58; Discussion. W. H. Eldridge, 84 [ST 7 no 1857]:39 N '58

STRUCTURAL geology. See Geology, Structural

STRUCTURAL steel. See Steel, Structural

STRUCTURES, Theory of

See Load (mechanics)

STRUTS

Testing

- Tests on struts in the elastic and plastic ranges. K. E. Ayers and R. C. Coates, *bibliog diags Engineering* 185:88-9 Ja 17 '58

STRUTS, Airplane. See Airplane struts

STUART, James M.

Stuart is new Dayton Power & Light president, *por Elec World* 149:130+ Mr 3 '58

STUDENTS

See also

Chemistry students

STUDIOS

- Having to do with swimming; design for a beach house and studio. H. Yang, *Il plan Arch Rec* 123:196-8 My '58
- Studio for Joan Miró, Mallorca. *Il diag Arch Rec* 123:138-40 Ja '58
- Three dimensions interwoven for living and working. *Il plan Prog Arch* 39:114-17 My '58

See also

Moving picture studios

STUDS. See Bolts and nuts

STUFFING boxes

- How to get what you need in pumps; how standard stuffing boxes can be modified. J. A. Cable, *Il diags Plant Eng* 12:140+ Mr '58
- How to maintain centrifugal pumps; the stuffing box. J. A. Cable and O. M. Kristy, *Il Power Eng* 62:98+ O '58
- Inverted stuffing-box. D. F. Denny and D. E. Turnbull, *diags Engineer* 205:617-18 Ap 25 '58
- Stuffing box for thermocouple. J. H. Potter, *diag Power Eng* 61:94 N '57

STULTZ, Daniel Edgar

New Potomac prexy, *por Elec World* 148:54 N 11 '57

STUMP axes. See Clearing of land

STUTTGART, Germany

Opening of the port of Stuttgart, *Il plan Engineer* 205:826-7 My 30 '58

STYRENE (and polymers)

- Degradation of hydrophilic cross-linked resins; empirical determination of order of stability of sulfonated styrene copolymers. J. J. Collins and others, *bibliog Ind & Eng Chem* 49:1843-8 N '57
- Disposable food packages in polystyrene. *Il Plastics* 31:140-3 Ap '58
- Electron exchange polymers; a general method for the preparation of phenolic polystyrenes. R. Stern and others, *bibliog Am Chem Soc J* 79:5792-7 N 5 '57
- End-use correlation of styrene container testing. B. Nathanson, *diags Plastics Tech* 4:433-8 My '58
- Engineering aspects of polystyrene. P. H. Estes, 3d, *diags Plastics Tech* 4:444-51+ Jl '58
- Floor finishes based on polystyrene emulsions. R. M. Avery, Jr. and L. H. Perry, *Il Soap & Chem Spec* 34:88-91 F '58
- β -Fluorostyrene. F. Bergmann and others, *bibliog Am Chem Soc J* 80:4540-3 S 5 '58
- Formation of styrenes by pyrolysis of aromatic or heterocyclic aldehyde-aliphatic acid anhydride mixtures over Morden bentonite. L. Levi and R. V. V. Nicholls, *bibliog Ind & Eng Chem* 50:1005-8 Jl '58
- Fractionation of polystyrene by coacervate formation. J. H. S. Green and M. F. Vaughan, *bibliog Chem & Ind* p829-30 Je 28 '58
- Impact styrene for packages, consumer goods. R. J. Lee, *Il Plastics World* 16:6-7 My '58
- Initiation of styrene polymerization at a cathode. J. Y. Yang and others, *bibliog Am Chem Soc J* 79:5833-4 N 5 '57
- Injection moulded shop-fitting drawer. *Il Brit Plastics* 31:301 Jl '58
- Integrated polystyrene plant built. *Il Oil & Gas J* 56:84 Jl 7 '58
- Ionic polymerization; copolymerization of nuclear and side-chain alkyl-substituted styrene monomers. C. G. Overberger and others, *bibliog Am Chem Soc J* 80:4566-8 S 5 '58
- Ionic polymerization; reactions of α -ethylstyrene and *cis*- and *trans*- α -dimethylstyrene with stannic chloride. C. G. Overberger and others, *bibliog Am Chem Soc J* 80:1761-5 Ap 5 '58
- Ionic polymerization; the effect of water in the cationic polymerization of styrene catalyzed by stannic chloride. C. G. Overberger and others, *bibliog Am Chem Soc J* 80:2456-63 My 20 '58

STYRENE (and polymers)—Continued

- Light on styrene formation; styrene from benzaldehyde. *Can Chem Process* 42:85-6+ Ag '58
- Low cost compounding with oil-extended rubber. Z. J. Dorko and H. A. Pfisterer. *Biblog Rubber Age* 83:105-11 Ap '58
- Molded styrene dispensers for cellophane tape. *II Mod Plastics* 35:166-7 Ag '58
- New styrene for plastics lighting fixtures. R. A. McCarthy. *Plastics Tech* 4:640-3+ Jl '58
- New styrene outlet; packaging. *II Chem & Eng N* 36:23-4 Je 2 '58
- Oxidation of unsaturated compounds; the effect of oxygen pressure on the oxidation of styrene. F. R. Mayo. *biblog Am Chem Soc J* 80:2465-80 My 20 '58
- Ozonolytic degradation of interpolymers of natural rubber with methyl methacrylate and styrene. D. Bernard. *biblog Rubber Chem & Tech* 31:82-5 Ja '58
- Polystyrene structure to oxidize biological wastes. *II Plastics World* 16:13 O '58
- Properties and applications of modified styrene plastics. B. Nathanson. *II diag Machine Design* 29:163-6 N 14 '57
- Properties of materials: polystyrenes and polymethylstyrenes. *Materials in Design Eng* 48:161-2 Mid-O '58
- Solution properties of a styrene-vinylphosphonic acid copolymer. C. L. Arcus and R. J. S. Matthews. *Chem & Ind* p890-1 Jl 12 '58
- Strong, light radome is foam polystyrene. H. L. Loucks. *II Electronics* 31:101-3 F 28 '58
- Styrene foam and reinforced plastics joined in tracking dome. *II Mod Plastics* 35:104-5 Ag '58
- Styrene, 1933. *Ind & Eng Chem* 50:sup32A F '58
- Styrenes dodge dust. *Chem & Eng N* 36:58 S 8 '58
- Substituted styrenes; the syntheses and some chemical properties of the vinylphenols. W. J. Dale and H. E. Hennis. *biblog Am Chem Soc J* 80:3645-9 Jl 20 '58
- Variable capacity anion exchange resins from quaternized dimethylaminostyrene-styrene bead copolymers. R. H. Wiley and J. M. Schmitt. *Am Chem Soc J* 80:1389-91 Mr 20 '58
- Vended food trays of oriented polystyrene. J. F. Murphy. *II Plastics World* 16:22-3 My '58
- See also
- Methyl styrene

Manufacture

- Butadiene/styrene co-polymer production. flow sheet *II Brit Plastics* 31:33 Ja 58
- Cosden adds polystyrene plant. *II Chem & Eng N* 36:26+ Jl 7 '58
- Cosden has new polystyrene plant. *II Pet Refiner* 37:170+ Ag '58
- Styrene. flow diag *Pet Refiner* 36:280 N '57

Testing

- Recommended light characteristics of polystyrene used in illumination. *diag Illum Eng* 53:284-6 My '58

STYRENE rubber. See Rubber, Artificial

STYROFOAM. See Plastics, Cellular

SUBAQUEOUS blasting. See Blasting, Subaqueous

SUBAQUEOUS construction. See Excavation, Subaqueous; Marine structures

SUBAQUEOUS foundations. See Foundations, Subaqueous

SUBAQUEOUS pipe laying. See Pipe laying, Subaqueous

SUBAQUEOUS pipe lines. See Pipe lines, Subaqueous

SUBCONTRACTING. See Contracts, Government—Subcontracting

SUBDIVISION of land. See Land—Subdivision

SUBJECT headings

Good filing keeps knowledge at your fingertips; B&MJ coordinated indexing finger-reference library scheme. *Eng & Min J* 159:114-16 Mid-Je '58

SUBLIMATION

- Deposition, a proposed antonym for sublimation. J. E. McDonald. *Am J Phys* 26:131-2 F '58
- Sublimation from disks to air streams flowing normal to their surfaces. H. H. Sogin. *biblog diag A S M E Trans* 80:61-7; Discussion. 68-9 Ja '58
- Sublimation may lack re-entry problem. K. R. Stehling. *diag Aviation Age* 28:27-9 F '58

SUBLIMATION, Heat of

- Find heat of fusion and sublimation. W. R. Gambill. *Chem Eng* 64:147-9 Mr 10 '58
- Heat of sublimation of dry ice. L. F. Bruening. *Am J Phys* 26:397 S '58

SUBMARINE boats

- By way of the North Pole; U.S.S. Nautilus demonstrates new prospects for nuclear propulsion. *II diag Engineering* 186:205 Ag 15 '58

Changing pattern of submarine medicine. H. J. Alvis. *biblog A M A Archives Ind Health* 18:195-9 S '58

Computer verification of steam generator instrumentation for a nuclear power plant; abstract. D. P. Waite and E. E. Lynch. *diag Control Eng* 5:186+ Ja '58

Instrumentation system for prototype atomic submarine. *II Elec Eng* 77:766-7 Ag '58

Modern sonar systems guide atom subs. J. A. Rummell. *II diag Electronics* 31:56-62, cover Ja 3 '58

Navy designs special subs for Polaris. *Product Eng* 29:28-9 F 24 '58

Nuclear navy gets largest sub. *Electronics* 31:18 Ag 22 '58

Nuclear submarines feature the Shippingport type of powerplant; abstract. J. L. Helm. *S A E J* 66:118-19 Jl '58

Submarine medicine on Nautilus and Seawolf. J. H. Ebersole. *A M A Archives Ind Health* 18:200-7 S '58

Submarine simulation; abstract. H. Bowes. *Instrumentation & Automation* 31:1644+ S '58

Submarine that flies. *Control Eng* 5:24 Ap '58

Subs to get new antisub rockets. *Electronics* 31:8+ Jl 18 '58

Triton, America's newest undersea watchdog, can read and write. *II Mech Eng* 80:1142 O '58

Underwater data recording is made easy by special camera; Navy underwater sound laboratory. J. F. Selvidio. *II Ind Phot* 7:39+ Je '58

Electronic equipment

Guiding nuclear subs; Sperry's ship's inertial navigation system. *II Electronics* 31:28 Mr 7 '58

Navigating across the Pole; problems in guiding submarines. *Engineering* 186:238 Ag 22 '58

Nuclear navy goes electronic. *II Electronics* 31:15-16 Je 13 '58

Subs use Navaho's guidance; inertial guidance navigates Nautilus and Skate under polar ice. *II Electronics* 31:8 Ag 29 '58

Equipment

Undersea radar station; nuclear submarine Triton. *II Electronics* 31:20 S 19 '58

History

The Nautilus. *diag Engineer* 206:333 Ag 29 '58

Tenders

Submarine mother ship Ceara. F. Manganaro. *II plan diag Am Soc Naval Eng J* 70:511-14 Ag '58

SUBMARINE cables. See Electric cables, Submarine

SUBMARINE geology

Clipperton fracture zone in the northeastern equatorial Pacific. H. W. Menard and R. L. Fisher. *biblog maps J Geol* 66:239-53, pl 1 My '58

SUBMARINE photography. See Photography, Submarine

SUBMARINE telegraph. See Telegraph, Submarine

SUBMARINE telephone. See Telephone, Submarine

SUBMARINE warfare

Sonar: key to sub war. *map Electronics* 31:15-16 Je 27 '58

SUBMERGED arc welding. See Electric welding, Arc—Submerged arc

SUBMERGIBLE electric motors. See Electric motors, Submergible

SUBMERSIBLE pump. See Pumps, Submergible

SUBSCRIPTION programs. See Television broadcasting—Subscription programs

SUBSIDENCES (earth movements)

Aspects of the sinking of Mexico city and proposed countermeasures. A. Loehnberg. *biblog II diag Am Water Works Assn J* 50:430-40 Mr '58

Land subsidence due to ground-water development. J. F. Poland. *biblog map Am Soc C E Proc* 44 [IR 3 no 174]:1-11 S '58

Land surface subsidence and its effect on pipeline systems. W. Johnson. *biblog II diag Gas Age* 122:31-42 Jl 24 '58

SUBSIDENCES (earth movements)—Continued

- Long Beach calls truce in battle to halt subsidence. Oil & Gas J 56:68 Ja 13 '58
 Navy forcing subsidence showdown. map Oil & Gas J 56:52-3 Ag 25 '58
 Oil blamed for subsidence at Long Beach harbor. Oil & Gas J 56:32 Mr 3 '58
 Power plant sinks below ocean level. II Power Eng 61:85 N '57
 Subsidence of Wilmington oil field, California; abstract. U.S. Grant, 4th. Oil & Gas J 56:288-9 My 19 '58
 Subsidence plan speeded up by Long Beach. Oil & Gas J 56:71 Je 9 '58

SUBSTATIONS, Electric. See Electric substations**SUBSTITUTION (chemistry)**

- Aromatic substitution by a highly selective radical, triphenylmethyl; a case of a free radical reaction in which nitrobenzene is essentially unreactive. R. A. Benkeser and W. Schroeder. bibliog Am Chem Soc J 80:3314-22 J1 5 '58
 Benzyl tosylates; halogen substituent effects. P. T. Pang and others. bibliog Am Chem Soc J 80:563-3 F 5 '58
 Carbon-14 kinetic isotope effects in nucleophilic substitution reactions. M. L. Bender and D. F. Hoeg. bibliog Am Chem Soc J 79:5649-54 N 5 '57
 Cinnolines; synthesis of *bs*-substituted 3-nitro- and 3-aminocinnolines and 3-acetyl- and 3-carbethoxycinnolines. H. E. Baumgarten and others. diag Am Chem Soc J 80:1977-84 Ap 20 '58
 Correlation of infrared spectra with the structure of substituted ferrocenes. M. Rosenblum. bibliog Chem & Ind p553 J1 26 '58
 Dipole influences in aromatic substitution. P. R. Wells and E. R. Ward. bibliog Chem & Ind p 1172-3 S 6 '58
 Duryl 2,6-disubstituted phenyl ketones. R. C. Fuson and B. Vittimberga. bibliog Am Chem Soc J 79:6030-2 N 20 '57
 Effect of methyl substitution on the peroxide oxidation of *trans*-cyclopentanediol-1,2. V. C. Bulgrin and G. Dahlgren, jr. bibliog Am Chem Soc J 80:3883-7 Ag 6 '58
 Electrophilic substituent constants. H. C. Brown and Y. Okamoto. bibliog Am Chem Soc J 80:4379-87 S 20 '58
 General applicability of a fixed scale of inductive effects; inductive effects of dipolar substituents in the reactivities of *m*- and *p*-substituted derivatives of benzene. R. W. Taft, jr. and L. C. Lewis. bibliog Am Chem Soc J 80:2436-43 My 20 '58
 Intramolecular substitution reactions; the hydrolysis of *trans*-4-chlorocyclohexanol. H. W. Heine. bibliog Am Chem Soc J 79:6268-70 D 5 '57
 Kinetic study of aromatic nucleophilic substitution under high pressure; bromoquinolines and bromonaphthalenes. K. R. Brower. Am Chem Soc J 80:2105-7 My 5 '58
 Macro rings; substitution studies in the 14,14-paracyclophane system. D. J. Cram and R. A. Reeves. bibliog Am Chem Soc J 80:3094-103 Je 20 '58
 Mechanism of substitution of some triarylgemyl halides. O. H. Johnson and E. A. Schmall. bibliog Am Chem Soc J 80:2931-4 Je 20 '58
 Mechanism of substitution reactions of complexions; acid and base hydrolysis of *cis*- and *trans*-dichloro-bis-(ethylenediamine)-chromium(III) ion. R. G. Pearson and others. Am Chem Soc J 80:504 Ja 20 '58
 Microwave absorption and molecular structure in liquids; dielectric relaxation times and molecular shapes of some substituted benzenes and pyridines. A. J. Petro and C. P. Smyth. bibliog Am Chem Soc J 79:6142-7 D 5 '57
 New homolytic substitution reaction; introduction of imido groups. A. Fono. Chem & Ind p414 Ap 5 '58
 Perfluoropropyl-substituted thia-, oxo- and aza-dicarboxylic esters. E. T. McBee and others. bibliog Am Chem Soc J 80:1719-21 Ap 5 '58
 Preparation of boron peroxides by nucleophilic substitution. A. G. Davies and R. B. Moodie. bibliog Chem & Ind p 1622 D 14 '57
 Preparation of high-*ortho* novolak resins; the use of substituted phenols. D. A. Fraser and others. bibliog J Ap Chem 8:478-85 Ag '58

- Rates of solvolysis of the *m*- and *p*-phenyl-*m*- and *p*-methylthio-, and *m*- and *p*-trimethylsilylphenyldimethylcarbinyl chlorides; steric inhibition of resonance as a factor in electrophilic substituent constants. H. C. Brown and others. bibliog Am Chem Soc J 80:4964-8 S 20 '58
 Ring-substitution reactions of dicyclo-pentadienylruthenium and dicyclo-pentadienylsodium. M. D. Rausch and others. bibliog Chem & Ind p756-7 Je 21 '58
 Salt effect in the aromatic nucleophilic substitution reaction. J. D. Reinheimer and others. bibliog Am Chem Soc J 80:164-8 Ja 5 '58
 Salt effects in the product-forming step in unimolecular substitution reactions. Y. Pocker. Chem & Ind p 1599-600 D 7 '57
 Solvent and substituent effects; the neopentyl and other β -branched alkyl groups and their effect on the principal ultraviolet transition. W. M. Schubert and J. Robins. bibliog Am Chem Soc J 80:559-63 F 5 '58
 Substitution for iron in ferromagnetic yttrium-iron garnet. M. A. Gilleo and S. Geller. bibliog J Ap Phys 29:380-1 Mr '58
 Substitution reactions of Reinecke's salt. A. W. Adamson. bibliog Am Chem Soc J 80:3193-9 J1 5 '58
 Synthesis of 3-substituted furans. H. Wynberg. bibliog Am Chem Soc J 80:364-6 Ja 20 '58

See also

- Methyl group
 Radicals (chemistry)
 Sulfonation

SUBSTILIN

- Characterization and purification of subtilin by paper electrophoresis. L. E. Sacks and J. W. Pence. bibliog J Anal Chem 29:1802-5 D '57

SUBURBAN development

- Another satellite; abstract. D. Hojavey. Arch Forum 107:176+ D '57
 City's threat to open land; round table report. II Arch Forum 108:86-90+ Ja '58
 Exurbia's last best hope. R. A. Miller. II map plans Arch Forum 108:94-7+ Ap '58
 Suburbs need public sewers. Pub Works 89:154+ Ap '58

See also

- Land-Subdivision

SUBWAY cars. See Cars, Subway**SUBWAYS**

See also

- New York (city)—Subways

Construction

- Extension of General post office's underground railway. II Engineer 205:139-40 Ja 24 '58
 Faster work with concrete tunnel linings. II Engineering 185:248-9 F 21 '58
 New tunnels at Hadley Wood and Potters Bar. II diags Engineer 205:254-5 F 14 '58
 Stockholm tube extension. II Engineer 205:149 Ja 24 '58

Costs

- New York subway bids include underpinning; unit prices. Eng N 159:62 N 28 '57

Reconstruction

- Load transfer is key to subway job; BMT subway division tunnel at the DeKalb ave. station in Brooklyn. II map diags Eng N 159:38+ D 19 '57

Signals

- Automatic signalling on the Northern line. II Engineer 205:96-7 Ja 17 '58
 Planola signalling on the tube. II Engineering 184:819 D 27 '57

Stations

- Passenger flow in subways and on staircases. Engineering 186:245 Ag 22 '58

SUCARYL. See Sweetening agents**SUCCESSIVE-reduction method. See Linear programming****SUCCINATES**

- Rate studies on complex reaction systems in a stirred flow reactor; the alkaline hydrolysis of diethyl succinate. R. L. Burnett and L. P. Hammett. bibliog diag Am Chem Soc J 80:2415-20 My 20 '58

See also

- Sodium sulfosuccinate

SUCCINIC acid

Preparation and some of the properties of *trans*-6,14-dihydrolevopimaric acid-6,14-*endo*- α,β -succinic acid, N. J. Halbrook and R. V. Lawrence, *bibliog Am Chem Soc J* 80:368-70 Ja 20 '58

SUCCINIC anhydride

Polynuclear aromatic hydrocarbons; the reaction between allylsuccinic anhydride and benzene, D. D. Phillips and T. B. Hill, *bibliog Am Chem Soc J* 80:3663-7 J1 20 '58

SUCCINONITRILE

New method for preparing alylsuccinonitriles, R. B. Davis, *Am Chem Soc J* 80:1752-3 Ap 5 '58

SUCKER rods

Handling; new packing method cuts rod damage, *il Iron Age* 182:196-7 S 11 '58
How to establish pumping-unit requirements; sucker-rod lift, R. E. Hicks and B. G. Agnew, *Oil & Gas J* 56:95-100 My 5 '58

SUCROSE. See Sugar**SUCROSE acetate isobutyrate**. See Sugars**SUEZ canal**

Suez canal; its chronicle and bibliography, S. T. Li, *il map Am Soc C E Proc* 84 [WW 4 no 1770]:1-39 *bibliog*(p31-9) S '58

SUGAR

3,6-Anhydro- α - D-galactopyranosyl 1,4:3,6-dianhydro- β -D-fructoside; a chemical proof of the configuration at the anomeric center of the fructose moiety of sucrose, R. U. Lemieux and J. P. Barrette, *bibliog Am Chem Soc J* 80:3243-6 My 5 '58

Diffusion in sugar solutions; the Onsager diffusion coefficients for glucose diffusing in sucrose solutions, F. E. Weir and M. Dole, *bibliog Am Chem Soc J* 80:302-6 Ja 20 '58

Effect of sucrose and type of spicing on the quality of processed dill pickles, R. M. Pangborn and others, *bibliog Food Tech* 12:144-7 Mr '58

Interaction of sucrose monolaurate with other surface-active agents, L. Osipow and others, *Am Oil Chem Soc J* 35:127-9 Mr '58

Removal of electrolytes from sugar solutions, R. C. Hughes and W. J. Whelan, *bibliog Chem & Ind* p884-5 J1 12 '58

Stability of emulsions containing sucrose esters, L. Osipow and others, *Am Oil Chem Soc J* 35:65-8 F '58

Sugar-based ester coming, *il Chem & Eng N* 36:24 Ap 21 '58

Sugar detergents, H. B. Hass, *Manuf Chem* 29:152-3 Ap '58

See also
Beets and beet sugar

Sugars

Manufacture and refining

Modern touch speeds up sugar decolorizing, *il diag Chem Eng* 65:80-4 Mr 10 '58
Sugar from beet, flow diag *il diag Engineer* 205:878-82 Je 13 '58

By-products

See also

Bagasse

SUGAR analysis

Nonglucose sugar units in cellulose acetates, K. Matsuzaki and K. Ward, jr, *bibliog Tappi* 41:396-402 Ag '58

Quantitative determination of reducing sugars and a sugar acid by hydroxamic acid formation, R. Hilf and F. F. Castano, *bibliog Anal Chem* 30:1538-40 S '58

Spectrophotometric method for the chromatographic analysis of sugars, C. V. Piper and L. J. Bernardin, *Tappi* 41:16-18 Ja '58

See also

Saccharimeters

SUGAR cane

See also

Bagasse

SUGAR factories**Equipment**

Engineers big filtering economy; Union sugar co. A. Woods, *il diag Food Eng* 30:112-14 Ap '58

Inland cashes in with streamlined instrumentation, G. Syverson and J. V. Ziemba, *il Food Eng* 30:74-6+ Ag '58

Sugar from beet, flow diag *il diag Engineer* 205:878-82 Je 13 '58

Tv aids flow control; Hawaiian sugar plantation of Ewa plantation co. A. Smyser, *il Food Eng* 30:93 Ja '58

Worn sugar-cane drive rolls reclaimed by gas-shielded welding, C. B. Robinson and W. R. Lawrence, *il Welding J* 37:146-4 F '58

Power

Power for a sugar refinery; Westburn sugar refineries, *il Engineer* 206:63 J1 11 '58

Waste

See also

Bagasse

SUGAR handling

Bin-on-scale speeds sugar check; Driscoll strawberry associates, O. C. Goodbrod, *il diag Food Eng* 30:94-+ Mr '58

SUGAR industry and trade

See also

New York coffee and sugar exchange

Great Britain

Sugar from beet, flow diag *il diag Engineer* 205:838-41, 878-82 Je 6-13 '58

SUGAR metabolism

Action of insulin, R. Levine and M. S. Goldstein, *diags Sci Am* 198:99-100+ My '58; Discussion, 199:18+ S '58

SUGARS

Branched-chain higher sugars, R. Schaffer and H. S. Isbell, *bibliog Am Chem Soc J* 80:156-7 F 5 '58

Free reducing, acid-hydrolyzable, and total sugars and total available carbohydrates in Ladin clover, nutritionally significant chemical components of forage legumes, H. L. Wilkins and others, *bibliog J Agri & Food Chem* 6:369-73 My '58

Isomerization of C¹⁴-labeled sugars to saccharinic acids, J. C. Sowden and others, *bibliog Am Chem Soc J* 79:6450-4 D 20 '57

Need some sugar? spent 'sulfite liquor' sugars, *diag Chem & Eng N* 36:40-1 J1 14 '58

Phosphorylated sugars, R. S. Wright and others, *bibliog Am Chem Soc J* 80:1994-2004 Ap 20 '58

Reaction of methyl 2:3-anhydro-hexosides with dilute sulphuric acid, J. G. Buchanan, *bibliog Chem & Ind* p654-5 My 31 '58

Reaction of sodium borohydride with glycosyl nitrates as compared to its reaction with the nitrate esters of the primary and secondary alcohol groups of sugars, F. A. H. Ridd and M. Inatome, *bibliog Am Chem Soc J* 80:4709-11 S 5 '58

Structure of acacia sundra gum; nature of the sugars present and structure of the aldobiouronic acid, S. Mukherjee and A. N. Shrivastava, *bibliog Am Chem Soc J* 80:2536-8 My 20 '58

Structure of tukhmalanga (salvia aegyptia) mucilage; nature of sugars present and the structure of the aldobiouronic acid, A. K. Chatterjee and S. Mukherjee, *bibliog Am Chem Soc J* 80:2538-40 My 20 '58

Sucrose derivative with unusual properties may be used in coating formulations as a modifying extender; sucrose acetate isobutyrate (or SAIB), W. M. Gearhart, *il Plastics World* 16:10-11 S '58

Sugar, pH, and strength changes in cotton during storage, D. Nickerson and J. J. Tomaszewski, *Textile Res J* 28:528-9 Je '58

Synthesis of amino sugars by reduction of hydrazine derivatives, M. L. Wolfrom and others, *bibliog Am Chem Soc J* 80:4885-8 S 20 '58

See also

Carbohydrates

Desoxyriboses

Disaccharides

Fructose

Furanose

Galactose

Glucose

Hexulose

Lactose

Laminaribiose

Maltose

Maltotetraose

Maltotriose

Polysaccharides

Saccharides

Sorbose

Trioses

Trisaccharides

Xylose

Analysis

See Sugar analysis

SUGGESTION systems

Bonuses for brainwork pay off for Dayton Power & Light, *il Elec World* 149:195 Je 23 '58

Getting good handling ideas via the suggestion box; Carrier corp, *il Mod Materials Handling* 13:96-7 Ja '58

SUGGESTION systems—Continued

- How a city gets valuable ideas from its employees. P. Hirsch. *il* Pub Works 89:108-10 Mr '58
- How to plan an effective suggestion system. R. D. Stevens. Mach 64:85-6 Ag '58
- How to sell ideas to bosses. Steel 142:71-3 Ap 7 '58
- Is industry open to suggestions? survey of the month. Mill & Factory 63:71-4 S '58
- Listen to your employees. Steel 142:68-9 Ap 21 '58

SULFAMIC acid

- Sulfamic acid, 1938. Ind & Eng Chem 50: sup28A My '58

SULFANILAMIDE

- Percutaneous sulfanilamide; abstract. D. H. O. Gemmell and J. C. Morrison. Drug & Cosmetic Ind 82:522 Ap '58
- 3-Sulfanilamido-6-alkoxy-pyridazines and related compounds. J. H. Clark and others. bibliog Am Chem Soc J 80:980-3 F 20 '58

- SULFATE** process. See Paper making—Sulfate process

SULFATES

- Dissociation constant of the cobalt(III) hexammine-sulfate ion pair from spectrophotometry. E. W. Davies and C. B. Monk. bibliog Am Chem Soc J 80:5032-3 O 5 '58
- Efflorescence resulting from sulfates in clay raw materials. W. E. Brownell. bibliog Am Cer Soc J 41:310-14 Ag 1 '58
- Separation of uranium from other metals in sulphate solution by fractional hydrolysis. T. V. Arden and others. bibliog J Ap Chem 8:141-59 Mr '58
- Use of sulfates in glass. W. H. Manring and R. W. Hopkins. Glass Ind 39:139-42+ Mr '58

See also

- Ammonium sulfate
Calcium sulfate
Copper sulfates
Lead sulfate
Thiosulfates

Analysis

- Chemical identification of halide and sulfate in submicron particles. B. J. Tufts and J. P. Lodge, jr. bibliog *il* Anal Chem 30: 300-3 F '58
- Complexometric determination of sulfate. K. F. Sporek. Anal Chem 30:1032-5 Je '58
- Ultraviolet spectrophotometric determination of sulfate, chloride, and fluoride with chloranilic acid. R. J. Bertolacini and J. E. Barney, 2d. bibliog Anal Chem 30:202-5 F '58

SULFATION

- Chemical engineering unit processes; sulfonation and sulfation. E. E. Gilbert and E. P. Jones. Ind & Eng Chem 50:1406-13 bibliog (p 1411-13) pt 2 S '58
- Sulfation and sulfonation; practical aspects. J. W. Lohr. diags Am Oil Chem Soc J 35:532-7 O '58
- Theoretical aspects of sulfonation and sulfation. J. E. Woodbridge. bibliog Am Oil Chem Soc J 35:528-31 O '58

SULFENYL chlorides

- Stereoelectronic factors in the addition of sulfonyl halides to norbornene. H. Kwart and others. bibliog diags Am Chem Soc J 80:887-93 F 20 '58

- SULFHYDRYL** group. See Mercapto group

SULFIDES

- Abundances of copper, zinc, and lead in some sulfide deposits. E. L. Stanton. bibliog diags J Geol 66:484-502 S '58
- Geochemistry, crystal structure and mineralogy of the sulfides; discussion. A. J. Frueh, jr.; V. Ross. bibliog Econ Geol 53:759-64 S '58
- Geology and metamorphism of the Nairne pyritic formation, a sedimentary sulfide deposit in South Australia. B. J. Skinner. bibliog *il* maps diag Econ Geol 53:546-62 Ag '58
- Investigations in the CuGaS₂-ZnS and AgGaS₂-ZnS systems. E. F. Apple. bibliog Electrochem Soc J 105:251-5 My '58
- New synthesis of small ring cyclic sulfides. S. Searles, jr. and E. F. Lutz. Am Chem Soc J 80:1167 Je 20 '58
- Ore genesis, the source bed concept; discussion. C. J. Sullivan. Econ Geol 53:493-4 Je '58
- Organic sulfides and polysulfides. Y. Minoura. bibliog Rubber Chem & Tech 31:608-30 JI '58
- Response of dyke to oscillating dipole. J. P. Wesley. bibliog diag Geophysics 23:128-43 Ja '58

- Solubility of metal sulfides in dilute vein forming solutions. P. L. Cloke. Econ Geol 53:494-6 Je '58

- Solvolysis of *cis*- and *trans*-2-chlorocycloalkyl aryl sulfides in 80 per cent aqueous ethanol. H. L. Goering and K. L. Howe. bibliog Am Chem Soc J 79:6542-6 D 20 '57
- Structural scheme for sulfide minerals. E. Helmer. diags J Geol 66:503-25 bibliog (p524-5) S '58

- Structure and antimicrobial activity of some isothiocyanate oxides and sulfides. C. K. Bradsher and others. bibliog Am Chem Soc J 80:414-17 Ja 20 '58

- Structure of the Caribou sulphide body of the Anaconda co. (Canada). Bathurst district. N. E. C. G. Cheriton. map diags Can Min & Met Bul 51:178-9 Mr '58

- Sulphides in the Skaergaard intrusion, east Greenland. L. R. Wager and others. *il* diags Econ Geol 52:855-95 bibliog(37 titles, p83-5) D '57

- Syntheses of aryl α -dimethoxyethyl sulphides; synthesis of thieno-(2:3-b, 5:4-b')-dithiophene, and thieno-(3:4-b)-pyrene. L. J. Pandya and B. D. Tilak. bibliog Chem & Ind p981-2 Ag 2 '58

- Synthesis and properties of some substituted phenyl α -(N,N-dialkylamino)-alkyl sulfides. R. D. Schuetz and R. A. Baldwin. bibliog Am Chem Soc J 80:162-4 Ja 5 '58

- Temperatures and depth of formation of sulfide ore deposits at Gilman, Colo. T. G. Lovering. bibliog map Econ Geol 53:689-707 S '58

- Theoretical considerations on the separation of the sulfides and their crystallization. P. Bartholomae. bibliog diags Econ Geol 52: 895-903 D '57

See also

- Cadmium sulfide
Copper sulfides
Disulfides
Galena
Hydrogen sulfide
Nickel sulfides
Phosphorus sulfides
Pyrites
Pyrrhotite
Sphalerite
Zinc sulfide

Analysis

- Coulometric titrations with mercury(I) and (II); determination of sulfide. E. P. Przybylowicz and L. B. Rogers. bibliog Anal Chem 30:1064-9 Je '58

- Fluorometric and colorimetric estimation of cyanide and sulfide by demasking reactions of palladium chelates. J. S. Harker and others. bibliog Anal Chem 30:93-5 Ja '58

- Gas odorants analysis by gas chromatography. C. F. Spencer and others. bibliog Anal Chem 30:1473-4 S '58

- Laboratory evaluation can aid disposal of water-borne wastes; how to determine sulfides. C. K. Rice. bibliog Oil & Gas J 56:119 Ag 11 '58

- Polarographic estimation of thiophenes and aromatic sulfides in petroleum. H. V. Drushel and J. F. Miller. bibliog Anal Chem 30:1271-80 JI '58

SULFINATES

- Sulphoxides and thiolsulphinates as inhibitors of autooxidation and other free radical reactions. D. Barnard and others. Chem & Ind p918-19 JI 19 '58

SULFITE liquor

- Boiling point rise of spent liquors (atmospheric pressure); data sheet. Tappi 41:sup 136A Mr '58

- Chemical recovery from neutral sulphite semichemical spent liquors by the atomized suspension technique. G. Lee and W. H. Gauvin. bibliog flow sheet *il* diag Tappi 41: 110-16 Mr '58

- Chemical recovery from sodium-base spent sulphite liquors by the atomized suspension technique. G. Lee and others. bibliog flow sheets Tappi 41:312-17 Je '58

- Chemicals from wood. C. Placek and others. bibliog flow sheets *il* Ind & Eng Chem 50: 570-6 Ap '58

- Chemicals recovery from pulping liquors. D. F. Othmer. bibliog flow sheet diag Ind & Eng Chem 50:sup60A-2A Mr '58

- Corrosion of mild steel in alkaline pulping liquors; neutral sulphite cooking liquor. R. B. Kesler. bibliog Tappi 41:102-9 Mr '58

- Evaporation of NSSC spent liquor. W. G. Dedert and J. N. Brown. Paper Ind 39:914-15 F '58

SULFITE liquor—*Continued*

- Microbiological utilization of spent sulfite liquor; abstract, F. Geller, Paper Ind 40:122 My '58
- Need some sugar? spent sulfite liquor's sugars, diag Chem & Eng N 36:40-1 JI 14 '58
- Neutral sulphite recovery process, W. J. Darmstadt, diags Tappi 41:sup 147A-9A Mr '58
- Physical properties of neutral sulphite spent liquors, S. T. Han, bibliog Tappi 40:921-6 N '57
- Precipitation of sulphite spent liquors by means of metal hydroxides; theory and practice, R. Borisek and V. Stanik, bibliog diags Tappi 41:sup 183A-94A My '58
- Pulp, paper, and pollution, II Ind & Eng Chem 50:sup33A-4A Ap '58
- Specific gravity of a neutral sulphite spent liquor; data sheet, Tappi 41:sup 139A Mr '58
- Treatment of waste sulfite liquor; patent, diag Paper Ind 40:318 Ag '58
- Viscosities of various spent liquors (Ostwald capillary viscometer); data sheet, Tappi 41:sup 137A-8A Mr '58

SULFITE process. See Paper making—Sulfite process

SULFITES

- Kinetics of the hydrogen peroxide-sulfite reaction in alkaline solution, P. M. Mader, bibliog Am Chem Soc J 80:2634-9 Je 5 '58
- Relation between urea-bisulfite solubility and disulfide exchange in wool, H. Kessler and H. Zahn, bibliog diags Textile Res J 28:357-8 Ap '58

SULFONAMIDES**Analysis**

- Voltammetry at solid electrodes; anodic polarography of sulfa drugs, J. D. Voorhies and R. N. Adams, bibliog diag Anal Chem 30:346-50 Mr '58

SULFONATES

- Ionic fission of the O-O bond in *t*-butyl arylsulfonates, F. O. Bartlett and B. T. Storey, bibliog Am Chem Soc J 80:4954-61 S 20 '58
- Preparation of highly effective rust inhibitors by fractionation of mahogany sulfonates, K. E. Fisch and others, bibliog diag Lub Eng 14:64-7 J '58
- Salt effects and ion pairs in solvolysis and related reactions; the *threo*-3-*p*-anisyl-2-butyl system, S. Winstein and G. C. Robinson, bibliog Am Chem Soc J 80:169-81 Ja 5 '58

See also

Lignosulfonates**Manufacture**

- Better materials, new techniques for alkyl aryl sulfonates, S. Cukier, Can Chem Process 41:52-4+ D '57

SULFONATION

- Analysis of aromatic sulfonation reaction mixtures, W. H. Houff and others, bibliog Anal Chem 29:1866-8 D '57
- Chemical engineering unit processes; sulfonation and sulfation, E. E. Gilbert and E. P. Jones, Ind & Eng Chem 50:1406-13 bibliog (p 1411-13) pt 2 S '58
- Detergent bars from salts of α -sulfonated tallow acids, J. K. Weil and others, bibliog II Am Oil Chem Soc J 35:461-5 S '58
- Sulfation and sulfonation; practical aspects, J. W. Lohr, diags Am Oil Chem Soc J 35:532-7 O '58
- Sulfonation of poly(vinyl aromatics), H. H. Roth, bibliog Ind & Eng Chem 49:1820-2 N '57
- Sulfonation with sulfur trioxide; high boiling alkylated benzene, E. E. Gilbert and E. Veldhuis, bibliog Ind & Eng Chem 50:997-1000 JI '58
- Sulfonation with sulfur trioxide; operation in a batch pilot plant, E. J. Carlson and others, bibliog II diags Ind & Eng Chem 50:276-84 Mr '58
- Testing sulfonation of alkyl benzene, A. Davidsohn, Soap & Chem Spec 34:151 Je '58
- Theoretical aspects of sulfonation and sulfation, J. E. Woodbridge, bibliog Am Oil Chem Soc J 35:528-31 O '58

SULFONES

- Bis(aminophenyl)sulfones as curing agents for epoxy resins, W. H. C. Rueggeberg and others, Mod Plastics 35:154-4 F '58
- Rearrangements of aryl sulfones; the metalation and rearrangement of mesityl phenyl sulfone, W. E. Truce and others, bibliog Am Chem Soc J 80:3625-9 JI 20 '58

- Structure of diphenylene disulphone, S. Hosoya, diag Chem & Ind p840-1 Ag 2 '58
- Syntheses of butadiene-styrene elastomers and of polysulfones by gamma radiation, H. M. d'Ematus and others, bibliog diags Ind & Eng Chem 49:1891-6 N '57
- Synthesis and structure of fiber forming polymethylene sulfones and evaluation of such a polysulfone fiber, H. D. Noether, bibliog II Textile Res J 28:533-41 JI '58

See also

Tolyl sulfone**SULFONIC acids**

- Pyridine-4-sulphonic acid, J. Angulo and A. M. Municio, Chem & Ind p 1175-6 S 6 '58

SULFONIUM compounds

- Mechanisms of decomposition of neutral sulfonium salts in solution, C. G. Swain and others, bibliog Am Chem Soc J 80:4089-94 Ag 5 '58
- Mechanisms of elimination reactions; rates of elimination from some substituted 2-phenylethylidimethylsulfonium bromides in aqueous solution, W. H. Saunders, Jr and others, bibliog Am Chem Soc J 80:4099-100 Ag 5 '58
- Sulfonium analogs of pharmacologically active amines; the synthesis of α -(10-phenothiazinyl)-alkyl-dialkylsulfonium halides and 2-(10-phenothiazinecarboxy)-ethylidialkylsulfonium halides, S. O. Winthrop and M. A. Davis, bibliog Am Chem Soc J 80:4351-3 Ag 20 '58

SULFONYL compounds

- Drugs effective orally in the treatment of diabetes mellitus, I. A. Mirsky, A. M. A. Archives Ind Health 17:392-8 bibliog (p396-8) My '58
- Tolbutamide; crystallographic data, J. W. Shell, II diags Anal Chem 30:1576-7 S '58

SULFONYLATION

- Kinetics of the Friedel-Crafts sulfonylation of aromatics with aluminum chloride as catalyst and nitrobenzene as solvent, F. R. Jensen and H. C. Brown, bibliog Am Chem Soc J 80:4035-41 Ag 5 '58
- Kinetics of the Friedel-Crafts sulfonylation of benzene, chlorobenzene and toluene with aluminum chloride as catalyst and benzene-sulfonyl chloride as solvent, F. R. Jensen and H. C. Brown, bibliog Am Chem Soc J 80:4042-5 Ag 5 '58

SULFOXIDATION

- Detergents by nuclear process; use of gamma rays to trigger sulfoxidation reaction with most of the liquid paraffins, J. F. Black and E. F. Baxter, Jr, bibliog II Soap & Chem Spec 34:43-6+ O '58

SULFOXIDES

- Sulphoxides and thiolsulphates as inhibitors of autoxidation and other free radical reactions, D. Barnard and others, Chem & Ind p18-19 JI 19 '58

SULFUR

- Ca, Mg, S; plant nutrients, II J Agri & Food Chem 6:415-17 Je '58
- Conductivity and sulfur activity in liquid copper sulfide, M. Bourgon and others, bibliog J Metals 9:Trans 1454-8 N '57
- Displacement reactions at the sulfur atom; an interpretation of the decomposition of acidified thiosulfate, R. E. Davis, bibliog Am Chem Soc J 80:3565-9 JI 20 '58
- Further observations on the mechanism of chlorinolysis of sulfur-carbon bonds; the chlorinolysis of 4-benzylthio-7-chloroquinoline, H. Kwart and L. J. Miller, bibliog Am Chem Soc J 80:383-4 JI 20 '58
- Kinetics of displacement reactions at the sulfur atom; stereochemistry, A. Fava and A. Illiceto, Am Chem Soc J 80:3478-9 JI 5 '58
- Mechanism of accelerator action; reaction of mercaptobenzothiazole with sulfur, E. A. Dogadkin and I. Tutorskil, bibliog Rubber Chem & Tech 31:343-7 Ap '58
- Mineralizing solutions that carry and deposit iron and sulfur, B. S. Butler, bibliog Min Eng 8:Trans 1012-17 O '56; Discussion, A. D. Mutch, 10:Trans 595 My '58
- Preparation of pure sulphur for physical measurements, R. J. Berry, bibliog J Sci Instr 35:223-4 Je '58
- Radioactive tracing of the diffusion of sulfur in cable rubbers, G. A. Blokh and others, bibliog Rubber Chem & Tech 31:556-60 Ap '58
- Reactions of elemental sulfur; a preliminary study of the conversion of hexatomic to octatomic sulfur, P. D. Bartlett and others, bibliog Am Chem Soc J 80:5064-9 O 5 '58

SULFUR—Continued

Reactions of elemental sulfur: the reaction of alkali cyanides with sulfur, and some single-sulfur transfer reactions. P. D. Bartlett and R. E. Davis. *bibliog Am Chem Soc J* 80:2513-16 My 20 '58

Replacement of sulfur in some heterocycles by the diphenylsilylene group. H. Gilman and D. Wittenberg. *Am Chem Soc J* 79: 6339-40 D 5 '57

Tracer studies on the mechanism of combustion of carbon, sulfur and mercuric sulfide. J. H. Wang and E. B. Fleischer. *Am Chem Soc J* 80:3874-5 Ag 5 '58

Vulcanization of elastomers: the vulcanization of natural and synthetic rubber with sulfur in presence of organic bases. W. Scheele and M. Cherubim. *bibliog Rubber Chem & Tech* 31:286-300 Ap '58

Vulcanization of elastomers: the vulcanization of natural rubber with sulfur in the presence of dithiocarbamates. W. Scheele and K. Birghan. *bibliog Rubber Chem & Tech* 31:301-14 Ap '58

Vulcanization of elastomers: the vulcanization of natural rubber with sulfur in the presence of mercaptobenzothiazole. O. Lorenz and E. Echte. *bibliog Rubber Chem & Tech* 31:117-31, 548-58 Ja, Ji '58

See also

Petroleum refining—Sulfur removal
also subdivision Sulfur content under special subjects, e.g.

Coal

Coke oven gas

Gas, Natural

Gasoline

Iron

Oil fuel

Petroleum

Analysis

Determination of sulfur in plant materials. O. A. Krober and R. W. Howell. *J Agri & Food Chem* 6:591-2 Ag '58

Method for determining the sulfur content of wool. M. V. Glynn. *bibliog Textile Res J* 28:744-6 S '58

Microdetermination of sulfur and halogens by rapid automatic combustion. E. J. Agazzi and others. *il diags Anal Chem* 30:1566-8 S '58

Polarographic estimation of sulphydryl and disulfide groups in wool. J. P. E. Human. *bibliog diags Textile Res J* 28:647-54 Ag '58

Rapid quantitative determination of sulfur in organic compounds. I. Lysyj and J. E. Zarembo. *bibliog il Anal Chem* 30:428-30 Mr '58

Isotopes

Average energy of sulfur-35 beta decay. H. H. Seliger and others. *bibliog J Res Nat Bur Stand* 60:447-50 My '58

Sulfur isotopes and the origin of sandstone-type uranium deposits. M. L. Jensen. *bibliog Econ Geol* 53:598-616 Ag '58

Manufacture

Cheap way to remove S from H₂S; Claus process. G. M. Franklin and others. *flow diag il diags Oil & Gas J* 55:144-6 + N 4 '57

Development of the Lacq natural gas field. M. Moyal. *flow sheet il diags Ind Chem* 34:27-32 Ja '58

Nickel process pioneers, sulfur distillation. *Chem Eng* 65:61 Ap 7 '58

Packaged unit wrings sulfur from acid gas. *diags Chem Eng* 65:76 + My 19 '58

Sulfur from H₂S. *flow diag Pet Eng* 30:C40a-40b Je '58

Sulfur recovery; Girdler co. *flow plan Pet Refiner* 36:281 N '57

SULFUR bacteria

Bacterial leaching of manganese ores. E. C. Perkins and F. Novelli. *bibliog il Min Cong J* 44:72-3 Ag '58

Corrosion of concrete by autotrophes. J. H. Rigdon and C. W. Beardsley. *bibliog Corrosion* 14:60-2 Ap '58

Unusual corrosion problem. *Engineer* 204:635 N 1 '57

SULFUR chlorides

Transel condensates of unsaturated compounds; by reaction of massive doses of halides of S(Se, Te) with organic molecules containing two or more unsaturated components. L. Akobianoff. *bibliog Rubber Age* 83:993-5 S '58

SULFUR compounds

Characteristic vibrational frequencies of organic sulfur compounds. D. W. Scott and J. P. McCullough. *bibliog Am Chem Soc J* 80:3554-8 Ji 20 '58

Organic sulfur compounds; synthesis of ethylenes and ethylene sulfides by action of diazoalkanes on thioketones. A. Schönborg and others. *bibliog Am Chem Soc J* 79:6020-3 N 20 '57

Organosulfur break; synthesis of 1,4-butane disulfonic acid; abstract. M. T. Beachem. *il Chem & Eng N* 36:49 Ap 28 '58

Separation of sulfur compounds from mineral oil fractions. J. L. Jezl and A. P. Stuart. *Ind & Eng Chem* 50:343-6 Je '58

Studies in organic sulfur compounds; the scope of the Raney nickel desulfurization of cyclic hemithioketals (1,3-oxathiolanes and 1,3-oxathianes). D. Djerassi and others. *bibliog Am Chem Soc J* 80:4723-32 S 5 '58

See also

Cystine

Mercaptans

Oil fuel—Sulfur content

Sulfones

Sulfur oxides

Analysis

Determining sulfur compounds in petroleum naphtha; the Humble scheme. J. H. Karchmer. *bibliog diags Anal Chem* 30:80-5 Ja '58

Infrared identification of some sulfur derivatives of long-chain fatty acids. H. Susi and others. *bibliog Anal Chem* 30:443-6 Mr '58

SULFUR dioxide

Absorption of sulfur dioxide from air; oxidation in drops containing dissolved catalysts. H. F. Johnstone and D. R. Coughanowr. *bibliog diags Ind & Eng Chem* 50:1169-72 Ag '58

Correlation of equilibrium data for the system SO₂-H₂O-CaO. W. A. Dickens and A. W. Plummer. *bibliog Tappi* 40:895-9 N '57

Costs of scrubbing out SO₂ from flue gases. J. H. Field and others. *bibliog diags Combustion* 29:61-6 N '57

Investigations to detect the atmospheric conversion of sulfur dioxide to sulfur trioxide; abstract. A. L. Chaney. *Pet Eng* 30:C68 Je '58

Method of making glass-to-metal seals; use of SO₂; patent. *Glass Ind* 39:159-60 Mr '58

Modified SO₂ extraction; Stone & Webster engineering corp. *flow diag Pet Refiner* 36:303 N '57

Refractive index of air and sulphur dioxide. W. P. Julius. *diags Research* 11:sup 16-18 Ji '58

SO₂ extraction; Stone & Webster engineering corp. *flow diag Pet Refiner* 37:278 S '58

Sulphur dioxide test; abstract. J. Edwards. *Chem & Ind p* 1640; Discussion. 1640-1 D 21 '57

SULFUR dioxide, Liquid

Miscibility of liquid sulphur dioxide and water. K. L. Butcher and C. Hanson. *bibliog Chem & Ind p* 1509-10 N 16 '57

SULFUR fluorides

Effect of space charge on electric breakdown of sulfur hexafluoride in nonuniform fields. D. Berg and C. N. Works. *bibliog diags Power Apparatus & Systems* 83:20-3 O '58

Some thermal reactions of perfluoroalkyl derivatives of SF₆ with fluorocarbon olefins. R. D. Dresdner and others. *bibliog Am Chem Soc J* 80:3007-9 Je 20 '58

SULFUR hexafluoride. See Sulfur fluorides**SULFUR industry and trade**

Competition is fierce in sulfur. *il map Chem & Eng N* 36:38-42 + Ji 21 '58

Mexican sulfur, competition livelier. *il Chem & Eng N* 35:42-3 D 9 '57

Prices slow sulfur's growth. *Chem & Eng N* 36:38 Ap 7 '58

Sulphur supplies increase, 1957. E. W. Eddy. *Min Cong J* 44:108-9 F '58

SULFUR mines and mining

Sulphur, 1957. L. M. Williams. *Eng & Min J* 159:165-6 F '58

Subaqueous mining

Freeport begins offshore sulfur plant. *il Chem & Eng N* 36:25-6, cover Ji 7 '58

Colorado

Temperatures and depth of formation of sulfide ore deposits at Gilman, Col. T. G. Lovering. *bibliog map Econ Geol* 53:689-707 S '58

SULFUR oxides

Sulfur in flue gas. D. E. Pierce. *Ind & Eng Chem* 49:sup85A-6A N '57

SULFUR oxides—Continued

Sulphur in flue gases. W. J. Peck and B. J. Zaczek. *diags Engineering* 184:697 N 29 '57

See also
Sulfur dioxide
Sulfur trioxide

Analysis

Measuring flue-gas SO_2 and SO_3 . R. E. Matty and E. K. Diehl. *il diag Power* 101:94-7 N '57

SULFUR trioxide

Investigations to detect the atmospheric conversion of sulfur dioxide to sulfur trioxide; abstract. A. L. Chaney. *Pet Eng* 30:683 Je '58

Role of sulphur trioxide in burning; its influence on cement quality. A. Stikker. *Pit & Quarry* 50:132-4 Mr '58

Sulfonation with sulfur trioxide; high boiling alkylated benzene. E. E. Gilbert and B. Veldhuis. *bibliog Ind & Eng Chem* 50:987-1000 Ji '58

Sulfonation with sulfur trioxide; operation in a batch pilot plant. E. J. Carlson and others. *bibliog il diags Ind & Eng Chem* 50:2:6-84 Mr '58

Sulfuric acid corrosion in oil-fired boilers; studies on sulfur trioxide formation. D. R. Anderson and F. P. Manlik. *bibliog diag A S M E Trans* 80:1231-7; Discussion. 1237-8 Ag '58

Bibliography

Formation of sulphur trioxide and calcium sulphate in the sulphite process; abstracts from the literature. G. J. C. Potter and others. *Tappi* 41:sup 183A-95A F '58

SULFURIC acid

Acid recovery from spent pickle liquor; Blaw-Knox co. T. F. Barnhart. *flow diag diag Sewage & Ind Wastes* 30:296-300 Mr '58

Anodization of lead and lead alloys in sulfuric acid. J. Burbank. *bibliog il Electrochem Soc J* 104:693-701 D '57

Carbonizing investigations; effect of water content on the action of sulfuric acid on wool; the significance of tests for damage. W. G. Crewther and T. A. Pressley. *bibliog Textile Res J* 28:73-7 Ja '58

Carbonizing wool stock, an improved sulfuric acid method; abstract. *Am Dyestuff Rep* 47:59 Ja '57 '58

Cascade sulfuric acid alkylation; M. W. Kellogg co. *flow diag Pet Refiner* 37:254 S '58

Chain length breakdown of cellulose by acetic acid solutions of water and sulfuric acid. C. J. Malm and others. *bibliog Ind & Eng Chem* 50:108-6 Ja '58

Corrosion of concrete by sulfuric acid. W. C. Hansen and others. *il A S T M Bul* p85-8 Ji '58

Effect of NO , HNO_2 , and HNO_3 on corrosion of stainless steel by H_2SO_4 . W. P. McKinnell, Jr. and others. *bibliog diags Corrosion* 14:27-30 Ja '58

Effect of sulphuric acid on wool. R. L. Elliott and others. *bibliog 2pls Soc Dyers & Col J* 74:173-80 Mr '58

Erratic performance of type 1 unplasticized polyvinyl chloride in 98 percent sulfuric acid pipelines. H. E. Atkinson, Jr. and T. F. Degnan. *il Corrosion* 14:19-20 Je '58

Estimation of bisulfate ion dissociation in sulfuric acid-sodium sulfate solutions. C. F. Baes, Jr. *bibliog Am Chem Soc J* 79:5611-16 N 5 '57

Fluorescence and absorption spectra of some corticosteroids in sulfuric and phosphoric acids. J. W. Goldzieher and P. K. Besch. *bibliog Anal Chem* 30:962-7 My '58

Formation of sulphuric acid in boiler flue gases. W. F. Harlow. *bibliog il diag A S M E Trans* 80:225-32; Discussion. 232-3; Reply. 233-4 Ja '58

How to extend cooling tower life; addition of sulfuric acid. *diags Textile Ind* 122:103 Ji '58

Influence of processing conditions in sulfuric acid on growth and characteristics of the anodic oxide coating; abstract. D. Lenz. *Metal Finishing* 56:76 Ja '58

Intergranular corrosion resistance of austenitic stainless steels; ferric sulfate-sulfuric acid test. M. A. Streicher. *bibliog il A S T M Bul* p77-8 Ap '58

Microdetermination of zirconium in sulfuric acid solutions with pyrocatechol violet. J. P. Young and others. *bibliog Anal Chem* 30:422-5 Mr '58

Mineral acid-catalyzed reaction of cyclohexene with formaldehyde. A. T. Blomquist and J. Wolinsky. *bibliog diags Am Chem Soc J* 79:6025-30 N 20 '57

Prevention of localized corrosion in sulfuric acid handling equipment. G. A. Nelson. *il diags Corrosion* 14:45-9 Mr '58

Properties of some phenylpyridylmethanols in sulfuric acid solution. H. A. Smith and C. W. Holley. *bibliog Am Chem Soc J* 80:3714-15 Ji '58

Reaction of methyl 2:3-anhydro-hexosides with dilute sulphuric acid. G. J. Buchanan. *bibliog Chem & Ind* p654-5 My 31 '58

Self-discharge reactions in lead-acid batteries. P. Ruetschi and R. T. Angstadt. *bibliog diags Electrochem Soc J* 105:555-63 O '58

Sulfuric acid corrosion in oil-fired boilers; studies on sulfur trioxide formation. D. R. Anderson and F. P. Manlik. *bibliog diag A S M E Trans* 80:1231-7; Discussion. 1237-8 Ag '58

Sulfuric acid corrosion of stainless steels. W. L. Mathay. *il diag Ind & Eng Chem* 50:sup85A-6A S '58

Sulfuric acid in the air. *map Steel* 143:37 S 1 '58

Toughest waste problem beaten; recovering picking acid cheaper than treating it; Ruthner process. *Eng N* 160:25 My 29 '58

Use of sulphuric acid in the sizing of liner-board. D. D. Taylor. *diags Tappi* 41:sup 131A-3A Ja '58

Analysis

Analysis of sulphuric acid; proposed revision of TAPPI standard T602 m-45. *Tappi* 41:sup 128A-9A Ji '58

Determination of trace amounts of selenium in sulfuric acid; colorimetric method using 3,3'-diaminobenzidine. T. Danzuka and K. Ueno. *Anal Chem* 30:1370-1 Ag '58

Manufacture

Big savings in efficiency rise; instrumentation needs for sulfuric and nitric acid, ammonia and ammonium nitrate. G. Hall. *Chem Process* 42:107-8 S '58

Combined desulphurising and sulphuric acid plant; Appleby-Frodingham steel co. *il Chem & Ind* p 1137-8 Ag 30 '58

Constructional details of a Petersen tower sulfuric acid plant. J. P. A. Macdonald. *flow diag plans diags Chem & Ind* p338-45 Mr 22 '58

Desulfurizing and sulfuric-acid plant; Appleby-Frodingham steel co. *il Mech Eng* 80:81 Ag '58

Kachkaroff sulfuric acid plant; constructional and operational details. F. C. Snelling. *diags Chem & Ind* p300-6 Mr 15 '58

Recovery of sulphur from coke-oven gas; new Appleby-Frodingham process. *il Engineering* 186:223 Ag 15 '58

Sulphuric acid for uranium from Inco smelter gases. *il Can Chem Process* 42:75-7 My '58

Physiological effect

Prolonged exposure of guinea pigs to sulfuric acid aerosol. M. D. Thomas and others. *bibliog A M A Archives Ind Health* 17:70-80 Ja '58

Statistics

Production of sulphuric acid. *Chem & Ind* p 1541 N 23 '57; p225, 652, 1138 F 22, My 31, Ag 30 '58

SULFURYL chloride

Reaction of neutral esters of trivalent phosphorus acids with inorganic acid chlorides; the reaction of trialkyl phosphites with sulfuric chloride. A. C. Poshkus and J. E. Herweh. *bibliog Am Chem Soc J* 79:6127-9 D 5 '57

Reactions of thiono-esters of phosphorous with halogens and sulphuryl chloride. J. Michalski and A. Skowronska. *Chem & Ind* p 1199-200 S 13 '58

Solvent effects in the reactions of free radicals and atoms; effect of aromatic solvents in sulfuric chloride chlorinations. G. A. Russell. *bibliog Am Chem Soc J* 80:5002-3 S 20 '58

SULLIVAN, Louis

Making a monument work; how Sullivan's Minnesota bank was remodeled and restored. *il plans Arch Forum* 109:99-103, 156 Ji '58

SULPHITE pulp manufacturers research league

Sulfite research league moves into new quarters at Appleton. *il Paper Ind* 40:177 Je '58

SULZER boiler.

See Boilers—Sulzer boiler

SUMAN, John R.

J. R. Suman receives 1958 John Fritz medal.
Pet Eng 29:B 114 D '57
J. R. Suman to receive John Fritz medal for
1958, por Elec Eng 77:85 Ja '58

SUMATRA

See also

Petroleum—Sumatra
Petroleum industry and trade—Sumatra

SUMMER employment. See Part time employment

SUMMER schools

Construction's engineers go to school; special summer programs. Eng N 160:21-2 My 22 '58

SUN

Climate and the changing sun. E. J. Öpik. Il map Sci Am 198:85-90+ Je '58

International geophysical year; solar activity. D. C. Rose. Il Eng J 41:53-4 Ag '58

Scanning the sun with a highly directional array. W. N. Christiansen and D. S. Mathewson. bibliog il diags Inst Radio Eng Proc 46:127-31 Ja '58

Touch of the sun. il diags Electronic & Radio Eng 35:290-5 Ag '58

See also

Eclipses, Solar
Solar heating
Solar power
Solar radiation
Sunlight

Corona

Critical frequency, refractive index, and cone of escape in the solar corona nomograms. R. N. Bracewell and C. V. Stableford. Inst Radio Eng Proc 46:198-9 Ja '58

Hot spots in the atmosphere of the sun. H. Zirin. il diag Sci Am 199:34-41 Ag '58

Prominences

Soviet reports on sunspots; solar flare data. Electronics 31:50 F 21 '58

Studies at the McMath-Hulbert observatory of radio frequency radiation at the time of solar flares. H. W. Dodson. bibliog il Inst Radio Eng Proc 46:149-59 Ja '58

Temperature

Apparent temperatures of some terrestrial materials and the sun at 4.3-millimeter wavelengths. A. W. Straiton and others. bibliog il diag J Ap Phys 29:776-82 My '58

Hot spots in the atmosphere of the sun. H. Zirin. il diag Sci Am 199:34-41 Ag '58

SUN breaks

Daylight illumination and brightness with minute louvers. W. B. Ewing and R. L. Bieseke, jr. il diags Illum Eng 53:331-6 Je '58

Design of solar shading; time-saver standards. diags Arch Rec 124:251+- S '58

Solar control and shading devices. A. Olgyay and V. Olgyay. Review, by S. Howard. Il Arch Rec 123:60+- My '58

SUN glasses

Measuring the abrasion resistance of plastic lenses for sunglasses. P. M. Kamath and H. O. Buzzell. il diags Plastics Tech 4:132-6+- F '58

What's inside a good sun glass? il Safety Maint 116:18-19 Ag '58

SUNLIGHT

New sunlight resistant polyethylene; Reevoon. V. L. Erlich. Mod Textiles Mar 39:41-2 Je '58; Discussion, C. T. Kennedy. 39:66 O '58

Sunlight and skin cancer. Drug & Cosmetic Ind 82:380 Mr '58

See also

Buildings—Sunlight exposure

SUNRAY mid-continent oil company

Sunray planning to take over Suntime. il Oil & Gas J 56:69 Ap 23 '58

SUNSHADING devices. See Sun breaks

SUNSPOTS

Apparent saturation in F₂ layer; relationship between F₂-layer critical frequency and sunspot number. T. W. Bennington. Wireless World 64:472-3 O '58

Ionosphere review 1957; record high conditions. T. W. Bennington. Wireless World 64:77-8 F '58

Solar cycle influence on the lower ionosphere and on vhf forward scatter. C. Ellvett and H. Leighton. bibliog Inst Radio Eng Proc 46:1711-16 O '58

Soviet reports on sunspots; solar flare data. Electronics 31:50 F 21 '58

Sunspot and magnetic activity; their effects on h.f. radio-communication from 1950 to 1957 inclusive. A. M. Humby. Wireless World 64:435-8 S '58

SUNTIDE refining company

Sunray planning to take over Suntime. il Oil & Gas J 56:69 Ap 23 '58

SUPERCHARGERS

Gas turbine as a turbocharger. R. Birmann.

Pet Eng 30:D46+- Ap '58

Impeller testing. il Comp Air Mag 63:23 Ja '58

Vane-type blower looks ideal on paper; abstract. R. Keast. S A E J 66:91 F '58

See also

Automobile engines—Superchargers

Diesel engines—Superchargers

Gas engines—Superchargers

Internal combustion engines—Superchargers

Motor truck engines—Superchargers

Design

Design and development of small radial-flow turbo-chargers; abstract. C. A. Judson and E. Kellett. il diag Engineering 184:532-3 O 25 '57

SUPERCONDUCTIVITY. See Electric conductivity

SUPERCOOLING

Supercooling of gold as affected by some catalysts. F. J. Bradshaw and others. bibliog Inst Metals J 87:15-18 '58-59

SUPERFLUIDITY. See Fluidity

SUPERHEATED steam

Charring chips with superheated steam; Brunswick pulp and paper co. T. L. Gilles and H. O. Hunter. diag Tappi 41:sup 161A-2A F '58

Discharge coefficient of an elementary steam nozzle. D. J. Ryley and H. Barrow. bibliog diags Engineer 206:338-40 Ag 29 '58

Formulation of steam properties for digital computer application. W. G. Steltz and G. J. Silvestri. A S M E Trans 80:967-72; Discussion. 972-3 My '58

SUPERHEATERS

Battle of the superheater bulge; panel discussion. Combustion 30:43-6 Jl '58

Heat transfer to supercritical water. N. L. Dickinson and C. P. Welch. bibliog il diags A S M E Trans 80:746-52 Ap '58

Manufacture of superheaters. Engineering 184:602-3 N 8 '57

Unusual corrosion failure in steam superheater tubes. C. Phillips, jr. il Corrosion 14:17-18 F '58

See also

Desuperheaters

Maintenance and repair

Metallizing superheater tubes. E. Wicklund. il Power Eng 62:103 Ap '58

SUPERHETERODYNE receivers. See Radio receiving apparatus—Superheterodyne receivers

SUPERIOR, Wisconsin

Sewerage

Primary treatment plant. E. W. Berg and R. W. McDaniel. il Water & Sewage Works 105:394-5 S '58

SUPERMARKETS

Concrete block arches; supermarket in Alpena, Mich. il diags Arch Forum 108:130 Ja '58

Prestressed concrete block arches roof Michigan supermarket. il Arch Rec 123:242 F '58

Selling approach, key to winning shelf space in the chains; Safeway stores. C. R. Havighorst. il Food Eng 30:62-5+- Mr '58

Tied arches made of concrete block span 100 feet; supermarket roof in Alpena, Mich. il Eng N 159:26-7 D 5 '57

What retailers want from food manufacturers. T. C. Taylor. Food Eng 30:52-4 Je '58

Lighting

Lighting is architecture; supermarket in Burien, Wash. il plan Prog Arch 39:136-8 S '58

Recessed incandescents provide ideal light for super market. il plan Elec Constr & Maint 57:94-5 Ja '58

SUPERPHOSPHATES. See Phosphates

SUPERREGENERATIVE receivers. See Radio receiving apparatus—Superregenerative receivers

SUPERSTATIONING

See also

Liesegang rings

SUPERSONIC aerodynamics. See Aerodynamics, Supersonic

SUPERSONIC waves. See Ultrasonic waves
SUPERVISORY control. See Electric distribution—Supervisory control

SUPERVISORY workers

Clocking the supervisor's day. R. D. Gilbert. *Il Mill & Factory* 62:85-7 Ja '58
 Do you use work simplification? R. D. Stevens. *diags* *Pet Refiner* 37:206+ F '58
 How does industry pick its supervisors? survey. *Mill & Factory* 61:71-2 N '57
 Human factors in good supervision. E. W. Fair. *Pet Eng* 30:14-15 Mr '58
 Ideal creative supervisor. E. Raudsepp. *Machine Design* 30:26-8 S '18; 28-30+ O '2; 30-2+ O '16 '58
 Improve maintenance supervisory I.Q. B. W. Wombacher. *Il Plant* 13:59-60 J '58
 Organizing for productivity; leadership. *Machine Design* 30:28-30 Ap '58
 Seven attributes of a successful supervisor. W. J. B. Mayo. *Coal Age* 63:146 Mr '58
 Sliderule route to supervision. S. A. E. J. 66: 32-3 Ap '58
 Supervisors can control accidents. J. A. Gavin. *Pet Refiner* 37:227-30+ J '58
 Teach your supervisors human relations. C. M. White. *Pet Refiner* 37:244+ J '58
 When supervisors complain more, customers complain less; interdepartmental complaint plan. F. Vogel. *Textile Ind* 122:151-3 O '58

See also

Foremen

Rating

As a supervisor, how good are you? R. D. Stevens. *Pet Refiner* 37:402+ S '58

Training

Beef up industrial power systems; industrial electrification council course for foremen and supervisors. *Elec World* 148:69-70 D '57
 Broad-gage supervisor training boosts selling five ways. T. C. Taylor. *Il Food Eng* 30:62-4 S '58
 Quick school for the bosses; Sunray's supervisory staff training. *Oil & Gas J* 56:72 Je '58
 Sunray plans to grow its own bosses. B. Bachman. *Oil & Gas J* 55:64-6 D '57
 Supervisor training, how to pep it up; incident process method. North Carolina finishing co. M. D. Rochelle. *Il Textile Ind* 122: 169-70 O '58
 Supervisor training is no. 1! Interview with A. L. Bechtold. *Food Eng* 30:54-6 Mr '58
 Survey can reveal needs of supervisory training. C. M. White. *Pet Refiner* 37:260+ Ap '58
 Transition from engineer to supervisor. H. M. Elliott. *Machine Design* 29:62-6 O '57; Discussion. R. W. Jenny. 29:279-80+; Reply. 282+ D '12 '57

See also

Foremen—Training

SUPPLEE, Henderson, Jr.

Sketch. *por* *Pet Eng* 29:A8 D '57

SUPPLIER relations. See Purchasing—Supplier relations

SURFACE active substances

Acyl sarcosine surfactants. *Drug & Cosmetic Ind* 83:357-8 S '58
 Amphoteric surfactants. H. S. Mannheimer. *Soap & Chem Spec* 34:56-8+ S '58
 Builders and other detergent adjuvants for water washes. J. R. Van Wazer and M. E. Tuvel. *bibliog* *Il Am Oil Chem Soc J* 55:552-3 O '58
 Carbonizing investigations; industrial carbonizing trials to assess the protection of wool by surface active agents added to the acid. W. G. Crewther and T. A. Pressley. *bibliog* *Textile Res J* 28:67-72 Ja '58
 Composition and properties of specialty surfactants. C. E. Stevens. *Am Oil Chem Soc J* 35:572-5 O '58
 Concerning the effect of surface-active substances on photographic currents. E. W. Schmid and C. N. Reilly. *bibliog* *Am Oil Chem Soc J* 80:2087-94 My '58
 Conductance of dialkyl sodium sulfosuccinate surface-active agents. M. L. Miller and J. K. Dixon. *bibliog* *J Colloid Sci* 13:411-17 O '58
 Factors controlling micelle formation in surfactant solutions. J. C. Harris. *bibliog* *diags* *Soap & Chem Spec* 34:50-3+ Je; 47-9+ J '58
 Formation of silver halide sols in the presence of cationic detergents. E. Matijević and R. H. Ottewill. *bibliog* *J Colloid Sci* 13:242-56 Je '58

Further studies of the isomerization of bovine plasma albumin; the effect of detergent ions at low pH and preliminary observations at high pH. J. F. Foster and K. Aoki. *bibliog* *diags* *Am Chem Soc J* 80:5215-19 O '58

Germicidal amphotolytic surface-active agents. A. Schmitz and W. S. Harris. *bibliog* *Il Manuf Chem* 29:61-4 F '58

Germicides based on surface-active agents. C. D. Moore and R. E. Hardward. *bibliog* *Manuf Chem* 29:194-8 My '58

Improved method for the determination of the lowering of the surface tension of dampening fluids caused by surface active substances present in offset paper. J. H. Bitter. *Tappi* 41:433-7 Ag '58

Interaction of sucrose monolaurate with other surface-active agents. L. Osipow and others. *Am Oil Chem Soc J* 35:127-9 Mr '58

Interactions of horse serum albumin with anionic and cationic detergents. K. Aoki. *bibliog* *diags* *Am Chem Soc J* 80:4904-9 S '58

Inventory of new chemicals and materials; surface active agents. *Chem Eng* 64:206-7 Mid-N '57

Nitrogen-containing surfactants. P. L. Du Brow. *Soap & Chem Spec* 34:45-7+ Ag '58

Nonionic surface active agents. L. Raphael. *bibliog* *Manuf Chem* 29:106-8, 237-8 Mr, Je '58

Preparation and properties of surface-active N-acylamino-methanesulfonates. R. A. Falk and others. *bibliog* *Am Oil Chem Soc J* 35: 171-6 Ap '58

Rinse additives for machine dishwashing. J. L. Wilson and others. *Il Soap & Chem Spec* 34:48-52+ F '58

Role of water in extrusion and its modification by a surface-active chemical. G. C. Robinson and J. J. Keilen. *bibliog* *Am Cer Soc Bul* 36:422-30 N '57

Specialty surfactant applications. G. E. Barker. *Am Oil Chem Soc J* 35:575-80 O '58

Sugar detergents. H. B. Hass. *Manuf Chem* 29:152-3 Ap '58

Surfactant can hike water-injection rate. H. J. Schneider and others. *diag* *Oil & Gas J* 56:105-7 F '58

Surfactants consolidating a Canadian base. *flow diag* *Il Can Chem Process* 41:50-3 D '57

Surfactants score on three counts. L. Lawrence. *Oil & Gas J* 56:122-3 Ap '58

Versatile cationic surfactants. C. C. Campbell. *Il Soap & Chem Spec* 34:59-60 S '58

See also

Cleaning compositions

Dispersing agents

Shampoos

Wetting agents

Analysis

Analysis of nonionic surfactants. S. Siggia. *bibliog* *Soap & Chem Spec* 34:51-3+ Mr '58

SURFACE area of particles. See Particles

SURFACE phenomena

Asperity distributions of metallic surfaces. F. F. Ling. *bibliog* *Il diags* *J Ap Phys* 29: 1168-74 Ag '58

Blunting of tungsten needles by surface diffusion. J. L. Boling and W. W. Dolan. *bibliog* *Il J Ap Phys* 29:556-9 Mr '58

Colloids and surface behavior; annual review. A. L. Draper. *Ind & Eng Chem* 50:503-11 *bibliog* (508-11) pt. 2 Mr '58

Combustion in the laminar boundary layer of chemically active sublimating surfaces. M. R. Denison and D. A. Dooley. *diag* *J Aeronautical Sci* 25:271-2 Ap '58

Comparison of the semiconductor surface and junction photovoltages. E. O. Johnson. *bibliog* *diags* *RCA R* 18:556-77 D '57

Correlation of contact angles, adsorption density, zeta potentials, and flotation rate. D. W. Fuerstenau. *bibliog* *Min Eng* 9: Trans 1365-7 D '57

Effect of surface conditions on room-temperature ductility of ionic crystals. A. E. Gorum and others. *bibliog* *Il Am Cer Soc J* 41:161-4 My '58

Effect of surfaces on the McFadyen-Stevens aldehyde synthesis; an improved procedure. M. S. Newman and E. G. Cadisch. *jr.* *bibliog* *Am Chem Soc J* 80:862-4 F '58

Elastic moduli in monolayers. N. W. Tschoegl. *bibliog* *diags* *J Colloid Sci* 13:500-7 O '58

Enhanced surface reactions. M. J. D. Low and others. *bibliog* *Electrochem Soc J* 104: 439-42; 105:103-5 J '57, F '58

Evidence of rupture in droplet layers on heated liquid surfaces. W. C. Levengood. *Il Am J Phys* 26:35-7 Ja '58

SURFACE phenomena—Continued

- Experiment showing the influence of surfaces on 1/f noise in germanium. J. J. Brophy. diags J Ap Phys 29:1377-8 S '58
- Field modulation of liquid induced excess surface currents on germanium p-n junctions. W. T. Eriksen. diags J Ap Phys 29:730-3 Ap '58
- Focusing in collision problems in solids: sputtering and radiation damage of solids. R. H. Silsbee. bibliog diag J Ap Phys 28:1246-50 N '57
- For surface studies reflected protons give a new look at chemical composition of surfaces. *il Ind & Eng Chem* 50:sup37A-8A+Ag '58
- Gold on silicon surfaces. R. O. Carlson. J Ap Phys 29:1091-2 Je '58
- Hypersonic heat transfer to catalytic surfaces. S. M. Scala. diag J Aeronautical Sci 25:273-5 Ap '58
- Increased chemical reactivity of the surface compared with that in the bulk volume of Britton-Robinson universal buffers. R. G. Pike and D. Hubbard. bibliog *il J Res Nat Bur Stand* 59:411-14 D '57
- Influence of crystal orientation on the surface behavior of InSb. M. C. Lavine and others. diags J Ap Phys 29:1131-2 JI '58
- Influence of hydration-dehydration of the germanium oxide layer on the characteristics of p-n-p transistors. J. T. Wallmark and R. R. Johnson. bibliog RCA 18:512-24 D '57
- Interaction of water vapor with silica surfaces. G. J. Young. bibliog J Colloid Sci 13:67-85 F '58
- Loss of exchange coupling in the surface layers of ferromagnetic particles. F. E. Luborsky. bibliog J Ap Phys 29:309-10 Mr '58
- Measurement of minority carrier lifetimes with the surface photovoltage. E. O. Johnson. diags J Ap Phys 28:1349-50 N '57
- Modified method for measuring surface viscosity. R. Bulas and C. A. Kumins. bibliog diag J Colloid Sci 13:429-40 O '58
- Nature of the particle surface in hevea latex and pastes of rubber hydrochloride and polyvinyl chloride. G. Schuur. bibliog Rubber Chem & Tech 31:436-45 JI '58
- Oxidation behavior of silicon carbide. G. Ervin, Jr. bibliog Am Cer Soc J 41:347-52 S 1 '58
- Oxidation-reduction reactions at silica surfaces. R. Richardson and C. D. Poucher. bibliog Research 11:247-8 Je '58
- Prediction of semiconductor surface response to ambients by use of Lewis acid-base theory. C. G. Peattie and J. R. Macdonald. bibliog Inst Radio Eng Proc 45:1292 S '57
- Simplified treatment of electric charge relations at a semiconductor surface. E. O. Johnson. bibliog(34 titles) diags RCA 18:525-55 D '57
- Some aspects of surface boiling. C. E. Faneuff and others. bibliog *il diag J Ap Phys* 29:80-4 Ja '58
- Spreading of low vapor pressure liquids in paper. T. Gillespie. bibliog diags J Colloid Sci 13:32-50 F '58
- Sputtering of surfaces by positive ion beams of low energy. R. E. Honig. bibliog diags J Ap Phys 29:549-55 Mr '58
- Surface phenomena associated with application of organic films to phosphor screens. R. W. Dudding and D. J. Finnett. *il diags Electrochem Soc J* 105:388-92 JI '58
- Surface viscosities of mixed unimolecular films. G. E. Boyd and J. F. Vlasov. bibliog J Colloid Sci 13:275-85 Je '58
- Thermal restoration of oxygenated germanium surfaces. A. J. Rosenberg and others. bibliog diags J Ap Phys 29:771-5 My '58

See also,

Adhesion
Adsorption
Catalysis
Contact angle
Electric contacts
Electric double layer
Films
Films, Metallic
Friction
Interfaces
Specific surface
Wetting

SURFACE tension

- Do-it-yourself measurement of surface tension. E. F. Clancy. diag Am J Phys 26:341-2 My '58

- Effect of atmosphere on surface tension of glass. N. M. Parikh. bibliog diags Am Cer Soc J 41:18-22 Ja 1 '58
- How temperature and composition affect surface and interfacial tensions. W. R. Gambl. bibliog Chem Eng 65:143-6 My '58
- Increase of surface tension of certain solutions when brought into contact with hot gases. N. Skogen. *il Am J Phys* 26:25-7 Ja '58
- Measurement of the surface tension and interfacial tension of insulating oils. L. Massey and others. *il diags Inst Pet J* 43:282-7 O '57
- Some further results on the rubber membrane theory and Laplace's equation. W. Fulop. J Sci Instr 34:453-4 N '57
- Surface tension correction for hydrostatic weighing. W. Primak. R Sci Instr 29:177-8 F '58
- Surface tension experiment. G. Barnes and J. R. Grammer. Am J Phys 26:190-1 Mr '58
- Surface tension for pure liquids. W. R. Gambl. bibliog(29 ref) Chem Eng 65:146-50 Ap '58
- Surface tension measurements with a strain-gauge-type testing machine. S. B. Newman and W. M. Lee. bibliog diags R Sci Instr 29:785-7 S '58
- Surface tension of synthetic high polymer solutions. H. L. Frisch and S. Al-Madfa. bibliog diags Am Chem Soc J 80:3561-5, 5613-14 JI 20, N 5 '58
- Surface tension of titanium, zirconium, and hafnium. A. W. Peterson and others. bibliog diag J Ap Phys 29:213-16 R '58
- Theoretical surface tension of Ti, Zr, and Hf. D. McLachlan, Jr. J Ap Phys 29:1134 JI '58
- Wilhelmy's plate and Young's equation. A. J. G. Allan. bibliog diag J Colloid Sci 13:273-4 Je '58

See also

Interfacial tension

SURFACES

- Adsorption at inorganic surfaces; the mechanism of adsorption of organic solutes, including dyes, by graphite. J. W. Galbraith and others. bibliog J Ap Chem 8:416-24 JI '58
- Analysis of residual stress in ground surfaces of high-temperature alloys. R. D. Halverstadt. bibliog diags A S M E Trans 80:929-39; Discussion. 939-40 My '58
- Apparatus for the direct measurement of adsorption on solid surfaces from liquids. J. A. Kafalas and E. C. Gatos. *il diags R Sci Instr* 29:47-50 Ja '58
- Calculation of axisymmetric isentropic spike surfaces. E. C. Kennedy. J Aero/Space Sci 25:463-4 JI '58
- Calculation of local heat-transfer coefficients on slender surfaces. Revision by the Mangler transformation. S. Y. Ko. J Aeronautical Sci 25:62-3 Ja '58
- Coefficients of flat-surface friction. A. O. Schmidt and E. J. Weiter. bibliog diags Mech Eng 79:1130-6 D '57
- Effect of different surface treatments on the fatigue strength of drill steel. T. W. Wlodek. bibliog(26 titles) *il Can Min & Met Bul* 51:89-98; Discussion. 98-101 F '58
- Effects of electrode materials and surface preparation on CdS-metal contacts. R. A. Greiner and others. J Ap Phys 28:1358-9 N '57
- Emissivities of metallic surfaces at 76°K. M. M. Fulk and M. M. Reynolds. bibliog diags J Ap Phys 28:1464-7 D '57
- Evaluation of the surface concentration of diffused layers in silicon. G. Backenstoss. bibliog Bell System Tech J 37:699-710 My '58
- Examination of the surface and domain structure in ceramic barium titanate. V. J. Tenenry and F. R. Anderson. bibliog *il J Ap Phys* 29:755-8 My '58
- Excitation of surface waves on conducting, stratified, dielectric-clad, and corrugated surfaces. J. R. Wait. bibliog(30 titles) J Res Nat Bur Stand 59:365-77 D '57
- Experiments using a simple thermal comparator for measurement of thermal conductivity, surface roughness and thickness of foils of surface epoxies. R. W. Powell. bibliog diags J Sci Instr 34:485-92 D '57
- Fatigue life as a function of surface conditions. D. E. Swets and R. C. Frank. Metallurgia 56:230 N '57
- Germanium arsenide as diffusion surface compound. W. Waring and others. J Ap Phys 29:1002-3 Je '58

SURFACES—Continued

- How to calculate thermal radiation from hot surfaces. G. V. Thompson. *Product Eng* 28:116-17 Mr 31 '58
- Hydrodynamics and heat conduction of a melting surface. G. W. Sutton. *bibliog diag J Aeronautical Sci* 25:29-32+ Ja '58
- Influence of surface roughness on the fatigue strength of steels and nonferrous alloys; abstract. E. Stiel and M. Gaier. *Metal Prog* 73:174+ Ja '58
- Metal surface effects on heat resistance of adhesive bonds. J. M. Black and R. F. Blomquist. *bibliog Ind & Eng Chem* 50:918-21 Je '58
- Metallizing of flat surfaces; reference book sheet. *diags Am Mach* 102:143+ Mr 10 '58
- Method for analyzing vibration at a surface point. J. S. Arnold and J. G. Martner. *il diags R Sci Instr* 29:779-83 S '58
- Preparation and regeneration of clean germanium surfaces. S. P. Woisky. *bibliog J Ap Phys* 29:1132-3 Jl '58
- Shape changes of internal surfaces in extrusion. W. B. Nowak and E. J. Rappoport. *diags J Ap Phys* 29:1382-3 S '58
- Some factors influencing the area-load characteristics for semiconducting surfaces under static loading. F. F. Ling. *bibliog diags A S M E Trans* 80:1113-20 Jl '58
- Some new aspects of the reflection of electromagnetic waves on a rough surface. M. A. Eliot. *diags J Ap Phys* 28:1456-63; 29:998 D '57, Je '58
- Standards for surface irregularities. *diags Product Eng* 28:A25-7 Mid-O '57
- Surface area relationships in polarization and corrosion. M. Stern. *Corrosion* 14:43-6 Jl '58
- Surface counts; Alcoa probes effect of surface treatment on resin-bonded joints. M. Miller. *Chem & Eng N* 36:52 Jl 7 '58
- Surface fatigue of carbonitrided steel. G. W. Powell and others. *il diags Metal Prog* 73: 67-9 Mr '58
- Surface motions of a thick plate. L. Knopoff. *bibliog il diags J Ap Phys* 29:661-70 Ap '58
- Surface studies on single-crystal germanium. S. G. Ellis. *bibliog il diags J Ap Phys* 28:1262-9 N '57
- Use of dielectric materials to enhance the reflectivity of a surface at microwave frequencies. G. B. Walker and J. T. Hyman. *diags Inst E E Proc* 105 pt B:73-6 Ja '58
- See also*
- Boundary value problems
- Curvature
- Films
- Glass—Surface
- Interfaces
- Metal finishing
- Specific surface

Areas and volumes

- Determination of surface area; adsorption measurements by a continuous flow method. F. M. Nelsen and F. T. Eggertsen. *diag Anal Chem* 30:1387-90 Ag '58
- Measurement of the specific surface area of fine powders; a comparison of the gas-adsorption and air-permeability methods. D. H. Mathews. *bibliog J Ap Chem* 7:610-13 N '57
- Polarization capacity at solid electrodes and true surface area values. R. J. Brodd and N. Hackerman. *bibliog diags Electrochem Soc J* 104:9 D '57
- Rapid method utilizing surface area measurements in predicting the amount of cement needed to stabilize plastic soils. S. Diamond and E. B. Klinger. *Pub Roads* 30:63-70 Ag '58
- Routine apparatus for determining the surface area of metal powders. P. Hersch. *bibliog diags Inst Metals J* 86:509-11 Jl '58
- Some factors affecting the surface area of hydrated portland cement as determined by water-vapor and nitrogen adsorption. L. A. Tomes and others. *bibliog(37 ref) diags J Res Nat Bur Stand* 69:357-64 D '57
- Studies of the anodic behavior of aluminum; the specific surface area of aluminum with variable resolution from 20Å to 1000Å. R. C. Plumb. *bibliog diag Electrochem Soc J* 105:502-6 S '58
- Surface properties of precipitated alumina; samples prepared from aluminum iso-propoxide. M. R. Harris and K. S. W. Sing. *bibliog J Ap Chem* 8:586-9 S '58
- Volumes and surface areas of pendular rings. W. Rose. *bibliog diags J Ap Phys* 29:687-91 Ap '58

Smoothness testing

- Assessing surface finish; new interference microscope. *il diags Metallurgia* 56:310-12 D '57
- Checking flatness with straightedges. C. Minaire. *diags Mach* 64:99-102 Ag '58
- How flat is flat? measuring the flatness of the faces of platens for aerial cameras. J. Stonitsch. *il Tool Eng* 39:114 N '57
- Surface checks aid tool control; Surfindicator. *il Iron Age* 182:79 Jl 17 '58
- What the designer should know about production; specifying tolerances and surface finishes. E. R. Morrill. *diag Mach* 65:158-62 O '58

SURFACES, Spherical. *See* Spherical surfaces

SURFACTANTS. *See* Surface active substances

SURGE tanks

- Computer studies of penstock and governor systems. E. C. Koenig and H. A. Knudsen. *bibliog diags Am Soc C E Proc* 83 [PO 6 no 14891]:1-18 D '57
- Surges in pipe lines. D. R. F. Harleman. *diags Water & Sewage Works* 105:112-13 Mr '58

SURGERY

- Preoperative evaluation for major surgery. R. D. Williams. *bibliog diag Ind Med* 27: 75-8 F '58
- Surgery of urological injuries. G. Carroll. *Ind Med* 27:169-71 Ap '58
- See also*

- Fistulas
- Fractures
- Hospitals—Operating rooms

SURGERY, Plastic

- See also*
- Skin grating

SURGICAL instruments and apparatus

- Blood heat exchanger. *il Mech Eng* 80:102-3 Mr '58
- Cleaning

- Cleaner than clean; automatic, ultrasonic washing machine for cleaning surgical instruments. *il Mill & Factory* 63:140+ Jl '58

SURINAM

- See also*
- Hydroelectric plants—Surinam

SURVEYING

- County surveyor; then and now. G. E. Neepser. *il Pub Works* 89:90-1 Mr '58
- Modified photostat aids surveying. *il Ind Phot* 7:36+ Jl '58
- Surveying and mapping. St Lawrence power project. J. D. Officer. *Am Soc C E Proc* 83 [SU 2 no 1446]:1-9 N '57
- Surveyors speed job with helicopter to move men and equipment. *il Eng N* 160:66 Je 12 '58
- See also*
- Air bases, Military—Surveying
- American congress of surveying and mapping
- Bridges—Surveying
- Geodesy
- Hydrographic surveying
- Mapping
- Photogrammetry
- Radar—Surveying use
- Roads—Surveying

Electric analogies

- Electric analog for level-net adjustment. H. L. Su. *diags Am Soc C E Proc* 83 [SU 2 no 14431]:1-11 N '57

Study and teaching

- Education in surveying and photogrammetry in Europe. G. Gracis and H. Karara. *Am Soc C E Proc* 84 [SU 2 no 17201]:1-5 Jl '58

Tables, calculations, etc.

- Electronic computers in surveying operations. A. J. McNair. *Am Soc C E Proc* 83 [SU 2 no 14441]:1-7 N '57
- Progress report of the committee on highway and bridge surveys of the Surveying and mapping division; foreword to Manual on highway and bridge surveys and chapter I. State plane coordinates. maps diags Am Soc C E Proc 83 [SU 1 no 1306]:1-33 Jl '57; Discussion. J. C. Carpenter. 84 [SU 1 no 16051]: 3-5 Ap '58

SURVEYING, Aerial

- Meteorological method for profile surveying. L. V. Toralballo. *diags Am Soc C E Proc* 83 [SU 2 no 14471]:1-16 N '57
- Surveying for microwave relay systems. L. E. Strazza and R. C. S. Joyce. *il diags Electronic Eng* 30:262-7 My '58
- See also*

- Mapping, Aerial

SURVEYING, Hydrographic. See Hydrographic surveying

SURVEYING, Magnetic. See Magnetic surveying

SURVEYING, Photographic. See Photogrammetry

SURVEYING instruments

Distance measurement with the geodimeter and tellurometer. J. S. McCall. *Am Soc C E Proc* 83 [SU 2 no 1445] 1-6 N '57
Geodimeter and tellurometer. A. C. Poling. *diags Am Soc C E Proc* 84 [SU 1 no 1617] 1-1b Ap '58

See also

Theodolites

SURVEYS, Market. See Market surveys

SURVEYS, Traffic. See Traffic surveys

SUSCEPTOMETER. See Magnetic instruments

SUSPENDED railroads. See Railroads, Suspended

SUSPENSION bridges. See Bridges, Suspension

SUSPENSIONS

Application of the atomized suspension technique. W. H. Gauvin. *flow sheets diags Tappi* 40:866-72 N '57

Formulas for suspensions and solids. M. Brooke. *Chem Eng* 65:140 Ja 27 '58

Mechanism of sludge suspension in engine oil. P. J. Agius and D. Mulvey. *bibliog il Inst Pet J* 44:229-36; Discussion. 237-42 Ag '58

New rheological classification for pigment suspensions in polymer solutions. L. Dintenfuss. *J Ap Chem* 8:349-51 Je '58

Particle motions in sheared suspensions. W. Bartok and S. G. Mason. *bibliog diags J Colloid Sci* 13:293-301 Ag '58

Rate of sedimentation in concentrated pigment suspensions. L. Dintenfuss. *Chem & Ind* p98-9 Ja 25 '58

Simple derivation of an electroviscous equation. N. Street. *J Colloid Sci* 13:288-90 Je '58

Viscosity of suspensions of uniform spheres. J. Happel. *bibliog J Ap Phys* 28:1288-92 N '57

See also

Sedimentation

SUTURES

Manufacture

Simple controls can eliminate product damage of medical sutures. *il Control Eng* 5:109 Ag '58

Sterilization

Atoms used for sterilizing sutures. *Elec Eng* 77:377-8 Ap '58

SVERDLOVSK, Russia

Letter from Sverdlovsk; impressions of the Soviet Union and its metallurgical development. J. P. Nielsen. *il J Metals* 10:166-8 Mr '58

SWAGING machines

Swagers point, form, assemble auto shock absorbers. *il diags Steel* 141:157-60 D 9 '57

SWAIN, Philip W.

Obituary. *por Power* 102:69 Je '58

SWAMPS. See Marshes

SWANSON, Walter H.

Awarded TAPPI medal. *Tappi* 40:sup 113A-14A D '57

1958 TAPPI medal presentation and acceptance. *por Tappi* 41:sup84+ Mr '58

SWEAT. See Perspiration

SWEATERS

Statistical methods in fabric development; Orlon sweaters. F. J. Evans and others. *Mod Textiles Mag* 39:67-73; Discussion. 73-5 Ap '58

Manufacture

How to dye and finish Orlon sweaters. *diags Textile Ind* 122:179 Ap '58

How to make f-f sweaters that sell; Pons Full Fashion Mills. *il Textile Ind* 122:180-1+ Ap '58

SWEDEN

See also subdivision Sweden under special subjects, e.g.

Airports

Architecture, Domestic

Atomic power plants

Hydroelectric plants

Metal working industries

Mines and mineral resources

Moving picture industry

School buildings

Television broadcasting

Industries and resources

Developments in Sweden. *Eng J* 41:83 F '58

SWEET potatoes

Effects of curing, storage and dehydration on the mono- and disaccharides of the sweet potato. M. G. Labbou. *bibliog* (53 titles) *Food Tech* 12:150-5 Mr '58

Analysis

Variation in carotene content of sweet potatoes. B. D. Ezell and M. S. Wilcox. *bibliog J Agri & Food Chem* 6:61-5 Ja '58

SWEETENING agents

New sweetener for cured meats; cyclamate sucaryl. K. M. Beck and others. *il Food Eng* 30:114 My '58

Some effects of sweeteners on frozen fruits used for preserve manufacture. A. H. Bockian and M. Aref. *bibliog Food Tech* 12:393-7 Ag '58

SWELLING

Change of cross-sectional area of single jute filaments with relative humidity. A. C. Chakravarty. *bibliog diags Textile Res J* 28:373-80 O '58

Emulsion swelling technique. F. C. Gilbert. *R Sci Instr* 29:318-19 Ap '58

Swelling value test. W. A. Wier, jr. *diags Tappi* 41:sup 153A-4A My '58

See also

Rubber-Swelling

Rubber, Artificial-Swelling

Textile fibers-Swelling

SWERTIAMARIN

Swertiamarin. T. Kubota and Y. Tomita. *bibliog Chem & Ind* p229-30 F 22 '58

SWIFT, Edgar Allan

Obituary. *por Soc Dyers & Col J* 74:306 Ap '58

SWIMMING pools

Having to do with swimming. *il plans Arch Rec* 123:191-5 My '58

House in Maryland has living room pool. *il plan Arch Rec* 124:165-6 Ag '58

Improved Mylar film makes all-weather swimming pool possible; receives citation in Materials in design engineering competition. *il Materials in Design Eng* 47:158 Ap '58

Polyester/glass swimming pool. *il Brit Plastics* 31:172 Ap '58

Residential swimming pools; time-saver standards. *Arch Rec* 124:205+ Jl '58

See also

Bathhouses

Water purification-Swimming pool water

Lighting

Exhibition pool. *il Illum Eng* 52:559-60 N '57

SWIMMING pools, Municipal

Municipal outdoor swimming pools. D. J. Kennedy. *Pub Works* 89:108+ Jl '58

SWINBURNE, Sir James

Obituary. *por Engineer* 205:505 Ap 4 '58

Obituary. *por Engineering* 185:420 Ap 4 '58

Obituary. H. V. Potter. *por Chem & Ind* p552-3 My 10 '58

SWINDLERS and swindling

See also

Racketeering

SWINE

Metabolism of cesium and potassium in swine as indicated by cesium-134 and potassium-42. F. R. Mraz and others. *J Nutrition* 64:541-8 Ap '58

Production and study of vitamin E deficiency in the baby pig. R. M. Forbes and H. H. Draper. *il J Nutrition* 65:535-45 bibliog (p544-5) Ak '58

Diseases and pests

Enteroviruses of swine; their recognition, identification, and distribution in a swine-herd; abstract. G. W. Beran and others. *Am J Pub Health* 48:789-90 Je '58

Feeding

Application of the protein depletion-repletion technique in baby pig feeding experiments. V. W. Hays and others. *bibliog J Nutrition* 65:63-75 My '58

Comparison of the growth-promoting effects of a proprietary trimethylalkylammonium stearate and a proprietary antibiotic for fattening pigs. R. S. Barber and others. *Chem & Ind* p 18-19 Ja 4 '58

Evaluation of pumpkin seed meal as a source of protein for swine using a depletion-repletion technique. H. Zucker and others. *J Nutrition* 65:327-34 Je '58

SWINGING doors. See Doors, Swinging
SWISS hammer. See Concrete—Testing
SWITCHES, Electric. See Electric switchgear
SWITZERLAND

See also subdivision Switzerland under special subjects, *e.g.*
 Architecture
 Atomic research
 Automobile industry and trade
 Chemical engineering
 Chemical industries
 Hydroelectric plants

SYMBOLICAL and mathematical logic. See Logic. Symbolical and mathematical

SYMBOLS

Basic actions as an approach to textile fiber processing; a suggested use of symbols. E. E. Schwarz. *diags Textile Res J* 28:560-3 J1 '58
 Composite symbols for fluid power. *diags Product Eng* 28:J 16 Mid-O '57

See also
 Electric symbols
 Numbering systems
 Radio symbols
 Testing—Symbols

SYMMETRY

Approximate nature of physical symmetries. P. Morrison. *bibliog diags Am J Phys* 26: 353-68 S '58

SYMONS, George E.
 Our new editor. *por Water & Sewage Works* 105:85 F '58

SYNAGOGS

High-domed temple in Texas; Temple Emanuel, Dallas. *il plan diag Arch Forum* 108:92-5 Mr '58

Synagogue, Beth Shalom congregation, Philadelphia. *il plan Arch Rec* 123:178-81 My '58

SYNCHROCYCLOTRON. See Cyclotron

SYNCHRONIZING

Basic pneumatics for automation; interlocking two motions. H. L. Stewart and J. M. Moritz. *diags Automation* 5:92-6 My '58
 Four ways to synchronize motions. E. Gatwood. *diags Ap Hydraulics* 11:70-1 My '58
 Null connections for synchros. *Electronic Ind* 17:466 Je '58

Procedures for electrically zeroing synchros. P. L. Hillman and F. J. Galvin. *diags Electronic Ind* 16:480-2 D '57

Synchro trouble shooting. *diags Electronic Ind* 17:469+ Je '58

Synchro zeroing problems. T. Powell. *diags Electronic Ind* 17:61-3 My '58

Synchronization of oscillators by periodically interrupted waves. D. W. Fraser. *il diags Inst Radio Eng Proc* 45:1256-68 S '57

Synchronized control of precision movements of machine members. *il diag Machine Design* 30:152 J1 24 '58

Synchronized conveyors; Chrysler corporation's Plymouth assembly plant. G. E. Mathias. *il diags Elec Constr & Maint* 67: 73-81 Ap '58

Synchros: use, history, and description. H. Rosenberg. *diags Machine Design* 29:140+ N 28 '57

SYNCHRONOUS machines. See Electric generators, Synchronous

SYNCHRONOUS motors. See Electric motors, Synchronous

SYNCHROTRON

Cosmotron external beam monitor. C. Brand and C. Swartz. *il diag R Sci Instr* 29:247-8 Mr '58

Ferrites for high-power r-f tuning; Penn-Princeton proton synchrotron. P. P. Lombardini and E. P. Schwartz. *bibliog diags Elec Manuf* 62:60-71 Ag '58

High voltage electron injector gun for synchrotrons. E. W. V. Acton and K. T. W. Milne. *bibliog il diags J Sci Instr* 35:245-7 J1 '58

Method for damping phase oscillations in a synchrotron. E. J. Rogers. *diags R Sci Instr* 29:215-17 Mr '58

Probing into chemical and physical phenomena with shock tube and synchrotron; illustrations with text. *Gen Elec R* 61:28-9 J1 '58

Saturne proton synchrotron. *il Engineer* 206: 428 S 12 '58

Spectral characteristics of the radiation emitted by electrons accelerated in a synchrotron. D. H. Tomboulain and D. El Bedo. *J Ap Phys* 29:804-9 My '58

See also
 Cyclotron

SYNERESIS

Dewatering of thermoplastic resins by syneresis. P. M. Lindstedt and H. L. Gunnerson. *bibliog il diags Ind & Eng Chem* 49:1823-7 N '57

SYNERGISM

Sesoxane as a synergist for methoxychlor. H. E. Fairchild. *Soap & Chem Spec* 34:82+ Ja '58

Sesoxane on the way; Shulton's synergist could change insecticide buying habits. *il Chem & Eng N* 36:36-7 F 17 '58

SYNTHESIS

Biochemistry of nitrogen in the synthesis of activated sludge. J. M. Symons and R. E. McKinney. *diags Sewage & Ind Wastes* 30: 374-90 J1 '58

Biosynthesis of choline and betaine. J. A. Stekol. *diags Am J Clinical Nutrition* 6: 200-14 *bibliog* (p212-14); *Discussion*. 214-15 My '58

Biosynthesis of phospholipids. E. P. Kennedy. *bibliog Am J Clinical Nutrition* 6:216-19; *Discussion*. 219-20 My '58

Hydrothermal synthesis of wairakite and calcium-mordenite. L. L. Ames and L. B. Sand. *bibliog Am Mineralogist* 43:476-80 My '58

Synthesis and properties of carnotite and its alkali analogues. P. B. Barton, Jr. *bibliog Am Mineralogist* 43:799-817 S '58

Synthesis of the chlorites and their structural and chemical constitution. B. W. Nelson and R. Roy. *bibliog il diags Am Mineralogist* 43:707-25 J1 '58

Synthesis of unsaturated fatty acids: *di-ricinoic acid*. W. J. Gensler and C. B. Abrahams. *bibliog Am Chem Soc J* 80:4593-6 S 5 '58

See also
 Fischer-Tropsch process
SYNTHETIC detergents. See Cleaning compositions

SYNTHETIC products

Materials to order; editorial. *Comp Air Mag* 62:379 D '57

See also
 Acrylonitrile
 Resinoids products
 Rubber, Artificial
 Textile fibers, Synthetic

SYNTHOL process. See Petroleum products—Manufacture

SYPHILIS

Diagnosis

Should the premarital blood test be compulsory? A. W. Hedrich and C. Silverman. *bibliog Am J Pub Health* 48:125-32 F '58

SYPHONS. See Siphons

SYRIA

See also
 Petroleum industry and trade—Syria

SYSTEM simulation

Circuit design using Boolean matrices and system synthesis using state coding. B. Beizer and S. W. Leibholz. *diags Elec Manuf* 62:108-17+ Ag '58

Sibyl: a laboratory for simulation studies of man-machine systems; abstract. H. D. Irvin. *Bell Lab Rec* 36:348-9 S '58

Simulation in engineering. R. R. Riesz and H. D. Irvin. *il diag Bell Lab Rec* 36:238-41 J1 '58; *Abstract. Machine Design* 30:6+ J1 24 '58

Simulation techniques in operations research. J. Harling. *bibliog diag Op Res* 6:307-19 My '58; *Discussion*. J. H. Moss. 6:591-3 J1 '58

System simulation helps solve complex operations. *il abstract. P. J. Robinson. S A E J* 66:88-9 F '58

SYSTEMS engineering

Automation for small-lot producers; systems approach. A. F. Maynard. *il Automation* 5: 54-8 Mr '58

Control systems engineering; some solutions. E. W. James. *il Chem Eng Prog* 54:45-8 Mr '58

Economics of systems engineering. D. D. MacPherson. *diags Instruments & Automation* 11:95 Ja '58

Experience of an instrument manufacturer with systems engineering. Perkin-Elmer corp. V. Williams and G. W. Wilks. *Instruments & Automation* 31:84-5 Ja '58

Load and frequency control shows role of the instrument manufacturer in systems engineering; Minneapolis-Honeywell regulator co. and Niagara Mohawk power corp. J. W. Hoag and G. W. McKnight. *il diags Instruments & Automation* 31:98-102 Ja '58

SYSTEMS engineering—Continued

- Man-machine balance holds key to system reliability. W. F. Chase. *Aviation Age* 29: 72-4+ My '58
- New air conveyor system has liquid handling flexibility; applying the systems approach at Phillips Chemical's new polyolefin plant. D. E. Perkins. *diag Mod Materials Handling* 13:89-93 N '58
- Role of the systems engineering firm in prototype and consultation work. J. Bylo. *di Instruments & Automation* 31:96-7 Ja '58
- Scientific management of ballistic missile systems. I. Stambler. *di Aviation Age* 29:18-19+ Ap; 16-18+ cover Mr; 13-19+ Je '58
- Systems approach; newest cost-cutting tool: Du Pont. *di Mod Materials Handling* 13: 110-13 S '58
- Systems development engineering in the western area. J. Holland. *di Electronic Ind* 17: 61-4 Ag '58
- Systems engineering vs applications engineering. C. E. Jones. *di Instruments & Automation* 31:86-7 Ja '58
- There's a system; designing an entire chemical process plant as a unit and operating it in dynamic balance. *Chem & Eng N* 36:38-9 My 12 '58
- What and where is the systems engineering market? A. C. Brodie. *di Instruments & Automation* 31:80-3 Ja '58
- What makes a systems engineer? panel discussion. *Elec Manuf* 61:14+ My '58
- Who specifies control systems? L. R. Driskell. *di Instruments & Automation* 31:88-9 Ja '58

Standards

- Proposed standards for the practice of systems engineering. G. H. Amber. *di Instruments & Automation* 31:857-9 My '58

T

TABERNANTHE iboga

- Alkaloids of tabernanthe iboga. D. F. Dickel and others. *bibliog Am Chem Soc J* 80:123-36 Ja 5 '58
- Alkaloids of tabernanthe iboga; derivatives of isosquinucidine. L. H. Werner and S. Ricca. *jr. bibliog Am Chem Soc J* 80:2738-6 Je 5 '58
- Alkaloids of tabernanthe iboga; the synthesis of the selenium dehydrogenation products from ibogamine. H. E. MacPhailamy and others. *bibliog Am Chem Soc J* 80:2172-8 My 5 '58

TABLES

See also
Work tables

TABLES, Computing

- How to compute a room's heating needs in three minutes; engineering reference sheet. J. R. C. Thomas. *plan Elec World* 148:108-9 D 16 '57
- Light metal age, data digest. *Light Metal Age* 15:27-8 O '57
- Nonparametric definition of the representativeness of a sample; with tables. M. Sobel and M. J. Huyett. *bibliog diags Bell System Tech J* 37:135-61 Ja '58
- Table of first 700 zeros of Bessel functions, $J_0(x)$ and $J_1(x)$. C. L. Beattie. *bibliog Bell System Tech J* 37:689-97 My '58
- Tables for diagonalizing second-order matrices. R. E. Trees and C. D. Coleman. *J Res Nat Bur Stand* 60:201-14 Mr '58

TABLETING machines

- New Stokes tableting machine. *di Drug & Cosmetic Ind* 82:788-9 Je '58

TABLETS (medicine)

- Automatic statistical filling control; Bristol-Myers products div. W. C. Frey and W. M. Spencer. *di Ind Quality Control* 14:13-16 F '58
- Tablet binders. L. S. Donaghy. *Drug & Cosmetic Ind* 83:304+ S '58

Manufacture

- Manesty tablet making machine. *di Engineering* 186:332 S 12 '58

TABLEWARE

See also

- Tariff—United States—Tableware

Manufacture

- How to streamline production flow. E. R. Sims, jr. *diags Mill & Factory* 61:100-3 D '57

- New milling process; how to produce better whiteware with high intensity clay dispersion. R. E. Gould and others. *di diags Cer Ind* 71:124-31 S '58
- True porcelain, smart merchandising; this dinnerware maker gets bigger every year! Winfield china div. of American ceramic products, inc. *di Cer Ind* 71:92-3+ O '58

TABLEWARE, Plastic

- New copolymer dinnerware. *di Mod Plastics* 35:126-7+ Je '58
- Tyrl makes market bid in the plastic dinnerware field. *di Chem & Eng N* 36:48 Ja 27 '58

TACAN. See Radio aids to aviation

TACHOMETERS

- Ac tachometer compensation without a tach generator. R. E. Kern and E. A. Rosenkoetter. *diags Control Eng* 5:110-12 Ja '58
- Approximate analysis of the drag cup a-c tachometer. L. A. Knox. *bibliog diags Applications & Ind* p202-7; Discussion. 207-9 S '58
- Auto tachometer uses transistor. J. Cowan. *di diag Electronics* 31:92+ Ag 15 '58
- Diode counter calibrates missile testing camera. S. E. Dorsey. *di diag Electronics* 31:93-5 F 14 '58
- How to calculate the performance of ac drag cup tachometers. T. N. Feng. *Control Eng* 5:90-2 Je '58
- Tachometer generators for positive belt protection. *diag Coal Age* 63:142 Ap '58
- Very high speed precision tachometer. J. K. Goodwin. *di diags Electronic Eng* 30:18-24 Ja '58

TACOMA, Washington

Bridges

- Large hollow prestressed concrete piles. *di Roads & Sts* 101:72-3 Mr '58

Water supply

- New reservoirs. G. E. Hopkins. *di Am Water Works Assn J* 50:97-104 Ja '58

TACONITE

- Downdraft taconite pellet hardening. A. English and M. F. Morgan. *flow diag di J Metals* 10:122-4 F '58
- Drilling taconites; Pilotac mine. I. H. Rubow. *di Min Cong J* 44:38-41+ Mr '58
- Filtration and control of moisture content on taconite concentrates. A. F. Henderson and others. *diag Min Eng* 9:Trans 349-55 Mr '57; Discussion. 10:Trans 596 My '58
- Four iron ore agglomerating techniques; hardening taconite pellets. A. English and M. F. Morgan. *flow diag di Min Eng* 10:357-9 Mr '58
- Four iron ore agglomerating techniques; shaft furnace; pelletizing taconite concentrates. F. D. DeVaney. *diags Min Eng* 10:361-4 Mr '58
- Grinding magnetic taconite in rod mills; Reserve mining co.'s Babbitt plant. E. M. Furness and A. S. Henderson. *Min Eng* 9:Trans 1359-60 D '57
- Taconite process up-grades iron ore; abstract. F. Devaney. *S A E J* 66:87 F '58

TAGATURONIC acid

- Enzymatic formation of D-tagaturonic and D-fructuronic acid. A. J. Wantha and others. *bibliog Am Chem Soc J* 80:2594-5 My 20 '58

TAGS

- Warp tag system improves weave room production control; Joanna (S.C.) cotton mills co. *diags Textile Ind* 122:101 JI '58

See also

- Safety tags

TAILINGS

- Flotation starts on the Mesabi; Hill annex tailings reclamation plant. R. W. Livingston. *di plans diags Eng & Min J* 159:90-3 Ja '58

- Use of nepheline syenite tailings in sewer-pipe bodies. R. C. Wilson and C. J. Koenig. *di map Eng & Min J* 159:104-5 Ja '58

TAILSTOCKS. See Lathes—Tailstocks

TAINTER gates. See Gates, Hydraulic

TAIWAN

- See also
Hydroelectric plants—Taiwan
Roads—Taiwan

TAKE-OFF. See Airplanes—Take-off

TALC

- Collect super-fine talc dust as a valuable by-product. *di diag Plant* 18:50 Ag '58
- Comparative study of California and Montana talcs. R. Stafford and E. Felton. *di Am Cer Soc Bul* 37:274-9 Je 15 '58
- Texas miners boost talc output. P. T. Flawn. *di map Eng & Min J* 159:104-5 Ja '58

TALITOL

Crystalline 4-o-benzoyl-1,2,5,6-di-o-isopropylidene-D-arabo-3-hexulose; a new route to talitol derivatives. J. M. Sugihara and G. U. Yuen. *bibliog Am Chem Soc J* 79:5780-2 N 5 '57

TALL buildings. See High buildings

TALL oil

Continuous tall oil process for sulphate soap skimmings. D. Wetherhorn. *flow diag il Tappi* 40:879-81 N '57

Determination of the unsaponifiable matter of tall oil distillates. S. T. Bauer and others. *Am Oil Chem Soc J* 35:120-1 Mr '58

Maleic modification of acid-refined tall oil varnishes. E. E. McSweeney and others. *bibliog Ind & Eng Chem* 50:327-8 Mr '58

Naval stores and tall oil industries. E. O. Barnes and M. L. Taylor. *bibliog Tappi* 41: sup 16A-4 Ag '58

New tall oil fraction, similar in physical and chemical properties to lanolin. M. G. Bestul and others. *flow diag Soap & Chem Spec* 34: 49-51-4 O '58

New tall-oil plant reflects refining know-how; Monsanto chemical co. *il Chem Eng* 65:58-4 Ag 25 '58

Soap collection in the sulphate process. W. S. Shelow and A. L. Pickens, jr. *bibliog il diags Tappi* 41: sup 148A-50A My '58

TALLOW

Crystallization of Indian beef tallow fatty acids from aqueous ethanol. V. V. R. Subrahmanyam and K. T. Acharya. *bibliog Am Oil Chem Soc J* 35:467-9 S '58

Detergent bars from salts of α -sulfonated tallow acids. J. K. Weil and others. *bibliog il Am Oil Chem Soc J* 35:461-6 S '58

Factors in the decolorizing of tallow; oxidation. A. D. Rich and A. Greentree. *bibliog Am Oil Chem Soc J* 35:284-7 Je '58

Indian stillingia oil and tallow. S. A. Narang and Sadgopal. *bibliog Am Oil Chem Soc J* 35:58-71 F '58

Tallow and grease world survey. C. V. Danielson. *il Soap & Chem Spec* 34:43-6-4 Ap '58

TALOS. See Guided missiles

TALOSE

Isolation of D-talose from a natural source. P. F. Wiley and M. V. Sigal, jr. *Am Chem Soc J* 80:1010-11 F 20 '58

TANGE, Kenzo

Japanese architect seeks a new expression. *Arch Rec* 124:127-38 J 1 '58

TANK barges

Barge hauls butadiene to Italy. *Oil & Gas J* 55:61 D 2 '57

Framing of small tank vessels. F. O. Karppi. *bibliog diags Marine Eng/Log* 63:66-9 My '58

Nickel-lined barge moves glycerin by water. *il Oil & Gas J* 55:71 N 25 '57

TANK cars

Convertible bulk carrier. *il Engineer* 206: 464 S 19 '58

Does your meter need proving? calibrate tank cars at the same time. T. Y. Yang. *il diag Pet Refiner* 37:167-9 Ja '58

Fluid mixing in tankcars. R. L. Bates. *diags Chem Eng* 65:136-4 Ag 25 '58

100 percent weld X-ray possible on manways; railroad tank cars. *il Welding Eng* 43:56-7 Je '58

Tankcars cut shipping costs for crystals. *il diag Chem Eng* 65:80-4 F 10 '58

Want a plant with railroad trackage? Lithcote adapted old roundhouse for lining of railroad tank cars. A. T. Baldwin, jr. *il Plant Eng* 12:133-4 Mr '58

See also

Loading and unloading—Tank cars

TANK ships

Bigger channels needed for fast-growing tanker business. *map Oil & Gas J* 55:63 N 25 '57

Biggest crude-LPG tanker nears completion. *diag Oil & Gas J* 55:60 Je 30 '58

Bridge aft adopted on two supertankers. I. Knudsen. *il Marine Eng/Log* 63:70-1 Ap '58

Considerations on tankers; discussion. *Engineer* 206:168-70 Ag 1 '58

Corrosion-rate data can be exact. D. J. Evans. *il diags Marine Eng/Log* 63:57-61 My '58

Costs hamper nuclear tankers; abstract. H. B. Benford. *Oil & Gas J* 55:142 N 18 '57

First asphalt tanker ready for duty. *il Oil & Gas J* 55:78 Mr 3 '58

Framing of small tank vessels. F. O. Karppi. *bibliog diags Marine Eng/Log* 63:66-9 My '58

Japan vying for first atomic tanker. *il Oil & Gas J* 55:72 My 26 '58

Luxury aboard a tanker; owner's suite; the Angelo Petri put into service by United Vintners, inc. *il plan Marine Eng/Log* 63:73 Mr '58

New tanker with built-in gas freeing and corrosion control. *il plan diag Marine Eng/Log* 63:66-8 Je '58

Oil tanker Tidewater. *Engineer* 204:801 N 29 '57

Oil tankers; illustrations with text. *Engineer* 205:pl 9 Ja 3 '58

Old tanker introduces new concepts in safety, cargo handling, maintenance. *il diags Marine Eng/Log* 63:52-7 Ja '58

Revolutionary nuclear engines for underwater tankers. *Engineering* 185:470-1 Ap 11 '58

Swedish-tanker features fish-bone framing. H. Lundbergh. *diags Marine Eng/Log* 63: 71 F '58

Tankers plentiful if needed. *Oil & Gas J* 56: 104 J 18 '58

Underwater oil tankers? *Eng J* 41:80 F '58

Underwater oil tankers? *il Mech Eng* 80: 86-7 Ap '58

Underwater oil tankers? *il diags Engineering* 184:738-9 D 13 '57

What are large, average and most out of date tankers? W. L. Nelson. *Oil & Gas J* 56:165 S 1 '58

What's the average cost of tanker transportation? W. L. Nelson. *Oil & Gas J* 55: 134-5 O 21 '57; 56:101 Je 30 '58

Wine tanker, railroad's new competitor. *il Food Eng* 29:51 N '57

Wine tanker wins a stainless reputation for quality. P. Ferry. *il Welding Eng* 43:38-9 Ap '58

See also

Tank barges

Cleaning

Something new in tank cleaning. *il plan diag Marine Eng/Log* 63:70-2 Mr '58

Systemized methods of chemical cleaning of tanks boon to ship operator. *diags Marine Eng/Log* 63:120 Ap '58

Electric equipment

Shaft generator for motor tankers. *il Engineer* 206:423 S 12 '58

Statistics

Tanker-building boom. J. J. Winterbottom. *il Oil & Gas J* 55:196-7-4 D 30 '57

U.S. losing ground in tanker race. *Oil & Gas J* 56:66-7 Ar 4 '58

TANK trucks

Another use for oil-free air; agitation of milk in truck tanks. *il Comp Air Mag* 63:30-1 F '58

Chemical tank trailers of glass-reinforced polyester. *il Plastics World* 16:15 O '58

City flusher solves lime sludge disposal problem. *il Pub Works* 39:136 Ja '58

Less weight more payload; aluminum alloy tank with three-point suspension. *il Engineering* 185:318 Mr 7 '58

Road tanker construction. *il Engineer* 205: 257-8 F 14 '58

They save by using common carrier; Alton vinegar co. and Consolidated products. *il Food Eng* 30:115 S '58

Transporting oilwell mud. *il Engineering* 185: 581 My 9 '58

See also

Loading and unloading—Tank trucks

Safety measures

Petroleum transportation. *Safety Maint* 116: 50-4 Ag '58

TANKERS. See Tank ships

TANKS

Air agitation and pachuca tanks. A. G. W. Lamont. *bibliog diags Can J Chem Eng* 36: 153-50 Ar '58

Are your buried tanks floating? *diags Mill & Factory* 62:135 F '58

Central system simplifies solvent storage; AlResearch manufacturing div. of the Garrett corp. *il Plant Eng* 12:119-20 Je '58

Dip tank doubles in color; organic finishes. *il Plant Eng* 12:104 My '58

Glass fiber carbonizing tank; Hayward-Schuster woolen mills. *il diag Textile Ind* 122:127-4 My '58

Plastic protection for vessel insulation. P. N. Cheremisinoff. *Chem Eng* 65:118 Je 30 '58

TANKS—Continued

- Ring damping of free surface oscillations in a circular tank. J. W. Miles. *diag J Ap Mech* 25:274-6 Je '58
- Sloshing of liquid in a flexible tank. J. W. Miles. *bibliog diags J Ap Mech* 25:277-83 Ju '58
- Storage tanks get a lot of wear out of protective coating. *il Plant Eng* 12:132 Je '58
- Tragedy occurs in a tank. P. C. Ziemke. *Air Cond Heat & Ven* 55:99 Ap '58
- See also*
- Airplanes—Fuel tanks
- Airplanes, Jet propelled—Fuel tanks
- Gas holders
- Milk tanks
- Oil tanks
- Pressure vessels
- Septic tanks
- Settling tanks
- Sewage tanks
- Surge tanks
- Tank cars
- Water tanks

Lining

- Glass coatings; a good way to protect metals. C. E. Bullock and F. Nelson. *il Materials in Design Eng* 47:106-9 Mr '58
- Lining uranium plant. *il Engineer* 206:227 Ag 8 '58
- Modern plastics lead way to improved protective linings. A. T. Baldwin, Jr. *il Plant* 18:50-2, cover O '58
- New deep-tank coating. *il Marine Eng/Log* 63:75 My '58
- Reinforced (faced-brick/resinous cements) linings. *Corrosion* 14:33-5 Mr '58

Manufacture

- Gantry manipulator speeds tank welding. *il Mach* 64:127-8 Mr '58

Measurement

- How to determine tank capacities; data sheet. W. Hammer. *Heating-Piping* 30:143-4 Mr '58

Safety measures

- Testing atmospheres in enclosed spaces. H. Allen. *bibliog Engineering* 185:690 My 30 '58

Testing

- Purple dye locates disastrous leaks. *il Chem Eng* 64:168+ D '57

Ventilation

- Vent breather protects solvent storage tanks. C. W. Hamilton. *diag Chem Eng* 65:169-70 O 20 '58

TANKS, Aluminum

- Cryogenics; big new market for aluminum. D. Fabun. *il Mod Metals* 14:54-8+ Ag '58
- Less weight more payload; aluminum alloy tank with three-point suspension. *il Engineering* 185:318 Mr 7 '58

TANKS, Concrete

- Stresses in reinforced concrete sections subject to transient temperature gradients. H. Samelson and A. Tor. *diags Am Concrete Inst J* 30:377-86 S '58

See also

Water tanks, Concrete

TANKS, Gasoline. See Gasoline tanks**TANKS, Military**

- Land mine exploding device. *Franklin Inst J* 265:278-9 Mr '58

Gearing

- Case history on induction hardening large drive gear. V. H. Pasano and C. J. Kropf. *il Metal Prog* 74:86-90 S '58

TANKS, Plastic

- How to select best plastic for tanks. W. Reybold. *il Chem Eng* 65:152+ Mr 24 '58
- Plastics for leakproof fuel tanks. J. R. Spurgeon. *il Aircraft Eng* 30:112-13 Ap '58

TANKS, Rubber

- Roll-up tank for two-way dry-liquid hauls; Seal-tank. *il Food Eng* 29:156 D '57
- Roll-up tube saves 20 per cent on liquid-hauling cost; Mayflower milk co. *il Food Eng* 30:125 Ap '58
- Rough terrain bows to unusual new fuel train; giant tires. *il Oil & Gas J* 56:90 Ja 20 '58
- Rubber tanks; a new way to store oil? *il Power* 101:121 N '57

TANKS, Steel

- Current costs of vessels and motor reducers. E. Gushin. *Chem Eng* 65:141-2 S 8 '58
- Prevention of localized corrosion in sulfuric acid handling equipment. G. A. Nelson. *il diags Corrosion* 14:45-9 Mr '58

- Spherical tanks used for propane in Venezuela; use of steel alloy Carilloy. G. Esmal. *il diag Pet Eng* 29:C 13-15 N '57
- They save by using common carrier; Alton vinegar co. and Consolidated products. *il Food Eng* 30:115 S '58
- See also*
- Sewage tanks, Steel
- Water tanks, Steel

Manufacture

- Submerged arc cuts weld cost; stainless tank. *il Steel* 142:76 Ja 13 '58

TANNERIES**Waste**

- Highlights of research in sanitary engineering; Lawrence experiment station; biological treatment of tannery wastes. J. A. McCarthy and B. L. Rosenthal. *Pub Works* 88:32-3 D '57
- Tannery wastes treatment with sewage at Williamsport, Pa. T. R. Haseltine. *flow diag diags Sewage & Ind Wastes* 30:65-83; Discussion. F. E. Heller. 83-5 Ja '58

TANNING

- Leather science, some recent developments. G. H. Green. *bibliog il Research* 11:330-4 S '58

TANNINS

- Chinese gallotannin. H. G. C. King and T. White. *bibliog Chem & Ind* p633-4 Je 7 '58
- Plant polyphenols; the isolation of a new ellagitannin from the pellicle of the walnut. L. Jurd. *Am Chem Soc J* 80:2249-52 My 5 '58
- Prototypes of quebracho tannins. D. G. Roux. *bibliog Chem & Ind* p 161-2 F 8 '58
- Prototypes of quebracho tannins. T. White and H. G. C. King. *bibliog Chem & Ind* p291 Mr 8 '58

Analysis

- Determination of food tannins by ultraviolet spectrophotometry. J. L. Owades and others. *bibliog J Agri & Food Chem* 6:44-6 Ja '58

TANTALUM

- Columbium-tantalum, 1957. W. R. Barton. *Eng & Min J* 153:140 F '58
- Effect of tantalum and niobium on the tempering of certain vanadium and molybdenum steels. A. K. Seal and R. W. K. Honeycombe. *bibliog 4pls Iron & Steel Inst J* 188:343-50 Ap '58
- Heat capacities, entropies and enthalpies of tantalum between 12 and 550°K. K. F. Sterrett and W. E. Wallace. *Am Chem Soc J* 80:3176-7 Jl 5 '58
- Metallic heating element materials for high temperature furnaces. R. Kieffer and F. Benesovsky. *bibliog il diags Metallurgia* 53:119-24 S '58
- More tantalum and niobium on way; Fansteel metallurgical corp. *il Chem & Eng N* 36:24-5 Mr 10 '58
- New engineering metals. J. P. Denny and L. F. Kendall, Jr. *Mech Eng* 80:67-71 Ag '58
- New plant spotlights tantalum-columbium; Fansteel metallurgical corp. *il Chem Eng Prog* 54:88+ Ap '58

- Production and sales; tantalum capacitor sales continue upward. *Electronics* 31:14 S 5 '58

- Properties of materials: columbium, tantalum, tungsten and molybdenum. *Materials in Design Eng* 48:93 Mid-O '58

- Refractory metals; tungsten, tantalum, columbium, and rhenium. J. W. Pugh. *bibliog J Metals* 10:335-9 My '58

- Tantalum bind ends. *Electronics* 31:29 Ap 4 '58

Analysis

- Determination of tantalum in niobium. M. L. Theodore. *bibliog Anal Chem* 30:465-7 Ap '58

- Investigation of a method for the combined determination of niobium and tantalum in steel. *Iron & Steel Inst J* 187:341-3 D '57

Metallography

- Effect of the interaction of tantalum with oxygen, nitrogen, and hydrogen. R. Bakish. *bibliog il Electrochem Soc J* 105:574-7 '58

- Metallographic manifestations of the air oxidation of tantalum at 750°C. R. Bakish. *bibliog il Electrochem Soc J* 105:71-4 F '58

TANTALUM alloys

- Tantalum-columbium alloy system; abstract. D. E. Williams and W. H. Pechin. *Metal Prog* 72:172+ D '57

TANTALUM compounds

Niobium and tantalum 8-quinolinolates, H. A. Szymanski and J. L. Archibald, bibliog Am Chem Soc J 80:1811-12 Ap 20 '58

TANTALUM foil

Control reduces trim waste; edge slitter for tantalum foil, il diags Steel 142:104 Je 23 '58

TANTALUM halides

Preparation and X-ray study of some tantalum halides, R. F. Roisten, bibliog Am Chem Soc J 80:2952-3 Je 20 '58

TANTALUM metallurgy

Extraction of tantalum and columbium, D. F. Taylor, diags Chem Eng Prog 64:47-50 Ap '58

Separation of niobium and tantalum by liquid extraction, E. L. Koerner, jr. and others, bibliog flow diag il Chem Eng Prog 64:63-70 S '58

TANTALUM nitrides

Heats of formation of niobium dioxide, niobium subnitride and tantalum subnitride, A. A. Mah, bibliog Am Chem Soc J 80:3872-4 Ag 5 '58

TAPE

How Caledonian dyes zipper tapes; Caledonian dye works, il Textile World 108:132-3 Mr '58

Tapes, sheets and floorings, il Engineering 185:486 Ap 18 '58

TAPE, Adhesive. See Adhesive tape**TAPE, Magnetic. See Magnetic tape****TAPE cables. See Electric cables—Tape cables****TAPE condensers. See Wool carding****TAPE recorders. See Sound—Recording and reproducing—Magnetic recording****TAPERS**

Indicator sets attachment accurately for taper turning, J. A. Raczkiewicz, diag Am Mach 102:116 Ag 11 '58

Spring-actuated taper attachment, J. Sobkowiak, diags Mach 64:135-6 Je '58

TAPEWORMS

Beef tapeworm, mealy beef, and sewage; review, A. E. Greenberg and B. H. Dean, Sewage & Ind Wastes 30:262-9 bibliog (34 ref, p267-9) Mr '58

TAPIOLITE

Tapiolite, with special reference to tapiolite from southern Westland, New Zealand, C. O. Hutton, bibliog Am Mineralogist 43:112-19 Ja '58

TAPPING

Consider design factors when selecting tapping screws, diags Mach 64:141 Mr '58

Drilled holes for tapping; data sheet, Mach 64:253-4 D '57

Torque-controlled drive release for tapping, diags Mach 64:158 F '58

Standards

Hole sizes for tapping screws; with tables, diags Product Eng 28:G 18-21 Mid-O '57

TAPPING machines

Adjustable linkage changes the pitch in lead-screw tapper, il diag Machine Design 30:132 Je 12 '58

Hydraulics makes tapping automatic; National acme co, H. Brown, il diag Ap Hydraulics 11:72+ J1 '58

Landis coupling-tapping machine, il Mach 64:154 Ag '58

Multiple spindles cut holes faster, cheaper, better, C. Emerson, il diags Am Mach 102:113-23 My 19 '58

1958 production preview; tapping and threading, il Am Mach 102:122-3 Ja 27 '58

Tapped nuts guide the tapper, il diags Product Eng 29:72 J1 21 '58

Unimatic horizontal drilling and tapping machine, il Mach 65:187 O '58

TAPS

Basic thread dimensions and tap drill information; data sheet, Mach 65:231-2 S; 221-2 O '58

Now we buy tapped holes not taps, C. Mathewson and E. Stutz, il Am Mach 102:111-12 Mr 10 '58

Special taps; data sheet, Mach 64:223-4 Ap '58

Spiral-flute tap drills too, J. Polinak, diag Am Mach 102:100 Ag 25 '58

Tap cold forms threads; Besly-Welles corp, diag Steel 142:100 My 12 '58

Tap-drill and tap selection; with tables, W. G. Ogden, jr. Product Eng 28:D 16-19 Mid-O '57

Tap drill sizes; tables; data sheet, Mach 64:227 F '58

Thread nomenclature and definitions applying to screw threads, taps and dies; data sheet, diags Mach 64:209-10 J1 '58

Standards

Machine screw taps; ground thread; American national form; data sheet, Mach 64:224 Mr '58

TAR

Gravel stabilization with tar, I. R. Geer, Pub Works 89:174-6 My '58

Tar bonds oxygen vessel bricks, J. P. Holt, il diag Steel 143:74+ J1 7 '58

See also

Coal tar

Coal tar products

TAR acids**Analysis**

Gas-liquid chromatography; retention-volume data of certain tar acids, L. Irvine and T. J. Mitchell, J Ap Chem 8:3-6 Ja '58

TAR sand. See Bituminous sand**TARGET airplanes. See Airplanes, Target****TARGETS, Metallic**

Crater formation in metallic targets, W. S. Partridge and others, bibliog il J Ap Phys 29:1332-6 S '58

TARIFF**United States**

Only the strong shall remain free; abstract, L. King, Tool Eng 41:225-7 S '58

Aluminum

Aluminum imports touch off tariff tiff, Mod Metals 14:72+ Je '58

Tariff question sparks Williamsburg meet, Light Metal Age 16:23-4+ Je '58

Chemicals

Chemical industry blasted, Chem & Eng N 36:27 Ap 7 '58

Tailor chemical tariffs to needs, Chem & Eng N 35:24 D 30 '57

Lead

Import problem can be solved, A. Fletcher, Eng & Min J 158:86-8 N '57

Lead producers seek tariff, Electronics 31:35 F 21 '58

Machine tools

Machine tool tariff fight is on, J. H. Myers, Am Mach 102:105 Mr 24 '58

Mica

Mica tariff cut, Electronics 31:26 S 19 '58

Tableware

Tariffs and the tableware industry, J. M. Wells, Am Cer Soc Bul 37:376-7 Ag 15 '58

Zinc

Import problem can be solved, A. Fletcher, Eng & Min J 158:86-8 N '57

TARNISHING of metals

Gold leaf trouble; greenish tarnished appearance, Ind Finishing 34:37 My '58

Room temperature tarnishing of silver in bromine and iodine, J. L. Weininger, bibliog il Electrochem Soc J 105:577-81 O '58

Staining of copper and brass, E. Mattsson, bibliog (37 ref) il Corrosion 14:48-52 F '58

TARP AINS

Nylon keeps winter out at The Dalles dam, il Elec World 149:74-5 Mr 17 '58

They cover a lot of ground; combinations of plastics and synthetic fabrics are replacing canvas as tarpaulin and shelter material, il Mod Plastics 36:105-8, 207 O '58

TARTRONATE. See Hydroxymalonate**TASLAN yarn. See Yarn****TASMANIA**

See also

Geology—Tasmania

TASTE

Anatomy and physiology, V. G. Dathler, A. M. A. Archives Ind Health 17:535-6 My '58

Chemical senses, H. Kalmus, il diags Sci Am 198:97-102+ Ap '58

See also

Flavor

Water purification—Taste and odor removal

TASTE (esthetics). See Esthetics**TAUTOMERISM**

Spectral evidence for tautomerism in diazo ketones, F. A. Miller and W. B. White, bibliog Am Chem Soc J 79:5974-8 N 20 '57

TAUTOMERISM—Continued

Stereochemistry of ketonization; *ac*-nitro tautomerism. H. E. Zimmerman and T. E. Nevins. *bibliog* Am Chem Soc J 79:6559-61 D 20 '57

Tautomeric equilibria; the basicities of monosubstituted azobenzenes; an acidity scale in 20 per cent ethanolic aqueous sulfuric acid. H. H. Jaffé and R. W. Gardner. *bibliog* Am Chem Soc J 80:319-23 Ja 20 '58

TAX collection

Remit tax withholdings on time. H. J. Ashe. *Pit & Quarry* 61:81+ Ag '58

TAX delinquency. See Tax Collection**TAXATION**

See also

Assessment

Dividends

Excise tax

Mine taxation

also subdivision Taxation under special subjects, e.g.

Corporations

Gas, Natural

Gasoline

Motor vehicles

Petroleum industry and trade

Real property

Rock products industry

Economic aspects

To modernize, industry needs a tax break; House Ways and means committee hearings. *Il* *diags* Mill & Factory 62:73-6 Je '58

TAXATION, Exemption from

Market for tax-exempt bonds. H. L. Severson. *Pub Works* 89:86-7 Ag '58

TAXICABS

And now Diesel taxi cabs. *Il* *Diesel Power* 36:22 My '58

U-drive taxis to the rescue in Paris. *Arch Forum* 107:142-3 D '57

TEA

Chemistry of tea manufacture in N.E. India; abstract. E. A. H. Roberts. *Chem & Ind* p309; Discussion. 309-10 Mr 15 '58

Analysis

Determination of food tannins by ultraviolet spectrophotometry. J. L. Owades and others. *bibliog* J Agri & Food Chem 6:44-6 Ja '58

TEACHERS

See also

Engineering teachers

Physics teachers

Science teachers

TEACHERS, Training of

Teaching horizons broadened by industry schools. *Il* *Chem Eng Prog* 54:110+ S '58

See also

Science teachers—Training

TEACHING**Aids and devices**

Graphic aids for teaching Coriolis force. M. J. Walker. *diags* Am J Phys 26:392-5 S '58

See also

Moving pictures in education

TEAPOT dome. See Oil reserves (United States navy)**TECHNETIUM****Analysis**

Thiocyanate spectrophotometric determination of technetium. C. E. Crouthamel. *bibliog* Anal Chem 29:1756-60 D '57

TECHNICAL association of the pulp and paper industry

Annual meeting, 43d, New York, Feb. 17-20; abstracts of papers. *Tappi* 41:sup28A+ F '58; *Paper Ind* 39:1001-4 Mr '58

Annual meeting, 43d, New York, Feb. 17-20; program. *Tappi* 41:sup 14A+ Ja '58

Annual report, 1957. *Tappi* 41:sup 103A-14A Mr '58

Coating conference, 9th, Bedford, Pa. May 14-16. *Tappi* 41:sup80A-5A JI '58

Development and organization of the forest biology committee. P. E. Nethercut. *Tappi* 41:145 Ap '58

Engineering conference, 12th, Cincinnati, Sept. 23-26; with abstracts of papers. *Tappi* 40:sup 110A+ N '57

Engineering conference, 13th, Portland, Ore. July 27-August 1; program. *Tappi* 41:sup80A+ My '58

Paper-plastics conference, 12th, Cincinnati; with abstracts of papers. *Paper Tr J* 141:24-7 O 28 '57; *Tappi* 40:sup 127A-30A N '57

President's report, 1957. W. D. Harrison. *Tappi* 41:sup 14A+ Mr '58

Virginia-Carolina section, charter presentation address. R. G. Macdonald. *Tappi* 40:sup 181A-3A D '57

TECHNICAL associations

See also

Engineering societies

TECHNICAL education

Technical training by correspondence. A. DeGroot. *Il* *Pub Works* 88:93-4 N '57

Technology and society. G. Nelson. *Engin-eer* 204:592-5 O 25 '57

Training technicians in U.S.A.; pattern of radio and electronics education in America. J. Gray. *Wireless World* 64:55-6 F '58

See also

Apprentices

Employees, Training of

Engineering education

Foundry practice—Study and teaching

Metallurgical education

Scientific education

Textile education

Textile schools

Trade schools

Vocational education

Europe

Report on welding education in Europe. C. E. Jackson. *Welding J* 37:817 Ag '58

Great Britain

Diplomas in technology. *Brit Inst 'Radio Eng J* 18:65 Ja '58

Education of boys and girls. *Engineer* 205:431-2 Mr 21 '58

Educational framework of an industrial society. P. F. R. Venables and others. *Research* 11:51-5, 86-9, 134-40 F-Ap '58; Discussion. 11:177-9 My '58

Technical education in Britain. D. O. Akhurst. *Elec Eng* 77:547-50 Je '58

India

Technical education and research in India. M. G. Hathi. *Elec Eng* 77:539-43 Je '58

Puerto Rico

Puerto Rico puts the pressure on technical training. R. N. Sheets. *Il* *Am Mach* 102:108-12 Ap 7 '58

Russia

Coordination in Soviet education and research. L. Seigle. *Il* *J Metals* 10:178-9 Mr '58

Education and research in Soviet Russia. R. Ewell. *Il* *Chem & Eng* N 36:66-70+ Ap 14 '58

Education in the Soviet setting. *Il* *Chem & Eng* N 35:78-80, cover N 25 '57

Impressions of Russian technical education; interview with M. Cohen. *J Metals* 10:175 Mr '58

TECHNICAL information

IAEA speeds flow of technical information.

Product *Eng* 29:27 Ag 11 '58

Little know-how for Russia; American chemical producers are not too interested in selling important chemical processes and related know-how to the Soviet Union. *Il* *Chem & Eng* N 36:27-9 S 8 '58

Professional relations with Soviets; interchange of technical publications. R. J. Kochenburger. *Control Eng* 5:13-14+ S '58

Reusing technical information. L. R. Lawson, Jr. *Tappi* 41:sup 155A-7A Mr '58

Why we need to know; we lack knowledge of Russian technical and scientific advances. E. J. Tangerman. *Il* *Product Eng* 28:24-5+ D 16 '57

TECHNICAL libraries

Automated library soon? memory's all ready. M. M. Astrahan. *Machine Design* 30:41 Je 26 '58

Libraries in technical colleges. W. A. J. Chapman. *Engineering* 184:721 D 6 '57

See also

Engineering libraries

Engineering societies library. New York

TECHNICAL literature

And inwardly digest; technique of fast reading and the quality of scientific writing. S. Burgess. *bibliog* Soc Dyers & Col J 74:458-63 Je '58

Computer abstracts. *Control Eng* 5:32 Mr '58

Computer system automatically abstracts technical articles. *Machine Design* 30:38-9 Mr 20 '58

Rubber compounding information; sources, indexing, retrieving. K. S. Rostler. *bibliog* *Il* *diags* Rubber Age 82:678-86 Ja '58

TECHNICAL literature—Continued

Searchers seek to open literature logjam. *diags Chem Eng* 65:84+ F 10 '58
 US catching up on translation of foreign publications. *Product Eng* 29:29 F 10 '58

See also
 Engineering literature
 Technical writing

Russia

Key to Soviet science; Nation's central file of Russian translations. *il Chem & Eng N* 36:112-13 Ja 6 '58
 More translations coming. *Chem & Eng N* 36:38-9 Ja 27 '58
 Russian foundry practice; abstracts from articles published in recent issues of the Russian publication *Litneoe proizvodstvo* (foundry industry). *Foundry* 86:126+ S '58
 Soviet translations rushed. *il Electronics* 81: 15-16 Ja 24 '58
 US translation program bogging. *Product Eng* 28:86-7 D 23 '57
 Urge speed-up in translation of Russian scientific and technical journals. *Am Mach* 101:158 D 16 '57

TECHNICAL products

See also
 Automobile parts

TECHNICAL reports

Career opportunities in technical communications. C. E. Starr, jr. and others. *Chem & Eng N* 36:9-11 pt 2 Ja 27 '58
 Selling the technical program, up, down, and sideways. E. B. Savage, jr. and others. *Chem Eng Prog* 54:138+ Mr '58
 Stress key factors in technical report writing. J. L. Kent. *Ind Lab* 9:65 My '58

TECHNICAL societies

Technical societies speed nuclear progress. H. J. Stremba. *il A S T M Bul* p46-9 J1 '58

TECHNICAL workers

Cure-or-kill for grating technicians; details. F. Ward; D. Barlow. *Control Eng* 5:10-11 My '58
 Stay with science and math; technically trained people at Magnolia Petroleum have a nonadministrative advancement route. *Chem & Eng N* 36:34 Ap 21 '58
 Technology and society. G. Nelson. *Engineer* 204:592-5 O 25 '57
 Use engineers better by giving them help from technicians on routine jobs. *Oil & Gas J* 55:63 N 25 '57

See also
 Chemical workers
 Electric workers
 Mechanics (persons)

Training

Aircraft instrument technicians; scarcer and harder to train. K. Anderson. *il Control Eng* 5:28+ My '58

TECHNICAL writers

How to use technical writers to increase efficiency of engineering functions. J. V. E. Hansen. *Machine Design* 29:94-7 N 28 '57
 Technical writer in industry. B. H. Weil. *Ind & Eng Chem* 50:sup81A-5A J1 '58

TECHNICAL writing

ABC's of better writing. J. L. Kent. *Pet Refiner* 36:361-3 N '57
 Bad technical writing. J. L. Kent. *Mech Eng* 79:1153 D '57
 Career opportunities in technical communications. C. E. Starr, jr. and others. *Chem & Eng N* 36:9-11 pt 2 Ja 27 '58
 Engineers, do your own writing. J. L. Kent. *Electronic Ind* 16:108-9 D '57; Discussion. 17: 168-70 Ap '58
 Engineers should write! W. O. Hadlock. *Electronic Ind* 17:161-2 Ja '58; Discussion. 17: 168-70 Ap '58
 How an SAE paper is born. J. M. Callahan. *S A E J* 66:27-8 Je '58
 How to be interesting though factual. *Pet Eng* 29:E21 D '57
 Science need not be inarticulate; round table talk. *Electronic* 31:20-1 Ja 10 '58
 Standardization for technical communication; panel discussion. *Mag of Stand* 28:372 D '57
 Stress key factors in technical report writing. J. L. Kent. *Ind Lab* 9:65 My '58
 Technical writing isn't easy, but. W. A. Sylvester. *Pet Refiner* 37:253-5 Ap '58

See also
 Abstracts
 Engineering reports
 Engineering writing
 Scientific writing

TECHNION. See Israel institute of technology

TECHNOLOGY

Demands of an explosive era. C. H. Linder. *Elec Eng* 77:674-80 Ag '58
 Demands on teachers in a technological society; abstract. F. W. Brown. *Elec Eng* 77: 371-2 Ap '58
 Fickle fashions of science. C. H. Greenewalt. *Am Scientist* 46:sup46A, 80-3 Mr '58; Abstract. *Elec Eng* 77:277-8 Mr '58
 Innovation in technology. J. R. Pierce. *il diags Sci Am* 199:116-18+ S '58
 Inspiring award in technology. I. B. Hart. *Chem & Ind* p349 Mr 22 '58
 Meeting the challenge to science; interview with C. F. Rassweiler. *Chem & Eng N* 36:122-8 S 1 '58
 Microwaves in science and technology. R. Cockburn. *Engineer* 205:802-4 My 30 '58
 Precise measurement and the race for technological supremacy. A. V. Astin. *il Mag of Stand* 29:36-40 F '58; Same abr. *Elec Eng* 77:294-6 Ap '58; Abstracts. *Rubber World* 137:879 Mr '58; *Product Eng* 29:22 J1 28 '58
 Present challenge to American science and technology. *Chem & Eng N* 36:22-3 Ap 21 '58
 Technological developments. G. W. El. Nicholson. *Tappi* 40:sup24A+ N '57
 Technological promises and progress. J. L. Powell. *Chem Eng Prog* 54:84+ S '58
 Technology challenged to defeat mass poverty, or else; abstracts of papers delivered before the International industrial development conference. *Product Eng* 28:20 N 4 '57
 Technology misapplied. R. E. Fischer. *diags Arch Rec* 123:203-6 Je '58
 Today's challenge to engineering initiative. J. K. Rodnette. *Elec Eng* 77:682-5 Ag '58
 Trends and outlook for technological progress from the standpoint of the research scientist. B. D. Thomas. *A S T M Bul* p70 F '58
 U.S. must meet USSR challenge to maintain strength, progress. J. R. Dunning. *Mech Eng* 79:1082 N '57

See also
 Ceramic industries
 Electric engineering
 Engineering
 Food technology
 International technical congress
 Inventions
 Paper making
 Printing
 Technical education
 Textile industry

Europe

European know-how imported for the benefit of American enterprises; program conducted by Armour research foundation of Illinois institute of technology. *Air Cond Heat & Ven* 55:104+ Ja '58
 New product ideas from the old world. *Product Eng* 28:21-2 D 2 '57

Russia

Four reports on Russian technology. *Gen Elec R* 61:9-18 Mr '58
 Is Russia pulling ahead in race for technical leadership? *Iron Age* 180:113-16 N 14 '57
 USSR proposes vast automation scheme. P. Tripple. *Product Eng* 29:16-18 Ag 25 '58
 Why we need to know: we lack knowledge of Russian technical and scientific advances. E. Tangerman. *il Product Eng* 28:24-5+ D 16 '57

TECNETRON. See Semiconductors**TEENAGERS.** See Youth**TEETH****Diseases and defects**

Fluorides and the solubility of powdered tooth enamel. S. D. Gershon and others. *bibliog*(34 titles) *il Drug & Cosmetic Ind* 82: 160-1+ F '58
 Saliva factor halts decay; abstracts. G. E. Green. *Chem & Eng N* 36:40-1 My 12 '58; *Drug & Cosmetic Ind* 82:802 Je '58
 Tooth decay. R. F. Sognnaes. *il Sci Am* 197: 109-10+ D '57
 Wheat cereal diets, rat caries, lysine and minerals. F. J. McClure. *bibliog J Nutrition* 65:619-31 Ag '58

TEFLON

Bearings keep going without attention; PTFE impregnated bronze. *il Engineering* 186:17 J1 '58
 Bonding of Teflon. E. R. Nelson and others. *bibliog Ind & Eng Chem* 50:329-30 Mr '58

TEFLON—Continued

- Extrusion of Teflon 100X perfluorocarbon resin; a new melt-extrudable material for wire insulation. R. E. Stabler. Wire & Wire Prod 33:73-8 Ja '58
- Glass-and-Teflon surface combines high load-bearing properties. Il diag Machine Design 30:102 Ja 9 '58
- Ignition of Kel-F and Teflon. L. Greenspan. R Sci Instr 29:172-3 F '58
- Improved wire extrusion technique for polytetrafluoroethylene. Elec Manuf 61:9 Ap '58
- Machining TFE resins. H. J. Kipnes. Il diags Mod Plastics 35:123-5+ My '58
- New method bonds plastics. Electronics 31:24 Ja 24 '58
- New Teflon products: tubing, film, tapes. Il Materials in Design Eng 47:152+ Je '58
- Properties and applications of reinforced Teflon. F. M. Chapman. Il diag Machine Design 30:148-54 S 18 '58
- Teflon-based piston rings for nonlubricated applications. R. D. Taber and F. A. Robbins. bibliog diags Mech Eng 79:538-41 S '57; Same cond. Product Eng 29:F7-9 Md-S '58; Discussion. J. Naab. Mech Eng 80:116-17 My '58
- Teflon bellows. Il Mod Plastics 35:218 My '58
- Teflon coatings expand. Chem & Eng N 36:48-9 O 13 '58
- Teflon resin easier to extruder; available as film and powder. R. S. Mallouk and W. B. Thompson. Materials in Design Eng 47:171+ Ap '58
- Teflon sheet as a large-area gas seal for gas flow radioactivity counters. K. A. Bargh. F Sci Instr 29:536-7 Je '58
- Teflon stops galling in new type of bearing. Il Materials in Design Eng 47:178+ Ap '58
- Teflon tubing. Il Electronic Ind 17:82+ Ag '58
- Teflon's cold flow used to advantage in resistor box trimmer; receives citation in Materials in design engineering competition. diags Materials in Design Eng 47:155 Ap '58
- TFE electroplates are smooth, nonporous. Il Materials in Design Eng 47:141 Je '58
- Thin films of polytetrafluoroethylene resin as lubricants and preservative coatings for metals. V. G. Fitzsimmons and W. A. Zisman. bibliog Il Ind & Eng Chem 50:781-4 My '58; Abstract. Machine Design 30:184 Mr 20 '58
- Two plastics gain ease-of-use, new markets: new Teflon and polyethylene products. Il Chem Eng 65:64+ My 5 '58
- Wear of Teflon sliding on Teflon. D. G. Flom. J Ap Phys 28:1361-2 N '57

TELEAUTOGRAPH

- Electronic longhand controls ready-mix. D. F. Smith. Il Concrete 66:28-30 Mr '58

TELECOMMUNICATION UNION, International.

- See International telecommunication union

TELEGRAPH

- Error-checking for five-channel telegraphic tape. R. A. Barbeau. flow chart diags Com & Electronics p 190-3 My '58
- Processing international telegraphic messages; illustrations with text. map Elec Com 34:285-308 D '57
- Telegraph relays with built-in radio-interference suppressors. Il diag Elec Com 35 no 1:13-14 '58
- White Alice network in operation. Il Elec Eng 77:565 Je '58
- See also
- Radio telegraph
- Radio telephone

Military use

- Automatic telegraph switching system plan 55-A. G. S. Vernam. Il diags Com & Electronics p239-47 My '58; Same cond. Elec Eng 77:418-23 My '58

Multiplex system

- Improved six-channel time division multiplex for submarine cable telegraphy. H. F. Wilder. Il diags Com & Electronics p217-22 My '58

Patents

- United States patents issued to International telephone and telegraph system. Elec Com 34:276-7, 342-4 S-D '57; 35 no 1:69-70 '58

Private wire systems

- Automatic telegraph switching system plan 55-A; U. S. air force private-wire network. G. S. Vernam. Il diags Com & Electronics p239-47 My '58; Same cond. Elec Eng 77:418-23 My '58

TELEGRAPH, Submarine

- Centenary of transatlantic telegraphy. Engineer 206:267-8 Ag 15 '58
- Improved six-channel time division multiplex for submarine cable telegraphy. H. F. Wilder. Il diags Com & Electronics p217-22 My '58; Abstract. Elec Eng 77:707 Ag '58

TELEGRAPH companies

- See also
- American telephone and telegraph company

TELEKY, Ludwig

- Obituary. W. A. Cook. Ind Med 26:522 N '57

TELEMETERING

- Communicating switches critical for high performance telemetry. G. P. Bentley and S. Ackerman. Il diags Aviation Age 29:70-2+ Ap '58
- Completed flow telemetering; United gas improvement co peak-shaving operations. Il map Gas 34:86-8 Ap '58
- Cyclops cores simplify earth-satellite circuits; satellite telemetry coding system. R. W. Rochelle. diags Electronics 31:57-9 F 28 '58
- Digital remote control and telemetering system used by Metropolitan water district of southern California. J. R. Burgard and D. E. Wassall. Il Water & Sewage Works 104:506-7 N '57
- Earth satellite telemetry coding system. R. W. Rochelle. bibliog Il diags Elec Eng 76:1062-5 D '57
- Electronics operates valves 2.5 miles away. Il S & J 5:76 My '58
- Fm-fm telemetering; analysis of the frequency spectrum of a double frequency-modulated wave. E. S. Cassedy, jr. Electronic & Radio Eng 34:465-7 D '57
- High acceleration telemetry beats state of the art. T. L. Horning. Il diags Space/Aeronautics 30:136-7+ O '58
- Industrial telemeters gain. Electronics Bsns ed 30:19-20 N 20 '57
- Industrial telemetry gaining ground; Aurora gasoline co.'s Muskegon (Mich.) refinery. K. Anderson. Control Eng 5:31-2 Jl '58
- Locked switches to pam-fm. W. J. Cox. diag Aviation Age 30:138-42 Ag '58
- Microlock, a minimum weight radio instrumentation system for a satellite. H. L. Richter, jr. and others. Il diags Jet Propulsion 28:532-40 Ag '58
- Missile telemeter mates pdm-fm with fm-pm; illustrations with text. B. Kovit. Aviation Age 30:126-7 Ag '58
- Missiles challenge telemetry. Il diag Electronics 31:13-14 Je 27 '58
- National telemetering conference, Baltimore. Control Eng 5:38 Ag '58
- New missiles and spacecraft challenge telemetry technology. J. Holahan. diags Aviation Age 30:128-36 Ag '58
- Pacific Gas & Electric designs unique pipeline-break control and alarm system. J. H. Stannard, jr. and T. Morcott. Il diags Gas 34:94-3+ S '58
- Precision high-speed telemetering oscillator. D. Garshman and J. A. Fraunfelder. Il diags Power Apparatus & Systems p95-9 Ap '58
- Preflight calibration makes cards for data reduction. W. Usim. diag Control Eng 5:135 My '58
- Principles and applications of phase-lock detection in phase-coherent systems. C. L. Nielsen. bibliog diags Jet Propulsion 28:541-7 Ag '58
- Pulse code modulation has advantages. F. J. Enge. diags Control Eng 5:113-15 Je '58
- Receiver-controller transmitter systems applications. C. S. Beard. Il diags Gas 34:145-9 O '58
- Recent developments in telemetering and remote control equipment and its application to pipeline stations. G. C. Wilson. Il diags Gas Age 122:30-3 O 16 '58
- Robotry in water and sewage works operation. D. B. Dickson and C. H. Billings. Il diags Pub Works 89:104-12 O '58
- Scientific telemetry for USNC-IGY. W. Matthews and G. H. Ludwig. Il diag Q S T 42:51-5+ Ja '58
- Shares and prices; telemetering equipment. Electronics Bsns ed 30:11 N 10 '57
- Supervisory control of gas pipelines. F. V. Long. diags Oil & Gas J 55:118-20 O 21 '57; Same. Pet Eng 29:D66-70 N '57; Same. Gas Age 120:42-6 D 12 '57
- Systems engineering a pdm/fm telemetry system. F. J. Enge. diags Electronic Ind 17:80-1+ Mr '58
- Technique developed to look over pilot's shoulder. Franklin Inst J 264:378 N '57

TELEMETERING—Continued

- Telemetry, central or sectionalized? F. V. Long. *Gas* 34:161-2 My '58
- Telemetry communication channels, which is which? F. V. Long. *Gas* 34:139-40 Ag '58
- Telemetry controls operate 23-well system. *Il Pub Works* 88:111-12 N '57
- Telemetry transmitter for Vanguard rocket. N. Raskhodoff. *Il diags Electronics* 31:46-7 Jl '58
- Telemetry and remote control by the Long Island water corp. S. C. McLendon and M. Zihai. *diag Am Water Works Assn J* 49:1371-7 N '57
- Telemetry and remote control system; San Gabriel valley water co. El Monte, Calif. K. L. Wilkerson and M. E. Mosely. *Il diag Water & Sewage Works* 106:363-6 S '58
- Telemetry from Explorer. W. Matthews. *Il diag Electronic Ind* 17:58-9+ Mr '58
- Telemetry integrates control. L. R. Larson and R. W. Brown. *diag Elec World* 149:62 Ja 20 '58
- Telemetry developers and manufacturers; list. *Aviation Age* 30:150-4 Ag '58
- Telemetry looks into the future. C. H. Smith and A. S. Westneat. *Aviation Age* 30:20-1+ Ag '58
- Telemetry, orphan of the space age. L. W. Gardenhire. *Aviation Age* 30:188-9 Ag '58
- Telemetry progress; radio-frequency link for space with today's hardware; with nomographs. H. Scharia-Nielsen. *Aviation Age* 30:144-5 Ag '58
- Transducer monitor stretches telemetry accuracy. J. M. Rau. *Il diag Aviation Age* 28:106-10 F '58
- Transistors ruggedize airborne telemetry keyer. D. A. Williams, Jr. *bibliog Il diags Electronics* 31:81-3 S 12 '58
- Transistors slash telemetry costs. *Electronics* 30:22+ D 1 '57
- Unit telemeters scalp voltages. R. W. Vreeland and others. *Il diag Electronics* 31:86 Jl 18 '58
- Use of instrumentation in gas distribution at Long Island lighting co. E. S. Bance. *Il Gas Age* 122:31-3+ S 18 '58
- What you ought to know about automatic well testing. H. A. Saye. *plan diags Oil & Gas J* 55:102-5 Ja 6 '58

TELEPHONE

- Basis for transmission performance objectives in a telephone communication system; abstract. W. K. MacAdam. *Elec Eng* 77:307 Ap '58
- Communication between nations and between peoples. G. Radley. *Engineer* 205:304-5 My 30 '58
- Echoes cause fm intermodulation. H. E. Curtis. *Electronic Ind* 17:supO 6-7 S '58
- Efficiency and reciprocity in pulse-amplitude modulation. K. W. Cattermole; J. C. Price. *bibliog Il diags Inst E E Proc* 105 pt B:449-70; Discussion. 479-81; Reply. 481-2 S '58
- Evolution of a loudspeaker telephone; illustrations with text. E. J. Tangeman. *Product Eng* 29:30-1 Jl 28 '58
- Pulse code modulation in the telephone industry. *Il Elec Eng* 77:769 Ag '58
- Shortest connection networks and some generalizations. R. C. Prim. *map diags Bell System Tech J* 36:1389-401 N '57
- Telephone. E. I. Green. *bibliog Il map diags Bell System Tech J* 37:289-333 Mr '58
- Transistor pulse generators for time-division multiplex. K. W. Cattermole. *diags Inst E E Proc* 105 pt B:471-9; Discussion. 479-81; Reply. 481-2 S '58

See also

- Mine telephone
Radio telephone

Apparatus and supplies

- Automatic line-switching for L3 carrier. E. C. Thompson. *Il diags Bell Lab Rec* 36:340-3 S '58
- Automatic machine for temperature cycling; testing cable splices. T. C. Ewouds. *Il diag Bell Lab Rec* 36:72-3 F '58
- Automatic 'phone testing. *Il Control Eng* 5:48+ S '58
- Cape Canaveral test center; transmission equipment for submarine cable. P. T. Haury. *Il diag Bell Lab Rec* 36:344-5 S '58
- Electrical protection for transistorized equipment. J. W. Phelps. *Il diags Bell Lab Rec* 36:247-9 Jl '58

- Engineering features and field trial performance of a new subscriber carrier system; five-channel rural open-wire double-sideband stackable system. R. L. Layburn. *Il plan Com & Electronics* p681-7 Ja '58
- Experimental signal for centralized calling. R. T. Jenkins. *Il diags Bell Lab Rec* 36:104-6 Mr '58
- Gating with diodes. H. B. McKay. *diags Radio-Electronics* 29:28-30 Ag '58
- General purpose selective signaling and control system. W. V. K. Large and H. J. Michael. *Il diags Elec Eng* 77:486-91 Je '58
- Japanese speed control. *diag Electronic Ind* 17:94 Ap '58
- Job-shop challenges materials-handling systems; Merrimack valley works, Western electric co. J. E. Mandel. *flow charts diag Mech Eng* 80:77-30 Ap '58
- Limiting the temperature in outside plant housings. H. E. Pawel. *Il diag Bell Lab Rec* 36:95-8 Mr '58
- Magnetic drum automatic telephone equipment. *Il Engineer* 204:836 D 6 '57
- Mechanical features of 561 subscriber carrier. J. E. Ross and O. H. Goldman. *Il Com & Electronics* p677-81 Ja '58
- Microstructure of ceramics for communication equipment. W. F. Janssen and M. D. Rigerink. *bibliog Il Am Cer Soc Bul* 37:152-6 Mr 15 '58
- New auxiliary station signals. R. T. Jenkins. *Il Bell Lab Rec* 36:14-15 Ja '58
- New lab tests systems. *Il Electronics* 31:144-S 12 '58
- New method for cleaning sequence switches. E. B. Mann and H. W. Hermance. *Il Bell Lab Rec* 36:8-9 F '58
- New method for cleaning wire-spring relays. R. W. MacDonald and H. W. Hermance. *Il diag Bell Lab Rec* 36:30-3 Ja '58
- New station apparatus being field-tested. *Il Bell Lab Rec* 36:308 Ag '58
- Organic deposits on precious metal contacts. H. W. Hermance and T. F. Egan. *bibliog Il diags Bell System Tech J* 37:739-76 My '58
- Printed circuits in new telephone design. M. Farr. *Il diags Elec Manuf* 61:196-7+ Ap '58
- Recent developments in telephone equipment. *Electronic Eng* 30:96-7 F '58
- Relay contact behavior under non-eroding circuit conditions. H. J. Keefer and R. H. Gumley. *bibliog Il diags Bell System Tech J* 37:777-814 My '58
- Repair: philosophy and documentation. F. S. Wolpert. *Il Bell Lab Rec* 36:162-5 My '58
- Simulation in engineering. R. R. Riesz and H. D. Irvin. *Il diag Bell Lab Rec* 36:238-41 Jl '58; Abstract. *Machine Design* 30:6+ Jl 24 '58
- Telephone user research; Sibyl. *Electronic Eng* 30:613 O '58
- Tone ringing and pushbutton calling. L. A. Meacham and others. *Il diags Bell System Tech J* 37:339-60 Mr '58
- Transistors for rural telephone systems. I. C. Savadelis. *Il diags Bell Lab Rec* 36:52-5 F '58
- Transmission applications. M. B. McDavitt. *Il diag Bell Lab Rec* 36:207-11 Je '58

See also

Telephone receivers

Crosstalk

- White-noise method of measuring crosstalk and noise interference in multi-channel telephone link systems. J. F. Golding. *diags Electronic Eng* 30:349-51 My '58

Dial telephone

See Telephone, Automatic

Intercommunicating systems

See Intercommunicating systems

Long distance

- Automatic line-switching for L3 carrier. E. C. Thompson. *Il diags Bell Lab Rec* 36:340-3 S '58
- Dial switching of toll circuits in independent telephone company areas; transmission considerations from the direct distance dialing standpoint. J. N. Petrie. *bibliog diags Com & Electronics* p481-5 S '58; Discussion. p783-4 N '58
- Factors affecting the use of over-the-horizon links in telecommunication networks. C. A. Parry. *bibliog diags Com & Electronics* p485-96 S '58
- Magnetic-drum storage system considered for use as a common sender in nation-wide dialing. H. F. May. *Il diags Com & Electronics* p5-10 Mr '58

TELEPHONE—Long distance—*Continued*

- Microwave radio toll systems. E. W. Anderson. *ii* diags Electronic Eng 30:267-71 My '58
- Nation-wide switching of intertoll trunks; transmission considerations. O. F. Wallman. bibliog map diags Com & Electronics p223-9 My '58; Abstract. Elec Eng 77:237 Mr '58; Discussion. Com & Electronics p229-30 My '58
- Simultaneous transmission of television and telephone multiplex over a single microwave channel on the trans-Canada. TD-2 system. H. E. Curtis and others. bibliog map diags Com & Electronics p 185-90 My '58
- Telephone automation. *ii* Wireless World 64:6 Ja '58
- Tropospheric scatter system evaluation. M. Telford. bibliog *ii* diags Brit Inst Radio Eng J 18:511-23 S '58
- Manufacture**
- Optimum tolerance assignment to yield minimum manufacturing cost. D. H. Evans. Bell System Tech J 37:461-84 Mr '58
- Press flexibility boosts output; Automatic electric (Canada) ltd. *ii* Steel 142:128 Mr 10 '58
- Noise**
- Multiple-unit-rectifier motive power; inductive co-ordination considerations on the New York, New Haven & Hartford railroad. L. J. Hibbard and others. maps diags Applications & Ind p416-26; Discussion. 425-6 Ja '58
- Power separation filter for corona testing. N. P. Sheps. *ii* diags A S T M Bul p30-1 My '58
- Patents**
- United States patents issued to International telephone and telegraph system. Elec Com 34:276-7, 342-4 S-D '57; 35 no 1:69-70 '58
- Private wire systems**
- Computers do double duty via telephone. *ii* Oil & Gas J 58:32 Mr 3 '58
- General purpose selective signaling and control system. W. V. K. Large and H. J. Michael. *ii* diags Elec Eng 77:486-91 Je '58
- Transmission aspects of data transmission service using private line voice telephone channels. F. Mertz and D. Mitchell. bibliog diags Bell System Tech J 36:1451-86 N '57
- Radio telephone connection**
- Broadband microwave systems employing u.h.f. triodes. G. W. S. Griffith and B. Wilson. bibliog *ii* diags Electronic Eng 30:297-302 My '58
- Microwave radio toll systems. E. W. Anderson. *ii* diags Electronic Eng 30:267-71 My '58
- Over-the-horizon microwave telephone. Elec Eng 76:1121-2 D '57
- Radio links for ON carrier. C. I. L. Cronburg, jr. and C. W. Schwieger. *ii* diags Bell Lab Rec 36:99-103 Mr '58
- Travelling-wave tubes in communications. R. B. Coulson. *ii* Electronic Eng 30:302-4 My '58
- White Alice, a new radio voice for Alaskan outposts. W. H. Tidd. *ii* map Bell Lab Rec 36:278-83 Ag '58
- White Alice network completed. *ii* Bell Lab Rec 36:184-5 My '58
- White Alice network in operation. *ii* Elec Eng 77:565 Je '58
- White-noise method of measuring crosstalk and noise interference in multi-channel telephone link systems. J. F. Golding. diags Electronic Eng 30:349-51 My '58
- Repeaters**
- Application of negative-impedance repeaters on long rural telephone lines. H. T. Uthlaut, jr. bibliog map diags Com & Electronics p230-4 My '58
- Components for the ocean floor. Engineering 184:696-7 N 29 '57
- Design of valves for submerged telephone cable repeaters. F. H. Reynolds. bibliog *ii* Research 11:310-14 Ak '58
- Determination of moisture permeation rate through polythene cable glands. D. W. Glover and A. J. Cleaver. diags Brit Plastics 31:105-6 Mr '58
- Frequency-converting telephone carrier repeater for military use. G. Goltsoy and others. *ii* diags Com & Electronics p432-6 S '58
- Tooling for precision in machining plastics; telephone cable repeaters; Western electric co. H. A. Lamb and R. R. Scherb. *ii* diags Mach 64:136-41 My '58
- Transistorized negative-impedance telephone repeaters. R. P. Dimmer. bibliog *ii* diags Com & Electronics p305-11 JI '58
- Transistorized repeater for use with the 45BN cable carrier system. V. Babin and R. Fish. *ii* diags Com & Electronics p41-9 Mr '58
- Statistics**
- Telephone statistics of the world. Elec Com 34:337-41 D '57
- Telephone statistics show world trends. Bell Lab Rec 36:77 F '58
- Switching system**
- See Telephone exchanges
- Tables, calculations, etc.**
- Linear least-squares smoothing and prediction, with applications. S. Darlington. bibliog diags Bell System Tech J 37:1221-94 S '58
- Testing**
- Automatic 'phone testing. *ii* Control Eng 5: 48+ S '58
- Alaska**
- White Alice, a new radio voice for Alaskan outposts. W. H. Tidd. *ii* map Bell Lab Rec 36:278-83 Ag '58
- White Alice network completed. *ii* Bell Lab Rec 36:184-5 My '58
- White Alice network in operation. *ii* Elec Eng 77:565 Je '58
- Canada**
- Recent expansion of Canadian overseas telecommunication facilities. R. G. Griffith. bibliog *ii* map diags Eng J 41:35-48+ Ja '58
- Simultaneous transmission of television and telephone multiplex over a single microwave channel on the trans-Canada. TD-2 system. H. E. Curtis and others. bibliog map diags Com & Electronics p 185-90 My '58
- Great Britain**
- New post office cable to the Channel Islands. Electronic Eng 30:574 O '58
- Some aspects of the Preston telephone area; abstract. H. G. Cope. Inst E E Proc 105 pt B:229 My '58
- TELEPHONE, Automatic**
- All-numeral dialing, would users like it? J. E. Karlin. *ii* Bell Lab Rec 36:284-8 Ag '58
- Applications in telephone switching. A. E. Ritchie. *ii* diag Bell Lab Rec 36:212-15 Je '58
- Automatic digital system bills telephone calls. R. C. P. Hinton. *ii* diags Electronics 31: 96-9, cover F 14 '58
- Automatic number identification and its application to no. one crossbar, panel and step-by-step offices. D. H. Pennoyer. *ii* diags Bell System Tech J 37:1295-318 S '58
- Automatic telephone dialing; patent. diag Radio-Electronics 29:112 Je '58
- Automatic testing; editorial. Electronic & Radio Eng 35:39 F '58
- Automatic trunk telephones. *ii* Engineer 204: 758 N 22 '57
- Automatic working in the telephone trunk network. L. L. Tolley. Inst E E Proc 105 pt B:17-18 Ja '58
- Binary symmetric decision feedback systems. B. Harris and K. C. Morgan. Com & Electronics p436-43 S '58
- Concept of automatic number identification; distance-distance customer dialing and automatic billing. A. E. Vitalo. *ii* diag Bell Lab Rec 36:153-6 My '58
- Dial switching of toll circuits in independent telephone company areas; transmission considerations from the direct distance dialing standpoint. J. N. Petrie. bibliog diags Com & Electronics p481-5 S '58; Discussion. p783-4 N '58
- Dial two ways in new systems. *ii* Electronics 31:14+ Ap 25 '58
- Japanese speed control. diag Electronic Ind 17:94 Ap '58
- Line verification in no. 5 crossbar. E. G. Crane, jr. *ii* diags Bell Lab Rec 36:137-41 Ap '58
- Magnetic drum automatic telephone equipment. *ii* Engineer 204:836 D 6 '57
- Magnetic-drum storage system considered for use as a common sender in nation-wide dialing. H. F. May. *ii* diags Com & Electronics p5-10 Mr '58

TELEPHONE, Automatic—Continued

Nation-wide switching of intertoll trunks; transmission considerations. O. F. Wallman. bibliog map diags Com & Electronics p223-9 My '58; Abstract. Elec Eng 77:237 Mr '58; Discussion. Com & Electronics p229-30 My '58

New method for cleaning sequence switches. B. B. Mann and H. W. Hermance. il Bell Lab Rec 36:65-8 F '58

Removing the telephone operator gracefully. il Engineering 184:722 D '57

Systems planning. D. F. Hoth. il diags Bell Lab Rec 36:229-33 Je '58

Telephone automation. il Wireless World 64:6 Ja '58

Towards a fully automatic telephone network. il Engineering 184:760-1 D 13 '57

Maintenance and repair

Trouble recorder. M. Salzer. il diags Bell Lab Rec 36:257-60 Jl '58

TELEPHONE, Carrier current

Automatic line-switching for L3 carrier. E. C. Thompson. il diags Bell Lab Rec 36:340-3 S '58

Communications for overhead cranes; carrier current systems and two-way radio. il diags Mod Materials Handling 13:115-19 F '58

Compander system Z6NC for short-haul carrier telephony. L. Christiansen and others. bibliog il diags Elec Com 35 no 1:23-45 '58

Contribution of statistics to the development program of a transformer for the L3 carrier system. G. J. Levenbach. bibliog flow chart il diags Bell System Tech J 37:23-54 Ja '58

Engineering features and field trial performance of a new subscriber carrier system; five-channel rural open-wire double-side-band stackable system. R. L. Layburn. il plan Com & Electronics p681-7 Ja '58

Extend pilot-wire relay range. C. M. Jackson and W. J. Callin. Elec World 150:56-9 Jl 14 '58

Frequency-converting telephone carrier repeater for military use. G. Goltsos and others. il diags Com & Electronics p432-6 S '58

Insertion loss filter design applied to transistorized carrier system. T. Winkler. bibliog il diags Com & Electronics p619-24 S '58

Mechanical features of 561 subscriber carrier. J. E. Ross and O. H. Goldman. il Com & Electronics p677-81 S '58

New ground strip for electron tubes. A. W. Krueger. il Bell Lab Rec 36:13 Ja '58

Radar video rides microwave link to indicator display; airport surface detection equipment. P. G. Holcombe. il diags Aviation Age 23:78-83 Ja '58

Radio links for QN carrier. C. I. L. Cronburg, Jr. and C. W. Schwieger. il diags Bell Lab Rec 36:99-103 Mr '58

Transistorized repeater for use with the 45BN cable carrier system. V. Babin and E. Fish. il diags Com & Electronics p41-9 Mr '58

TELEPHONE, Military. See Military telephone**TELEPHONE, Submarine**

Cape Canaveral test center; transmission equipment for submarine cable. P. T. Haury. il diag Bell Lab Rec 36:344-5 S '58

Centenary of first transatlantic telephone message. Elec Eng 78:157 D '58

Communication between nations and between peoples. G. Radley. Engineer 205:804-5 My 30 '58

Components for the ocean floor. Engineering 184:696-7 N 29 '57

Design of valves for submerged telephone cable repeaters. F. H. Reynolds. bibliog il Research 11:310-14 Ag '58

Dynamics and kinematics of the laying and recovery of submarine cable. E. E. Zajac. bibliog diags Bell System Tech J 36:1129-207 S '57; Excerpts. Am Soc Naval Eng J 70:531-42 Ag '58

First Anglo-Swedish telephone cable. Engineer 206:267 Ag 15 '58

New post office cable to the Channel Islands. Electronic 30:574 O '58

New submarine cable to Belgium. Electronic Eng 30:397 Je '58

North America to Europe telephone cable. Elec Eng 76:1121 D '57

Recent expansion of Canadian overseas telecommunication facilities. R. G. Griffith. bibliog il map diags Eng J 41:35-43+ Ja '58

Shore operations for European cable completed. il Bell Lab Rec 36:350 S '58

Submarine telephone cable from Britain to Belgium. Engineer 205:512-13 Ap 4 '58

U.S.-Puerto Rico submarine cable planned for service early in 1960. Bell Lab Rec 36:151 Ap '58

TELEPHONE booths

New-style telephone booth. il Bell Lab Rec 36:149 Ap '58

TELEPHONE cables

Communication between nations and between peoples. G. Radley. Engineer 205:804-5 My 30 '58

Conductor wire plated continuously; Point Breeze works of Western electric co. il Steel 142:113+ Mr 24 '58

Dynamics and kinematics of the laying and recovery of submarine cable. E. E. Zajac. bibliog diags Bell System Tech J 36:1129-207 S '57; Excerpts. Am Soc Naval Eng J 70:531-42 Ag '58

Experiments in television over telephone cable facilities. C. R. Kraus. il diags Franklin Inst J 265:1-12 Ja '58

First Anglo-Swedish telephone cable. Engineer 206:267 Ag 15 '58

Study of return losses on loaded trunk cables and methods taken to improve them. G. H. Speake. diags Com & Electronics p201-4 My '58; Abstract. Elec Eng 77:604 Jl '58

Submarine telephone cable from Britain to Belgium. Engineer 205:512-13 Ap 4 '58

See also
Telephone, Submarine

Coaxial cables

Attenuation in continuously loaded coaxial cables. G. Raisbeck. diags Bell System Tech J 37:361-74 Mr '58

Automatic line-switching for L3 carrier. E. C. Thompson. il diags Bell Lab Rec 36:340-3 S '58

Recent expansion of Canadian overseas telecommunication facilities. R. G. Griffith. bibliog il map diags Eng J 41:35-43+ Ja '58

Transmission characteristics of a three-conductor coaxial transmission line with transpositions. G. Raisbeck and J. M. Manley. bibliog il diags Bell System Tech J 37:835-76 Jl '58

Installation

Machine extrudes concrete conduit. H. C. Persons. il Concrete 66:28-32 Jl '58

Joints

Automatic machine for temperature cycling; testing cable splices. T. C. Ewouds. il diag Bell Lab Rec 36:72-3 F '58

Maintenance and repair

Factors influencing the use of pneumatic methods for the location of sheath faults in pressurized telephone cables. E. J. Hooker. bibliog Inst E E Proc 105 pt B: 483-6 S '58

Protection

High-speed pneumatic conveyor system; methods of insulating and sheathing telephone cable; Western electric co. il diag Plastics Tech 4:652+ Jl '58

Sheathing

Brittleness in polyethylene. I. L. Hopkins. il diags Bell Lab Rec 36:5-8, cover Ja '58

Corrosion of lead sheath in manhole water. il map Corrosion 14:45-7 F '58

Determination of moisture permeation rate through polythene cable glands. D. W. Glover and A. J. Cleaver. diags Brit Plastics 31:105-6 Mr '58

Factors influencing the use of pneumatic methods for the location of sheath faults in pressurized telephone cables. E. J. Hooker. bibliog Inst E E Proc 105 pt B: 483-6 S '58

TELEPHONE companies

See also
American telephone and telegraph company
Bell telephone system

Accounting

Computing in the AMA assembler-computer. T. C. Rehm. il diags Bell Lab Rec 36:25-9 Ja '58

Concept of automatic number identification; direct-distance customer dialing and automatic billing. A. E. Vitalo. il diag Bell Lab Rec 36:153-6 My '58

Service

Basis for transmission performance objectives in a telephone communication system. K. MacAdam. Com & Electronics p205-8; Discussion. 208-9 My '58

TELEPHONE exchanges

Applications in telephone switching. A. E. Ritchie. *il* diag Bell Lab Rec 36:212-15 Je '58

Automatic aids to telephone maintenance. Engineering 185:153 Ja 31 '58

Automatic number identification and its application to no. one crossbar, panel and step-by-step offices. D. H. Pennoyer. *il* diag Bell System Tech J 37:1295-318 S '58

Dial switching of toll circuits in independent telephone company areas; transmission considerations from the direct distance dialing standpoint. J. N. Petrie. bibliog diags Com & Electronics p481-5 S '58; Discussion. p783-4 N '58

Experimental switching system using new electronic techniques. A. E. Joel, jr. bibliog *il* diags Bell System Tech J 37:1091-124 S '58

Fundamental concepts in the design of the flying spot store; semipermanent information storage system developed for use in electronic switching system. C. W. Hoover, jr. and others. bibliog diags Bell System Tech J 37:1161-94 S '58

High-speed barrier grid store; experimental electronic telephone switching system. T. S. Greenwood and R. E. Staehler. *il* diags Bell System Tech J 37:1195-220 S '58

Impedance and return loss performance of telephone plant in metropolitan areas. L. E. Bogan. bibliog diags Com & Electronics p257-61 J1 '58; Abstract. Elec Eng 77:225 Mr '58

Janus and switching. J. Meszar. *il* Bell Lab Rec 36:323-8 S '58

Line verification in no. 5 crossbar. E. G. Crane, jr. *il* diags Bell Lab Rec 36:137-41 Ap '58

Loss formulas for homogeneous gradings of the second order in telephone switching employing random hunting. J. Kruithof. diags Elec Com 35 no 1:57-68 '58

Nation-wide switching of intertoll trunks. transmission considerations. O. F. Wallman. bibliog map diags Com & Electronics p223-9 My '58; Abstract. Elec Eng 77:237 Mr '58; Discussion. Com & Electronics p229-30 My '58

New developments in military switching. A. C. Gilmore and others. *il* diags Bell System Tech J 37:375-400 Mr '58

Organic vapor and relay contacts. L. H. Germer and J. L. Smith. *il* Bell Lab Rec 36:122-6 Ap '58

Semiconductor circuit design philosophy for the central control of an electronic switching system. B. J. Yokelson and others. *il* diags Bell System Tech J 37:1125-60 S '58

Station apparatus, power and special systems. W. A. Depp and L. A. Meacham. *il* diag Bell Lab Rec 36:216-20 Ja '58

Study of performance in switching systems. C. Hamilton. *il* Bell Lab Rec 36:133-6 Ap '58

Systems planning. D. F. Hoth. *il* diags Bell Lab Rec 36:229-33 Je '58

Telephone maintenance. Research 11:77 F '58

Telephone switching; old field with a new future. A. E. Joel, jr. *il* Bell Lab Rec 36:1-4 Ja '58

Tone ringing and pushbutton calling. L. A. Meacham and others. *il* diags Bell System Tech J 37:339-60 Mr '58

Transistor circuits for use with gas-filled multi-cathode counter valves; telephone exchange register. J. B. Warman and D. M. Bibb. bibliog *il* diags Electronic Eng 30:136-9 Mr '58; Discussion. 30:508-9 Ag '58

Air conditioning

Maintenance, first cost analyses favor heat pump installation. J. M. Kearney and H. Peters. diags Heating-Piping 30:122-4 Mr '58

Telephone exchange operation improved by air conditioning. *il* Air Cond Heat & Ven 54:65-6 N '57

Equipment

Automatic trunk telephones. *il* Engineer 204: 758 N 22 '57

Portable traffic-usage recorder. G. E. Linehan. *il* diags Bell Lab Rec 36:107-10 Mr '58

Removing the telephone operator gracefully. *il* Engineering 184:722 D 6 '57

Towards a fully automatic telephone network. *il* Engineering 184:760-1 D 13 '57

TELEPHONE in business

Are you phonogenic? Pet Eng 30:A28-9 Ap '58

TELEPHONE laboratories

See also

Bell telephone laboratories

TELEPHONE lines

Line verification in no. 5 crossbar. E. G. Crane, jr. *il* diags Bell Lab Rec 36:137-41 Ap '58

Traffic studies of line concentration. W. S. Hayward, jr. *il* diags Bell Lab Rec 36:56-9 F '58

See also

Telephone cables

Costs

Price breakdown on Wisconsin phone line: unit prices. Eng N 160:82 Ja 16 '58

Manufacture

Cast stainless pumps for corrosive electrolytes; copper plating of steel wire. *il* Eng J 41:89 Mr '58

Rural service

See Telephone service, Rural

Testing

Automatic testing; editorial. Electronic & Radio Eng 35:39 F '58

Multiple-unit-rectifier motive power; inductive co-ordination considerations on the New York, New Haven & Hartford railroad. L. J. Hibbard and others. maps diags Applications & Ind p416-25; Discussion. 425-6 Ja '58

TELEPHONE receivers

Materials for the injection moulding of telephones. *il* Brit Plastics 31:256-7 Je '58

TELEPHONE recorders

Dataphone puts zing in ring. *il* Product Eng 29:26 F 24 '58

Dataphone service in three Bell System areas. *il* Bell Lab Rec 36:148-9 Ap '58

TELEPHONE repeaters. See Telephone-Repeaters**TELEPHONE research**

Improving telephone communications; Post Office research. *il* Engineering 184:497 O 18 '57

Phone conversations are digitized. H. S. MacDonald. *il* Electronics 31:26 F 7 '58

Research in circuits and systems. R. L. Wallace, jr. *il* Bell Lab Rec 36:198-201 Je '58

Telephone user research; Sibyl. Electronic Eng 30:613 O '58

Traffic studies of line concentration. W. S. Hayward, jr. *il* diags Bell Lab Rec 36:56-9 F '58

See also

Bell telephone laboratories

TELEPHONE service, Rural

Application of negative-impedance repeaters on long rural telephone lines. H. T. Uthlaut, jr. bibliog map diags Com & Electronics p230-4 My '58

Engineering features and field trial performance of a new subscriber carrier system; five-channel rural open-wire double-sideband stackable system. R. L. Layburn. *il* plan Com & Electronics p681-8 Ja '58

Mechanical features of 561 subscriber carrier. J. E. Ross and O. H. Goldman. *il* Com & Electronics p677-81 Ja '58

Transistors for rural telephone systems. I. C. Savadelis. *il* diags Bell Lab Rec 36:52-5 F '58

TELEPHONE wire

Electroforming of telephone drop wire conductor. R. J. Bachman. *il* Metal Prog 72: 88-92 N '57

TELEPRINTER. See Teletype**TELESCOPE**

Amateur scientist; making a reflecting telescope. diags Sci Am 199:112-4 J1 '58

Amateur scientist; refracting telescope in which the main lens consists of one piece of glass. C. L. Stong. diags Sci Am 198: 130-2+ My '58

Construction of a reflecting telescope. J. Campbell. *il* diags Research 11:sup8-10 Ap '58

Measurement of monoenergetic neutron yields with a simplified telescope. S. J. Bame, jr. and others. diag R Sci Instr 29:652-3 J1 '58

Navy probes space; balloon carries automatic telescope. *il* Electronics 31:24 Ja 10 '58

Satellite telescope being used by moonwatch groups. Franklin Inst J 264:528 D '57

Servo control for a large optical tracker; ROTI Mark II. M. H. Mehr. *il* diags Control Eng 5:123 Ja '58

TELESCOPE—Continued

Mirrors

Amateur scientist; making the first telescope mirror. F. P. Hughes. *Sci Am* 198:118+ F '58

TELESCOPE, Radio. See Radio telescope

TELETAC. See Deaf, Apparatus for

TELETYPE

Airborne teletypewriter AN/AGC-1. R. A. Michals. *Il diags Com & Electronics* p234-9 My '58; Abstract. *Elec Eng* 77:597 JI '58

Army message printer device is first super-speed combat unit. *Il Elec Eng* 77:766 Ag '58

Army teleprinter hits 2,000 words per minute. *Il Electronics* 31:14 Je 20 '58

Army teletypewriter is world's fastest. *Il Electronic Ind* 17:7 JI '58

Canadian JANET system; single channel radio teletype link. G. W. L. Davis and others. *Il diags Inst Radio Eng Proc* 45: 1666-78 D '57

Communication technique for multipath channels; Rake system. R. Price and P. E. Green, jr. *bibliog* (35 ref) *Il diags Inst Radio Eng Proc* 46:555-70 Mr '58; Discussion. G. D. Hulst. 46:1882 N '58

Dataphone puts zing in ring. *Il Product Eng* 29:26 F 24 '58

Filterless terminal unit for fsk. B. M. Kaufman. *Il diags Q S T* 42:38-40 JI '58

Machines in home office make payrolls and keep costs for remote jobs; F. H. McGraw & co. F. J. McClean. *Il Civil Eng* 28:327-9 My '58

Miniaturized integrated telegraph equipment teleprinter. B. Howard. *bibliog* *Il diags Com & Electronics* p311-15 JI '58

Teletype control communication channels, which is which? E. V. Long. *Gas* 34:139-40 Ag '58

Time-division multiplexing of teleprinter signals. J. Das. *diags Electronic & Radio Eng* 34:458-9 D '57

World-wide IGV data collection; teletype equipment. H. D. Dickstein. *diags Electronic Ind* 17:144-7 Ap '58

TELETYPEWRITER. See Teletype

TELEVISION

Engineering developments; illustrations with text. *Elec Eng* 77:14-16 Ja '58

Future tv possibilities; editorial. H. Gernsback. *Radio-Electronics* 29:31 F '58

Japan tries infrared tv. *Electronics* 30:33 D 20 '57

Random radiations. Published in monthly numbers of *Wireless world*

Using tv signals in v.h.f. propagation studies. C. R. Graf. *Q S T* 42:22-5 F '58

World of wireless. Published in monthly numbers of *Wireless world*

Bibliography

Books. Published in monthly numbers of *Radio-electronics*

Books reviewed. Published in monthly numbers of *Journal of the Society of motion picture and television engineers*

Closed circuit

Economic considerations in closed-circuit television system design. D. Kirk, jr. *diags SMPTE J* 66:661-71 N '57

Experimental signature-verification system. F. K. Eker and J. R. Hefele. *Il diags Bell Lab Rec* 36:41-6 F '58

Production and sales; closed-circuit tv sales to rise. *Electronics* 31:16 JI 25 '58

Television for parade control and field exercises. H. Dakin and others. *Il diags SMPTE J* 67:461-3 JI '58

Television in science and industry. V. K. Zworykin and others. Review. by H. Gernsback. *Radio-Electronics* 29:35 O '58

Using more closed circuit tv. *Il Electronics* 31:49 Mr 7 '58

Visual amplification; specialized application of closed-circuit tv. H. J. Schlafly. *SMPTE J* 67:163-4 Mr '58

Zoom lenses for closed circuit television. F. G. Back. *bibliog*. *SMPTE J* 67:598-9; Discussion. 599-600 S '58

See also

Sales conventions—Television conventions

Television—Industrial applications

Television—Medical applications

Television—Military applications

Television in education

Color

Advanced performance and stability in color tv film channel amplifiers. M. H. Diehl. *Il diags SMPTE J* 66:750-4; Discussion. 754-5 D '57

BBC colour television. *Engineering* 185:832 Je 27 '58

Chroma-Key, an electronic color process photography system. *SMPTE J* 67:210 Mr '58

Devices for making sensitometric exposures on embossed kinescope recording film. E. M. Crane and C. H. Evans. *Il diags SMPTE J* 67:13-16 Ja '58

Flying-spot film scanner for colour television. H. E. Holman and others. *bibliog* *Il diags Inst E E Proc* 105 pt B:317-28; Discussion. 329-30 JI '58

For slide chains, color from black and white. E. W. Lambourne. *Il diags Electronic Ind* 17:supD 2-6 Ap '58

Instantaneous electronic color-film analyzer based on color-television. B. D. Loughlin and others. *Il diags SMPTE J* 67:17-26 Ja '58

Low-cost scenes for color tv; Chroma Key. *Electronics* 31:14 Ap 4 '58

Method for controlling the gray-scale equivalent of colors used in live and filmed television scenic and graphic art. W. J. Wagner. *SMPTE J* 67:369-71; Discussion. 372-3 Je '58

Mobile colour television unit for medical purposes. *Research* 11:232 JI '58

Mobile medical colour television unit. *Electronic Eng* 30:439 JI '58

New gear aids color-tv. *Electronics Bsns ed* 30:36 N 10 '57

New video differential phase and gain equalizer; abstract. J. H. Clark. *diags Elec Eng* 77:476 JI '57

Optics of the lenticular color-film process. R. Kingslake. *bibliog* *diags SMPTE J* 67: 8-13 Ja '58

Progress committee report for 1957; color television; broadcast color tv equipment. *Il SMPTE J* 67:307-8 My '58

Relation between picture size, viewing distance and picture quality with special reference to colour television and spot-wobble techniques. L. C. Jesty. *bibliog* *Il diags Inst E E Proc* 105 pt B:425-34; Discussion. 435-8; Reply. 435-9 S '58

Relay system duplexes audio and color video. T. G. Custin and J. Smith. *Il diags Electronics* 31:64-7 Je 20 '58

Strange world of color vision. R. G. Middleton. *Il diags Radio-Electronics* 29:32-5, cover Ja '58

Televising surgery in colour; mobile unit. *Il Engineering* 185:773 Je 20 '58

Video testing techniques in television broadcasting. A. Ste-Marie. *bibliog* *Il Com & Electronics* p26-33 Mr '58

See also

Television receiving apparatus—Color receivers

History

Engineering origins of television. *bibliog* *Il diags Engineering* 184:546-8 N 1 '57

Industrial applications

Closed-circuit television in the steel industry. G. Dykeman. *Il Instruments & Automation* 31:282-3 F '58

Closed circuit tv used in training nuclear plant operators; Franklin *Inst J* 266:152-3 Ag '58

Closed tv saves time, manpower; Kearny, New Jersey, cable plant of Western electric co. *Il Plant* 17:54 My '58

Experiments in television over telephone cable facilities. C. R. Kraus. *Il diags Franklin Inst J* 265:11-12 Ja '58

Industrial know-how handbook; industrial television. *Il Mill & Factory* 62:E29 My '58

Industrial tv spurs cable insulation process. *Elec World* 149:127 Ap 23 '58

Industry's electronic eye. *Il Steel* 143:31-2 JI 21 '58

Observing dangerous processes by television; remote control of nitro-glycerine production. *Il Engineering* 185:101 Ja 24 '58

Optical measurement of the trash content of ginned cotton. C. Baker and others. *Il diags Textile Res J* 28:510-16 Je '58

Telemation comes of age. S. Holmes. *Il Mill & Factory* 63:93-5 JI '58

Tv aids flow control; Hawaiian sugar plantation of Ewa plantation co. A. Smyser. *Il Food Eng* 30:93 Ja '58

TELEVISION—Industrial applications—Cont.

- Tv camera monitors Jeffrey skips. *Il diag Min Eng* 10:867 Ag '58
- Tv eyes for tough jobs; operation of an automatic riveting machine. *Il Steel* 141:152 N 18 '57
- Television for removing radioactive cart-ridges. *Electronic Eng* 30:585 O '58
- Television for use under rugged environmental conditions. J. P. Day and F. R. Pike. *Il diags SMPTE J* 67:470-2 J1 '58
- Tv helps drill offshore wells. *Il Oil & Gas J* 56:125 Ja 27 '58
- Television helps read seismograms. *Il Oil & Gas J* 56:114 Ap 7 '58
- Tv keeps an eye on atom operations. *Safety Maint* 115:31 F '58
- Tv monitor new aid in seismic interpretation. *Il Pet Eng* 30:174 M '58
- Tv searches inside reactor. *Il Electronics* 31:16+ S 12 '58
- Tv spies on boiler flame at Humble plant. *Il Oil & Gas J* 55:70 N 25 '57
- Tool for quality control; TVX X-ray image intensification system. *Il Steel* 143:42 S 22 '58
- Underground piping checked by portable tv. *Il Eng N* 160:60 Ap 24 '58
- USSR; new tv and oil gear. *Electronics Bsns* ed 30:49 N 10 '57

Medical applications

- Mobile colour television unit for medical purposes. *Research* 11:282 J1 '58
- Mobile medical colour television unit. *Electronic Eng* 30:439 J1 '58
- Progress committee report for 1957; medical. *Il SMPTE J* 67:312 M '58
- Televising surgery in colour; mobile unit. *Il Engineering* 185:773 Je 20 '58
- X-ray viewer demonstrated at medical meeting; EXICON. J. J. Gershon-Cohen, Franklin Inst J 265:96 F '58; Same cond. *Elec Eng* 77:371 Ap '58

Military applications

- Airborne tv system for military reconnaissance. N. Sher and J. F. Fisher. *Il diags Electronics* 31:66-70 M 23 '58
- Military uses of television. *Il diags SMPTE J* 67:441-79 J1 '58
- Progress committee report for 1957; armed forces. *Il SMPTE J* 67:311-12 M '58

Photographic aspects

- Anamorphic television circuit requirements. M. Cawein. *bibliog diags SMPTE J* 67:267-9 Ap '58
- Highlight equalizer sharpens tv pictures. M. V. Sullivan. *Il diags Electronics* 31:72-4 Ja 17 '58
- IRE standards on television; measurement of luminance signal levels, 1958. *diags Inst Radio Eng Proc* 46:482-6 F '58 (reprints 60c)
- Low-cost scenes for color tv; Chroma Key. *Electronics* 31:44 Ap 4 '58
- Masks improve picture contrast. F. L. Burroughs and J. T. Jans. *diag Electronics* 31:76+ Ap 25 '58
- Method for controlling the gray-scale equivalent of colors used in live and filmed television scenic and graphic art. W. J. Wagner. *SMPTE J* 67:369-71; Discussion. 372-3 Je '58
- Method of measuring the optical sine-wave spatial spectrum of television image display devices; Kinescope. O. H. Schade. *Il diags SMPTE J* 67:561-6 S '58
- Relation between picture size, viewing distance and picture quality with special reference to colour television and spot-wobble techniques. L. C. Jesty. *bibliog Il diags Inst E E Proc* 105 pt B:425-34; Discussion. 435-8; Reply. 438-9 S '58
- Resolution chart aids tv camera focusing. G. Southworth. *Il Electronics* 31:100-1 F 14 '58
- Subjective sharpness of television pictures. W. N. Sproson. *bibliog Il Electronic & Radio Eng* 35:124-32 Ap '58; Discussion. N. W. Lewis. 35:196 M '58
- Television receiver picture-area losses. C. L. Townsend. *diags SMPTE J* 66:758-9 D '57

Reception**See Television reception****Scientific applications**

- Some aspects of the application of television to the tracking of guided missiles. H. L. Roberts. *bibliog SMPTE J* 67:475-6; Discussion. 477 J1 '58

- Television viewing of rocket engine tests. J. P. Mitchell. *Il diag SMPTE J* 67:473-4 J1 '58

Standards

- IRE standards on television; measurement of luminance signal levels, 1958. *diags Inst Radio Eng Proc* 46:482-6 F '58 (reprints 60c); Correction. 46:1417 J1 '58
- Monochrome television film standards. K. B. Benson and J. R. Whittaker. *Il diag SMPTE J* 67:1-5 Ja '58
- Supplement to IRE standards on receivers; methods of measurement of interference output of television receivers in the range of 300 to 10,000 kc, 1954 (standard 54 IRE 17.S1). *diags Inst Radio Eng Proc* 46:1418-20 J1 '58 (reprints 50c)
- TELEVISION, Submarine**
- Tv helps drill offshore wells. *Il Oil & Gas J* 56:125 Ja 27 '58
- Underwater eye has remote controls. *Il diag Product Eng* 29:66 M 26 '58

TELEVISION advertising

- Cosmetics on television. *Drug & Cosmetic Ind* 82:756+ Je '58
- Deadline for decision; fate of gas industry tv sponsorship hangs in the balance. *Am Gas Assn Mo* 40:2-3 Ap '58
- Gas stars in Hollywood. *Il Am Gas Assn Mo* 40:6-8 Mr '58

TELEVISION aids to aviation

- Flight data displayed on flat tv tube in jet cockpit; illustrations with text. *Machine Design* 30:113 Ja 9 '58
- Radar information is converted to television signal; SPANRAD system. *Il diag Elec Eng* 77:365-6 Ap '58

- TELEVISION allocations study organization**
- Systems approach to determination of television coverage; concept integrates information useful to the FCC. R. M. Bowie. *diags Elec Eng* 77:129-32 F '58
- Television allocations study organization. G. R. Town. *Elec Eng* 77:126-8 F '58

TELEVISION antennas

- Choosing a multistep coupler. D. H. Rogers. *Il diags Radio-Electronics* 29:82+ O '58
- Multicoupler nomograph for tv antenna networks; reference sheet. A. Paolantonio. *diags Electronics* 31:86 M 23 '58
- New look in indoor antennas. L. Steckler. *Il diags Radio-Electronics* 29:84 Je '58
- Radio show review; aerials. *Il diags Wireless World* 64:474-6 O '58
- Simple antenna matching indicator. J. Zelle. *diags Electronic Ind* 17:supO 5-7 Ja '58
- Television aerials for bands IV and V; advantages of the corner reflector design for u.h.f. G. R. W. Strafford. *diags Wireless World* 64:11-13 Ja '58
- Wrap-around antenna developed. H. G. Towilson. *Elec Eng* 77:857 S '58

Multiple outlet system

- Community tv outside FCC. *Electronics* 31:18 Ap 25 '58

Rotators

- Fix that rotator. H. L. Davidson. *Il diags Radio-Electronics* 29:49-50 Ja '58

Testing

- Measuring tv aerial performance. F. R. W. Strafford. *Il diags Wireless World* 64:67-9, 120-3, 294-3 F-Mr Je '58

TELEVISION apparatus

- Manufacturers' products; new electronic equipment and accessories. Published in monthly numbers of *Wireless world*
- Television for use under rugged environmental conditions. J. P. Day and F. R. Pike. *Il diags SMPTE J* 67:470-2 J1 '58

See also

- Television cameras
- Television receiving apparatus

Exhibitions

- Components exhibition. London, April 14-18. *Il diags Wireless World* 64:269-75 Je '58
- National radio show. Aug. 27-Sept. 6. *Il Electronic & Radio Eng* 35:338-9 S '58
- National radio show. London, Aug. 27-Sept. 6; list of exhibitors and floor plans. *Il diag Wireless World* 64:410-25 S '58
- National radio show. 25th. London. *Brit Inst Radio Eng J* 18:561-2 S '58
- Physical society's exhibition. *Il Wireless World* 64:219-25 M '58
- Radio show. London. *Engineer* 206:384 S 5 '58
- Radio show review. *Il diags Wireless World* 64:474-83 O '58

TELEVISION apparatus—Exhibitions—Cont.
 Supermarket for engineers; Radio engineering show. New York. Electronics 31:23-5 Mr 21 '58
 Television society exhibition 1958. il diag Wireless World 64:160-1 Ap '58

Testing

Method of measuring the optical sine-wave spatial spectrum of television image display devices; kinescopes. O. H. Schade. il diags SMPTE J 67:561-6 S '58

TELEVISION apparatus industry
 Company closes tv tube factory; Raytheon. Electronics 31:29 F 7 '58
 Price discrimination in wholesale and retail sales. A. W. Gray. Audio 42:60-1 F '58

Directories

Electronic industries directory, 1958. Electronic Ind 17:213-405 Je '58

Securities

Shares and prices; closed-circuit tv manufacturers. Electronics 31:5 F 7 '58

Statistics

1957-1958 statistics of the radio-tv-electronic industries. Electronic Ind 17:14-16+ Je '58
 Production and sales; color tv sales. Electronics 31:18 Ja 24 '58
 Production and sales; by first-set market nears saturation. Electronics 31:25 Mr 21 '58
 Statistics of the radio-tv-electronic industries, 1957-1958. Electronic Ind 17:58-60 Ja '58

TELEVISION apparatus on aircraft
 Airborne closed-loop television system. A. F. Placco. il SMPTE J 67:47-9 J1 '58
 Airborne tv system for military reconnaissance. N. Sher and J. F. Fisher. il diags Electronics 31:66-70 My 23 '58
 New directions in aircraft instrumentation. G. W. Hoover and others. il diags SMPTE J 67:452-60 J1 '58
 New instrument panel has tv-type display. il Electronic Ind 16:12 D '57
 Pictorial cockpit display cuts down pilot error. G. W. Hoover. il diags Aviation Age 29:32-9 Je '58
 Picture worth a thousand dials. il Product Eng 28:21 N 4 '57
 Pilots get tv map. il Electronics 31:26 Mr 7 '58
 Tv display lets pilot see ground position. E. Kovit. il diag Aviation Age 29:148-9 Ap '58

TELEVISION broadcasting
 Live tv uses vidicon chains. Electronics 31:44 Je 13 '58
 One-band idea stirs tv groups. Electronics 31:36 J1 25 '58
 Progress committee report for 1957; television networks. SMPTE J 67:307 My '58

Educational programs

AIME Carlsbad potash section produces tv educational series. Min Eng 10:391 Mr '58
 Physics goes Nation-wide via tv. il Chem & Eng N 36:132+ O 6 '58
 Science explorers invade tv. il Chem & Eng N 36:74-5 F 10 '58

Finance

See also
 Television broadcasting—Subscription programs

International aspects

Future trends in multi-video films for international television. L. Shelly. SMPTE J 67:143 Mr '58
 NARCOM plan for transatlantic television and other wideband telecommunication services. W. S. Halstead. bibliog il maps diags SMPTE J 67:134-8 Mr '58
 Progress committee report for 1957; progress in other countries. il maps diags SMPTE J 67:312-39 My '58

Laws and regulations

See Television laws and regulations

Moving pictures

Advanced performance and stability in color tv film channel amplifiers. M. H. Diehl. il diags SMPTE J 66:750-4; Discussion. 754-5 D '57
 Automatic cuing of television film projectors. B. F. Melchionni. il diags SMPTE J 67:92-4 F '58

Automatic television film editing; Inspect-O-Film Editor. R. Grunwald and R. Wallace. il diags SMPTE J 67:397-400 Je '58
 Film in television. R. J. Ross. SMPTE J 67:374-8 Je '58
 Laboratory practices on films for television. SMPTE J 67:6-7 Ja '58
 Method for controlling the gray-scale equivalent of colors used in live and filmed television scenic and graphic art. W. J. Wagner. SMPTE J 67:369-71; Discussion. 372-3 Je '58
 Method of measuring the optical sine-wave spatial spectrum of television image display devices; kinescopes. O. H. Schade. il diags SMPTE J 67:561-6 S '58
 Monochrome television film standards. K. B. Benson and J. R. Whittaker. il diag SMPTE J 67:1-5 Ja '58
 Optics of the lenticular color-film process. R. Kingslake. bibliog diags SMPTE J 67:8-13 Ja '58
 Progress committee report for 1957; kinescope recording. SMPTE J 67:308-4 My '58
 Technical and production problems in military television recordings; kinescope. N. Gray. SMPTE J 67:463-4 J1 '58

Foreign versions

Future trends in multi-video films for international television. L. Shelly. SMPTE J 67:143 Mr '58
 Methods of translating used in bilingual films. M. G. Kosarin. SMPTE J 67:139-40 Mr '58

Multiplex system

Compatible tv multiplexing system. il diags Electronic Ind 17:88-9 Mr '58
 Dual picture television transmission developed. il diags Elec Eng 77:469-70 My '58

Opera

Opera on tv. H. Lawrence. Audio 42:64-5 My '58

Program control

Automatic gain control in television automation. M. H. Diehl and others. diags SMPTE J 66:765-7 D '57
 Automatic program control for television broadcasting. A. C. Angus. il diags SMPTE J 66:746-9 D '57

Program rating

Tv gets instant ratings. Electronics 31:48 Ja 10 '58

Program recording

Automatic announcing techniques for television stations; magnetic tape recordings. R. A. Isberg. il diags SMPTE J 67:87-91 F '58
 Britain's new tv tape recorder; VERA. il Radio-Electronics 29:45 J1 '58
 B.B.C.'s video magnetic tape recorder; VERA. il Wireless World 64:207 My '58
 Devices for making sensitometric exposures on embossed kinescope recording film. E. M. Crane and C. H. Evans. il diags SMPTE J 67:13-16 Ja '58
 Magnetic recording of television programmes. il diag Brit Inst Radio Eng J 18:273-6 My '58
 Progress committee report for 1957; video tape recording and reproduction. SMPTE J 67:304 My '58
 Record television pictures magnetically. il Engineering 185:512 Ap 18 '58
 Rise seen in taped tv. Electronics 31:44 S 19 '58
 16mm. telerecorder. il Electronic Eng 30:127 Mr '58
 Survey of automation and the applications of tape recording in broadcasting and telecasting; abstract. R. A. Isberg. Inst Radio Eng Proc 46:669 Mr '58
 Tv nets swing to tape. Electronics Bsns ed 30:31 N 20 '57

Television tape recorder; new magnetic system for sound and vision; vision electronic recording apparatus system. il diag Electronic & Radio Eng 35:193-5 My '58
 Tv tapes top 100 mark. Electronics 31:54 Mr 21 '58
 Three-track tv tape system. Electronics 31:24 J1 25 '58
 Videotape for tv; video tape takes over from kinescope. il Ind & Eng Chem 50:sup32A-3A S '58
 Video tape recording; demonstration of the Ampex vr1000 equipment. il diag Wireless World 64:362-3 Ag '58
 Vision electronic recording apparatus. il Engineer 205:591 Ap 18 '58
 VERA; new equipment for recording television signals on magnetic tape. il diag Electronic Eng 30:378-9 Je '58

TELEVISION broadcasting—Continued

Programs

Behind-scenes tv wins top award. *il Elec World* 150:90 Ag 18 '58

See also

Television broadcasting—Subscription programs

Science programs

See Television broadcasting—Educational programs

Slide films

For slide chains, color from black and white. E. W. Lambourne. *il diags Electronic Eng* 17:supO 2-5 Ap '58

Subscription programs

Air pay-tv trials banned. *Electronics* 31:46 Mr 7 '58

Economic considerations in closed-circuit television system design. D. Kirk, jr. *diags SMPTE J* 66:661-71 N '57

Pay-tv groups go cable. *Electronics Bsns* ed 30:45 N 10 '57

Subscription-tv in the Far East. *il SMPTE J* 66:716+ N '57

Test patterns

Video testing techniques in television broadcasting. A. Ste-Marie. *bibliog il Com & Electronics* p26-33 Mr '58

Australia

Progress committee report for 1957; Australia. *il SMPTE J* 67:313-14 My '58

Canada

Case history of bilingual telecasting in Canada. J. Landry. *SMPTE J* 67:141-2 Mr '58

Progress committee report for 1957; Canada. *SMPTE J* 67:314 My '58

Simultaneous transmission of television and telephone multiplex over a single microwave channel on the trans-Canada TD-2 system. H. E. Curtis and others. *bibliog map diag Com & Electronics* p 185-90 My '58

Television backbone of Canada. *il map diags Eng J* 41:77-83 Jl '58

China

Progress committee report for 1957; Chinese peoples republic. *il SMPTE J* 67:315-16 My '58

Red China readies tv gear. *Electronics* 31:36 Ap 18 '58

Europe

Problems of international television broadcasting; Eurovision. T. H. Bridgewater. *il map SMPTE J* 67:129-33 Mr '58

Progress committee report for 1957; television in Europe. *il SMPTE J* 67:309-10 My '58

Far East

Progress committee report for 1957; Far East. *SMPTE J* 67:317 My '58

Subscription-tv in the Far East. *il SMPTE J* 66:716+ N '57

Germany

Progress committee report for 1957; Germany (West German Republic). *il SMPTE J* 67:318-20 My '58

Great Britain

Band-V signal strength: investigation of reception conditions along two routes radiating from London. A. Hale. *il Wireless World* 64:162-3 Ap '58

B.B.C. band V experimental television transmissions. *il diag Engineer* 204:797-8 N 29 '57

B.B.C. colour television. *Engineering* 185:832 Je 27 '58

BBC high power experimental u.h.f. television transmissions. *il diag Electronic Eng* 30:44-5 Ja '58

B.B.C. statistics. *Wireless World* 64:138 Mr '58

Building round a flowline; B.B.C. television centre. *il plan Engineering* 185:362-3 Mr 21 '58

Chillerton Down television station. *Isle of Wight. il Engineer* 206:340-1 Ag 29 '58

567 lines: alternative standard for British television? P. T. Weston. *diags Wireless World* 64:442-3 S '58

Progress committee report for 1957; Great Britain. *il SMPTE J* 67:320-4 My '58

Television from the Isle of Wight: ITA transmitter linked to Southampton studio. *il Engineering* 186:385 S 19 '58

U.K. television: review of 1957. *il maps Wireless World* 64:86-7 F '58

Italy

Progress committee report for 1957; Italy. *il map SMPTE J* 67:324-8 My '58

Japan

Progress committee report for 1957; Japan. *il map diag SMPTE J* 67:328-34 My '58

Russia

Progress committee report for 1957; U.S.S.R. *il SMPTE J* 67:336-8 My '58

Scotland

Television links on cable. *Brit Inst Radio Eng J* 18:116 F '58

Sweden

Progress committee report for 1957; Sweden. *il diag SMPTE J* 67:335-6 My '58

Yugoslavia

British television equipment for Yugoslavia. *Electronic Eng* 30:275 My '58

TELEVISION cabinets

Better cabinets for tv portables; reinforced plastics, either as premix or preformed; are standing up to all tests. *il Mod Plastics* 36:110-11 S '58

Fiber glass television cabinet uses built-in design factors. *il Elec Manuf* 61:149 Mr '58

Packard Bell's high grade finish on tv cabinets. F. G. Simmons. *il Ind Finishing* 34:66-8+ Mr '58

Putting the finish on tv and hi fi cabinets. C. S. Hudson. *il Ind Finishing* 34:62-4+ D '57

TELEVISION cameras

Automatic sensitivity control for industrial television camera. *il Wireless World* 64:329-30 Jl '58

Chocolate bar modules in camera. *il Electronics* 31:106 Jl 18 '58

Concentric pin-tooth wheels adjust tv camera lens. *il diag Machine Design* 29:148 N 14 '57

Electronic bore-hole camera for tv projection. K. John. *il diags Civil Eng* 28:197-8 Mr '58

Electronic system for reducing image orthicon sticking. L. Hooker. *il diags Electronic Ind* 16:supO 6-7+ D '57

Improved developmental one-inch vidicon for television cameras. L. D. Miller and B. H. Vine. *il SMPTE J* 67:154-6 Mr '58

Intensifier orthicon tube for night reconnaissance. *il Electronics* 31:98 Jl 18 '58

Light television camera. *il Engineer* 206:307-8 Ag 22 '58

Live tv uses vidicon chains. *Electronics* 31:44 Je 13 '58

Motion doubles tube life; image orthicon tubes. *Electronics* 31:42 Ja 24 '58

New series of lenses for vidicon-type cameras. J. D. Hayes. *il diags SMPTE J* 67:593-5 S '58

Pickup tube performance with slow scanning rates; image orthicons and vidicons. C. T. Shelton and H. W. Stewart. *diags SMPTE J* 67:441-51 Jl '58

Resolution chart aids tv camera focusing. G. Southworth. *il Electronics* 31:100-1 F 14 '58

Satellite's eye needs tv retina. *Electronics* 31:8+ My 9 '58

Single-unit cc-tv camera costs \$1200. *Electronic Ind* 17:152 My '58

Some new structure-type targets for the Vidicon; analysis of their operation. S. A. Ochs and P. K. Weimer. *diags RCA R* 19:49-61 Mr '58

Vidicon camera lenses. G. H. Cook. *diags SMPTE J* 67:596-8 S '58

TELEVISION circuits

Automatic gain control circuits in television receivers for negative modulation systems. P. L. Mothersole. *diags Brit Inst Radio Eng J* 18:307-16 My '58

New circuits in tv tuners. E. D. Lucas, jr. *il diags Radio-Electronics* 29:43-5 Ag; 56-8 S '58

New video differential phase and gain equalizer; abstract. J. H. Clark. *diags Elec Eng* 76:1075 D '57

Radio-electronic circuits. *diags Published in monthly numbers of Radio-electronics*

Some aspects of the performance of television mains-hold circuits. R. D. A. Maurice. *diags Electronic Eng* 30:447-54 Jl '58

TELEVISION education. See Television in education

TELEVISION engineers, Society of motion picture and. See Society of motion picture and television engineers

TELEVISION in education

Chicago public schools television instruction experiment in high school physics. M. D. Engelhart and others. *Am J Phys* 26:347-9 S '58

Classroom tv makes grade. *il Electronics* 31: 19 Jm 24 '58

Closed circuit tv at Penn State. *il Radio-Electronics* 29:106 Ap '58

Closed-circuit television at the New York trade school. *il Elec Eng* 77:556-7 Je '58

Elementary school closed-circuit television. *Elec Eng* 76:1123 D '57

How television is helping to improve education. *il Gen Elec R* 61:29-32 S '58

Progress committee report for 1957; educational motion pictures and television. *bibliog SMPTE J* 67:339-40 My '58

Put science to work in teaching. *il Chem & Eng N* 36:64-6 My 19 '58

Remote control carrier systems in two-way closed-circuit educational tv. J. R. Martin and others. *il diags Elec Eng* 77:304-6 Ap '58

School tv eyes new horizons. *Electronics* 30: 39 D 10 '57

Television in Washington County schools. Hagerstown. Md. J. R. Brugger. *il SMPTE J* 66:680-2; Discussion. 682 N '57

Television systems for in-school teaching. M. H. Kraus. *bibliog il diags Com & Electronics* p406-11 S '58

Television: technological revolution in education? H. Zorbaugh. *bibliog il SMPTE J* 66:671-6 N '57

Washington County educational closed-circuit television network, 1956-1957. W. C. Warman. *il maps SMPTE J* 66:677-9 N '57

See also

Television broadcasting—Educational programs

TELEVISION in health education

Television that annual report; make it an educational tool for health department and the community. S. R. Christensen. *Am J Pub Health* 48:918-21 J1 '58

TELEVISION industry

See also

Society of motion picture and television engineers

Television apparatus industry

TELEVISION interference. See **Television transmission—Interference**

TELEVISION laws and regulations

Private tv links win approval. *Electronics* 31:36 S 5 '58

TELEVISION projection

Forward projection in the home; converting a rear-projection television chassis. A. G. Tucker. *il diags Wireless World* 64:139-41 Mr '58

Medium screen color television projection. S. L. Bendell and W. J. Neely. *il SMPTE J* 67:166-8 Mr '58

Survey of large-screen television projection equipment. F. N. Gillette. *diags SMPTE J* 67:164-6 Mr '58

TELEVISION receiving apparatus

Anamorphic television circuit requirements. M. Carwein. *bibliog diags SMPTE J* 67:267-9 Ap '58

British flat-face cathode ray tube. *Elec Manuf* 61:10 My '58

British work on flat tv tube. *il Electronics* 31:96 Je 20 '58

Cutoff voltage characteristics of tv picture tubes. W. F. Niklas. *Inst Radio Eng Proc* 46:1539 Ag '58

ELF, a new electroluminescent display. E. A. Sack. *diags Inst Radio Eng Proc* 46: 1694-9 O '58

Efficiency-diode scanning circuits. K. G. Beauchamp. *bibliog il diags Electronic Eng* 30:490-7, 549-56 Ag-S '58

Forward projection in the home; converting a rear-projection television chassis. A. G. Tucker. *il diags Wireless World* 64:139-41 Mr '58

Highlight equalizer sharpens tv pictures. M. V. Sullivan. *il diags Electronics* 31:72-4 Ja 17 '58

Home music sales to rise; tv, radio and phonograph designs. *Electronics* 31:17 S 5 '58

Improved tv picture and set styling. *il Electronics* 31:102 My 9 '58

Improvements to the high-accuracy logarithmic receiver. R. T. Stevens. *diags Inst Radio Eng Proc* 45:1733-9 D '57

Improving the deflection amplifier. C. Droppa. *il diags Electronic Ind* 17:76-9 My '58

Looking in on London; how to convert an old receiver to pick up European stations. H. B. Smith. *il diags Radio-Electronics* 29:52-5 S '58

Masks improve picture contrast. F. L. Burroughs and J. T. Jans. *diags Electronics* 31: 76-+ Ap 25 '58

More about auxiliary circuits; vertical output circuit. C. J. Garrett. *il diags Radio-Electronics* 29:36-7 Ja '58

More crosshatch generators. R. G. Middleton. *il Radio-Electronics* 29:43-5 J1 '58

More lines for tv? *Engineering* 186:64 J1 11 '58

New high-transconductance electron gun for kinescopes. J. W. Schwartz. *diags RCA R* 19:232-43 Je '58

New tv tube does three jobs. F. Hadrick. *il diags Radio-Electronics* 29:102-3 Ap '58

On-the-wall television progress; Elf screen. E. A. Sack. *Elec Eng* 77:562-3 Je '58

Panel 1/4 in. thick may replace tv tube. *il diags Materials in Design Eng* 48:154-+ J1 '58

Pittsburgh Plate develops new tv tube. *diags Glass Ind* 39:490 S '58

Pulse-cross modification of tv receivers. H. E. O'Kelley. *il diags Electronics* 31:54-5 F 28 '58

Radio show review; television. *il diags Wireless World* 64:476-80 O '58

Reception on band V; circuit techniques for the ultra high frequencies. *diags Wireless World* 64:7-10 Ja '58

Sound development. *il Engineering* 186:323 S 5 '58

Survey of large-screen television projection equipment. F. N. Gillette. *diags SMPTE J* 67:164-6 Mr '58

Tv receivers substitute for marine radar. C. Baroccio. *Electronics* 31:92-4 Ja '58

Television reception on band V, u.h.f. converter with signal frequency amplification. H. N. Gant. *il diags Wireless World* 64:244-6 My '58

U.h.f. in U.S.A. J. Darr. *il Wireless World* 64:63-6 F '58

See also

Television cabinets

Color receivers

B.E.C. colour television tests. *Brit Inst Radio Eng J* 18:446 J1 '58

Colour receiver development. *Wireless World* 64:358 Ag '58

Color selection with the chromotron tube. L. W. Allen. *il diags Radio-Electronics* 29: 115-18 Ap '58

Colour television receiver development. *Electronic Eng* 30:139 J1 '58

Design and development of the 21CYP22 21-inch glass color picture tube. C. P. Smith and others. *diags RCA R* 19:334-48 S '58

Etched i-f amplifier pares color tv cost. L. Ruth. *il diags Electronics* 31:135-7 Mr 14 '58

Facts and fallacies in color tv service. R. G. Middleton. *Radio-Electronics* 29:86-7 Je '58

Flat-field generator speeds color tv testing. R. W. Cook. *il diags Electronics* 30:139-41 D 1 '57

Gabor television tube. *diags Research* 11:209-10 Je '58

Harmonics work for you in new convergence circuit. R. G. Middleton. *il diags Radio-Electronics* 29:91-+ O '58

Medium screen color television projection. S. L. Bendell and W. J. Neely. *il SMPTE J* 67:166-8 Mr '58

New cathode-ray tube for monochrome and colour. D. Gabor and others. *il diags Engineering* 185:620-3 My 16 '58; *Engineer* 205: 733-5 My 16 '58

Portable color tv system will operate from batteries. *Machine Design* 30:28 S 4 '58

Stabilized monitor for color television picture quality control. E. E. Glovstein and N. P. Kellaway. *il diags SMPTE J* 67:157-62 Mr '58

Standards set for color tv. *Electronics* 31:8-+ S 12 '58

Tv service clinic; color picture analysis. R. G. Middleton. *diags Radio-Electronics* 29: 96-8 Mr '58

Troubleshooting color tv receivers. W. J. Cerveny. *il diags Radio-Electronics* 29: 46-7 Ag '58

Control

Automatic gain control for television receivers. R. H. Skinner. *diags Wireless World* 64:486-90 O '58

Controls, controls, controls. R. G. Middleton. *diags Radio-Electronics* 29:80-3 F '58

TELEVISION receiving apparatus—Control—*Continued*

- Line current controls remote tv receiver. J. R. Barker and C. H. Wood, jr. diags Electronics 31:68-9 Ag 15 '58
 Plastic tube extends control parts shafts. Electronics 31:94-5 JI 4 '58
 Signals through house wiring used to control tv set. II diag Machine Design 30:125 Ap 17 '58

Design

- Design of detector stages for signals with symmetrical or asymmetrical sidebands. A. van Weel. bibliog diags Brit Inst Radio Eng J 18:525-38 S '58

Failure

- Reliability invades commercial tubes. II Electronic Ind 17:72+ S '58

Maintenance and repair

- Compleat tv repairman. H. A. Highstone. Radio-Electronics 29:78-9 F '58
 Controls, controls, controls. R. G. Middleton. diags Radio-Electronics 29:30-3 F '58
 Economy test tube. D. Meyer. II Radio-Electronics 29:57 Mr '58
 Facts and fallacies in color tv service. R. G. Middleton. Radio-Electronics 29:86-7 Je '58
 Horizontal ringing. J. Dines. II diags Radio-Electronics 29:37-9 JI '58
 Identify that chassis. J. Darr. Radio-Electronics 29:35-7 Je '58
 New tubes made easy job a dog. J. M. Ford. diags Radio-Electronics 29:47 Ag '58
 Servicing fuse-resistor circuits. H. Bowden. II diags Radio-Electronics 29:86+ Ag '58
 Servicing stacked B-supply systems. J. A. McRoberts. II diag Radio-Electronics 29:86 Mr '58
 Speaking of dogs; you can save a lot of work by fixing the audio first. H. M. Layden. diags Radio-Electronics 29:107-8 My '58
 Sync-circuit subber. W. G. Eslick. II diag Radio-Electronics 29:96+ S '58
 Synchro trouble shooting. J. E. Hickey, jr. diags Electronic Ind 17:69 Mr '58
 Taming the horizontal oscillator; multi vibrator type. W. E. Lemons. diags Radio-Electronics 29:94-5 Ap '58
 Technotes. diags Published in monthly numbers of Radio-electronics
 Tv service clinic. diags Published in monthly numbers of Radio-electronics
 Troubleshooting color tv receivers. W. J. Cerveny. II diags Radio-Electronics 29:46-7 Ag '58
 Valves galore; series-heater circuits. J. Darr. Wireless World 64:195-7 Ap '58
 Watch out for these jokers! H. M. Layden. diags Radio-Electronics 29:92+ Mr '58

See also

- Television service shops
 Television servicemen

Manufacture

- Mass production techniques for television tuners. P. C. Ganderton. II diags Brit Inst Radio Eng J 18:331-40; Discussion. bibliog 349-57 Je '58
 Sealing the window and cone of television tubes. A. E. Edens. II diags Glass Ind 33:534-8 O '58
 Some aspects of television tuner production. S. H. Perry. II diag Brit Inst Radio Eng J 18:341-5; Discussion. bibliog 349-57 Je '58
 Triangular chassis cuts tv production costs. W. R. Petrick and L. R. Travis. II Electronics 31:108+ My 23 '58
 Turret tuner construction for mass-production. R. W. Ellingham. Brit Inst Radio Eng J 18:348; Discussion. bibliog 349-57 Je '58

Protection

- Suppressing television bright spot; protecting receiver screens. E. M. Kenny. II diags Wireless World 64:137-8 Mr '58; Discussion. B. G. Scott. 64:328 JI '58

Standards

- Standards set for color tv. Electronics 31:8+ S 12 '58

Testing

- Economy test tube. D. Meyer. II Radio-Electronics 29:57 Mr '58
 Flat-field generator speeds color tv testing. R. W. Cook. II diags Electronics 30:139-41 D 1 '57
 Performance of uhf and vhf transmitting and receiving equipment. W. J. Morlock and W. O. Swinyard. II map diag Elec Eng 77:226-31 Mr '58

Supplement to IRE standards on receivers; methods of measurement of interference output of television receivers in the range of 300 to 10,000 kc, 1954 (standard 54 IRE 17.S1). diags Inst Radio Eng Proc 46:1418-20 JI '58 (reprints 50c)

- Television analyst. R. G. Middleton. II diag Radio-Electronics 29:87-8+ Mr '58
 Testing horizontal deflection tubes. G. M. Lankard. II diags Electronic Ind 17:78-80+ S '58

Transistor receivers

- All-transistor tv is announced. II Electronics 31:30 Ja 24 '58
 Portable tv uses 31 transistors. E. Taylor. Electronics 31:16 Ja 17 '58
 Transistor television circuits. J. N. Barry and G. W. Secker. bibliog II diags Wireless World 64:154-8, 231-5 Ap-May '58
 Transistors in the tv set. L. E. Garner, jr. bibliog II diags Radio-Electronics 29:88+ My; 93+ Je '58

Tuning

- Automatic fine tuning is here. S. Libes. diags Radio-Electronics 29:58-9 F '58
 Bar-V on a turret tuner; adapting an existing band I, band III front end for u.h.f. television. P. R. Stutz. II diags Wireless World 64:14-16 Ja '58
 Comparison of turret-type and switch-type television tuners. V. A. Jones. Brit Inst Radio Eng J 18:346-7; Discussion. bibliog 349-57 Je '58
 Conrac Fleetwood model 800 remote control television receiver. II Audio 42:52-4 Mr '58
 Mass production techniques for television tuners. P. C. Ganderton. II diags Brit Inst Radio Eng J 18:331-40; Discussion. bibliog 349-57 Je '58
 New circuits in tv tuners. E. D. Lucas, jr. II diags Radio-Electronics 29:43-5 Ag; 56-8 S '58
 Some aspects of television tuner production. S. H. Perry. II diag Brit Inst Radio Eng J 18:341-5; Discussion. bibliog 349-57 Je '58
 Sound signal tunes tv automatically. C. W. Baugh, jr. and L. J. Sienkiewicz. II diags Electronics 31:54-8 Ap 25 '58
 Turret tuner construction for mass-production. R. W. Ellingham. Brit Inst Radio Eng J 18:348; Discussion. bibliog 349-57 Je '58
 Ultrasonic cones select tv channels. N. Frihart and J. Krakora. II diags Electronics 31:63-9 Je 6 '58

TELEVISION receiving apparatus, Portable

- All-transistor tv is announced. II Electronics 31:30 Ja 24 '58
 Beautiful backs; portable tv sets. II Mod Plastics 35:125 Je '58
 Portable color tv system will operate from batteries. Machine Design 30:28 S 4 '58
 Portable tv uses 31 transistors. E. Taylor. Electronics 31:16 Ja 17 '58

TELEVISION reception

- Band-V signal strength; investigation of reception conditions along two routes radiating from London. A. Hale. II Wireless World 64:162-3 Ap '58

- Looking in on London; how to convert an old receiver to pick up European stations. H. B. Smith. II diags Radio-Electronics 29:52-5 S '58

- Tv dx. R. B. Cooper, jr. II Radio-Electronics 29:41-2 Ja; 95 Mr; 88-9 Je; 46 JI; 61+ S 58

TELEVISION relay systems

- All-travelling-wave tube systems; projected London to Norwich television radio relay. S. Fedida. bibliog diags Electronic Eng 30:283-90 My '58

- British television equipment for Yugoslavia. Electronic Eng 30:275 My '58

- Broadband microwave systems employing u.h.f. triodes. G. W. S. Griffith and B. Wilson. bibliog II diags Electronic Eng 30:297-302 My '58

- NARCOM plan for transatlantic television and other wideband telecommunication services. W. S. Halstead. bibliog II maps diags SMPT E J 67:134-8 Mr '58

- Portable u.h.f.-s.h.f. links in the BBC television service. T. H. Bridgewater. II map diags Electronic Eng 30:291-6 My '58

- Private tv links win approval. Electronics 31:36 S 5 '58

- Reds plan Sputnik tv-relay. Electronics 31:34 S 5 '58

- Relay system duplexes audio and color video. T. G. Custin and J. Smith. II diags Electronics 31:64-7 Je 20 '58

TELEVISION relay systems—Continued

- 6,000-megacycle-per-second radio relay system for broad-band long-haul service in the Bell system. M. B. McDavitt, bibliog. il map diags Com & Electronics 2715-22 Ja '58
- Survey of microwave radio communication. W. J. Bray, bibliog. il map diags Electronic Eng 30:226-36 My '58
- Television backbone of Canada, il map diags Eng J 41:77-83 Jl '58
- Television links on cable, Brit Inst Radio Eng J 18:116 F '58
- Television relay, il Engineering 185:800 Je 20 '58
- Tv translators on upswing, Electronics 30:31 D 20 '57
- Waveform testing methods for television links, A. R. A. Rendall, diags Electronic & Radio Eng 34:451-3 D '57
- Wide-band ultrahigh-frequency over-the-horizon equipment, R. A. Felsenheld and others, bibliog. il diags Com & Electronics p86-93 Mr '58

Testing

- Pulse-and-bar waveform generator for testing television links, I. F. Macdiarmid and B. Phillips, bibliog. il diags Inst E E Proc 105 pt B:440-8 S '58

TELEVISION research

- Army television research and development, W. A. Huber and R. B. Le Vins, il SMPTE J 67:465-9 Jl '58
- Computer simulation chain for research on picture coding; abstract, R. E. Graham and J. L. Kelly, jr, il Bell Lab Rec 36:349 S '58

TELEVISION service shops

- Try this one, il diags Published in monthly numbers of Radio-electronics

TELEVISION servicemen

- Service technician and client; editorial, H. Gernsback, Radio-Electronics 29:25 Jl '58
- Technicians' news, Published in monthly numbers of Radio-electronics

TELEVISION stations

- Independent television authority station in Isle of Wight, Brit Inst Radio Eng J 18: 549-50 S '58

See also**Television towers****Directories**

- Television station list, M. Schiller, comp., Radio-Electronics 29:40-1 Ja '58

Equipment

- Automatic gain control in television automation, M. H. Diehl and others, diags SMPTE J 66:755-7 D '57
- Automatic program control for television broadcasting, A. C. Angus, il diags SMPTE J 66:746-9 D '57
- Chillerton Down, medium-powered station for the south of England, il map Wireless World 64:470-1 O '58
- Chillerton Down television station, Isle of Wight, il Engineer 206:340-1 Ag 29 '58
- For slide chains, color from black and white, E. W. Lambourn, il diags Electronic Ind 17:supO 2-5 Ap '58
- Independent television authority station in the Isle of Wight, il Electronic Eng 30: 604-5 O '58
- Pushbutton tv stations? Electronics 31:52 My 16 '58
- Television from the Isle of Wight; ITA transmitter linked to Southampton studio, il Engineering 186:385 S 19 '58
- Translators, television's last frontier, R. B. Cooper, jr, il diags Radio-Electronics 29: 40-2 Jl '58

See also**Television antennas
Television transmitters****TELEVISION studios**

- Building round a flowline; B.B.C. television centre, il plan Engineering 185:362-3 Mr 21 '58

Designs and plans

- B.B.C. television centre; features of Europe's largest tv headquarters, il plans Wireless World 64:484-5 O '58

Electric equipment

- Unattended studio at Southampton, il Wireless World 64:405 S '58

Equipment

- Automatic announcing techniques for television stations; magnetic tape recordings, R. A. Isberg, il diags SMPTE J 67:87-91 F '58

- Automatic television film editing; Inspect-O-Film Editor, R. Grunwald and R. Wallace, il diags SMPTE J 67:397-400 Je '58
- B.B.C. television centre; features of Europe's largest tv headquarters, il plans Wireless World 64:484-5 O '58
- Flying-spot film scanner for colour television, H. E. Holman and others, bibliog. il diags Inst E E Proc 105 pt B:317-28; Discussion, 329-30 Jl '58
- Progress committee report for 1957; studio set construction, il SMPTE J 67:306 My '58
- Television in Washington County schools, Hagerstown, Md. J. R. Brugger, il SMPTE J 66:680-2; Discussion, 682 N '57
- VERA; new equipment for recording television signals on magnetic tape, il diags Electronic Eng 30:378-9 Je '58

Lighting

- Design improvements in high-wattage tungsten filament lamps for motion-picture and television studios, L. G. Leighton and A. Makulec, il SMPTE J 67:530-3 Ag '58
- Electric control of stage and television lighting, F. P. Benham, il diags Inst E E Proc 105 pt A:128-38; Discussion, 138-40 Ap '58
- Progress committee report for 1957; motion-picture and tv lighting, il diags SMPTE J 67:304-6 My '58
- Recommended practice for reporting photometric performance of incandescent filament lighting units used in theatre and television production, diags Illum Eng 53: 516-20 S '58; Same, SMPTE J 67:606-10 S '58
- Simple disconnecting means results in easy maintenance of high-bay lighting units; NBC's tv center, diags Elec Constr & Maint 57:116+ Ja '58

TELEVISION towers

- Britain's television tower, il Mech Eng 80:106 Mr '58
- Crystal Palace television tower, il Engineering 185:246-7 E 21 '58
- Design of multi-level guyed towers; structural analysis, E. Cohen and H. Perrin, bibliog. diags Am Soc C E Proc 83 [ST 5 no 1356]:1-29 S '57; Discussion, 84 [ST 2 no 1576]:33-7 Mr '58 [ST 3 no 1656]:33-8 My '58; Reply, 84 [ST 7 no 1857]:21-4 N '58
- Design of multi-level guyed towers; wind loading, E. Cohen and H. Perrin, bibliog. il diags Am Soc C E Proc 83 [ST 5 no 1356]: 1-29 S '57; Discussion, H. S. Saffir, 84 [ST 2 no 1576]:31-2 Mr '58; Reply, 84 [ST 7 no 1857]:13-19 S '58

Testing

- Television tower tests at Crystal Palace, Wireless World 64:138 Mr '58

TELEVISION transmission

- B.B.C. band V experimental television transmissions, il diags Engineer 204:797-8 N 29 '57
- BBC high power experimental u.h.f. television transmissions, il diags Electronic Eng 30:44-5 Ja '58
- B.B.C. ultra-high-frequency transmissions, Engineer 204:645 N 1 '57
- Comparison of four television standards; British, American, French, European, R. D. A. Maurice, bibliog. diags Electronic & Radio Eng 34:416-21 N '57; Correction, 35:75-6 F '58
- Experiments in television over telephone cable facilities, C. R. Kraus, il diags Franklin Inst J 265:1-12 Ja '58
- 567 lines; alternative standard for British television? P. T. Weston, diags Wireless World 64:442-3 S '58
- Improved television standards converter; better pictures from the B.B.C.'s Eurovision equipment, T. Worswick, il Wireless World 64:443-4 S '58
- IRE standards on television; measurement of luminance signal levels, 1958, diags Inst Radio Eng Proc 46:482-6 R '58 (reprints 60c); Correction, 46:1417 Jl '58
- Measurement of television field strength, H. T. Head, il Elec Eng 77:298-302 Ap '58
- Navy telecasts from 82,000 ft, Electronics 31: 106 Ap 11 '58
- System reduces tv bandwidth, Electronics 31: 106 Ap 11 '58
- Systems approach to determination of television coverage; Taso's systems concept integrates information useful to the FCC, R. M. Bowie, diags Elec Eng 77:129-32 F '58
- U.h.f. in U.S.A., J. Darr, il Wireless World 64:63-6 F '58

TELEVISION transmission—Continued

Waveform testing methods for television links. A. R. A. Rendall, *diags Electronic & Radio Eng* 34:451-3 D '57

See also

Television relay systems

Frequency allocation

Ultra high frequency television. *Engineering* 184:718 D 6 '57

See also

Television allocations study organization

Interference

Aircraft simulator for television signals. M. C. Gander and P. L. Mothersole, *il diags Electronic Eng* 30:408-13 J1 '58

Conductive paint halts tv interference. P. A. Bullock, *Elec World* 149:66 My 12 '58

Detection of asymmetric sideband signals in the presence of noise. T. Murakami and R. W. Sonnenfeldt, *bibliog diags RCA R* 19:388-417 S '58

Paralleled resistors cause tv. J. A. McRoberts, *diags Radio-Electronics* 29:39 J1 '58

Radio paging system causes tv. J. A. Lenton, *Radio-Electronics* 29:69 F '58

Supplement to IRE standards on receivers; methods of measurement of interference output of television receivers in the range of 300 to 10,000 kc, 1954 (standard 94 IRE 17.S1), *diags Inst Radio Eng Proc* 46:1418-20 J1 '58 (reprints 50c)

Use of vertical polarization to solve uhf television ghosting problems in a shadowed valley. D. W. Peterson, *il map RCA R* 19:208-15 Je '58

Multiplex system

Simultaneous transmission of television and telephone multiplex over a single microwave channel on the trans-Canada TD-2 system. H. E. Curtis and others, *bibliog map diag Com & Electronics* p 186-90 My '58

TELEVISION transmitters

Folkstone's television transmitter; conversion from Dover's channel two to channel four without demodulation. *il diag Wireless World* 64:404-5 S '58

I.T.A. St Hilary station; details of the Pye transmitter. *il Wireless World* 64:114 Mr '58

Monovibrator has fast recovery time. A. I. Aronson and C. F. Chong, *il diags Electronics* 30:158-9 D 1 '57

Television translator. *diag Electronic Eng* 30:540 S '58

Translators, television's last frontier. R. B. Cooper, Jr., *il diags Radio-Electronics* 29:40-2 J1 '58

Use of vertical polarization to solve uhf television ghosting problems in a shadowed valley. D. W. Peterson, *il map RCA R* 19:208-15 Je '58

Vhf tv transmitter for low power operation. R. S. Jose, *il diag Electronic Ind* 17:supO 2-3+ F '58

Testing

Performance of uhf and vhf transmitting and receiving equipment. W. J. Morlock and W. O. Swinyard, *il map diag Elec Eng* 77:226-31 Mr '58

TELEVISION transmitters, Portable

Portable u.h.f.-s.h.f. links in the BBC television service. T. H. Bridgewater, *il map diags Electronic Eng* 30:291-6 My '58

Television hand camera. *il Engineering* 185:453 Ap 11 '58

Transistorised television transmitter. *il Engineering* 205:516 Ap 4 '58

TELLURIDES

Synthesis of selenides and tellurides; the reduction of selenites by hydrazine. W. C. Benzing and others, *Am Chem Soc J* 80:2657-9 Je 5 '58

TELLURIUM, Molten

Vapor pressure of liquid tellurium. R. E. Machol and E. Westrum, Jr., *bibliog Am Chem Soc J* 80:2950-2 Je 20 '58

TELLURIUM oxides**Physiological effect**

Tellurium oxide; an animal study in acute toxicity. M. L. Amdur, *bibliog A M A Archives Ind Health* 17:665-7 Je '58

TELLUROMETER. See Radar—Surveying use

TELUOMERIZATION. See Polymerization

TELOMERS. See Polymers

TEMPERATURE

Absorbance of liquid water and deuterium oxide between 0.6 and 1.8 microns; comparison of absorbance and effect of temperature. W. C. Waggener, *bibliog Anal Chem* 30:1569-70 S '58

Analysis of equilibrium operating temperatures of railroad journal bearings. W. M. Keller and G. L. Pigman, *Lub Eng* 14:108-15 Mr '58

Apparent temperatures of some terrestrial materials and the sun at 4.3-millimeter wavelengths. A. W. Srairson and others, *bibliog il diag J Ap Phys* 29:776-82 My '58

Automatic machine for temperature cycling; testing cable splices. T. C. Ewouds, *il diag Bell Lab Rec* 36:72-3 F '58

Axial-temperature-gradient bending stresses in tubes. E. G. Hammitt, *diags J Ap Mech* 25:109-14 Mr '58

Bore-surface temperature variation during rapid firing of a 40-mm gun. W. H. Gledit and D. L. Rall, *diag Jet Propulsion* 28:116-19 F '58

Catalytic heater tube temperatures. A. Dollsteinberg, *il diags Pet Refiner* 36:165-9 D '57

Calculation of theoretical flame temperatures in furnaces. J. W. Myers and others, *bibliog A S M E Trans* 80:202-16 Ja '58

Diffusion in ethylene polymers; effects of temperature and pressure. D. W. McCall and W. P. Slichter, *bibliog Am Chem Soc J* 80:1861-8 Ap 20 '58

Effect of temperature on the rate of creep failure for 66 nylon. B. D. Coleman and others, *bibliog diag Textile Res J* 28:393-9 My '58

Effect of temperature, pressure, acidity and solvent on an aquo ion exchange reaction. H. R. Hunt and H. Taube, *bibliog Am Chem Soc J* 80:2642-6 Je 5 '58

Effects of heated discharges on the temperature of the Thames estuary. A. J. H. Gameson and others, *bibliog Engineer* 204:316-19, 850-2, 893-6 D 6-20 '57

Estimation of temperature patterns in multiply-shielded systems. J. G. Bartas and E. Mayer, *diags A S M E Trans* 79:1722-6 N '57

Experimental study of dc corona at high temperatures and pressures. J. B. Thomas and E. Wong, *bibliog diag J Ap Phys* 29:1226-30 Ag '58

Experimental velocity and temperature profiles for air in turbulent pipe flow. C. A. Sleicher, Jr., *bibliog (52 titles) flow diag il diags A S M E Trans* 80:693-702; Discussion, 702-4 Ap '58

Exploratory studies of high temperature gas-liquid chromatography. J. L. Ogilvie and others, *bibliog flow diag il Anal Chem* 30:25-7 Ja '58

Fischer-Tropsch synthesis with iron catalysts; effect of reaction temperature on product composition. D. Gall and P. J. Kipping, *bibliog Inst Pet J* 44:243-52 Ag '58

High temperature lubricant studies. E. E. Klaus and M. R. Fenske, *flow diag il diags Lub Eng* 14:266-73 Je '58

High-temperature measurements at the National bureau of standards; measuring, generating high temperatures and determining high temperature properties of materials. *bibliog il Glass Ind* 39:480-1+ S '58

Influence of pressure and temperature on oil viscosity in thrust bearings. B. Sternlicht, *diags A S M E Trans* 80:1108-12 J1 '58

International activities in the temperature classification of electrical insulating materials. L. J. Berberich and K. N. Mathes, *bibliog Power Apparatus & Systems* p69-73 Ap '58

Limiting the temperature in outside plant housing. H. E. Pawel, *il diag Bell Lab Rec* 36:95-8 Mr '58

Lower process temperature ups BaO quality. *il Chem Eng* 65:56+ O 6 '58

Magnetic resonance of ferrites with a compensation temperature. J. Pauleve, *bibliog J Ap Phys* 29:259-63 Mr '58

New temperature-aging data on aluminum-clad copper wire. C. L. Carlson, *Elec Manuf* 62:11 S '58

Noise and electron temperatures of some cold cathode argon discharges. E. W. Collings, *bibliog J Ap Phys* 29:1215-19 Ag '58

Performance of permanent magnets at elevated temperatures. W. H. Roberts, *J Ap Phys* 29:405-7 Mr '58

TEMPERATURE—Continued

- Predicting effects of temperature and shear rate on viscosity index—improved lubricants. H. H. Horowitz, bibliog Ind & Eng Chem 50:1089-94 J1 '58
- Pressure-volume-temperature properties of fluorobenzene. D. B. Douslin and others, bibliog diags Am Chem Soc J 80:2031-8 My 5 '58
- Protective atmospheres for high-temperature bearing operation, abstract. C. H. Bailey and others, Machine Design 30:194 Ap 3 '58
- Rate of temperature change of simple shapes. V. Paschakis and J. W. Hlinka, bibliog A S M E Trans 79:1742-8; Discussion, 1748-50 N '57
- Reactions of diolefins at high temperatures: kinetics of the cyclization of 3,7-dimethyl-1,6-octadiene. W. D. Huntsman and T. H. Curry, bibliog Am Chem Soc J 80:2252-4 My 5 '58
- Shear-zone temperature in metal cutting and its effects on shear-flow stress. D. Kececioglu, bibliog diag A S M E Trans 80:541-6 Ap '58
- Some effects of wind and temperature gradients on the design of missile flight control systems. M. W. Lifson, Aero/Space Eng 17:40-52 S '58
- Some high-pressure, high-temperature apparatus design considerations: equipment for use at 100 000 atmospheres and 3000°C. H. T. Hall, bibliog il diags R Sci Instr 29:257-78 Ap '58
- South Pole temperature observations. H. Hoinkes, Elec Eng 77:474-5 My '58
- Still quicker temperature conversions. Chem Eng 65:176 My 19 '58
- Temperature compensation. S. J. Axel, Electronic Ind 17:73 S '58
- Temperature conversions. R. Wellsand, Electronic Ind 17:65 Ag '58
- Temperature dependence of ferromagnetic anisotropy. W. J. Carr, jr. bibliog J Ap Phys 29:436-7 Mr '58
- Temperature dependence of magnetic properties of silicon-iron. C. W. Chen, bibliog diags J Ap Phys 29:1337-43 S '58
- Temperature dependence of microwave permeabilities for polycrystalline ferrite and garnet materials. J. Nemarich and J. C. Cacheris, bibliog J Ap Phys 29:474-6 Mr '58
- Temperature dependence of the absorption of ultrasound in a nickel single crystal from 77° to 650°K. F. G. West, bibliog J Ap Phys 29:480-2 Mr '58
- Temperature-dependent equations of state of solids. J. J. Gilvarry, bibliog (40 refs) J Ap Phys 28:1253-61 N '57
- Temperature distribution at tool-chip and tool-work interface in metal cutting. B. T. Chao and K. J. Trigger, bibliog diags A S M E Trans 80:311-18; Discussion, 318-20 F '58
- Temperature inequalities in the electrolytic tank. A. Platt and J. F. Norbury, Roy Aeronautical Soc J 62:456 Je '58
- Temperature rise vs current rise of etched wiring lines. R. E. Noble, il diag Elec Manuf 62:93-7 J1 '58
- Temperature transients in a supersonic blow-down wind tunnel. L. E. Leavy, Roy Aeronautical Soc J 62:598-9 Ag '58
- Temperature transients in gas-cooled thermal nuclear reactors. J. H. Bowen and E. F. O. Masters, diags Inst E E Proc 105 pt B: 337-48; Discussion, 365-9 J1 '58
- Temperature-zoned reactor. F. H. Clark, and C. N. Klahr, flow diag Nucleonics 16:114-17 My '58; Discussion, G. B. Melese, 16:129 Ag '58
- Temperatures and depth of formation of sulfide ore deposits at Gilman, Colo. T. G. Lovering, bibliog map Econ Geol 53: 689-707 S '58
- Thermal expansion apparatus with a silicon carbide dilatometer for temperatures to 1500°C. S. D. Mark, jr. and R. C. Emanuelson, bibliog il diags Am Cer Soc Bul 37:193-6 Ap 15 '58
- Thermal restoration of oxygenated germanium surfaces. A. J. Rosenberg and others, bibliog diags J Ap Phys 29:771-5 My '58
- Tire abrasion at different temperatures. G. J. van Amerongen and others, Rubber Chem & Tech 31:650-4 J1 '58
- Transient interface temperatures in plain peripheral milling. D. E. McFeron and B. T. Chao, bibliog il diags A S M E Trans 80:321-9 F '58
- Ultrasonic interferometer for the measurement of the temperature dependence of elastic constants. R. P. Espinola and P. C. Waterman, bibliog diags J Ap Phys 29: 718-21 Ap '58
- Viscosity-pressure effect on friction and temperature in a journal bearing. S. J. Needs, A S M E Trans 80:1099-102; Discussion, H. A. Hartung, 1102-3 J1 '58

See also

Air conditioning
Concrete—Temperature effect
Cooling
Curie point
Earth temperature
Electric cables—Temperature
Heat
Ocean temperature
Petroleum—Well temperature
Soil temperature
Temperature, Low
Thermal analysis
Transistors—Temperature effect
Ventilation
Water—Temperature

Measurement

Accurate measurement of temperature. J. A. Hall, bibliog diags Research 11:147-51 Ap '58

Apparatus for pressures of 27,000 bars and temperatures of 1400°C. F. Birch and others, bibliog diags Ind & Eng Chem 49:1965-6 D '57

Automatic temperature scanning equipment. il Metallurgia 58:89 Ag '58

Close-tolerance temperature tests, diag Electronics 31:86+ Je 20 '58

Error in temperature measurement due to the interdiffusion at the hot junction of a thermocouple. A. J. Mortlock, bibliog diags J Sci Instr 35:283-4 Ag '58

Experimental measurement of metal-cutting temperature distributions. G. S. Reichenbach, bibliog il diags A S M E Trans 80: 525-36; Discussion, 536-40 Ap '58

Measurements at 750 F; breeder reactors. Electronics 31:40 Mr 21 '58

Measuring pump efficiencies by thermometry. J. V. H. Holt, Engineering 135:501 Ap 18 '58

Method for determining thermal conductivity at high temperatures. C. L. Longmire, diag R Sci Instr 28:904-6 N '57

Methods and systems used for temperature measurement. E. A. Farber, diags Air Cond Heat & Ven 55:76-8 J1 '58

One way to measure temperature of hydraulic lines. J. H. Famme, il diag Product Eng 29:58 Mr 3 '58

Recent developments in temperature measurement and control; abstract. T. Land, Metal Prog 73:144+ F '58

Resistance thermometer bridge for measurement of temperatures in the liquid helium range. C. Blake and others, diag R Sci Instr 29:715-16 Ag '58

Saturated temperature indicator, an aid for operation testing. L. R. Smith, il diag Refrig Eng 66:56+ My '58

Temperature determination in flames by X-ray absorption using a radioactive source. G. J. Mullaney, bibliog il diags R Sci Instr 29:87-91 F '58

Temperature measurement devices. Soap & Chem Spec 34:147 Ja '58

Temperature measurement in solids; thermistors, resistance elements, thermocouples. W. H. Giedt, il diags Product Eng 29:55-7 J1 21 '58

Temperature measurement with thermistors. J. C. Anderson, il diags Electronic & Radio Eng 35:80-4 Mr '58

Temperature recorder points doubled. R. J. Zellner, diags Chem Eng 65:154 F 24 '58

Temperature rise of dry-type transformers. A. A. Halacsy, bibliog diags Power Apparatus & Systems 4456-60; Discussion, 460-2 Ag '58

Thermal conductivity apparatus for operation near room temperature. J. T. Gier and others, diags Refrig Eng 66:39-42 Mr '58

Use of a constant current hot wire for the measurement of extreme temperatures. S. A. Hoenig, bibliog R Sci Instr 29:704-5 Ag '58

Use of an electro-optical method to determine detonation temperatures in high explosives. F. C. Gibson and others, bibliog il J Ap Phys 29:628-32 Ap '58

TEMPERATURE—Measurement—Continued

Which temperature measuring elements should we use? answers. *diag Power* 102: 130+ My '58

See also

Bolometers
Calorimeters and calorimetry
Pyrometers and pyrometry
Thermocouples
Thermometers and thermometry
Thermopiles

Physiological effect

Kinetics of bacterial inactivation by heat. S. E. Charm. *bibliog* *il Food Tech* 12:4-8 Ja '58

Man and his thermal environment; based on papers by A. H. Woodcock and others. *il diags Mech Eng* 79:1029-36 N '57; Same. *Am Soc Naval Eng J* 70:331-9 My '58

See also

Cold—Physiological effect

Regulation

Automatic temperature regulation and recording in precision adiabatic calorimetry. E. D. West and D. C. Ginnings. *bibliog* *il diags R Sci Instr* 28:1070-4 D '57

How to find thermal equilibrium in space. R. E. Hess and A. E. Weller. *diag Aviation Age* 30:174-80 Ak '58

Mold temperature control; why and how. R. W. Clark. *il diags Mod Plastics* 35:144+ D '57

New combustion process for temperature uniformity in heat treating furnaces. F. C. T. Daniels and S. Stasko. *plans diags Iron & Steel Engr* 35:85-90; Discussion. 90-1 JI '58

Recent developments in temperature measurement and control; abstract. T. Land. *Metal Prog* 73:114+ F '58

Temperature control installations in Boston; abstract. F. C. Meyer. *Air Cond Heat & Ven* 55:80 JI '58

Temperature in operating room remotely regulated by surgeon. *il Refrig Eng* 65:64 N '57

Tests demand constant temperatures; stress-rupture and creep testing. *il Steel* 143:77 S 1 '58

See also

Cryostats

Thermistats

TEMPERATURE, Animal and human

Biotechnical problem of the human body as a heat exchanger. L. P. Herrington. *A S M E Trans* 80:343-6 F '58

Blood heat exchanger. *il Mech Eng* 80:102-3 Mr '58

TEMPERATURE, Low

Apparatus for measurement of thermal conductivity of solids at low temperatures. R. L. Powell and others. *bibliog* *il diags J Res Nat Bur Stand* 59:349-55 N '57

Brittleness temperature testing of elastomers and plastics. A. C. Webber. *bibliog diags A S T M Bul* p40-4 Ja '58

Calibration drift of mercury thermometers repeatedly cooled to -30°C. W. I. Martin and others. *bibliog A S T M Bul* p62-4 JI '58

Cobalt metal as a low-temperature heat reservoir. C. V. Heer and R. A. Erickson. *bibliog R Sci Instr* 29:440 My '58

Coercive force of iron oxide micropowders at low temperatures. H. Morrish and L. A. K. Watt. *bibliog diags J Ap Phys* 29:1029-33 JI '58

Comparison of instruments used to determine the suitability of elastomers for low temperature service. M. Hamok and others. *bibliog (64 ref)* *il diags Rubber Age* 81:100-12; 82:275-85 Ap N '57

Creating test atmospheres at -260° F; portable laboratory cold flask. M. J. Brown and G. V. Thompson. *il diags A S T M Bul* p59-61 JI '58

Cryogenic electromagnets; feasibility study. H. L. Laquer and E. F. Hammel. *bibliog diag R Sci Instr* 28:875-8 N '57

Cryogenic electronics. J. Holahan. *il diags Aviation Age* 28:174-6+ Mr '58

Cryogenics, a hot trail to cold facts. *diag Product Eng* 28:16 D 2 '57

Cryogenics; big new market for aluminum. D. Fabun. *il Mod Metals* 14:54-8+ Ak '58

Current regulator to facilitate resistance measurements at low temperature. M. W. Thompson. *diag J Sci Instr* 34:515 D '57

Design of simple resistance thermometer bridges for wide-range control of low temperatures. R. D. Goodwin. *bibliog diags R Sci Instr* 29:497-501 Je '58

Determining viscosity of liquefied gaseous hydrocarbons at low temperatures and high pressures. G. W. Swift and others. *il diags Chem Eng Prog* 54:47-50 Je '58

Electrical contact resistance of copper-copper junctions at low temperatures. R. L. Powell and A. A. Aboud. *diag R Sci Instr* 29:248-9 Mr '58

Electrically insulated thermally conducting vacuum seal for low-temperature use. C. J. Meehan and A. Sosin. *diag R Sci Instr* 29:323 Ap '58

Electronic ac mutual inductance bridge for measuring small susceptibilities at low temperatures. W. L. Pillinger and others. *bibliog diags R Sci Instr* 29:159-62 F '58

Epoxy resins as cryogenic structural adhesives. K. M. McClintock and M. J. Hiza. *il Mod Plastics* 35:172-4+ Je '58; Abstract. *Elec Manuf* 61:10 Je '58

Filtration cut-off for use at low temperatures. P. J. H. Carnell and G. W. A. Fowles. *diag J Sci Instr* 35:227 Je '58

Freezing materials to free their secrets. *il Product Eng* 29:10 S 8 '58

Glass Dewars for optical studies at low temperatures. L. J. Schoen and others. *bibliog diags R Sci Instr* 29:633-8 JI '58

Helium vapor-pressure scale of temperatures. F. G. Brickwedde. *bibliog Phys Today* 11: 23-5 Ap '58

High Q quartz crystals at low temperatures. D. L. White. *il J Ap Phys* 29:856-7 My '58

Internal friction in aluminum at low temperatures. A. J. Filmer and others. *bibliog J Ap Phys* 29:146-8 F '58

International conference on low temperature physics and chemistry. 5th. Madison, Wis. Aug. 26-31. *Phys Today* 11:12-25 Mr '58

Investigation of low-temperature internal friction. H. L. Caswell. *bibliog J Ap Phys* 29:1210-14 Ak '58

Kinetics of low temperature metal-catalysed hydrocarbon oxidation. C. E. H. Bawn and D. P. Moran. *bibliog Inst Pet J* 44:230-5 S '58

Low-temperature attachment for a single-crystal equi-inclination Weissenberg goniometer. J. Fridrichsons and A. M. Mathieson. *bibliog il R Sci Instr* 29:784-5 S '58

Low-temperature brittleness testing of polyethylene. P. N. Bestelink and S. Turner. *il diags A S T M Bul* p68-73 JI '58

Low-temperature burst tests of flash-welded line pipe. M. A. Scheil and others. *il Eng J* 41:64-71 Mr '58

Low-temperature camera for X-ray diffractometer. L. K. Jetter and others. *bibliog diags R Sci Instr* 28:1087-8 D '57

Low temperature cracking test for plasticized polyvinyl chloride. D. Wormald. *il diags Brit Plastics* 31:392-5+ S '58

Low temperature distillation of hydrogen isotopes. K. D. Timmerhaus and others. *bibliog flow diags il diags Chem Eng Prog* 54:35-46 Je '58

Low temperature evaporation plus energy economy. J. A. Cross. *il diags Chem Eng Prog* 54:132+ Ap '58

Low-temperature explosions of mixtures of potassium perchlorate with some combustible substances. J. Grodzinski. *bibliog J Ap Chem* 8:623-8 Ak '58

Low temperature heat capacities and enthalpies at 298.15° K. of some oxides of gallium, germanium, molybdenum and niobium. E. G. King. *bibliog Am Chem Soc J* 80:1799-800 Ap 20 '58

Low temperature irradiation of n-type germanium. J. W. Cleland and J. H. Crawford, Jr. *bibliog J Ap Phys* 29:149-51 F '58

Low temperature liquid phase oxidation of hydrocarbons; a literature survey. F. Morton and R. T. T. Bell. *bibliog diags Inst Pet J* 44:260-72 S '58

Low temperature properties of 80 per cent cis-polybutadiene. H. E. Kallsback and Q. L. Morris. *bibliog Rubber World* 138: 75-80+ cover Ap '58

Low temperature research station, Cambridge. *il Chem & Ind* p717 Je 14 '58

Low-temperature spin-wave resonance at 3000 and 4000 mc/sec in a permalloy having nearly zero magnetocrystalline anisotropy. J. R. Weertman and G. T. Rado. *J Ap Phys* 29:328-9 Mr '58

Low-temperature tests on rubbers. F. H. Edwards. *Engineering* 185:113 Ja 24 '58

Low-temperature thermal conductivity in neutron irradiated vitreous silica. A. F. Cohen. *bibliog J Ap Phys* 29:591-3 Mr '58

TEMPERATURE, Low—Continued

Low-temperature thermal conductivity of some commercial coppers. R. L. Powell and others. *bibliog diag J Ap Phys* 28:1282-8 N '57

Mechanical properties of nickel alloys at low temperatures; tables. *Product Eng* 28:B9 Mid-O '57

Nature of electrical resistivity of the ferromagnetic metals at low temperatures. E. Kondorsky and others. *bibliog J Ap Phys* 29:243-6 Mr '58

Nuclear orientation and nuclear cooling; first Fritz London address. N. Kurtl, *bibliog* (28 ref) *diags Phys Today* 11:19-25 Mr '58

Production of a square temperature wave in filaments operating at low temperatures. R. Klein and J. A. Simpson. *bibliog diags R Sci Instr* 29:770-3 S '58

Reciprocating expansion engine can generate super cold temperatures. W. A. Morain. *il diags Plant* 17:37-9 Je '58; Same, with tables. *Iron & Steel Eng* 35:130+ Je '58

Some aspects of preyield phenomena in mild steel at low temperatures; abstract. W. S. Owen and others. *Metal Prog* 72:212+ N '57

Some mechanical properties of Mylar and Dacron polyester strands at low temperatures. R. P. Reed and R. P. Mikesell. *diags R Sci Instr* 29:734-6 A '58

Tensile properties of some plastics at low temperatures. J. Dymont and H. Ziehlend. *bibliog diag J Ap Chem* 8:203-6 Ap '58

Thermal conductivity of sodium fluoride crystal at low temperatures. A. F. Cohen. *bibliog J Ap Phys* 29:370 My '58

Transition between the low and the high-temperature form of sodium triphosphosphate. G. W. Morey. *Am Chem Soc J* 80: 775 F 20 '58

What about oil pour point? here's why flow at low temperature may not be enough. R. B. Purdy. *il Plant Eng* 12:116-17+ F '58

Whiskers provide low-temp data. *il Electronics* 31:26 F 7 '58

See also

Absolute zero

Cold—Therapeutic use

Cold storage

Cryostats

Metals. Cold treatment of

Refrigeration and refrigerating machinery

TEMPERATURE indicating paint. See Paint, Temperature indicating

TEMPERATURE regulators

Boosts production, lowers reject rate; thermistor-type temperature controllers on rotary compression presses. *il Plastics Tech* 4:562-3 Je '58

Control gives low temperature spread. *il Ind Lab* 9:32-3 F '58

Operating room temperature control and death to bacteria; Hospital-Master and Sterilamp. *Elec Eng* 76:1122-3 D '57

Pneumatic control for differential temperature. J. J. Combes. *diag Control Eng* 5: 141 My '58

Positive over-temperature protection with heat limiters for electrically heated appliances and equipments. J. C. Lebens. *diags Elec Manuf* 61:62-3+ Ja '58

Safety cuts maintenance in regulating stations. E. Grafe. *diags Safety Maint* 114: 29-30 O '57; Same abr. *Heating-Piping* 30: 122-3 Je '58

Temperature control for helium II. H. Forst and J. R. Novak. *diag R Sci Instr* 29:733-4 A '58

Temperature-regulated bismuth resistor for magnetic-field measurements. C. G. Dols and others. *bibliog il diags R Sci Instr* 29:349-54 My '58

See also

Temperature—Regulation

Thermostats

Electric analogies

Responses of temperature-sensing-element analogs. G. A. Toon. *diags A S M E Trans* 79:1857-65; Discussion. 1856-6; Reply. 1856-8 N '57

TEMPERING

Customers call the temper; Jones & Laughlin steel corp.'s Stainless steel div. *il Steel* 142:75 F 24 '58

Effect of tantalum and niobium on the tempering of certain vanadium and molybdenum steels. A. K. Seal and R. W. K. Honeycombe. *bibliog diags Iron & Steel Inst J* 188:343-50 Ap '58

Metalurgy of tempering and annealing in fractional minutes. R. K. Wuertel. *il Metal Prog* 73:93-6 Ap '58

Some aspects of tempering 3% per cent silicon steel as followed by time decay of permeability. E. S. Anolik and J. Singer. *bibliog J Ap Phys* 29:412-13 Mr '58

Tempering of low-alloy creep-resistant steels containing chromium, molybdenum, and vanadium. E. Smith and J. Nutting. *bibliog il Iron & Steel Inst J* 187:314-29 D '57

See also

Steel, Heat treatment of

TEMPLATES. See Tempiets

TEMPLETS

Facing contours can be machined on engine lathe, using a full-size template. F. G. Forquier. *diags Tool Eng* 41:44 Ag '58

Firm photographs templates; full-size drawing on plastic film, Stabilene. *il Steel* 142: 159 My 19 '59

Ford discloses new template-making method. *il Mach* 64:125-8 Ja '58

High-speed metal removal; Routing, Ltd. *il Engineer* 206:65-6 JI 11 '58

Holes by the thousands are controlled by a single template. J. Burnham. *il Mach* 65: 141-3 S '58

Indicator-on-template tracing produces form-slab milling cutter. R. Kennard. *il Am Mach* 102:126 S '58

Mechanical lot plot templet. E. W. Ellis. *il Ind Quality Control* 14:15-18 Mr '58

Wood template spots fixture stud locations. *il diags Elec Constr & Maint* 57:101-2+ S '58

TEMPORARY bridges. See Bridges, Temporary

TEMPORARY buildings. See Buildings, Temporary

TENDERS

Double-duty Diesels in drilling tender. *il Diesel Power* 36:36-7 Ja '58

Drilling fleet expands. *il Oil & Gas J* 56: 121 Ap 28 '58

First dual-purpose power plant is installed on Gulf's most powerful drilling tender; powered for 20,000-ft. offshore drilling. *il Oil & Gas J* 55:248-9 N 18 '57

Offshore drilling fleet; Coastal-marine drilling & construction corp. *il Pet Eng* 30:B 100 Ja '58

Tender for offshore drilling is self-contained operation. *il Machine Design* 29:8 D 12 '57

Tender joins Nigerian search. *il Oil & Gas J* 56:103 Ja 20 '58

Working team for off-shore drilling; Howard S. Cole, jr. drilling tender. *il plans diag Marine Eng/Log* 63:60-3 Ja '58

TENEbrio moliator. See Yellow meal worms

TENNESSEE

See also

Copper mines and mining—Tennessee

Gas, Natural—Tennessee

Petroleum industry and trade—Tennessee

Industries and resources

Tennessee bids for metalworking. *Am Mach* 101:114-15 D 30 '57

TENNESSEE gas transmission company

Tennessee Gas, example in integration. map *Oil & Gas J* 56:110-11 JI 28 '58

Tennessee Gas Transmission files new plans with FPC for Midwestern line. *Oil & Gas J* 56:92 Mr 24 '58

Tennessee Gas Transmission taking over Midstates. *Oil & Gas J* 56:100 My 19 '58

TENNESSEE Valley authority

Cement and clay grouting of foundations; experience with clay-cement and related grouts. G. K. Leonard and L. F. Grant. *il diags Am Soc C E E Proc* 84 [SM 1 no 1552]: 1-17 F '58

Flood routing pays off; \$66 million of damage prevented at Chattanooga. *Eng' N* 160:22 Ja 9 '58

Lock of 100-ft lift built into Wilson dam. H. T. Loft and C. W. Bell, jr. *il map diags Civil Eng' N* 28:496-501, cover JI '58

Neither side stands to gain in Memphis-TVA rate hassle. *Elec World* 150:48 JI 28 '58

Power in the region's future; abstract. G. O. Wessenaer. *Elec World* 149:57 My 12 '58

Progress of the Tennessee Valley authority. *il map Engineer* 205:374-7, 411-13 Mr 7-14 '58

Rockfill dams; performance of TVA central core dams. G. K. Leonard and O. H. Raine. *il map plan diags Am Soc C E E Proc* 84 [PO 4 no 1736]:1-16 Ar '58

TVA cuts transmission outlay. *Elec World* 149:66-70 My 26 '58

TENNESSEE Valley authority—Continued

- TVA experiences welded versus riveted spiral cases with cost data. E. M. Gardner. *il A S M E Trans* 80:1147-53 J1 '58
- TVA: growth or sale of power facilities? *Elec World* 149:48 My 5 '58
- TVA is still an issue after 25 years. *il Elec World* 149:55-7 My 12 '58
- TVA report stirs controversy. *Elec World* 150:48-9 S 29 '58
- TVA titan in '58; carte blanche or controls? *Elec World* 148:48-9 D 30 '57
- TVA's first twenty-five years; an anniversary in the news. *il Arch Rec* 124:14-15 S '58
- Terminal density underflow division. Kingston steam plant. B. A. Elder and G. B. Dougherty. *il map diag* Am Soc C E Proc 84 IHY 2 no 1583:1-20 Ap '58

TENNIS courts, Indoor

- Covered tennis courts; illustrations with text. *Engineer* 206:20 J1 4 '58

TENS-50. See Aluminum alloys**TENSILE strength**

- Automatic single fiber tensile strength tester. R. A. Crane and P. C. Wharf, Jr. *il diag* Textile Res J 28:343-50 Ap '58
- Comparison of the tensile strengths of yarns using different gauge lengths and rates of loading. H. A. Mereness. *il Textile Res J* 28:351-6 Ap '58
- Comparisons of materials; tensile strength and elongation. *Materials in Design Eng* 43:14-17 Mid-O '58
- Determination of tensile stress-strain properties of vulcanized natural and synthetic rubbers. *diag Rubber Chem & Tech* 31: sup2:5 Ja '58
- Effect of loading rate on adhesive strength. F. Moser and S. S. Knoell. *A S T M Bul* p60-3 Ja '58
- High speed tensile testing of fibers. J. W. Ballou and J. A. Roetling. *bibliog diag* Textile Res J 28:631-46 Ag '58
- High-temperature effects on nickel-copper tensile properties. *Elec Manuf* 61:9-10 Ap '58
- Influence of molecular shape on the tensile strength of vulcanizates. A. S. Novikov and others. *Rubber Chem & Tech* 31:27-9 Ja '58
- Plant-made tensile tester checks wire rope sockets and other plant equipment; hydraulic press. L. McWilliams. *il diag* Plant Eng 12:113-14 J1 '58
- Simple extensometer for tensile testing of polymers. A. E. Eagles and A. R. Payne. *bibliog il Rubber Chem & Tech* 31:673-9 J1 '58
- Simple tensile testing machine for very fine wires. A. E. Widdowson. *diag J Sci Instr* 35:100-1 Mr '58
- Sources of errors in the measurement of yarn tensile forces with a combination of mechanical and electronic components. T. Waesterberg. *il diag* Textile Res J 27:925-35 D '57
- Tensile properties of some plastics at low temperatures. J. Dymant and H. Ziehlend. *bibliog diag J Ap Chem* 8:203-6 Ap '58
- Tensile strength of paraffin wax; revision of TAPPI tentative standard T 644 m-54. *diag Tappi* 41:sup 136A-8A My '58
- Tensile strength of plastics; effects of flaws and chain relaxation. F. Bueche. *J Ap Phys* 29:1231-4 Ag '58

TENSIO METER S

- Improved yarn tension control; Electrotense. *il Mod Textiles Mag* 39:44+ My '58
- Isometric recorder for small muscle tensions. S. M. Ross. *diag R Sci Instr* 29:319-20 Ap '58
- Tension meters clip onto wire in winding. E. J. Saxl. *il Electronics* 31:116+ Je 6 '58
- Working under tension. *il Electronic Ind* 17:69 Ag '58

TENSION control. See Winding machines—Tension control**TENSORS**

- Frequency shifts in cavities with longitudinally magnetized small ferrite discs; permeability tensor values. H. Seidel and H. Boyet. *bibliog diag* Bell System Tech J 37:637-55 My '58
- Most general form of the compatibility equations and the conditions of integrability of strain rate and strain. E. H. Brown. *bibliog J Res Nat Bur Stand* 59:421-6 D '57
- Tensor analysis of finite rotations. E. H. Bateman. *diag Aircraft Eng* 30:126-30, 167-9, 199-201 My-J '58
- Tensor flexibility: analysis of closed-loop piping systems. J. W. Soule. *bibliog diag J Ap Mech* 25:11-16 Mr '58

TENTS

- Car top tent; vinyl-coated nylon fabric. *il Mod Plastics* 36:184 O '58
- Tomorrow's tent. *il Mod Plastics* 35:113 D '57

TERBIUM chloride**Spectra**

- Absorption spectra of terbium perchlorate and terbium chloride solutions. E. I. Onstott and C. J. Brown. *bibliog Anal Chem* 30:172-4 F '58

TERBIUM perchlorate**Spectra**

- Absorption spectra of terbium perchlorate and terbium chloride solutions. E. I. Onstott and C. J. Brown. *bibliog Anal Chem* 30:172-4 F '58

TEREPHTHALIC acid

- Compare these routes for terephthalic acid from xylenes. P. W. Sherwood. *bibliog flow sheet il Pet. Refiner* 37:155-62 F '58
- Hercules still looks at Henkel process. *diag Chem & Eng N* 36:47-8 S 1 '58
- Preparation of terephthalic acid from phthalic or benzoic acid. Y. Ogata and others. *bibliog Am Chem Soc J* 79:6005-8 N 20 '57

- Terephthalic acid by Scientific Design process. *Chem & Eng N* 36:134 S 1 '58

Manufacture

- Some new developments in propylene chemistry; process for manufacture of terephthalic and isophthalic acids and isotactic polypropylene. J. M. Goppel and R. L. Mertviere-Meyer. *flow diag il diag Research* 11:339-44 S '58

TEREPHTHALOYL chloride

- Dehydrohalogenation products of hexahydro-terephthaloyl chloride; a bifunctional ketene and a bicyclo[2.2.1]heptan-7-one derivative. W. R. Hatchard and A. K. Schneider. *bibliog Am Chem Soc J* 79:6261-3 D 5 '57

TERMINALS

- Facilitating Port Newark to keep pace with competition. *il Eng N* 159:38-40+ N 28 '57
- See also*
- Airlines—Terminals
- Airport buildings
- Ore docks
- Petroleum pipe lines—Terminals
- Petroleum shipping terminals
- Ports

- TERMINALS (electric cables). *See Electric cables—Terminals*

TERMINOLOGY

- See also*
- Geology—Terminology

TERMITES

- Protection against decay and termites. H. J. Rosen. *diag Arch* 33:127 Ja '58
- Termite control with polyethylene pipe. *il Mod Plastics* 36:176 O '58

TERPENES

- Swedish turpentine; terpene hydrocarbons from sulfate turpentine; abstract. A. B. Groth. *Paper Ind* 40:397 S '58
- Syntheses in the terpene series; a synthesis of DL-1,1,6 α ,10 β -tetramethyl-trans-decal-28-ol-5-one, the racemate of a degradation product of α -amyrin. F. Sondheimer and D. Eliad. *bibliog Am Chem Soc J* 80:1967-71 Ap 20 '58
- Syntheses in the terpene series; synthesis of 10-methyl-1-decalone; the stereochemical stability relationship in the 9-methyldecalin series. F. Sondheimer and D. Rosenthal. *bibliog Am Chem Soc J* 80:3995-4001 Ag 5 '58
- Synthesis of DL-ambreinolide, and some bicyclic intermediates for terpene synthesis. D. B. Bigley and others. *bibliog Chem & Ind* p558-9 My 10 '58
- See also*
- Diterpenes

TERPENOID S

- Studies on the synthesis of diterpenoid acids. J. A. Barltrop and A. C. Day. *Chem & Ind* p439 Ap 12 '58
- Terpenoids; iresin; reactions of the glycol system. C. Djerassi and others. *bibliog Am Chem Soc J* 80:1972-7 Ap 20 '58
- Terpenoids; the structure and probable absolute configuration of cafestol. C. Djerassi and others. *Am Chem Soc J* 80:247-8 Ja 5 '58

TERPHENYL

- Pyrolysis of *p*-terphenyl; separation and identification of the thermal products. L. Silverman and others. *bibliog J Ap Chem* 31:24 S 1 '58
- Sodium terphenyl, water, vie for role as reactor coolant; process flowsheet. C. H. Chilton. *il Chem Eng* 65:90-3 Je 30 '58

TERRA sigillata. See Ceramic coating

TERRACES (geology)

Alluvial chronology of the Tesuque valley, N.Mex. J. P. Miller and E. Wendorf, bibliog maps diag J Geol 66:177-94, pl 1 Mr '58
 Geological study of Shamshir Ghar cave, southern Afghanistan, and report of terraces along Panishir valley near Kabul, J. N. Zeigler, bibliog pl maps plan diags J Geol 66:16-27 Ja '58
 Shallow submerged marine terraces of southern California. K. O. Emery, maps Geol Soc Bul 69:39-59, pl 1 bibliog(p57-9) Ja '58

TERRESTRIAL magnetism. See Magnetism, Terrestrial**TERRY fabrics**

How to analyze terry fabrics. T. Hargreaves, 11 Textile Ind 122:90-5 J1 '58

TERTIARY period. See Geology, Stratigraphic—Tertiary**TESTING**

Creating test atmospheres at -260 F; portable laboratory cold flask. M. J. Brown and G. V. Thompson, 11 diags A S T M Bul p59-61 J1 '58
 New tentatives and standards accepted at 61st annual meeting of ASTM. A S T M Bul p32-7+ J1 '58
 Nondestructive testing, 11 Steel 142:110-12 Je 23 '58
 Nondestructive testing. S. Elonka, 11 diags Power 102:115-37 Mr '58
 Problems in testing materials. W. J. Youden, Ind & Eng Chem 50:sup81A-2A Ap '58
 Production nuggets; information from American machinist and other publications; developments to watch; inspection, testing, quality control, 11 Am Mach 102:E 1-5 Mid-S '58

See also

American society for testing materials

Impact

Laboratories

Magnetic testing

Sampling

Testing machines

Textile testing

also subdivision Testing under special subjects, e.g.

Air filters

Airplane engines

Airplane parts

Airplanes, Military

Automobile parts

Beams and girders

Boilers

Brazing

Bridges, Concrete

Bronze

Building materials

Busbars

Cameras

Cards

Cast iron

Castings

Ceramic materials

Chlorodifluoromethane

Chromium plating

Coke

Concrete

Concrete blocks

Copper

Corrosion and anti-corrosives

Corrosion resisting materials

Cotton fibers

Cutting tools

Dichlorodifluoromethane

Diesel engines

Electric apparatus and appliances

Electric cables

Electric equipment

Electric lamps, Incandescent

Electric lines

Electric resistors

Electric transformers

Electric welding

Enamel and enameling

Excitation equipment

Finishing materials

Food, Frozen

Foundation soils

Gage blocks

Gas appliances

Gas meters

Gas turbines, Aircraft

Gas turbines, Marine

Gasoline

Gearing

Glass

Guided missiles

Hardness

Heat resisting materials

Ice

Internal combustion engines

Iron

Joints

Jute

Klystron

Lacquer and lacquering

Laminated construction

Lenses

Linenens equipment

Lubricating greases

Magnetic materials

Metal powders

Metal protection

Metals

Milk

Mortar

Mothproofing preparations

Nuclear reactors

Paint

Petroleum products

Pipes, Steel

Plastics

Polyethylene

Pumps

Pumps, Centrifugal

Radio apparatus

Rafters

Refractory materials

Refrigeration and refrigerating machinery

Refuse incinerators, Domestic

Rubber

Rubber, Artificial

Ship plates

Springs (mechanisms)

Steam turbines

Steel, Stainless

Steel castings

Television antennas

Television receiving apparatus

Television relay systems

Thyratron

Trade waste

Transistors

Tubes, Steel

Varnish and varnishing

Water

Water pipes, Concrete

Watt hour meters

Welding

Wire

Wood pulp

Zinc

Symbols

Nondestructive testing symbols for use on drawings to specify nondestructive tests for determining the soundness of materials, diags Product Eng 29:A 12-13 Mid-S '58

TESTING laboratories

Advanced test equipment in Continental's new laboratory, 11 Automotive Ind 118:54-6 Ap 1 '58

Altitude tests prove reliability, 11 Iron Age 182:90 Ar 14 '58

Caterpillar dedicates lab for metallurgical and materials, Roads & Sts 100:169 N '57

Caterpillar's new testing laboratory, 11 Automotive Ind 117:96 N 15 '57

Complete testing equipment in Janitrol's Columbus plant, 11 Automotive Ind 119:66 Ar 15 '58

Environment-functional tests; key to systems reliability, C. Clemenshaw, 11 Ind Lab 9:34-5 Ag '58

New Caterpillar laboratory among most modern of its type, 11 Foundry 85:153+ D '57

New lab tests Caterpillar materials, 11 Pet Eng 29:D64 N '57

Selecting materials for environmental testing equipment, C. Morling and J. Bellinger, 11 Materials in Design Eng 46:124-6 D '57

Testing laboratory yields research benefits; Jennings radio manufacturing corp, 11 Ind Lab 9:96-8 S '58

U.S. Steel's new testing lab, 11 Iron Age 182: 51 S 18 '58

University lab certifies ratings of air moving equipment, 11 Ind Lab 9:47 F '58

See also

Electric laboratories

Engineering laboratories

Sound laboratories

Underwriters laboratories

Cold rooms

High capacity low temperature refrigeration, J. R. Harnish and N. E. Hopkins, flow diag diag Chem Eng Prog 54:82-6 Ap '58

Equipment

Creating test atmospheres at -260 F; portable laboratory cold flask, M. J. Brown and G. V. Thompson, 11 diags A S T M Bul p59-61 J1 '58

Laboratory supplies and testing equipment, A S T M Bul p86+ Ja '58

Testing laboratories—Equipment—Continued
 Metrology laboratory's controlled climate speeds research; Eli Whitney metrology laboratory. R. Mahlmeister and M. Witt. *il plan Ind Lab* 9:39-41 O '58

Vacuum chambers

Engineers work in altitude simulator; high-vacuum laboratory designed by Litton Industries. *il Electronics* 30:180-1 D 1 '57
 Pressure conditions 95 miles up simulated; inhabited high vacuum laboratory. H. P. Gregory; M. Alperin. *Elec Eng* 77:112-13 Ja '58
 Research in a vacuum. J. H. Moore. *il Electronics* 31:24 My 2 '58

Weather rooms

Environmental testing failures in missile and aircraft equipment. H. J. Shapiro and L. Permut. *Instruments & Automation* 31:1198-9 JI '58
 Expand lab to broaden scope of heat transfer research; Transar manufacturing, Inc. *il Ind Lab* 9:63 Je '58
 Make two environments in one chamber. *il Ind Lab* 9:11 Ap '58
 New concepts in environmental testing. *il Instruments & Automation* 31:1192-7 JI '58
 Temperature chamber tests armament systems. *il Elec Eng* 77:475 My '58
 Test room for central air conditioning systems; Carrier corp. C. V. Fenn. *Franklin Inst J* 266:206 S '58

TESTING machines

Ball screw speeds cycling; fatigue-tester drive. *il Product Eng* 29:67 F 3 '58
 Design of a drive system for a rotating arm. H. E. Prucha. *il diags Applications & Ind* p236-40; Discussion. 240-1 S '58
 Economical beam testing machine. *il Engineering* 185:484 Ap 18 '58
 Evaluation of anti-seizing and recovery-from-seizure properties of e.p. lubricants by the four-ball testing machine. C. Paleari and others. *bibliog Inst Pet J* 44:178-81 Je '58
 Fatigue testing machine for hot sheet. K. W. Mitchell and H. King. *il diags Engineering* 185:402-4 Mr 28 '58
 Five examples show versatility of automatic testing systems. L. S. Klivans. *diags Control Eng* 5:81-9 Ag '58
 Flexible fatigue test setup for full-scale structures. V. DeBiasi. *il diag Aviation Age* 30:46-7-1 JI '58
 High-speed tension testing machine. S. Strelja and others. *diags A S T M Bul* p50-2 F '58
 Hydraulic vibrators, where brute-force shake testing is needed. J. A. Dickie. *il diags Product Eng* 28:94-8 D 9 '57
 IBM paper friction tester. H. O. George and J. E. Arnout. *il diags Tappi* 40:972-4 D '57
 Laboratory supplies and testing equipment. A S T M Bul p86-1 Ja '58
 Loading mechanism of increasing stiffness; testing specimens of unknown strength. E. Spencer. *il diags Engineering* 185:60-1 Ja 10 '58
 Machine for bend tests; Philip's research laboratory. Eindhoven, Holland. *diags Steel* 142:114 F 3 '58
 Motion pictures of metal fatigue automatically record details; abstract. *Metal Prog* 73:188 Ja '58
 New British wire rope testing machine. L. Walter. *il diags Wire & Wire Prod* 33:427-8-1 Ap '58
 New concrete beam testing machine for third-point loading. H. F. McDonnell. *il Roads & Sts* 100:79-80 N '57
 New standard hardness testing machine. R. S. Marriner and F. C. P. Mason. *il diag Metallurgia* 57:47-51 Ja '58
 Ohio Boxboard score bend tester. J. M. Kernan and R. L. Lewis. *il Tappi* 41:sup 200A-LA Mr '58
 Preliminary development of the Sisalkraft internal bond tester. F. F. Newkirk and M. I. Holt. *Tappi* 41:sup202A Mr '58
 Recording torsion testing machine for wire. H. C. Burnett. *il A S T M Bul* p68-9 Ja '58
 St Joe ozone flex tester for rubber compounds. L. E. Carlson and R. S. Havenhill. *bibliog il diags Rubber World* 138:883-8 S '58
 Shock test machine for missile components. *Franklin Inst J* 265:526 Je '58
 Simple tensile testing machine for very fine wires. A. E. Widdowson. *diags J Sci Instr* 35:100-1 Mr '58

Slipping-clutch fatigue-testing machine. N. B. Owen and H. L. Cox. *il diags Engineering* 186:84-5 JI 18 '58
 Stress computer for the SR-4 testing machine. R. D. Behr and J. R. Gusack. *il diags A S T M Bul* p43-5 F '58
 Surface tension measurements with a strain-gauge-type testing machine. S. B. Newman and W. M. Lee. *bibliog diags R Sci Instr* 29:785-7 S '58
 TAVET (temperature, acceleration, vibration, environmental tester). C. Cohen. *Instruments & Automation* 31:1385-6 Ag '58
 Tensile strut testing machine. H. Fessler. *diags Roy Aeronautical Soc J* 62:528 JI '58
 Testing large ropes and chains; National coal board's central engineering establishment. *il Engineering* 186:6 JI 4 '58
 Torque values of spring wire. *il Mech Eng* 80:101 Mr '58
 Torsion fatigue tests. *il Engineering* 185:786-7 Je 20 '58
 White heavy beam testing machine. *il Engineer* 205:553 Ap 11 '58
 See also
 Dynamometers
 Gear testing machines
 Textile testing machines

Failure

Fatigue failures in fatigue machines. W. H. Munse. *il diag Welding J* 37:sup54-6 F '58

Testing

Dynamic calibration of fatigue-testing machines. T. M. Dowell. *bibliog il diags Engineering* 185:693-6 My 30 '58
TESTING materials. American society for. See American society for testing materials
TESTS, Ability. See Ability tests
TETANUS
 Immunization register for tetanus. N. G. Long. *Ind Med* 27:488-9 S '58
 Tetanus as a concomitant of work accidents in tropical countries. M. J. Takos. *Ind Med* 27:518-19 O '58

Statistics

Tetanus in the United States; a review of the problem. N. W. Axnick and E. R. Alexander. *bibliog* (34 titles) map *Am J Pub Health* 47:1493-501 D '57

TETRACETYLENES. See Acetylene

TETRABUTYL ammonium compounds. See Ammonium compounds

TETRABUTYLAMMONIUM hydroxide. See Ammonium compounds

TETRACENE. See Naphthalene

TETRACHLOROETHYLENE
 Development of a perchloroethylene process. J. J. Lukes. *il Chem Eng Prog* 54:75-8 F '58

Mixture proves dangerous. L. D. Rampino. *Chem & Eng N* 36:62-3 Ag 11 '58

Manufacture

Perchloroethylene. *diag Pet Eng* 30:C61-2 F '58

Perchloroethylene; Scientific design co. flow *diag Pet Refiner* 36:271 N '57

Quick HCl chill highlights new perchlor process; process flowsheet. G. H. Chilton. *il Chem Eng* 65:116-19 My 5 '58

TETRACHLOROIDE compounds

Dissociation of tetrachloroide salts. D. M. Smyth and M. E. Cutler. *bibliog Am Chem Soc J* 80:4462-5 S 5 '58

TETRACYANOETHYLENE

Cyanocarbon chemistry; addition reactions of tetracyanoethylene. W. J. Middleton and others. *bibliog Am Chem Soc J* 80:2783-8 Je 5 '58

Cyanocarbon chemistry; heterocyclic compounds from tetracyanoethylene. W. J. Middleton and others. *bibliog Am Chem Soc J* 80:2822-9 Je 5 '58

Cyanocarbon chemistry; preparation and reactions of tetracyanoethylene. T. L. Cairns and others. *bibliog Am Chem Soc J* 80:2775-8 Je 5 '58

Cyanocarbon chemistry; spectroscopic studies of the molecular complexes of tetracyanoethylene. R. E. Merrifield and W. D. Phillips. *bibliog Am Chem Soc J* 80:2778-82 Je 5 '58

New chemical class of organics; percyanoolefins. W. J. Middleton and E. L. Little. *il Chem & Eng N* 36:50-1 Ap 28 '58

TETRACYANOPROPENE

Cyanocarbon chemistry; pyridines from tetracyanopropenes. E. L. Little, Jr. and others. *Am Chem Soc J* 80:2832-8 Je 5 '58

TETRACYCLINE

Chemistry of the tetracycline antibiotics; quaternary derivatives. H. Booth and others. *bibliog Am Chem Soc J* 80:1654-7 Ap 5 '58

Comparative effectiveness of tetracycline antibiotics for fish preservation. B. A. Southcott and others. *bibliog Food Tech* 12: 103-10 F '58

Hydrogenolysis studies in the tetracycline series; 6-deoxytetracyclines. C. R. Stephens and others. *bibliog Am Chem Soc J* 80:5324-5 O 5 '58

TETRAETHYL lead

Anti-knock action of lead tetraethyl; abstract. A. D. Walsh. *Chem & Ind p* 1531 N 23 '57

First birthday for Canadian-made TEL. *il diag Can Chem Process* 41:72-3+ D '57

Lead tetraethyl as initiator for polymerization reactions. D. S. Marvel and K. Woolford. *Am Chem Soc J* 80:330-1 F 20 '58

Toward cheaper TEL; abstract. L. L. Sims. *Chem & Eng N* 36:66 Ap 28 '58

TETRAETHYLENEPENTAMINE

Stability of metal-tetraethylenepentamine complexes. C. N. Kelliey and J. H. Holo way. *bibliog Am Chem Soc J* 80:2917-19 Je 20 '58

TETRAFLUOROETHYLENE

Friction of polytetrafluoroethylene dry bearings. S. B. Twiss and others. *bibliog diags Lub Eng* 14:255-61+ Je '58

Improved polytetrafluoroethylene impregnated bronze dry bearing. D. C. Mitchell. *il Engrneer* 205:626-8 Ap 26 '58

Plastics as solid lubricants and bearings; friction and wear of plastics with particular reference to polytetrafluoroethylene. A. J. G. Allan. *bibliog Lub Eng* 14:211-15 My '58

Production of polytetrafluoroethylene sheet and solid shapes. E. James. *il diags Brit Plastics* 31:28-30+ Ja '58

Viscoelastic properties of crystalline polymers; polytetrafluoroethylene. K. Nagamatsu and others. *bibliog diag J Colloid Sci* 13:257-65 Je '58

TETRAHYDROFURAN

Addition of silyllithium compounds containing methyl and phenyl groups to benzophenone in tetrahydrofuran. H. Gilman and G. D. Lichtenwalter. *bibliog Am Chem Soc J* 80:607-8 F 5 '58

Cleavage of symmetrically substituted disilanes by lithium in tetrahydrofuran. H. Gilman and G. D. Lichtenwalter. *bibliog Am Chem Soc J* 80:608-11 F 5 '58

Lithium cleavages of some heterocycles in tetrahydrofuran. H. Gilman and J. J. Dietrich. *bibliog Am Chem Soc J* 80:380-3 Ja 20 '58

Preparation and reactions of some 2-amino tetrahydrofurans. N. R. Easton and others. *Am Chem Soc J* 80:2519-22 My 20 '58

TETRAHYDRONAPHTHALENE. See Tetralin**TETRAHYDRONAPHTHOL**

Synthesis of 2,4-dimethyl-aryl-1-tetralol. W. Cocker and T. B. H. McMurry. *Chem & Ind* p583 J 8 '58

TETRAHYDROXEPINE

Seven-membered heterocyclic systems; the synthesis of 2,3,6,7-tetrahydroxepine. J. Meinwald and H. Nozaki. *bibliog Am Chem Soc J* 80:3132-5 Je 20 '58

TETRAHYDROPHthalic anhydride

Hydration of *exo-cis*-3,6-endomethylene- Δ^4 -tetrahydrophthalic anhydride. J. A. Berson and S. Suzuki. *bibliog Am Chem Soc J* 80:4341-5 Ag 20 '58

TETRALIN

Determination of double-bond character in cyclic systems; tetrahydronaphthalene; steric facilitation of chelation. I. M. Hunsberger and others. *bibliog Am Chem Soc J* 80:3284-300 J 5 '58

Thermal hydrogenation; transfer of hydrogen from tetralin to cracked residua. C. S. Carlson and others. *bibliog Ind & Eng Chem* 50:1067-70 J 1 '58

TETRALOL. See Tetrahydronaphthol**TETRALONE**

Chemistry of derivatives of 2-benzaltetralone; reaction of 2-bromo-4,4-dimethyltetralones with amines; endocyclic eliminations. A. Hassner and N. H. Cromwell. *bibliog Am Chem Soc J* 80:301-5 F 20 '58

TETRAMETHYLAMMONIUM bromide

Inhibition of corrosion of steel by tetramethylammonium bromide. R. Macy and others. *bibliog il diags Corrosion* 14:38-40 Je '58

TETRAMETHYLBENZENE

Synthesis of durene from pseudocumene. J. G. Hendrickson and F. T. Wadsworth. *bibliog Ind & Eng Chem* 50:877-8 Je '58

TETRAPHENYLBORATES

Tetraphenylborate spot test for detection of amines and their salts. F. E. Crane, jr. *bibliog Anal Chem* 30:1426-9 Ag '58

TETRAZENE

Some properties of tetraalkyl-2-tetrazenes. W. E. Bull and others. *bibliog Am Chem Soc J* 80:2516-18 My 20 '58

TETRAZINE

Some 3,6-unsymmetrically disubstituted 1,2,4,5-tetrazines. V. A. Grakauskas and others. *bibliog Am Chem Soc J* 80:3155-9 Je 20 '58

TETRAZOLES

Improved synthesis of 5-substituted tetrazoles. W. G. Finnegan and others. *bibliog Am Chem Soc J* 80:3908-11 Ag 5 '58

Thermal breakdown of diaryltetrazoles. P. A. S. Smith and E. Leon. *bibliog Am Chem Soc J* 80:4647-54 S 5 '58

TETRAZOLIUM compounds

Anomalous behavior of tetrazolodiazonium chloride toward some arylhydrazines; the synthesis of some 3,5-diaryl-1-(5'-tetrazolyl)-1H-tetrazolium betaines. J. P. Horwitz and V. A. Grakauskas. *bibliog Am Chem Soc J* 80:326-30 F 20 '58

TETRODES. See Vacuum tubes

TEX yarn numbering system. See Yarn—Tables, calculations, etc.

TEXAS

See also subdivision Texas under special subjects, e.g.

Architecture
Electric plants (central stations)
Electric utilities
Gas, Natural
Geology
Mines and mineral resources
Petroleum
Petroleum industry and trade
Petroleum laws and regulations
Petroleum pipe lines
Petroleum workers
Water laws and regulations
Water supply

TEXAS company

Texaco takes over Seaboard Oil in big stock swap. *Oil & Gas J* 56:76-7 Je 2 '58

TEXAS instruments, inc.

IBM clears its T-zone; deal to buy Texas Instruments' transistors. *Control Eng* 5:44 Mr '58

Simpler work saves money. *il Electronics* 31:1 J 1 '58

Texas Instruments opens new semi-conductor facility. *il Ind Lab* 9:12 Ag '58

TEXAS Pacific coal and oil company

Rowan sells assets to Texas Pacific Coal & Oil. *Oil & Gas J* 56:65 Je 2 '58

TEXTBOOKS

See also
Electronics—Textbooks
Engineering—Textbooks
Physics—Textbooks

TEXTILE analysis

Electroanalysis with controlled cathode potential of metallic copper applied to fabrics as metallo-organic fungicides. J. Bubernak and A. D. Easkin. *bibliog diag Textile Res J* 27:878-82 N 57

Formaldehyde evolution from textiles. O. C. Bacon and others. *bibliog Am Dyestuff Rep* 46:933-6 D 2 '57; Abstract. *Textile World* 108:80-1 My '58

See also

Wool—Analysis

TEXTILE associations

See also

American association of textile chemists and colorists

TEXTILE chemicals

Alphabetical list of new products developed since Nov. 1956. *Am Dyestuff Rep* 46:891-904, 1008-9 D 2, 30 '57

Buying dyes and chemicals. *il Textile Ind* 122:96-101 F '58

Chemical-finishing conference; abstracts of papers. *Textile World* 107:120-4+ D '57

Fine chemicals in the textile industry; abstract and discussion. F. W. Thomas. *Chem & Ind* p308-9 Mr 15 '58

For better warp sizing. *il Cato, Nu-film, and Kodak. Chem & Eng N* 35:58 O 20 '58

Inventory of new chemicals and materials; textile chemicals and synthetic fibers. *il Chem Eng* 64:207-8 Mid-N '57

Man-made fiber textiles; a big and growing market for chemicals. S. B. McFarlane and A. F. Caprio. *bibliog il Mod Textiles Mag* 39:32-4 Je '58

New dyes and chemicals. Published in monthly numbers of Textile world

TEXTILE chemicals—Continued

Textile processing chemicals. L. D. Berger. Jr. bibliog il Am Dyestuff Rep 47:179-82+ Mr 24 '58; Abstract. Textile World 108:139 F '58

See also

Surface active substances

TEXTILE chemistry

New chemically modified cellulose fibers; symposium. bibliog il diag Ind & Eng Chem 50:73-106 Ja '58

See also

Bleaching

Cotton—Chemistry

Cotton finishing

Dyes and dyeing—Chemistry

Fireproofing of textiles

Rayon finishing

Resinous products—Textile uses

Sizing (textiles)

Textile analysis

Textile fibers. Synthetic

Wool—Chemistry

TEXTILE chemists and colorists, American association of. See American association of textile chemists and colorists

TEXTILE design

Designer's changing function. G. B. Suhrie. Mod Textiles Mag 39:57-8 Ag '58

Fabric development at work; Chemstrand corp. J. F. Murray. Mod Textiles Mag 39:58-9 Ag '58

Ornamentation of apparel fabrics (cont). V. Lobl. il Mod Textiles Mag 39:38+ Ap '58

Styling with the man-made fibers. S. Prokusi. Textile Ind 122:98-100 Ag '58

Technique of Jacquard designing. O. Hughes. il diags Textile Ind 122:159-61+ Je '58

Today's trends in fabric development. W. E. Scholer. Mod Textile Mag 39:55-6+ Ag '58

See also

Textile printing

TEXTILE drying

Factors affecting the drying of apparel fabrics. R. Steele. bibliog diag Textile Res J 28:136-47 F '58

First fluid bed dryer. K. R. Drow. il Mod Textiles Mag 38:39+ N '57

See also

Drying apparatus—Textiles

TEXTILE education

Georgia weaves a new educational fabric; Southern Tech's new two-year course for middle management. R. Hays. il Textile Ind 122:148-9 Je '58

See also

Textile schools

TEXTILE fabrics

Determination of the adhesion of vulcanized natural or synthetic rubbers to textile fabrics. Rubber Chem & Tech 31:sup21-3 Ja '58

Engineered fabrics. L. A. Runtun. il Materials in Design Eng 48:90-2 Jl '58

Fabric trends; abstract. W. J. Hamburger. Textile World 108:119 Ja '58

New embroidery techniques produce unusual fabrics. il Textile World 107:142+ D '57

New fabrics, new yarns. Published in monthly numbers of Modern textiles magazine

See also

Automobile fabrics

Blankets

Bleaching

Carpets

Drapery

Duck (textile)

Felt

Fireproofing of textiles

Lace fabrics

Laundry

Lining fabrics

Napping of textiles

Nylon

Nylon fabrics

Pile fabrics

Rayon

Rubberized fabrics

Terry fabrics

Textile finishing

Textile industry

Textile printing

Tire fabrics

Underwear

Waterproofing of textiles

Analysis

See Textile analysis

Bonded web

Big growth seen for non-wovens. S. I. Rudo. Mod Textiles Mag 39:35+ Ap '58; Same. Textile Ind 122:71 Mr '58

Bonding agents for nonwovens. R. G. Stoll. Mod Textiles Mag 39:49-50 Je '58

Mills expand by making practical nonwoven fabrics. Textile World 108:65-7 O '58

Nonwoven fabrics in one step. H. D. McCall. il diag Textile Ind 122:160-3 O '58

Non-wovens today and tomorrow; New York board of trade 3d annual symposium. il Textile Ind 122:90-4 My '58

Non-wovens up-to-date. M. T. Hoffman. il diag Textile Ind 122:93-91 My '58

Research in nonwoven fabrics may soon increase production. Textile World 108:94-5 F '58

Tips for making a saturator for non-wovens. diags Textile Ind 122:97+ Jl '58

Cleaning

See Cleaning

Coating

Canadian industries ltd.; Fabrikoid works and laboratories. il Chem & Ind p 1049-50 Ag 16 '58

Durable calendar effects; nonvolatile acetals applied; patent. Am Dyestuff Rep 47:23 Ja 13 '58

Embossed calendar effects; shrinking resin preprinted fabrics; patent. Am Dyestuff Rep 47:131 F 24 '58

Joanna modernizes bleaching and coating methods. il Textile World 108:72-3 Ag '58

Manufacture of coated fabrics; the processes used and their bearing on the choice of pigments. H. Shepherd. diags Soc Dyers & Col J 74:449-57 Je '58

See also

Nylon fabrics—Coating

Creasing

See Creasing of textiles

Electrostatic properties

Chemical finishing eliminates static; abstract. E. I. Valko and others. Textile World 108:119+ Ja '58

Evaluating antistatic finishes. F. H. Steiger. bibliog diags Textile Res J 28:721-3 S '58

Inflammability

Fire accidents; the contribution of some textiles. D. I. Lawson. bibliog diags Res 11:126-33 Ap '58

Mechanism of the thermal degradation of cellulose; review of work sponsored by the OMC. R. C. Laible. bibliog(36 ref) Am Dyestuff Rep 47:173-8 Mr 24 '58

Nonwoven

See Textile fabrics—Bonded web

Permeability

Factors influencing the air permeability of felt and felt-like structures. N. C. Davis. bibliog Textile Res J 28:318-24 Ap '58

Pleating

See Creasing of textiles

Protection

Identification and estimation of phenolic fungicides in mildewproof materials. C. L. Hilton. bibliog Textile Res J 28:263-6 Mr '58

See also

Rotproofing of textiles

Shrinkage

Shrink- and creaseproofing textiles; patent. Am Dyestuff Rep 47:201-2 Mr 24 '58

See also

Cotton fabrics—Shrinkage

Knit goods—Shrinkage

Rayon fabrics—Shrinkage

Soiling

See Soiling of textiles

Stains

Oil and water repellent treatments for cotton with fluorochemicals. L. Segal and others. bibliog il Textile Res J 28:233-41 Mr '58; Abstract. Textile World 107:121+ D '57

Storage

Cloth stored in silver cans reduces handling costs. il Textile Ind 122:221 O '58

Fiber tubes provide low cost fabric storage. G. J. Bevans. il diag Mod Textiles Mag 39:39-40 Jl '58; Abstract. Plant Eng 12:103 Jl '58

TEXTILE fabrics—Continued

Strength

Comparison of three methods (single and double rip) for the determination of tearing strength of fabrics. L. H. Turl. *diag* Textile Res J 28:839-48 O '58

Testing

Comparison of three methods (single and double rip) for the determination of tearing strength of fabrics. L. H. Turl. *diag* Textile Res J 28:839-48 O '58

Determination of performance of fibre blends in wet processing. R. C. Cheetham and H. D. Edwards. *il* Soc Dyers & Col J 74:77-84; Discussion. 84-5 F '58

Devices and techniques for use in fungicide testing. S. Shapiro. *bibliog* *il* *diag* *Am Dyestuff Rep* 47:13-8 F 10 '58

Evaluating antistatic finishes. F. H. Steiger. *bibliog* *diag* Textile Res J 28:721-33 S '58

Factors affecting the drying of apparel fabrics. R. Steele. *bibliog* *diag* Textile Res J 28:136-47 F '58

Testing and evaluation of wash-and wear properties. G. B. Krumholz, Jr. *il* *Mod Textiles Mag* 39:51-4 J1 '58

Two-dimensional load-extension tester for fabrics and film. F. B. Checkland and others. *bibliog* *il* *diag* Textile Res J 28:399-403 My '58

See also

Woolen and worsted fabrics—Testing

Washability

Arnel-Dacron wash and wear fabrics. H. F. Elsom and T. W. Westarp. *Mod Textiles Mag* 39:40+ O '58

Arnel staple in wash-and-wear cloths. H. F. Elsom and W. A. Schoeneberg. *il* *Mod Textiles Mag* 39:34-6+ J1 '58

Laundrying procedures in the commercial laundry and in the home; committee on dimensional changes in textile fabrics. *Am Dyestuff Rep* 47:187-90 Mr 24 '58

Realistic concept of wash-and-wear. G. S. Wham. *Mod Textiles Mag* 39:49-50 J1 '58

Resins for wash-wear finishes. H. C. Borghetty. *Mod Textiles Mag* 39:40+ Ag '58

Structural compactness of woven wool fabrics and their behavior in modern washing machines. H. Bogaty and others. *bibliog* Textile Res J 28:733-7 S '58

Testing and evaluation of wash-and wear properties. G. B. Krumholz, Jr. *il* *Mod Textiles Mag* 39:51-4 J1 '58

Wash-and-wear problems of merchandising. F. J. Flynn. *Mod Textiles Mag* 39:55-6 J1 '58

Wear study of the serviceability of a minimum care garment. M. A. Morris and B. Wilsey. *bibliog* Textile Res J 28:881-91 O '58

What the panel thought about wash-and-wear performance; panel discussion. Textile World 107:124+ D '57

Weathering

Improved light and weather resistance of cotton resulting from mercerization. C. F. Goldthwait and H. M. Robinson. *bibliog* Textile Res J 28:120-6 F '58

TEXTILE fibers

Basic actions as an approach to textile fiber processing; a suggested use of symbols. E. R. Schwarz. *diag* Textile Res J 28:560-3 J1 '58

Fact file; suppliers' information section; fibers and yarns. *il* Textile World 108:55-60 Mid-J1 '58

Materials of construction for chemical engineering; fibers. C. S. Grove, Jr. and others. *il* *Ind & Eng Chem* 50:1444-8 *bibliog* (p 1447-8) pt 2 S '58

Predicting commercial acceptance of a fiber. J. L. Barach and others. Textile Res J 28:747-54 S '58

Properties of materials; natural fibers. Materials in Design Eng 48:240 Mid-O '58

U.S. fiber consumption down 4% per cent in 1957. Textile Ind 122:108 My '58

Variability of set in keratin fibers. T. Mitchell and M. Feughelman. *bibliog* *diag* Textile Res J 28:463-8 Je '58

See also

Cotton fibers
Hemp
Jute
Kenaf
Wool

Blending

Determination of performance of fibre blends in wet processing. R. C. Cheetham and H. D. Edwards. *il* Soc Dyers & Col J 74:77-84; Discussion. 84-5 F '58

Identification

Cotton textile merchants protest labeling bill. Textile Ind 122:119 My '58

Fiber identification law and the future; editorial. A. H. McCollough. *Mod Textiles Mag* 39:29 O '58

New fiber labeling law. S. Gotshal. *Mod Textiles Mag* 39:32+ O '58

Ultraviolet reflectance curves of fiber; abstract. G. Thomson and others. Textile World 108:133 F '58

Moisture content

Thermodynamic relations among stresses, deformations, and moisture absorption. J. W. S. Hearle. *bibliog* *diag* Textile Res J 27:940-5 D '57

See also

Cotton yarn—Moisture content

Swelling

Bilateral structure and the swelling of mild pretreated wools (disulfide exchange). G. Saitow and H. Kessler. Textile Res J 28:359 Ap '58

Compressional and absorptive behavior of bulk fiber systems. I. M. Gottlieb and others. *il* Textile Res J 28:41-6 Ja '58

Microscopic studies on the structure and composition of keratin fibers. J. Menkart and A. E. Corb. *bibliog* (31 ref) *il* *pl* Textile Res J 28:218-26 Mr '58

Tables, calculations, etc.

Rapid approximation for standard deviation and coefficient of variation. J. H. Burkhalter. Textile Res J 28:91-2 Ja '58

Testing

Automatic single fiber tensile strength tester. R. A. Crane and P. C. Wharff, Jr. *il* *diag* Textile Res J 28:343-50 Ap '58

Findings and recommendations on the use of the vibroscope. D. H. Patt. *il* *diag* Textile Res J 28:691-700 Ag '58

High speed tensile testing of fibers. J. W. Ballou and J. A. Roetling. *bibliog* *diag* Textile Res J 28:631-46 Ag '58

How eight fibers compare in stress-strain properties; with charts and tables. J. F. de Bordenave and others. *il* Textile World 108:97-11 Mr '58

Some dynamometric applications of an electronic integrator-differentiator. J. Grignat and F. Monfort. *diag* Textile Res J 28:47-59 Ja '58

Statistics and time dependence of mechanical breakdown in fibers. B. D. Coleman. *bibliog* J Ap Phys 29:363-83 Je '58

Submerged cantilever densimeter for fibers. H. de Vries and H. G. Weijland. *il* Textile Res J 28:133-4 F '58

See also

Wool—Testing

TEXTILE fibers, Metallic

Tips for using Luxel metallic yarn in warp, circular, and flat-bed knitting. *il* *diag* Textile Ind 122:203+ O '58

TEXTILE fibers, Synthetic

Airco moves toward fibers; vinylon. Chem & Eng N 36:19 Je 9 '58

Colouring of vinylon. S. Nomura and K. Tanabe. *bibliog* *pl* *diag* Soc Dyers & Col J 74:359-71 My '58

Data available on end uses of textile fibers from 1949-1955. Textile Ind 122:155 F '58

Eastman adds a polyester, Kodol fiber for wash-and-wear fabrics. Chem & Eng N 36:30 S 22 '58

Effect of construction on certain stress-strain properties of uncoated and coated Fortisan fabrics. J. F. Krasny and others. *bibliog* Textile Res J 27:983-90 D '57

Fact file; man-made fibers. Textile World 108:29-34 Mid-J1 '58

Future of the independent converter of man-made fiber fabrics. H. A. Wiedenfeld. *Mod Textiles Mag* 39:55-6 My '58

Hard, rewarding climb of Ovidas Joseph Caron; founder of Caron spinning co. J. Campbell. *Mod Textiles Mag* 39:27-8+ Ag '58

How to process Zefran. H. N. Woessner and J. R. Overby. *il* Textile Ind 122:86-91 Ag '58

Impact of man-made fibres upon the dyeing industry. A. H. Wilson. Soc Dyers & Col J 74:120-2 Mr '58

TEXTILE fibers, Synthetic—Continued

- Inventory of new chemicals and materials; textile chemicals and synthetic fibers, *il Chem Eng* 64:207-8 Mid-N '57
- Inventory of new processes and technology; synthetic fibers. *Chem Eng* 65:135 My '58
- Man-made fiber textiles; a big and growing market for chemicals. S. B. McFarlane and A. F. Caprio, *bibliog il Mod Textiles Mag* 39:31-2+ Ja '58
- Man-made fibers; a review of synthetic textile fibers now produced in the United States. *il Plastics World* 16:10-19+ bibliog (p22-7) Mr '58
- Man-made fibers; profit opportunities. J. Campbell, *il Mod Textiles Mag* 39:49-63 S '58
- Man-made fibers take over carpets. *il Mod Textiles Mag* 39:33+ Mr '58
- Man-made fibers use gains sharply between 1937 and 1955. *Mod Textiles Mag* 38:36 D '57
- Materials of construction for chemical engineering; fibers. C. S. Grove, Jr. and others. *il Ind & Eng Chem* 50:1444-8 bibliog (p 1447-8) pt 2 S '58
- New fabrics, new yarns. Published in monthly numbers of Modern textiles magazine
- New fiber team set up by Celanese and Imperial chemical industries. *Chem & Eng N* 36:27-8 O 6 '58
- New fibers on scene; Topel and Corval from Courtaulds (Alabama). *Chem & Eng N* 36:56 Ag 11 '58
- New Goodyear resin for fiber production. *Rubber World* 138:295 My '58
- New products and new raw materials for the paper industry. W. E. Hansen. *Paper Ind* 40:163-4 Je '58
- 1957 textile research achievements; fibers and yarns. J. B. Goldberg. *il Mod Textiles Mag* 39:61-3 F '58
- Physical properties of synthetic fibers which contribute to wet felt performance. R. H. Beaumont. *Tappi* 40:sup 187A-90A D '57
- Point of new departure abstract. D. Gordon. *Chem & Ind p 1497 N 15 '57*
- Polyester fiber extends range of wash-and wear apparel. *Chem Eng* 65:82 O 20 '58
- Polyolefin fibers; the current position. C. T. Kennedy. *il Textile Ind* 122:107-10 Ag '58
- Prime mover in Chemstrand sales; William H. Luitpe. J. Campbell. *Mod Textiles Mag* 39:31-2+ My '58
- Properties and uses of the man-made fibers. *Textile Ind* 122:101-3 Ag '58
- Properties of materials; synthetic fibers. Materials in Design *Eng* 48:238-9 Mid-O '58
- Properties of some experimental map papers containing synthetic fibers. G. L. McLeod. *bibliog Tappi* 41:430-3 Ag '58
- Reaction spinning of fibers. H. A. Pohl. *bibliog diag Textile Res J* 28:473-7 Je '58
- Recent advances in the industrial use of synthetic fibers. J. M. Swanson. *Textile Res J* 28:755-8 S '58
- Stretch and bulk yarns; what they are, how they differ, their uses in the future. M. H. Gurley, Jr. *Mod Textiles Mag* 39:31-4 F '58
- Swelling and solution of synthetic fibre-forming polar polymers in liquids. W. R. Moore. *bibliog diag Soc Dyers & Col J* 73:500-6 N '57
- Synthesis and structure of fiber forming polymethylene sulfones and evaluation of such a polysulfone fiber. H. D. Noether. *bibliog il Textile Res J* 28:533-41 J1 '58
- Synthetic fibers from petroleum chemicals. F. J. Soday. *Pet Refiner* 36:204-5 N '57
- Synthetic fibres; new acrylics to bolster soft market. C. H. Bayley. *il Can Chem Process* 42:sup22A-3A Ja '58
- What's happening to man-made fibers. *Textile World* 108:45-6 S '58
- Zefran; the newest commercial fiber. *il Textile World* 108:49-54 Ag '58
- See also
- Cellulose acetate fibers
- Dacron
- Dyes and dyeing—Synthetic fibers
- Nylon
- Nylon fibers
- Orlon
- Rayon
- Rayon fibers

Blending

- Arnel-Dacron wash and wear fabrics. H. F. Elsom and T. W. Westarp. *Mod Textiles Mag* 39:40+ O '58
- Rhovyl; polyvinyl chloride fibers. L. Hochstaedter. *bibliog il diag Textile Res J* 28:78-85 Ja '58
- Styling with the man-made fibers. S. Prokuskil. *Textile Ind* 122:98-100 Ag '58

Identification

- Identification and determination of Verel fiber in fabrics. H. W. Coover and others. *Textile Res J* 28:530 Je '58
- Identification of unknown synthetic fibers. S. G. Smith. *bibliog Am Dyestuff Rep* 47:141-2+ Mr 10 '58

Manufacture

- New fiber shapes. *il Mod Textiles Mag* 38:70+N '57
- Team work between design and process; synthetic fibers. J. A. McGowan and F. J. Farcher. *il Can Chem Process* 42:109-10 S '58

Moisture content

- Preparation and properties of regenerated cellulose containing vinyl polymers; moisture relations. G. Landells and others. *Soc Dyers & Col J* 73:496-500 N '57

Statistics

- Man-made fiber output at new high; 1957 U.S. production figures. *Mod Textiles Mag* 39:46+ Mr '58
- 1957 man-made fiber production up 7½ per cent over 1956. *Textile Ind* 122:85 Mr '58

Strength

- Single fiber tells a story; acrylic alloy fiber. Zefran. *il Chem & Eng N* 36:40-1 S 1 '58

Tables, calculations, etc.

- Tables of denier numbers and filament counts of U.S. man-made yarns and fibers. H. G. Janner. *comp. Mod Textiles Mag* 39:69-78 S '58

Testing

- Application of spot tests in the examination of synthetic fibers. F. Teisl and others. *bibliog Textile Res J* 28:392-4 O '58
- Evaluation of the spinning properties of man-made staple fibers. H. L. Röder. *bibliog il diag Textile Res J* 28:319-39 O '58
- Five properties that affect man-made-fiber processing. H. L. Röder. *Textile World* 108:90-1 Mr '58
- How eight fibers compare in stress-strain properties; with charts and tables. J. F. de Bordenave and others. *il Textile World* 108:97-114 Mr '58
- Rhovyl; polyvinyl chloride fibers. L. Hochstaedter. *bibliog il diag Textile Res J* 28:78-85 Je '58
- Some mechanical properties of Mylar and Dacron polyester strands at low temperatures. R. P. Reed and R. P. Mikesell. *diag R Sci Instr* 29:734-6 Ag '58

TEXTILE finishing

- Acetal, cellulose reactants. J. B. Irvine and B. H. Kress. *Textile Res J* 28:148-58 F '58
- Ahcovel T and Ahcovel P series; cationic substantive softeners. *Am Dyestuff Rep* 47:167 Mr 10 '58
- Better methods and materials for chemical treatment. *Textile World* 108:99-100 F '58
- Chemical finishing eliminates static; abstract. E. L. Valko and others. *Textile World* 108:119+ Ja '58
- Chemical-treatment advances show way to profits. *il Textile World* 108:76-80 O '58
- Chemical-treatment control; instrumentation, the basis for better processing. *il Textile World* 108:80-1 O '58
- Determination of performance of fibre blends in wet processing. R. C. Cheetham and H. D. Edwards. *il Soc Dyers & Col J* 74:77-84: Discussion. 84-5 F '58
- Drycleaners progress with wash-and-wear finishes; abstract. R. T. Graham. *Textile World* 107:123 D '57
- Evaluating antistatic finishes. F. H. Steiger. *bibliog diag Textile Res J* 28:721-33 S '58
- Fact file; chemical treatment. *Textile World* 108:41-6 Mid-J1 '58
- Finishing plant keynotes improved operations; Collins and Aikman Corp. *il plan Textile Ind* 122:82-5 Mr '58
- Finishing the man-made fibers. H. C. Borghetty. *Textile Ind* 122:81-5 Ag '58
- How Ohio Falls finishes industrial fabrics. *il Textile World* 108:65+ Ag '58
- How to dye Dacron Taslan cloth; procedures for finishing of lightweight fabrics. *Mod Textiles Mag* 39:44+ F '58
- How to finish Orlon blankets. K. D. Houser and L. Bidgood, Jr. *diag Mod Textiles Mag* 38:50+N '57
- How to save on steam. *Mod Textiles Mag* 39:69 Je '58

TEXTILE finishing—Continued

- Measure fabric temperature with a radiation pyrometer. B. B. Ritchey. *Il diag Textile World* 108:89+ Je '58
- 1957 textile research achievements; finished goods. J. E. Goldberg. *Il Mod Textiles Mag* 39:66-9 F '58
- Permanent finishes: cellulose esterified or etherified with unsaturated chains in two steps; patent. *Am Dyestuff Rep* 47:202 Mr 24 '58
- Project: design a finishing plant. plan *Textile Ind* 122:111-13 Ap '58
- What fluid beds can do. J. Wilson and F. G. Audas. *diags Mod Textiles Mag* 38:45+ N '57

See also

- Cotton finishing
- Creaming of textiles
- Fireproofing of textiles
- Napping of textiles
- National association of finishers of textile fabrics
- Rayon finishing
- Resinous products—Textile uses
- Sizing (textiles)
- Waterproofing of textiles
- Woolen and worsted finishing

TEXTILE finishing machines

- History and development of compressive shrinkage. F. V. Davis. *diags Soc Dyers & Col J* 74:8-13 Ja '58

See also

- Dyeing machines

TEXTILE industry

- Amended arbitration clause; finished goods contracts and receipts. *Mod Textiles Mag* 39:59 Mr '58
- A.G.A.-S.E.G.A. 2d annual textile symposium. Greensboro, N.C. Sept. 8-9; gas men study textile problems. *Am Gas Assn Mo* 40:31-2+ O '58; *Gas Age* 122:18-19 O 16 '58
- Fabric trends; abstract. W. J. Hamburger. *Textile World* 108:119 Ja '58
- Future of the independent converter of man-made fiber fabrics. H. A. Wiedenfeld. *Mod Textiles Mag* 39:55-6 My '58
- How technologists can help sales. W. M. Kelly. *Mod Textiles Mag* 39:57-60; Discussion. 60-1 My '58
- Imports; two case histories. *Textile Ind* 122:40 My '58
- Light under a bushel. *Textile Ind* 122:99+ Ap '58
- 1957 textile research achievements. J. E. Goldberg. *Il Mod Textiles Mag* 39:61-9 F '58
- Solid achievements of Goldstein & Leavy. J. Campbell. *Mod Textiles Mag* 39:35-6 Je '58
- Textile recession deepens. *Chem & Eng N* 36:38-9 Mr 31 '58
- Textiles; annual review 1957. J. F. Krasny and M. Harris. *Il Ind & Eng Chem* 50: sup38A-40A Ja '58

See also

- Chemstrand corporation
- Color in the textile industry
- Dyes and dyeing
- Textile fibers
- Textile fibers, Synthetic
- Textile finishing

Bibliography

- Book reviews. Published in monthly numbers of *Textile research journal*
- Book reviews. Published in monthly numbers of *Textile world*

Canada

- Canadian textile conference, Montreal. *Textile Ind* 122:77-8 Jl '58
- Productivity is key to prosperity; abstract. H. R. Crabtree. *Textile Ind* 122:104 Mr '58

Germany

- Germany's textile industry. R. A. Morgan. *Il Textile Ind* 122:126-30 F '58

TEXTILE laws and regulations

- Fiber identification law and the future; editorial. A. H. McCollough. *Mod Textiles Mag* 39:29 O '58

- New fiber labeling law. S. Gotshal. *Mod Textiles Mag* 39:32+ O '58

TEXTILE machinery

- AIEE textile-electrical conference, Raleigh, N.C. *Textile Ind* 122:95-6 Ja '58
- Automated nylon or rayon cord producer. *Il Rubber World* 138:291 My '58
- Buying capital equipment. E. Stowell. *Textile Ind* 122:89-91 F '58
- Clarkson Cord Former. *Il Textile World* 108:115 My '58

- Equipment and supply news. Published in monthly numbers of *Textile world*
- Fact file; classified list of companies supplying products and services to the textile industry. *Textile World* 108:203-49 Mid-Jl '58
- Fact file; machinery, equipment, and supplies. *Il diags Textile World* 108:161-170 Mid-Jl '58

- High speed tire cord machine; Clarkson Cord Former. *Il Mod Textiles Mag* 39:39-40 My '58

- Highlights of the past year. P. J. Wood. *Il diags Am Dyestuff Rep* 46:920-8 D 2 '57
- Making tufted bedspreads with fast automatic machines. *Il Textile World* 108:111-12 F '58

- New machinery and new equipment. Published in monthly numbers of *Modern textiles magazine*

- New single-end cord treater; the Computreter; C. A. Litzler co. flow diags *Il diags Rubber World* 137:70-10, cover F '58
- Plan '59; modernize now for growth and profits. *Il Textile World* 108:49-87 O '58
- Survey and trends in fabrics and fabric processing machinery; abstract. K. R. Fox. *Automation* 5:111-12 Jl '58
- Three tire cord operations in one; Clarkson Cord Former. *Il Textile Ind* 122:123+ My '58

See also

- Bobbins
- Braiding machines
- Cotton machinery
- Croels
- Dyeing machines
- Electric driving—Textile mills
- Embroidery machines
- Hosiery machines
- Knitting machines
- Looms
- Rolls (textile machinery)
- Slashers (textile mills)
- Spinning machinery
- Spooling machines
- Textile finishing machines
- Textile testing machines
- Twisting machines
- Warping machines
- Winding machines
- Woolen and worsted machinery

Control

- Automation in textiles; here's what is happening. *Il Textile World* 108:70 Ja '58
- Call the plays electrically; tufting pattern control. J. O. Erwin and W. Hammel, jr. *Il diag Textile Ind* 122:106-8+ Je '58
- Chemical-treatment control; instrumentation, the basis for better processing. *Il Textile World* 108:30-1 '58
- Counting device shuts down machine automatically. R. T. Stewart. *diags Mach* 65: 157 S '58
- Textile mills cling to traditional controls. F. Ridgway. *Control Eng* 5:46+ Ja '58

Exhibitions

- International textile machinery exhibition. Manchester, England, Oct. 15-25; American exhibitors. *Il Mod Textiles Mag* 39:52 O '58
- Salute to the textile industry; Efrid's department store exhibition. *Il Textile Ind* 122:69 Mr '58
- Southern textile exposition, 20th, Greenville, S.C.; list of exhibitors. *Textile World* 108: 131-2+ S '58; *Il plan Mod Textiles Mag* 39:99-110 S '58; *Textile Ind* 122:126-50 O '58

Lubrication

- How you can plan a lubrication program. T. Martin. *Textile World* 108:92+ Mr '58

Maintenance and repair

- How to start and maintain range drives. C. L. Griffin, jr. *Il Textile World* 108:56-7 S '58

TEXTILE machinery industry

- How one machinery maker built a new market; Scott & Williams. *Il Mod Textiles Mag* 38:34-5+ D '57

Great Britain

- Engineering industries; textile machinery. *Engineering* 185:63-4 Ja 10 '58

Japan

- ATMA irked by plug for Japanese machinery. J. A. Hunter. *Il Textile Ind* 122:147+ F '58

TEXTILE mills

- Fact file; manufacturing and chemical-treatment data. *diags Textile World* 108:5-52 Mid-Jl '58

Textile mills—Continued

Miracle in Waterville. *Il* plan Prog Arch 39:138-42 Je '58
 Project; design a finishing plant. plan Textile Ind 122:111-13 Ap '58

See also

Carpet factories
 Cotton mills
 Hosiery mills
 Rayon mills
 Textile industry

Air conditioning

Central plants condition three mills. *Il* Heating-Piping 29:118 D '57
 Six heat sources determine air-conditioning loads. Textile World 108:132+ JI '58

Cleaning

See also
 Cotton mills—Cleaning

Control equipment

Textile companies eye computers for production control. F. Ridgeway. Control Eng 5:38+ My '58

Costs

Plan '59; modernize now for growth and profits. *Il* Textile World 108:49-87 O '58

Electric equipment

AIEE textile-electrical conference. Raleigh, N.C. Textile Ind 122:95-6 Ja '58
 Ideal electrical layout for a textile mill. M. V. Gelders. Elec Eng 77:404-7 My '58
 Lint-free motors for textile mills. Safety Maint 114:41-2 N '57
 What you should know about the newest textile motors. C. S. Bouggy. *Il* Textile World 108:74-5 Ja '58

See also

Electric driving—Textile mills

Electronic equipment

Application of electronic techniques to textiles; abstract. K. J. Butler. Inst E E Proc 105 pt B:118 Mr '58
 Electronics in textile processing; abstract. R. Hosmer. Textile World 108:121 Ja '58
 Electronics opens new areas in engineering and maintenance. Textile World 108:100-1 F '58

Employees

See Textile workers

Equipment

Automation with process instruments; abstract. W. H. Ridley. Textile World 108:125 Ja '58
 Better yarn preparation comes from new handling. Textile World 108:90-1 F '58
 Buying general mill supplies. Textile Ind 122:34-5 F '58
 Equipment and supply news. Published in monthly numbers of Textile world
 Fact file; classified list of companies supplying products and services to the textile industry. Textile World 108:203-49 Mid-JI '58
 Fact file; machinery, equipment, and supplies. *Il* diags Textile World 108:61-170 Mid-JI '58
 How the mills are using pressure-sensitive tapes to save time and money. M. D. Schantzen. *Il* Textile Ind 122:115-17 Mr '58
 How to shop for used lift trucks. R. F. Moody. *Il* Textile Ind 122:112-16 S '58
 John Heathcoat & co.; textile industry in Tiverton. *Il* Chem & Ind 8909-10 Je 28 '58
 New machinery and new equipment. Published in monthly numbers of Modern textiles magazine
 New product parade. Published in monthly numbers of Textile industries
 New products developed since Nov. 1956; equipment. *Il* Am Dyestuff Rep 46:915-19 D 2 '57
 Plan '59; modernize now for growth and profits. *Il* Textile World 108:49-87 O '58
 Small accessories improve your piping installation. G. W. Hauck. Textile World 108:124 Ag '58
 Textile mill of 1968. R. E. Parker. *Il* Textile Ind 122:94-7 Mr '58
 Warp beam truck can hook 'n haul at U.S. rubber co.'s Winstboro mills. *Il* Mod Materials Handling 13:109 N '58
 We can't do without them; spinnerettes. L. Levitt. *Il* Mod Textiles Mag 38:50 D '57

See also

Bleacheries—Equipment
 Carpet factories—Equipment
 Textile machinery

Heating and ventilation

Multi-port lubricated plug valves cut heating costs 10-20 per cent. *Il* Mill & Factory 62:121 Je '58

Layout

Machinery layouts help supervisors. C. H. Ashton. plans Textile Ind 122:51-2 JI '58

Lighting

Better lighting helps both management and workers. Textile World 108:205-6 F '58
 How modern is your plant lighting? R. B. Pressley. *Il* diag Textile World 107:97-103+, cover D '57
 See and work better with modern lighting practice. E. A. Lindsay and R. B. Chipman. Textile World 108:190 O '58

Maintenance and repair

Checklist reduces defects in spooling and warping. J. E. Allen. Textile World 108:200 F '58
 Fact file; engineering and maintenance. diags Textile World 108:49-52 Mid-JI '58
 Mill maintenance. Published in monthly numbers of Textile world

See also

Cotton mills—Maintenance and repair

Management

Berkshire Hathaway's brave new voyage. J. Campbell. Mod Textiles Mag 38:33+ D '57
 Fortunate stewardship of F. E. Grier; Abney and Erwin mills. Mod Textiles Mag 39:33-4+ S '58
 Three sides to the public relations triangle; Rieger textile corp. M. B. Eubanks. Am Dyestuff Rep 47:157-9 Mr 10 '58
 Urgent aim for 1958; cut production costs. *Il* Textile World 108:86-101+ F '58

See also

Cotton mills—Management
 Knitting mills—Management

Power

Atlas Underwear conversion unit burns heavy residual oil with air atomization. C. G. Glaser. *Il* Plant 18:40-1 O '58

Purchasing

Mill purchasing practices, 1958. *Il* Textile Ind 122:87-106 F '58

Quality control

American society for quality control Textile division annual meeting. Clemson, S.C.; abstracts of papers. Textile World 108:49-51+ Ap '58
 How the engineer approaches the problem of quality control; abstract. K. V. Chace. Textile Ind 122:85 Je '58
 How 32 mills organize quality control. D. S. Hamby. Textile World 108:130 Ag '58
 Mill test procedures (cont.) N. L. Enrick. Mod Textiles Mag 38:40+ D '57
 Secondhands will find the trouble spots; conference on weaving defects. Textile Ind 122:109-11 S '58
 Testing and machine control: modern instruments pay off in better yarns and fabrics. *Il* Textile World 108:82-4 O '58
 Variance analysis; new help in cutting mill costs, producing better fabrics. N. L. Enrick. Mod Textiles Mag 39:43-4+ Je '58
 When supervisors complain more, customers complain less; interdepartmental complaint plan. F. Vogel. Textile Ind 122:151-3 O '58

See also

Cotton mills—Quality control
 Textile quality control association

Records

What reports does management need? F. H. Drewes. *Il* Textile Ind 122:120-3 Ap '58

Roofs

How to stop roof decay; Rock Hill printing and finishing co. J. A. Aycock. *Il* Textile Ind 122:134 Ap '58

Safety measures

Most accidents aren't accidental. H. Zibbie. Textile Ind 122:81 S '58
 Vision tests cut accident frequency at Abney mills. *Il* Textile Ind 122:77-8 S '58

Stores systems

Supply control system; Erwin mills. J. McArthur. *Il* Textile Ind 122:119-21+ Ag '58

TEXTILE mills—Continued

Waste

- Reduce waste disposal costs by combining mill waste with sewage for treatment; symposium. flow diag Textile Ind 122:136-4 F '58
- Textile waste problems. R. S. Ingols. Sewage & Ind Wastes 30:1273-7 O '58
- Treating textile wastes economically; abstract. R. H. Southard and T. A. Alsbaugh. Textile World 108:137-4 F '58
- See also
- Cotton mills—Waste

Bibliography

- Review of the literature of 1957 on sewage, waste treatment, and water pollution; textile and wool scouring wastes. Sewage & Ind Wastes 30:734-5 Je '58

Water supply

See Water supply for textile mills

TEXTILE patents

- Abstracts from British and foreign journals and patents. Published in monthly numbers of Journal of the Society of dyers and colourists

See also

Fireproofing of textiles—Patents

TEXTILE printing

- Mechanized screen printing speeds production at Bernard screen printing co. 11 diag Textile World 108:76-7 My '58
- Melange of Vigoureux printing of wool; a method for increasing the rate of dye fixation. J. Delmenico. bibliog (20 ref) 11 Textile Res J 27:899-912 N '57
- Mill engraving for sharp reproduction of fine-line patterns; Cranston print works. 11 Textile Ind 122:154-6 O '58
- Operation centerline; bedspread patterns printed through aid of two electro-mechanical devices. Control and Edgetrol. 11 Textile Ind 122:101-3 Je '58
- Possibilities and limitations of the application of pigments to textiles. W. Kass. Soc Dyers & Col J 74:14-19; Discussion. 19-21 Ja '58
- Print works thrives on diversity; Bruck mills. 11 Textile Ind 122:56-7 J1 '58
- Printing the man-made fibers. H. P. Baumann. 11 diag Textile Ind 122:75-80 Ag '58
- Printing with emulsions. R. D. Greene. Am Dyestuff Rep 47:191-3 Mr '58
- Why and how of textile printing. R. W. Jacoby. 11 Textile Ind 122:110-15 F '58
- Why not print your bedspread? P. Abbenheim. Textile Ind 122:117-4 Je '58

See also

- Calico printing
- Silk screen printing

TEXTILE quality control association

- Meeting, Greenville, S.C. Textile Ind 122:114-4 My '58

TEXTILE research

- Activation analysis of fibrous materials; effect of nuclear radiation on fibrous materials. O. Teszler and H. A. Rutherford. Textile Res J 28:86 Ja '58
- Concerning the theory of fatigue failure in textile materials. W. J. Lyons. bibliog Textile Res J 28:127-30 F '58
- Effect of nuclear radiation on fibrous materials. O. Teszler and others. Textile Res J 28:131-5 F '58
- Fifty years of chemical progress in textiles. E. M. Buras, jr. and M. Harris. 11 Ind & Eng Chem 50:sup97A-101A Ja '58
- Many sciences applied to fabric research. 11 Anal Chem 30:sup45A-74 Ja '58
- 1957 textile research achievements. J. B. Goldberg. 11 Mod Textiles Mag 39:61-9 F '58
- Nuclear energy, a new textile tool; abstract. H. A. Rutherford. Textile World 108:123 Ja '58
- Soil retention by textile fibres. A. S. Weatherburn and C. H. Bayley. bibliog Research 11:141-6 Ap '58
- Thermodynamic relations among stresses, deformations, and moisture absorption. J. W. S. Hearle. bibliog diags Textile Res J 27:940-5 D '57
- Time-lapse cinematography; Armstrong cork company's Research and development center. J. H. Widmyer. 11 Ind Phot 7:26-7-4 F '58

See also

- Cotton research
- Wool research

TEXTILE research institute

- Annual meeting, 29th, New York, March 13-14; abstracts of papers on the outlook for cellulose. Textile Ind 122:122-4 My '58

TEXTILE samples

- Can you use a sample department? O. Hughes. 11 Textile Ind 122:81-2 J1 '58

TEXTILE schools

- Textile colleges in the New England region. 11 Am Dyestuff Rep 46:813-20 N 4 '67

TEXTILE sizing. See Sizing (textiles)

TEXTILE standards

- Stronger retail support for L22 standards urged to hike profits by cutting returns; American standard minimum requirements for rayon and acetate fabrics. A. J. Pignini. Mag of Stand 29:78-9 Mr '58

TEXTILE terms

See also

- Dyes and dyeing—Terminology

TEXTILE testing

- Automatic vibroscope. B. H. Mackay and J. G. Downes. bibliog diags Textile Res J 28:467-73 Je '58
- 1957 textile research achievements; testing methods and equipment. J. B. Goldberg. Mod Textiles Mag 39:69 F '58
- Testing and machine control; modern instruments pay off in better yarns and fabrics. 11 Textile World 108:84-4 O '58
- Testing costs can be justified. R. Parks. 11 Textile Ind 122:164-6 O '58

See also

- Cotton yarn—Testing
- Dye testing
- Nylon fabrics—Testing
- Nylon fibers—Testing
- Yarn—Testing

TEXTILE testing machines

- Automatic single fiber tensile strength tester. R. A. Crane and P. C. Wharf, jr. 11 diags Textile Res J 28:343-50 Ap '58
- Bad work detective; Uster evenness tester with spectrograph. 11 Textile Ind 122:76-8 Ja '58
- Comparison of the tensile strengths of yarns using different gauge lengths and rates of loading. H. A. Merceness. 11 Textile Res J 28:351-6 Ap '58
- Cotton fiber maturity rapidly predicted with variable volume of sample in Micronaire. W. E. Chapman, Jr. and G. Staten. 11 Textile Res J 27:991-2 D '57
- Fiber fineness, how many tests? measurement of cotton fiber properties. F. G. Ernest. Textile Ind 122:97-9-4 S '58
- How to improve blending by Micronaire numbers. N. N. Nolen. Textile World 108:62-3 S '58
- IP-4 chart computer. C. M. Rice and J. P. Parker. 11 diag Textile Res J 28:87-8 Ja '58
- Laboratory evaluation of nep potential. R. H. Souther. Textile Res J 28:582-5 J1 '58
- Means for measuring neps produced by ginning treatments. J. V. Shepherd. Textile Res J 28:579-82 J1 '58
- Method for measuring yarn softness and its use to show the effect of single and ply twist on the softness of 3/2 cotton yarns. E. L. Skau and others. 11 diag Textile Res J 28:206-12 Mr '58
- Method of measuring Poisson's ratio of fibers. P. I. Frank and A. L. Ruoff. 11 diags Textile Res J 28:213-17 Mr '58
- Micronaire reading as close approximation to fiber thickness. K. L. Hertel. 11 diags Textile Res J 28:442-4 My '58
- Modified Micronaire predicts both fineness and maturity; abstract. W. E. Chapman, Jr. Textile World 108:91-2 My '58
- Nepotometer studies; use as a mill instrument. L. D. Frvor and J. P. Elting. Textile Res J 28:575-9 J1 '58. Abstract. Textile World 108:56-7-4 Ap '58
- Progress reports on use and application of the nepotometer; some factors that affect test results. A. R. Markezich and others. bibliog 11 Textile Res J 28:570-5 J1 '58. Abstract. Textile World 108:92-4 My '58
- Slide rule for correcting Uster evenness calculations. P. W. Mullen. Textile Res J 28:272-3 Mr '58
- Testing instruments take guesswork out of textiles. Textile World 108:101-4 F '58
- Two-dimensional load-extension tester for fabrics and film. P. B. Checkland and others. bibliog 11 diags Textile Res J 28:399-403 My '58

TEXTILE workers

- Secondhands will find the trouble spots; conference on weaving defects. Textile Ind 122:109-11 S '58
- Supervisor training, how to pep it up; incident process method. North Carolina finishing co. M. D. Rochelle. 11 Textile Ind 122:169-70 O '68

TEXTILE workers—Continued

Theme song of the labor monopolies. R. Arden. *Textile Ind* 122:115+ Ja '58

See also

Loom fixers
Spinners
also subdivision Employees under special subjects, e.g.
Cotton mills
Hosiery mills
Knitting mills

TEXTILE world (periodical)

Textile world's 90th birthday. *Il Textile World* 108:47-8 Ag '58

THAILAND

See also

Petroleum industry and trade—Thailand

THALLIUM chlorides

Transport numbers in pure fused salts; lead chloride, lead bromide, thallous chloride, and silver nitrate. R. W. Laity and F. R. Duke. *bibliog Electrochem Soc J* 105:97-9 F '58

THALLIUM compounds

Structure and bonding of cyclopentadienylthallium and bis-cyclopentadienylmagnesium. F. A. Cotton and L. T. Reynolds. *bibliog diag Am Chem Soc J* 80:269-73 Ja 20 '58

THAMES river

Effects of heated discharges on the temperature of the Thames estuary. A. L. H. Gameson and others. *bibliog Engineer* 204: 816-19, 850-2, 893-6 D 6-20 '57

THAWING

Ways of handling coal in freezing weather. *Power Eng* 62:90 Mr '58

THEATERS

Cologne builds a new home for its opera to replace a wartime casualty. *Il Arch Rec* 123:18 Ap '58

Dallas theater. *Il plan diag Arch Rec* 123: 168-9 My '58

Frank Lloyd Wright designs for Baghdad; Grand opera and civic auditorium. *Il plans diag Arch Forum* 108:89-101 My '58

Monona terrace project. Madison, Wis. *Il plans Arch Rec* 123:170-1 My '58

Lighting

Recommended practice for reporting photometric performance of incandescent filament lighting units used in theatre and television production. *diags Illum Eng* 53: 616-20 S '58

THEATERS, Open air

Two shelters admit the open air; in Connecticut, open-air theater sheltered for summer music. *Il Arch Rec* 123:195-6 Ap '58

THEBAINE

Origin of the methyl groups in morphine, codeine and thebaine. A. R. Battersby and B. J. T. Harper. *bibliog Chem & Ind* p385 Mr 22 '58

THEODOLITES

Cine-theodolite control system used on guidance missiles ranges. R. J. Garvey. *Il diags Electronic Eng* 30:128-34 Mr '58

THEORETICAL chemistry. See Chemistry, Physical and theoretical**THEORY of games. See Games, Theory of****THERAPEUTICS**

Therapeutics. S. J. Hopkins. *bibliog Manuf Chem* 29:154-6, 249-52, 433-6 Ap, Je, O '58

See also

Chemotherapy
Stimulants
X rays—Therapeutic use

THERMAL analysis

Clay-carbonate-soluble salt interaction during differential thermal analysis. R. T. Martin. *Am Mineralogist* 43:649-55 Ji '58

Configurational intercorrelation of optically active biphenyls by thermal analysis. M. Siegel and K. Mislow. *bibliog Am Chem Soc J* 80:473-6 Ja 20 '58

Differential thermal analysis above 1200°C. T. F. Newkirk. *bibliog diags Am Ser Soc J* 41:409-14 O 1 '58

Differential thermal analysis apparatus for heating and cooling data. D. D. Williams and others. *bibliog diags Anal Chem* 30:482-4 Ap '58

Differential thermal analysis of fats. A. J. Haighton and others. *bibliog Il diags Am Oil Chem Soc J* 35:344-7, 418-22, 457-61 Ji-S '58

Differential thermal analysis of organic solids. M. C. P. Varma. *J Ap Chem* 8:117-21 F '58

Differential thermal analysis of sphalerite. O. C. Kopp and P. F. Kerr. *bibliog Am Mineralogist* 43:732-48 Ji '58

Reactions of the group VB pentoxides with alkali oxides and carbonates; DTA study of alkali metal carbonates. A. Reisman. *Am Chem Soc J* 80:3558-61 Ji 20 '58

Review of fundamental developments in analysis; differential thermal analysis. C. B. Murphy. *diags Anal Chem* 30:867-72 *bibliog* (p871-2) Pt 2 Ap '58

Simple, automatic, high-temperature thermal analysis apparatus. S. J. Lloyd and J. R. Murray. *diags J Sci Instr* 35:252-4 Ji '58

Thermal analysis of the ferrous chloride-potassium chloride system. H. L. Finch and J. M. Hirshon. *Am Chem Soc J* 79: 6149-50 D 5 '57

Thermal analysis of transformer load cycles. S. Bennon. *Power Apparatus & Systems* p21-5 Ap '58; *Abstract. Elec Eng* 77:493 Je '58

Way to speed analysis; foundry uses X-ray spectrometer to analyze heats. *Il Steel* 141: 156 D 9 '57

THERMAL computers. See Calculating machines—Thermal computers

THERMAL conductivity. See Heat conductivity

THERMAL converters. See Thermocouples

THERMAL expansion. See Expansion (heat)

THERMAL insulation. See Insulation (heat)

THERMAL relays. See Relays

THERMAL waters. See Hot springs

THERMALEX-F. See Esters

THERMENOL. See Iron alloys—Aluminum alloys

THERMIONIC converter. See Thermoelectricity

THERMIONIC emission. See Electrons—Thermionic emission

THERMISTORS. See Electric resistors

THERMOBALANCES

Accessories for the Cleveard thermobalance. A. E. Newkirk. *Il diag Anal Chem* 30:162 Ja '58

Continuous-recording laboratory thermobalance. E. S. Bartlett and D. N. Williams. *Il diag R Sci Instr* 28:919-21 N '57

Inexpensive automatic recording thermobalance. W. W. Wendlandt. *bibliog diags Anal Chem* 30:56-8 Ja '58

New advances in tritium tracer technology and recording differential thermobalances. R. H. Müller. *Anal Chem* 30:sup65A-6A+ Je '58

New types of recording differential thermobalances. P. L. Waters. *diags J Sci Instr* 35:41-6 F '58

THERMOCHEMISTRY

Energetics of the boranes; prediction of heats of formation; interconversion of the hydrides of boron. S. H. Bauer. *bibliog Am Chem Soc J* 80:294-8 Ja 20 '58

Heat of formation of boric oxide. B. H. Eckstein and E. R. Van Artsdalen. *bibliog Am Chem Soc J* 80:1352-4 Mr 20 '58

Heat of formation of titanium tribromide by the mercury reduction of titanium tetrabromide. E. H. Hall and J. M. Blocher, Jr. *bibliog diag Electrochem Soc J* 105:40-4 Ja '58

Heats of formation at 25° of the crystalline hydrides and deuterides and aqueous hydroxides of lithium, sodium and potassium. S. R. Gunn and L. G. Green. *bibliog Am Chem Soc J* 80:4782-6 S 20 '58

Heats of formation of cryolite and sodium fluoride. J. P. Coughlin. *bibliog Am Chem Soc J* 80:1802-4 Ap 20 '58

Heats of formation of niobium dioxide, niobium subnitride and tantalum subnitride. A. S. Mah. *bibliog Am Chem Soc J* 80:3872-4 Ar 5 '58

Thermochemistry of oxygen steel. W. O. Philbrook. *bibliog Il J Metals* 10:477-82 Ji '58

Thermochemistry of sodium tungstate, silver tungstate and tungstic acid. R. L. Graham and L. G. Hepler. *bibliog Am Chem Soc J* 80:3538-40 Ji 20 '58

See also

Combustion, Heat of

Evaporation

Fusion, Heat of

Specific heat

Thermal analysis

Vaporization, Heat of

THERMOCOUPLES

Automatic kiln control at Calaveras. H. F. Utey. *Il diags Pit & Quarry* 50:80-3 My '58

Automation comes to kiln burning; research work done by Calaveras cement co. M. C. Sutton and L. A. Parsons. *Il diags Rock Prod* 61:74-7+ Je '58

THERMOCOUPLES—Continued

- Definition and measurement of the time constant and response time of thermal converters. F. L. Hermach. *bibliog* diags *Com & Electronics* p277-82 J1 '58; *Abstract, Elec Eng* 77:620 J1 '58; *Discussion, Com & Electronics* p282-3 J1 '58
- Designing thermocouples for response rate. R. J. Moffat. *il diags A S M E Trans* 80: 257-62 F '58
- Elimination of cold-junction error in thermocouple measurements in electron tubes. I. S. Solet. *diag R Sci Instr* 29:78-4 Ja '58
- Error in temperature measurement due to the interdiffusion at the hot junction of a thermocouple. A. J. Mortlock. *bibliog diags J Sci Instr* 35:283-4 Ag '58
- Estimation of temperature patterns in multiply-shielded systems. J. G. Bartas and E. Mayer. *diags A S M E Trans* 79:1722-6 N '57
- Level measurement in frothing liquids with multiple thermocouple. J. A. Seiner. *diags Chem Eng* 65:178 My 19 '58
- More accurate thermocouples with percussion welding. J. L. LeMay. *bibliog il diags I S A J* 6:42-5 Mr '58
- Roof temperature measurement. J. Purdie. *Iron & Steel Inst J* 190:17-19 S '58
- Stuffing box for thermocouple. J. H. Potter. *diag Power Eng* 61:94 N '57
- Temperature measurement in solids; thermistors, resistance elements, thermocouples. W. H. Giedt. *il diags Product Eng* 29:66-7 J1 '58
- Theoretical analysis of a dynamic thermocouple. E. W. Gaylord and others. *diags A S M E Trans* 80:307-10 F '58
- Thermocouple method of studying oxidation reactions; photosensitized oxidation of cyclohexene. J. C. Robb and M. Shahin. *bibliog diags Inst Pet J* 44:283-90 S '58
- Tool-work-thermocouple compensating circuit. K. J. Trigger and others. *diags A S M E Trans* 80:302-6 F '58

See also
Temperature—Measurement
Thermopiles

Testing

- Tester checks thermocouples without flame. G. E. Durgin. *il I S A J* 5:59 Mr '58

THERMODYNAMICS

- Adventure in science. J. H. Keenan. *Mech Eng* 80:79-83 My '58
- Aero-thermodynamic aspects of high speed flight; abstract. W. F. Radcliffe. *Aircraft Eng* 30:327 Ag '58
- Apparatus for the experimental study of the thermodynamic properties of water. H. H. Reamer and others. *bibliog flow diag diags A S M E Trans* 80:1004-8 J1 '58
- Applied hydrocarbon thermodynamics. W. C. Edmister. *bibliog diags Pet Refiner* 37:173-8 J1; 123-30 F; 183-8 Mr; 173-9 Ag; 227-33 My; 195-208 Je; 153-62 J1; 113-22 Ag '58
- Bromine; the heat capacity and thermodynamic properties from 15 to 300°K. D. L. Hildenbrand and others. *bibliog Am Chem Soc J* 80:4129-32 Ag '58
- 2-Butanethiol; chemical thermodynamic properties between 0 and 1000°K; rotational conformations. J. P. McCullough and others. *bibliog Am Chem Soc J* 80:4786-93 S 20 '58
- Calculation of theoretical flame temperatures in furnaces. J. W. Myers and others. *bibliog A S M E Trans* 80:202-16 Ja '58
- Characteristics and sound speed in nonisotropic gas flows with nonequilibrium thermodynamic states. E. L. Resler, Jr. *bibliog J Aeronautical Sci* 24:785-90 N '57; *Discussion, J Aero/Space Sci* 25:460-1 J1 '58
- Determination of a thermodynamic stability constant for the cadmium citrate (CdCit⁻) complex ion at 25° by an e.m.f. method. W. B. Treumann and L. M. Ferris. *bibliog Am Chem Soc J* 80:5050-2 O 5 '58
- Dissociation pressure of sodium bifluoride; the free energy and enthalpy change for the reaction of NaF(s) + NaF(g) + HF(g) from 157 to 269°J. Fischer. *Am Chem Soc J* 79:6363-4 D 20 '57
- 2,3-Dithiabutane, 3,4-dithiahexane and 4,5-dithiaoctane; chemical thermodynamic properties from 0 to 1000°K. W. N. Hubbard and others. *bibliog Am Chem Soc J* 80:3547-54 J1 20 '58
- Dynamic response of heat exchangers having internal heat sources. J. A. Clark and others. *bibliog diags A S M E Trans* 80: 612-22, 625-33; *Discussion, 622-4, 633-4 Ap '58*
- Eight reactor types, a thermodynamic comparison. S. Baron. *diags Nucleonics* 16:64-7 Je '58

- Elements of field processing; calculation of enthalpy. J. M. Campbell. *diag Oil & Gas J* 56:101-2 F 3; 111 F 17; 97-8 Mr 31; 104-5 My 5 '58
- Enthalpy and heat capacity from 0° to 900° C of three nickel-chromium-iron alloys of different carbon contents. T. B. Douglas and J. W. Harman. *J Res Nat Bur Stand* 60: 563-8 Je '58
- Formulations for the thermodynamic properties of steam and water. H. C. Schnackel. A S M E Trans 80:959-66 My '58
- Fundamental energy transfer; enthalpy. J. M. Campbell. *diag Oil & Gas J* 56:122 Ja 6 '58
- Heat capacities, entropies and enthalpies of tantalum between 12 and 550°K. K. F. Sterrett and W. E. Wallace. *Am Chem Soc J* 80:316-7 J1 5 '58
- Heat content of bovine serum albumin in acid solution. P. Bro and J. M. Sturtevant. *bibliog Am Chem Soc J* 80:1789-93 Ap 20 '58
- Heat content of sodium borohydride and of potassium borohydride from 0° to 400°C. T. B. Douglas and J. W. Harman. *bibliog J Res Nat Bur Stand* 60:117-24 F '58
- Heat contents above 298.15°K. of oxides of cobalt and nickel. E. G. King and A. U. Christensen, Jr. *bibliog Am Chem Soc J* 80:1800-1 Ap 20 '58
- How to find thermal equilibrium in space. R. E. Hess and A. E. Weller. *diag Aviation Age* 30:174-80 Ag '58
- Kinetic study of the thermodynamic properties of the acetyl free radical. J. G. Calvert and J. T. Gruber. *bibliog Am Chem Soc J* 80:1313-17 Mr 20 '58
- Low temperature heat capacities and entropies at 298.15° K. of lead sesquioxide and red and yellow lead monoxide. E. G. King. *Am Chem Soc J* 80:2400-1 My 20 '58
- Magnetic and thermodynamic properties of copper(II) acetylacetonate. J. J. Fritz and R. G. Taylor. *Am Chem Soc J* 80:4484-7 S 5 '58
- 2-Methyl-1-propanethiol; chemical thermodynamic properties and rotational isomerism. D. W. Scott and others. *bibliog Am Chem Soc J* 80:55-9 Ja 5 '58
- Predicting the thermodynamic stabilities and oxidation resistances of silicide cermets. A. W. Searcy. *bibliog Am Cer Soc J* 40: 431-5 D '57
- Shaker bomb; laboratory tool for studying thermal processes. J. W. Payne and others. *il diags Ind & Eng Chem* 60:47-52 Ja '58
- Some properties of a simplified model of solid propellant burning. L. Green, Jr. *bibliog diag Jet Propulsion* 28:386-92 Je '58
- Some thermal characteristics of porous rocks. W. H. Somerton. *bibliog J Pet Tech* 10:61-4 Mr '58
- Some thermodynamic properties of the systems polybutadiene-benzene and polyisobutene-benzene. R. S. Jessup. *bibliog diags J Res Nat Bur Stand* 60:47-53 Ja '58
- Space flight; thermodynamics. R. A. Budenholzer and A. Ritter. *Aviation Age* 28:44-7 Mr '58
- Split pump versus single pump. R. W. Haywood. *diags Combustion* 29:49-54 O '57
- Thermo data for petrochemicals (cont.). K. A. Kobe and others. *bibliog Pet Refiner* 36:147-8 D '57; 37:125-30 J1 '58
- Thermo refresher (cont.). E. G. A. Skrotzki. *il diags Power* 101:93-4 N; 112-15+ D '57; 102:92-5+ Ja; 94-7+ F; 90-3+ Mr; 98-101+ Ag; 88-91 My; 94-7+ J1; 92-5 S; 90-2+ N '58 (to be cont.)
- Thermodynamic behavior of quartz and other forms of silica in pure water at elevated temperatures and pressures with conclusion on their mechanism of solution. discussion. K. Jasmund. *bibliog J Geol* 66: 595-6 S '58
- Thermodynamic functions for gaseous *oio-* and *trans-decalins* from 298 to 1000°K. T. Miyazawa and K. S. Pitzer. *bibliog Am Chem Soc J* 80:60-2 Ja 5 '58
- Thermodynamic properties of neodymium hydroxide Nd(OH)₃ in acid, neutral and alkaline solutions at 25°; the hydrolysis of the neodymium and praseodymium ions, Nd³⁺, Pr³⁺. R. S. Tobias and A. B. Garrett. *bibliog Am Chem Soc J* 80:3532-7 J1 20 '58
- Thermodynamic properties of pure and mixed hydrocarbons. M. Hobson and J. H. Weber. *bibliog Pet Processing* 12:43-7 Ag; 153-7 S '57; [cont in] *Chem Eng* 64:245-50 N; 272-4 D '57
- Thermodynamic properties of the silver-cadmium system. P. D. Anderson. *bibliog Am Chem Soc J* 80:3171-6 J1 5 '58

THERMODYNAMICS—Continued

- Thermodynamic relations among stresses, deformations, and moisture absorption. J. W. S. Hearle, bibliog diags Textile Res J 27: 940-5 D '57
- Thermodynamic study of Fe-Ca-P-O, Fe-Ca-Si-P-O, and some complex molten silicophosphate systems. E. T. Turkdogan and P. M. Bills, bibliog *Iron & Steel Inst J* 183:143-53 F '58
- Thermodynamic study of the number and positioning of the feed pumps in the feed train of a regenerative steam cycle. R. W. Haywood, diags *Inst Mech Eng Proc* 171 no 25:747-53; Discussion, 753-4; Reply, 754-6 '57
- Thermodynamics; annual review. J. M. Smith and G. M. Brown, *Ind & Eng Chem* 50:561-8 bibliog (p566-8) pt 2 Mr '58
- Thermodynamics in methanol synthesis. W. J. Thomas and S. Portalski, bibliog *Ind & Eng Chem* 50:967-70 Je '58
- Thermodynamics in pyrometallurgy. J. W. Evans, bibliog (27 ref) *Research* 11:12-18 Ja '58
- Thermodynamics of crystallization in high polymers; poly(ethylene). F. A. Quinn, Jr. and L. Mandelkern, bibliog *Am Chem Soc J* 80:3178-82 Ji '58
- Thermodynamics of gas-cooled reactors. G. B. Melese, *Nucleonics* 16:72-6 F '58
- Thermodynamics of ion pair dissociation; tetrabutylammonium picrate in chlorobenzene, o- and m-dichlorobenzene. P. H. Flaherty and K. M. Stern, bibliog *Am Chem Soc J* 80:1034-8 Mr '58
- Thermodynamics of ionization of amino acids; the first ionization constants of some glycine peptides. E. J. King, bibliog *Am Chem Soc J* 79:6151-6 D '57
- Thermodynamics of shrinkage of fibrous (racked) rubber. J. F. M. Oth and P. J. Flory, bibliog diags *Am Chem Soc J* 80: 1297-304 Mr '58; Same, *Rubber Chem & Tech* 31:485-98 Ji '58
- Thermopropulsive characteristics of high-speed thrust generators. A. F. Charwat, diags *Astronautics Eng* 17:49-55 Je '58
- Third law of thermodynamics; a half-century appraisal of the Nernst heat theorem. J. H. Potter, bibliog diags *A S M E Trans* 80:895-903 My '58
- Use of shock wave observations for the determination of the equation of state. E. F. Lyne, diags *A S M E Trans* 80:1-8; Discussion, 8-10 Ja '58
- Volumetric and thermodynamic properties of fluids; enthalpy, free energy, and entropy. R. F. Curl, Jr. and K. S. Pitzer, bibliog *Ind & Eng Chem* 50:265-74 F '58
- Volumetric and thermodynamic properties of fluids; two component solutions. K. S. Pitzer and G. O. Hultgren, bibliog *Am Chem Soc J* 80:4793-6 S '58
- Zirconium-hydrogen system; some thermodynamic properties from a heat content study. T. E. Douglas, bibliog *Am Chem Soc J* 80:5040-6 O '58
- See also
- Carnot cycle
- Entropy
- Equation of state
- Free energy
- Heat
- Joule-Thomson effect
- Mollier charts
- Peltier effect
- Radiation
- Specific heat
- Steam
- Transition points
- Vapor pressure

Study and teaching

- Designing a thermo lab; Air force academy. *Ind Chem & Eng N* 35:83-4 D 2 '57
- Teaching thermophysics. R. J. Seeger, bibliog (54 ref) *Am J Phys* 26:248-57 Ap '58

Tables, calculations, etc.

- Contra-flow gas-to-gas heat exchanger. J. S. Turton, diags *Aircraft Eng* 30:135-41 My '58
- Elements of field processing; change in enthalpy; using nomographic methods. J. M. Campbell, *Oil & Gas J* 58:166-7 Ap 21 '58
- Generalized thermodynamic excess functions for gases and liquids. J. O. Hirschfelder and others, *Ind & Eng Chem* 50:386-90 Mr '58

THERMOELECTRICITY

- Analysis and experimental results of a diode configuration of a novel thermoelectron engine. G. N. Hatsopoulos and J. Kaye, bibliog diags *Inst Radio Eng Proc* 46:1574-9 S '58; Excerpt, *J Ap Phys* 29:1124-5 Ji '58

- Changes in thermoelectric power of silver and gold with cold work at liquid nitrogen temperature. E. W. Kammer, *J Ap Phys* 29: 1122 Ji '58
- Develop working model of thermionic converter. *Machine Design* 30:36-7 Ji 24 '58
- Direct heat to electricity; thermionic converter. *Mech Eng* 80:67 Ja '58
- Efficiency noted in heat-to-electricity converter. G. Suits, *Ind diags Elec Eng* 77:273-4 Mr '58; Same, *Franklin Inst J* 265:279-80 Mr '58
- Getting electricity from heat, direct; thermionic converter. *Ind diags Power Eng* 62: 87 Ja '58
- Heat gives electricity directly; thermoelectron engine. *Ind diags Elec World* 150:70 Ji 21 '58
- Heat into electricity. *Sci Am* 199:58- N '58
- Heat to electricity. V. C. Wilson, *Ind Radio-Electronics* 29:6 F '58
- Heat-to-electricity, a new approach; thermionic converter. *Ind diags Power* 102:86-7 Jm '58
- Heat to electricity; GE's thermionic converter. *Ind Chem & Eng N* 35:22 D 2 '57
- High-vacuum thermionic converter. *Franklin Inst J* 266:256-6 S '58
- Investigations of direct generation of electricity from heat underway. E. Wainer, *I S A J* 5:72 Ji '58
- Navy eyes electron motors; thermoelectric ship propulsion system. *Electronics* 31:26 My 2 '58
- New ceramics convert heat to electricity. C. Zener, *Iron Age* 182:125 S 11 '58
- New device directly converts heat energy into electric power; thermionic converter. *Ind Lab* 9:75 Ja '58
- New thermoelectric materials. *Ind Mech Eng* 80:83 O '58
- New thermoelectric materials further possibilities of direct conversion of heat to electricity. *Ind Plant* 18:60-1 O '58
- Physical properties of thermoelectric materials. S. V. Galganiatis, diags *Refrig Eng* 66:46-8-4-1 '58
- Protective device for thermal converters; balanced amplifier. A. G. Mungall and I. Abella, diags *J Sci Instr* 35:185 My '58
- Revival of thermoelectricity. A. F. Joffe, *Ind diags Sci Am* 199:31-7 N '58
- Sophomore experiment in thermoelectricity. J. H. Noon and E. J. O'Brien, diags *Am J Phys* 26:373-5 S '58
- Special techniques for measurement of thermoelectric properties. T. C. Harman, *J Ap Phys* 29:1373-4 S '58
- Thermionic energy converter. K. G. Hernqvist and others, bibliog *Ind diags RCA R* 19:244-58 Je '58
- Thermoelectric effects. F. E. Jaumot, Jr. bibliog (102 ref) diags *Inst Radio Eng Proc* 46:538-54 Mr '58
- Thermoelectric heat pumping. N. E. Lindenberg, *Ind Elec Eng* 77:802-6 S '58
- Thermoelectric refrigeration. R. L. Elchhorn, diags *Refrig Eng* 66:31-5 Je '58
- Thermoelectrics may open new sales vistas. C. J. Whitting, *Ind Elec World* 150:116 Ji 21 '58
- Tubes convert heat; thermionic converter. *Ind Electronics* 30:29 D 10 '57

See also

- Magnetohydrodynamics
- Peltier effect
- Pyroelectricity
- Thermocouples

THERMOFOR catalytic cracking process. See Gasoline—Manufacture

THERMOLUMINESCENCE. See Luminescence

THERMOMETERS and thermometry

- Calibration drift of mercury thermometers repeatedly cooled to -30 C. W. I. Martin and others, bibliog *A S T M Bul* p62-4 Ji '58
- Centigrade or Celsius? R. D. Thompson, *A S T M Bul* p 10 My '58
- Design of simple resistance thermometer bridges for wide-range control of low temperatures. R. D. Goodwin, bibliog diags *R Sci Instr* 29:497-501 Je '58
- Emergent column correction in mercury thermometry. J. A. Hall and V. M. Leaver, diags *J Sci Instr* 35:93-6 Mr '58
- Fahrenheit-centigrade conversion; data sheet. *Air Cond Heat & Ven* 55:57-8 Ji '58
- Germanium resistance thermometer. *Ind Bell Lab Rec* 36:261 Ji '58
- Germanium resistance thermometer. *Ind diags Elec Eng* 77:660 Ji '58
- Germanium resistance thermometer. diags *Mech Eng* 80:92 Je '58
- Helium vapor-pressure scale of temperatures. F. G. Brickwedde, bibliog *Phys Today* 11:23-5 Ap '58

THERMOMETERS and thermometry—Cont.

- High stability mains-operated recording thermometer thermometer, A. W. Melville, diags J Sci Instr 35:179-80 My '58
- Indium resistance thermometer, G. K. White and others, R Sci Instr 29:181-2 F '58
- Industrial thermometers, helpful data will guide your selection of proper instrument, W. C. Dillon, Jr. Plant Eng 12:119-20+ Ap '58
- Influence of rate of cooling on the zeros of mercury-in-glass thermometers, S. Van Dijk and others, J Sci Instr 35:334-8 S '58
- Low-temperature resistance thermometer, II Elec Manuf 61:9 My '58
- Method for presenting the response of temperature-measuring systems, R. Looney, bibliog diags A S M E Trans 79:1851-5; Discussion, 1855-6 N '57
- Piping details for thermometers; detail sheet, diags Air Cond Heat & Ven 55:87 Ap '58
- Radio thermometer fits in penguin egg, II Electronics 31:86 Ja 3 '58
- Rapid high-sensitivity recording thermometer, R. W. Stow, diags R Sci Instr 29:774-5 S '58
- Rhodium-plated kata thermometer for measuring true air velocity, W. Koch and D. Kaplan, bibliog J Sci Instr 35:8-11 Ja '58
- Scale for solid-state thermometers, E. Greil, J Sci Instr 35:35-6 Ja '58
- Simple surface thermometer, C. F. Rothe, R Sci Instr 29:436-7 My '58
- Temperature measurements at absolute zero; germanium resistance thermometer, II diags Electronics 31:84 Ap 25 '58
- Tiny resistance thermometer made of germanium crystal, diag Machine Design 30:14-15 My 1 '58

See also

- Calorimeters and calorimetry
Cryoscope
Pyrometers and pyrometry
Temperature—Measurement

THERMOMETRIC titrations. See Volumetric analysis

THERMONUCLEAR power. See Atomic power

THERMOPHYSICS. See Thermodynamics

THERMOPILES

- Continuous recording of radiation using the Moll thermopile, F. A. Surden and A. Hoffman, diags J Sci Instr 34:461-2 N '57
- Metering gas with a heated thermopile, R. T. Doyle, bibliog II diags Instruments & Automation 30:2276-8 D '57

THERMOS bottles

- Injection-moulded vacuum jug, II Brit Plastics 31:327 Ag '58

THERMOSTATS

- Design and features of traps, diags Air Cond Heat & Ven 54:83-9 D '57; 55:101-5 F '58
- Mind reading furnace control, J. A. McRoberts, II diags Radio-Electronics 29:105+ O '58
- Novel thermostat for hot rollers, D. A. Senior, diags Instruments & Automation 31:1044-5 Je '58
- Operation and characteristics of thermostats for engine cooling, S. H. Blazey, diags Product Eng 28:F20-2 Mid-O '57
- Thermostat is designed with large numerals and square lines, II diag Machine Design 29:116 N 28 '57
- Thermostatic controls, R. T. Haviland, II diags Machine Design 30:134-9 Ap 3 '58
- Transistor temperature controller, H. Sutcliffe, diags Electronics 31:81-2+ Mr 28 '58
- What the serviceman should know about oven controls, P. Campbell, II diags Gas 34: 63-4 S '58

See also

- Temperature—Regulation

THIAZIAZOLES

- Investigation of some substituted 1,3,4-thiaziazoles, C. Ainsworth, bibliog Am Chem Soc J 80:5201-3 O 5 '58
- Synthesis of substituted 3-(1'-pyrazolyl)-5-amino-1,2,4-thiaziazoles, F. L. Scott, Chem & Ind p463-4 Ap 19 '58

THIAMINE. See Vitamins—Vitamin B₁

THIANTHRENE

- Structure of 8-thianthrene dioxide, S. Hosoya, diags Chem & Ind p 159 F 8 '58

THIAZIAZOLE

- Assignment of 5-methylmercapto-1,2,3,4-thiaziazole to so-called methyl azidodithiocarbonate, E. Lieber and others, bibliog Chem & Ind p893-4 JI 12 '58

THIAZINES

- Amino acids; 2-thiazoline and Δ^2 -dihydro-1,3-thiazine derivatives of ω -amino acids, A. F. McKay and others, bibliog Am Chem Soc J 80:3339-42 JI 5 '58

- Synthesis of 12-(dialkylaminoalkyl)-benzo[a]phenothiazines, P. B. Talukdar and D. A. Shirley, Am Chem Soc J 80:3462-6 JI 5 '58

THIAZINONE

- Investigations in heterocycles; 1,4-thiazin-3-ones and related compounds, G. deStevens and others, Am Chem Soc J 80:5198-200 O 5 '58

THIAZOLES

- Investigations in heterocycles; disubstituted thiazoles and thiazolin-2-ones, G. deStevens and others, bibliog Am Chem Soc J 80:5198 O 5 '58
- Mechanism of accelerator action; reaction of mercaptobenzothiazole with sulfur, B. A. Dogaukin and I. Tutorskii, bibliog Rubber Chem & Tech 31:343-7 Ap '58
- Mechanism of mill breakdown and vulcanization in the presence of 2-mercaptopbenzothiazole, B. A. Dogaukin and others, bibliog Rubber Chem & Tech 31:348-52 Ap '58
- Thiazoles and analogues; some industrial applications, E. G. Curphey, Ind Chem 34: 35-6 F '58
- Thiazoles and analogues; some pharmacological applications, E. G. Curphey, bibliog Manuf Chem 29:111-12 Mr '58
- Vulcanization of elastomers; the vulcanization of natural rubber with sulfur in the presence of mercaptobenzothiazole, O. Lorenz and E. Echte, bibliog Rubber Chem & Tech 31:117-31, 548-58 Ja, JI '58

THIAZOLIDINE

- Preparation of thiazolidines and related compounds; lactams and lactamides, G. L. Oliver and others, bibliog Am Chem Soc J 80:702-7 F 5 '58

THIAZOLIDINONE

- Some thiazolidines and thiazolidinones with antituberculous activity, R. H. Mizzone and P. C. Eisman, bibliog Am Chem Soc J 80:3471-5 JI 5 '58

THIAZOLINE

- Amino acids; 2-thiazoline and Δ^2 -dihydro-1,3-thiazine derivatives of ω -amino acids, A. F. McKay and others, bibliog Am Chem Soc J 80:3339-42 JI 5 '58
- Raman spectra and ultraviolet absorption of glutathione and possible thiazoline derivatives formed from it, D. Garfinkel, bibliog Am Chem Soc J 80:4833-5 S 20 '58
- Some thiazolines and thiazolidinones with antituberculous activity, R. H. Mizzone and P. C. Eisman, bibliog Am Chem Soc J 80:3471-5 JI 5 '58
- Synthesis of aminoalkylthiuronium salts and their conversion to mercaptoalkylguanidines and thiazolines, D. G. Doherty and others, bibliog Am Chem Soc J 79:5667-71 N 5 '57

See also

- Aminothiazoline

THIAZOLINONE

- Investigations in heterocycles; disubstituted thiazolines and thiazolin-2-ones, G. deStevens and others, bibliog Am Chem Soc J 80:5198-8 O 5 '58
- Investigations in heterocycles; substituted cycloalkenol(d)thiazolin-2-ones, G. deStevens and others, bibliog Am Chem Soc J 80:2201-4 My 5 '58

THIAZOLIUM compounds

- Investigations in heterocycles; imidazo and imidazolinol[2,1-b]thiazolium compounds, G. deStevens and A. Halamandaris, bibliog Am Chem Soc J 79:5710-11 N 5 '57

THICKENERS

- Design and operation of continuous thickeners, N. J. Hassett, bibliog diags Ind Chem 34:116-20, 169-72, 489-94 Mr-Apr, S 58
- New thickener for multipurpose lubricating greases, R. J. Rosscup and others, II Lub Eng 14:16-18 Ja '58

See also

- Centrifuges

THICKENING agents

- Basic factors in the formation and stability of nonsap lubricating greases, G. J. Young and others, bibliog J Colloid Sci 13:358-82 Ag '58
- Carbopol scales up, II Chem & Eng 36:64-5 S 29 '58
- Rapid chromatographic analysis of soap-thickened lubricating greases, G. W. Powers, Jr. and F. J. Fiehl, bibliog diag Anal Chem 30:28-31 Ja '58
- Thickeners for vinyl paints, B. D. Jubilee, Jr. Paint Oil & Chem R 121:6-7 Ja 9 '58
- THICKNESS measurement**
- Apparatus for measuring wall thicknesses of hollow glass vessels, V. Bird, II diag Glass Ind 39:430 Ag '58

THICKNESS measurement—Continued

- Atomic instrumentation at Delco-Remy battery plant. *il* *diags* *Automotive Ind* 117: 68-94 N 1 '57
- Audigage tests metal thickness without drilling. G. R. Setterlund. *il* *diag* *Power Eng* 61:96-4 D '57
- Automatic control in steel strip manufacture. G. Syke. *il* *diags* *Brit Inst Radio Eng J* 18:117-23; Discussion. 124 F '58
- Automatic gauge control in sheet rolling; nucleonic thickness gauge. *il* *Metallurgia* 57:19-22 Ja '58
- Beta-ray gauge for measurement of galvanizing thickness. G. B. Willis. *il* *Engineer* 204: 901-2 D 20 '57
- Bremsstrahlung gages improve thickness control. N. A. Hart. *il* *diag* *Control Eng* 5:125 Ap '58
- Continuous draft indicator for rolling mills; patent. *diag* *Iron & Steel Eng* 35:27-8 Ag '58
- Continuous thickness measuring of thin, soft sheet. J. C. Evans and others. *il* *diags* *Engineering* 184:631-3 N 15 '57
- Corrosion-rate data can be exact. D. J. Evans. *il* *diags* *Marine Eng/Log* 63:57-61 My '58
- Development of automatic thickness controls for strip mills. I. G. Orellana. *il* *diag* *Iron & Steel Eng* 35:144-8; Discussion. 148-50 Mr '58
- Experiments using a simple thermal comparator for measurement of thermal conductivity, surface roughness and thickness of foils or of surface deposits. R. W. Powell. *bibliog* *diags* *J Sci Instr* 34:485-92 D '57
- Film thickness determination from substrate X-ray reflections. D. T. Keating and O. F. Kammerer. *il* *R Sci Instr* 29:34-6 Ja '58
- Gages + computers — sophistication. *diag* *Nucleonics* 16:115 Ap '58
- How thick is your cake? *Chem & Eng N* 35:58 N 25 '57
- Lazy man's method of making measurement of the average sidewall thickness of bottles. *Cer Ind* 63:91 D '57
- Measurement of thickness report. *Anal Chem* 30:sup79A S '58
- Micronaire reading as a close approximation to fiber thickness. K. L. Hertel. *diags* *Textile Res J* 28:442-4 My '58
- New approach to the measurement of coating thickness by fluorescent X-ray absorption. F. A. Achey and E. J. Serfass. *bibliog* *Electrochem Soc J* 105:204-5 Ap '58
- Nondestructive testing; resonance method measures thickness, spots flaws. S. Elonka. *il* *Power* 102:126-7 Mr '58
- Nuclear techniques for study of surface coatings; abstract. O. K. Neville. *Tool Eng* 39: 220-1 N '57
- Oversize caliper measures radome thickness. A. Wittenberg. *il* *Am Mach* 101:164 N 18 '57; Discussion. L. Polk, Jr. *diag* 102:113 F 10 '58
- Paint thickness; a critical airplane dimension. N. R. Kegan. *il* *Mach* 64:161 N '57
- Process analysis plus analog simulation yields better mill controls; using noncontacting thickness gages. R. A. Phillips. *il* *diags* *Control Eng* 5:113-18 My '58
- Radiation controls foil thickness. *Iron Age* 180:155-6 N 7 '57
- Radome thickness gage is frequency stabilized. A. H. Webber Jr. and others. *il* *diags* *Electronics* 31:70-2, cover Je 20 '58
- Strip mill with automatic gauge control; D. F. Taylor and co. *il* *Engineer* 204:880-2 D 13 '57
- Sweep frequency eddy-current device to measure overlay thickness. E. A. Hanyasz. *diags* *R Sci Instr* 29:411-15 My '58
- System for gaging plating thickness; abstract. R. G. Myers and D. L. Waidlich. *Elec Eng* 77:815 S '58
- Thickness of a silver mirror film and the iodine ring method. H. Fry. *Glass Ind* 83:328-30 Je '58
- Thickness of lead deposits; measurement by means of beta rays. G. Gabrielson and K. Ljunggren. *diag* *Metal Finishing* 56:52-3 F '58
- Ultrasonic gage speeds field work. H. N. Nerwin. *il* *diags* *Electronics* 31:29-31 Ja 31 '58
- Ultrasonic thickness gage cuts cost, improves cable quality. A. Bottari. *il* *Elec Manuf* 61:146 Ap '58

Ultrasonics cuts gaging time. C. P. Albertson. *il* *Aviation Age* 29:46-50 Je '58

X-ray tin thickness gage. R. R. Webster. *il* *diags* *Instruments & Automation* 31:276-7 F '58

THIENYL compounds

Diaryliodonium salts; 2, 2'-dithienyl- and phenyl-2-thienyliodonium salts. F. M. Eeringer and others. *bibliog* *Am Chem Soc J* 80:279-81 Ag 20 '58

THIERY de Menonville, Nicolas Joseph

Spanish red; Thiery de Menonville's voyage a Guaxaca. S. M. Edelstein. *bibliog* *il* *map* *Am Dyestuff Rep* 47:1-8 Ja 13 '58

THINKING. See Thought and thinking**THINNERS. See Paint materials****THINOLITE. See Tufa****THIOACETAMIDE. See Mercaptoacetamide****THIOCRESOL. See Tolueneethiol****THIOCYANATES**

Distinction between organic thio- and isothiocyanates. H. Lieber and J. Ramachandran. *Chem & Ind* p 1234 S 20 '58

Formation of thiocyanate ion through neighboring group displacement reactions. J. R. Siegel and D. H. Rosenblatt. *Am Chem Soc J* 80:1763-5 Ap 5 '58

Spectrophotometric investigation in the near ultraviolet of the cobalt(II) monothiocyanato complex. P. Senise and M. Perrier. *bibliog* *Am Chem Soc J* 80:4194-6 Ag 20 '58

Thiocyanate spectrophotometric determination of technetium. C. E. Croutamel. *bibliog* *Anal Chem* 29:1756-60 D '57

See also**Iron thiocyanates****THIOGLYCOLATES. See Mercaptoacetates****THIOHYDANTOINS**

Detection of phenylthiohydantoin on paper chromatograms. K. R. Hanson and D. R. Whitaker. *Chem & Ind* p43 Ja 11 '58

THIOKETONES. See Thiones**THIKOL chemical corporation**

Career opportunities. *il* *Chem & Eng N* 36:59 pt 2 Ja 27 '58

THIOLS. See Mercaptans**THIOLSULFINATES. See Sulfonates****THIONATES**

Reactions of thiono-esters of phosphorus with halogens and sulphuryl chloride. J. Michalski and A. Skowronska. *Chem & Ind* p 1199-200 S 13 '58

THIONEINE

Synthesis of DL-2-mercaptohistidine- α -C¹⁴ and DL-ergothioneine- α -C¹⁴. D. E. Sunko and G. Wolf. *bibliog* *Am Chem Soc J* 80:4405-6 Ag 20 '58

THIONES

Organic sulfur compounds; synthesis of ethylenes and ethylene sulfides by action of diazoalkanes on thioketones. A. Schönbeg and others. *bibliog* *Am Chem Soc J* 79: 6020-3 N 20 '57

THIONYL chloride

Allylic rearrangements; the reaction of thionyl chloride with steroid allylic alcohols. R. E. Ireland and others. *bibliog* *Am Chem Soc J* 80:4604-6 S 5 '58

THIOPHENE**Analysis**

Polarographic estimation of thiophenes and aromatic sulfides in petroleum. H. V. Drushel and J. F. Miller. *bibliog* *Anal Chem* 30:1271-80 J1 '58

THIOPHENINE

Azo dyes from substituted 2-aminothiophenes. J. B. Dickey and others. *bibliog* *Soc Dyers & Col J* 74:123-31; Discussion. 131-2 Mr '58

THIOPHOSPHATES**See also****Parathion****THIOSALICYLIC acid. See Mercaptobenzoic acid****THIOSULFATES**

Displacement reactions at the sulfur atom; an interpretation of the decomposition of acidified thiosulfate. R. E. Davis. *bibliog* *Am Chem Soc J* 80:3565-9 J1 20 '58

Kinetics of the thiosulfate-bromacetate reaction in the presence of electrolytes. G. Corsaro and others. *bibliog* *Electrochem Soc J* 105:229-35 Ap '58

Solvent effects in the reaction of *p*-substituted α -chlorotoluenes with thiosulfate. R. Fuchs. *bibliog* *diag* *Am Chem Soc J* 79: 6531-3 D 20 '57

THIOURACIL

Utilization of α,γ -dialkoxyacetoacetates in the synthesis of certain 2-thiouracils and uracils. H. R. Henze and E. N. Kahlenberg. *bibliog* Am Chem Soc J 80:1664-6 Ap '58

THIOUREA

Allylic rearrangements; the reaction of α,γ -dimethylallyl chloride and γ,γ -dimethylallyl chloride with thiourea and substituted thioureas. J. M. Rule and others. *Am Chem Soc J* 79:6529-30 D '57

Amino acids; 1,3-di-(ω -carboxyalkyl)-thioureas and their chemistry. A. F. McKay and others. *bibliog* Am Chem Soc J 80:1510-17 Mr '58

Infrared absorption spectra of inorganic coordination complexes; infrared studies of some metal thiourea complexes. A. Yamaguchi and others. *bibliog* Am Chem Soc J 80:527-9 F '58

New drug may replace PAS in tuberculosis treatment; Thioban; abstract. L. Doub. *Chem & Eng N* 36:52-3 Ap '58

Polarographic study of thiourea complexes of cadmium and lead in aqueous media. T. J. Lane and others. *Am Chem Soc J* 80:315-18 Ja '58

Polarography of thiourea. C. J. Nyman and E. P. Parry. *bibliog* Anal Chem 30:1225-7 JI '58

Analysis

Spectrophotometric determination of nitrite and thiourea. K. Hutchinson and D. F. Boltz. *bibliog* Anal Chem 30:54-6 Ja '58

THIURAM compounds

Efficiency of TMTD vulcanization. E. M. Bevilacqua. *bibliog* Rubber Chem & Tech 31:559-61 JI '58

Heat aging of natural rubber vulcanized with tetramethylthiuram disulfide. W. P. Fletcher and S. G. Fogg. *Rubber Chem & Tech* 31:327-8 Ap '58

Quantitative determination of dithiocarbamates and thiuram sulfides; a spectrophotometric method. C. L. Hilton and J. E. Newell. *bibliog* Rubber Age 83:981-4 S '58

Vulcanization of elastomers; the role of the oxide in vulcanization with thiuram compounds. W. Scheele and others. *bibliog* Rubber Chem & Tech 31:315-26, 539-47 Ap-JI '58

THIURONIUM compounds

Anti-radioactivity drug; AET (S,2-aminoethylisothiuronium bromide hydrobromide). *Chem & Eng N* 36:23 Ag '58

Chemical compound adds resistance to radiation effects; aminoethylthiuronium; abstract. K. C. Atwood. *Franklin Inst J* 265:524 Je '58

THIXOTROPY

Eyring's model of flow applied to thixotropic equilibrium. S. E. Dahlgren. *bibliog* J Colloid Sci 13:151-8 Ap '58

Thixotropic characteristics of compacted clays. H. B. Seed and C. K. Chan. *bibliog* diags Am Soc C E Proc 83 [SM 4 no 1427]:1-35 N '57; Discussion. 84 [SM 1 no 1559]:11-12 F; [SM 2 no 1657]:21-31 My '58; Reply. 84 [SM 4 no 1828]:5-7 O '58

THOMAS, Cedric Treherne

Sketch. *por* Iron & Steel Inst J 187:front N '57

THOMPSON, Ernest O.

E. O. Thompson to receive John Franklin Caril award. *por* J Pet Tech 10:48 S '58

THOMPSON, John F.

J. F. Thompson and J. Roy Gordon awarded A.I.M.E. medals. *por* Can Min & Met Bul 51:18 Ja '58

THOR. See Guided missiles**THORIA. See Thorium oxides****THORITE**

Formation and properties of synthetic thorite crystals. L. H. Fuchs. *Am Mineralogist* 43:367-8 Mr '58

X-ray studies of synthetic coffinite, thorite and uranorhites. L. H. Fuchs and E. Gebert. *bibliog* Am Mineralogist 43:243-8 Mr '58

THORIUM

Amperometric titration of fluoride with thorium using a rotating palladium electrode. W. E. Harris. *bibliog* diags Anal Chem 30:1000-3 My '58

Cellulose supported thorium-allizarin red S reagent for fluoride ion determination. S. K. Yasuda and J. L. Lambert. *bibliog* Anal Chem 30:1459-9 S '58

Certain rare earths in purified thorium and uranium preparations; chemical isolation and spectrographic determination. C. Feldman and J. Y. Ellenburg. *bibliog* diags Anal Chem 30:418-22 Mr '58

Extracting thorium from its ore. *Engineering* 184:559 N '57

Fuel for the world's reactors. B. Manowitz. *bibliog* diags Nucleonics 16:91-5 Ag '58

Ion exchange separation of uranium from thorium. R. H. Polner and others. *bibliog* Ind & Eng Chem 50:613-16 Ap '58

Liquid-liquid extraction of uranium and plutonium from hydrochloric acid solution with tri(iso-octyl)amine; separation from thorium and fission products. F. L. Moore. *bibliog* Anal Chem 30:908-11 My '58

Nuclear materials; civilian style; Grace's Davison chemical div. *il* Chem & Eng N 36:26-7 Mr '58

Properties of materials; hafnium, thorium, uranium, vanadium and zirconium. *Materials in Design* Eng 48:103 Mid-O '58

Study of thorium and uranium minerals by X-ray microscopy. S. Yamaguchi. *il* Min Eng 10:Trans 689-90 Je '58

Thorium. 1957. J. Paone. *Eng & Min J* 159:144-5 F '58

Thorium-to-uranium ratios as indicators of sedimentary processes; example of concept of geochemical facies. J. A. S. Adams and C. E. Weaver. *bibliog*(29 titles) Am Assn Pet Geologists Bul 42:387-430 F '58

U. Th conversion services of U.S. companies; tables. *Nucleonics* 16:101 Ag '58

Analysis

Analysis for industry; separation and determination of thorium using organic acids. W. I. Stephen. *bibliog* Ind Chem 34:254-6, 393-5 My JI '58

Detection of thorium and uranium. J. S. Fritz and E. C. Bradford. *bibliog* Anal Chem 30:1021-2 Je '58

Ion exchange-spectrophotometric determination of thorium. O. A. Nietzel and others. *bibliog* Anal Chem 30:1182-5 JI '58

Isotope dilution, α -spectrometer for U and Th determination. E. Howard. *bibliog* Nucleonics 16:112-4 F '58

Nuclear reactions

Fission-product yields from U, Th and Pu; with graphs and tables; data sheet. S. Katcoff. *Nucleonics* 16:78-85 Ap '58

THORIUM, Powdered

Powder metallurgy of uranium and thorium. A. Blaine. *il* diags Metal Prog 74:79-85 Ag '58

THORIUM alloys

Arc welding of wrought magnesium-thorium alloys. L. F. Lockwood and P. Klain. *il* diags Welding J 37:sup255-64 Je '58

Bomarc uses marcor magnesium-thorium alloys. *diags* Steel 142:148 F '58

Casting magnesium-thorium alloys. T. A. Dickinson. *il* Foundry 86:156-4 F '58

Chemical milling broadens magnesium-thorium alloy use in missiles. *il* Mod Metals 14:62-4 Ag '58

Magnesium-thorium alloys lighten Bomarc missile. *diags* Mod Metals 14:84 F '58

New thorium alloys assure a big role for magnesium in missiles. *il* diags Mod Metals 14:46-4 Ap '58

Partial phase diagrams of the systems Mg-Th and Mg-Th-Zr; abstract. A. S. Yamamoto and W. Rostoker. *Metal Prog* 72:146-4 D '57

Solubility of carbon in thorium; abstract. R. Mickelson and D. Peterson. *Metal Prog* 72:146-4 N '57

Thorium-zirconium and thorium-hafnium alloy systems; abstract. E. D. Gibson and others. *Metal Prog* 73:142-4 Ja '58

Wrought and cast magnesium-thorium and magnesium-zirconium alloys; composition, properties, etc. tabulated; file facts. *Materials in Design* Eng 48:121-4 JI '58

THORIUM compounds

Hydrolysis and olation of Th(IV) chelates of polyaminopolycarboxylic acids. R. F. Eogucki and A. E. Martell. *bibliog* diags Am Chem Soc J 80:4170-4 Ag '58

THORIUM germanides

Preparation and identification of the thorium germanides. A. G. Tharp and others. *bibliog* Electrochem Soc J 105:473-6 Ag '58

THORIUM metallurgy

New thorium process; vital metal for industry and defense. R. C. Reid and others. *bibliog* diags Chem Eng Prog 54:76-81 Ap '58

THORIUM metallurgy—Continued

Processing monazite; abstract, J. Barghusen, *diag Chem & Eng N* 36:61 Ap 21 '58

Pyrometallurgical separation of uranium from thorium; extraction with liquid magnesium, P. Chiotti and H. E. Shoemaker, *bibliog Il diags Ind & Eng Chem* 50:137-40 F '58

Electrometallurgy

Electrolytic extraction of thorium from fused salts, L. Abraham and others, *bibliog Il diags Electrochem Soc J* 104:724-6 D '57

Preparation of feed materials for electrolytic production of thorium metal, C. E. Fisher and J. L. Wyatt, *bibliog flow diag diags Electrochem Soc J* 104:672-7 N '57

THORIUM nitrate

Purifying thorium nitrate by solvent extraction, D. D. Foley and R. B. Filbert, jr., *bibliog diag Ind & Eng Chem* 50:144 F '58

THORIUM ores

Identification tables for uranium and thorium minerals, A. Volborth, *bibliog Econ Geol* 53:300-8 My '58

THORIUM oxides

Application of thorium-iridium as the source of ionizing electrons in mass spectrometry, C. E. Melton, *bibliog R Sci Instr* 29:250 Mr '58

Thorium-uranium bodies and irradiation studies, C. L. Hoenig and others, *bibliog Il Am Cer Soc J* 41:117-23 Ap 1 '58

THORIUM poisoning

Treatment of exposure to thorium and uranium with a chelating agent and supportive measures, W. N. Young and H. A. Tebrock, *bibliog Ind Med* 27:229-32 My '58

THOUGHT and thinking

Developing intuition in structural design, B. G. Johnston, *Civil Eng* 27:781 N '57

Elusive art of thinking, *Il diags Pet Refiner* 37:199-201 F '58

For creativity; ignorance helps, C. Pacifico, *diags Chem & Eng N* 36:52-5+, cover My 12 '58

Teaching analytical thinking in chemical analysis, S. Siggia, *Anal Chem* 30:sup 19A-22A+ Ja '58

Unlocking human creativity, R. W. Wallen, *diags Machine Design* 30:132-8 Mr 20 '58

Use your noggin, *Pet Eng* 29:E4-5 D '57

See also

THREAD

See also

Rubber thread

THREAD cutting

Carbide chasers open new threading horizons, W. M. Stocker, jr., *Il Am Mach* 102:102-3 Je 2 '58

Cutting right and left-hand threads, *Il Engineering* 186:198 Ag 15 '58

Jaw thread sections formed on lathe, J. C. Sobkowiak, *diags Mach* 64:197-8 N '57

Microscope fixture checks lead in one revolution; reference book sheet, A. J. Vellinger, *Il diags Am Mach* 102:163-+ Ap 21 '58

Thread chasing on an engine lathe, H. J. Gerber, *Il Tool Eng* 40:82-3 Mr '58

See also

Leadscrews

Taps

THREAD grinding

Threading gun tubes three times faster than former method; illustrations with text, F. J. Clas and A. Chismark, *Am Mach* 102:106-7 F 10 '58

THREAD rolling

Development of modern thread rolling, J. H. Cacella, *Il diags Wire & Wire Prod* 33:77-8+ Ja '58

How to design for thread rolling, *Il diags Machine Design* 29:102-12 D 26 '57

Material selection for thread and form rolling, *Il diags Machine Design* 30:137-43 Ja 23 '58

Thread-rolling may be for you, E. H. Spiotta, comp., *Il diags Mach* 64:182-95 N '57

THREADING machines

Heap universal screwing machine, *Il Engineer* 205:671 My 2 '58

1958 production preview; tapping and threading, *Il Am Mach* 102:122-3 Ja 27 '58

THREE-wheel cars. See Automobiles—Three-wheel cars

THROMBIN

Action of thrombin on lysine substrates, S. Ehrenpreis and others, *bibliog Am Chem Soc J* 79:6086-7 N 20 '57

Active site of thrombin, J. A. Gladner and K. Laki, *bibliog Am Chem Soc J* 80:1263-4 Mr 5 '58

Nature's common denominator? active site of thrombin shows up in three other enzymes, *Chem & Eng N* 36:42 Mr 10 '58

THRUST bearings. See Bearings, Thrust

THRUST meters

British overseas aircraft corp. thrust platforms measure up, *Product Eng* 29:37 Ja 6 '58

THRUST reversers. See Gas turbines, Aircraft—Thrust reversers

THUJONE

Structure of thujone tribromide, R. H. Eastman and others, *bibliog Am Chem Soc J* 80:1704-6 Ap 5 '58

THUNDERSTORMS

Atmospheric noise interference to medium wave broadcasting, S. V. C. Aiya, *bibliog Inst Radio Eng Proc* 46:1502-9 Ag '58

THYMIDINE

Incorporation of thymidine triphosphate into deoxyribonucleic acid by a purified mammalian enzyme, F. J. Hollum, *bibliog Am Chem Soc J* 80:1766 Ap 5 '58

Stepwise degradation of thymidine oligonucleotides by snake venom and spleen phosphodiesterases, W. E. Razzell and H. G. Khorana, *bibliog Am Chem Soc J* 80:1770-1 Ap 5 '58

THYMINE

Benzimidazoles as specific inhibitors of vitamin B₁₂ or thymine in bacterial mutants, D. E. M. Scott and others, *bibliog Am Chem Soc J* 80:2165-9 My 5 '58

THYMUS gland

Composition and properties of the thymus deoxyribonucleoprotein of Doty and Zubay, A. L. Dounce and M. O'Connell, *bibliog Am Chem Soc J* 80:2013-15 Ap 20 '58

Physical chemical study of calf thymus deoxyribonucleic acid, V. N. Schumaker, *bibliog Franklin Inst J* 266:233-9 S '58

THYRATRON

All-ac vari-speed motor drive controlled by thyatron tubes; VarEPack, *diag Machine Design* 30:6+ Ap 3 '58

Effects of gas filling on rectifiers and thyatrons, J. S. Kirk and A. M. Wohlert, *Il diags Elec Manuf* 61:115-17+ Mr '58

Electronic a-c adjustable speed drive; thyatron control, C. Marx and H. Dessmer, *Il diags Elec Manuf* 61:148-50 My '58

Pulse modulator works into variable load, R. S. Ringland, *Il diags Electronics* 31:102-3 S 12 '58

Solid-state thyatron switches kilowatts, R. P. Frenzel and F. W. Gutzwiller, *Il diags Electronics* 31:52-5 Mr 28 '58

Thyatron regulates supply, W. D. Fryer, *diag Electronics* 31:88 Je 20 '58

Testing

Sweep testing thyatron characteristics, J. G. Weissman, *diags Electronics* 30:206+ D 1 '57

THYRISTOR. See Transistors

THYROID gland

Effect of thyroprotein and penicillin on the thiamine requirement and growth of normal and hyperthyroid rats, G. R. Vogel and others, *bibliog J Nutrition* 65:525-33 Ag '58

Hypothyroidism in industry; editorial, *Ind Med* 27:122 F '58

Nutritional studies with the hyperthyroid rat, C. O. Stevens and L. M. Henderson, *bibliog J Nutrition* 64:67-83 Ja '58

THYROPROTEIN

Effect of thyroprotein and penicillin on the thiamine requirement and growth of normal and hyperthyroid rats, G. R. Vogel and others, *bibliog J Nutrition* 65:525-33 Ag '58

TICKET offices. See Airlines—Ticket offices

TICONAL. See Alnico**TIDAL power**

Power from the sea; temperature differences made to provide electricity and fresh water, *Il map diags Engineering* 186:104-7 Jl 25 '58

See also

Passamaquoddy tidal power project

TIDES

Dispersal of pollution by tidal movements, T. M. Niles, *diags Am Soc C E Proc* 83 [SA 5 no 1408]:1-18 O '57; Discussion, 84 [SA 2 no 1614]:5-6 Ap; [SA 3 no 1688]:5-7 Je '58

Tidal model for Southampton water, *Il map Engineering* 185:198-9 F 14 '58

Tidal model of the port of Southampton, *Engineer* 205:293 F 21 '58

Tidal movement in the Cape Cod canal, Mass., B. W. Wilcox, *map Am Soc C E Proc* 84 [HY 2 no 1686]:1-9 Ap '58

TILE industry

Sell more tile, now! C. H. Ellis, *Il Cer Ind* 70:78-9 My '58

TILE roofs. See Roofs, Tile**TILES**

Ceramic panels: old face, new form. *Il diags Arch Rec* 122:223 N '57

Tile curtain wall panels add new dimension to construction. *Il Cer Ind* 69:88-9 N '57

See also

Flooring, Tile

Manufacture

Automatic press for wall tile production; Sheepbridge, C. & O. press, R. S. Harding and A. N. Gilson, *Il diags Am Cer Soc Bul* 37:405-8 S 15 '58

Testing

Tests for and engineering properties of ceramic tile. J. V. Fitzgerald and E. L. Kastenbein bibliog *A S T M Bul* p74-80 J1 '58

TILLAGE

To till or not to till. *Il J Agri & Food Chem* 6:644+ S '58

TILLS. See Drift**TIMBER**

Causes of deterioration and protective methods for timber; progress report of a subcommittee of the committee on timber structures of the Structural div. *Am Soc C E Proc* 84 (ST 5 no 17601:1-10 bibliog (p8-10) S '58

TIMBER bridges. See Bridges, Wooden

TIME

Compressed time boosts single-sideband capacity. M. I. Jacob and J. Matern, *Il diags Electronics* 31:52-5 J1 4 '58

Effects of a time-varying test environment on the evaluation of dynamic stability with application to flutter testing. W. H. Reed, 3d, bibliog *J Aero/Space Sci* 25: 435-43 J1 '58

How long is time? science wants to know; abstract, C. M. Townes, *Mech Eng* 80:97 J1 '58

Stationary conditions for problems involving time associated with vertical rocket trajectories. A. Miele, bibliog *J Aero/Space Sci* 25:467-9 J1 '58

Statistics and time dependence of mechanical breakdown in fibers. B. D. Coleman, bibliog *J Ap Phys* 29:988-83 Je '58

Time behaviour of oskarinamic amplifier input circuits. T. P. Flanagan, *diag J Sci Instr* 34:450-2 N '57

Time delay between high-speed pellets and associated luminosity and ionization. P. E. Tucker and others, *J Ap Phys* 29:868-70 My '58

Time dependence of mechanical breakdown in bundles of fibers; infinite ideal bundle under oscillating loads. B. D. Coleman and D. W. Marquardt, bibliog *J Ap Phys* 29: 1091-9 J1 '58

Time lag between high-speed pellets and the ionization in their trails. R. A. Davidson and W. S. Partridge, *diags J Ap Phys* 28: 1304-8 N '57

Time-symmetric filters. L. R. O. Storey and J. K. Grierson, bibliog *Il diags Electronic Eng* 30:586-92, 648-53 O-N '58

Time-varying analysis of a guidance system. B. Friedland, *diags Applications & Ind* p75-81 My '58

TIME, Geological. See Geological time

TIME clocks

Batteries punch in for peak performance. *Il Mill & Factory* 63:109-10 J1 '58

TIME-lapse photography. See Photography, Time-lapse

TIME measurement

Accurate measurement of a time interval. A. E. Cawkell and H. Ristland, *diags Electronic Eng* 30:502-3 Ag '58

Color timing method and calculator for subtractive motion-picture printers. G. T. Keene, *Il diags SMPTE J* 67:404-8 Je '58

Definition and measurement of the time constant and response time of thermal converters. F. L. Hermach, bibliog *diags Com & Electronics* p277-82 J1 '58; Abstract, *Elec Eng* 77:620 J1 '58; Discussion, *Com & Electronics* p282-3 J1 '58

Fast sodium iodide spectrometer and its application to millimicrosecond time measurement. L. E. Bekhan and others, bibliog *diags R Sci Instr* 29:753-7 S '58

Instrument to measure fluorescence lifetimes in the millimicrosecond region. S. S. Brody, bibliog *Il diags R Sci Instr* 28:1021-6 D '57

Measurement of small time-intervals in an electronic torquemeter. H. Rakshit and S. C. Mukherjee, *diags Electronic Eng* 30:557-6 S '58

Method for measuring rise and decay times. T. A. Harwood and O. E. Kruse, *diag Am J Phys* 26:191-2 Mr '58

Percent-time predicts process end. H. Borsvold, *Chem Eng* 65:16-18 Ja '58

Read time direct in decimal units. H. J. Ramey, jr, *diag Chem Eng* 65:131-2 Ag '58

See also

Chronotron

Timing devices

TIME signals, Radio

WWV standard frequency transmissions. W. D. George, *Inst Radio Eng Proc* 46:910-11, 1420 M, J1 '58

TIME standards

Atomic standards of time. *Research* 11:324 Ag '58

Universal standard of time the velocity of light. R. Gerharz, bibliog *Inst Radio Eng Proc* 46:1549-50 N '57

TIME study

Direct operating labor requirement for chemical processes. T. B. Haines, flow sheet *Chem Eng Prog* 53:556-62 N '57

How many machines per operator? M. Cook, *Mill & Factory* 61:125-6 D '57

How to measure engineering department efficiency. R. Paulson, *diag Machine Design* 29:122-5 D 12 '57

Maintenance measurement; pro and cons. E. W. Wombacher, *diag Eng* 12:94-6 S '58

Master standard data; new look in work measurement. C. J. Vlahos, *Mill & Factory* 63:118-20 S '58

Time and motion studies in the paper industry. E. Christensen, *Tappi* 41:sup 192A-3A Ag '58

TIME study (of machinery)

Comparing machine cost and time factors. J. G. Adiletta, *Il diags Automation* 5:55-9 My '58

Time-lapse movie check on gear hobbing machine; Sperry Gyroscope. J. N. Bannister, *Il Ind Phot* 7:32+ F My '58

TIMING belts. See Belting

TIMING devices

Chronistat clocks your phone needle. M. Hoberman, *Il I S A J* 5:59 Mr '58

Circuit times operation of portable tools. R. L. Ives, *Il diags Electronics* 31:62+ Ja 31 '58

Custom-designing controllers for time-based routines. E. E. Muehlner, *diags Control Eng* 9:92-7 Ap '57

Electronic clock reads related time-of-events. R. Winfield and others, *Il diags Electronics* 31:74-7 F 28 '58

Electronic control times high-speed welding cycle. S. C. Rockafellow, *Il diags Electronics* 31:70-2 Ag 15 '58

Falling-drop timing circuit with automatic reset. D. J. Fisher, *diag Anal Chem* 30:308 F '58

Fast timing apparatus for measuring the arrival directions of cosmic-ray air showers; four plastic scintillation detectors and fast oscillograph. G. W. Clark, *Il diags R Sci Instr* 28:907-9 N '57

Flush-mounting process timer, *diag Engineering* 184:585 N 8 '57

General purpose electronic timer particularly suitable for time-lapse kinemicrography. D. McNish and R. E. Trotman, bibliog *diags J Sci Instr* 35:309-10 Ag '58

Inexpensive photographic timer; simple compensation for variations in enlarger-lamp supply voltage. J. H. Jowett, *Il diags Wireless World* 64:385-7 Ag '58

Magnetic saturable-core timing device. J. L. Lowrance, bibliog *Il diags Com & Electronics* p393-7 J1 '58

Miniature cam-operated synchronous timer. *Il Engineer* 206:502 S 26 '58

New color timer for motion-picture films; determination of the correct printing exposures. J. W. Stafford and H. L. Baumbach, *Il diag SMPTE J* 67:81-3 F '58

Package dyeing system for textiles. L. H. Van Huben, *Il diag Control Eng* 5:177 S '58

Print timer controls density and contrast of photographic prints. J. D. Weir, *Il diags Electronics* 31:108-9 F 14 '58

Semi-automatic device times machine operation. O. O. Nagels, *diag Mach* 64:176 F '58

TIMING devices—Continued

Special timing techniques employed on guided missile ranges using a crystal oscillator and frequency dividers. R. J. Garvey. *il diags Electronic Eng* 30:3-9 Ja '58

Timer halts salt loss in water softeners. D. C. Brown and F. E. Titus. *diag Elec World* 148:115-1 D 16 '57

Timer measures period of servo oscillation. J. Colker. *diag Control Eng* 5:78 Ag '58

Timing of driven shaft changed while running. R. T. Stewart. *diags Mach* 64:157 Ap '58

Tube tells time for reliability studies. Machine Design 30:38-9 Ag 7 '58

Tube tells time; subminiature electrochemical device. *il Electronics* 31:89-4 Mr 28 '58

Using limit switches for timing? E. T. Stevenson. *Power* 102:121 JI '58

Vehicle speed measuring equipment. *il Electronic Eng* 30:77 F '58

TIN

Alloys of titanium and zirconium containing tin. R. F. Smart. *bibliog diags Metallurgia* 57:181-3 Ap '58

Automotive and aircraft uses of tin. A. W. Shearer. *il Automotive Ind* 119:54-8 JI 15 '58

Cathodic disintegration of tin. H. W. Salzberg and P. Mies. *Electrochem Soc J* 105:14-6 F '58

Diffusion of indium in tin single crystals. A. Sawatzky. *J Ap Phys* 29:1303-5 S '58

Gray tin single crystals. A. W. Ewald and O. N. Tufte. *bibliog il diag J Ap Phys* 29:1007-9 JI '58

Heterocycles of bivalent and quadrivalent tin. H. G. Kuivila and O. F. Beumel, jr. *bibliog Am Chem Soc J* 80:3250-3 JI 5 '58

Materials of construction for chemical engineering; tin and its alloys. R. M. MacIntosh. *il Ind & Eng Chem* 50:1489-92 *bibliog* (p 1491-2) pt 2 S '58

Properties of materials: tin and its alloys. Materials in Design Eng 48:116 Mid-O '58

Quality of gray tin crystals and their rate of growth. J. H. Becker. *bibliog il diags J Ap Phys* 29:1110-21 JI '58

Temperature dependence of fluorescence of tin-activated orthophosphates. R. W. Mooney. *bibliog diag Electrochem Soc J* 105:456-61 Ag '58

X-ray investigation of perfection in tin whiskers. H. G. Smith and R. E. Rundle. *bibliog diags J Ap Phys* 29:679-83 Ap '58

Analysis

Polarographic determination of small amounts of tin. S. Kallmann and others. *bibliog diag Anal Chem* 30:485-7 Ap '58

Polarographic determination of tin in zirconium alloys. J. T. Porter, 2d. *Anal Chem* 30:484-5 Ap '58

Metallography

Preparation of tin and tin alloys for micro-examination. B. L. Eyre. *bibliog il diags Metallurgia* 58:95-106 Ag '58

Prices

Tin prices collapse. *Chem & Eng N* 36:36 S 29 '58

TIN alloys

Anodic oxidation of zinc and zinc-tin alloys at very low current density. S. E. S. El Wakad and others. *bibliog Electrochem Soc J* 105:47-51 Ja '58

Breakaway oxidation of zirconium-tin alloys. E. A. Gulbransen and K. F. Andrew. *bibliog Corrosion* 14:50 Ja '58

Determination of tin and tin-iron alloy weights on tinplate using the Kunze-Wiley method. F. Cooke and C. E. A. Shanahan. *diags Metallurgia* 57:321-6 Je '58

Materials of construction for chemical engineering; tin and its alloys. R. M. MacIntosh. *il Ind & Eng Chem* 50:1489-92 *bibliog* (p 1491-2) pt 2 S '58

Preparation of tin and tin alloys for micro-examination. B. L. Eyre. *bibliog il diags Metallurgia* 58:95-106 Ag '58

Properties of materials: lead-tin-antimony alloys. Materials in Design Eng 48:117-19 Mid-O '58

Properties of materials: tin and its alloys. Materials in Design Eng 48:116 Mid-O '58

Protective value of tin-nickel alloy deposits on steel. F. A. Lowenheim and others. *bibliog il Electrochem Soc J* 105:338-46 Je '58

See also

Bronze

TIN chlorides

Interaction of stannic chloride with some organic bases in benzene. S. T. Zenzelsky and P. R. Sezzatto. *bibliog Am Chem Soc J* 80:4796-9 S 20 '58

Ionic polymerization; reactions of α -ethylstyrene and *cis*- and *trans*- α,β -dimethylstyrene with stannic chloride C. G. Overberger and others *bibliog Am Chem Soc J* 80:1761-5 Ap 5 '58

Ionic polymerization; the effect of water in the cationic polymerization of styrene catalyzed by stannic chloride. C. G. Overberger and others. *bibliog Am Chem Soc J* 80:2456-63 My 20 '58

TIN coating

Heavy tinned copper wire for electrical conductors. L. A. Kent and J. T. Mahon. *Wire & Wire Prod* 33:775-4 JI '58

Prevention of tear formation with hot dip tin coatings; abstract. C. Chevalier. *Metal Finishing* 56:81 Ap '58

Testing

Determination of tin and tin-iron alloy weights on tinplate using the Kunze-Wiley method. F. Cooke and C. E. A. Shanahan. *diags Metallurgia* 57:321-6 Je '58

TIN compounds

Neopentyl group analogs; the preparation and some cleavage reactions of trimethylsilylmethyl-substituted tin compounds. D. Seyferth. *bibliog Am Chem Soc J* 79:5881-4 N 20 '57

New way to carbonyl reduction; diphenyltin dihydrides reduce carbonyls. *Chem & Eng N* 36:40 Aug 25 '58

Organotin compounds. C. R. Gloskey. *diag Ind & Eng Chem* 49:sup47A-9A D '57

Organo-tin compounds as textile preservatives. H. J. Hueck and J. G. A. Luijten. *Soc Dyers & Col J* 74:476-80 Je '58

Organotin compounds get boost. *il Chem & Eng N* 36:25-6 Ap 14 '58

Reduction of ketones with diphenyltin dihydride; a new type of hydride reduction. H. G. Kuivila and O. F. Beumel, jr. *Am Chem Soc J* 80:3798 JI 20 '58

Research on organotin compounds and their technological applications; abstract and discussion. E. S. Hedgoc and G. J. M. van der Kerk. *Chem & Ind* p609-11 My 24 '58

Synthesis and properties of some tin alkyls. C. R. Dillard and others. *bibliog Am Chem Soc J* 80:3607-9 JI 20 '58

See also

Dibutyl tin

Physiological effect

Toxicological studies on bis(tri-n-butyltin) oxide. J. R. Elsea and O. E. Paynter. *bibliog A M A Archives Ind Health* 18:214-17 S '58

TIN foil

Tracers trade tin foil for graphite; Mealey contour following signal device. *il Am Mach* 102:112 F 24 '58

TIN industry and trade

Tin 1957. J. R. O'Connell, jr. *Eng & Min J* 159:120-2 F '58

TIN metallurgy

How Empresa minera de Catavi concentrates tin ores. O. Davila-Michel. *flow sheets il diags Eng & Min J* 158:100-6+ N '57

TIN mines and mining**Bolivia**

How Empresa minera de Catavi concentrates tin ores. O. Davila-Michel. *flow sheets il diags Eng & Min J* 158:100-6+ N '57

TIN ores

See also

Cassiterite

TIN oxides

Dielectric properties of titania or tin oxide containing varying proportions of rare-earth oxides. S. Marzullo and E. N. Bunting. *Am Cer Soc J* 41:40-1 Ja 1 '58

Stannosis; benign pneumoconiosis owing to inhalation of tin dust and fume. H. Oyanaguren and others. *bibliog il Ind Med* 27:427-35 S '58

Ternary systems BaO-TiO₂-SnO₂ and BaO-TiO₂-ZrO₂. G. H. Jonker and W. Kwestroo. *bibliog Am Cer Soc J* 41:390-4 O 1 '58

TIN plate

American Can opens coil stock plant in Hammond, Ind. *il Iron & Steel Eng* 36:142-3 JI '58

TIN plate—Continued

- Corrosion of tinplate by Victoria plum syrup. F. W. Salt and J. G. N. Thomas. bibliog diat Iron & Steel Inst J 183:36-45 Ja '58
- Coulometric reduction of oxides on tin plate. R. P. Frankenthal and others. bibliog Anal Chem 30:441-3 Mr '58
- Cuts raw material costs; American can co.'s shearing line. *il* Steel 142:76 Je 30 '58
- For better containers, Canco's coil stock plant. *il* Paint Oil & Chem R 121:10-11 Je 26 '58
- What's inside the coil? automatic data accumulation. R. R. Davison. *il* diags Steel 143:106-+ S 8 '58
- Will coiled tinplate pay off? K. W. Bennett. *il* Iron Age 181:80 Je 19 '58

Manufacture

- Automatic gauge control; Wheeling steel corp. tin-plate mill. *il* diat Westinghouse Eng 143:139 S '58
- Some advances in tinplate technology. W. E. Hoare. *il* diags Metal Prog 73:91-6 Ja '58

Testing

- Determination of tin and tin-iron alloy weights on tinplate using the Kunze-Willey method. F. Cooke and C. E. A. Shanahan. diags Metallurgia 57:321-6 Je '58

TIN plating

- Applications of electroplated steel sheet; abstract. W. R. Lewis. Metal Finishing 56: 81 Ap '58
- Control of tinning lines at Velindre. *il* plan diags Engineer 206:262-6 Ag 15 '58
- Direct chloride process for tinning cast iron. C. J. Thwaites and J. J. Day. bibliog *il* diags Metallurgia 56:263-70 D '57
- Feedback runs tinplate line. *il* Electronics 31:14-+ Ag 1 '58
- Salt spray testing of tinplated copper. M. S. Frant. bibliog diags Plating 45:157-60, 73-8 F, JI '58
- Tinning by immersion; abstract. J. W. Price. Metal Finishing 55:83 N '57
- X-ray thickness gage. R. R. Webster. *il* diags Instruments & Automation 31:276-7 F '58

TIRE fabrics

- Automated nylon or rayon cord producer. *il* Rubber World 138:291 My '58
- Avisco improves rayon tire cord. Rubber World 138:446 Je '58
- Butyl latex tire-cord adhesives. A. L. Miller and S. B. Robison. *il* diags Rubber World 137:397-403-+ D '57
- Cord processing and curing of nylon tires. R. G. Patterson and others. *il* Rubber World 138:409-17 Je '58
- Du Pont tire cord press conference emphasizes nylon cord advantages. Rubber World 138:289-90 My '58
- Latex tire-cord adhesives. E. L. Borg. Rubber World 137:723-4 F '58
- New single-end cord treater; the Computreter; C. A. Litzler co. flow diags *il* diags Rubber World 137:701-10. cover F '58
- Use of textiles in the rubber industry; panel discussion. Rubber World 138:98-104 Ap '58

See also

- Nylon cords
- Rayon cords

Testing

- Tire rupture tests; nylon vs. rayon cord. Rubber World 138:765 Ag '58

TIRE industry and trade

- Most tire firms report higher 1957 sales-profits. Rubber Age 83:115-16 Ap '58

Advertising

- FTC guide to clarify tire advertising. R. E. L. Adamson. Rubber World 137:421-2 D '57
- Federal trade commission issues advertising standards for tires. Rubber Age 82: 495 D '57
- FTC issues tire advertising guide. Rubber Age 83:682 JI '58
- FTC tire advertising guides start Aug. 27. Rubber World 138:598 JI '58
- NTDRA takes strong stand on misleading tire ads. Rubber World 137:269 N '57

TIRE rims

- Prepaint treatment on new truck tire rims. Ind Finishing 34:121-2 Je '58

TIRE valves

- Two-piece tire tube valves. *il* diat Rubber Age 84:99-100 O '58
- Why a standard tire valve. G. A. Drew. *il* Automotive Ind 118:336-8-+ Mr 15 '58

TIRES, Airplane

- Call high-speed landings number one problem for tire study. Machine Design 30:42-3 Je 26 '58
- New tire for stol-type aircraft may permit rough field landings. V. Frisby. *il* diags S A E J 65:74-6 N '57
- Recent advances in the design of aircraft tyres and brakes. H. W. Trevaskis. *il* diags Roy Aeronautical Soc J 62:203-11 Mr '58

TIRES, Automobile

- British pneumatic tire automation. Comp Air Mag 62:349 N '57
- New low profile U.S. Royal Master tire. *il* Rubber World 139:9 O '58
- Tire engineers seek better materials; abstract. R. H. Spelman. S A E J 66:102 Je '58
- Tire thump can be controlled; abstract. G. J. Sanders. S A E J 66:104 Je '58
- Tires for today's cars. R. P. Dinsmore. diags Rubber World 138:249-55 My '58
- U.S. Rubber introduces low profile tire. *il* Rubber Age 84:116 O '58

See also

- Rubber, Artificial—Tire use
- Tire fabrics

Manufacture

- Cord processing and curing of nylon tires. R. G. Patterson and others. *il* Rubber World 138:409-17 Je '58
- New method for increasing tire traction on wet, snowy and icy surfaces. Tomarkin process. L. W. Tomarkin. Rubber Age 83: 332-5 Ag '58

Prices

- Industry price rises attacked by rubber union. Rubber Age 83:847 Ag '58

Retreading and recapping

- Electric molds up recap quality and output. B. Shunk and D. Anthony. *il* Elec World 149:76 Mr 10 '58

Storage

- Motor vehicle tyre stores; Dunlop rubber co. *il* Engineer 205:903 Je 13 '58
- Palletised tyre stores; Dunlop rubber co. *il* Engineering 185:796 Je 20 '58

Testing

- High-speed test track built by the Good-year tire & rubber co. *il* Rubber World 138: 807 JI '58
- Tire abrasion at different temperatures. G. J. van Amerongen and others. Rubber Chem & Tech 31:650-4 JI '58
- Wear of passenger car tires. H. A. O. W. Geesink and C. P. Prat. bibliog Rubber Chem & Tech 31:66-84 Ja '58

Wear

- Correlation between laboratory abrasion and road testing. C. Prat. *il* diat Rubber Chem & Tech 31:387-92 Ap '58
- Treadwear life down 18 per cent. T. A. Riehl. S A E J 66:56-7 Je '58

TIRES, Motor truck

- More wear and tear. J. E. Johnson. Engineer 206:131-3 JI 25 '58
- Snow-mud tires cut operation costs. J. L. Peck. Elec World 148:69 D 30 '57
- Survey of air pressures of tires mounted on trucks operating in the everyday traffic. C. C. Seal. Pub Roads 29:269-78 F '58
- Tires for tomorrow's truck. T. A. Robertson. Rubber World 138:896 S '58
- Truck tire study; illustrations with text; abstract. T. A. Robertson and J. H. Cox. S A E J 66:77 Ag '58

TIRES, Rubber

- Changing tubeless tires on earthmover rims. *il* Roads & Sts 101:143-6 Ag '58
- Firestone reveals new tires at test track opening. *il* Rubber World 137:584 Ja '58
- Rubber-tired subway train designed to run on wooden tracks; illustrations and drawings with text. Machine Design 29:144-5 D 12 '57

See also

- Rubber, Artificial—Tire use

Manufacture

- Goodyear automates automatic presses; green tires are conveyed to curing presses. *il* Rubber World 137:556 Ja '58
- Goodyear tire & rubber co. of Canada Ltd.; 700 types and sizes produced at New Toronto. *il* Chem & Ind p 1056 Ag 16 '58

TIRES, Rubber—Continued**Testing**

- Determination of tire tread and tread rubber profile; XactRay gauge. C. B. Zimmer. *II Rubber Age* 32:1021-2 Mr '58
- High speed photography in the rubber industry; apparatus, techniques, applications. G. L. Hall and others. *bibliog II diag Rubber Age* 33:289-95 My '58

TISSUE paper*See also*

Crepe paper

Manufacture

- Tissue paper mill at Bridgend. *II Engineer* 205:400-1 Mr 14 '58

TISSUES

- Deposition in tissues and fecal excretion of *trans* fatty acids in the rat. P. V. Jolly and others. *bibliog J Nutrition* 65:13-23 My '58
- Effect of storage on tissue tocopherols. M. Y. Dju and others. *Am J Clinical Nutrition* 6:61-4 Ja '58
- Endrin content of body tissues of steers, lambs, and hogs receiving endrin in their daily diet. L. C. Terriere and others. *bibliog J Agri & Food Chem* 6:516-18 JI '58
- Endrin content of milk and body tissues of dairy cows receiving endrin daily in their diet. U. Kilgemagl and others. *bibliog J Agri & Food Chem* 6:518-21 JI '58

*See also*Cells
Muscle
Tumors**Analysis**

- Determination of endrin in agricultural products and animal tissues. J. M. Bann and others. *bibliog diags J Agri & Food Chem* 6:196-202 Mr '58
- Determination of polyunsaturated acids in lipides of plasma and tissues. R. T. Holman and H. Hayes. *bibliog diag Anal Chem* 30:1422-5 Ag '58
- Estimation of tartrate in tissues. L. G. Wesson. *bibliog Anal Chem* 30:1080-3 Je '58
- Organ, urine and feces vitamin B₁₂ content of normal and starved rabbits. H. L. Rosenthal and L. Cravitz. *bibliog J Nutrition* 64:281-90 F '58
- Spectrophotometric determination of copper and zinc in animal tissues. J. T. McCall and others. *Anal Chem* 30:1345-7 Ag '58
- Vitamin B₁₂ (tocopherol) in human tissues from birth to old age. M. Y. Dju and others. *bibliog (29 titles) Am J Clinical Nutrition* 6:50-60 Ja '58

Culture and culture mediums

- Tissue culture. G. M. Wyburn. *II diags Research* 11:7-11 Ja '58
- Use of a portable tissue culture laboratory in a field study of tropical polymyelitis. J. L. Melnick. *bibliog Am J Public Health* 48:1170-80 S '58

TITANATES*See also*Barium titanate
Magnesium titanates
Potassium titanate**TITANIUM**

- Adiabatic vacuum calorimeter from 600° to 1600°C; specific heats of titanium, 44 per cent Cr-Fe alloy, and a low-alloy steel. I. Backhurst. *bibliog diags Iron & Steel Inst J* 189:124-34 Je '58
- Anion exchange of titanium(IV) in hydrofluoric acid. P. H. Woods and L. D. Cockerell. *bibliog Am Chem Soc J* 80:1534-6 Ap '58
- Anodic polarization of titanium in nonaqueous base etching solutions. M. Eisenberg and R. E. DelaRue. *II diag Electrochem Soc J* 105:162-9 Mr '58
- Case for titanium; key factors and applications that condition the metal's future. *II Light Metal Age* 15:15 D '57
- Ceramic crucible for melting titanium. B. C. Weber and others. *bibliog II diag Am Cer Soc J* 40:363-73 N 1 '57
- Design characteristics of titanium; data sheet. L. W. Long. *Machine Design* 30:137-40 F '58
- Developments in steel and titanium. *II Aircraft Eng* 30:72 Mr '58
- Effect of fretting on fatigue characteristics of titanium-steel and steel-steel joints. W. L. Starkey and others. *Product Eng* 29:F 15-17 Mid-S '58; *Abstract. Machine Design* 30:140 Ja 9 '58

Equilibria between titanium metal and solutions of titanium dichloride in fused magnesium chloride. K. Komarek and P. Herasymenko. *diag Electrochem Soc J* 105:210-15 Ap '58

Equilibria between titanium metal and solutions of titanium dichloride in fused sodium chloride. K. Komarek and P. Herasymenko. *bibliog Electrochem Soc J* 105:216-19 Ap '58

Equilibrium between titanium metal, TiCl₄, and TiCl₃ in NaCl-KCl melts. W. C. Krey and H. H. Kellogg. *bibliog diag Electrochem Soc J* 104:504-8 Ag '57; *Discussion. K. Grjothelm. 105:364-5 Je '58*

Fabrication of titanium. R. E. Avery and S. C. Orr. *bibliog II Corrosion* 14:119-20+ Ja '58

Further aspects of anodic polarization of titanium. J. B. Cotton. *II Chem & Ind* p492-3 Ap 26 '58

Growth of the titanium industry. P. M. Tyler. *II Metal Prog* 74:97-100+ JI '58

I.C.I. titanium project. *II Ind Chem* 34:365-6 J '58

Influence of various grinding conditions upon residual stresses in titanium. P. A. Clorite and E. C. Reed. *bibliog A S M E Trans* 80:297-301 F '58

Large scale use of titanium in Atlas missile. L. W. Stanley. *II Light Metal Age* 15:16 Ap '58

Materials of construction for chemical engineering. H. B. Bomberger. *bibliog Ind & Eng Chem* 50:1493-5 pt 2 S '58

Metal selector; titanium; properties and applications. *Steel* 141:169-71 O 28 '57

Missiles use titanium. *II Steel* 142:48 Mr 17 '58

Mode of hydride precipitation in alpha titanium and alpha titanium alloys; abstract. T. S. Liu and M. A. Steinberg. *Metal Prog* 72:152+ N '57

Present status and future of the titanium industry in the U.S.; abstract. H. H. Kellogg. *Metal Prog* 74:185-6 JI '58

Processing titanium ingots. *II Engineering* 185:574 My 2 '58

Properties of materials; titanium and its alloys. *Materials in Design Eng* 48:120-1 Mid-O '58

Soviet titanium research and production. J. P. Nielsen. *J Metals* 10:25-6 Ja '58

Spectrophotometric study of the system titanium(IV)-peroxide-fluoride. K. Herrington and D. E. Kingsbury. *bibliog Am Chem Soc J* 79:5893-5 N 20 '57

Surface tension of titanium, zirconium, and hafnium. A. W. Peterson and others. *bibliog diag J Ap Phys* 29:213-16 F '58

Theoretical surface tension of Ti, Zr, and Hf. D. McLachlan, Jr. *J Ap Phys* 29:1134 JI '58

Titanium aircraft parts extruded from ingots; abstract. N. J. Feola. *Materials in Design Eng* 47:156+ Je '58

Titanium at temperature. H. R. Ogden. *Product Eng* 29:E2-4 Mid-S '58

Titanium continues down. *Chem & Eng N* 35:28 N 25 '57

Titanium in Britain and the Continent. E. Swainson. *II J Metals* 10:21-4 Ja '58

Titanium in nodular cast iron. A. Tominaga and others. *II Metal Prog* 74:116 Ag '58

Titanium in rockets and missiles. S. Abkowitz. *II Light Metal Age* 15:15 Ap '58

Titanium, 1957. D. P. Eigo. *Eng & Min J* 159:125-6+ F '58

Titanium, 1957. G. M. Wiles. *II Min Cong J* 44:131-2 F '58

Titanium; opinions and ideas; panel discussion. *J Metals* 10:26-7 Ja '58

Titanium rivets; solid and blind; abstract. H. S. Brenner. *Metal Prog* 73:172+ Ap '58

Titanium technology. R. L. Jaffee. *II diags Mod Metals* 14:46+ F '58

Titanium-tipped anodizing racks. *II Metal Finishing* 56:65 F '58

Titanium wins new acclaim in tough endurance trials. J. G. Stefanich. *II Iron Age* 182:90-1 S 18 '58

U.S. progress in titanium during 1957. W. J. Harris. *II J Metals* 10:19-20 Ja '58

Why should I use titanium? P. M. Tyler. *II Metal Prog* 74:110-14 Ag '58

Year ahead for light metals. K. Darby. *Mod Metals* 14:66+ F '58

*See also*Rutile
Steel, Titanium clad**Analysis**

Conductometric determination of small amounts of oxygen in titanium. M. Codell and G. Norwitz. *diag Anal Chem* 30:524-6 Ap '58

TITANIUM—Analysis—Continued

- Detection of urea, melamine, isocyanate, and urethane resins: rapid group test for nitrogen, silicon, phosphorus, and titanium in coating materials. M. H. Swann and G. G. Esposito. *Anal Chem* 30:107-9 Ja '58
- Determination of carbon in titanium, zirconium and their alloys by gravimetric and conductimetric methods. D. F. Wood and M. Williams. *bibliog diags Metallurgia* 58:47-52 JI '58
- Determination of oxygen in titanium; modified vacuum fusion apparatus and platinum bath technique. S. J. Bennett and L. C. Covington. *bibliog diags Anal Chem* 30:362-5 Mr '58
- Determination of titanium in presence of niobium by differential spectrophotometry. R. A. G. de Carvalho. *bibliog Anal Chem* 30:1124-7 Je '58
- Emission spectrometric determination of oxygen in titanium and titanium alloys. V. A. Fassel and W. A. Gordon. *bibliog diags Anal Chem* 30:179-82 F '58
- Volumetric determination of magnesium in titanium. M. J. Miles and others. *bibliog Anal Chem* 30:361-3 Mr '58

Cleaning

- Application of the ion bombardment cleaning method to titanium, germanium, silicon, and nickel as determined by low-energy electron diffraction. H. E. Farnsworth and others. *bibliog diags J Ap Phys* 29:1150-61 Ag '58
- Descaling bath for titanium. *Automotive Ind* 117:130+ D 15 '57
- Descaling of titanium. W. B. Stephenson, Jr. *il Metal Prog* 73:87-9 Mr '58

Corrosion

- Corrosion resistance of titanium. J. B. Cotton and H. Bradley. *bibliog il Chem & Ind* p640-6 Mr 31 '58
- Design characteristics of titanium; data sheet. L. W. Long. *Machine Design* 30:138-40 F 6 '58
- Inhibition of titanium in fuming nitric acid. J. B. Rittenhouse and C. A. Fapp. *Corrosion* 14:41-2 Je '58
- New corrosion problem for titanium. *Product Eng* 29:17 Ja 27 '58
- Progress report on the salt corrosion of titanium alloys at elevated temperature and stress; abstract. *Metal Prog* 73:208+ Je '58

Fire hazards

- Hazards and safety precautions in the fabrication and use of titanium; abstract. *Metal Prog* 73:184+ F '58
- Titanium does a fast burn. *il Chem & Eng N* 36:36-7 Ag 4 '58

Protection

- Anodic polarization of titanium. J. B. Cotton. *Chem & Ind* p68-9 Ja 13 '58
- Plating helps titanium. *il Steel* 142:102+ My 5 '58
- Protective coatings for titanium; abstract. *Metal Prog* 72:200 D '57
- Titanium gets glass coat. *il diag Am Mach* 102:88 Ag 25 '58
- Water glass solves heat treat problem; Boeing airplane co. *il Steel* 142:100+ Je 23 '58

Strength

- Camera shows how parts burst at high speeds; Allison div. General motors corp. R. H. Eshelman. *il Iron Age* 181:116-18 Ap 17 '58

Testing

- Tear test for titanium sheet. C. W. Vigor and J. R. Hornaday, Jr. *il Metal Prog* 73:103-7 Ap '58

Uses

- Chemical plant in titanium. R. J. Watkins. *bibliog il Ind Chem* 34:282-6 Je '58
- Outlook for titanium in missiles. R. C. Durstein. *il Mod Metals* 14:64-5 Ap '58
- Present and future uses of titanium. F. M. Tyler. *il Metal Prog* 74:109-12+ S '58
- Present utilization of titanium. *il Metal Prog* 72:93-6 N '57

Welding

- Contribution to the problem of welding titanium alloys; abstract. K. Bungardt and K. Rüdinger. *Metal Prog* 74:184-5 JI '58
- Cracking associated with porosity in titanium welds over 0.125 in. thick. R. P. Olsen and J. Gates. *il Welding J* 37:478-83 My '58

- Design and technique requirements for arc welding titanium in aircraft applications. R. Meredith and B. L. Baird. *il diags Welding J* 36:371-7 Ap '57; Excerpts. *Product Eng* 28:G28-31 Mid-O '57
- Filler wire is the key to better titanium welds. J. H. Johnston and E. F. Funk. *il Welding Eng* 43:45-6+ Je '58
- Flash-butt weld procedures for extruded titanium parts. R. N. Foster. *il Welding Eng* 43:29-30 F '58
- Fusion welding of titanium in jet-engine applications. H. W. Hoefler. *il diags Welding J* 37:467-77 My '58
- Fusion welding of titanium; reference book sheet. *diags Am Mach* 102:131+ Mr 24; 115+ Ap 7 '58
- Inert-gas tungsten-arc welding of titanium for nuclear and chemical industries. G. M. Adamson and W. J. Leonard. *il diags Welding J* 37:673-82 JI '58
- New welding techniques ready titanium for CPL. *il Ind & Eng Chem* 50:sup71A-2A S '58
- Spot welding of Ti-6Al-4V alloy. R. K. Nolen and others. *il diags Welding J* 37:sup 129-37 Ap '58
- Spotwelding titanium is practical; Boeing airplane co. W. R. Gain and D. E. Waite. *il diags Am Mach* 102:125-7 Mr 10 '58
- Tig in a tank welds stronger titanium vessels. R. B. Stanton. *il Welding Eng* 43:72-9 Ap '58
- Titanium welding bubble. *il Light Metal Age* 15:20-1 O '57
- Tungsten-arc welding of 0.002-in. and 0.005-in. stainless steel and titanium. J. C. Collins and S. P. Jenkins. *il Welding J* 37:342-7 Ap '58
- Weldable titanium alloys; data sheet. *Welding Eng* 43:75 Je '58

TITANIUM, Powered

- Present limitations and future potentials of powder metallurgy; abstract. A. D. Schwope. *Metal Prog* 72:156+ D '57

TITANIUM alloys

- Alloys hint titanium comeback; Crucible's beta alloy. *Iron Age* 182:30 JI 3 '58
- Alloys of titanium and zirconium containing tin. R. F. Smart. *bibliog diags Metallurgia* 57:181-8 Ap '58
- Crucible Steel introduces three new heat-treatable titanium alloys. *Ind Lab* 9:30-1 Ag '58
- Easily formable, high-strength, beta titanium now available. *Mach* 64:110-11 Ag '58
- Elastic moduli and tensile properties of titanium-carbon and titanium-aluminum-carbon alloys. H. Brooks and others. *bibliog il Metallurgia* 56:277-82 D '57
- Evaluation of a new titanium-base sheet alloy, Ti-4Al-3Mo-IV; abstracts. R. S. Richards and others. *Metal Prog* 72:212+ O '57; *Steel* 141:138+ N 4 '57
- First all-beta titanium alloy has strength of 240,000 psi. *diags Materials in Design Eng* 48:131-2+ S '58
- High-temperature titanium alloy. *Product Eng* 29:12 F 24 '58
- How to drill 6Al-4V titanium alloy. G. P. Campbell and A. Searle. *il Mech Eng* 79:1025-8 N '57
- Metal selector; titanium: properties and applications. *Steel* 141:169-71 O 23 '57
- Method for the production of titanium-aluminum alloys by reduction of titanium oxide. L. F. Monello and R. Roy. *flow sheet il Light Metal Age* 15:11-12+ O 16-17 D '57
- Mode of hydride precipitation in alpha titanium and alpha titanium alloys; abstract. T. S. Liu and M. A. Steinberg. *Metal Prog* 72:152+ N '57
- New hardenable titanium. R. W. Carson. *Product Eng* 29:68-9 JI 21 '58
- Now, Ti alloys you can form and harden. *diag Am Mach* 102:87 JI 14 '58
- Outlook for titanium in missiles. R. C. Durstein. *il Mod Metals* 14:64-5 Ap '58
- Progress report on titanium-alloy fasteners. J. Van Hemersveld. *Machine Design* 30:123-7 Ja 23 '58
- Properties of materials; titanium and its alloys. *Materials in Design Eng* 48:120-1 Mid-O '58
- Selecting structural materials for supersonic flight. D. D. Cox. *Aeronautical Eng R* 17:28-31 Ja '58
- Some properties of uranium-low titanium alloys; abstract. D. J. Murphy. *Metal Prog* 72:151-2 N '57

TITANIUM alloys—Continued

Spot welding of Ti-6Al-4V alloy. R. K. Nolen and others. *diags Welding J* 37:sup 123-37 Ap '58

Strength skyrockets in formable titanium. Machine Design 30:12+ J1 10 '58

Super strong titanium. Chem & Eng N 36:24 J1 7 '58

Ti-7 Al-3Mo alloy stays strong at high heat. F. A. Crossley. *il Iron Age* 181:76-8 Ja 16 '58

Titanium alloys developed for aircraft-missile applications. *Automotive Ind* 119:65 Ag 15 '58

Titanium alloys for air and spacecraft. W. L. Finlay and others. *diag Metal Prog* 74:134+ S '58

Titanium gets ready for space age. Steel 143:116-17 J1 14 '58

Weldable titanium alloys; data sheet. *Welding Eng* 43:75 Je '58

Why should I use titanium? P. M. Tyler. *il Metal Prog* 74:110-14 Ag '58

Analysis

Determination of zirconium in titanium alloys using *p*-bromo- or *p*-chloromandelic acid. E. A. Panucci and J. J. Klingenberg. *Anal Chem* 30:1062-4 Je '58

Emission spectrometric determination of oxygen in titanium and titanium alloys. V. A. Fassel and W. A. Gordon. *bibliog diags Anal Chem* 30:179-82 F '58

Photometric determination of tungsten in steel and titanium alloys with dithiol. L. A. Machian and J. L. Hague. *bibliog il J Res Nat Bur Stand* 59:415-20 D '57

Testing

Behavior of certain alloys subjected to dynamic loading. R. G. Crum and F. T. Mavis. *bibliog il diags A S T M Bul* p88-91 J1 '58

TITANIUM bromides

Heat of formation of titanium tribromide by the mercury reduction of titanium tetrabromide. E. H. Hall and J. M. Blocher, jr. *bibliog diag Electrochem Soc J* 105:40-4 Ja '58

Vapor pressure of titanium tetrabromide. E. H. Hall and others. *bibliog Electrochem Soc J* 105:271-5 My '58

X-ray study of titanium tetrabromide, titanium tetrachloride and titanium triiodide. R. F. Rolsten and H. H. Sisler. *bibliog Am Chem Soc J* 79:5891-3 N 20 '57

TITANIUM carbide

Determination of residual stresses in titanium carbide-base cermets by high-temperature X-ray diffraction. H. W. Newkirk, jr. and H. H. Sisler. *bibliog diags Am Cer Soc J* 41:93-103 Mr 1 '58

Titanium carbide. J. C. Redmond. *il Product Eng* 28:84-6 N 11 '57

Titanium-carbide cermets for high temperature applications. K. Pfaffinger and others. *Product Eng* 28:86-8 Mid-O '57

TITANIUM chlorides

Equilibria between titanium metal and solutions of titanium dichloride in fused magnesium chloride. K. Komarek and P. Herasymenko. *diag Electrochem Soc J* 105:210-15 Ap '58

Equilibria between titanium metal and solutions of titanium dichloride in fused sodium chloride. K. Komarek and P. Herasymenko. *bibliog Electrochem Soc J* 105:216-19 Ap '58

Equilibrium between titanium metal, $TiCl_2$, and $TiCl_3$ in NaCl-KCl melts. W. C. Kreye and H. H. Kellogg. *bibliog diag Electrochem Soc J* 104:504-8 Ag '57; Discussion. K. Grjotheim. 105:364-5 Je '58

Experiments to establish conditions for the continuous reduction of titanium tetrachloride to the metal by sodium. J. Smolinski and others. *bibliog il diags J Ap Chem* 8:375-86 Je '58

Investigations into the electrodeposition of titanium metal from titanium tetrachloride in fused alkali metal chloride systems. J. Burgess and others. *bibliog diag J Ap Chem* 8:6-13 Ja '58

Reaction of titanium tetrachloride with acetyl acetone. K. C. Pandey and R. C. Mehrotra. *bibliog Chem & Ind* p 1198-9 S 13 '58

Reaction of titanium tetrachloride with vinyl acetate. L. J. Carboneau and R. W. Rees. *Chem & Ind* p656 My 31 '58

TITANIUM compounds

Condensation of trimethylsilanol with titanium isopropylate. J. D. Danforth. *Am Chem Soc J* 80:2585 My 20 '58

Crystal structure of the complex $(C_6H_5)_3TiCl_2Al(C_6H_5)_2$. G. Natta and others. *diags Am Chem Soc J* 80:755-6 F 5 '58

Cyclopentadienyltitanium trichloride. R. D. Gorsich. *Am Chem Soc J* 80:4744 S 5 '58

Ion-deficient phases in titanium and vanadium compounds of the perovskite type. M. Kestian and others. *bibliog Am Chem Soc J* 79:5598-601 N 5 '57

Polymerization of ethylene by lower valent compounds of titanium. D. B. Ludlum and others. *bibliog Am Chem Soc J* 80:1380-4 Mr 20 '58

TITANIUM fluorides

Vapor pressure of titanium tetrafluoride. E. H. Hall and others. *bibliog Electrochem Soc J* 105:275-8 My '58

TITANIUM founding

Progress in titanium casting. J. V. E. Hansen and P. J. Clough. *il Machine Design* 30:28-30 Ap 17 '58

TITANIUM iodides

Whisker growth from iodide titanium wire. A. M. Russell and R. C. Abbott. *il J Ap Phys* 29:1130-1 J1 '58

X-ray study of titanium tetrabromide, titanium tetrachloride and titanium triiodide. R. F. Rolsten and H. H. Sisler. *bibliog Am Chem Soc J* 79:5891-3 N 20 '57

TITANIUM metallurgy

Atomic radiations of gamma rays make furnace control precise and fast. *il Mill & Factory* 62:134 Ja '58

Chemistry and metallurgy of titanium. *Engin-ner* 206:324 Ag 29 '58

Distilling titanium and beryllium. *Ind & Eng Chem* 49:sup27A-8A D '57

Metallurgy of titanium. P. Ehrlich. *Ind Chem* 34:47-8 Ja '58

New titanium melting plant. *il Ind Chem* 34:246 My '58

Production of wrought titanium; I.C.I. facilities. *il Metallurgia* 58:25-8 J1 '58

Sodium-reduction route yields titanium; process flowsheet. T. P. Forbath. *il diag Chem Eng* 65:124-7 Mr 10 '58

Electrometallurgy

Investigations into the electrodeposition of titanium metal from titanium tetrachloride in fused alkali metal chloride systems. J. Burgess and others. *bibliog diag J Ap Chem* 8:6-13 Ja '58

Preparation and electrolysis of titanium trichloride; abstract. H. N. Sinha and H. K. Worner. *Metal Prog* 73:192+ My '58

Vacuum melted metals; steel, titanium and zirconium in production. *il Metallurgia* 57:139-42 Mr '58

TITANIUM ores

Smelting titaniferous ores. H. U. Ross. *bibliog diag J Metals* 10:407-11 Je '58

See also

Ilmenite

TITANIUM oxides

Calcination of rutile-type titanium dioxide hydroxylates. J. E. Latty. *bibliog il J Ap Chem* 8:96-103 F '58

Dielectric properties of titania or tin oxide containing varying proportions of rare-earth oxides. S. Marzullo and E. N. Bunting. *Am Cer Soc J* 41:40-1 Ja 1 '58

Glass formation and properties of glasses in the system $Na_2O-B_2O_3-SiO_2-TiO_2$. J. H. Strimple and E. A. Giess. *diag Am Cer Soc J* 41:231-7 J1 1 '58

Method for the production of titanium-aluminum alloys by reduction of titanium oxide. L. F. Mondolfo and A. Roy. *flow sheet il Light Metal Age* 15:11-12+ O; 16-17 D '57

Ternary systems $BaO-TiO_2-SnO_2$ and $BaO-TiO_2-ZrO_2$. G. H. Jonker and W. Kwestroo. *bibliog Am Cer Soc J* 41:390-4 O 1 '58

See also

Rutile

Manufacture

TiO_2 process taps Sorel slag for savings; process flowsheet; Canadian Titanium Pigments. *Chem Eng* 65:98-101 Ja 27 '58

TITANIUM pigment. See Pigments**TITANIUM plating**

Titanium a la Goldenberg; electroplating process. *Ind & Eng Chem* 49:sup27A D '57

Titanium plating; where it stands today. M. E. Sibert and M. A. Steinberg. *il Materials in Design Eng* 46:132-3 N '57

TITANIUM research

Metallurgical research at TMCA; abstract. H. D. Kessler. *Metal Prog* 73:157-8+ Ap '58

TITANIUM tubes. See Tubes, Titanium

TITANIUM work

- Blanking and forming titanium. W. A. Mays and G. J. Matey. *Metal Prog* 74:156-8+ Ag '58
- Cold extrusion of unalloyed titanium. A. M. Sabroff and others. *il diags A S M E Trans* 80:124-31 Ja '58; Same cond. *Product Eng* 28:D2-5 Mid-O '57; Discussion. *A S M E Trans* 80:131-2 Ja '58
- Design considerations for cold extrusion of titanium. A. M. Sabroff and others. *il diags Tool Eng* 41:84-90 Jl '58
- Drawability of titanium defined. *Steel* 141: 179 D 9 '57
- Fabrication of titanium. R. E. Avery and S. C. Orr. *bibliog il Corrosion* 14:119-20+ Ja '58
- Fabricating titanium cases for jet engine compressors. *il Automotive Ind* 119:52-4 Ag 1 '58
- Forged titanium machined for commercial product. *il Am Mach* 102:146-7 My 19 '58
- Form thick titanium spheres by hot spinning. *il Iron Age* 180:142-3 D 5 '57
- Forming data for part details; reference book sheet. *diags Am Mach* 101:147+ D 16 '57
- Hot forming titanium. *il Steel* 142:109 Mr 3 '58
- Hot sizing, hottest way yet to precision-form titanium? G. H. De Groat. *il Am Mach* 102: 86-8 Je 2 '58
- Hot-sizing titanium and high-temperature steel parts. C. O. Herb. *il Mach* 64:118-21 Je '58
- Hot-sizing titanium shapes at Ryan aeronautical co. C. O. Herb. *il Mach* 65:122-4 O '58
- Hot spinning titanium nets production economy. *il Tool Eng* 40:181-2 Ja '58
- How to drill 6Al-4V titanium alloy. G. P. Campbell and A. Searle. *il Mech Eng* 79: 1025-8 N '57
- How to get more for your machining dollar; guide to machining titanium. *Iron Age* 181:126-8 Ap 24 '58
- Imperial Chemical Industries titanium plant in Wales. *il Engineering* 186:28-30 Jl 4 '58
- Liquid honing speeds precision finishing; titanium jet engine blades. T. M. Rohan. *il Iron Age* 181:108-9 F 6 '58
- Machining titanium; reference sheet. G. W. Bauer. *Tool Eng* 40:121-3 My '58
- New extrusion; fabrication process reduces jet engine parts costs. N. J. Feola. *il diags S A E J* 66:32-6 F '58; Same. *Iron Age* 181: 96-8 Mr '58; Same cond. *Tool Eng* 40:203-5 Je '58
- New mill strengthens competitive position of titanium. *il Am Mach* 101:178-9 N 4 '57
- No springback in titanium-alloy parts hot formed in Hufford press. *il Am Mach* 102: 136 S 22 '58
- Pin down titanium pickling variables. M. E. Komp and D. Evers. *Steel* 142:94-5 Je 23 '58
- Present limitations and future possibilities in titanium forgings; abstract. J. J. Russ. *Metal Prog* 72:136 D 57
- Process uses creep for forming parts. D. M. Stubbs. *S A E J* 66:116-17 Mr '58
- Research produces milling suggestions for titanium industry. *il diags Tool Eng* 39:152-3 N '57
- Resistance heating of metal for die forming; Martin co. *il Plant Eng* 12:125 Ja '58
- Solved; one titanium machining problem; drilling and broaching. A. J. Wesolowski. *il diags Steel* 143:92 S 29 '58
- Test results on forming titanium extrusions. I. J. Wilson. *il Am Mach* 101:121-3 S 23 '57; *Metal Prog* 73:188-9+ My '58; *Product Eng* 29:D2-3 Mid-S '58
- Titanium is roll-formed hot. G. H. De Groat. *il Am Mach* 102:111 F 24 '58
- Titanium mill at Waunarlywydd. *il Engineer* 205:975-6 Je 27 '58
- Titanium-sheet-rolling program. N. E. Promisel and W. J. Harris. *il Mech Eng* 79:1112-15 D '57
- Two ways to machine titanium honeycomb. A. C. Gibralth. *il Mod Metals* 14:78 Ap '58

TITANIUM works

- Titanium melting plant; Kynoch works of I.C.I. *il Engineer* 205:865 Je 6 '58

Electric equipment

- New aluminum process welds on large power-feeder installation in industrial titanium plant. *il Elec Constr & Maint* 57:90-2 Ag '58

Equipment

- From little acorns; automation in sheet metal job shop and titanium works. G. C. Close. *il Automation* 5:28+ Ag '58

TITLES, Moving picture. See Moving pictures—Titles

TITLES of honor and nobility

New year honours list. *Metallurgia* 57:93+ F '58

TITRATION. See Volumetric analysis

TITRIMETRIC analysis. See Volumetric analysis

TOAD poisons

Resibufogenin and marinobufagin. W. E. Thiessen. *bibliog Chem & Ind* p440-1 Ap 12 '58

TOBACCO

Biogenesis of the nicotiana alkaloids; the piperidine ring of anabaine. E. Leete. *bibliog Am Chem Soc* 80:4393-4 Ag 20 '58

Analysis

Methods of determining chlorogenic acid in tobacco; abstract. A. S. Weaving. *Chem & Ind* p216-17 F 22 '58

Diseases and pests

See also

Tobacco mosaic virus

Physiological effect

See also

Smoking

TOBACCO mosaic virus

Absence of phosphotriester linkages in tobacco mosaic virus. D. E. Koshland, Jr. and others. *bibliog Am Chem Soc J* 80: 105-7 Ja 5 '58

Incorporation of 5-fluorouracil into the nucleic acid of tobacco mosaic virus. L. E. Gordon and M. Staehelin. *bibliog Am Chem Soc J* 80:2340-1 My 5 '58

Lengths of tobacco mosaic virus from electron microscopy. C. E. Hall. *bibliog Am Chem Soc J* 80:2556-7 My 20 '58

Preparation and characterization of essentially uniform tobacco mosaic virus particles. *bibliog Am Chem Soc J* 80:2550-6 My 20 '58

TOBACCO smoke

Analysis

Analysis of the nonvolatile acids in cigarette smoke by gas chromatography of their methyl esters. L. D. Quin and M. E. Hobbs. *bibliog Anal Chem* 30:1400-5 Ag '58

Chromatographic determination of steam-volatile acids in cigarette smoke. L. D. Quin and others. *Anal Chem* 30:546-7 Ap '58

Isolation and identification of squalene from cigarette smoke condensate. B. L. Van Duuren and F. L. Schmitt. *bibliog Chem & Ind* p 1006-7 Ag 9 '58

New in cigarettes; gas chromatographic method finds low acid in cigarette smoke. L. D. Quin. *Chem & Eng* N 35:46 D 18 '57

Presence of squalene in cigarette smoke. A. I. Kosak and J. S. Swinehart. *bibliog Chem & Ind* p 1007 Ag 9 '58

TOBACCO workers

See also

Cigaret factories—Employees

TOBERMORITE

Crystal chemistry of hydrous calcium silicates; morphology and other properties of tobermorite and related phases. G. L. Kalousek and A. F. Prebus. *bibliog(29 ref)* *il Am Cer Soc J* 41:124-32 Ap 1 '58

TOCOPHEROL. See Vitamins—Vitamin E

TODD, Sir Alexander R.

Nobel prizes. *Sci Am* 197:59-60 D '57

Nobel prizes to Todd, Lee, and Yang. *por Chem & Eng* N 35:114 N 11 '57

Sir Alexander Todd, F.R.S.; Nobel laureate. *por Chem & Ind* p 1646 D 21 '57

TODHUNTER, Richard T.

Retires after 70 years in coal. *por Coal Age* 63:32 Ap '58

TOILET goods

Cosmetics and toilet preparations. W. W. Myddleton. *bibliog Manuf Chem* 29:72-4+, 206-9, 337-9 F. My. Ag '58

Market for children's toiletries. *il Drug & Cosmetic Ind* 83:55 J1 '58

Packaging perfumed products. C. F. Wight. *il Soap & Chem Spec* 34:61-4 My '58

Polyethylene oxide gums in toilet goods. L. Osipow and L. D. Berger, Jr. *il Drug & Cosmetic Ind* 82:166-74 F '58

Role of glycerin in aerosols. S. Prusslin and H. R. Shepherd. *il Soap & Chem Spec* 34: 87-4 O '58

Toilet goods sales reach record high; with tables. *Am Perfumer & Aromatics* 71:67 Ap '58

See also

Cosmetics

Hair preparations

TOILET goods—Continued

Advertising

- Bazaar marketing. Drug & Cosmetic Ind 82: 49-51+ Ja '58
Toiletries advertising claims; the F.T.C. view. E. W. Kintner. Soap & Chem Spec 34:48-50+ Ag '58

TOILET goods association

- Annual meeting, Poland Springs, Me. June 25-28. Drug & Cosmetic Ind 83:38-9+ Ji '58
Annual meeting, 25d. Poland Springs, Me. Soap & Chem Spec 34:52+ Ji '58
Annual meeting, 23d. Poland Springs, Me. June 25-28; with abstracts of papers. Am Perfumer & Aromatics 71:35-7 Je '58
Scientific section meeting, 26th. New York, Dec. 9; abstracts of papers. Soap & Chem Spec 34:40-4 Ja '58
Scientific section meeting, New York, June 5; with abstracts of papers. Soap & Chem Spec 34:50-1+ Ji '58
Semi-annual meeting, New York, Dec. 9; abstracts of papers. Am Perfumer & Aromatics 71:54-5 Ja '58

TOKYO

Architecture

- Tokyo's controversial City Hall. II diag Arch Forum 109:205-7 S '58

TOLBUTAMIDE. See Sulfonfyl compounds

TOLEDO, Ohio

See also

- Building—Toledo, Ohio

TOLERANCE

- Achieving fine tolerances in tracer-controlled contour machining. J. M. Case. II Tool Eng 40:201-4 Mr '58
Barrel finish unit holds tolerances. II Iron Age 181:122-3 Mr 20 '58
Ceramic radome wall thickness tolerance requirements and their interpretation. M. J. Kofoid. II diag Am Cer Soc Bul 37:4-8 Ja 15 '58
Equations predict chance of misfit in assembly. W. Hanka. diags Product Eng 29: 61-3 My 26 '58
Fast screw machines keep close tolerances; DeVilbiss co. D. A. Dettinger. II Iron Age 182:98-9 S 25 '58
Geometric and positional tolerancing; reference book sheets. W. H. Harrington. diags Am Mach 102:115+ Je 16; 95+ Je 30; 107 Ji 14 '58
Hiding close tolerances in ceramic capacitors. N. Rudnick. II diag Elec Manuf 61: 117-18 Ja '58
How and when to specify tolerances of form. F. L. Spalding. diags Machine Design 30: 104-11 My 15 '58
How to set up sensible tolerances. L. A. de Crote. diags Iron Age 181:83-5 F 20 '58
Let's tolerate the tolerance. G. D. Simmons. diags S A E J 64:85-9 My '56; Same cond. Product Eng 28:A20-1 Mid-O '57
Maximum material condition on drawings. P. G. Belitsoz. diags Mag of Stand 28:329-32 N '57
Millionths made easy; Brown & Sharpe mfg. co. II Steel 142:148+ My 19 '58
Moulding to engineering tolerances. II diags Brit Plastics 31:66-9 F '58
Optimum tolerance assignment to yield minimum manufacturing cost. D. H. Evans. Bell System Tech J 37:461-84 Mr '58
Recommended design tolerances for plastics moldings; file facts. diags Materials in Design Eng 47:141 Mr '58
Shop practice standards take the guesswork out of blueprint specifications and tolerances. J. A. Chingas. diags Machine Design 30:92-5 My 29 '58
Tables for one-sided statistical tolerance limits. G. J. Lieberman. bibliog Ind Quality Control 14:7-9 Ap '58
Tolerance charts aid dimensioning for machining; Ulma drop forge & tool co. W. K. Wood. Am Mach 101:81-4 D 30 '57
Trend is to tighter tolerances. E. J. Egan, jr. Iron Age 182:63 Ji 24 '58
True position on drawings. N. E. Brown and J. Stannard. II Mag of Stand 28:327-8 N '57
True-position tolerancing; reference book sheets. W. H. Harrington. diags Am Mach 102:107+ Ag 11; 91+ Ag 25; 115+ S 8; 123+ S 22; 115+ O 6; 185+ O 20; 119 N 3 '58
What the designer should know about production; specifying tolerances and surface finishes. E. R. Morrill. diag Mach 65:158-62 O '58

See also

- Fits (machinery)

TOLL plazas. See Bridges—Toll plazas

TOLSON, William A.

- Obituary. por Inst Radio Eng Proc 45:1301 S '57

TOLUENE

- Aromatic hydrocarbons. J. J. O'Connell. Pet Refiner 36:199-200 N '57
Deuterium isotope effect in the side chain halogenation of toluene. K. B. Wiberg and L. H. Slaugh. bibliog Am Chem Soc J 80:3033-9 Je 20 '58
Dielectric relaxation of polyoxyethylene glycol (POEG) in toluene. A. B. Ruigrok and J. J. Hermans. bibliog diags J Colloid Sci 13:488-99 O '58
Kinetics of the Friedel-Crafts sulfonylation of benzene, chlorobenzene and toluene with aluminum chloride as catalyst and benzene-sulfonyl chloride as solvent. F. R. Jensen and H. C. Brown. bibliog Am Chem Soc J 80:4042-5 Ag 5 '58
Moisture in paper and paperboard by toluene distillation; revision of TAPPI tentative standard T 484 m-53. diag Tappi 41:sup 168A-9A Ap '58
Quantitative relationship between structure and reactivity for the reactions between diphenyldiazomethanes and benzoic acids in toluene at 25°. C. K. Hancock and J. S. Westmoreland. Am Chem Soc J 80:545-8 F 5 '58
Rates of chlorination of polymethylbenzenes in acetic acid. E. Baciocchi and G. Illuminati. bibliog Chem & Ind p917-13 Ji 19 '58
Relative rates and isomer distribution in the aluminum chloride-catalyzed benzenesulfonylation of benzene and toluene in benzene-sulfonyl chloride solution; partial rate factors for the benzenesulfonylation reaction. F. R. Jensen and H. C. Brown. bibliog Am Chem Soc J 80:4046-8 Ag 5 '58
Relative rates of bromination of some hydroxy, methoxy and methylthio-substituted polymethylbenzenes; partial inhibition of resonance effects. G. Illuminati. bibliog Am Chem Soc J 80:4945-8 S 20 '58
Relative rates of the aluminum chloride-catalyzed benzoylation of representative benzene derivatives in benzoyl chloride solution; partial rate factors for the benzoylation of toluene. H. C. Brown and F. R. Jensen. bibliog Am Chem Soc J 80: 2296-300 My 5 '58
p- σ treatment for the bromination of substituted polymethylbenzenes; the kinetic effect of the cyano group. G. Illuminati. bibliog Am Chem Soc J 80:4941-5 S 20 '58
Solvent effects in the reactions of N-bromosuccinimide with toluene, fluorene and acenaphthene; evidence for a polar mechanism in propylene carbonate. S. D. Ross and others. bibliog Am Chem Soc J 80:4327-30 Ag 20 '58
See also
Chlorotoluene
Nitrotoluene

Manufacture

- Azeotropic fractionation; Union oil co. flow diag Pet Refiner 36:293 N '57

Spectra

- Influence of an acidic environment on the spectra of benzene and some methylbenzenes. M. Kilpatrick and H. H. Hyman. bibliog Am Chem Soc J 80:77-83 Ja 5 '58

TOLUENE diisocyanate

- Effects of TDI isomer ratio in polyurethane foams. G. T. Gmitter and E. E. Gruber. Rubber Age 83:33-7 Ap '58

TOLUENE sulfonate

- Rates of solvolysis of some deuterated 2-phenylethyl p-toluenesulfonates. W. H. Saunders, jr. and others. bibliog Am Chem Soc J 80:2421-4 My 20 '58
Transformation of toluene-p-sulphonates into fluorides. E. D. Bergmann and I. Shahak. bibliog Chem & Ind p 157 F 8 '58
Transmission of electrical effects through homoallylic systems; kinetics of solvolysis of some 6-arylcholesteryl p-toluenesulfonate esters. R. A. Sneed. bibliog Am Chem Soc J 80:3977-81 Ar 5 '58
Transmission of electrical effects through homoallylic systems; synthesis and kinetics of solvolysis of 6-methylcholesteryl p-toluenesulfonate. R. A. Sneed. Am Chem Soc J 80:3982-6 Ar 5 '58
Transmission of electrical effects through homoallylic systems; the synthesis and physical properties of a series of 6-arylcholesterols and of 6-arylcholesteryl p-toluenesulfonate esters. R. A. Sneed. bibliog Am Chem Soc J 80:3971-6 Ag 5 '58

TOLUENESULFENYL chloride
Bridged polycyclic compounds; addition of *p*-toluenesulfenyl chloride to norbornene, norbornadiene, alicrin and 9,10-dihydro-1,10-ethanoanthracene. S. J. Cristol and others, *bibliog Am Chem Soc J* 79:6035-9 N 20 '57

TOLUENE sulfonate
Conformational analysis; bimolecular displacement rates of cyclohexyl *p*-toluenesulfonates and the conformational equilibrium constant of the *p*-toluenesulfonate group. E. L. Eliel and R. S. Ro, *bibliog Am Chem Soc J* 79:5995-6000 N 20 '57
Salt effects and ion pairs in solvolysis and related reactions; the 2-*p*-anisyl-1-propyl system. S. Winstein and A. H. Fainberg, *bibliog Am Chem Soc J* 80:459-65 Ja 20 '58

TOLUENESULFONYL compounds
Base-catalyzed cleavage reactions of *cis*- and *trans*-cyclohexane-1 : 3-diol monotosylates. F. V. Brutcher, Jr. and H. J. Cencel, *bibliog Chem & Ind p* 1025-8 D 14 '57
Benzyl tosylates. F. T. Fang and others, *bibliog Am Chem Soc J* 80:563-75 F 5 '58
Kinetic isotope effects in the acetolyses of deuterated cyclopentyl tosylates. A. Streitwieser, Jr. and others, *bibliog diags Am Chem Soc J* 80:232-32 My 5 '58

Kinetics of the decomposition of sodium *p*-toluenesulfonylacetate in water-ethylene glycol and water-dioxane mixtures. D. J. O'Connor and F. H. Verhoek, *bibliog Am Chem Soc J* 80:288-90 Ja 20 '58
Many-membered carbon rings; acetolysis of 5,6-dimethylcyclohexanol tosylates. A. T. Blomquist and Y. C. Melnwald, *bibliog Am Chem Soc J* 80:830-2 F 5 '58
Reaction of steroidal tosylates on alumina. F. C. Chang and E. T. Bickenstaff, *bibliog Chem & Ind p* 590-1 My 17 '58

TOLUENETHIOL
Bridged polycyclic compounds; the addition of *p*-thiocresol to norbornadiene; the question of non-classical free radicals. S. J. Cristol and others, *bibliog Am Chem Soc J* 80:635-40 F 5 '58
Bridged polycyclic compounds; the stereochemistry of the free radical addition of *p*-thiocresol to a bicyclo[2.2.1]heptene and a bicyclo[2.2.2]octene. S. J. Cristol and R. P. Arganbright, *bibliog Am Chem Soc J* 79:6039-41 N 20 '57

TOLYL group
Physicochemical and clotting properties of *p*-tolylazobenzene. J. E. Fitzgerald and W. L. Koltun, *bibliog Am Chem Soc J* 79:8383-7 D 20 '57

TOLYL sulfone
cis elimination mechanisms; the base-catalyzed deuterium exchange of cycloalkyl *p*-tolyl sulfones. J. Weinstock and others, *bibliog Am Chem Soc J* 80:4961-4 S 20 '58

TOMARKIN process. See Tires, Automobile—Manufacture

TOMATIDINE
Conversion of tomatidine and solasodine into neotigogenin and diosgenin and into a common constituent, 5α-22,25-epoxyfurostan-3β-ol. Y. Sato and others, *bibliog Am Chem Soc J* 79:6089-90 N 20 '57

TOMATO juice
High viscosity of cell wall suspensions prepared from tomato juice. R. T. Whittenberger and G. C. Nutting, *bibliog diags Food Tech* 12:420-4 Ag '58

Influence of test location and accompanying sound in flavor preference testing of tomato juice. L. A. Pettit, *Food Tech* 12:55-7 Ja '58

Method for fly egg counts in tomato products. C. D. Buss, *Food Tech* 12:391-2 Ag '58
Quantity of sample, swallowing, and rinsing factors in flavor preference testing of tomato juice. L. A. Pettit, *Food Tech* 12:51-4 Ja '58

Storage changes in tomato juice. B. S. Luh and others, *bibliog Food Tech* 12:380-4 Ji '58

TOMATO paste
Consistency of tomato paste. C. J. E. Smit and K. Nortje, *bibliog Food Tech* 12:356-8 Ji '58

Method for fly egg counts in tomato products. C. D. Buss, *Food Tech* 12:391-2 Ag '58
Objective criteria for storage changes in tomato paste. B. S. Luh and others, *bibliog Food Tech* 12:347-51 Ji '58

TOMATOES
Aeration curbs waste-disposal odors; tomato-waste disposal methods described. G. Ammerman and N. W. Desrosier, *Food Eng* 80:115 Ja '58

TONAWANDA, New York

Water supply

Water intakes in the Niagara river and Lake Ontario. R. H. N. Murray, *Am Soc C E Proc* 84 (SA 2 no 1807):1-11 Ap '58

TONES

Electronic organ uses neon tone generators. R. H. Dorf, *diags Electronics* 31:36-41 AK 29 '58

TOOL engineering

American society of tool engineers 26th annual meeting; abstracts of papers. *Tool Eng* 40:135-42 Je '58
Looking ahead in tool engineering. T. W. Black, *Tool Eng* 40:75-81 Ap '58
Meet his honor the tool engineer. M. L. Stone, *Tool Eng* 41:98-101 Ag '58
Reliability requirements for tomorrow's competition. H. T. Hollowell, Jr., *Tool Eng* 40:71-4 Je '58

Tool engineering for the space age. T. W. Black, *Tool Eng* 41:73-82 S '58
Tool engineering in Europe; abstracts of papers. *Tool Eng* 40:203-5 F; 197-9 Mr; 312-15 Ap; 194-6 My; 41:148-9 Ag; 216-18 S '58

Study and teaching

ASTE's stake in the future; scholarships reward students' diligence. *Tool Eng* 40:126 My '58
Emphasis on advanced; practice courses start in Houston, New York, Chicago. *Tool Eng* 40:128 F '58

TOOL engineers

Tooling the tool engineer for today's competition. H. E. Collins, *Mach* 64:114-16 My '58

TOOL engineers, American society of. See American society of tool engineers

TOOL rooms

Keeping tabs on plant tools; simple system of forms and checks works well for Kenworth motor truck co. *Plant Eng* 12:137-9 Mr '58

Modular units pack more tools. *Iron Age* 181:129 My 22 '58

TOOL steel

Alter tool structure for longer life. H. Chase, *Iron Age* 181:117-19 Mr 6 '58

Drill steel developments in the laboratory. F. Anderson, *diags Min Cong J* 44:51-3 My '58

Effect of different surface treatments on the fatigue strength of drill steel. T. W. Wloddek, *bibliog (26 titles)* *Can Min & Met Bul* 61:89-98; Discussion, 98-101 F '58

Guide to tool steels and carbides; Index of materials by trade names and by companies. *Steel* 12:37-140 Ap 21 '58

High-temperature X-ray study on high-speed steel. H. J. Goldschmidt, *bibliog Iron & Steel Inst J* 188:168-85 My '57; Discussion, 188:183-4 F '58

Isothermal transformation of austenite in high speed steel; abstract. A. P. Gulyaev and K. A. Malinina, *Metal Prog* 73:180-+ My '58

Latrobe's 32-in. cogging mill rolls superalloys, high-speed steels. *diags Am Mach* 101:143 D 2 '57

Maina frequency induction melting of high speed steels. *diags Metallurgia* 57:198 Ap '58

New horizons in nitriding; abstract. H. C. Knerr, *Metal Prog* 72:188-+ D '57

Percussion drill steel facts of life. *diags Min J* 159:110-13 Mid-Je '58

Silicon determination in tool steels, high alloys. W. B. Sobers, *Foundry* 86:206 Ja '58

Surface treatment of high-speed steel tools; abstract. H. D. Weckener, *Tool Eng* 40:187-8 Je '58

Survey hot-work tool steels for aircraft and missiles. R. J. Nekervis and others, *Iron Age* 181:99-102 F '57; 120-1 Mr 6 '58

Testing

Study of the distortion of high-carbon high-chromium die steels. K. Sachs, *bibliog diags Iron & Steel Inst J* 189:216-24 Ji '58

TOOLS

Erector set tooling for lower missile costs. T. F. Vajda, *Tool Eng* 41:86-9 S '58

Industrial know-how handbook; hand tools. *diags Mil & Factory* 62:MW28-9 My '58

Magnesium in aircraft tooling. K. F. Melde, *Tool Eng* 40:103-5 Je '58

1958 production preview; inspection and layout. *diags Am Mach* 102:223-33 Ja 27 '58

1958 production preview; tools and accessories. *diags Am Mach* 102:168-78 Ja 27 '58

TOOLS—Continued

Production nuggets; information from American machinist and other publications; developments to watch; tooling. *Il* *diags* *Am Mach* 102:C 1-7 Mid-S '58

Safety tools are one important use of high strength nonmagnetic alloys. H. Bernstein. *Il* *Materials in Design Eng* 48:104-6 Ag '58

Tools and stores you need to run that new industrial power plant. P. N. Garay. *Il* *Power Eng* 61:83-5 D '57

See also

Bending tools
Bits
Electric tools. Portable
Electric wiring tools
Files and rasps
Gages
Garden tools
Hammers
Machine tools
Wrenches

Exhibitions

ASTE tool show, Philadelphia, May 1-8; products, floor plan, list of exhibitors. *Il* *diag* *Tool Eng* 40:172-222-4 Ap '58
Gauge and tool exhibition, London. *Il* *Engl-neer* 205:735-7 My 16 '58

Maintenance and repair*See also*

Pneumatic tools, Portable—Maintenance and repair

Painting

Magnets hold tools for dip painting. *Il* *Plant Eng* 12:136 Mr '58
Magnets solve painting problem. *Il* *Iron Age* 181:91 F 20 '58

Standards

Delegate reports on small tools. F. P. Brown. *Mag of Stand* 29:235-6 Ag '58

TOOLS, Plastic

Epoxy shatters due die costs. T. W. Black. *Il* *Tool Eng* 40:89-91 Mr '58

Epoxy tooling now possible for medium run production dies. *Il* *Materials in Design Eng* 47:145-4 Mr '58

For tools and dies, new epoxy-fiber compositions. A. P. Mazzucchelli. *Il* *Tool Eng* 40:99-103 Ap '58

Light metal fabricator reports profitable plastic tooling uses. *Il* *Light Metal Age* 16:26-4 O '57

Metal fibers extend life and uses of plastic tooling. *Il* *Iron Age* 181:100-1 Ja 30 '58

Plastic tooling moves into longer runs. *Il* *Chem Eng* 65:74-4 F 24 '58

Plastics cut tooling costs. *Il* *Steel* 142:111 F 3 '58

Plastics in plant tooling. O. F. Bernardin. *Il* *Tool Eng* 40:85-8 My '58

Plastics in the toolroom; reinforced epoxies. *Il* *diag* *Steel* 142:108-11 F 3 '58

Plastics tooling cuts lead time; Douglas aircraft co. M. B. Newburger and H. B. Pawasarat. *Il* *diag* *Tool Eng* 41:30-1 Ag '58

Reduced time and cost 50 to 70 per cent. *Il* *Mill & Factory* 61:135 D '57

Reinforced plastic tooling. *Il* *Mech Eng* 80:103 Mr '58

Shrink tests developed for tool plastic. O. D. Lascoe. *Il* *diag* *Tool Eng* 39:117-21 N '57

Tooling with plastics. V. L. Fulchino. *Il* *Mach* 64:142-6 Ap '58

What the designer should know about production; plastic materials and processing. F. Lyyinen. *Il* *diags* *Mach* 65:168-72 S '58

TOOLS, Pneumatic. See Pneumatic tools**TOOMEY, Charles Calvin**

Memorial. J. W. Merritt. *por* *Am Assn Pet Geologists* *Bul* 42:917-18 Ap '58

TOOTH paste and powder. See Dentifrices**TOPCO associates, inc.**

Private labels climb into key marketing positions. J. V. Ziembra. *diag* *Food Eng* 30:52-4 Ji '58

TOPOGRAPHICAL surveying*See also***Photogrammetry****TOPOGRAPHY**

Control of jointing by topography. C. A. Chapman. *map diags* *J Geol* 66:562-8 S '58

TOPOLOGY

Topological geometry, key to metal structures? abstract. F. N. Rhines. *Am Mach* 102:103 Je 16 '58

TORCHES

Does he use America's oldest torches? *Il* *Welding Eng* 43:54 Je '58

TORNADOES

Elevated water tank defies tornado. C. D. Miller. *Il* *Civil Eng* 27:874-5 D '57
Method improved for detecting tornadoes. *Air Cond Heat & Ven* 55:80 Ja '58
Tornadoes. M. Tepper. *Il* *maps Sci Am* 198:31-7 My '58

TORONTO*See also*

Airports—Toronto

Sewerage

Tunneling machine tackles hard rock; Humbler Valley trunk sewer, Toronto. *Il* *Eng N* 161:39 S 4 '58

TORONTO university

Faculty of applied science and engineering, University of Toronto. *Il* *Eng J* 41:91-3 Ag '58

TORPEDES

Rotating-beam channel and 30-inch water tunnel at Admiralty research laboratory. E. H. Lever and others. *diag* *Il* *diags Inst Mech Eng Proc* 177 no 4:159-73, pl 1-4; Discussion, 174-82; Reply, 182-5 '57
Undersea defenders; story of acoustic homing torpedoes. *Il* *diag* *Gen Elec R* 61:24-35 Mr; 18-26+ My '58

TORQUE

Calculate gyroscope precession torques. A. E. Maine. *Product Eng* 29:H3 Mid-S '58
Calculating forces relationships in converting linear to rotary motion; data sheet. D. P. Hanley. *diag* *Machine Design* 30:147-9 Mr 6 '58

Contact stresses under combined pressure and twist. M. Hetényi and F. H. McDonald, Jr. *bibliog* *Il* *diags J Ap Mech* 25:396-401 S '58

Criterion for flow of a Bingham plastic between two cylinders loaded by torque and pressure gradient. P. R. Paslay and A. Silbar. *diags J Ap Mech* 25:24-5 Je '58

Gravitational torque on a satellite vehicle. R. E. Roberson. *diags Franklin Inst J* 265:13-22 Ja '58

Improved torque magnetometer. W. S. Byrnes and R. G. Crawford. *bibliog* *diags J Ap Phys* 29:493-5 Mr '58

Load torque factor in precision gear backlash. W. Asamit. *Il* *diag* *Elec Manuf* 62:98-101 Ag '58

Mechanics of elastic performance of textile materials; torque development in yarn systems. M. M. Platt and others. *bibliog* *diags Textile Res J* 28:1-14 Ja '58

Multiply torque this easy way; electromechanical amplifier reduces control problems. R. H. Eisengrein. *Il* *diags Plant Eng* 12:97-9 Ji '58

Nomograph gives torque for one to 50 hp, 100 to 5000 rpm; reference book sheet. S. W. Kaye. *Product Eng* 29:93 Je '58

Rotating torque switch operable by light yarns. R. L. Pocock. *Il* *J Sci Instr* 34:459-60 N '57

Rubber-seated butterfly valves; torque characteristics. A. E. Hatch, Jr. and W. H. Chamberlain. *Water & Sewage Works* 105:67-9 F '58

Stray-load losses and stray torques in induction machines. A. M. Odok. *bibliog* *diags Power Apparatus & Systems* 43:53 Ag '58

Torque-controlled drive release for tapping. *diags Mach* 64:158 F '58

Torque measuring system has digital output. *Il* *diag* *Elec Manuf* 61:148-9 Mr '58

Torque motor counterbalances load. *Il* *diag* *Machine Design* 30:144 S 18 '58

Torque of slip couplings; chart; reference book sheet. *diag* *Product Eng* 28:95+ D 23 '57

Torque requirements for rotary shouldered connections. A. P. Farr. *Il* *diag* *Oil & Gas J* 55:108-14 D 2 '57

Torque values of spring wire. *Il* *Mech Eng* 80:101 Mr '58

Torque values of spring wire recorded. *Il* *Wire & Wire Prod* 33:545+ My '58

Torques on a satellite vehicle from internal moving parts. R. E. Roberson. *diags J Ap Mech* 25:196-200, 287-8 Je '58

Which type of torque-limiting device? R. A. Bareiss and P. A. Brand. *diags* *Product Eng* 29:50-3 Ag 4 '58

Tables, calculations, etc.

Practical approach to accurate determination of tightening torque for bolts; data sheet. R. Skidmore. *Il* *diags* *Machine Design* 30:133-6 Ja 9 '58

TORQUE converters

Automatic adjustment of tractor pul obtained with torque-converter drive; Case-O-Matic drive. *il* diag Machine Design 30:152-3 Mr 20 '58

Converter performance varied by circuit design; Twin disc clutch co. E. B. Falk. *il* diag Diesel Power 36:32+ S '58
Direction of torque-converter drive output controlled with hydraulically locked discs; illustrations and drawings with text. Machine Design 30:136 Ja 23 '58

Torque converter built for choice of circuits. *il* Product Eng 29:67 Ag 4 '58

Torque converter drive for farm tractors. *il* diag Diesel Power 36:73-4+ Ap '58

Torque converter gives tractor two drives in one. *il* Product Eng 29:65 Ja 20 '58

Torque converter is ideally suited for shovel-crane. F. J. Strnad. S A E J 66:95 Mr '58

Torque-converter transporter. *il* Engineer 206:26 Ji 4 '58

Torque converters: a flexible drive. H. L. Wilke. Machine Design 29:116-20 F 7 '57; Same cond. Product Eng 28:E2-4 Mid-O '57; Abstracts. Automotive Ind 116:59+ Ja 1 '57; *il* Mech Eng 79:738-40 Ag '57

Torque converters in farm tractors. E. E. Eaton. S A E J 65:28-9 N '57

Two-speed torque converter transmission; turbo-transmitter. *il* diag Engineer 204:535-6 O 11 '57

TORQUE meters

Measurement of small time-intervals in an electronic torquemeter. H. Rakshit and S. C. Mukherjee. *diag* Electronic Eng 30:557-60 S '58

TORSION

Analogue computer study of a torsional vibrations problem. R. T. Gray and S. W. McElhenny. *bibliog* diags Applications & Ind p219-27 S '58

Comparison of theoretical and empirical relations between the shear modulus and torsional resonance frequencies for bars of rectangular cross section. S. Spinner and R. C. Valore. *jr* diag J Res Nat Bur Stand 60:459-64 My '58

Creep buckling of tubes in torsion. I. Finnie. *bibliog* J Aeronautical Sci 25:66-7 Ja '58

Curves and bending and torsion strength of thin-walled cylinders; reference book sheet. I. Kusmiss. *diag* Product Eng 29:35+ Ji 21 '58

Loss of torsional stiffness under load. L. E. Hackman. *diag* Aero/Space Eng 17:53-7+ O '58

Pure torsion creep tests on magnesium alloy (2 per cent Al) at 20°C., and on 0.2 per cent C steel at 450°C., at low rates of strain (10⁻⁴ to 10⁻⁵ per hour). A. E. Johnson and others. *metallurg* 58:109-17 S '58

Recording torsion testing machine for wire. H. C. Burnett. *il* A S T M Bul p68-9 Ja '58
Simplified tabular method for torsional vibration analysis of multiple-rotor shaft systems; data sheet. J. Hirschhorn and K. Johnston. *diag* Machine Design 30:141-6 My 29 '58

Torsion analysis for suspension bridges. N. Sih. *diag* Am Soc C E Proc 83 [ST 6 no 1431]:1-8 N '57; Discussion. K. H. Chu. 84 [ST 2 no 1576]:41-2 Mr '58; Reply. 84 [ST 5 no 1787]:13-15 S '58

Torsion and flexure of slender solid sections. W. J. Carter. *diag* J Ap Mech 25:115-21 Mr '58

Torsion fatigue tests. *il* Engineering 185:786-7 Je 20 '58

Torsion of cylindrical and prismatic bars in the presence of steady creep. S. A. Patel and others. *bibliog* *diag* J Ap Mech 25:214-38 Ja '58

Torsional rigidity of thermally stressed wings. R. L. Bisplinghoff. *bibliog* *diag* J Aero/Space Sci 25:857-8 O '58

Ultimate torsional properties of rectangular reinforced concrete beams. G. C. Ernst. *bibliog* *il* *diag* Am Concrete Inst J 29:341-56 O '57; Discussion. 29:1173-5 Je '58

Variable-speed torsional-vibration absorber. C. U. Ip and I. E. Morse. *diag* Machine Design 30:93-5 Ag '58

TOSYLATES. See Toluenesulfonyl compounds**TOTE boxes**

Tote system. *il* Ind Chem 34:557 O '58

TOTE boxes, Plastic

Moulded tote boxes formed from P.V.C. sheet. *il* Brit Plastics 31:98-9 Mr '58

TOULOUSE, Julian H.

Toledo technical council names J. H. Toulouse engineer of the year; Sadoris award. *por* Ind Quality Control 14:31-2 Ap '58

TOURIST camps, hostels, etc.

See also

Motels**TOWBOATS**

Another gem for Blue Diamond fleet. *il* Marine Eng/Log 63:76 Je '58

Design, construction, and operation of a class of twin screw tugs; discussion. Engineer 205:537-8 Ap 11 '58

First aluminum tugboat. *il* Light Metal Age 1:27 Ag '58

First aluminum tugboat features all-welded construction. *il* Welding J 37:803-4 Ag '58

Hydroconic design; will this development improve tugs? G. R. Knight, jr. *il* Marine Eng/Log 63:84-6 Mr '58

My Sumter, first all aluminum tug. C. W. Leveau. *il* Marine Eng/Log 63:73-5 Ji '58

New inland-waterway towboats have welded stainless-steel hulls. *il* Welding J 37:805 Ag '58

Progressive towing trials for full-scale inland and shallow draught vessels; discussion. Engineer 205:538-9 Ap 11 '58

Pusher tug and barge train. *il* Engineering 186:69 Ji 18 '58

Pusher tug and integrated barge train. *il* Engineer 206:223-4 Ag 8 '58

Recent small craft; passenger launch for Lake Maracaibo and two river tugs. *il* Engineer 206:221-2 Ag 8 '58

Stagnation in harbor tug design? J. J. McMullen. Marine Eng/Log 63:64-5+ Je '58
Three recent additions to our fast-growing workboat fleet. *il* Marine Eng/Log 63:72-3 F '58

Towboat hulls all-welded; St Louis shipbuilding co. *il* Welding Eng 43:60 My '58

Triple-screw, 4800-hp towboat. *il* Marine Eng/Log 63:77+ My '58

Model testing

Scientific developments in river transportation; model testing of push type river towboats and barge fleets. C. R. Horton, jr. Am Soc C E Proc 84 [VW 4 no 1772]:1-11 S '58

TOWERS

Two-stage bleaching gives Startex good results; carded-yarn towelings. *il* Textile World 108:128-9 Mr '58

See also

Terry fabrics**Testing**

Absorbency of terry towels. B. G. Murphy and A. R. Macormac. *bibliog* Textile Res J 28:337-42 Ap '58

TOWER buildings. See High buildings**TOWERS**

Check towers for three-way stress. B. C. Walton. *diag* Pet Refiner 37:149-51 Ag '58

Foundation design handbook for stacks and towers. V. O. Marshall. *diag* Pet Refiner 37:sup 1-16 My '58 (reprints \$1)

See also

Electric lines—Poles and towers

Radio towers

Television towers

TOWERS, Aluminum

All-aluminum lighting towers at Port Elizabeth airport. *il* Engineer 206:462 S 19 '58

TOWERS, Concrete

Prestressing joins concrete pipe sections to form tall floodlighting towers. *il* Am Concrete Inst J 28:sup 10-11 Mr '58

TOWERS, Portable

Elevated maintenance is facilitated by mobile aerial tower; floodlighting equipment at New York's International airport. *il* Elec Constr & Maint 57:113-15 Ja '58

TOWERS, Steel

Corrosion and protection of galvanized steel transmission tower footings. J. D. Piper. *il* diag Corrosion 14:19-25 Mr '58

Crystal Palace television tower. *il* Engineering 185:246-7 F 21 '58

Jack erect steel surge tower. *il* Eng N 161:35 Ji 3 '58

TOWING

Progressive towing trials for full-scale inland and shallow draught vessels; discussion. Engineer 205:538-9 Ap 11 '58

TOWNS, Company. See Company towns**TOWNSEND, J. Robert**

Biographical appreciation. W. F. Carstens. *por* Metal Prog 72:84-7 N '57

TOY boats. See Boats, Toy

TOYS

- Physics of the dunking duck. J. S. Miller. *Am J Phys* 26:42-3 Ja '58
 Space age seen in toys for '57. *il Machine Design* 29:10+ O 31 '57
See also
 Automobiles, Toy

Manufacture

- Overhead conveyor lines for handling latex toys. *il Rubber Age* 83:985-6 S '58

TOYS, Plastic

- Motored musical toys; extensive use of plastics. *il Mod Plastics* 35:102-3+ Ag '58
 Plastics' stake in toys. *il Mod Plastics* 35:88 Mr '58
 Space-age toys; proper use of plastics, and speed of getting into production are keys to marketing. *il Mod Plastics* 36:102-4 O '58

TRACE analysis

- Absorptiometric determination of traces of chromium in nickel and vanadium, of vanadium in chromium, and of nickel in chromium and vanadium. J. T. McAloren and G. F. Reynolds. *bibliog Metallurgia* 57:52-6 Ja '58
 Apparatus and technique for multiple tests by the confined-spot method of colorimetric analysis; application to field estimation of nickel and copper. J. H. McCarthy, Jr. and R. E. Stevens. *bibliog il diags Anal Chem* 30:535-8 Ap '58
 Carrier precipitation of trace elements; radioisotope evaluation of efficiency. E. E. Pickett and B. E. Hankins. *bibliog Anal Chem* 30:47-50 Ja '58
 Combustion-ampereometric titration of traces of halogen in petroleum products. L. J. Cali and others. *bibliog diags Anal Chem* 30:74-7 Ja '58
 Determination of microgram quantities of fluoride. H. M. Nielsen. *bibliog Anal Chem* 30:1009-11 My '58
 Determination of trace amounts of selenium in sulfuric acid; colorimetric method using 3,3'-diaminobenzidine. T. Danzuka and K. Ueno. *Anal Chem* 30:1370-1 Ag '58
 Determination of trace quantities of hydrocarbons in the atmosphere. E. R. Quilram and W. F. Biller. *diags Anal Chem* 30:1166-71 J1 '58
 Determination of trace quantities of nitrogen in petroleum fractions. O. I. Milner and others. *bibliog Anal Chem* 30:1528-30 S '58
 Determination of traces of boron in nickel. C. L. Luke. *diags Anal Chem* 30:1405-6 Ag '58
 Determination of traces of uranium with 1-(2-pyridylazo)-2-naphthol. K. L. Cheng. *bibliog Anal Chem* 30:1027-30 Je '58
 Estimation of trace and major quantities of lower alcohols, ethers, and acetone in aqueous solutions by gas liquid partition chromatography. S. J. Bodnar and S. J. Mayeux. *diags Anal Chem* 30:1384-7 Ag '58
 Gas chromatography for trace analysis. J. D. Boggus and N. G. Adams. *bibliog diags Anal Chem* 30:1471-3 S '58
 Neutron activation, an ultrasensitive analytical tool. H. Cember. *diag A M A Archives Ind Health* 17:527-32 My '58
 Stable isotope dilution chemical analysis by mass spectrometry. R. K. Webster. *bibliog diag Ind Chem* 34:495-501 S '58
 Trace analyses by gas chromatography. C. E. Bennett and others. *bibliog diags Anal Chem* 30:898-902 My '58
 Wet ash spectrochemical method for determination of trace metals in petroleum fractions. J. Hansen and C. R. Hodgkins. *bibliog diags Anal Chem* 30:368-72 Mr '58
- TRACE elements**
 Determination of trace elements in pulverized-fuel ash. A. C. Smith. *bibliog il diag J Ap Chem* 8:636-45 O '58
 Effect of additives upon the process of crystallization. E. R. McCartney and A. E. Alexander. *bibliog il J Colloid Sci* 13:383-96 Ag '58
 Effect of impurities on the plaque brightness of a 3000°K calcium halophosphate phosphor. A. Wachtel. *bibliog diag Electrochem Soc J* 105:256-60 My '58
 Significance of geochemical distribution trends in soil. D. H. Yardley. *bibliog maps diag Min Eng* 10:Trans 781-6 J1 '58
 Spectrochemical determination of trace impurities in commercial grade ammonium chloride. K. W. Beyer and O. T. Aeppli. *Anal Chem* 29:1779-80 D '57
- TRACERS, Radioactive.** *See* Radioactive tracers

TRACK scales

- Railroad cars weighed without uncoupling; system called rail weight. *Iron & Steel Eng* 34:177 D '57

TRACKING of guided missiles. *See* Guided missiles—TrackingTRACKLESS trolley. *See* Trolley buses

TRACTORS

- Allis-Chalmers tests experimental gas turbine tractor. *il Diesel Power* 36:89 J1 '58
 Cooling system care pays big dividends; Caterpillar tractor co. V. A. Woodling. *diags Coal Age* 63:168+ F '58
 Design features of new British tractors. *il Automotive Ind* 118:68-9 Ja 15 '58
 Double-duty dozer handles dam gates. *il Eng N* 159:96 D 12 '57
 Experimental tractor is turbine powered. *il Eng N* 160:57 Je 12 '58
 Ford readies beefed-up tractor line. *il Eng N* 159:85 D 5 '57
 Ford's new Diesel tractor engine. *il diag Automotive Ind* 118:60 Ap 1 '58
 New 1000-rpm power take-off spec, a boon to the tractor industry. *S A E J* 66:95 My '58
 Operating tractors in rocks is different. *il Pet Eng* 30:D67-8 Ja '58
 Re-designing vehicles to speed materials handling. *il Engineering* 186:222 Ag 15 '58
 Road transport equipment. *il Engineer* 206:184 Ag 1 '58
 Russia exhibits new tractor models at Brussels world fair. D. Scott. *il Automotive Ind* 118:58-60 Je 1 '58
 Smithfield show. London. *il Engineering* 184:741 D 13 '57
 Three new B.R.S. vehicles. *Automobile Eng* 48:345 S '58
 Tips on using crawlers in rocks. *il Eng & Min J* 158:116 D '57
 Torque converter gives tractor two drives in one. *il Product Eng* 29:85 Ja 20 '58
 Tracks in rocks; helpful operating hints. *il Roads & Sts* 101:170-1 Ap '58
 Tractor matching equipment. *il Engineering* 184:647-8 N 22 '57
 When to replace a tractor? G. Evancoe. *Pet Eng* 30:D42-3 My '58

Cold weather operation

- Motoring to the South pole. G. Wilkins. *il Engineering* 185:372 Mr 21 '58
 Tractors in the Antarctic. *Engineering* 185:740 Je 13 '58
 Trans-Antarctic transport. V. Fuchs. *il Engineer* 206:356-7 Mr 7 '58

Control

- Driverless tractor is shown to public. *il Eng N* 160:57-8 Je 12 '58

Design

- Aids for designing better tractor parts; brittle lacquers, strain gages. E. J. Eckert. *S A E J* 66:28-9 Ja '58

Hydraulic equipment

- Valve operating linkage reduces fluid line length. *il diag Ap Hydraulics* 11:80 Mr '58

Maintenance and repair

- Broken tractor drive housing repaired at one-sixth cost. *il Roads & Sts* 101:91 Ap '58

Manufacture

- Dexta line; Ford motor co. *il Engineering* 185:31 Ja 3 '58

Specifications

- Wheel tractors, 1958; specifications; tables. *Automotive Ind* 118:156-61 Mr 15 '58

Testing

- Electronics steers test tractor. *il Electronics* 31:22 My 2 '58
 Tractor engines power-proved right in place. *il Diesel Power* 36:28 S '58

Transmission

- Automatic adjustment of tractor pull obtained with torque-converter drive; Case-O-Matic drive. *il diag Machine Design* 30:162-3 Mr 20 '58

- Two-speed torque converter transmission; turbo-transmitter. *il diag Engineer* 204:636-6 O 11 '57

TRACTORS, Farm

- 518 b.h.p. tractor. *il Engineer* 206:385 S 5 '58
 Ford develops Diesel for farm tractor. *il diag Diesel Power* 36:69-70 Ap '58

TRACTORS, Farm—Continued

- Tool bar pivots 180 degrees to mount implements front and rear; Allis-Chalmers HD-6 crawler tractors. *II* *diag* Machine Design 30:118 J1 10 '58
- Torque converters in farm tractors. E. E. Eaton. S. A. E J 65:28-9 N '57
- Tractors at the Smithfield show and agricultural machinery exhibition. *II* Engineer 204:789-90 N 29 '57

Transmission

- New power transmission system for farm tractors. *II* *diag* Automotive Ind 118:72-4 Je 15 '58
- Torque converter drive for farm tractors. *II* *diag* Diesel Power 36:73-4- Ap '58

TRACTORS, Industrial

- 1958 equipment buyer's guide; yard and outdoor equipment. *II* Mod Materials Handling 13:217-40 My '58
- Power unit swivels, reverses drive; Hyster industrial freight carriers and tractors. *II* *diag*s Product Eng 28:62-3 O 28 '57

Control

- Tractor-train stops electronically. *II* Plant Eng 12:110 Je '58

TRACTORS, Military

- More power per pound in new army tractors. *II* Product Eng 29:29 S 22 '58

TRADE agreements act. See Commercial treaties and agreements**TRADE associations***See also*

- American ceramic society
- American concrete institute
- American institute of steel construction
- American iron and steel institute
- American paper and pulp association
- American petroleum institute
- American society for metals
- Glass container manufacturers institute
- International association of printing house craftsmen
- Magnesium association
- Malleable founders society
- Manufacturing chemists association
- Material handling institute
- National electrical manufacturers association
- National line association
- New York state ceramic association
- Non-ferrous founders society
- Rubber manufacturers association
- Southern textile association
- Wire association

Directories

- Addresses of engineering societies, associations; data sheet. Heating-Piping 30:135-6 Je '58
- 1958 roster of associations serving the electrical industries. Electronic Ind 17:110-11-4 Ap '58

TRADE characters. See Advertising characters**TRADE directories**

- Guide to tool steels and carbides; index of materials by trade names and by companies. Steel 142:97-140 Ap 21 '58
- 1959 buyers' guide. Am Mach 102:K 1-182 Mid-S '58
- Suppliers of materials; addresses of suppliers. Materials in Design Eng 48:407-78 Mid-O '58
- Suppliers of materials; addresses of suppliers. Materials in Design Eng 46:365-420 Mid-S '57; Correction. 47:152 F '58
- 201 picture markets; magazines, syndicates and picture agencies who will buy your photos. *II* Mod Phot 22:62-78 My '58

See also subdivision Directories under special subjects, e.g.

- Air conditioning industries
- Chemical apparatus
- Chemical industries
- Chemical plants
- Electronics industry
- Equipment industries
- Heating industry
- Paint industry and trade
- Petroleum equipment industries
- Petroleum industry and trade
- Petroleum pipe lines—Contractors
- Printing supplies industry
- Radio apparatus industry
- Television apparatus industry

TRADE exhibits. See Exhibits**TRADE marks**

- Electrical products guide; company and trade names. Elec Constr & Maint 57:52-75 Mid-S '58

Electrochemical marking of metals solves trademark and identification problems. R. A. Botosan. *II* *diag* Tool Eng 40:104-6 Mr '58

Electronic industries directory; brand and trade name index. Electronic Ind 17:405-17 Je '58

Engineers' reaction prompts trade-mark change; Worthington corp. *II* Plant 18:67 O '58

Guide to tool steels and carbides; index of materials by trade names and by companies. Steel 142:97-140 Ap 21 '58

Heating, piping, and air conditioning equipment for industrial and all other large buildings; trade names. Heating-Piping 30: sup 118d-39d Ja '58

How change paid off for Worthington corp. *II* Iron Age 182:51 S 25 '58

New trade marks. Published in monthly numbers of Manufacturing chemist and pharmaceutical and fine chemical trade journal

Trade marks. Published in monthly numbers of British plastics

Trade marks. Published in monthly numbers of Soap and chemical specialties

Trade name index; names employed by manufacturers of welding equipment. Welding Eng 43:90-111 Mid-Je '58

Trade name index; products in or related to the field of electronics. Electronics 31:D243-72 Mid-Je '58

Trade names; processes, equipment and materials used in the water supply and treatment field and their manufacturers. Water Works Eng 111:376-7 Ap '58

Trademarks help you sell. Steel 142:54-5 Mr 17 '58

Trademarks of man-made fibers and yarns and where to get them. Textile Ind 122:104-6 Ag '58

*See also***Patents****Law**

Trade marks in 1957. Drug & Cosmetic Ind 82:147 F '58

TRADE names

Electrical products guide; company and trade names. Elec Constr & Maint 57:52-75 Mid-S '58

Names and addresses of manufacturers of welding equipment. Welding Eng 43:112-21 Mid-Je '58

TRADE schools

Cleveland's new trade school includes modern foundry and pattern shop. *II* Foundry 85:130-4 D '57

See also

Industrial education—Cooperative plan

Textile schools

TRADE secrets

Court to engineer; keep ex-employer's secrets. Product Eng 29:23-4 Ag 18 '58

Does your employer own your knowledge? *II* Chem Eng 65:127-30 J 28 '58

TRADE shows. See Exhibits**TRADE unions**

Craft unions on rise in refineries. Oil & Gas J 56:78 Je 16 '58

Drillers not eligible to join a union NLRB rules. Oil & Gas J 55:112 D 30 '57; 56:81 Ja 6 '58

Drilling crews again target of labor. Oil & Gas J 55:63-4 D 9 '57

Theme song of the labor monopolies. R. Arden. Textile Ind 122:115-4 Ja '58

Union is defeated twice in Permian basin. Oil & Gas J 55:62 D 16 '57

Unions agree on who builds what in your plant. Am Mach 102:143 F 24 '58

See also

American federation of labor and Congress of industrial organizations

Boycott

Engineers—Unions

International chemical workers union

Oil, chemical and atomic workers international union

Open and closed shop

Strikes

United mine workers of America

United rubber, cork, linoleum and plastic workers of America

Benefit funds

Welfare fund legislation, good or bad? W. B. Barton. A M A Archives Ind Health 17:367-70 My '58

See also

Trade unions—Health service

TRADE unions—Continued

Consolidation

OCAW may merge with chemical union. Oil & Gas J 56:51 Je 30 '58
 Union merger started by OCAW and Chemical Workers. O. A. Knight and W. Mitchell. Oil & Gas J 56:54 Ag 25 '58

Health service

Welfare-fund medical program. W. A. Raleigh, Jr. il Coal Age 63:72-7 Ag '58

TRADE waste

Highlights of research in sanitary engineering; research by industries. il diag Pub Works 88:93-6 D '57

Industrial wastes. Published every other month in Industrial and engineering chemistry

National technical task committee on industrial wastes annual meeting. Washington, Dec. 12-13. Sewage & Ind Wastes 30:156 F '58

1957 industrial wastes forum. Sewage & Ind Wastes 30:539-54 Ap '58

Planning a waste survey. L. L. Hedgepeth and others. bibliog il maps Sewage & Ind Wastes 30:46-56 Ja '58

Toxicologic methods for establishing drinking water standards. H. E. Stokinger and R. L. Woodward. bibliog Am Water Works Assn J 50:515-29 Ap '58

See also

Acid waste
 Dairy waste
 Fumes
 Mine waste
 Mine water
 Oil waste
 Petroleum—Water problem
 Petroleum waste
 Sewage disposal—Sludge and refuse mixing
 Sulfite liquor
 Waste. Utilization of
 also subdivision Waste under special subjects, e.g.
 Bleacheries
 Canneries
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 Metal working plants
 Metallurgical plants
 Paper and pulp mills
 Petroleum refineries
 Plating shops
 Poultry processing plants
 Steel works
 Tanneries
 Textile mills
 Waterworks

Analysis

Determination of *p*-cresol in industrial waste waters. G. R. Tallon and R. D. Hepner. bibliog Anal Chem 30:1521-4 S '58

Highlights of research in sanitary engineering; University of Florida; advancements in bacteriology and analytical methods. J. E. Kiker, Jr. Pub Works 88:89-90 D '57

New method for determination of suspended solids. L. Nusbaum. Sewage & Ind Wastes 30:1066-9 Ag '58

Radioactive waste

Chemical processing wastes recovering fission products. G. B. Barton and others. bibliog diags Ind & Eng Chem 50:212-16 F '58

Research on use of radioactive waste to break up large crude oil molecules in reservoirs. G. W. Crawford. Chem & Eng N 36:34-5 Mr 24 '58

Testing

Biochemical oxygen demand of organic chemicals. A. C. E. Oberton and V. T. Stack, Jr. Sewage & Ind Wastes 29:1267-72 N '57

Chemical oxygen demand of petrochemical wastes, modification of the standard catalytic reflux procedure. F. W. Bertram and others. Anal Chem 30:1482-5 S '58

Immediate oxygen demand removal from digester supernatant liquor. H. O. Halvorson. il Water & Sewage Works 105:R316-18 S 15 '58

Manometric method for the rapid, practical determination of biochemical oxygen demand. B. O. Dillingham and others. il Tappi 41:321-33 J1 '58

TRADE waste disposal

Application of the atomized suspension technique. W. H. Gauvin. flow sheets diags Tappi 40:866-72 N '57

Automatic treatment of acid wastes. C. G. Buellman. flow diag Control Eng 5:170-1 S '58

Chemical-type coke plant solves waste problems by cooperative efforts; Donner-Union coke corp. F. S. Savage. il Sewage & Ind Wastes 29:1363-9 D '57

Clean air and clear water mark the good neighbor; Warner co. of Bellefonte, Pa. il Mill & Factory 62:102-4 Je '58

Combating industrial pollution. il Can Chem Process 42:56-8+ F '58

Conservation approach to industrial waste control. D. Milne. il diags Plating 45:842-6 Ag '58

Current research on textile waste treatment; Cone mills corp. bibliog Sewage & Ind Wastes 30:392-1011 Ag '58

Deep sea disposal of industrial wastes. D. W. Hood and others. bibliog il Ind & Eng Chem 50:385-8 Je '58

Design and operation of an effluent disposal system; Canadian chemical co. J. C. Langford. il Eng J 41:55-6+ Je '58

Disposal of soluble oils. W. Torkington. Plant 14:32-3 F '58

Electrical manufacturing plant waste problems; General electric co. F. Horrocks. il plans Sewage & Ind Wastes 30:732-9 Je '58

Elimination of a coke oven light-oil waste problem. E. E. Haney and E. J. Bendure. Sewage & Ind Wastes 30:1071-2 Ag '58

Five years of ion exchange; service experience in plating department chemical waste treatment. S. Rothstein. il plan diags Plating 45:835-41 Ag '58

Foul condensate treatment and disposal; oil refining industry action committee of the Ohio River valley water sanitation commission. Sewage & Ind Wastes 30:185-90 F '58

How to dispose of cyanide plating wastes. B. H. Robbins. il Iron Age 180:92-4 N 28 '57

How to treat pickle liquors in a small plant; crystallization-regeneration unit at Vulcan rivet & bolt corp. E. W. Lang. flow diag Metal Prog 73:93-6 My '58

How Trans world airline treats plating shop wastes. R. L. Garrett and others. il plan Plating 45:847-50 Ag '58

Indiana sewage and industrial waste association meeting, Indianapolis, Nov. 13-14; abstracts of papers. Water & Sewage Works 105:83-4 F '58

Industrial public relations in pollution abatement. W. F. Bixby. Sewage & Ind Wastes 30:921-7 J1 '58

Modern approaches to pulp and paper mill waste problems. E. W. Gehm. il Sewage & Ind Wastes 29:1370-6 D '57

New look in waste treatment; Chemstrand's development of nylon waste process. Eng N 160:56+ My 29 '58

New waste disposal process; continuous method of combustion with air at high pressures which oxidizes organic matter dissolved or suspended in water. F. J. Zimmermann. flow diag il Chem Eng 65:117-20 Ag 25 '58

Oklahoma industrial wastes conference 8th annual meeting, Stillwater, Okla. Sept. 25-26. Sewage & Ind Wastes 30:sup 154a+ Ap '58

Pacific Northwest sewage and industrial waste association meeting, Seattle; abstracts of papers. Water & Sewage Works 105:81-2 F '58

Planning and operating an industrial waste disposal plant for a new plating facility. G. J. O'Kane. flow diag Metal Prog 74:178+ J1 '58

Pollution control at Shell Oil refineries. L. C. Burroughs and G. E. Sample. flow diags diag Sewage & Ind Wastes 30:57-64 Ja '58

Pulp and paper mill waste water treatment. N. C. Burbank and C. D. Eaton. flow diag plan diags Tappi 41:sup 195A-8A Je '58

Role of state sanitary commissions in waste control. F. B. Milligan. Food Tech 12:137-43 Mr '58

Sewage and industrial wastes in 1957. K. S. Watson. bibliog (35 titles) il Water & Sewage Works 105:45-60 F '58

TRADE waste disposal—Continued

- Solids waste disposal. S. O. Brady. flow diag II Oil & Gas J 56:125-64 Mr 3 '58
- State and interstate standards for industrial wastes. R. S. Shaw and E. R. Segesser. Sewage & Ind Wastes 30:909-12 JI '58
- Supply, treatment, and disposal of water in the dyehouse. R. W. Richardson. Soc Dyers & Col J 73:485-90; Discussion. J. Nixon. 490-1 N '57
- Treating industrial waste. T. L. Moore. II diag Power 101:71-6 N; 118-22+ D '57
- Treatment of oil wastes from machining plants. M. F. Madarasz. flow diag II Lub Eng 14:145-7+ Ap '58
- Treatment of water-borne wastes from steel plants; with cost data. R. Nebolsine. flow sheets. diag Iron & Steel Eng 34:125-50; Discussion. 150-1 D '57
- Underground waste disposal. W. B. Black. diag Sewage & Ind Wastes 30:669-72 My '58
- Variations in the design of plating waste treat systems. E. Dvorin. flow diag II diag Plating 45:827-31 Ag '58
- Waste pickle liquor disposal. G. A. Howell. Sewage & Ind Wastes 29:1278-81 N '57
- Waste treater puts on show; American Cyanamid holds seminar to open new plant. Eng N 160:33 Je 12 '58
- Waste treatment in the Missouri River basin. R. Porges. bibliog Sewage & Ind Wastes 29:1215-24 N '57

See also

- Coal mines and mining—Waste disposal
- Refuse disposal
- Sewage disposal

Activated sludge method

- Activated citrus sludge; vitamin content and animal feed potential. M. H. Dougherty and R. R. McNary. bibliog Sewage & Ind Wastes 30:1151-5 S '58
- Activated sludge treatment for industrial wastes; summary of recent literature. A. P. Folwell. Pub Works 88:172-3 D '57
- Activated sludge treatment of wastes from a kraft and neutral sulphite mill. E. V. Pearman, Jr. flow diag Tappi 41:sup206A-11A Ag '58
- Design and operation of a complete mixing activated sludge system. R. E. McKinney and others. diag Sewage & Ind Wastes 30:287-95 Mr '58
- Elevated temperature effect on citrus waste activated sludge. M. H. Dougherty and R. R. McNary. diag Sewage & Ind Wastes 30:1263-5 O '58
- Oxidation of radioactive glucose by aerated sludge. N. Porges and others. bibliog Sewage & Ind Wastes 30:776-82 Je '58
- Toxicity studies of metal-finishing wastes. W. D. Sheets. Sewage & Ind Wastes 29:1380-4 D '57

Aeration

- Aeration curbs waste-disposal odors; tomato-waste disposal methods detailed. G. R. Ammerman and N. W. Desrosier. Food Eng 30:115 Ja '58
- Aeration of whey wastes; nitrogen supplementation and sludge oxidation. L. Jasiewicz and N. Porges. bibliog Sewage & Ind Wastes 30:555-61 Ap '58
- Aerator design and development. S. A. Ziemiński and others. bibliog II plan diag Sewage & Ind Wastes 30:1248-62 O '58
- From lab to plant; designers of aeration basins for industrial waste disposal systems get away with direct scale-up from lab data to final size. V. T. Stack, Jr. and R. A. Conway. Chem & Eng N 36:73-4 S 15 '58
- Treat wastes with dissolved air; chemical flocculation and dissolved-air flotation. W. J. Katz. diag Pet Refiner 37:211-13 My '58

Bibliography

- Industrial waste digest. C. H. Billings. Published in monthly numbers of Public works Review of the literature of 1957 on sewage, waste treatment, and water pollution. Sewage & Ind Wastes 30:717-56 Je '58

Biological treatment

- Anaerobic digestion. R. R. Kountz and J. B. Nesbitt. bibliog Water & Sewage Works 105:262-3 Je '58
- Biological treatment of carbonisation effluents. J. W. Abson and K. H. Todhunter. bibliog Ind Chem 34:303-8 Je '58

- Highlights of research in sanitary engineering; Lawrence experiment station; biological treatment of tannery wastes. J. A. McCarthy and B. L. Rosenthal. Pub Works 88:82-3 D '57
- Modern waste-disposal facilities at Shell's Ancortex refinery. E. D. Neumann and others. bibliog II diag Oil & Gas J 56:124-30 My 19 '58

Chemical treatment

- Flocculation of slimes by guar. L. E. Peterson and J. W. Opie. bibliog II diag Ind & Eng Chem 50:1013-16 JI '58
- Use and handling of chemicals in industrial waste treatment. E. B. Besselièvre. bibliog Sewage & Ind Wastes 29:1252-66 N '57

Coagulation

- Treat wastes with dissolved air; chemical flocculation and dissolved-air flotation. W. J. Katz. diag Pet Refiner 37:211-13 My '58

Filtration

- Accelo-filter system of sewage and waste treatment. H. W. Gillard. II diag Pub Works 89:84-6 F '58
- Cleans makeup water and cuts stream pollution; Shell chemical corp. J. B. Mackie. II Power Ind 74:9 JI '58
- How Saylesville handles waste disposal; abstract. G. G. Bogren. Textile World 108:130 F '58
- Nylon for disc filters. II Ind Chem 34:542 O '58
- Trickling filter operation; abstracts of symposium papers. Water & Sewage Works 105:28-30 Ja '58
- Trickling filters successfully treat milk wastes. P. E. Morgan and E. R. Baumann. II diag Am Soc C E Proc 83 [SA 4 no 1336]:1-35 Ag '57; Discussion. L. E. Chase. 84 [SA 1 no 1557]:23-4 F '58

Flotation process

- Flotation processes use and results in paper mill waste water clarification. O. F. Hutchinson. diag Tappi 41:sup 158A-62A JI '58
- Flotation treatment of sewage and industrial wastes. E. S. Chase. bibliog flow diag Sewage & Ind Wastes 30:783-91 Je '58

Lagoons

- Waste stabilization ponds in South Dakota. D. C. Kaldia. II Pub Works 89:178-80 Je '58

Ozone treatment

- Ozone counters waste cyanide's lethal punch; Boeing Airplane's Wichita plant. II diag Chem Eng 65:63-4 Mr 24 '58

Radioactive waste disposal

- GE gel may hold radioactive waste. II Chem & Eng N 36:42 Ja 13 '58
- Highlights of research in sanitary engineering; New York university; treatment of radioactive laundry wastes. W. E. Dobbins. II Pub Works 88:85-6 D '57
- High-purity evaporator for waste concentration. T. C. Carnavos and J. W. Hagen. diag Nucleonics 16:125-7 F '58
- Oxidation of radioactive glucose by aerated sludge. N. Porges and others. bibliog Sewage & Ind Wastes 30:776-82 Je '58
- Radioactive waste disposal. flow diag Westinghouse Eng 18:57-8 Mr '58
- Shippingport atomic power station; radioactive material control. J. R. LaPointe and R. D. Brown. bibliog II diag Ind & Eng Chem 50:980-6 JI '58
- Treatment and disposal of fuel-reprocessing waste. J. A. Lieberman. bibliog diag Nucleonics 16:82-9 F '58

See also

- Water purification—Radioactive waste removal

Standards

- Units of expression for wastes and waste treatment. Sewage & Ind Wastes 30:709-16 My '58

TRADE waste irrigation

- Comminuted solids inclusion with spray irrigated canning waste. R. A. Canham. bibliog II plan Sewage & Ind Wastes 30:1028-49 Ag '58
- Spray irrigation of certain sulfate pulp mill wastes. S. C. Crawford. II plan Sewage & Ind Wastes 30:1265-72 O '58

TRAFFIC. Street. See Street traffic

TRAFFIC engineering

Freeway operation and maintenance; report of regional seminar held by the Institute of traffic engineers. *Roads & Sts* 101:61-2-4 J1 '58

See also

California university—Institute of transportation and traffic engineering

TRAFFIC lines

More durable paint stripes on concrete roads. C. J. Keese and L. J. Horn. *il Roads & Sts* 100:73-4 N '57

Pavement markings improve traffic flow. H. M. DeNoble. *il Pub Works* 89:78 J1 '58

Pavement striping benefits and practices. R. A. Burch. *il Pub Works* 89:90-2 Ja '58

TRAFFIC regulations

See also

Electronics—Traffic control use

Radar—Traffic control use

Road traffic

TRAFFIC signals

Safe movement plans are discussed for emergency vehicles. R. C. Lee. *plans Traffic Q* 12:80-9 Ja '58

San Francisco puts personality into traffic signals. R. T. Shoaf. *il Pub Works* 89:129-31 S '58

Signal system designed for downtown traffic. R. T. Gregory. *il diags Pub Works* 89:78-80 F '58

Control

Chattanooga's electronic traffic control system. M. J. Hensley. *il diags Pub Works* 88:115-16 D '57

Radio-control system regulates traffic flow; programs traffic signals. *Machine Design* 30:32 Ap 3 '58

Radio to run traffic in New York. *Electronics* 31:18 Ag 15 '58

Uhf to guard fire trucks. *Electronics* 31:180-4 Mr 14 '58

TRAFFIC signs

Detailed inventory aids effective traffic sign program. C. Iden. *il Pub Works* 88:107-8 D '57

TRAFFIC surveys

Continuous origin and destination traffic surveys. S. T. Hitchcock. *bibliog Am Soc C E Proc* 84 [HW 2 no 6125]:1-9; Discussion. J. C. Carpenter. *maps [HW 2 no 1652]:21-9 My '58*

Data for designers is plentiful in recent survey of Los Angeles county traffic pattern. S. A. E J 65:72-3 N '57

New methods for determining capacity of rural roads in mountainous terrain. O. K. Normann and others. *il Pub Roads* 30:25-37-4 Je '58

TRAILERS

Air suspension for semi-trailers. *il diags Automobile Eng* 48:139-41 Ap '58

Contractor converts old trailers into portable office and tool house. *il Roads & Sts* 100:164 N '57

Improve fifth wheel; establishes rolling connection between a truck tractor and trailer. *il Product Eng* 29:21-2 S 1 '58

Less weight, more room in plastics van; Hupp mobile van. *il Mod Plastics* 35:179 Mr '58

One piece aluminum roof for truck-trailers. *il Mod Metals* 14:74 F '58

Semi-trailer couplings. H. C. Rippon. *il Automobile Eng* 48:314 Ag '58

Trailer makers cutting down weights; abstract. R. K. Walther. S A E J 66:119 Ap '58

Trailers house military gear. *il Electronics* 31:110-4 S 12 '58

Truck houses blast instruments. *il Eng N* 160:64 F 20 '58

See also

Automobile trailers

Manufacture

Big coal trucks weigh ten tons less in aluminum. *il Mod Metals* 14:64 J1 '58

Efficient assembly methods at Freuhauf trailer co. *il Automotive Ind* 117:71 N 15 '57

Springs and suspension

Air sprung trailer; Cranes (Dereham), Ltd. *il diags Engineer* 205:368 Mr 7 '58

Transportation

Interchanging van containers between highway and rail carriers. H. H. Hall. *il plans diags Mod Materials Handling* 13:130-5-4 F '58

TRAILERS, Aluminum

Aluminum frameless dump trailer shows advantages on toll road job. *il Roads & Sts* 101:97-8 Ag '58

TRAINING of teachers. See Teachers, Training of**TRAINING, Transfer of.** See Transfer of training**TRAINS.** See Railroads—Trains**TRAJECTORIES**

Ballistic trajectories and orbits. R. F. Hughes. *diag J Aeronautical Sci* 25:330-1 My '58

Determination of rifle trajectories. H. S. Powley. *bibliog diag Franklin Inst J* 264:379-89 N '57

Earth-moon rocket trajectories. L. Gold. *diags Franklin Inst J* 266:1-8 J1 '58

Flight mechanics and variational problems of a linear type. A. Miele. *bibliog diags J Aero/Space Sci* 25:581-90 S '58

Flight trajectories in the neighborhood of a known trajectory. R. M. Rosenberg. *diag Franklin Inst J* 266:109-28 Ag '58

General formulation of powered flight trajectory optimization problems. B. D. Fried. *bibliog J Ap Phys* 29:1203-9 Ag '58

Generalized trajectories for free-falling bodies of high drag. R. D. Turnaciff and J. P. Hartnett. *diags Jet Propulsion* 28:263-6 Ap '58

Mathematical model of terrain shielding. R. R. Hare, Jr. *diag Op Res* 6:530-7 J1 '58

Minimality for arbitrarily inclined rocket trajectories. A. Miele. *Jet Propulsion* 28:481-3 J1 '58

Optimum rocket trajectories with aerodynamic drag. A. E. Bryson, Jr. and S. E. Ross. *bibliog Jet Propulsion* 28:465-9 J1 '58

Optimum trajectory of a rocket. R. R. Newton. *bibliog diag Franklin Inst J* 266:155-87 S '58

Stationary conditions for problems involving time associated with vertical rocket trajectories. A. Miele. *bibliog J Aero/Space Sci* 25:467-9 J1 '58

Trajectory of a rocket with thrust. R. A. Struble and others. *Jet Propulsion* 28:472-8 J1 '58

Trajectory programming for maximum range. G. Leitmann. *diags Franklin Inst J* 264:443-52 D '57

Vertical ballistic trajectories over an oblate earth. R. E. Roberson. *Jet Propulsion* 28:333 My '58

TRAMMELS

Sturdy emergency beam trammel from aluminum scraps. M. A. Koleda. *diags Am Mach* 102:125 Ja 13 '58

TRANQUILIZING drugs

Animal tranquilizers. *il J Agri & Food Chem* 6:178-4 Mr '58

Drug makers get vote of confidence; psychiatrists say most tranquilizer ads are accurate. *Chem & Eng N* 36:42 F 24 '58

Drug therapy of mental disease. A. Marrazzi. *diags A M A Archives Ind Health* 17:398-402 My '58

From little pills grow; Carter Products, riding crest of tranquilizer market. *Chem & Eng N* 36:27 Je 23 '58

New classification of tranquilizers. *Drug & Cosmetic Ind* 82:435 Ap '58

Problems resulting from the use of habituating drugs in industry; tranquilizing drugs and stress tolerance. T. F. McGuire and F. J. Leary. *bibliog Am J Pub Health* 48:578-84 My '58

TRANSAMINASES

Effect of isonicotinic acid hydrazide and vitamin B₆ on glutamic-oxaloacetic transaminase levels in whole blood. M. Sass and G. T. Murphy. *bibliog Am J Clinical Nutrition* 6:424-9 J1 '58

TRANS-ARABIAN pipe line. See Petroleum pipe lines—Trans-Arabian line**TRANS-CANADA highway.** See Roads—Canada**TRANSDUCERS**

Accurate hydraulic positioning system uses air-actuated transducers for sensing. *il diags Machine Design* 29:88-90 D 26 '58

Aerodynamic heating simulator for transducer development. J. I. Master and M. S. Cohen. *il R. Sci Instr* 25:1055-8 D '57

Calibrating manometer for pressure transducers. J. R. Greer. *diag J Sci Instr* 36:223 Je '58

Differential reluctance measuring system and its application to model and ship testing. M. W. Wilson. *il diags Applications & Ind* p245-9 S '58

TRANSDUCERS—Continued

- Eyes and ears of the torpedo, the transducer. Gen Elec R 61:31 Mr '58
- How transducers measure and control. R. K. Jurgen. bibliog il diags Electronics 31: 69-70 J1 '58
- Miniature scintillation-type radiation head. Y. T. Sihvonen. il diag Am J Phys 26:195-6 Mr '58
- New yardstick, Nutrax transducer. J. L. Gray and P. Brouwer. il diags Westinghouse Eng 18:156-60 S '58
- Optical transducer for displacement measurements. B. G. Leary. bibliog diag R Sci Instr 29:246-7 Mr '58
- Pen recorder; accessory transducers add versatility. il diag Electronics 31:102-4 My 23 '58
- Proximity transducer uses rapid relay. D. Elam. il diag Electronics 31:73 Je 20 '58
- Relay-scanning-design technique generates high accuracy and speed in analog-to-digital transducer measurements. A. F. Kay. il diags Com & Electronics p248-50 My '58
- Small barium titanate transducer for aerodynamic or acoustic pressure measurements. W. W. Willmarth. bibliog il diags R Sci Instr 29:218-22 Mr '58
- Some aspects of the network analysis of sequence transducers. J. M. Simon. diags Franklin Inst J 265:439-50 Je '58
- Strain-gage transducer for Bourdon tubes. L. E. Bollinger. diags I S A J 5:37-9 Ap '58
- Synchro resolver as a shaft position transducer. M. B. Wood. bibliog diags Electronic Eng 30:366-70 Je '58
- Ultrasonic tones select tv channels. N. Frihart and J. Krakora. il diags Electronics 31:68-9 Je 6 '58
- What about digital transducers? E. J. Kompass. diags Control Eng 5:94-9 J1 '58

See also

Electromechanical transducers**Testing**

- Absolute-pressure transducer tester. L. S. Klivans. diags Control Eng 5:83-5 Ag '58

TRANSFER functions

- Calculating open loop transfer functions from closed loop measurements. N. R. Goodman and S. Katz. diags Assn for Computing Mach J 5:289-97 J1 '58
- Conditions for minimum variation in a function. diags Electronic & Radio Eng 35: 307-9, 335-7, 378-81 Ag-O '58
- Experimental determination of system transfer functions from normal operating data. J. G. Henderson and C. J. Pengilly. bibliog diags Brit Inst Radio Eng J 18:179-86 Mr '58
- Graphical analysis of hydraulic servos; data file. F. J. Huddleston. diag Control Eng 5:89-91 Ap '58
- Limiting values of driving-point impedances and transfer functions due to component variations. S. Jones. diags Applications & Ind p38-40 Mr '58; Abstract, Elec Eng 77:403 My '58
- Missile control demands stabilization and guidance. G. Reehl. il diags Electronic Ind & Tele-Tele 16:54-7+ S; 62-5-4 O '57
- New slide rule for transfer functions. J. E. Valstar. il Control Eng 5:135 F '58
- Some methods of phase measurement used in transfer function analysis. D. J. Collins and J. E. Smith. diags Electronic Eng 30:182-6 Ap '58
- Transfer function of two-phase servomotors. S. L. Mikhail and G. H. Fett. bibliog diag Applications & Ind p97-8; Discussion. A. Paders. 98-9 My '58
- Unstable linear systems and the minimum phase condition. P. E. Pfeiffer. diags Franklin Inst J 265:291-301 Ap '58

TRANSFER mechanisms

- Air cuts costs on tool feed circuits. R. S. Brosius. il diag Ap Hydraulics 11:98-9 Je '58
- Application of weldament techniques to welding processes. J. H. Brems. il plan Tool Eng 41:75-9 Ag '58
- Automated transfer machine for processing pump bodies. il Mach 65:174 O '58
- Automatic engine assembly on transfer machines; Oldsmobile div. of General Motors corp. C. H. Wick. il Mach 64:103-7 Ag '58
- Automatic transfer solves assembly jigsaw puzzle; Ford motor co. illustrations with text. Am Mach 102:71-3 J1 28 '58

- Automatically handling parts in process; Jervis B. Webb co. J. C. Webb. il diag Automation 5:63-8 Ja '58
- Building block automation; standardization of interchangeable components of in-line transfer machines. J. C. Keebler. plan diags Automation 5:47-8 F '58
- Built-in transfers automate multislide press. il diag Automation 5:60 J1 '58
- Color-coding facilitates setup. il Tool Eng 41: 112 S '58
- Conveyor type transfer machine. il diags Automation 5:91 Je '58
- Crankshaft turning; an American in-line transfer machine. il diags Automobile Eng 48:303-5 Ag '58
- Cross Transfer-matic for boring axle housings equipped to assure precision location of gear centers. il diag Mach 64:163-9 Je '58
- Designing control consoles to aid trouble shooting; abstract. F. G. Boledovich. il Elec Manuf 62:67-8 J1 '58
- Ex-Cello-O transfer machine for processing aluminum transmission cases. il Mach 64: 147 Ag '58
- Honsberg transfer machine with rotary work fixtures. il Engineer 205:137 Ja 31 '58
- LeMaire transfer machine designed to process three different manifold castings. il Mach 64:180-2 F '58
- LeMaire transfer machine processes three different castings. il Am Mach 101:123 D 30 '57
- New transfer machine lines for cylinder heads and blocks at Cadillac. J. Geschelin. il Automotive Ind 117:68-72+ D 15 '57
- New transfer machines for Chevrolet rear axles. il Automotive Ind 118:57+ Je 15 '58
- Oldsmobile's rocket engine transfer line. C. H. Wick. il Mach 64:156-61 D '57
- Positioning pistons on an air transfer machine; Hole engineering service. H. Sattler. il diag Ap Hydraulics 11:86 J1 '58
- Racks boost transfer line's efficiency. il Iron Age 180:158-9 N 7 '57
- Redesign speeds automation. il Product Eng 29:63 Mr 3 '58
- Right-angle transfer device links woodworking machines. il Automation 5:83 My '58
- Safety circuit for transfer; Expert automation machine co. il diag Ap Hydraulics 11:69+ J1 '58
- Snyder center-column and in-line transfer machines. il Mach 64:178-9 Mr '58
- Tape controlled transfer machine handles different parts simultaneously. il diags Automation 5:34-9 Je '58
- Tapes control transfer line. il Steel 142:84-6 Mr 31 '58
- Transfer lines build Buick's new Dynaflo. il plans diags Am Mach 101:135-40 N 4 '57
- Transfer machine served by vibratory feeder. R. Le Grand. il diag Am Mach 102:152 Ap 21 '58
- Transfer machine shapes car wheels. il Steel 142:108 Je 16 '58
- Transfer machine solves concentricity problems. il diags Tool Eng 41:62-3 J1 '58
- Transfer machine with a future. il Mill & Factory 62:122-3 Ja '58
- Transfer unit uses press power. il diag Tool Eng 40:93 Je '58
- Transferring racks automatically between conveyors and plating machine. R. L. Everstine. il diags Automation 5:61-3 J1 '58
- 225-ft palletized transfer unit machines 240 gear housings an hour; GM's Saginaw steering gear div. il diag Am Mach 102:160-1 Ja 13 '58
- Versatile transfer machine runs intermixed designs; Ford motor co. il diags Automation 5:64-6 J1 '58

TRANSFER of employees. See Employees, Transfer of**TRANSFER of training**

- Experiments in discrimination. N. Guttman and H. I. Kallish. il diags Sci Am 198:77-80+ Ja '58

TRANSFORMATIONS (mathematics)

- Calculation of characteristic impedance by conformal transformation; coaxial transmission line. J. C. Anderson. diags Brit Inst Radio Eng J 18:49-54 Ja '58
- Calculation of local heat-transfer coefficients on slender surfaces of revolution by the Mangler transformation. S. Y. Ko. J. Aeronautical Sci 25:62-3 Ja '58
- Operational solution of linear difference equations. E. I. Jury and F. J. Mullin. bibliog diags Franklin Inst J 266:189-205 S '58

TRANSFORMATION (mathematics)—Cont.

- Transformation of the compressible turbulent boundary layer. A. Mager, bibliog J Aeronautical Sci 25:305-11 My '58
Turbulent analog of the Stewartson-illingworth transformation. F. E. C. Culick and J. A. F. Hill, bibliog J Aeronautical Sci 25:259-62 Ad '58

See also

- Laplace transformation
Linear programming

TRANSFORMERS, Electric. See Electric transformers

TRANSFORMERS, Radio. See Radio transformers

TRANSIENT phenomena, Electric. See Electric transient phenomena

TRANSISTORS

Advances in the understanding of the p-n junction triode. R. L. Pritchard, diags Inst Radio Eng Proc 46:1130-41 bibliog (p 1139-41) Jn '58

All-transistor home amplifier. E. T. Canby, Audio 42:12+ F '58

Application of transistors to computers. R. A. Henle and J. L. Walsh, bibliog diags Inst Radio Eng Proc 46:1240-54 Je '58

Application of variance component analysis in the transistor industry. R. W. Anderson and A. W. Wortham, diag Ind Quality Control 14:11-15 Mr '58

Arc prevention using p-n junction reverse transient. W. Miller, diags Inst Radio Eng Proc 46:1546-7 N '57

Army develops printed transistors. J. W. Lathrop and J. E. Nail, II diag Control Eng 5:31-2 F '58

Auto tachometer uses transistor. J. Cowan, II diag Electronics 31:92+ Ag '58

Basic transistor circuit for the construction of digital-computing systems. P. L. Cloot, II diags Inst E E Proc 105 pt B:213-20 My '58

Bell laboratories marks a decade of transistor progress. II Bell Lab Rec 36:304-6 Ag '58

Bell telephone laboratories—Western electric co. diffused transistors, voice of Explorer satellite. Bell Lab Rec 36:115 Mr '58

Bilateral conductivity in power transistors. I. G. Maloff, diags Electronic Ind 17:82+ J1 '58

Blocking capability of alloyed silicon power transistors. R. Emels and A. Herlet, bibliog Inst Radio Eng Proc 46:1216-20 Je '58

Capacity neutralization of h-f transistors. L. S. Greenberg and R. C. Wonsow, II diags Electronic Ind 17:82-6 S '58

Ceramic intermediate frequency filters match transistors. D. Elders and E. Gikow, II diags Electronics 31:59-61 My '58

Common emitter transistor amplifiers. D. F. Dion, diags Inst Radio Eng Proc 46: 920 My '58

Conductivity storage transistor pulse width modulator. J. C. Price, bibliog diags Electronic Eng 30:88-90 F '58

Construction and electrical properties of a germanium alloy-diffused transistor. P. J. W. Jochems and others, diags Inst Radio Eng Proc 46:1161-5 Je '58

Counting done by frequency division. II diag Electronics 31:98+ J1 '58

Data transmission testing set. J. E. Boughtwood and T. A. Christie, II diags Com & Electronics p 101-4 Mr '58; Same, Elec Eng 77:232-5 Mr '58

Design basis for junction transistor oscillator circuits. D. F. Faxe, bibliog diags Inst Radio Eng Proc 46:1271-80 Je '58

Design of transistor regulated power supplies. R. D. Middlebrook, bibliog diags Inst Radio Eng Proc 46:1502-9 N '57

Designing a transistor mike booster. J. K. Birch, II diag Electronic Ind 17:supO 6-7+ F '58

Designing stability into transistor circuits; chart and nomographs; reference sheet. S. Schenkerman, Electronics 31:122+ F 14 '58

Designing transistor d-c to a-c converters. S. Schenkerman, diags Electronics 31:78-80 S '58

Digital-analog converter provides storage. H. N. Putschl and others, II diags Electronics 30:148-51 D 1 '57

Diode cuts transistor cutoff-current drift. H. H. Hoke, diags Electronics 31:83 J1 '58

Direct-coupled transistor amplifier. A. R. Owens, diags Wireless World 64:327-8 J1 '58

Direct-coupled transistor audio amplifier for transistorized amplifiers and portable receivers. D. A. G. Tait, diags Wireless World 64:327-9 My '58

D-c transistor amplifier for high-impedance input. D. Schuster, II diags Electronics 31: 64-5 F 28 '58

Direct drive amplifier for two-speed servos. B. E. Orr, II diag Electronics 31:146-7 Mr 14 '58

Effect of base resistance and collector-to-base overlap on the saturation voltages of power transistors. H. G. Rudenberg, diag Inst Radio Eng Proc 46:1304-5 Je '58

Effective emitter area of power transistors. R. Emels and others, bibliog diags Inst Radio Eng Proc 46:1220-9 Je '58

Effective power with transistors. Electronics 31:120+ Ap 11 '58

Electrical characteristics of silicon p-n-p-n triodes. I. M. Mackintosh, bibliog diags Inst Radio Eng Proc 46:1229-35 Je '58

Electrical contact with thermo-compression bonds. H. Christensen, II diags Bell Lab Rec 36:127-30 Ap '58

Electrical protection for transistorized equipment. J. W. Phelps, II diags Bell Lab Rec 36:247-9 J1 '58

Electronic boat horn and hailer. H. L. Davidson, II diag Radio-Electronics 29:81-2 J1 '58

Electrostatic potential in crystals; discussion. W. B. Nottingham, II Am J Phys 26:38-5 Ja '58

Engineering developments; illustrations with text. Elec Eng 77:17 Ja '58

Essay on the tenth anniversary of the transistor. W. H. Brattain, Inst Radio Eng Proc 46:353 Je '58

Feedback stabilizes flip-flop. P. Chellik, diag Electronics 31:92+ My 9 '58

Field-effect amplifying device based on electrolyte/semiconductor interface. J. A. Dewald, diags Elec Manuf 61:12 Ja '58

Field effect transistor amplifier. II Elec Eng 77:771 Ag '58

60-kc transistor-multivibrator frequency standard. R. E. Berge, II diag Q S T 42: 18 J1 '58

Five-watt ten-megacycle transistor. J. T. Nelson and others, diags Inst Radio Eng Proc 46:1209-15 Je '58

For transistor amplifiers, designing multiple feedback loops. F. H. Blecher, bibliog diags Electronic Ind 17:78-82 Ap; 64-8 My '58; Correction, 17:133+ J1 '58

Generalized theory of transistor bias circuits. H. Hellerman, diags Com & Electronics p694-7 Ja '58

Generating characters for cathode-ray read-out. K. E. Perry and E. J. Aho, II diags Electronics 31:72-5 Ja '58

Germanium p-p-n junction transistor triodes. D. M. Unger and A. Avakian, Inst Radio Eng Proc 46:783-4 Ap '58

Germanium photo-terode. F. A. Stahl and G. Dermitt, diags Electronic Ind 17:64-6 J1 '58

Heat transfer in power transistors. I. G. Maloff, diags Electronic Ind 16:54-5+ D '57

High-efficiency push-pull magnetic amplifiers with transistors as switched rectifiers. A. G. Mines, bibliog diags Com & Electronics p227-30; Discussion, 330-1 J1 '58

High frequency parameters of transistors and valves. J. Zawels, bibliog diags Electronic Eng 30:15-17 Ja '58

High power transistor audio amplifiers. M. B. Herscher, II diags Audio Eng Soc J 6: 42-8 Ja '58

High power transistor servo. II Electronics 31:136+ F 14 '58

High-power transistorized mobile power supply. R. F. Johnson, II diags Q S T 42:11-16 Ap '58

High voltage transistor regulated power supplies. M. Mamon, diags Elec Manuf 62:106-9+ S '58

Ignition uses transistors, diags Electronics 31:20 Je 27 '58

Implications of transistor research. J. Barden, Inst Radio Eng Proc 46:352 Je '58

Influence of hydration-dehydration of the germanium oxide layer on the characteristics of p-n-p transistors. J. T. Wallmark and R. R. Johnson, bibliog RCA R 18:512-24 D '57

Innovation in technology. J. R. Pierce, II diags Sci Am 199:116-18+ S '58

Insertion loss filter design applied to transistorized carrier system. T. Winkler, bibliog II diags Com & Electronics p519-24 S '58

TRANSISTORS—Continued

- Intrinsic-barrier transistor; how it works. J. M. Early. *il* diags Bell Lab Rec 36:86-90 Mr '58; Same cont. Product Eng 29:1 14-15 Mid-S '58
- Intruder alarm uses phase-sensitive detector. S. Bagno and J. Fasal. *il* diags Electronics 31:102-5 F 14 '58
- Invited essay on transistor business. W. Shockley. *Inst Radio Eng Proc* 46:954-5 Je '58
- Junction transistor as a charge controlled device. J. J. Sparks and R. Beaufoy. *diags Inst Radio Eng Proc* 45:1740-2 D '57
- Junction transistor sawtooth waveform generators. K. P. Nambiar. *diags Electronic Eng* 30:61-5 F '58
- Junction transistor short-circuit current gain and phase determination. D. E. Thomas and J. L. Moll. *Inst Radio Eng Proc* 46:1177-84 Je '58
- Kilowatt transistor line by Westinghouse; silicon power transistors. *il* Electronic Ind 17:10 My '58
- Large-area germanium power transistors. B. N. Slade and J. Printon. *il* diags RCA R 19:98-108 Mr '58
- Low-impedance transistor preamp. W. F. Jordan. *diag Electronics* 31:78+ Mr 28 '58
- Lumped models of transistors and diodes. J. G. Linvill. *diags Inst Radio Eng Proc* 46:1141-52 Je '58
- Magnetic inverter uses tubes or transistors. C. H. R. Campling. *il* diags Electronics 31:158-61 Mr 14 '58
- Marked advance over previous types of transistors; Thyristor. I. Wolff and others. *Elec Eng* 76:1114-15 D '57
- Matching transistor-diodes. A. Gill. *diags Electronics* 31:75 Ja 17 '58
- Measuring transistor power gain at high frequencies. W. N. Coffey. *bibliog diags Electronic Ind & Tele-Tech* 16:66-8+ O '57
- Metallographic aspects of alloy junctions. A. S. Rose. *il* diags RCA R 19:423-32 S '58
- Method for sharpening the output waveform of junction transistor multivibrator circuits. A. E. Jackets. *il* diags Electronic Eng 30:371-4 Je '58; Discussion. 30:615 O '58
- Modern tests first transistor flash unit! C. Hellman and E. Meyers. *il* diags Mod Phot 22:62-3 Ja '58
- Modular packaging of transistorized circuit assemblies. A. A. Lawson and J. D. Svedlow. *il* diags Machine Design 30:114-22 My 1 '58
- Monovibrator has fast recovery time. A. I. Aronson and C. B. Chong. *il* diags Electronics 30:158-9 D 1 '57
- New concepts, techniques and components for transistor circuits; abstract. A. W. Rogers. *Brit Inst Radio Eng J* 18:56 Ja '58
- New device simplifies transistor mounting; Transipad. Franklin Inst J 266:46 J '58
- New power source. H. C. Hubbard. *il* diags Radio-Electronics 29:60-1 Mr '58
- New transistor design, the Mesa! C. H. Knowles. *bibliog il* diags Electronic Ind 17:65-60 Ag '58
- Non-linear transistor compensation in high-gain servo. *il* diags Elec Manuf 62:86-9 S '58
- 100-watt transistor mobile power unit. R. L. Karl. *il* diags Q S T 42:36-7+ Je '58
- Oscilloscope pre-amplifier. R. E. Aitchison. *diag Electronic Eng* 30:398 Je '58; Discussion. 30:562 S '58
- Portable transistor music system. R. S. Burwen. *il* diags Audio Eng Soc J 6:10-13 Ja '58
- Power transistors. M. A. Clark. *bibliog il* diags Inst Radio Eng Proc 46:1185-204 Je '58
- Production and sales; transistor sales. Electronics 31:16 Mr 7 '58
- Production and sales; transistor sales rise; tubes about steady. Electronics 31:16 Ag 8 '58
- Radio waves power transistor circuits. L. R. Crump. *il* diags Electronics 31:63-5 My 9 '58
- Remote transistor ear. F. J. Bauer, Jr. *il* diag Radio-Electronics 29:44-6 Je '58
- Research in circuits and systems. R. L. Wallace, Jr. *il* Bell Lab Rec 36:198-201 Je '58
- Ring counter has increased count capacity. A. W. Carlson. *bibliog il* diags Electronics 31:89-91 Ap 11 '58
- Selective electrolytic etching of germanium and silicon junction transistor structures. I. A. Lesk and R. E. Gonzalez. *bibliog il* diags Electrochem Soc J 105:469-72 Ag '58
- Semiconductors, their applications to rectifiers and transistors. G. Goudet. *il* diags Elec Com 34:309-21 D '57
- Shares and prices; transistor manufacturers. Electronics 31:5 My 30 '58
- Shift register transistor. I. Wolff and J. T. Wallmark. *Franklin Inst J* 265:521-2 Je '58
- Silicon transistor neon drivers. C. F. Kezer and M. H. Aronson. *diag Instruments & Automation* 31:1529 S '58
- Silicon transistor performance in a chopper application. J. Georgis and C. C. Thompson. *bibliog diags Applications & Ind* p 113-19 J1 '58
- Simple transistor amplifier for energizing a Hall multiplier. D. J. Lloyd. *diag Electronic Eng* 30:560-1 S '58
- Solid-state photocell sees through haze; uses transistor amplifier. P. Weisman and S. L. Ruby. *il* diags Electronics 31:62-3 Je 20 '58
- Solid-state physics unveils atomic mysteries. M. Ference, Jr. *diags S A E J* 66:36-8 My '58
- Some transistor input stages for high-gain d.c. amplifiers. G. B. B. Chaplin and A. R. Owens. *bibliog diags Inst E E Proc* 105 p 12:249-57; Discussion. 266-70; Reply. 270-2 My '58
- Speed radar uses transistors. Electronics 31:106 Ag 1 '58
- Stabilized d-c differential transistor amplifier. L. Depian and R. E. Smith. *bibliog diags Com & Electronics* p 157-9 My '58
- Status of transistor research in compound semiconductors. D. A. Jenny. *bibliog diags Inst Radio Eng Proc* 46:959-68 Je '58
- Switching; transistors vs. relays. R. B. Brown and R. H. Beter. *diags Product Eng* 28:1 7-9 Mid '57
- Systematic design of transistor bias circuits. R. P. Murray. *diags Electronic Ind & Tele-Tech* 16:75-7+ N '57
- Technological impact of transistors. J. A. Morton and W. J. Pietenpol. *Inst Radio Eng Proc* 46:955-9 Je '58
- Technology of micro-alloy diffused transistors. C. G. Thornton and J. E. Angell. *bibliog il* diags Inst Radio Eng Proc 46:1166-76 Je '58
- Telecom 2D11 transistor power converter. C. V. Chambers. *il* diag Q S T 41:32-3 D '57
- Temperature compensating networks; design of thermistor bias networks for transistor amplifiers. H. D. Polshuk. *diags Electronic & Radio Eng* 35:373-7 O '58
- 10,000-transistor computer out. *il* Electronics 31:12+ My 23 '58
- Ten years of transistor progress in the United States. *il* diag Engineer 206:75-7, 114-17, 195-7, 235-7 J1 11-13 Ag 1-3 '58
- Theory of a wide-gap emitter for transistors. H. Kroemer. *diags Inst Radio Eng Proc* 45:1535-7 N '57
- Three output immittance theorems; linear networks in transistor circuitry. H. Stockman. *bibliog diags Electronic Ind* 17:61-4 Ja '58
- Tiny transistor wins big award; first annual Miniaturization award. *il* Iron Age 181:68 Mr 27 '58
- Transient response of drift transistors. R. C. Johnston. *bibliog diags Inst Radio Eng Proc* 46:830-8 My '58
- Transmatic, a transistorized automatic keyer. C. R. Coale, Jr. *il* diag Q S T 42:37-9 Ap '58
- Transistor a-c amplifier uses multiple feedback. H. Lefkowitz. *diags Electronics* 31:84-5 My 23 '58
- Transistor amplified automatic gain control; economical circuit for use in small portables. W. Woods-Hill. *diag Wireless World* 64:94-5 F '58
- Transistor amplifier gain control. L. J. Herbst. *diag Electronic & Radio Eng* 35:355 S '58
- Transistor and hybrid dc amplifiers. B. J. Hill. *il* diags Radio-Electronics 29:86-7 J1 '58
- Transistor blocking oscillator. C. F. Kezer and M. H. Aronson. *diag Instruments & Automation* 31:1529 S '58
- Transistor circuit varies reactance. F. J. Radcliffe. *diags Electronics* 31:76+ J1 4 '58
- Transistor circuits alter magnetic amplifier frequency response. J. C. Taylor and C. L. Wymann. *bibliog diags Elec Manuf* 62:90-3 Ag '58
- Transistor circuits and applications. A. G. Milnes. *diags Inst E E Proc* 104 pt B:565, 80 bibliog(100 titles, p579-80); Discussion. 581-5 N '57

TRANSISTORS—Continued

- Transistor circuits for use with gas-filled multi-cathode counter valves; telephone exchange register. J. B. Warman and D. M. Bibb. bibliog. *diags Electronic Eng* 30: 136-9 Mr '58; Discussion. 30:508-9 Ag '58
- Transistor clock drive; patent. *diag Radio-Electronics* 29:158-9 O '58
- Transistor cut-off frequency. W. L. Stephenson. *Electronic & Radio Eng* 35:69-71 F '58
- Transistor data chart, 1958. *Electronic Ind & Tele-Tech* 16:85+ O '57
- Transistor data for logical circuit design. R. B. Hurley. bibliog. *diag Electronic Ind & Tele-Tech* 16:60-1 O '57
- Transistor designs; the first decade. W. J. Pietenpol. *diags Bell Lab Rec* 36:202-6 Je '58
- Transistor electronics has good future. W. Shockley. *Ind Lab* 9:52-3 My '58
- Transistor filters ripple. F. Oakes and E. W. Lawson. *diags Electronics* 31:95 Ap 11 '58
- Transistor formulas use h-matrix parameters; reference sheet. A. E. Hayes, jr. *diags Electronics* 31:81-2 F 28 '58
- Transistor high-gain chopper-type d.c. amplifier. G. B. B. Chaplin and A. E. Owens. *diags Inst E E Proc* 105 pt B:258-66; Discussion. 266-70; Reply. 270-2 My '58
- Transistor impedance changer. I. F. Barditch and J. D. Sullivan. *diags Electronic Ind* 17:77 Ja '58
- Transistor impedance matching. H. P. Williams. *diags Electronic & Radio Eng* 34:128-9 Ap '57; Discussion. 34:314-15; 35:236-7 Ag '57, Je '58
- Transistor locator finds metal fast. E. Bohr. *diags Radio-Electronics* 29:32-3+ Mr '58
- Transistor miniature tape recorder; Stuzzi Magnette. *il Wireless World* 64:376 Je '58
- Transistor monostable multivibrators for pulse generation. J. Suran. *diags Inst Radio Eng Proc* 46:1260-71 Je '58
- Transistor operated self-balancing radiation pyrometer. D. W. Birnstingl. *diags Electronic Eng* 30:189-91 Ap '58
- Transistor oscillator supplies stable signal. L. H. Dulberger. *diags Electronics* 31:43 Ja 31 '58
- Transistor output up, prices down. *Electronics* 31:8 My 9 '58
- Transistor photoflash power converters. H. A. Manoglian. *diags Electronics* 31:29-31 Ag 29 '58
- Transistor power amplifiers. *diags Radio-Electronics* 29:124-5 S '58
- Transistor pulse generators for time-division multiplex. K. W. Cattermole. *diags Inst E E Proc* 105 pt B:471-9; Discussion. 479-81; Reply. 481-2 S '58
- Transistor Q-multiplier for audio frequencies. G. B. Miller. *diags Electronics* 31:79-81 My 9 '58
- Transistor trends; editorial. H. Gernsback. *Radio-Electronics* 29:33 My '58
- Transistorized ac microammeter uses clamp-type pickup probe. *il diag Machine Design* 30:160-1 F 20 '58
- Transistorized analog-digital converter. W. B. Towles. *il diags Electronics* 31:90-3 Ag 1 '58
- Transistorized clock. *diag Electronic Ind* 17: 80 Ja '58
- Transistorized computer modules in machine tape control; Numill numerical control system. P. F. Fischer. *il diags Elec Manuf* 62:100-5 S '58
- Transistorized continuity test set. J. C. Hauf and H. S. Hall. *il diags Wire & Wire Prod* 33:295-6+ Mr '58
- Transistorized frequency marker. N. A. Johnson. *il diag Q S T* 42:16-17 F '58
- Transistorized gamma ray radioactive relay. *Elec Manuf* 61:9 Ap '58
- Transistorized keying monitor with speaker. K. R. Tipple. *il diag Q S T* 42:26-7 Mr '58
- Transistorized magnetic and photoelectric input circuits for motion picture projectors. S. P. Bushman. *il diags Audio Eng Soc J* 6:4-9 Ja '58
- Transistorized memory monitors earth satellite. C. S. Warren and others. *il diags Electronics* 31:66-70 Ja 17 '58
- Transistorized negative-impedance telephone repeaters. R. P. Dimmer. bibliog. *il diags Com & Electronics* p305-11 J '58
- Transistorized power supply. C. V. Chambers. *il diag Q S T* 42:36-8 F '58
- Transistorized repeater for use with the 45BN cable carrier system. V. Babin and R. Fish. *il diags Com & Electronics* p41-9 Mr '58
- Transistorized television transmitter. *il Engineer* 205:516 Ap 4 '58
- Transistorized vehicle speedmeter. D. R. Ollington. *il diag Electronic & Radio Eng* 35:322-4 S '58
- Transistors, a simplified exposition. H. Johnson. bibliog. *diags Am Soc Naval Eng J* 70: 37-51 F '58
- Transistors after ten years of development. W. Shockley. *Electronics* 31:184+ Mr 14 '58
- Transistors and diodes in strong magnetic fields. H. A. Kampf. *il diag Electronic Ind* 17:1-3 Mr '58
- Transistors catch British speeders; electronic vehicle speed measuring system. *il Electronics* 31:33 Ja 10 '58
- Transistors for rural telephone systems. I. C. Savadella. *il diags Bell Lab Rec* 36:52-5 F '58
- Transistors give desk-size computer. *il Product Eng* 29:75 Je 23 '58
- Transistors; next 10 years. *il Electronics* 31: 16+ J1 4 '58
- Transistors; past, present and future. G. R. Spencer. *il diags Radio-Electronics* 29:38-41 My '58
- Transistors push \$100 million. *Electronics* 31: 15-16 My 30 '58
- Transistors reduce relay servo size. S. Shenfeld. *il diags Electronics* 31:73-5 Ag 15 '58
- Transistors replace the vibrator. B. Hamlin. *il diag Radio-Electronics* 29:51-2 J1 '58
- Transistors ruggedize airborne telemetry keyer. D. A. Williams, jr. bibliog. *il diags Electronics* 31:81-3 S 12 '58
- Transistors; 600 types. *Electronics* 31:33 Mr 7 '58
- Transistors slash telemetering costs. *Electronics* 30:22+ D 1 '57
- Transistors, the first ten years. *il diag Ind Lab* 9:28-9 Ag '58
- Two-dimensional current flow in junction transistors at high frequencies. R. L. Pritchard. bibliog. *diags Inst Radio Eng Proc* 48:1152-60 Je '58
- Understanding transistors. K. C. Johnson. *diags Wireless World* 64:429-32, 497-501 S-O '58
- Unusual transistor circuits. P. L. Burton and J. Willis. *diags Wireless World* 64:107-10 Mr '58
- Uses of transistor limited in radio-tv. *Electronics* 30:14+ D 1 '57
- Valves, transistors and efficiencies. *diags Wireless World* 64:41-4 Ja '58
- See also
- Loud speaking apparatus—Transistor apparatus
- Radio receiving apparatus—Transistor receivers
- Radio transmitters—Transistor transmitters
- Television receiving apparatus—Transistor receivers

Bibliography

- Transistor bookshelf. R. P. Turner. *Radio-Electronics* 29:43-4 My '58

Cleaning

- Jet spray and soak cleanse transistors. J. E. Greever. *il diags Electronics* 31:111-13 My 23 '58

Control uses

- Application of switching transistors and saturable reactors in a high-performance servo; abstract. F. B. Cox, jr. and P. R. Johannessen. *Control Eng* 5:168+ Je '58
- Applications in telephone switching. A. E. Ritchie. *il diag Bell Lab Rec* 36:212-15 Ju '58
- Better light relay. D. H. Gucker. *diags Radio-Electronics* 29:126 Ap '58
- Controlled saturation in transistors and its application in trigger circuit design. N. F. Moody. *diags Electronic Eng* 30:121-7, 200-4 Mr-Apr '58
- Dekatrons and electro-mechanical registers operated by transistors. G. B. B. Chaplin and R. Williamson. *diags Inst E E Proc* 105 pt B:231-6; Discussion. 266-70 My '58
- Design of transistor regulated power supplies. T. F. Kopaczek. *diag Inst Radio Eng Proc* 46:1537 Ag '58
- Efficient precision current regulator for low-voltage magnets. R. L. Garwin. *diags R Sci Instr* 29:223-4 Mr '58
- Fast transistor relay. D. L. Anderson. *diags Electronics* 31:145 Mr 14 '58
- Gating with diodes. H. B. McKay. *diags Radio-Electronics* 29:28-30 Ag '58

TRANSISTORS—Control uses—Continued

- Half-adders drive simultaneous computer. F. E. Maynard. *diags Electronics* 31:80-2 J1 18 '58
- High-speed switching transistor; **Thyristor**. I. Wolff and others. *Franklin Inst J* 264: 432 N '57
- How transistor circuits protect atomic reactors. E. J. Wade and D. S. Davidson. *diags Electronics* 31:73-5 J1 18 '58
- New approach to analog-digital conversion. M. Palevsky. *diags I S A J* 5:42-5 Ap '58
- New bistable element useful for use in digital computers. C. D. Florida. *diags Electronic Eng* 30:73-7, 149 '58 R-M 38
- New switching transistor; abstract. W. von Münch. *diag Electronic & Radio Eng* 34: 429-30 N '57
- Photo-electro-mechanical digitalizer. *il Electronic Ind* 17:149-50 Ap '58
- Power transistors for control. H. L. Aronson. *diags Product Eng* 28:1 20-3 Mid-O '57
- Short time-constant switching mechanism and its application to communication techniques; abstract. H. Salow and W. von Münch. *Brit Inst Radio Eng J* 18:136 F '58
- Switch-time nomograph; reference sheet. T. A. Prugh. *diag Electronics* 31:72 Ap 25 '58; Same. *Product Eng* 29:1 19 Mid-S '58
- System counts press runs. *Detroit News printing plant. il Electronics* 31:18 F 14 '58
- Train your fan with transistors. J. A. McRoberts. *il diags Radio-Electronics* 29:62-4 My '58
- Transistor chopper drives accurate clock. R. H. Williams. *il diags Electronics* 31:64-5 My 23 '58
- Transistor drives clock. C. H. McShan. *diag Electronics* 31:86-4 Ja 3 '58
- Transistor relays have low idling current. D. W. R. McKinley. *diags Electronics* 30: 147 D 1 '57
- Transistor temperature controller. H. Sutcliffe. *diags Electronics* 31:81-2+ Mr 28 '58
- Transistorized counting system. *Elec Eng* 77:376 Ap '58
- Transistorized trigger and delay generators. H. L. Armstrong. *il Electronics* 31:96+ Ja 17 '58
- Transistors sensitize relay circuits. E. Bohr. *diags Radio-Electronics* 29:112+ Je '58
- Two-five amp silicon power transistors; abstract. H. M. Henkels and T. P. Nowalk. *il Elec Manuf* 62:64-5 J1 '58
- Voltage conversion with transistor switches. P. L. Schmidt. *il diags Bell Lab Rec* 36: 60-4 F '58

Cooling

- Increased cooling for power transistors. C. Booher. *il Electronic Ind* 17:66-8 Ag '58

Design

- Design considerations for direct-coupled transistor amplifiers. J. E. Lindsay and H. J. Woll. *bibliog diags RCA R* 19:433-54 S '58
- Design theory for depletion layer transistors. W. W. Gärtner. *bibliog diags Inst Radio Eng Proc* 45:1392-400 O '57; Discussion. J. E. Rosenthal. 46:1422; Reply. 1422-3 J1 '58

History

- First ten years of the transistor; editorial. W. O. Baker. *Bell System Tech J* 37:sup 1-6 S '58
- Ten years of transistors. R. M. Ryder. *bibliog il diags Radio-Electronics* 29:34-7 My '58
- Transistor, ten years of progress. M. J. Kelly. *Bell Lab Rec* 36:190-1 Je '58

Industrial applications

- All-transistor data-processing systems. *Elec Eng* 77:660 J1 '58
- Applying transistors for industrial use in automatic control devices. J. R. Walker. *diags Automation* 5:84-90 F '58
- Modernizing power-line carrier with transistors. E. E. Scheneman. *il diags Westinghouse Eng* 18:98-101 J1 '58
- Potomac Edison likes transistorized carrier relaying. E. E. Scheneman. *il diags Elec World* 149:57-9 Ap 14 '58; *Westinghouse Eng* 18:98-101 J1 '58
- Puncher transcribes computer output. J. E. Palmer and others. *il diags Electronics* 30: 164-7 D 1 '57
- RCA ships transistorized frequency-shift tone system. *Elec World* 148:115 D 30 '57
- Station apparatus, power and special systems. W. A. Depp and L. A. Meacham. *il diag Bell Lab Rec* 36:216-20 Je '58
- Systems planning. D. F. Hoth. *il diags Bell Lab Rec* 36:229-33 Je '58

- Transistor, and its application to the two-way communications field. W. J. Weisz. *il diag Gas Age* 122:13-15 Ag 21 '58
- Transistor-oscillator induction-motor drive. W. H. Card. *diags Com & Electronics* p531-5 S '58
- Transistor power supply has overload protection. H. D. Ervin. *il diags Electronics* 31:74-5 Je 20 '58
- Transistorized bushing potential device. R. L. Stauffer and E. O. Shepard. *il diags Power Apparatus & Systems* p410-16 Je '58
- Transistorized high-frequency lighting supply. *il Elec Manuf* 61:154+ Mr '58
- Transistorized high-frequency systems developed for lighting. *il Arch Rec* 123:196 Jm '58
- Transistorized power source for lighting systems. *Westinghouse Eng* 18:93+ My '58
- Transistors in instrumentation. *il diags I S A J* 5:68-79 S '58
- Transistors play a growing part in industrial control. W. E. Cronquist. *il diags Power* 102:106-9+ Mr '58
- Transistors vs tubes for industrial applications. *il diags Product Eng* 28:52-6 O 28 '57
- Transmission applications. M. B. McDavitt. *il diag Bell Lab Rec* 36:207-11 Je '58

Manufacture

- Jet spray automates transistor etching cycle. M. Doser. *il diags Electronics* 31:98+ F 28 '58
- Manufacture of silicon transistors. J. T. Kendall. *il diags Electronic & Radio Eng* 35: 202-7 Je '58; Discussion. M. Smollett. 35: 316-17 Ag '58
- Outdiffusion as a technique for the production of diodes and transistors. J. Halpern and F. L. Rediker. *bibliog il diags Inst Radio Eng Proc* 46:1068-76 Je '58
- Precision machines slice and dice transistor elements; Bell telephone laboratories. C. Emerson. *il Am Mach* 102:85-7, cover S 8 '58
- Preparation of semiconductor devices by lapping and diffusion techniques. H. Nelson. *bibliog il diags Inst Radio Eng Proc* 46: 1062-7 Je '58
- Silicon transistors; some industrial manufacturing techniques. J. T. Kendall. *il diags Research* 11:331-6 O '58
- Transistor manufacture. J. E. Genter. *il Bell Lab Rec* 36:226-8 Je '58
- Transistors are made by photolithography. J. R. Nall and J. W. Lathrop. *il diags Electronics* 31:142+ F 14 '58

Measurement uses

- All-transistor direct-reading audio-frequency meter. D. Stone. *il diag Radio-Electronics* 29:51-3 Ja '58
- Clamp-on micrometer measures a-c current. G. F. Montgomery and C. Stansbury. *il diags Electronics* 30:152-3 D 1 '57
- Direct-reading frequency meter. A. V. J. Martin. *diag Radio-Electronics* 29:109 J1 '58
- New refraction seismograph. H. M. Mooney and R. A. Kaa'a. *il diags R Sci Instr* 29:290-4 Ap '58
- Portable liquid density instrument employing transistors. C. W. Hargens. *il diags R Sci Instr* 28:921-3 N '57
- Transistor d.c. voltmeter. *il Wireless World* 64:248 My '58
- Transistor null detector and sensitive indicator. T. Ladd. *il diag Radio-Electronics* 29: 109+ My '58
- Transistorized grid-dip meter. H. M. Neben. *il diag Q S T* 42:34-5 Je '58
- Transistorized radiation survey meter. *il diag Electronic Ind & Tele-Tech* 16:69+ O '57
- Transistors in measuring instruments. E. J. Peterman. *il diags Elec Manuf* 61:140-3 F '58
- Medical applications**
- Transistor electroencephalograph. *il Wireless World* 64:439 S '58
- Transistor unit monitors blood pressure. O. Z. Roy and J. R. Charbonneau. *il diag Electronics* 31:82-3, cover Ag 15 '58

Military applications

- Military applications. J. A. Baird. *il diag Bell Lab Rec* 36:221-5 Je '58

Noise

- Behavior of noise figure in junction transistors. E. G. Nielsen. *diags Inst Radio Eng Proc* 45:957-63 J1 '57; Discussion. W. N. Coffey. 46:495-6 F '58
- Measurement of the correlation between flicker noise sources in transistors. E. R. Chenette. *diag Inst Radio Eng Proc* 46:1304 Je '58

TRANSISTORS—Noise—Continued

- Measuring noise figures of transistor amplifiers. A. Y. Anouchi. *diag Inst Radio Eng Proc* 46:193 Mr '58
- Noise in junction transistors. A. van der Ziel. *diags Inst Radio Eng Proc* 46:1019-38 bibliog(p 1037-8) Je '58
- 1kc/s transistor high-gain tuned amplifier with provision for transistor noise figure measurements. R. A. Hall. *diags Electronic Eng* 30:192-5 Ap '58
- Radiation induced noise in $p-n$ junctions. W. H. Fonger and others. *II diags J Ap Phys* 29:588-91 Mr '58
- Shot noise in transistors. G. H. Hanson and A. van der Ziel. *diag Inst Radio Eng Proc* 45:1538-42 N '57
- Theory of junction diode and junction transistor noise. A. van der Ziel and A. G. T. Becking. *diags Inst Radio Eng Proc* 46:589-94 Mr '58
- Transistor noise; its origin, measurement and behaviour. B. L. H. Wilson. *bibliog diags Brit Inst Radio Eng J* 18:207-26 Ap '58
- Transistor preamp has very low noise. R. N. Foss. *diag Electronics* 31:92+ JI 18 '58

Prices

- Three firms drop prices. *Electronics* 31:34 Ja 24 '58

Protection

- Glass envelope for transistors. *II Electronics* 31:114 Ap 11; 24 Ap 18 '58

Scientific applications

- Design for a multi-channel infra-red spectrometer using transistor electronics. D. G. Avery and R. C. Bowes. *diags J Sci Instr* 35:212-16 Je '58
- Transistor count-rate systems. L. E. Welsner. *diags Elec Eng* 77:623-5 JI '58
- 1958-59 international germanium and silicon transistor specifications; listings including type numbers, applications data, ratings, drawings and dimensions. *diags Electronic Ind* 17:109+ Je '58

Tables, calculations, etc.

- Four-pole analysis for transistors. B. J. Alcock. *bibliog diags Electronic Eng* 30:592-4 O '58
- Transistor h-f cutoff nomograph; reference sheet. H. E. Schauwecker. *Electronics* 31:88 My 9 '58

Temperature effect

- Diodes offset silicon transistor heat drift. D. H. Bryan. *diags Electronics* 31:176+ Mr 14 '58
- Measurement of internal temperature rise of transistors. J. T. Nelson and J. E. Iversen. *Inst Radio Eng Proc* 46:1207-8 Je '58
- Measurement of transistor thermal resistance. B. Reich. *diags Inst Radio Eng Proc* 46:1204-7 Je '58
- Protecting power transistors from thermal runaway. P. Penfield, jr. *diag Electronic Ind* 17:79-80+ F '58
- Voltage feedback and thermal resistance in junction transistors. J. J. Sparkes. *Inst Radio Eng Proc* 46:1305-6 Je '58

Terminology

- Transistor dictionary. H. Barr. *Radio-Electronics* 29:64-5+ My '58

Testing

- Accurate measurement of r_e and α for transistors. M. A. Melch. *diag Inst Radio Eng Proc* 45:1739-40 D '57
- Analysis of the effect of nuclear radiation on transistors. J. J. Loferski. *bibliog J Ap Phys* 29:35-40 Ja '58
- Checking transistors. H. F. Priebe, jr. *II diags Q S T* 42:20-2 Ap '58
- Device measures transistor switching time. Franklin *Inst J* 266:251-2 S '58
- Five new transistor checkers. J. T. Frye. *II diags Radio-Electronics* 29:47-50 Mr '58
- How transistors operate under atomic radiation. R. L. Riddle. *II diag Electronics* 30:125-7 D 1 '57
- IRE standards on solid-state devices; methods of testing point-contact transistors for large-signal applications, 1958. *diags Inst Radio Eng Proc* 46:878-88 My '58 (reprints 70c)

- Investigation of the current gain of transistors at frequencies up to 105 mc/s. F. J. Hyde and R. W. Smith. *bibliog diags Inst E E Proc* 105 pt B:221-8 My '58
- Measurement of transistor thermal resistance. B. Reich. *diags Inst Radio Eng Proc* 46:1204-7 Je '58
- Measurement of transistor voltage-current characteristics using pulse techniques. B. J. Cooper. *diag Electronic Eng* 30:440-1 JI '58
- Method for measuring transistor current gain at radio frequencies. F. J. Hyde. *diags J Sci Instr* 35:115 Mr '58
- One kc/s junction transistor T-parameter measurement set. R. A. Hall. *diags Electronic Eng* 30:82-5 F '58
- Power transistor test set. W. Hasenberg. *II diags Electronic Ind* 17:58-60 My '58
- Scope, camera and tv test fast transistors. *II diag Electronics* 31:118 Ag 1 '58
- Short and breakdown tester. M. Meth. *diags Electronics* 31:108+ Ap 11 '58
- Simple transistor tester. R. S. Burwen. *II diag Audio* 42:80+ My '58
- Some measurements on commercial transistors and their relation to theory. F. J. Hyde. *bibliog diag Inst E E Proc* 105 pt B:45-52 Ja '58
- Transistor beta tester with linear scale. S. Bernstein. *diags Audio* 42:21-2+ JI '58
- Transistor cutoff frequency measurement. L. G. Cripps. *diags Inst Radio Eng Proc* 46:781-2 Ap '58
- Transistor fabrication defies testing. *II Electronics* 31:84+ Ap 25 '58
- Transistor test set. J. N. Prewett. *II diags Wireless World* 64:369-72 Ag '58
- Transistor tester for the experimental lab. R. A. Hempel. *II diags Electronic Ind* 17:58-61 F '58
- Transistor tester predicts failures. J. M. Tewksbury. *II diags Electronics* 31:92+ S 26 '58
- Use of operational amplifiers in the measurement of transistor parameters. W. C. Hazel. *bibliog diags R Sci Instr* 29:235-7 Mr '58

TRANSITION elements

- X-ray survey of certain transition-metal systems for sigma phases. A. G. Knapton. *bibliog diag Inst Metals J* 87:28-32 '58-'59

TRANSITION points

- Effect of thermal history on the antiferromagnetic transition in zinc ferrite. D. M. Grimes and E. F. Westrum, jr. *bibliog J Ap Phys* 29:384-5 Mr '58

TRANSLATING machines

- Automatic translator. *diag Electronics* 31:64-5 Ap 25 '58
- Can a machine translate Russian? *Product Eng* 28:85-6 D 23 '57
- Can machines translate? *II Electronics* 31:26-7 Mr 21 '58
- Language translation. A. F. R. Brown. *Assn for Computing Mach J* 5:1-8 Ja '58
- Russian to English machine translation with simple logical processing. R. E. Wall, jr. and U. K. Niehaus. *flow charts Com & Electronics* p709-14 Ja '58
- Translating machine, an ABC for you. D. C. Greenwood. *II diags Product Eng* 29:30-3 Mr 24 '58

TRANSLATION

- ASME to make available translation of Russian scientific literature. *Mech Eng* 80:133 Mr '58
- Key to Soviet science: Nation's central file of Russian translations. *II Chem & Eng N* 36:112-13 Ja 6 '58
- More translations coming. *Chem & Eng N* 36:38-9 Ja 27 '58
- Scientific Russian; its study and translation. S. A. Wilde. *Am Scientist* 46:222-5 S '58
- Soviet translations rushed. *II Electronics* 31:15-16 Ja 24 '58
- Translation of foreign articles. E. L. Soohoo; T. O. Jones. *Inst Radio Eng Proc* 46:917 My '58
- Translation of USSR scientific and engineering journals available. *Elec Eng* 77:526-8 Je '58
- US translation program bogging. *Product Eng* 28:86-7 D 23 '57
- Urge speed-up in translation of Russian scientific and technical journals. *Am Mach* 101:158 D 16 '57

See also
United States joint publications research service

TRANSLLOCATION in plants. See Plants—Translocation**TRANSLUCENCY meter. See Opacity—Measurement**

- TRANSMISSION**, Electric. See Electric transmission
- TRANSMISSION** towers. See Electric lines—Poles and towers
- TRANSMITTERS**, Radio. See Radio transmitters
- TRANSOMS**
Corridor duct supplies evaporatively cooled air through office transoms in old building. *diag Heating-Piping* 30:99 F '58
- TRANSPARENCIES**
Are your film titles dull? give them more pep by using color transparencies. M. A. Matzkin. *II Mod Phot* 22:98 +F '58
Slides are valuable; special care and preparation are required; illustrations with text. *Mod Phot* 22:79 My '58
- TRANSPARENT** packages. See Package goods
- TRANSPARENT** packages. See Package goods
- TRANSPARENT** plastics. See Plastics, Transparent
- TRANSPARENT** soap. See Soap, Transparent
- TRANSPARENT** numbers. See Electrolytes—Conductivity
- TRANSPORTATION**
Presidential address; influence of speed on transport. G. Edwards. *maps Roy Aeronautical Soc J* 62:239-48; Discussion, 248 Ap '58
See also
Airlines
Automobiles
California university—Institute of transportation and traffic engineering
Electric vehicles
Ferryboats
Freight cars
Highway transportation
Mechanical handling
Mine haulage
Motor trucks
Motor vehicles
Motor vehicles, Military
Ore transportation
Packing for shipment
Petroleum pipe lines
Petroleum transportation
Ports
Rapid transit
River traffic
Shipping
Steamboat lines
also subdivision Transportation under special subjects, e.g.
Butadiene
Cement
Coal
Food
Gas, Natural
Glycerin
Lumber
Waxes
Wine
Wood pulp
- History**
Transport speeds. G. Edwards. *Engineer* 205:358-9 Mr 7 '58; *Abstract. Engineering* 185:380 Mr 21 '58
- Canada**
Communication and transport. *II map Eng J* 41:75-86 Ap '58
- TRANSPORTATION**, Military
See also
United States—Military sea transportation service
- TRANSVAAL**
See also
Steel works—Transvaal
- TRAPS**, Steam. See Steam traps
- TRAUMA**
Basal cell epithelioma following a single trauma. M. Reisch. *bibliog II Ind Med* 27: 633-4 O '58
Neurosurgical and neurological aspects of industrial trauma. P. J. Huber. *Ind Med* 27: 177-8 Ap '58
- TRAVEL**
See also
Air travel
- TRAVEL**, Space. See Space flight
- TRAVELER** (spinning). See Spinning machinery
- TRAVELERS**
Diarrhea of travelers. B. H. Kean and S. Waters. *A M A Archives Ind Health* 18: 148-50 Ag '58
- TRAVELING** exhibits. See Exhibits, Traveling
- TRAVELING** laboratories. See Laboratories, Traveling
- TRAVELING** showrooms. See Showrooms, Traveling
- TRAVELING** wave tubes. See Vacuum tubes—Traveling wave tubes
- TRAWLERS**. See Fishing boats
- TRAYS**, Plastic
Plastic trays solve hosiery boarding problem. H. J. Hall. *II Textile World* 108:58 My '58
Vended food trays of oriented polystyrene. F. Murphy. *II Plastics World* 16:22-3 My '58
- TREE** farms. See Woodlots
- TREE** planting
See also
Roadside planting
- TREE** trimming
See also
Electric lines—Tree problem
- TREES**
See also
Aspen
Avicennia marina
Bruguiera parviflora
Cedar
Douglas fir
Fir
Forests and forestry
Gormosia
Pine
Spruce
Wood
Woodlots
- TRELEASEGENIC** acid. See Triterpenes
- TRENCHARD**, Hugh
Lord Trenchard; first Trenchard memorial lecture. D. Boyle. *pers Roy Aeronautical Soc J* 62:249-56 Ap '58
- TRENCHES**
Submarine trenches. S. V. Collins and P. Reed. *II Oil & Gas J* 56:111-12+ Ag 11 '58
- TRENCHING** machinery
Plastic soil pipe formed by machine. *II diags Eng N* 160:69 My 15 '58
Railway drainage trench excavating machine. *II Engineer* 205:633 Ap 25 '58
- Safety measures**
Trencher safety. J. G. Lambert. *Gas Age* 122: 19 Ag 7 '58
- TREPANNING**
Better tooling cuts part cost 35 per cent; Technicraft laboratories. R. W. Witty. *II diag Steel* 143:178-9 S 15 '58
- TRIASSIC** period. See Geology, Stratigraphic—Triassic
- TRIAZINEDIONE**
Nucleotides of 2-(2'-deoxy-(p-ribofuranosyl)-6-methyl-*asym*-triazine-3,5(2,4)-dione (azathymidine). R. H. Hall and H. Haselkorn. *bibliog Am Chem Soc J* 80:1138-41 Mr 5 '58
Riboside derivatives of 6-methyl-*asym*-triazine-3,5(2,4)-dione. R. H. Hall. *bibliog Am Chem Soc J* 80:1145-50 Mr 5 '58
- TRIAZINES**
Preparation and metal-complexing properties of 2-salicylideneimino-4,6 diamino-1,3,5 triazine. Q. Fernando and H. Freiser. *Chem & Ind p* 1230-1 S 20 '58
Preparation of polymers and copolymers from vinylpyrimidines and triazines. C. G. Overberger and F. W. Michelotti. *bibliog Am Chem Soc J* 80:988-91 F 20 '58
- Spectra**
Infrared spectra of some derivatives of 1,3,5-triazine. W. M. Padgett. 2d and W. F. Hamner. *bibliog Am Chem Soc J* 80:803-8 F 20 '58
- TRIAZOLES**
Metabolite analogs; synthesis of some imidazopyridines and pyridotriazoles. H. Graboyes and A. R. Day. *bibliog Am Chem Soc J* 77:6421-6 D 20 '57
New synthesis of 1,2,4-triazoles; the reaction of 5-substituted tetrazoles with iminochlorides. R. Huisgen and others. *Chem & Ind p* 1114-15 Ag 23 '58
See also
Aminotriazole
- TRIBROMOFLUOROMETHANE**
Hexafluorobenzene from the pyrolysis of tribromofluoromethane. M. Hellmann and others. *bibliog Am Chem Soc J* 79:5654-6 N 5 '57
- TRIBUTYL** phosphate
Separating hafnium from zirconium; solvent extraction with tributyl phosphate. R. P. Cox and others. *bibliog flow sheet diags Ind & Eng Chem* 50:141-3 F '58

TRIBUTYL phosphate—Continued

- Tributyl phosphate and its diluent systems. L. L. Burger and E. D. McClanahan. *Bibliog Ind & Eng Chem* 50:153-6 F '58
- Tributyl phosphate, hydrocarbon systems; organizing equilibrium data. J. W. Coddling and others. *bibliog diag Ind & Eng Chem* 50:145-52 F '58

TRICHLOROACETIC acid

- Action of chlorine trifluoride on trichloroacetic acid. F. Cuthbertson and others. *bibliog J Ap Chem* 8:590-3 Je '53

TRICHLOROBENZOIC acid

- Movement of 2,3,6-trichlorobenzoic acid from one plant to another through their root systems. P. J. Linder and others. *bibliog il J Agri & Food Chem* 6:358-7 My '53

TRICHLOROETHANE

- Chloroethene in hair sprays. A. E. Schober. *il Soap & Chem Spec* 34:65-6+ Ag '58

TRICHLOROETHYLENE

- Properties of the toxic factor in trichloroethylene-extracted soybean oil meal. T. A. Seto and others. *bibliog J Agri & Food Chem* 6:49-54 Je '58
- Stereospecific reactions of nucleophilic agents with acetylenes and vinyl-type halides; the mechanism of the base-catalyzed reaction of trichloroethylene with thiols. W. E. Truce and R. Kassinger. *bibliog Am Chem Soc J* 80:1916-19 Ap 20 '58
- Vapour-liquid equilibria of ethyl acetate-trichloroethylene system. M. Raja Rao and others. *bibliog diag J Ap Chem* 7:666-71 D '57

Manufacture

- Trichloroethylene. flow diag *Pet Refiner* 36:283 N '57

Physiological effect

- Effect of trichloroethylene-extracted meat scrap on young cattle. C. E. Rehfeld and others. *bibliog J Agri & Food Chem* 6:227-30 Mr '58

TRICHLOROFLUOROMETHANE

- Application of volatile organic liquids for expanding flexible urethane foam. E. Klesper. *Rubber Age* 84:84-7 O '58

TRICHLOROMETHYL group

- Reaction of trichloromethyl radicals with triethyl phosphite. C. E. Griffin. *Chem & Ind* p415 Ap 5 '58

TRICHLORONITROPHENOL

- Chemistry aids trout fishing; sea lamprey larvae wiped out by 3,4,6-trichloro-2-nitrophenol. *il Ind & Eng Chem* 50:sup22A-3A Mr '58

TRICHLOROSILANE

- Stereochemistry of the addition of silicochloroform to acetylenes. R. Ben Reser and E. A. Hickner. *bibliog Am Chem Soc J* 80:5298-300 O 5 '58

- TRICKLING filters. See Sewage disposal—Filtration

TRICOT machines. See Knitting machines**TRICYANOETHYLENE**

- Cyanocarbon chemistry; tricyanoethylene. G. N. Sausen and others. *bibliog Am Chem Soc J* 80:2815-22 Je 5 '58

TRICYCLOHEPTANE

- Relative stability of bridged hydrocarbons; norbornene and nortricycylene. P. V. Schleyer. *bibliog Am Chem Soc J* 80:1700-4 Ap 5 '58

TRITHANOLAMINE

- Triethanolamine emulsions. P. G. I. Lauffer. *bibliog il Am Perfumer & Aromatics* 71:55-6+ Je '58

TRIETHYL aluminum

- Triethyl- and trimethylaluminum. J. F. Nobis. *diag Ind & Chem* 49:sup44A-6A D '57

TRIETHYLAMINE

- Effect of soaps and detergents on the critical solution temperature of triethylamine and water. R. J. Kline and A. J. Inde. *bibliog J Colloid Sci* 13:163-9 Ap '58
- Molecular complexes and their spectra; the molecular complex between iodine and triethylamine. S. Nagakura. *bibliog Am Chem Soc J* 80:520-4 F 5 '58

- Nucleophilic displacement reactions in aromatic systems; catalysis of the reaction of 2,4-dinitrochlorobenzene and *n*-butylamine by triethylamine in chloroform. S. D. Ross and R. C. Petersen. *Am Chem Soc J* 80:2447-9 My 20 '58

- Reactions of phosphorus and antimony chlorides with trimethylamine, triethylamine and trimethylphosphine. R. R. Holmes and E. F. Bertaut. *bibliog Am Chem Soc J* 80:2980-3 Je 30 '58

TRIETHYL phosphite

- Reaction of trichloromethyl radicals with triethyl phosphite. C. E. Griffin. *bibliog Chem & Ind* p415 Ap 5 '58

TRIFLUOROACETATES

- Hydrolysis of *t*-alkyl trifluoroacetates. A. Moffat and H. Hunt. *bibliog Am Chem Soc J* 80:2985-6 Je 20 '58

TRIFLUOROCHLOROETHYLENE. See Chlorotrifluoroethylene**TRIFLUOROMETHYL compounds**

- Chemical effects of the trifluoromethyl group; reactions of ethyl 8-trifluoromethylglycidate; the synthesis of 2-amino-3-hydroxy-4,4,4-trifluorobutyric acid. H. M. Walborsky and M. E. Baum. *bibliog Am Chem Soc J* 80:187-92 Ja 5 '58
- Some chemical reactions of trifluoromethyl hypofluorite. R. S. Porter and G. H. Cady. *Am Chem Soc J* 79:5625-7 N 5 '57
- Trifluoromethyl hypofluorite; its decomposition and its reaction with carbonyl fluoride to form perfluorodimethyl peroxide. R. S. Porter and G. H. Cady. *bibliog Am Chem Soc J* 79:5628-31 N 5 '57

TRIFLUOROMETHYL group

- Chemical effects of the trifluoromethyl group; reactions of ethyl 8-trifluoromethylglycidate; the synthesis of 2-amino-3-hydroxy-4,4,4-trifluorobutyric acid. H. M. Walborsky and M. E. Baum. *bibliog Am Chem Soc J* 80:187-92 Ja 5 '58

TRIGA. See Nuclear reactors**TRIGLYCERIDES. See Glycerides****TRIGONOMETRIC functions. See Functions, Trigonometric****TRIGONOMETRY**

- Juggling trigonometry to eliminate a quadratic equation. W. W. Johnson. *diags Mach* 64:140-1 Ag '58

TRIGUANIDE

- Preparation of triguanide and of certain alkyl substituted triguanides. K. N. Nand and M. A. Phillips. *Chem & Ind* p719 Je 14 '58

TRIHYDROXY polypropylene glycols. See Glycols**TRIMETHYL aluminum**

- Triethyl- and trimethylaluminum. J. F. Nobis. *diag Ind & Eng Chem* 49:sup44A-6A D '57

TRIMETHYLAMINE

- Reactions of phosphorus and antimony chlorides with trimethylamine, triethylamine and trimethylphosphine. R. R. Holmes and E. F. Bertaut. *bibliog Am Chem Soc J* 80:2980-3 Je 20 '58

TRIMETHYLAMMONIO group

- Effects of dimethylsulfoxide and trimethylammonio groups on the dissociation of substituted phenols. S. Oae and C. C. Price. *bibliog Am Chem Soc J* 80:3425-7 Jl 5 '58
- Some reactions of (terrocenylmethyl)trimethylammonium iodide. J. M. Osgerby and P. L. Pauson. *bibliog Chem & Ind* p 196-7 F 15 '58

TRIMETHYL indium

- Electron deficient compounds; the crystal and molecular structure of trimethylindium. E. L. Amma and R. E. Runde. *bibliog diags Am Chem Soc J* 80:4141-5 Ag 20 '58

TRIMETHYLPENTANEDIOL. See Glycols**TRIMETHYLSILYLMETHYL group**

- Neopentyl group analogs; the preparation and some cleavage reactions of trimethylsilylmethyl-substituted tin compounds. D. Seyferth. *bibliog Am Chem Soc J* 79:5881-4 N 20 '57
- Neopentyl group analogs; tris-(trimethylsilylmethyl) compounds of phosphorus, arsenic, antimony and bismuth and their derivatives. D. Seyferth. *Am Chem Soc J* 80:1336-7 Mr 20 '58

TRIMETHYLENE oxide

- Kinetics of the hydrolysis of trimethylene oxide in water, deuterium oxide and 40 per cent aqueous dioxane. J. G. Pritchard and F. A. Long. *bibliog Am Chem Soc J* 80:4162-5 Ag 20 '58
- Polymers from oxacyclobutanes. A. C. Farth- ing and H. Sandiford. *bibliog J Ap Chem* 8:186-96 Mr '58

TRIMETHYLOLPROPANE. See Methylol compounds**TRINIDAD****See also**

- Geology—Trinidad
Petroleum industry and trade—Trinidad

TRINITROBENZENE

- Energy transfer in molecular complexes of *sym*-trinitrobenzene with polyacenes; general considerations. S. P. McGlynn and J. D. Boggs. *bibliog Am Chem Soc J* 80:5096-101 O 5 '58

TRINITROFLUORENE

Further studies with 2,4,7-trinitrofluorenone as a reagent for microscopic fusion analysis. D. E. Laskowski and W. C. McCrone. *Anal Chem* 30:642-4 Ap '58

TRINITROPHENYLMETHYL nitramine

Microstructures of fusion-cast mixtures of CE and TNT; the absence of molecular compounds therein. W. O. Williamson. *bibliog* il *diag J Ap Chem* 8:652-8 O '58

TRINITROTOLUENE

Crystalline arrangement in fusion-cast cylinders of 2:4:6-trinitrotoluene and its relationship to colour, density and behaviour on detonation. W. O. Williamson. *bibliog* il *diag J Ap Chem* 8:367-75 Je '58

Microscopical studies of the system RDX-TNT. W. O. Williamson. *diag J Ap Chem* 8:646-51 O '58

Microstructures of fusion-cast mixtures of CE and TNT; the absence of molecular compounds therein. W. O. Williamson. *bibliog* *diag J Ap Chem* 8:652-8 O '58

Microstructures of some fusion-cast mixtures of pentaerythritol tetratrate and 2,4,6-trinitrotoluene. W. O. Williamson. *bibliog* il *J Ap Chem* 8:661-5 O '58

TRINITY river

Local group maps long-range river use. maps *Eng N* 161:26 S 4 '58

TRIODES. See Vacuum tubes**TRIOSES**

Reaction of D-glycerose-³-C¹⁴ with alkali. J. C. Sowden and E. K. Pohlen. *bibliog Am Chem Soc J* 80:242-4 Ja 5 '58

TRIPHENYLACETONITRILE

Reduction of triphenylacetoneitrile by the α -hydrogen atom of benzylmagnesium chloride. V. F. Raaen and J. F. Eastham. *Am Chem Soc J* 79:6088-9 N 20 '57

TRIPHENYL chromium

Triphenylchromium. W. Herwig and H. H. Zeiss. *bibliog Am Chem Soc J* 79:6561 D 20 '57

TRIPHENYLETHYLENE

Amidines of certain substituted triphenylethylenes. R. E. Allen and others. *bibliog Am Chem Soc J* 80:591-8 F 5 '58

TRIPHENYLMETHYL

Aromatic substitution by a highly selective radical, triphenylmethyl; a case of a free radical reaction in which nitrobenzene is essentially unreactive. R. A. Benkeser and W. Schroeder. *bibliog Am Chem Soc J* 80:3314-22 Jl 5 '58

Electron spin resonance and electronic structure of triphenylmethyl. F. C. Adam and S. I. Weissman. *bibliog Am Chem Soc J* 80:2057-9 My 5 '58

TRIPHENYLMETHYL chloride. See Chlorotriphenylmethane**TRIPHENYLPHOSPHONIUM compounds**

Triphenylphosphonium salts. J. C. Sheldon and S. Y. Tyree. *rbibliog Am Chem Soc J* 80:2117-20 My 5 '58

TRIPHENYLPROPIONITRILE

Dicarbanions of dibenzyl ketone dibenzyl sulfone and α,β,δ -triphenylpropanitrile. C. E. Hauser and T. M. Harris. *Am Chem Soc J* 79:6342 D 5 '57

TRIPHENYLSILANE

Preparation of cyclohexyltriphenylsilane. H. Gilman and D. H. Miles. *bibliog Am Chem Soc J* 80:611-13 F 5 '58

TRIPHENYLSILYL LITHIUM

Reactions of silyllithium compounds with derivatives of carboxylic acids; triphenylsilyllithium and acetyl chloride. D. Wittenberg and H. Gilman. *bibliog Am Chem Soc J* 80:4529-31 S 5 '58

Triphenylsilyllithium as a selective nucleophile towards pyridine. D. Wittenberg and H. Gilman. *bibliog Chem & Ind* p390-1 Mr 29 '58

TRIPHOSPHATES

Complexes of magnesium ion with pyrophosphate and triphosphate ions. S. M. Lambert and J. L. Waters. *bibliog Am Chem Soc J* 79:5606-8 N 5 '57

Analysis

Application of ion-exchange chromatography to the analysis of commercial triphosphate. W. G. Spangler and others. *bibliog diag A S T M Bul* p61-5 F '58

TRIPODS. See Camera tripods**TRISACCHARIDES**

Reversible transgalactosylation. J. H. Pazur and others. *bibliog Am Chem Soc J* 80:1433-5 Mr 20 '58

TRITERPENES

Isolation of triterpenes from North Bohemian brown coal. V. Jarolím and others. *bibliog Chem & Ind* p1142-3 Ag 30 '58

Terpenoids: the structure of the cactus triterpene treleasegenic acid; ring conformational alterations in a pentacyclic triterpene. C. Dierassi and J. S. Mills. *bibliog Am Chem Soc J* 80:1236-43 Mr 5 '58

TRITIUM

Labelling of fatty acids by exposure to tritium gases. H. J. Dutton and others. *Chem & Ind* p1176-7 S 6 '58

New advances in tritium tracer technology and recording differential thermobalances. R. H. Müller. *Anal Chem* 30:sup6A-6A+ Je '58

Nucleosides labeled with tritium in the ribosyl group. M. P. Gordon and others. *bibliog Am Chem Soc J* 80:5161-4 O 5 '58

Single-channel counter for carbon-14 and tritium. T. S. Hodgson and others. *bibliog diag Nucleonics* 16:89-94 Jl '58

Tritium tracing; a rediscovery. *bibliog*(40 ref) *diag Nucleonics* 16:62-7, cover Mr '58

Use new technique for tritium study at Argonne labs. *Ind Lab* 9:46 F '58

TROFFERS. See Lighting fixtures**TROLLEY buses**

Stray-current problems created by modernizing direct-current traction lines. H. L. Hamilton. *plans diag Am Water Works Assn J* 50:1231-4 S '58

Transit follows downhill track. *il Elec World* 150:61 S 8 '58

TROLLEY conveyors. See Monorail conveyors**TROLLEY**

Coal mining methods applied to hard rock operations; Intermountain chemical co. trona mine. R. F. Love. *il Min Cong J* 44:77-80 Ap '58

TROPANYL chloride

Action of nucleophilic agents on 3 α -chlorotropone. S. Archer and others. *bibliog Am Chem Soc J* 79:6337-8; 80:4677-81 D 5 '57, S 5 '58

Cleavage of 3-tropanyl chloride with potassium cyanide. S. Archer and others. *bibliog Am Chem Soc J* 80:958-62 F 20 '58

Solvolysis of the 3-tropanyl chlorides. A. T. Bottini and others. *bibliog Chem & Ind* p57-8 Je 21 '58

TROPICS

Corrosion of metals in tropical environments. B. W. Forgeson and others. *il Corrosion* 14:33-41 F '58 (to be cont)

Nutritional adaptation to low dietary intakes of calories, proteins, vitamins, and minerals in the tropics. C. L. Pathak. *Am J Clinical Nutrition* 6:151-8 *bibliog*(38 titles, p 157-8) Mr '58

Diseases and hygiene

Tetanus as a concomitant of work accidents in tropical countries. M. J. Takos. *Ind Med* 27:518-19 O '58

TROPINE

Elimination reactions of bicyclic quaternary salts: γ -tropolone from some appropriately substituted tropanes. J. Meinwald and O. L. Chapman. *bibliog Am Chem Soc J* 80:633-4 F 5 '58

Some pharmacologically active derivatives of tropine; abstract. R. G. Johnston. *Chem & Ind* p613-14 My 24 '58

TROPOLONE

Elimination reactions of bicyclic quaternary salts: γ -tropolone from some appropriately substituted tropanes. J. Meinwald and O. L. Chapman. *bibliog Am Chem Soc J* 80:633-4 F 5 '58

New synthesis of tropolone. J. J. Drysdale and others. *Am Chem Soc J* 80:245-6, 3672-5 Ja 5, Jl 20 '58

TROPONE. See Cycloheptatrienone**TROPSPHERE. See Atmosphere****TROPYLIUM ion. See Cycloheptatriene****TRUCKS**

Balanced handling trims costs; McCormick co.'s Schilling div. *il Food Eng* 30:87-8 My '58

Industrial know-how handbook; fork truck attachments; hand trucks. *diag Mill & Factory* 62:MH8-9 My '58

Mill cut can handling 35 per cent; Henderson cotton mills. *il Textile Ind* 122:132-3-4 Ap '58

1958 equipment buyer's guide; non-powered floor equipment *il Mod Materials Handling* 13:147-68 My '58

TRUCKS—Continued

Trucks speed coil drying. *Il Steel* 142:146 My 19 '58

See also

Electric trucks, Industrial

Motor trucks, Industrial

TRUSSES

- Analysis of multiple-span continuous trusses. B. C. F. Wei. *diags Am Soc C E Proc* 83 [ST 2 no 1187]:1-21 Mr '57; Discussion. 83 [ST 5 no 1382]:45-61 S '57; Reply. 84 [ST 2 no 1576]:3-7 Mr '58
- Deep space truss gives plant room for air equipment; Texas Instruments, inc. plant in Dallas. *Il Eng N* 160:46-8 My 8 '58
- Engineering problems of an all-welded two-way truss system; roof of Cadet dining hall at Air force academy. W. Teng and others. *Il diags Welding J* 37:565-9 Je '58
- Redundant trusses of elastic-strain-hardening material. H. Ziegler. *diags J Ap Mech* 25:233-8 Je '58
- Steel trusses cantilever 150 ft over hangar for biggest planes; Metropolitan Oakland International airport. *Il Eng N* 161:53 Ag 7 '58
- Truss roof will span elliptical coliseum in Los Angeles. *Il Eng N* 160:26 Ap 10 '58
- Welded cantilevered trusses frame elevated school. O. Blodgett. *Il diags Prog Arch* 39:138-41 Ag '58
- Welded steel trusses span three-use building housing two gyms and an auditorium. *Il Eng N* 160:57-8 Mr 6 '58
- Welded trusses rest on haunches. *Il Welding J* 37:37 Ja '58
- Wind forces on structures; plate girders and trusses. W. W. Pagon. *bibliog Il Am Soc C E Proc* 84 [ST 4 no 1711]:1-29 J1 '58
- Wood trusses, glass walls enclose Portland's new exposition-recreation center. *Il diag Arch Rec* 123:48-48^a Ja '58

Testing

Loading tests on house roof frames. *Il Engineering* 186:189 Ag 8 '58

TRUSTS, Industrial

- Antitrust suits beaten in U.S. court. Oil & Gas *J* 56:55 Mr 31 '58
- Co-ops explore anti-trust suit against private utility groups. *Elec World* 148:78 N 25 '57
- Patent pools. A. W. Gray. *bibliog Machine Design* 29:116-18 N 14 '57

See also

Petroleum industry and trade—California—Anti-trust suit

Law

- Antitrust enforcement blasted. *Chem & Eng N* 35:42+ N 4 '57
- Clorox: hearing on the Federal trade commission's complaint against Procter & Gamble co. *Soap & Chem Spec* 33:127+ D '57
- Trustbusters bomb CPI. *Chem & Eng N* 36:24 Je 16 '58

TRYPSIN

- Amino acid sequence in the region of diisopropyl phosphoryl binding in dip-trypsin. G. H. Dixon and others. *bibliog Am Chem Soc J* 80:1260-1 Mr 5 '58
- Enzymatically active components in trypsin autolysates. G. P. Hess and E. Wainfan. *bibliog Am Chem Soc J* 80:501 Ja 20 '58
- Separation and amino acid composition of a pure phosphopeptide prepared from β -casein by the action of trypsin. R. F. Peterson and others. *bibliog Am Chem Soc J* 80:95-9 Ja 5 '58

TRYPTOPHAN

- Enzymatic synthesis and reactions of tryptophan-adenylic acid anhydride. M. Karasek and others. *Am Chem Soc J* 80:2335-6 My 5 '58
- Fatty liver of portal type; cured by lysine plus tryptophan. G. P. Vennart and others. *J Nutrition* 64:835-8 Ap '58
- Niacin-tryptophan relationships in man and niacin requirement. G. A. Goldsmith. *Am J Clinical Nutrition* 6:479-86 *bibliog*(p485-6) S '58
- Oxindole analogs of (5-hydroxy)-tryptamine and -tryptophan, as inhibitors of the biosynthesis and breakdown of serotonin. K. Freter and others. *bibliog diag Am Chem Soc J* 80:983-7 F 20 '58
- Tryptophan-niacin relationships in pregnancy. A. W. Wertz and others. *J Nutrition* 64:339-53 *bibliog*(p352-3) Mr '58

TUBE bending

- Bending tools for rod and tubing; reference book sheet. A. Young. *Il diags Am Mach* 102:31+ My 19 '58
- Realizing the impossible in precision bending. F. J. Fuchs. *Il diags Mach* 64:159-72 F '58

TUBE bending machines

- Hydraulic bender forms eight-in.-OD ultra-thin stainless tubing. *Il Am Mach* 102:128 Je 16 '58
- Special machines solve a case of the bends. M. W. Maloney. *Il Am Mach* 102:114-15 J1 14 '58

TUBE cutting

- Chop off the pieces when you can. *Il Am Mach* 102:88 J1 28 '58

TUBE-in-strip. See Sheet metal**TUBE mills**

- Case history study of ten new cement plants; rod mill crushes limestone for wet process. *Il Rock Prod* 61:102-3 My '58
- Cement grinding mill of intermediate length. J. M. Wolfe and B. E. Kester. *Il diags Pit & Quarry* 61:120-3+ Ag '58
- Grinding magnetic taconite in rod mills; Reserve mining co.'s Babbitt plant. E. M. Furness and A. S. Henderson. *Min Eng* 9:Trans 1359-60 D '57

- Wet grinding; past, present, future. C. A. Rowland. *Il diags Rock Prod* 61:102+ Ag '58

See also

- Ball mills
Crushing machinery

TUBERCLE bacilli

- Disinfectant testing; adaptation of the phenol coefficient test method to mycobacterium tuberculosis. E. S. Wright and V. A. Shternov. *bibliog Soap & Chem Spec* 34:95+ S '58
- Experimental infective pneumoconiosis. E. J. King and others. *Il A M A Archives Ind Health* 16:380-92 *bibliog*(36 titles, p391-2) N '57

Culture and culture mediums

- Slide culture of tubercle bacilli. D. M. Simpson and R. W. Reed. *bibliog Il Am J Pub Health* 48:1153-61 S '58

TUBERCULOSIS

- Biological action of Degussa submicron amorphous silica dust (Dow Corning silica); studies on guinea pigs infected with tuberculosis. G. W. H. Schepers and others. *bibliog Il A M A Archives Ind Health* 16:363-79 N '57
- Increase of tuberculosis mortality in elderly men from 1940 to 1950. M. A. Monk and M. Terris. *bibliog Am J Pub Health* 48:1020-30 Ag '58
- New drug may replace PAS in tuberculosis treatment; Thioban; abstract. L. Doub. *Chem & Eng N* 36:52-3 Ap 28 '58
- Practical significance to industry of recent developments in tuberculosis management. E. T. Blomquist. *A M A Archives Ind Health* 17:597-601 Je '58
- Some phenylthiourea derivatives and their antituberculous activity. L. Doub and others. *bibliog Am Chem Soc J* 80:2205-17 My 5 '58

Diagnosis

- Bacteriology of tuberculosis; laboratory methods. G. Middlebrook and M. L. Cohn. *bibliog Am J Pub Health* 48:844-53 J1 '58
- Follow-up in community chest film surveys. H. Bauer. *Am J Pub Health* 48:344-7 Mr '58
- X-ray case-finding programs in tuberculosis control. *Ind Med* 27:298-9 Je '58

TUBES

- Armortube reduces the cost of installing instrumentation. *Il Power Eng* 62:94-5 Je '58
- Axial-temperature-gradient bending stresses in tubes. F. G. Hammitt. *diags J Ap Mech* 25:109-14 Mr '58
- Cast-in tubing. H. L. Kee. *Il Product Eng* 29:76-9 My 12 '58
- Combined free and forced convection in a constant-temperature vertical tube. T. W. Jackson and others. *bibliog diags A S M E Trans* 80:739-45 Ap '58
- Creep buckling of tubes in torsion. I. Finnie. *bibliog J Aeronautical Sci* 25:66-7 Ja '58
- Effect of heat transfer on flow field at low Reynolds numbers in vertical tubes. T. J. Hanratty and others. *bibliog Il diag Ind & Eng Chem* 50:835-20 My '58
- Forms and shapes of materials; mechanical tubing. *Materials in Design Eng* 48:320-3 Mid-O '58

TUBES—Continued

- Heat-transfer rates to cross-flowing mercury in a staggered tube bank. C. L. Rickard and others. *bibliog* diags A S M E Trans 80:646-52 Ap '58
- Heat transfer to flow in a round tube with arbitrary velocity distribution. I. R. White-man and W. B. Drake. A S M E Trans 80:728-32 Ap '58
- Heat transmission to fluids with low Prandtl numbers for flow through tube banks. R. D. Cess and R. J. Grosh. *bibliog* diags A S M E Trans 80:67-82 Ap '58
- How to make hydraulic tubing last longer. C. S. Yen and J. L. Walsman. *il* diags Metal Prog 74:88-92 J '58; Discussion. J. O. Almen. 74:118-1 N '58
- Influence of prolonged service at elevated temperatures and pressures on the high-temperature strength of chromium-molybdenum alloy tubing; abstract. J. F. Ewing. *Pet Refiner* 37:190. My '58
- Mechanical tubing. J. C. Merriam. *il* Materials in Design Eng 46:127-46 D '57 (reprints 35c)
- Method of measuring sound velocity amplitude in tubes over the audio and near ultrasonic range. K. Landecker and K. S. Imrie. *diags R Sci Instr* 29:396-8 My '58
- Pressure vessels, let the tubes support the tube sheet. G. D. Galletly and C. R. Gar-brett. *bibliog* diags Ind & Eng Chem 50:1227-30 S '58
- Rate of exhaust through a tube or orifice. J. Rothstein. *R Sci Instr* 29:243-4 Mr '58
- Sonic sudden enlargements. R. H. Page. *bibliog* diags Jet Propulsion 28:256-7 Ap '58
- Stagnation of natural-convection flows in closed-end tubes. S. Ostrach and F. R. Thornorton. *bibliog* diags A S M E Trans 80:363-6 F '58
- Tube cleaning equipment; Vacu-Blast machine. *Engineer* 206:187 Ag 1 '58
- Tube selection. *Product Eng* 28:J27-9 Mid-O '57
- Two-phase flow in rough tubes. D. Chisholm and A. D. K. Indira. *bibliog* diags A S M E Trans 80:276-84; Discussion. 284-6 F '58
- Upward vertical flow of air-water mixtures. G. W. Govier and W. L. Short. *flow diags Can J Chem Eng* 36:195-202 O '58

See also

Pipes**Manufacture**

- Application of weldamination techniques to welding processes. J. H. Brems. *il* plan Tool Eng 41:75-9 Ag '58
- Canadian picture on pipe, tubing, and casing. D. A. Adamson. *il* diags Can Min & Met Bul 51:102-7 F '58
- Inert-gas tungsten-arc butt welding of Zircaloy-2 tubes. J. W. Lingafelter. *il* diags Welding J 36:230-5 Mr '57; Discussion. 37:34-5 Ja '58
- New tube-drawing ideas boost mill capacity; Wolverine tube div., Calumet & Hecla, inc. R. H. Esheleman. *il* plan Iron Age 181:75-7 My '58
- Press-forming metal tubing with simple dies. E. Strasser. *diags Iron Age* 180:127-9 D 12 '57
- Thick-wall precision tube plant; Desford factory of Tubes, ltd. *il* plan Engineer 205:787-9 My 23 '58

Testing

- Measuring scratches accurately, reduces rejects on aircraft tubing. E. Siebel and F. R. Miller. *il* diags Tool Eng 41:55-7 Ag '58
- Quality control of tube products reduces waste; Venesta Ltd. *il* Engineering 186:414 S 26 '58

TUBES (containers)

- Taps away from home sales with squeeze-tube product; Kitchen King peanut butter. *il* Food Eng 30:76-7 My '58

TUBES, Aluminum

- Aluminum tubes, sheets cut cost by one-third. T. E. Byerley. *Elec World* 149:65 Ja 6 '58
- Contoured aluminum tube. K. V. Anttila. *il* diags Mod Metals 14:54 J '58
- From venetian blinds to rocket tubes; Hunter Douglas aluminum div., R. A. Quadt. *il* Mod Metals 14:26-4 Ap '58
- How Island Creek uses thin aluminum tubing for air and water; centralized air systems for roof-bolting. *il* diags Coal Age 63:110-12 Ap '58

Manufacture

- One-piece rocket tubes as impact extrusion depth-to-diameter ratio is 32:1; Hunter Douglas aluminum corp. J. R. Saul. *il* Am Mach 101:69-71 D 30 '57

Testing

- Experimental study of initial and subsequent yield surfaces in plasticity. P. M. Naghdí and others. *bibliog* *il* J Ap Mech 25:201-9 Je '58

TUBES, Copper

- Fire alarm tubing stands test of time. *il* diags Safety Maint 116:51-2 N '58
- How to braze copper tube. A. I. Helm. *il* Air Cond Heat & Ven 54:72-4 N '57
- Mechanical tubing. J. C. Merriam. *il* Materials in Design Eng 46:138-41 D '57
- Welding copper-base alloy tubes. J. F. Sebald and L. H. Hawthorne. *il* diags Power 102:94-7+ Mr; 92-5+ Ap; 108-11+ Je '58

Manufacture

- New mill ups tube production; Chase brass & copper co. *il* diags Steel 141:214-15 N 18 '57

TUBES, Fiber

- Fiber tubes provide low cost fabric storage. G. J. Bevans. *il* diags Mod Textiles Mag 39:39-40 J '58; Abstract. *Plant Eng* 12:103 J '58

TUBES, Flexible

- Brazing flexible metal hose of coiled wire. F. C. Schaefer and T. Admerand. *il* Am Mach 101:109 D 2 '57
- Nonlinearities of fluid flow in nonrigid tubes. J. W. Lambert. *bibliog* Franklin Inst 266:83-102 Ag '58
- Pressure losses in flexible metal tubing. C. M. Daniels. *il* diags Product Eng 28:J 13-15 Mid-O '57

TUBES, Glass. See Glass tubing**TUBES, Gold****Manufacture**

- Making seamless tubing at minimum cost; manufacture of wedding bands. V. Roth. *il* diags Tool Eng 40:107-9 Ja '58

TUBES, Molybdenum

- Forming molybdenum tubing; grain size is key. *il* Steel 143:82-3 Ag 11 '58

TUBES, Nickel

- Mechanical tubing. J. C. Merriam. *il* Materials in Design Eng 46:140-2 D '57

TUBES, Nylon

- Essential properties of nylon tubing for pressure applications. R. B. Koch. *il* Machine Design 30:123-6 My '58
- New jobs for nylon tubing in many pneumatic, hydraulic and lubrication systems. *il* Mod Plastics 36:102-4 S '58

TUBES, Plastic

- Clear vinyl tubing. *il* Mod Plastics 35:220 My '58
- Extruded acetate tubes convey metal parts. *il* Materials in Design Eng 47:198-+ F '58
- Extrusion and forming of high-density polyethylene blown tubing. R. Doyle. *il* Mod Plastics 35:137-4 My '58
- Extrusion of acrylic section. *il* Brit Plastics 31:396-7 S '58
- Method of preparing and filling plastic tubes for specimens for X-ray powder photographs. W. E. Armstrong and R. J. Davis. *bibliog* J Sci Instr 35:36-7 Ja '58
- Plastic tube extends control parts shafts. *Electronics* 31:94-5 J1 4 '58
- Polyurethane tubing; Yorkshire Imperial metals ltd. *il* Automobile Eng 48:364 S '58

TUBES, Steel

- Anal. seamless tubing for corrosive use. J. S. Adelson. *il* Iron Age 182:83-5 Ag 7 '58
- Basis for the design and retirement of petroleum heater tubes. J. J. Heller. *bibliog* diags A S M E Trans 80:511-16 Ap '58
- Bishop broadens range of 17-7 PH; drawing seamless tubing. *il* diags Steel 143:94-+ Ag 25 '58
- Cored 90-mm gun tubes extruded in five minutes. H. J. Decelle and others. *il* diags Am Mach 101:158-61 N 18 '57
- Four ideas for using welded tubing. *il* Steel 142:100-1 Ap 28 '58
- Machine for painting scaffolding tubes. *il* Engineer 205:73-4 My 23 '58
- Mechanical tubing. J. C. Merriam. *Materials in Design Eng* 46:132-8 D '57
- Production man's guide to joining welded steel tubing; illustrated instructions. Am Mach 101:149-54 S 9 '57; Excerpts. *Product Eng* 29:G 12-15 Mid-S '58
- Selection of furnace tubes for refinery and petrochemical service. T. M. Krebs. *bibliog* *il* Pet Eng 30:C54-5+ F; C36-7+ Mr '58
- Steel-tube stamping; short cut to complex shapes. J. F. Hullman. *il* diags Iron Age 181:122-5 Mr 6 '58

TUBES, Steel—Continued

- Tubing solves heat problems. *il* Iron Age 182: 104 Ag 14 '58
 Tubular construction system. *il* Engineer 204: 947 D 27 '58
 Welded-steel tubing; curtain-wall application. *il* diags Prog Arch 39:140-5 F '58
 Welded tubes gain. *diag* Steel 141:76 D 23 '57
See also
 Pipes, Steel

Manufacture

- Accurate tubes; Talbot Stead tube co. *il* Engineering 185:668-9 My 23 '58
 Automated tube mill uses standard drives. *il* Iron Age 180:153-5 N 7 '57
 How to get more from a spheroidizing furnace; Ohio seamless tube div. Copperweld steel co. W. B. Leyda and W. J. Assel. *il* *diag* Steel 141:208-10 D 9 '57
 Manufacture of tube from strip metal stock; patent. *diag* Iron & Steel Eng 35:22 My '58
 New seamless tube mill uses almost 600 double-enveloping gear reducers. *il* *diag* Iron & Steel Eng 35:186+ N '57
 Pueblo plant of the Colorado fuel and iron corp.; symposium. *flow* *diag* Iron & Steel Eng 35:138-43 Mr '58
 Seamless tube making by the Calmes process. A. Calmes and C. A. Roberts. *il* *diags* Iron & Steel Eng 35:124-31; Discussion. 131-2 F '58
 Tubing has mirror interior. *il* Steel 141:114 D 16 '57
 UHF resistance welds join steel tubing. Iron Age 180:150+ N 7 '57

Testing

- Creep characteristics of type 347 stainless steel at 1050 and 1100 F in tension and compression. M. J. Manjoine. *bibliog* *il* A S M E Trans 79:1921-3 N '57
 Lab organization for complex specs; Superior tube co. J. W. Wambold. *il* Steel 141:208+ N 18 '57
 Oscilloscope is a key unit in immersed ultrasonic testing of welded carbon-steel tubing. *il* Oil & Gas J 56:105 F 3 '58
 Tests aid tube sales; resistance welds checked continuously by ultrasonic immersion unit. *il* *diags* Steel 142:72 Ja 20 '58

TUBES, Titanium

- Now they're using titanium tubing in chlorinators. *il* Light Metal Age 15:33 D '57

TUBES, Vacuum. See Vacuum tubes**TUBING. See Tubes****TUFA**

- Hypothesis regarding the origin of tholinlike tufts at Pyramid lake, Nev. D. H. Radbruch. *bibliog* map *diags* Geol Soc Bul 68:1683-7, pl 1 D '57

TUFTED fabrics. See Pile fabrics**TUG boats. See Towboats****TUKHMALANGA. See Salvia aegyptiaca****TUMBLING barrels**

- Abbey automatic barrel processing machine. *il* Metal Finishing 56:82 Ap '58
 Barrel finish unit holds tolerances. *il* Iron Age 181:122-3 Mr 20 '58
 Barrel finishing boosts output; Continental motors corp. gasoline engine parts. *il* Steel 142:99 My 12 '58
 Barrel finishing operation improves fatigue strength of jet engine parts. J. D. Marble and C. V. Ruehrwein. *il* Tool Eng 39:99-101 N '57
 Barrel finishing system has six stations. *il* Steel 142:85 Ja '58
 Barrel finishing system saves space. *il* Tool Eng 40:109 Ap '58
 Cogged V-belt drive plating barrel. *il* Metal Finishing 56:112 My '58
 High-frequency vibrations slash barrel finishing time; Vibraslab machine. *il* Iron Age 181:86-7 F 20 '58
 How to barrel finish eggs. W. Biebel. *il* Plating 45:31-4 Ja '58
 Planning barrel finishing operations. R. F. Enyedy. *il* *diags* Tool Eng 39:105-7 D '57
 Selection of barrel finishing compounds. *Tool Eng* 40:124 My '58
 Significance of barrel polishing in the surface treatment of metals; abstract. M. Dreher. *Metal Finishing* 56:80 Ap '58
 Slide takes the curse out of tumbling. C. Emerson. *il* *diag* Am Mach 102:97-9 F 24 '58
 Vibration aids tumbling. *il* Steel 142:109 Mr 24 '58

- Which abrasives for barrel tumbling? Minneapolis-Honeywell regulator co. C. Mathewson. *il* Am Mach 102:101 Ja 13 '58
See also

Plating barrels**TUMORS**

- Anti-tumor activities *in vitro* of 5-imino-1,2,4-dithiazolidin-3-thione and bis(diethylthiocarbamoyl)disulfide toward the Krebs-2 ascites carcinoma. F. E. Reinhart and others. *bibliog* Franklin Inst J 265:58-62 Ja '58
 Hexose transport in ascites tumor cells. M. W. Nirenberg and J. F. Hoge. *bibliog* Am Chem Soc J 80:4407-12 Ag 20 '58
 Inhibition and stimulation of anaerobic glycolysis of ascites tumor cells; seminar. *bibliog* *diag* Franklin Inst J 264:509-16 D '57
 Strain selection of a heterologous yolk sac tumor in serial transplantation to prevent increased chick embryo mortality. I. Galinsky and W. G. Batt. *bibliog* Franklin Inst J 264:417-20 N '57

TUNG oil

- Tung in coatings. *il* Ind & Eng Chem 50:sup 38A+ S '58

TUNGSTEN

- Adsorption of oxygen and carbon monoxide on tungsten. R. E. Schlier. *diag* J Ap Phys 29:1162-7 Ag '58
 Blunting of tungsten needles by surface diffusion. J. L. Boling and J. C. Dolan. *bibliog* *il* J Ap Phys 29:556-9 Mr '58
 Colorimetric determination of molybdenum in the presence of tungsten; modified mercaptoacetate method. D. A. Otterson and J. W. Graab. *Anal Chem* 30:1282-4 Jl '58
 Diffusion of tungsten in nickel and reaction at interface with SrO. R. W. Allison and G. E. Moore. *bibliog* *il* *diags* J Ap Phys 29:842-8 My '58
 Liberation of electrons by fast neutral helium atoms from a tungsten target. H. W. Berry. *bibliog* J Ap Phys 29:1219-25 Ag '58
 Metallic tungsten element materials for high temperature furnaces. R. Kieffer and F. Benesovsky. *bibliog* *il* *diags* Metallurgia 58:119-24 S '58
 Properties of materials; columbium, tantalum, tungsten and molybdenum. Materials in Design Eng 48:93 Mid-O '58
 Refractory metals; tungsten, tantalum, columbium, and rhenium. W. Pugh. *bibliog* J Metals 10:335-9 My '58
 Thermal properties of tungsten vs copper for electron tube delay lines. R. A. Paananen. *Inst Radio Eng Proc* 46:500 F '58
 Tungsten, 1957. R. W. Holliday. *Eng & Min J* 159:151-2 F '58

Analysis

- Determination of tungsten in steel not containing niobium and tantalum. Iron & Steel Inst J 190:51-5 S '58
 Metallurgy; analyzers determine minute tungsten parts in steel. *il* Iron Age 181:124-5 My 8 '58
 Photometric determination of tungsten in steel and titanium alloys with dithiol. L. A. Machian and J. L. Hague. *bibliog* *il* J Res Nat Bur Stand 59:415-20 D '57

TUNGSTEN alloys

- Heavy metal solves weighty problems. A. R. Gardner. *il* Product Eng 29:62-4 Jl 21 '58

TUNGSTEN carbide

- Carbide provides rough surface. *il* Materials in Design Eng 47:188 Je '58
 Evaluation of carbide insert bits. J. W. Clemens. *il* Min Cong J 44:79-81; Discussion. 82-3 Je '58
 Flexible carbide resists wear. *il* Materials in Design Eng 47:196+ F '58
 Hexagonal plates of tungsten carbide for hard-facing. *il* Mach 64:144 Mr '58
See also

Cutting tools, Carbide**TUNGSTEN carbide coating**

- Coating upgrades low cost tools. *il* Steel 143: 118 Jl 21 '58
 Hard-facing of cutting tools. *il* Engineer 205: 513 Ap 4 '58
 Spark machines become puttin'-on tools; depositing tungsten carbide onto high-speed steel. *il* Am Mach 102:110-11 My 5 '58
 Tungsten carbide rollers are tough. *il* Steel 143:86 S 22 '58

TUNGSTEN chlorides

- Decomposition of hexachloro-u-trichloroditungstate(III) ion and exchange of radio-chlorine between this ion and chloride ion in aqueous solution. G. L. Hawkins and C. S. Garner. *bibliog* Am Chem Soc J 80: 2946-50 Je 20 '58

TUNGSTEN lamps. See Electric lamps, Tungsten

TUNGSTEN ores

Tungsten mineralization in Hong Kong and the New Territories. S. G. Davis. bibliog il diags Econ Geol 53:481-8 Je '58

See also

Scheelite

Wolframite

TUNGSTEN oxides

Equilibrium reduction of tungsten dioxide by hydrogen. R. C. Griffs. bibliog diag Electrochim Soc J 105:398-402 JI '58

Structure of tungstic oxide in the colloidal state. S. N. Chatterjee. bibliog il J Colloid Sci 13:61-6 F '58

Study of phase transitions in WO_3 with a high-temperature X-ray diffractometer. J. A. Perri and others. bibliog diags J Appl Phys 28:1272-5 N '57

TUNGSTEN wire. See Wire, Tungsten**TUNGSTIC acids**

Thermochemistry of sodium tungstate, silver tungstate and tungstic acid. R. L. Graham and L. G. Hepler. bibliog Am Chem Soc J 80:3538-40 JI 20 '58

TUNISIA

See also

Petroleum industry and trade—Tunisia

Petroleum pipe lines—Tunisia

TUNNEL approaches

Approach excavations protected by wellpoints and deepwells. Eng N 160:40 My 22 '58

Engineering variety in Baltimore tunnel approach. W. F. Neale and W. F. Hallstead. il plan diags Civil Eng 27:777-80 N '57

Offsite prestressing solves tunnel approach problems; Manhattan approach to Lincoln tunnel. F. C. Lowry. il diags Civil Eng 28:242-5 Ap '58

Lighting

Baltimore harbor tunnel and its approaches. E. F. Siegel. il Illum Eng 53:319 Je '58

TUNNEL cleaning

Unique washer cuts tunnel maintenance costs; Mobile, Ala. Bankhead tunnel. P. Hirsch. il Pub Works 89:104-5 Je '58

TUNNEL lighting

Baltimore harbor tunnel and its approaches. G. M. Simes. il Illum Eng 53:318 Je '58

Fluorescent strip lighting for tunnels at Long Beach airports. il Pub Works 89:120 Ag '58

TUNNEL lining

Air-placed concrete for miniature railroad tunnel. il Pub Works 88:144 N '57

Faster work with concrete tunnel linings. il Engineering 185:248-9 F 21 '58

Forms score concrete to hold tiles better; Pittsburgh's Fort Pitt tunnel. Eng N 161:102 S 11 '58

Garrison Dam-tunnel test section investigation; symposium. il plans diags Am Soc C E Proc 83 [SM 4 no 1438]:1-50; 1439:1-49 N '57; Discussion. A. A. Eremiin. 84 [SM 2 no 1657]:43-4 My '58

Liner rings of concrete wedges; London's water tunnel. il diag Eng N 160:62-4 My 8 '58; Discussion. 161:8-4 Ag 28 '58

Mechanization speeds tunnel lining; Los Angeles' north central outfall sewer. il Eng N 160:43-4 Ap 3 '58

New lining reduces tunneling costs; British railways tunnel at Potter's Bar near London. il Eng N 160:59 Je 5 '58

River gravel solidified for British tunnel; Dartford tunnel under the Thames river. il map diags Eng N 159:58-60 N 14 '57

Rotating shield method of tunnelling. R. Hammond. il diags Engineer 205:492-5 Ap 4 '58

TUNNEL shields

Rotating shield method of tunnelling. R. Hammond. il diags Engineer 205:492-5 Ap 4 '58

TUNNEL ventilation

Control of subway ventilation; vehicular subway in Seattle. H. W. Tyler. il Instruments & Automation 31:1200 JI '58

Transverse tunnel ventilation assures uniform air distribution; Baltimore Harbor tunnel. H. G. Cruthers. il diag Heating-Piping 30:79-82 JI '58

TUNNELING machines

Tunneling machine tackles hard rock. il Eng N 161:39 S 4 '58

TUNNELS and tunneling

Battery-powered locomotives; sewer tunneling operations speeded on Pittsburgh projects. R. W. Hopewell. il Water & Sewage Works 105:216 My '58

Chute-des-Passes; construction drama; putting hydro-power underground. A. J. Fox, jr. il maps Eng N 159:52-5 N 14 '57

Compressed air has role in mucking innovations. il Comp Air Mag 63:19-20 Mr '58

Daylight through the mountain, letters and labours of civil engineers Walter and Francis Shanly. F. N. Walker, ed. Review, by S. M. Parkhill. il Comp Air Mag 63:30-1 Ja '58

Design of large pressure conduits in rock. F. W. Patterson and others. il map plans diags Am Soc C E Proc 83 [PO 6 no 1457]:1-30 D '57; Discussion. 84 [PO 3 no 1689]:3-7 Je '58

Garrison Dam-tunnel test section investigation; symposium. il plans diags Am Soc C E Proc 83 [SM 4 no 1438]:1-50; 1439:1-49 N '57; Discussion. A. A. Eremiin. 84 [SM 2 no 1657]:43-4 My; [SM 5 no 1881]:9-12 D '58

Geological factors in tunnel construction; symposium. bibliog Am Soc C E Proc 84 [SM 2 nos 1648-50] My '58

In planning for tunnels, use soils studies. O. Singstad. il Pub Works 89:118 My '58

New dam and tunnel project completes nine-phase system; New Haven water co. J. A. Novaro. il map. Water Works Eng 111:84-1-1, cover S '58

New tunnels at Hadley Wood and Potters Bar. il diag Engineer 205:254-5 F 14 '58

Organized speed, key to successful tunnel results. T. F. Adams and D. P. Morse. il map Min Eng 10:473-5 Ap '58

Small men and machines drive 42 in. tunnel, Oahe reservoir site. il Eng N 160:63 F 27 '58

Stornorrffors; milestone in rock excavation history. T. Goransson. il map diags Eng N 160:38-40-1, cover Ja 30 '58

Sweden excavates 2,100,000 cu yd for tailrace tunnel of underground power plant. T. Nilsson. il diag Civil Eng 28:19-21 Ja '58

Taming the Molly Ann; 1900-foot-long tunnel will drain overflow waters from Molly Ann brook. R. J. Semmers. il map, Comp Air Mag 62:360-3 D '57

Tunnel grief; two years in the making, a year to go; Salem, Mass. to eliminate two railroad grade crossings. il plan Eng N 160:38-40 + F 20 '58

Tunnelers put outfall under Canadian four-lane highway. il Roads & Sts 100:162-3 N '57

Tunnelling Saskatoon's 14th street storm sewer. D. R. Graham and N. L. Iverson. il diags Eng J 41:71-7-4 Ag '58

Tunneling with rotary drills and millisecond delay blasting; Chicago Central district filtration plant. R. Blasonframe and W. R. Law. il diags Civil Eng 28:184-7 Mr '58

Two contractors prove out new hard rock tunneling method; West Delaware tunnel. il diags Eng N 160:28-30-4 Je 26 '58

Utility tunnels beneath St Paul, Minn. L. N. Thompson. il Am Water Works Assn J 50:714-16 Je '58

See also

Intakes

New York (city)—Tunnels

Pittsburgh—Tunnels

Subways—Construction

Tunnel lining

Tunnel shields

Approaches

See Tunnel approaches

Costs

Power tunnel bid four ways; unit prices. Eng N 159:101 D 12 '57

Tunnel under Illinois expressway; unit prices. Eng N 161:141 S 11 '58

Vehicular trench tunnel, Louisiana; unit prices. Eng N 161:89 JI 10 '58

Safety measures

Acute decompression illness. S. I. Kooperstein and E. J. Schuman. bibliog Ind Med 26:492-6 N '57

Vehicular tunnels

Automatic tunnel unlocks New Orleans' traffic maze; Harvey tunnel. S. T. Li. il map plan Eng N 159:60-2 + D 12 '57

Baltimore Harbor tunnel abolishes traffic bottleneck; illustrations with text. Civil Eng 28:59 Ja '58

Baltimore harbor tunnel and its approaches. G. M. Simes. il Illum Eng 53:318 Je '58

Blackwell tunnel improvement. Engineer 205:670 My 2 '58

TUNNELS and tunneling—Vehicular tunnels—*Continued*

- Cofferdam problems plague Harvey tunnel constructors. C. L. Sloan. *II* *diags Civil Eng* 27:870-3 D '57
- Completion of the Velsen tunnel. *II* *Engineer* 204:576-7 O 18 '57
- Control of subway ventilation; vehicular subway in Seattle. H. W. Tyler. *II* *Instruments & Automation* 31:1200 JI '58
- Deas Island tunnel. P. Hall and others. *II* *maps plans diags Am Soc C E Proc* 83 (ST 6 no 14361):1-44 N '57; Discussion. 84 (ST 3 no 1556):73-4 My '58; Reply. 84 (ST 6 no 18271):3-6 O '58
- Deas Island tunnel; illustrations with text. Eng J 41:95 Mr '58
- Floated sections joined as river tube; Deas Island tunnel. *II* *map diag Eng N* 160:34-6+ My 22 '58
- Four-lane rectangular tunnel placed by trench method; Deas Island tunnel. Vancover. P. Hall and D. A. Young. *II* *map plan diags Civil Eng* 28:492-5 JI '58
- Geological factors in tunnel construction; geophysical investigations for the Lehigh tunnel. H. L. Schorner and A. E. Gieskes. *plan diags Am Soc C E Proc* 84 (ISM 2 no 15501):1-11 My '58
- Japan's island-connecting tunnel opens; Kannon tunnel. *II* *Eng N* 160:45 Je 26 '58
- River gravel solidified for British tunnel; Dartford tunnel under the Thames river. *II* *map diags Eng N* 159:58-60 N 14 '57
- Transverse tunnel ventilation assures uniform air distribution; Baltimore Harbor tunnel. H. G. Cruthers. *II* *diag Heating-Piping* 30:79-82 JI '58
- Twin highway tunnels are driven from one end only; Pittsburgh's Fort Pitt tunnel. *II* *Eng N* 160:34-6+ Ja 16 '58
- Underpass for London? *Engineering* 184:601 N 8 '57
- Unique washer cuts tunnel maintenance costs; Mobile, Ala. Bankhead tunnel. P. Hirsch. *II* *Pub Works* 89:104-5 Je '58
- Vehicular tunnel links key Japanese islands. *Civil Eng* 28:306 Ap '58
- TUNNELS and tunneling. Subaqueous**
- Automatic tunnel unlocks New Orleans' traffic maze; Harvey tunnel. S. T. Li. *II* *map plan Eng N* 159:60-2+ D 12 '57
- Baltimore Harbor tunnel abolishes traffic bottleneck; illustrations with text. *Civil Eng* 28:59 Ja '58
- Cable tunnel crossings. E. J. Dawson and others. *II* *diags Power Apparatus & Systems* p 1420-7; Discussion. 1427-8 F '58
- CO₂ gas welding pioneers in construction of Havana tunnel. I. D. Holster and H. D. Mann. *II* *Welding J* 37:35-7 Ja '58
- Cofferdam problems plague Harvey tunnel constructors. C. L. Sloan. *II* *diags Civil Eng* 27:870-3 D '57
- Completion of the Velsen tunnel. *II* *Engineer* 204:576-7 O 18 '57
- Deas Island tunnel. P. Hall and others. *II* *maps plans diags Am Soc C E Proc* 83 (ST 6 no 14361):1-44 N '57; Discussion. 84 (ST 3 no 1556):73-4 My '58; Reply. 84 (ST 6 no 18271):3-6 O '58
- Deas Island tunnel; illustrations with text. Eng J 41:95 Mr '58
- Floated sections joined as river tube; Deas Island tunnel. *II* *map diag Eng N* 160:34-6+ My 22 '58
- Four-lane rectangular tunnel placed by trench method; Deas Island tunnel. Vancover. P. Hall and D. A. Young. *II* *map plan diags Civil Eng* 28:492-5 JI '58
- Japan's island-connecting tunnel opens; Kannon tunnel. *II* *Eng N* 160:45 Je 26 '58
- Load transfer is key to subway job; BMT subway division tunnel at the DeKalb ave. station in Brooklyn. *II* *map diags Eng N* 159:38+ D 19 '57
- Low cost is promised with Dutch "linked tunnel" sections of reinforced concrete tubing. *diags Eng N* 160:56-8 Ja 23 '58; Discussion. H. A. Foster. 160:8+ F 20 '58
- River gravel solidified for British tunnel; Dartford tunnel under the Thames river. *II* *map diags Eng N* 159:58-60 N 14 '57
- Transverse tunnel ventilation assures uniform air distribution; Baltimore Harbor tunnel. H. G. Cruthers. *II* *diag Heating-Piping* 30:79-82 JI '58
- Unique washer cuts tunnel maintenance costs; Mobile, Ala. Bankhead tunnel. P. Hirsch. *II* *Pub Works* 89:104-5 Je '58
- U.S. bridges and tunnels; illustrations with text. *Engineer* 205:16 Ja 3 '58
- Vehicular tunnel links key Japanese islands. *Civil Eng* 28:306 Ap '58

TUPPER, Kenneth Franklin

President, Engineering Institute of Canada, 1958-1959. *por Eng J* 41:106 My '58**TURBIDIMETERS**

Continuous turbidity monitoring controls chemical coagulation; Dalecarlia filter plant. N. E. Jackson and others. *II* *plan diag Water Works Eng* 111:744-7 Ag '58

TURBINE pumps. See Pumps, Turbine

TURBINES

- California's mammoth pool gets 1,100 ft head turbine. *Eng N* 161:46 JI 24 '58
- Giant turbines for Swedish power plant. *Elec Eng* 77:474 My '58
- New synthetic replaces rubber in bearings of water turbines. L. McWilliams. *II* *Elec World* 150:74 S 3 '58
- Pump-turbine story. F. E. Jaski. *II* *Elec Eng* 77:58-60 JI '58
- Reversible pump-turbine; illustrations with text. *Engineer* 205:106 Ja 17 '58
- Runners of experimental turbomachines. L. Young. *bibliog diags Engineering* 185:376-8 Mr 21 '58
- W-54's, a better turbine disk alloy. J. T. Brown. *II* *diag Metal Prog* 74:87-90 Ag '58
- See also
- Air turbines
- Gas turbines
- Steam turbines
- Water wheels

Control

Governors regulate turbine and engine speed and load. A. W. Carey, Jr. and D. G. Mark. *diags Power Eng* 62:50-3 My '58

Design

Welded spiral cases from the consulting engineers' and users' viewpoint; symposium. *II* *diags A S M E Trans* 80:1143-56; Discussion. 1156-9 JI '58

Installation

Installation and operating experiences with Kemano 2500 foot head impulse turbines. J. J. Madill and F. P. Gordon. *II* *Eng J* 41:50-6 F '58

Maintenance and repair

- Fractured runner blades welded at site. L. McWilliams. *II* *diag Power Eng* 62:104-5 Ap '58
- Turn that runner this way; photographic sequence illustrates method of slinging. L. McWilliams. *Power Eng* 62:79 Ag '58
- Welding and stainless maintain water turbines. L. McWilliams. *II* *diag Welding Eng* 43:38-40 JI '58

Manufacture

- Facilities for building large water turbines. *II* *Engineering* 185:670 My 23 '58
- Inserts simplify rotor casting; hydraulic turbine runners. *II* *Iron Age* 181:120 Je 5 '58
- Welded spiral case construction procedures. G. R. Latham. *II* *A S M E Trans* 80:1145-7 JI '58

Testing

- Computer clips balancing time; locates turbine-wheel unbalance. W. E. Boggs. *II* *diag Control Eng* 5:119+ Je '58
- Pressure-embedment of spiral cases. B. G. Seitz. *II* *diags A S M E Trans* 80:1153-6 JI '58

TURBOCHARGERS. See Superchargers

TURBODRILL. See Drills, Oil Well

TURBO-TRANSMITTER. See Torque converters

TURBO-TUG. See Airplanes—Towing

TURBULENCE

- Application of Van Driest's method to a highly cooled partially dissociated turbulent boundary layer. H. Hidaigo. *Jet Propulsion* 28:487-8 JI '58
- Boundary layer along annular walls in a swirling flow. H. Yeh. *bibliog diags A S M E Trans* 80:767-74; Discussion. 774-6 My '58
- Boundary layer development in open channels. J. W. Delleur. *bibliog diags Am Soc C E Proc* 83 (EM 1 no 11381):1-24 Ja '57; Discussion. 83 (EM 3 no 1311):7-8 JI '57; 84 (EM 1 no 1520):3-16; Reply. 16-21 Ja '58
- Clear-air turbulence over the United States. L. H. Clem. *maps Aeronautical Eng R* 16:63-8 N '57
- Drag unit for the artificial generation of turbulent shear flow. H. G. Elrod. *bibliog diag R Sci Instr* 29:762-4 S '58
- Estimation of turbulent heat transfer at the sonic point of a blunt-nosed body. M. Sibulkin. *bibliog diag Jet Propulsion* 28:548-54 Ag '58

TURBULENCE—Continued

- Evidence for the wrinkled continuous laminar wave concept of turbulent burning. J. K. Richmond and others. *bibliog* *il* *Jet Propulsion* 28:393-9 Je '58
- Experiment on flat plate turbulent boundary layer flow; effect of local fluid addition on friction and velocity distribution. H. Barrow. *bibliog* *il* *Roy Aeronautical Soc J* 62:135-3 F '58
- Experimental data on turbulent wall jets. A. Sigal. *bibliog* *il* *diag Aircraft Eng* 30:131-4 My '58
- Experimental study of the turbulent boundary layer behind the initial shock wave in a shock tube. W. A. Martin. *bibliog* *il* *diags J Aero/Space Sci* 25:644-52 O '58
- Experimental velocity and temperature profiles for air in turbulent pipe flow. C. A. Sleicher, Jr. *bibliog* (52 titles) *flow diag* *il* *diags A S M E Trans* 80:693-702; Discussion. 702-4 Ap '58
- Experiments on interaction between a traveling shock wave and a turbulent jet. D. S. Dosanjh. *bibliog* *il* *diags J Aeronautical Sci* 24:838-44 N '57
- Heat transfer in turbulent pipe flow. R. R. Hunziker. *bibliog* (41 ref) *Franklin Inst J* 265:205-25 Mr '58
- Incompressible mixing of a shear flow with fluid at rest. L. G. Napolitano. *bibliog* *diags J Aero/Space Sci* 25:444-50 JI '58
- Interaction of shock waves and turbulent boundary layers. A. G. Hammit. *bibliog* *il* *diags J Aeronautical Sci* 25:345-56 Je '58
- Measurement and analysis of gust structure. F. H. Hooke. *Roy Aeronautical Soc J* 62:304-5 Ap '58
- Mechanism of reacceleration in natural streams. D. J. O'Connor and W. E. Dobbins. *Am Soc C E Proc* 82 [SA 6 no 115]:1-30 *bibliog* (3 ref, 224-2 D '58) Discussion. 83 [SA 2 no 122]:19-14 Ap; [SA 3 no 128]:3-13 Je '57; Reply. 84 [SA 1 no 155]:3-7 F '58
- Power-spectrum equation for stationary random gusts, including a sample problem. K. D. Saunders. *bibliog* *diags J Aeronautical Sci* 25:295-300 My '58
- Resistance coefficients for laminar and turbulent flow through one-half-inch valves and fittings. C. P. Kittredge and D. S. Rowley. *bibliog* *plan diags A S M E Trans* 79:1759-64; Discussion. 1764-6 N '57
- Series-expansion method for computing random gust responses. K. A. Foss. *J Aeronautical Sci* 24:850-2 N '57
- Simplified form of the auxiliary equation for use in the calculation of turbulent boundary layers. T. J. Black. *bibliog* *Roy Aeronautical Soc J* 62:215-19 Mr '58
- Skewed boundary-layer flow near the end walls of a compressor cascade. R. W. Moore, Jr. and D. L. Richardson. *bibliog* *il* *diags A S M E Trans* 79:1789-97; Discussion. 1797-800 N '57
- Space-time correlations of the fluctuating wall pressure in a turbulent boundary layer. W. W. Willmarth. *bibliog* *J Aeronautical Sci* 25:335-6 My '58
- Theory of turbulent evaporating clouds. R. H. Milburn. *bibliog* *J Colloid Sci* 13:114-24 Ap '58
- Transformation of the compressible turbulent boundary layer. A. Maser. *bibliog* *J Aeronautical Sci* 25:305-11 My '58
- Transition from laminar to turbulent flow in a pipe. M. R. Carstens. *il* *diags Am Soc C E Proc* 83 [HY 6 no 1450]:1-30 D '57; Discussion. J. M. Robertson. 84 [HY 6 no 1856]:5-11 N '58
- Transition from laminar to turbulent shear flow: a review of some recent advances in its understanding. M. V. Morkovin. *bibliog* *il* *diags A S M E Trans* 80:1121-3 JI '58
- Turbulence characteristics of the hydraulic jump using an air-flow model. H. Rouse and others. *bibliog* *il* *diags Am Soc C E Proc* 84 [HY 1 no 1528]:1-30 F '58; Discussion. 84 [HY 1 no 1690]:55-6 Je; [HY 6 no 1856]:45-58 N '58
- Turbulence in civil engineering: turbulence in a diffuser boundary layer. J. M. Robertson and G. L. Calehuff. *bibliog* *Am Soc C E Proc* 83 [HY 5 no 1393]:1-19 O '57; Discussion. T. S. Streikoff. 84 [HY 2 no 1616]:17-18 Ap '58; Reply. 84 [HY 5 no 1832]:55-8 O '58
- Turbulent analog of the Stewartson-Illingworth transformation. F. E. C. Culick and J. A. F. Hill. *bibliog* *J Aeronautical Sci* 25:259-62 Ap '58
- Turbulent boundary layer in conical diffuser. H. R. Fraser. *bibliog* *diag Am Soc C E Proc* 84 [HY 3 no 1634]:1-17 Je '58
- Turbulent friction factor of flow through narrow annuli. L. N. Tao. *J Aeronautical Sci* 24:915 D '57
- Turbulent heat transfer through a highly cooled partially dissociated boundary layer. R. F. Probst and others. *Jet Propulsion* 28:56-8 JI '58
- TURCK, Fenton Benedict**
ASME elects four members to grade of Fellow. *Mech Eng* 80:141 Ap '58
- TURNING**
Automatic contour turning of large mill rolls. W. Hyams. *il* *Iron & Steel Eng* 35:82-8; Discussion. 83-9 Mr '58
- Bullard designs for flexibility in turning and grinding. *il* *Am Mach* 102:129 Ap '53
- Concentrated wear of turning tools. V. Solaja. *bibliog* *il* *diags Research* 11:152-6 Ap '58
- Crank-throw fixtures for offset turning. S. P. Gould. *diags Mach* 64:175 F '58
- Craven 300 vertical boring and turning mill. *il* *Engineer* 206:226 Ag '58
- Eccentric turning with a three-jaw chuck. M. Barash. *diags Mach* 64:158-9 Je '58
- Facing at constant cutting speed saves time. M. Kronenberg. *il* *diags Tool Eng* 39:93-6 D '57
- Machine slashes wheel turning time; Snyder tool & engineering co. *il* *Steel* 142:138-9 My '58
- Machining; tool-steel rolls place demand on individual. *il* *Iron Age* 182:111-12 S '58
- Making conical turning easier. F. E. Riley. *diag Power Eng* 62:112 Ap '58
- Metalworking, 1962. D. N. Smith. *diag Am Mach* 101:131 N '57
- 1958 production preview. *il* *Am Mach* 102:106-11 Ja '57
- Tips on turning heat treated steels. *il* *Steel* 141:94-5 N '57
- Turning transmission parts on tracer lathes. R. Kennedy. *il* *Automotive Ind* 118:52-3 My '58
- See also
Lathes
- TURNPIKES.** See Expressways
- TURNABLES, Phonograph.** See Phonograph—Turntables
- TURPENTINE**
Effects of additives on ignition delay of the system, white fuming nitric acid-turpentine. A. Makovsky and A. Salmon. *bibliog* *diag J Ap Chem* 8:670-2 O '58
- Recent advances in pine gum chemistry. J. C. Braun. *Paper Ind* 39:776-4, 784 D '57
- Swedish turpentine; terpene hydrocarbons from sulfate turpentine; abstract. A. B. Groth. *Paper Ind* 40:397 S '58
- TUVE, George Lewis**
Professor Tuve will receive Anderson medal. *por Heating-Piping* 29:152 D '57
- TWINNING of crystals.** See Crystallization
- TWIST (mechanics).** See Torque
- TWISTING machines**
How to reduce friction in twister creels. *diags Textile Ind* 122:125-6 Ja '58
- Latest preparatory machines make better yarn packages; spooling, winding, and twisting. *il* *Textile World* 108:57-8 O '58
- Ready-for-use twister shipped in cocoon; textured yarn machine. *il* *Textile Ind* 122:120-1 F '58
- Maintenance and repair
Good twister maintenance a necessity for good yarn. *Textile Ind* 122:131 Ap '58
- TWISTOR.** See Magnetic memory (calculating machines)
- 200 series stainless steel. See Chromium nickel manganese steel
- TYKOCINER, Joseph T.**
J. T. Tykociner, pioneer in sound recording. J. B. McCullough. *SMPTE J* 67:520-1 Ag '58
- TYLOPHORA asthmatica**
Structure of tylophorine. T. R. Govindachari and others. *Chem & Ind* p 1484-5 N '57
- TYLOPHORINE.** See Alkaloids
- TYPE and type founding**
Standardizing type fonts. *il* *Product Eng* 29:75-4 Ap '58

TYPESETTING

Typesetting contests produced high-speed records. A. Lawson. *Inland Ptr* 141:66-7 J1 '58

See also

Printing

TYPESETTING machines

Packaged circuits; Alphatype machine. *il*

Electronic Ind 17:81 S '58

Your slug-casting machine problems. L. Brewington. Published in monthly numbers of *Inland printer*

See also

Phototypesetting machines

Control

Phototube control sets printed page. *Electronics* 31:18 M 9 '58

TYPEWRITERS

Transcriber controls are integral with typewriter keyboard. *il* *Machine Design* 29:120 N 28 '57

Typewriters for scientists for reproducing scientific and mathematical formulae. *Eng J* 41:104 S '58

Manufacture

Hot paint boosts spraying efficiency; Underwood corp. *il* *Mill & Factory* 62:123 Ap '58

Indexing machine speeds typewriter subassembly. C. J. Sammons. *il* *diags* *Automation* 5:55-6 J1 '58

Six machines replace 17, save \$41,000/yr; Royal McBee corp. H. E. Tulloch. *il* *Am Mach* 102:95-6 Ag 11 '58

TYPEWRITERS, Electric**Manufacture**

Barrel chromium plating continuous bulk processing; International business machines corp.'s electric typewriter plant. H. Mahlstadt. *il* *diag* *Metal Finishing* 56:58-60 F '58

TYPEWRITING

Paired comparison test of typewriter carbon papers. M. Fleckenstein and others. *Tappi* 41:128-30 Mr '58

TYPHOID fever

Epidemic of typhoid fever in Ponce, Puerto Rico; abstract. A. T. Masi and R. A. Timothee. *Am J Pub Health* 48:787-8 Je '58

Tracing typhoid carriers by means of sewage. A. E. Greenberg and others. *bibliog* *map* *Sewage & Ind Wastes* 29:1237-42 N '57

TYPOGRAPHY. See Printing—**Typography****TYROSINAMIDE**

Kinetics of the α -chymotrypsin-catalyzed hydrolysis of α -N-carboxy-L-tyrosinamide and its inhibition by α -N-carboxy-D-tyrosinamide. D. T. Manning and C. Niemann. *bibliog* *Am Chem Soc J* 80:1478-81 Mr 20 '58

TYROSINASE

Effect of ascorbic acid on the inactivation of tyrosinase. W. Scharf and C. R. Dawson. *bibliog* *diag* *Am Chem Soc J* 80:4627-31 S 5 '58

TYROSINE

Cystine, tyrosine, and essential amino acid content of selected foods of plant and animal origin. C. H. Edwards and C. H. Allen. *bibliog* *J Agri & Food Chem* 6:219-23 Mr '58

Synthesis of aromatic boronic acids; aldehyde boronic acids and a boronic acid analog of tyrosine. H. R. Snyder and others. *bibliog* *Am Chem Soc J* 80:835-8 F 20 '58

U

UBIQUINONE. See Quinones

UDEX extraction. See Extraction processes

ULCERS

Ulcers in executive monkeys. J. V. Brady *il* *Sci Am* 199:95-8+ O '58

See also

Duodenum—Ulcers

Stomach—Ulcers

ULEXITE

Nonfibrous ulexite from the Kramer district, California. R. D. Allen and H. Almond. *Am Mineralogist* 43:169-70 Ja '58

ULTRAFINING process. See Petroleum refining—Sulfur removal

ULTRAFORMING process. See Gasoline—Manufacture

ULTRASONIC interferometers. See Interferometers, Sonic

ULTRASONIC resonance. See Resonance

ULTRASONIC waves

Designing ultrasonic delay lines. I. C. Miller and C. W. Sharek. *diag* *Electronic Ind* 17:72-6+ J1 '58

Effects of ultrasonics on heat transfer by convection. G. C. Robinson and others. *bibliog* *diags* *Am Cer Soc Bul* 37:399-404 S 15 '58

Elastic constants by the ultrasonic pulse echo method, single-crystal KCl and NaI. S. Eros and J. R. Reitz. *il* *diags* *J Ap Phys* 29:683-6 Ap '58

Physical fundamentals and characteristics of supersonic vibrations; abstract. Bergmann. *Metal Finishing* 56:77 Ja '58

Ultrasonic interferometer for the measurement of the temperature dependence of elastic constants. R. P. Espinola and P. C. Waterman. *bibliog* *diag* *J Ap Phys* 29:718-21 Ap '58

See also

Shock waves

Sound—Velocity

Absorption

Absorption of Rayleigh waves in low-loss media. F. Fress and J. Healy. *bibliog* *diags* *J Ap Phys* 28:1323-5 N '57

Temperature dependence of the absorption of ultrasound in a nickel single crystal from 77° to 650° K. F. G. West. *bibliog* *J Ap Phys* 29:480-2 Mr '58

Attenuation

Neutron irradiation effects in borosilicate glass and their detection by ultrasonic attenuation and velocity measurements. R. Truell and others. *J Ap Phys* 29:225-6 F '58

Orientation dependence of ultrasonic attenuation in zinc. P. C. Waterman. *bibliog* *diags* *J Ap Phys* 29:1190-5 Ag '58

Ultrasonic attenuation in superconductors. H. E. Bömmel and W. P. Mason. *il* *diags* *Bell Lab Res* 36:253-6 J1 '58

Control uses

Ultrasonic control system. *il* *diags* *Machine Design* 30:106 F 6 '58

Ultrasonic tones select tv channels. N. Frihart and J. Krakora. *il* *diags* *Electronics* 31:68-9 Je 6 '58

Industrial applications

Action of ultrasonic vibrations on metal plating processes; abstract. A. Roll. *Metal Finishing* 56:78 F '58

Aluminum soldered ultrasonically. L. Walter. *il* *Mach* 64:160 N '57

Audigage tests metal thickness without drilling. G. R. Setterlund. *il* *diag* *Power Eng* 61:96-100 D '57

Better peanut butter ultrasonically; Nabob foods. R. Rupp and J. P. B. Jones. *il* *Food Eng* 23:100 D '57

Big brother is listening; ultrasonic alarm guards classified papers. *il* *Mill & Factory* 62:91 F '58

Can ultrasonics improve steel ingot quality? P. M. Unterweiser. *diags* *Iron Age* 182:178-80 S 11 '58

Compressive strength and ultrasonic pulse velocity relationships for concrete in columns. M. F. Kaplan. *il* *Am Concrete Inst J* 29:675-88 F '58; Discussion. 30:1259-62; Reply. 1262-3 pt 2 S '58

Continuous-seam ultrasonic unit joins thin metal. *il* *Iron Age* 181:128 Mr 6 '58

Deburring with ultrasound. *il* *Steel* 142:102-3 Ap 7 '58

Electrical discharge and ultrasonics form hard-working team. *il* *Mach* 64:195 My '58

Electro-Chemical automatic ultrasonic cleaning plant. *il* *Automobile Eng* 48:104 Mr '58

Fundamentals of ultrasonic machining. P. J. Duran. *il* *diags* *Am Mach* 101:114-16 Ag 26 '57; Same. *Product Eng* 29:D 12-13 Mid-S '58

Get parts cleaner by ultrasonics. N. G. Branson. *il* *Materials in Design Eng* 47:118-21 F '58

Growing versatility of ultrasonic machining. J. Welch. *il* *Mach* 64:119-23 F '58

Gulton introduces automated, continuous seam, ultrasonic welder. *il* *Am Mach* 102:166 Mr 10 '58

ULTRASONIC waves—Industrial applications—*Continued*

High-frequency vibrations weld metals in few seconds. J. B. Jones and F. R. Meyer. Eng N 160:70+ My 15 '58

How to solder without flux; ultrasonic soldering iron; illustrated instructions. Power 102: 133 Ag '58

How ultrasonics are used in porcelain enameling. Il Cer Ind 71:CG-9 Ag '58

Immersed ultrasonic inspection of continuous welds. Il Mach 64:142 Ja '58

Industrial know-how handbook: ultrasonics. Il Mill & Factory 62:MW23 My '58

Metals joined with ultrasonic welder. Il Elec Eng 77:474 My '58

Methods of measuring electrical characteristics of ultrasonic delay lines; abstract. A. H. Metzler. Inst Radio Eng Proc 46: 671 Mr '58

Narda to branch out; ultrasonics firm introduces chemical processing equipment. Il Chem & Eng N 36:104 O 6 '58

New ultrasonic welder takes on production job. Il Iron Age 180:86-7 N 28 '57

1958 production preview: electrical discharge, ultrasonic. Il Am Mach 102:129 Ja 27 '58

Nondestructive testing; ultrasonic testing is quick; there are three methods; immersion test uses liquid couplant. S. Elonka. Il Diags Power 102:122-5 Mr '58

Oscilloscope is a key unit in immersed ultrasonic testing of welded carbon-steel tubing. Il Oil & Gas J 56:105 F 3 '58

Plating by ultrasonics. Chem & Eng N 35: 50-1 N 4 '57

Production ultrasonic welder. Il Electronic Ind 17:58 S '58

Quick cleaning with ultrasonics saves meters. Il Power Eng 62:31 Ja '58

Removal of inclusions for analysis by an ultrasonic jack hammer. G. L. Kehl and others. Il diag Metallurgia 55:151-4 Mr '57; Abstract. Metal Prog 73:202-1 My '58

Shares and prices: ultrasonic equipment manufacturers. Electronics 31:5 Je 13 '58

Silent sound; smart approach to tomorrow's maintenance. R. Reynolds. Il diags Power 101:131-3 D '57

Sound jars crude from sand. Oil & Gas J 55:35 D 23 '57

Sound waves weld seams. Il Electronics 31: 14+ F 14 '58

Supersonic boring and grinding; abstracts of two papers. L. B. Prozorovnikov and others. diag Glass Ind 39:278 My '58

Tests aid tube sales; resistance welds checked continuously by ultrasonic immersion unit. Il diags Steel 142:72 Ja 20 '58

Today's new preventive maintenance tool, ultrasonics. R. N. Hafemeister. Il diags Pet Refiner 37:155-7 F '58

Ultrasonic agitator whips it up. diag Chem Eng 65:94+ Mr 10 '58

Ultrasonic cleaning. Ind Finishing 24:88+ JI '58

Ultrasonic cleaning. Il Metallurgia 57:148 Mr '58

Ultrasonic cleaning process cleans bearing balls in one minute. Il Mill & Factory 61: 138 N '57

Ultrasonic coating color defoaming. F. R. Adams. bibliog diags Tappi 41:sup 173A-TA My '58

Ultrasonic inspection makes turbine forgings safer; Allis-Chalmers mfg. co. R. N. Hafemeister. Il diags Am Mach 101:85-9 D 30 '57

Ultrasonic inspection used to detect hydrogen attack. J. Bland. Il diags Pet Refiner 37:115-18 JI '58

Ultrasonic machining. Il Machine Design 29: 162 N 14 '57

Ultrasonic metal cleaning. Electronic Eng 30:199 Ap '58

Ultrasonic pulses detect reactor-slug flaws. J. D. Ross and R. W. Leep. Il diags Electronics 31:59-61 Je 20 '58

Ultrasonic resonance gaging detects corrosion from outside of tubes and tanks. P. K. Bloch. Il diag Plant 18:43-4 JI '58

Ultrasonic resonance tests can cut your boiler downtime. J. L. Everett and J. H. Daniels. Il Power 101:110-11 N '57

Ultrasonic soldering, brazing and welding. J. B. Jones and W. C. Potthoff. Il diag Product Eng 28:G 14-16 Mid-O '57

Ultrasonic welder. Il Mech Eng 80:95 Mr '58

Ultrasonic welding. T. W. Black. Il diag Tool Eng 39:111-13 D '57

Ultrasonic welding; a new technique grows. J. B. Jones. Il diags Metal Prog 73:68-72 Ap '58; Abstract. Elec Eng 77:279 Mr '58

Ultrasonic welding comes of age. J. B. Jones and W. C. Potthoff. Il diags Tool Eng 41: 90-4 S '58

Ultrasonic welding joins foil to wires. Il Electronics 30:216+ D 1 '57

Ultrasonic welding makes rapid advances. Il diag Steel 142:80-1 Mr 31 '58

Ultrasonic welding of structural aluminum alloys. J. P. Jones and F. R. Meyer. Il diags Welding J 37:sup31-92 Mr '58

Ultrasonics aims at maturity. Il diags Machine Design 30:26-30 Ag 21 '58

Ultrasonics comes back to lab. A. G. McKenna. Il Ind Lab 9:14-16 Ja '58

Ultrasonics in metal cleaning processes; abstract. K. Tesser. Metal Finishing 56:75 Jm '58

Ultrasonics machines brittle ferrite. Franklin Inst J 264:525-6 D '57

Ultrasonics; new electronic art. J. E. Hickey, jr. bibliog Il diags Electronic Ind 16:58-62+ N; 71-4+ D '57

Ultrasonics; pictorial review. Elec Eng 77: 513 Je '58

Ultrasonics test honeycomb bond. Il Product Eng 28:89 D 23 '57

Waveform rotates ultrasonic jack hammer drill for ceramic materials. N. K. Marshall. Il Electronics 31:116+ Ja 17 '58

Measurement

Instrument for measuring wavelength of sound in liquid. N. Yamamoto. Il R Sci Instr 29:655-6 JI '58

Neutron irradiation effects in borosilicate glass and their detection by ultrasonic attenuation and velocity measurements. R. Truell and others. J Ap Phys 29:225-6 F '58

Sing-around ultrasonic velocimeter for liquids. M. Greenspan and C. E. Tschiesleg. bibliog Il diags R Sci Instr 28:897-901 N '57

Measurement uses

Ultrasonic gage speeds field work. H. N. Nerwin. Il diags Electronics 31:29-31 Ja 31 '58

Ultrasonic measurement of polarization switching processes in barium-titanate single crystal. K. Husimi and K. Kataoka. diags J Ap Phys 29:1247-51 Ag '58

Ultrasonic thickness gage cuts cost, improves cable quality. A. Bottari. Il Elec Manuf 61:146 Ap '58

Ultrasonics cuts gaging time. C. P. Albertson. Il Aviation Age 29:46-50 Je '58

Medical applications

Ultrasonic unit photographs arm. W. N. Beck. Electronics 31:26-7 F 7 '58

Scientific applications

Light modulator records airborne radar displays using an ultrasonic cell. L. Levi. Il diags Electronics 31:80-3 Ag 1 '58

Recent advances in ultrasonic decontamination. R. L. Rod. Il diag Nucleonics 16:104-5 JI '58

Taking pictures with sound. Il Product Eng 29:10 Ja 13 '58

Transmission thru sea water

Ultrasonics tests undersea propagation. W. C. Gore. Il diags Electronics 31:32-5 Ag 29 '58

Underwater acoustic echo-ranging. J. W. R. Griffiths. bibliog diag Electronic & Radio Eng 35:29-32 Ja '58

ULTRAVIOLET microscope. See Microscope and microscopy—Ultraviolet microscope

ULTRAVIOLET rays

Degradation of cellulose in a vacuum with ultraviolet light. J. H. Flynn and others. bibliog diag J Res Nat Bur Stand 60:229-33 Mr '58

Effect of light on chemical and biological properties of parathion. J. P. Frawley and others. bibliog J Agri & Food Chem 6: 28-30 Ja '58

Heat and ultraviolet aging of poly(vinyl chloride). C. R. Ebersohn and others. bibliog J Res Nat Bur Stand 60:481-8 Mr '58

Polyethylene filaments stabilized to ultraviolet rays; Reeves brothers, Inc. Plastics World 16:30 Ap '58

Short wavelength ultraviolet absorption of alkali-lignin; a means of control in kraft cooking and brown stock washing. T. N. Kleinert and C. S. Joyce. bibliog Tappi 41: 372-80 JI '58

ULTRAVIOLET rays—Continued**Absorption**

See Absorption of rays

Apparatus

Furfural monitor saves money; ultraviolet analyzer helps control furfural loss in butadiene and butene-2 streams. *il Chem & Eng N 36:52 O 20 '58*

Grating vacuum monochromator for the spectral range 1000-6500 Å. T. J. M. Shuyters and E. de Haas. *bibliog il diags R Sci Instr 29:597-600 J1 '58*

Improved uv filter for isolation of the 2537-Å line of a mercury low-pressure lamp. R. H. McFarland and others. *R Sci Instr 29:733-9 Ag '58*

Medium-intensity light pulse unit. O. H. LeBlanc and others. *diags R Sci Instr 29:533-4 Je '58*

Ultraviolet normal incidence grating vacuum spectrograph. J. Romand and R. Vodar. *bibliog diag R Sci Instr 29:732-3 Ag '58*

Industrial applications

Nondestructive testing; black light makes faults easy to see. S. Elonka. *il Power 102:132-3 Mr '58*

Nondestructive testing; penetrant tests use fluorescent liquids, dye and black light. S. Elonka. *il Power 102:134-7 Mr '58*

Ultraviolet irradiation and the wool fiber epiculture. A. R. Halv. *Textile Res J 28:182-3 F '58*

Ultraviolet reflectance curves of fiber; abstract. G. Thomson and others. *Textile World 108:133 F '58*

Lamps

Operating room temperature control and death to bacteria. Hospital Master and Sterilamp. *Else Eng 76:1122-3 D '57*

Ultra-violet and white lighting for aircraft instruments; cockpit lighting system using four-watt six-inch fluorescent lamps. P. Chittenden. *il diag Aircraft Eng 30:9-10 Ja '58*

Measurement

Iodine-vapor-filled ultraviolet photon counter. R. T. Brackmann and others. *bibliog diag R Sci Instr 29:125-8 F '58*

Simple method of monitoring ultra-violet light. C. K. Coogan. *diags J Sci Instr 35:64-5 F '58*

UNCERTAINTY principle

Principle of uncertainty. G. Gamow. *diags Sci Am 198:51-7 Ja '58*

UNDECANEDIOIC acid

Dibasic acids; routes to a mixture of undecanedioic and dodecanedioic acids. T. R. Steadman and J. O. H. Peterson. *bibliog Ind & Eng Chem 50:559-62 Ja '58*

UNDERGROUND construction

Two-hinged frames cover three-acre oval basilica; Lourdes, France. *il plan diags Eng N 160:28-9+ My 22 '58*

See also

Concrete construction, Underground
Electric plants (central stations)—Underground stations
Subways—Construction

UNDERGROUND corrosion. See Corrosion and anti-corrosives—Underground corrosion

UNDERGROUND electric lines. See Electric lines—Underground lines

UNDERGROUND factories. See Factories, Underground

UNDERGROUND reservoirs. See Reservoirs, Underground

UNDERGROUND structures

Heat transfer in underground chambers. *il Air Cond Heat & Ven 55:75 Ja '58*

Testing the underground air. A. F. Cascioli. *il Safety Maint 114:44-7+ O '57*

Underground test chamber provides heat transfer data. *il diag Heating-Piping 30:121 Mr '58*

See also

Reservoirs, Underground

Air conditioning

Success of underground structures depends on air conditioning. T. H. Urdahl. *Heating-Piping 30:108-11 Ap '58*

UNDERGROUND water. See Water, Underground

UNDERPINNING. See Shoring and underpinning

UNDERWEAR

Better warping—better fabrics; tricot warping techniques at Mojad Lingerie. *il Textile Ind 122:184-5 Ap '58*

Manufacture

How Alba makes stretch panties on full-fashioned-hosiery machines. *il Textile World 108:54-5 My '58*

UNDERWRITERS laboratories

Magic label. J. Hankins. *il Mag of Stand 29:72-5 Mr '58*

UNEMPLOYMENT

How widespread is unemployment? survey of the month. *Mill & Factory 62:71-4 Ap '58*

See also

Employment

UNFINING process. See Petroleum refining—Sulfur removal

UNIONARC welding. See Electric welding, Arc—Unionarc welding

UNIONMELT process. See Electric welding—Unionmelt process

UNIT construction of calculating machines. See Calculating machines—Unit construction

UNIT construction of machine tools. See Machine tools—Unit construction

UNIT heaters. See Heaters

UNIT packaging. See Packaging—Unit packaging

UNIT processes

Chemical engineering unit processes; 11th annual review. *bibliog il Ind & Eng Chem 50:1318-425 pt 2 S '58*

Chloryl, not chloro; perchlorylation, a new Pennsalt unit process based on perchloryl fluoride. *Chem & Eng N 36:52 F 24 '58*

Ion exchange as a unit operation. F. X. McGarvey. *Chem Eng 64:255-60 D '57*

New concepts of unit operations; panel discussion. *Chem Eng Prog 54:154-+ F '58*

Unit operations in chemical engineering; annual review. *bibliog il diags Ind & Eng Chem 50:420-84 pt 2 Mr '58*

Unit operations in the pilot plant. E. L. Clark. *bibliog il Chem Eng 65:119-24 Je 2 '58*

See also

Adsorption

UNITED-HECKATHORN company

Corporate profile. *J Agri & Food Chem 6:558-9 J1 '58*

UNITED engineering center. See New York (city)—United engineering center

UNITED engineering trustees, Inc. 1956-1957 report. *lights. W. J. Barrett. Mech Eng 80:123-8 F '58*

UNITED mine workers of America Welfare-fund medical program. W. A. Raleigh, jr. *il Coal Age 63:72-7 Ar '58*

UNITED nations educational, scientific and cultural organization

Headquarters

Contrasts in concrete; Unesco headquarters. Paris. M. G. Salvadori. *il diags Arch Rec 123:165-9 F '58*

UNESCO headquarters in Paris nearing completion. *il plans diags Prog Arch 39:65-9 Mr '58*

UNITED rubber, cork, linoleum and plastic workers of America

O'Sullivan-URW strike contributes to stalemate on new labor legislation. J. F. King. *Rubber World 138:438-9 Je '58*

URW opens annual wage drive. *Rubber Age 83:516 Je '58*

URW reaches agreement on 3.1 per cent wage boost pattern. *Rubber Age 83:679 J1 '58*

Wage increase granted; price boosts to follow; pension bargaining in 1959. *Rubber World 138:758 Ag '58*

UNITED STATES

Talking to Americans. E. P. Ward. *il map Engineering 185:712-16, 744-7, 778-81, 824-7; 186:18-22, 40-3 Je 6-J1 11 '58*

See also

subdivision United States under special subjects, e.g.

Agriculture

Colleges and universities

Paper industry and trade

Petroleum industry and trade

Public health

Steamboat lines

Water supply

Waterways

UNITED STATES—Continued

Aeronautics, Bureau of (navy)

Microfilm report system streamlines troubleshooting. *Il Ind Phot* 7:69 F '58

Agriculture, Department of

See also

Agricultural laboratories

Air force

Air force has a cool \$500 million in refrigeration. W. T. Smith. *Am Gas Assn Mo* 40:14-16 O '58

AF: \$1½ billion to small firms. D. C. Sharp. *Electronics* 31:8+ Ja 31 '58

Electronic message-switching speeds air force communications. *Il Product Eng* 28:23 D 30 '57

Reveals USAF's weapons plans. C. S. Irvine. *Electronics* 31:8+ My 23 '58

Aeronautical research laboratory

See Aeronautic laboratories

Air materiel command

Air materiel command begins civilian engineer recruitment program. *Ind Quality Control* 14:18-19+ Mr '58

New procurement methods for AF's ballistic missiles; AMC's ballistic missiles office. I. Stambler. *Il diag Aviation Age* 29:18-19+ Je '58

Air research and development command

ARDC facts, mission and organization. *Elec Eng* 76:1118-19 D '57

Research and development planning in the USAF. C. R. Tosti. *Il Aeronautical Eng R* 17:45-7 F '58

Ballistic missiles division

How BMD directs AF's ballistic missile programs. I. Stambler. *Il (cover) Aviation Age* 29:18-19+ My '58

Directories

1958 military electronic procurement directory. *Electronic Ind* 17:143+ Je '58

Equipment and supplies

Air force outlines projects. *Electronics* 31:42-3 Mr 21 '58

Cost-plus bonus; air force Doppler radar contract. *Electronics* 31:5 Ag 22 '58

20 years ahead in air force electronics. J. H. Vogelmann. *diags Electronic Ind* 16:68-70+ D '57

Manufacturing methods branch

Outline of things to come. J. N. Dick and P. L. Hill. *diags Aeronautical Eng R* 16:26-9+ D '57

Strategic air command

SAC's weapons timetable. *Electronics* 31:26 Ag 8 '58

Air force academy

Air academy chapel; professional opinion. W. Becket and others. *Il Arch Rec* 122:9+ D '57

Air force academy up to now; illustrations with text. *Prog Arch* 39:83-5 My '58

Air force cadets arrive at new site; illustrations with text. B. H. Holmes. *Prog Arch* 39:40-2 S '58

Air force strongly rebuked on academy construction cost. *Arch Rec* 124:350+ S '58

Approach bridges; U.S. air force academy. *Il Arch Rec* 123:239-40 Ap '58

Engineering problem of an all-welded two-way truss system; roof of Cadet dining hall at Air force academy. W. Teng and others. *Il diags Welding J* 37:565-9 Je '58

Gantries set prestressed bridge beams; road system of U.S. air force academy. A. J. Brown and F. R. Khan. *Il diags Eng N* 160:43-4+ Ja 9 '58

Jacks on columns erect two-acre roof at AF academy. A. J. Brown and W. Teng. *Il diags Eng N* 160:26-8 Ja 23 '58

Mid-way to the end; air force academy is one-half complete. *Il Arch Rec* 123:489-498 F '58

New buildings ready at Air force academy site; illustrations with text. *Arch Rec* 124:12-13 S '58

New way to raise the roof; Air force academy's Cadet dining hall. *Il diag Arch Forum* 108:126-8 Mr '58

Welding helps raise the roof; Cadet dining hall at the Air force academy. *Il Welding Eng* 43:37 Je '58

Air service, Army

Advanced Doppler navigation for the U.S. army. J. R. Iverson. *Il diag Aero/Space Eng* 17:81-5 My '58

Air service, Navy

Around the requirement in thirty minutes. D. J. Welsh. *Aeronautical Eng R* 16:64-7+ N '57

Preventive medicine in naval aviation training. P. B. Phillips and J. T. Bair. *A M A Archives Ind Health* 17:53-7 Ja '58

Airways modernization board

AMB selects site for experimental center. E. R. Quesada. *Elec Eng* 77:661 J1 '58

Aviation center to test aids; National aviation facilities experimental center. W. S. Cowart. *Il Electronics* 31:8+ Ag 1 '58

Appropriations and expenditures

Ax hits military construction. *Eng N* 161:24 J1 31 '58

Congress fills construction's till. *Eng N* 161:21-2 Ag 28 '58

Eisenhower's 1959 budget puts a porous lid on power spending. *Elec World* 149:40-1 Ja 20 '58

How far should federal spending go; aiding natural resource development. *Elec World* 148:84 N 25 '57

Oil fares well in 1959 federal budget. B. F. Linz. *Oil & Gas J* 56:77 Ja 20 '58

Spending on space; millions of dollars for years to come. A. N. Weckler. *Aviation Age* 29:14 Je '58

Sputnik. Muttuk. to crimp public works. *Eng N* 159:23 N 21 '57

Armed forces

Armed forces to mechanize storage of drawings. *Il Product Eng* 29:19-20 Mr 17 '58

Appropriations and expenditures

Budget and us. *Electronics* 31:15-16 F 7 '58

Tight defense pursestrings loosen. *Am Mach* 101:138 D 2 '57

Directories

General procurement information on guided missile programs; directory of military agencies. *Automotive Ind* 118:130+ Ja 1 '58; Same abr. *Electronic Ind* 17:127 Ja '58

Equipment and supplies

Electronics' role in ground support equipment. J. Holahan. *diags Aviation Age* 30:36-9+ S '58

Ground support equipment; billion dollar backstop for modern weapon systems. V. DeBiasi. *Aviation Age* 30:18-19+ S '58

Ground support equipment engineering outlook. V. DeBiasi. *Il diag Aviation Age* 30:20-2+ S '58

Military expects to buy less fuel after 1959; abstract. O. F. Lattu. *Pet Refiner* 37:182 Mr '58

Urges maintenance plans for war hardware. *Product Eng* 29:20-1 Ja 20 '58

Ordnance and ordnance stores

Design for limited warfare. *Il Product Eng* 28:19-21 D 30 '57

Army

Testing for tomorrow's army; Fort Ord's Combat development experimental center. *Product Eng* 28:21 D 30 '57

See also

United States—Air service, Army

Chemical corps

Brainstorming in the search for chemical warfare agents. E. A. Metcalf. *A M A Archives Ind Health* 17:371-6 My '58

Give and take; army's new industrial liaison program. *Il Chem & Eng N* 36:54-5 J1 21 '58

Public helps army Chemical corps celebrate its 40th anniversary. *Il Chem & Eng N* 36:38-9 J1 7 '58

Directories

1958 military electronic procurement directory. *Electronic Ind* 17:143+ Je '58

Engineer corps

Cement and clay grouting of foundations; practice of the Corps of engineers. E. B. Burwell. *Il diags Am Soc C E Proc* 84 (SM 1 no 1551):1-22 F '58

UNITED STATES—Army—Engineer corps—*Continued*

105mm program helps solve distribution problem; Corps of engineers design drawings. J. Hughes. *Il Ind Phot* 7:103 Mr '58
 Willamette Valley radio system for the Corps of engineers. C. Pedersen and D. J. Marihart. *Il diags Com & Electronics* p401-6 S '58

Equipment and supplies

Army makes construction items take-apartable for air transit. *Il Machine Design* 30:34-June 9 '58
 Army's maintenance problem; how to keep things simple. *Product Eng* 29:35-6 Apr '58
 How to airlift heavy equipment. *Il Iron Age* 180:117 N 14 '57

See also

Motor trucks, Military

Signal corps

Army signal corps 98th anniversary celebration. *Il Elec Eng* 77:658-9 JI '58

Army combat development experimentation center

War games point future equipment design: US army combat development experimentation center (CDEC). *Il Product Eng* 29:14-15 Je 30 '58

Army institute for exploratory research

Exploratory research; Institute for exploratory research. H. A. Zahl and E. M. Reilley. *Phys Today* 11:20-2 Ag '58

Army research office

ARO coaching army research. *Chem & Eng N* 36:38-9 S 15 '58

Army signal research and development laboratory

Army television research and development. W. A. Huber and R. B. Le Vino. *Il SMPTE J* 67:465-9 JI '58

Atomic energy commission

See Atomic energy commission (United States)

Capitol

Capitol east front extension is authorized; secrecy, distortions hit at Senate hearing. *Arch Forum* 108:3 Mr '58
 East front extension draws new opposition. *Arch Forum* 108:16 My '58
 Extension of the U.S. Capitol. *Arch Rec* 122:9+ N '57

New efforts under way to keep Capitol east front as is. *Arch Rec* 123:45+ Mr '58
 Opponents gain time in battle on Capitol east front extension. *Arch Rec* 123:48 Ap '58

Report offers a new framework for planning in the Nation's capital. L. Justement. *Arch Rec* 123:32+ Ja '58
 Save the Capitol movement grows. *Arch Forum* 108:3 Ap '58

Coast guard

Comptroller's role in an industrial funded military installation. V. E. Day. *Am Soc Naval Eng J* 70:121-6 F '58

Commerce*See also*Export trade
Imports**Canada***See* Canada—Commerce—United States**Commercial policy**

See also
 Commercial treaties and agreements

Congress

Congress scans science problems. *Chem & Eng N* 36:40+ Ja 20 '58
 It's all over for the 85th. *Chem & Eng N* 36:40-1 S 8 '58

New session; what's ahead? issues involving electric power. *Elec World* 149:36 Ja 6 '58
 Recess is over for Congress. *Chem & Eng N* 36:36-7 Ap 21 '58

Review and preview; Congress. *Chem & Eng N* 36:33-5 Ja 6 '58

Should congressional committees hire staff engineers to assist in research and development evaluation? points of view. *Product Eng* 29:32-3 My 19 '58

Construction statistics, Office of

New office set up to strengthen U.S. construction statistics. E. Mickel. *Arch Rec* 123:48 Ja '58

Defense, Department of

If they shake up Pentagon; consolidation of activities in electronic procurement and research and development. *Electronics* 31:18-19 F 21 '58

Advanced research projects agency

Agency unifies space work. O. M. Gale. *Electronics* 31:30 F 7 '58

Appropriations and expenditures

Defense asks \$2 billion. *Electronics* 31:56-7 Mr 21 '58

Defenses

Are we going to catch up with the Soviets? R. Hawthorne. *Aviation Age* 28:16-21 F '58
 Basic research and defense developments. F. N. Frenkel. *Phys Today* 11:22-4 JI '58

Central control shaping up for military research and development. *Product Eng* 29:37 Ap 28 '58

Defense in the future. R. B. Robertson, Jr. *Tappi* 40:sup 12A+ D '57

Defense spending gets a lift. *Am Mach* 102:121 Ap 21 '58

Drone guidance system to test air defense. *Electronic Ind* 17:152 My '58

Effective management and national security; abstract. S. E. Anderson. *Tool Eng* 40:206 Mr '58

Industrial standardization for defense; panel discussion. *Mag of Stand* 28:366-9 D '57

Key executive seeks more research and development flexibility. C. W. LaPierre. *Product Eng* 29:28-9 Ag 11 '58

National security; editorial. W. S. Symington. *Aeronautical Eng R* 17:22-4 Ap '58

New dimensions of America's economy; businesslike methods to build defense superiority. *Il Gen Elec R* 60:20-3 N '57

New dimensions of America's economy, research and development for defense. *Il Gen Elec R* 61:30-3 My '58

1959 budget; military, science get more. *Product Eng* 29:25 Ja 27 '58

Pentagon to copy British system of weapons development, but British hope we won't do it. *Product Eng* 29:19-20 Ja 20 '58

U.S. merchant marine and national defense. W. C. Ford. *Am Soc Naval Eng J* 70:127-32 F '58

What's in those reports? *Electronics* 31:20-1 F 7 '58

See also
 Civilian defense
 Guided missiles—Defenses
 United States—Air force
Economic conditions

Administration proposals for fighting recession will not stimulate such construction. *Arch Forum* 108:7-8 Mr '58

American economy in 1975; twice as big! *Chem Eng* 65:86+ Ap 21 '58

Business begins the climb back. *Elec World* 149:63-4 Ap 7 '58

Control and recession, bibliog *Control Eng* 5:52+ My '58

Economy pick-up is due. *Elec World* 149:68 Mr 3 '58

Gathering for upswing. *Control Eng* 5:38+ Je '58

How much will U.S. use public works construction as anti-recession tool? *Arch Rec* 123:32+ Ap '58

It's public works vs. tax cuts with construction debated as recession cure. *Eng N* 160:21-2 Mr 20 '58

Nation's economic strength depends on business strength. F. R. Kappel. *Bell Lab Rec* 36:252 JI '58

Renewal and growth; influence on U.S. economic growth; abstract. M. C. McFarland. *Arch Forum* 108:161-2 Je '58

See also

Labor and laboring classes—United States

Economic policy

How to win an economic war. J. B. O'Connor. *Pet Eng* 30:E34+ Je '58

Economic relations*See also*

International cooperation administration

UNITED STATES—Continued

Executive departments

Keeping mighty America's might; Hoover commission. P. M. Shoemaker. *Pet Refiner* 37:113-15 Ja '58

Federal power commission

See Federal power commission

Federal trade commission

See Federal trade commission

Food and drug administration

Drug and cosmetic law. Drug & Cosmetic Ind 82:302-3+ Mr '58
Stand still budget for FDA. Chem & Eng N 36:32 Ap 14 '58

General services administration

Death blow for lease-purchase? no funds allotted for 1959. Arch Rec 123:386+ My '58
Eisenhower proposals create new interest in federal lease-purchase program. Arch Forum 108:9 Mr '58
Interest in federal lease-purchase program reviving as GSA accepts 4.74 to 5 per cent financing offers. Arch Forum 108:9+ Ja '58
Maintenance and operation of government buildings. C. A. Betts. *Pub Works* 89:106-8 Ag '58
What kind of architecture for public buildings? Public buildings service of the General services administration. II Arch Rec 122:12+ N '57

Geological survey

Aerial mapping service of the US Geological survey. Oklahoma City. D. Kennedy. II Am Water Works Assn J 50:502-6 Ap '58

Industries and resources

Shows states' industrial gains. map *Product Eng* 29:21 Ja 20 '58

Interdepartment radio advisory committee

FCC-IRAC frequency proposals; u.h.f. changes. 1800-2000 kc. changes. Q S T 42:63-4 Je '58

Military sea transportation service

USNS Comet; vehicle-cargo ship, designated as a roll-on/off carrier, built for the Military sea transportation service. F. Pavlik and D. Mylrea. II plans diags *Marine Eng/Log* 63:61-9 Mr '58

USNS Eltanin, a prototype ship for MSTs; ice-strengthened cargo vessels. II plans *Marine Eng/Log* 63:49-57 F '58

Mines, Bureau of

Evolution and organization of a mining research program. M. J. Ankeny. *Min Eng* 10:68-70 Ja '58

Mines bureau 1957 research featured by increased attention to helium supply. *Gas Age* 121:38 F 20 '58

National advisory committee for aeronautics

Annual report, 43d; abstract. *Control Eng* 5:180-2 My '58

Ike wants space agency created out of NACA. *Product Eng* 29:22 Ap 21 '58

Space technology and the NACA; editorial. H. L. Dryden. *Aeronautical Eng R* 17:32-4+ Mr '58

National aeronautics and space administration

NASA gets set for space research job. R. M. Loebelson. II *Space/Aeronautics* 30:18-19+ O '58

New-born NASA piles up space projects to-talling \$343 million. *Product Eng* 29:16-16 Ag 25 '58

National park service

Recreational development on the lower Colorado river. R. K. Coote. II *Am Water Works Assn J* 50:1201-10 S '58

Will Mission 66 building be stepped up? parks' visitors top all estimates. E. Mickel. *Arch Rec* 124:32 S '58

Naval radiological defense laboratory

Safety takes top priority in heating, cooling atom lab. W. O. Miller. II *Heating-Piping* 30:100-3 F '58

Naval research laboratory

NRL speeds satellite program. II *Anal Chem* 30:sup59A-61A Ap '58

Navy

Exorbitant costs will limit navy weapons. *Machine Design* 30:32+ Mr 6 '58

See also

Airplane carriers

Oil reserves (United States navy)

United States—Air service, Navy

United States—Naval research laboratory

Civilian employees

Problem of industrial safety; analysis of 403 consecutive lost-time accidents during a six year-six month period at a naval industrial activity. C. C. Shaw. *Ind Med* 27:480-2 S '58

Commissariat

Enlisting heat transfer; Commissariat research at the naval supply depot at Bayonne, N.J. II *Mech Eng* 80:62-3 Ja '58

Construction battalions

Seabees hold standardization seminar. Davisville Center, March 31-April 4. *Mag of Stand* 29:132-3 My '58

Equipment and supplies

Metering problems in the navy calibration program. L. M. Morrow. *Diag Instruments & Automation* 31:1214-17 Ji '58

Navy plans heavy buying. *Electronics* 31:34 Mr 7 '58

Navy shifts to missiles. *Electronics Bsns* ed 30:38 N 10 '57

Operational readiness inspection

Factor analysis of personnel components of ship performance. A. S. Glickman. *Biblog Op Res* 6:106-15 Ja '58

Navy department

Directories

1958 military electronic procurement directory. *Electronic Ind* 17:143+ Je '58

Supplies and accounts, Bureau of

Navy makes safety shoes mandatory. *Safety Maint* 115:33 My '58

Yards and docks, Bureau of

How the navy engineers its utilities conservation program. J. G. Dillon. II *Power Eng* 62:65-8+ Ji '58

Patent office

See also

Patent laws and regulations

Public health service

Highlights of research in sanitary engineering; Public health service research grants program. H. A. Faber. II *Pub Works* 88:73-5 D '57

Monitoring of stream water quality; USPHS program. R. C. Palange and S. Megregian. map *Am Water Works Assn J* 50:1214-19 S '58

U.S. national health survey; editorial. *Am J Pub Health* 48:923-5 Ji '58

U.S. public health service progress report; summary of activities of the Water supply and water pollution control program 1957. *Water & Sewage Works* 105:215 My '58

See also

Public health workers

Robert A. Taft sanitary engineering center

Highlights of research in sanitary engineering; sanitary engineering center. II *Pub Works* 88:75-7 D '57

Public roads, Bureau of

Administrative role of the federal government in the interstate system. F. C. Turner. *Am Soc C E Proc* 84 [HW 1 no 1527]:1-6 Ja '58

Reclamation, Bureau of

USBR's lower-cost canal lining program. R. J. Willson. II *diags Am Soc C E Proc* 84 [IR 2 no 1559]:1-30 Ap '58; Discussion. F. L. Hotes. 84 [IR 3 no 1784]:37 S '58

UNITED STATES—Continued

Ships, Bureau of

Value engineering in the Bureau of ships.
R. C. Johnson. *Am Soc Naval Eng J* 70:77-
85 F '58

Soil conservation service

Engineering in the soil conservation service;
watershed protection and flood prevention
program. C. J. Francis. *Am Soc C E Proc*
84 [IR 1 no 1498]:1-13 Ja '58
Geologic investigations of dam sites by the
SCS. G. M. Brune. *bibliog plan diags Am*
Soc C E Proc 83 [SM 4 no 1429]:1-13 N '57;
Discussion. J. A. Trantina. 84 [SM 2
no 1657]:41-2, My '58; Reply. 84 [SM 4
no 1828]:11-12 O '58

Standards, National bureau of

High-temperature measurements at the Na-
tional bureau of standards; measuring,
generating high temperatures and determin-
ing high temperature properties of ma-
terials. *bibliog J Glass Ind* 39:480-1+ S '58

High-temperature research at the National
bureau of standards. *il diag Engineer* 206:
390-3, 429-31, 467-9 S 5-19 '58

State department

Science and foreign relations; science pro-
gram reactivated. *Phys Today* 11:38 F '58

Supreme court

Decisions

Contractors face added tax burden. *Eng N*
160:24 Mr 13 '58

Cost-of-service criteria upheld. *Elec World*
149:36 Mr 31 '58

Court may have done oil a tax favor; carved-
out oil payments are not capital gains.
Oil & Gas J 56:91-2 Ap 21 '58

Good-faith price cuts upheld by Supreme
court in second ruling in Detroit case. *Oil*
& Gas J 56:70 F 3 '58

Kansas law killed by Supreme court; price
of gas can't be fixed by states. *Oil & Gas J*
56:136 Ja 27 '58

Railroad defeated in antitrust case; North-
west Pacific railroad co. *Oil & Gas J* 56:98
Mr 24 '58

UNITED STATES industrial chemicals compa-

ny
Career opportunities. *il Chem & Eng N*
36:61 pt 2 Ja 27 '58

UNITED STATES joint publications research

service
US catching up on translation of foreign
publications. *Product Eng* 29:29 F 10 '58

UNITED STATES potters association

Annual meeting, New York. *Cer Ind* 70:82+
F '58

UNITED STATES steel corporation

Career opportunities. *il Chem & Eng N*
36:62-3 pt 2 Ja 27 '58

Corporate profile, leader in coke oven am-
monium sulfate, also in ammonia and am-
monium nitrate. C. W. Baldwin. *J Agri &*
Food Chem 6:322-3 Ap '58

UNITS

Beware of the slug, a new unit of mass. A.
David. *Am J Phys* 26:41 Ja '58

Interchangeability in the inch and metric
systems. *Engineer* 206:494 S 26 '58

Observations in relation with a new system
of units. M. Borneas. *bibliog Am J Phys*
26:40-1 Ja '58

UNIVERSAL joints. See Joints, Universal

UNIVERSAL oil products company

Career opportunities. *il Chem & Eng N* 36:60
pt 2 Ja 27 '58

Fee dispute in UOP sale continues; but profits
still aid research. *Oil & Gas J* 56:86-7 Ja 20
'58

U.O.P. case drags. *Oil & Gas J* 55:77 O 28
'57

UOP hearing reconvenes; revised petition of
Guaranty trust co. *Chem & Eng N* 35:28-9
N 11 '57

UOP sale ok'd. *Oil & Gas J* 56:71 Mr 3 '58

UOP sale ordered. *Chem & Eng N* 36:92-4+
Je 9 '58

UNIVERSE

Anti-matter. G. Burbidge and F. Hoyle. *il*
diags Sci Am 198:34-9 Ap '58
Still larger and still older. *Sci Am* 199:36 S
'58

UNSATURATED compounds

Advances in ionic polymerization of vinyl-
type monomers. C. E. Schildknecht. *Ind &*
Eng Chem 50:107-14 *bibliog* (129 ref, p 113-
14) Ja '58

Brown-colored oxypolymers of unsaturated
fats. A. W. Venolia and A. L. Tappel.
bibliog Am Oil Chem Soc J 35:135-8 Mr '58
Chemistry of allenic acids; the acid behavior
of highly branched unsaturated malonic
acids prepared by a novel method. J. H.
Wotiz and H. E. Merrill. *bibliog Am Chem*
Soc J 80:866-70 F 20 '58

Chemistry of α,β -unsaturated ethers; con-
densation with aldehydes. R. I. Hoaglin
and others. *bibliog Am Chem Soc J* 80:3069-
73 Je 20 '58

Condensation of benzene with unsaturated
chlorides. L. Schmerling and others. *bibliog*
Am Chem Soc J 80:576-9 F 5 '58

Grignard reagents and unsaturated ethers;
the synthesis, properties and reaction of
 β -substituted vinyl ethers with aliphatic
and aromatic Grignard reagents. C. M. Hill
and others. *Am Chem Soc J* 80:4602-4 S 5
'58

New synthesis of unsaturated acids. L. A.
Carpino. *bibliog Am Chem Soc J* 80:599-604
F 5 '58

Oxidation of unsaturated compounds. F. R.
Mayo and others. *bibliog Am Chem Soc J*
80:2465-507 My 20 '58

Periodate-permanganate oxidations for deter-
mining location and amount of unsaturation
in monounsaturated fatty acids. E. P. Jones
and J. A. Stolp. *bibliog Am Oil Chem Soc J*
36:71-6 F '58

Permanganate oxidation of unsaturated
esters. L. R. Eshelman and E. G. Ham-
mond. *bibliog Am Oil Chem Soc J* 35:230-3
My '58

Reactions of unsaturated fatty alcohols; prepa-
ration and properties of some copolymers
of unsaturated fatty vinyl ethers with low-
er alkyl vinyl ethers. L. E. Gast and others.
bibliog Am Oil Chem Soc J 35:347-50 Jl '58

Syntheses and infrared spectra of α,β -un-
saturated- β -ketoamines and their copper
chelates. H. F. Holtzclaw, Jr. and others.
Am Chem Soc J 80:1100-3 Mr 5 '58

Syntheses by free radical reactions; the ad-
dition of stable aryloxy radicals to un-
saturated. W. R. Hatchard and others. *bibi-*
liog Am Chem Soc J 80:3636-40 Jl 20 '58

Synthesis of unsaturated fatty acids; di-
tricholeic acid. W. J. Gensler and C. E.
Abrahams. *bibliog Am Chem Soc J* 80:4593-
6 S 5 '58

Transgel condensates of unsaturated com-
pounds; by reaction of massive doses of
halides of S(Se, Te) with organic mole-
cules containing two or more unsaturated
components. L. Akobjanoff. *bibliog Rubber*
Age 83:993-5 S '58

Unsaturated amines; steric requirements of
mercuric acetate oxidation of tertiary
amines. N. J. Leonard and D. F. Morrow.
bibliog Am Chem Soc J 80:371-5 Ja 20 '58

Unsaturated amines; the course of formic acid
reduction of enamines. N. J. Leonard and
R. R. Sauers. *bibliog Am Chem Soc J* 79:
6210-14 D 5 '57

Unsaturated aromatic amines; a novel syn-
thesis of indoles. J. E. Hyre and A. R.
Bader. *bibliog Am Chem Soc J* 80:437-9
Ja 20 '58

Unsaturated macrocyclic compounds; syn-
thesis of cyclohexadeca-1,3,9,11-tetrayne by
a novel cyclization reaction. F. Sondheimer
and Y. Amiel. *bibliog Am Chem Soc J*
79:5817-20 N 5 '57

Unsaturated macrocyclic compounds; the ox-
idation of terminal diacetylenes to macro-
cyclic tetraacetylenes. F. Sondheimer and
others. *diags Am Chem Soc J* 79:6263-7 D
5 '57

Unsaturated phenols; crotylphenols. A. R.
Bader. *bibliog Am Chem Soc J* 79:6164-7
D 5 '57

Analysis

Determination of unsaturation by near-infra-
red spectrophotometry. R. F. Goddu. *Anal*
Chem 29:1790-4 D '57

UPERIZER. See Sterilizers

UPPER atmosphere. See Atmosphere, Upper

UPSON, Maxwell Mayhew

Fifty years at the top. *por Eng N* 159:81-4+
N 21 '57

URACIL

Incorporation of 5-fluorouracil into the nucleic acid of tobacco mosaic virus. M. P. Gordon and M. Staehelin. *bibliog Am Chem Soc J* 80:2340-1 My '58
Utilization of α,γ -dialkoxyacetates in the synthesis of certain 2-thiouracils and uracils. H. E. Henze and E. N. Kahlenberg. *bibliog Am Chem Soc J* 80:1664-6 Ap '58

URANINITE

Chemical environment of pitchblende. L. J. Miller. *bibliog diags Econ Geol* 53:521-45 Ag '58

URANIUM

AEC releases uranium data; domestic ore and concentrates production rising. *Chem & Eng N* 36:36 O '58
Canada's role in the atomic age. F. R. Joubin. *Can Min & Met Bul* 51:553-6 S '58

Certain rare earths in purified thorium and uranium preparations; chemical isolation and spectrographic determination. C. Feldman and J. Y. Ellenburg. *bibliog diag Anal Chem* 30:418-20 Mr '58

Domestic miners press for uranium stockpiles. *Eng & Min J* 159:142+ Ap '58

Effects of cycling variables upon growth rate of 300° C. rolled uranium; abstract. R. M. Mayfield. *Metal Prog* 72:150-1 N '57

Effects of fabrication and heat treatment variables upon the thermal cycling behavior of uranium; abstract. S. T. Ziegler and others. *Metal Prog* 72:210+ N '57

Fuel for the world's reactors. C. Starr; J. R. Menke. *bibliog diag Nucleonics* 16:36-8+ Ag '58

Liquid-liquid extraction of uranium and plutonium from hydrochloric acid solution with tri(iso-octyl)amine; separation from thorium and fission products. F. L. Moore. *bibliog Anal Chem* 30:908-11 My '58

Materials testing reactor tries out 20 percent-enriched U. *Nucleonics* 16:114 Ag '58

Measurements of the effective resonance integral in uranium metal and oxide in different geometries. E. Hellstrand. *bibliog (25 ref) diags J Ap Phys* 28:1493-502 D '57

Mechanism of growth of uranium on thermal cycling in the alpha range. S. F. Pugh. *bibliog il diags Inst Metals J* 86:497-503 Ji '58

Nuclear materials, civilian style: Grace's Division chemical div. *il Chem & Eng N* 36:26-7 Mr '58

Properties of materials; hafnium, thorium, uranium, vanadium and zirconium. Materials in Design *Eng* 48:103 Mid-O '58

Solvent extraction of uranium(VI) from carbonate solutions. W. E. Clifford and others. *Am Chem Soc J* 80:2959-61 Je '58

Study of thorium and uranium minerals by X-ray microscopy. S. Yamaguchi. *il Min Eng* 10:Trans 689-90 Je '58

Symposium of nuclear energy, fuel processing; abstracts of papers. *bibliog diags Engineering* 135:204-6, 236-8 F 14-21 '58

Thorium-to-uranium ratios as indicators of sedimentary processes; example of concept of geochemical facies. J. A. S. Adams and C. E. Weaver. *bibliog (29 titles) Am Assn Pet Geologists Bul* 42:387-430 F '58

Uranium distribution in pseudowollastonite slag. E. Young and Z. S. Altschuler. *bibliog il Ind & Eng Chem* 50:793-6 My '58

Uranium industry needs a new incentive. C. S. Cronan. *Chem Eng* 65:72+ Je '58

Uranium, 1957. J. W. Franklin. *Eng & Min J* 159:122-4 F '58

U.S., why the AEC put on the brakes; meeting sponsored by Uranium Institute of America and Chamber of commerce of U.S. *Eng & Min J* 159:132+ Ja '58

U. Th conversion services of U.S. companies; tables. *Nucleonics* 16:101 Ag '58

Use of leachable uranium in geochemical prospecting on the Colorado plateau. H. D. Holland and others. *bibliog maps diags Econ Geol* 52:546-69; 53:190-209 Ag '57, Mr '58

Western Canada uranium as a fuel resource. R. E. Barrett. *Can Min & Met Bul* 51:476-8 Ag '58

See also
Carnotite

Analysis

Automatic determination of uranium in process streams. H. W. Bertram and others. *bibliog flow diag diags Anal Chem* 30:354-9 Mr '58

Controlled potential coulometric determination of uranium and copper in homogeneous reactor fuels. L. G. Farrar and others. *bibliog Anal Chem* 30:1511-14 S '58

Detection of thorium and uranium. J. S. Fritz and E. C. Bradford. *bibliog Anal Chem* 30:1021-2 Je '58

Determination of traces of uranium with 1-(2-pyridylazo)-2-naphthol. K. L. Cheng. *bibliog Anal Chem* 30:1027-30 Je '58

Determination of uranium-235 by gamma scintillation spectrometry. G. H. Morrison and J. F. Cosgrove. *bibliog Anal Chem* 29:1770-1 D '57

Isotope dilution, α -spectrometer for U and Th determination. L. E. Howard. *bibliog Nucleonics* 16:112+ F '58

Radiochemical determination of ionium in uranium fluorination ash. F. L. Moore. *bibliog Anal Chem* 30:1020-1 Je '58

Rapid spectrophotometric determination of submilligram quantities of uranium. C. A. Francois. *bibliog Anal Chem* 30:50-4 Ja '58

Simple fluorimetric scheme speeds uranium tests. *il Eng & Min J* 158:83 D '57

Hydrogen content

Hydrogen-uranium relationships; abstract. M. W. Mallett and M. J. Trzeciak. *Metal Prog* 72:154+ D '57

Isotopes

Europe looks at U-235. *il Chem & Eng N* 36:68+ O '58

Neutron multiplication in small spheres of fissionable material. P. J. Bendt and R. E. Peterson. *bibliog diag J Ap Phys* 29:1271-7 S '58

New way to separate isotopes. *Product Eng* 28:12 D '57

Vacuum techniques in the atomic energy industry. H. Kronberger. *diags Engineer* 204:702-3 N '57; Discussion. 204:749-50 N '57

Metallography

Microstructural changes of uranium upon thermal cycling; abstract. L. T. Lloyd and R. M. Mayfield. *Metal Prog* 72:188+ N '57

Nuclear reactions

Fission-product yields from U, Th and Pu; with graphs and tables; data sheet. S. Katcoff. *Nucleonics* 16:73-85 Ap '58

Measurement of the Xe^{135} cross section and U^{235} fission yield of P^{239} . G. R. Hopkins and C. F. Jamieson. *J Ap Phys* 28:1362-8 N '57

Prices

Pricing enriched uranium. H. L. Hollister and A. J. Burlington. *flow diags Nucleonics* 16:54-7 Ja '58

Protection

Metal spraying in inert atmospheres. R. E. Monroe and others. *il diag Welding J* 37:114-19 F '58

URANIUM, powdered

How UO_2 fuel cores are extruded. D. R. Stenquist and R. J. Anicetti. *il Cer Ind* 71:102-3 O '58

Powder metallurgy of uranium and thorium. A. Blainey. *il diag Metal Prog* 74:79-85 Ag '58

URANIUM alloys

Fuel for the world's reactors; uranium alloys and dispersions. R. A. Noland and others. *bibliog Nucleonics* 16:89 Ag '58

Hot-hardness survey of the zirconium-uranium system; abstract. W. Chubb and others. *Metal Prog* 72:202+ N '57

Identification of compounds in the system uranium-aluminum. R. F. Hills. *il Inst Metals J* 86:433-41 Je '58

Some observations of the corrosion of UBr_3 and $CeBr_3$ dispersed in bismuth and of UPb_3 in lead. P. J. Barton and G. W. Greenwood. *Chem & Ind* p380-1 Je '58

Some properties of uranium-low titanium alloys; abstract. D. J. Murphy. *Metal Prog* 72:151-2 N '57

URANIUM carbide

Preparation of arc-melted uranium carbides. R. J. Gray and others. *il diag Metal Prog* 74:65-70, cover Ji '58

URANIUM compounds

Complexing of hexavalent uranium with phosphorylated reagents. J. Kennedy. *bibliog Chem & Ind* p950-1 Ji '58

URANIUM compounds—Continued

Coordination compounds of uranium with organic bases in aqueous solution. P. S. Gentle and L. H. Talley. *bibliog* Am Chem Soc J 79:5889-90 N 20 '57

Copper salt catalysis of the air oxidation of reduced uranium compounds in carbonate-bicarbonate solutions. W. E. Clifford. *Am Chem Soc J* 80:245 Ja 5 '58

Manganese-54, uranium-235 and cobalt-60 complexes of some organic acids. N. C. Li and others. *bibliog* Am Chem Soc J 79:5864-70 N 20 '57

See also

Uranyl compounds

URANIUM dioxide. See Uranium oxides

URANIUM fluorides

Phase equilibria in the alkali fluoride-uranium tetrafluoride fused salt systems; systems LiF-UF₄ and NaF-UF₄. C. J. Barton and others. *bibliog* *il diag* Am Cer Soc J 41:63-9 F 1 '58

Preparing uranium tetrafluoride by ion exchange and electrolysis; Exco process. I. R. Higgins and others. *bibliog* flow sheet *il diags* Ind & Eng Chem 50:285-92 Mr '58

Sintering and hot pressing of uranium tetrafluoride. E. Barnes and P. Murray. *bibliog* *il diag* Am Cer Soc J 41:246-8 Jl 1 '58

UF₄ production in uranium mills. R. S. Long and others. *il diags* Min Cong J 44:74-6 Ap '58

Analysis

Determination of total fluoride content in uranium tetrafluoride using ion exchange columns. K. F. Sporek. *Anal Chem* 30:1030-2 Je '58

Precision of the pyrohydrolytic determination of fluoride and uranium in uranyl fluoride and uranium tetrafluoride. J. O. Hibbits. *Anal Chem* 29:1760-2 D '57

URANIUM hydride

Reaction of hydrogen with uranium. W. M. Albrecht and M. W. Mallett. *Electrochem Soc J* 105:610-11 O '58

URANIUM metallurgy

Close pH control eases uranium bottleneck. *il Chem Eng* 64:150-1 D '57

Dawn's new uranium mill achieves high extraction. D. Hargrove. *flow sheets* *il Eng & Min J* 159:90-7+ Mr '58

Development of an agitated trough continuous calciner. M. J. Szulinski. *flow sheet* *il diags* Chem Eng Prog 53:586-9 D '57

Flocking slimes increases uranium output. Ind & Eng Chem 50:sup42A, Ag '58

Gamma density controls extraction column. B. G. Ryle. *il diags* Chem Eng Prog 53:551-5 N '57

Homestake-New Mexico starts milling. *il diag Eng & Min J* 159:150 Je '58

Hydrometallurgy of refractory Canadian uranium and columbium minerals. A. D. Pittuck and others. *bibliog* flow sheets Can Min & Met Bul 51:223-33 Ap '58

Ion exchange separation of uranium from thorium. R. H. Poirier and others. *bibliog* Ind & Eng Chem 50:613-16 Ap '58

Moving beds double ion exchange capacity; new standards in six Elliot Lake, Ont. uranium mills. *il Chem Eng* 65:80+ S 22 '58

New ion exchange resin for uranium recovery. A. H. Greer and others. *bibliog* Ind & Eng Chem 50:166-70 F '58

Pebble milling. B. S. Crocker. *Eng & Min J* 159:168-9 F '58

Pyrometallurgical separation of uranium from thorium; extraction with liquid magnesium. P. Chioti and H. E. Shoemaker. *bibliog* *il diags* Ind & Eng Chem 50:137-40 F '58

Recovery of uranium from stainless steel fuel elements. L. W. Niedrach and others. *bibliog* *il diag* Ind & Eng Chem 50:763-6 My '58

Refining Canadian uranium. J. L. Kearns. *flow sheets* *il Can Chem Process* 41:58-61+ N '57

Reprocessor wrings profit from cold scrap; uranium scrap reprocessing. *il Chem Eng* 65:50+ O 6 '58

Separation of uranium from other metals in sulphate solution by fractional hydrolysis. T. V. Arden and others. *bibliog* J Ap Chem 8:141-59 Mr '58

Shortcut to uranium fuels; process flowsheet. C. H. Chilton. *il Chem Eng* 65:138-41 O 20 '58

Solvent extraction and resin-in-pulp, favorites on the Colorado plateau; Western nuclear corp. and Vitro uranium co. flow sheet *il Eng & Min J* 159:92-5 My '58

Solvent extraction for recovering uranium. J. E. Clemmer and others. *bibliog* flow sheets *il Min Cong J* 44:38-92 Je '58

SX line wins uranium from variety of ores; Vitro uranium co.; process flowsheet. C. H. Chilton. *il diag* Chem Eng 65:104-7 Ag 25 '58

Solvent extraction system for enriched uranium. J. Dykstra and others. *il diags* Ind & Eng Chem 50:161-5 F '58

UF₄ production in uranium mills. R. S. Long and others. *il diags* Min Cong J 44:74-6 Ap '58

Uranium plant expands; Mallinckrodt chemical works. *diags* Chem & Eng N 36:52-4 My 5 '58

Wastes yield enriched uranium. *il Chem & Eng N* 36:50-4 Ap 14 '58

Western Nuclear proves worth of resin-in-pulp ion exchange. E. C. Bitzer. *il plan diags* Eng & Min J 159:93-103 My '58

Electrometallurgy

New approach to electrolytic U. L. W. Niedrach and others. *diag* Nucleonics 16:64-5 Ja '58

Preparation of uranium metal by fused salt electrolysis. G. Meister and W. C. Lillien-dahl. J Metals 9:Trans 1445-7 N '57

Preparation of uranium metal by the electrolytic reduction of its oxides. L. W. Niedrach and B. E. Dearing. *bibliog* *il diags* Electrochem Soc J 105:353-8 Je '58

URANIUM mines and mining

Continental reviews three phases of uranium mining; with cost data. J. G. Roscoe and M. H. Brady. *Min Eng* 10:770-1 Jl '58

Uranium flooded by drilling a well, dissolving metal with chemical agent. Oil & Gas J 56:56 Ag 4 '58

Uranium production to match needs. J. C. Johnson. *il Chem & Eng N* 35:70-5 D 2 '57

Uranium; the world picture. 1957. P. L. Merritt. *il Min Cong J* 44:84-9+ F '58

Canada

Gunnar makes power all year 'round. *il diags* Eng & Min J 158:100+ D '57

New Mexico

Developing Rio de Oro. *il Eng & Min J* 159:126-7 Ag '58

Grants and Ambrosia Lake areas. T. O. Evans. *il Min Cong J* 43:42-4+ D '57

U₃O₈ production now under way at Ambrosia Lake district. J. B. Hutt. *flow sheets* *il map* Eng & Min J 159:36-92 Jl '58

Wyoming

Gas Hills uranium district of Wyoming. J. A. Mecla. *il Min Cong J* 44:69-72 Mr '58

URANIUM ores

Alteration of sandstone as a guide to uranium deposits and their origin, northern Black Hills, S.D. R. C. Vickers. *maps diags* Econ Geol 52:599-611 S '57

Another view of blending; with cost data. S. E. Craig. *Min Eng* 10:779-80 Jl '58

Commonwealth uranium search. *Metallurgia* 58:108 S '58

Distribution of Canadian uranium occurrences. A. H. Lang. *bibliog* maps Can Min & Met Bul 51:294-303 My '58

Engineered blending of uranium ores; with cost data. E. T. Wood. *Min Eng* 10:776-9 Jl '58

Evaluation of uranium ore guides. Monument valley, Arizona and Utah. C. G. Evensen and L. B. Gray. *bibliog* maps diags Econ Geol 53:639-62 S '58

Identification tables for uranium and thorium minerals. A. Volborth. *bibliog* Econ Geol 53:300-8 My '58

Occurrence of uranium in ancient conglomerates. C. F. Davidson. *Econ Geol* 52:668-93 *bibliog*(p891-3) S '57; Discussion. 53:489-93, 620-1, 757-9 Je-S '58

Search for uranium. *Engineer* 206:105-6 Jl 18 '58

Sonic waves may upgrade uranium ore. *Product Eng* 28:22 D 16 '57

Sulfur isotopes and the origin of sandstone-type uranium deposits. M. L. Jensen. *bibliog* Econ Geol 53:598-616 Ag '58

Supergene copper-uranium deposits in northern Nova Scotia. J. J. Brummer. *bibliog* *il map* diags Econ Geol 53:309-24 My '58

Uranium-bearing auriferous reefs at Jacobina, Brazil. J. D. Bateman. *bibliog* maps *diag* Econ Geol 53:417-25 Je '58

URANIUM ores—Continued

Uranium deposits in western North Dakota and eastern Montana. D. Towse, bibliog maps diags Econ Geol 52:904-13 D '57

Use of leachable uranium in geochemical prospecting on the Colorado plateau. H. D. Holland and others, bibliog maps diags Econ Geol 52:546-69; 53:190-209 Ag '57, Mr '58

See also

Coffinite

Uraninite

URANIUM oxides

Correlation of surface characteristics of uranium dioxide powders with their sintering behavior. D. R. Stenquist and others, il Am Cer Soc J 41:273-4 Jl '58

Fuel for the world's reactors; uranium oxide experience. J. C. Danko, Nucleonics 16:90 Ag '58

How UO_2 fuel cores are extruded. D. R. Stenquist and R. J. Anicetti, il Cer Ind 71:102-3 O '58

Measurements of the effective resonance integral in uranium metal and oxide in different geometries. E. Hellstrand, bibliog (25 ref) diags J Ap Phys 28:1493-502 D '57

Melting point and spectral emissivity of uranium dioxide. T. C. Ehlert and J. L. Margrave, Am Cer Soc J 41:330 Ag '58

Oxide on catcher foils spoils power measurements. J. N. Renaker and others, Nucleonics 16:127 F '58

Preparation and properties of uranium dioxide powder. C. D. Harrington and A. E. Ruehle, bibliog flow sheet il diags Chem Eng Prog 54:65-70 Mr '58

Preparation of uranium metal by the electrolytic reduction of its oxides. L. W. Niedrach and B. E. Dearing, bibliog il diags Electrochem Soc J 105:353-3 Je '58

Solid phase transitions in the UO_2 - ZrO_2 system. G. M. Wolten, bibliog Am Chem Soc J 80:4772-5 S 20 '58

Steam sintering of uranium dioxide. C. A. Arenberg and P. Jahn, Am Cer Soc J 41:179-83 My '58

Thoria-urania bodies and irradiation studies. C. L. Hoenig and others, bibliog il Am Cer Soc J 41:117-23 Ap '58

UO_2 - PuO_2 solid solutions. R. N. R. Mulford and F. H. Ellinger, Am Chem Soc J 80:2023 Ap '58

Analysis

Determination of uranium dioxide in stainless steel; X-ray fluorescent spectrographic solution technique. L. Silverman and others, diags Anal Chem 29:1762-4 D '57

URANIUM poisoning

Treatment of exposure to thorium and uranium with a chelating agent and supportive measures. W. N. Young and H. A. Tebrock, bibliog Ind Med 27:229-32 My '58

URANIUM tetrafluoride. See Uranium fluorides

URANTHORITE

X-ray studies of synthetic coffinite, thorite and uranthorites. L. H. Fuchs and E. Gebert, bibliog Am Mineralogist 43:243-3 Mr '58

URANYL compounds

Nature of uranyl 8-quinolinolate. E. P. Bullwinkel and P. Noble, Jr, bibliog Am Chem Soc J 80:2955-3 Je 20 '58

URANYL fluorides**Analysis**

Precision of the pyrohydrolytic determination of fluoride and uranium in uranyl fluoride and uranium tetrafluoride. J. O. Hibbits, Anal Chem 29:1760-2 D '57

URANYL nitrate

Development of an agitated trough continuous calciner. M. J. Szulinski, flow sheet il diags Chem Eng Prog 53:588-9 D '57

URANYL sulfate

Uranyl sulfate complexes from tri-n-octylamine extraction equilibria. K. A. Allen, bibliog Am Chem Soc J 80:4133-7 Ag 20 '58

URBAN planning. See City planning

UREA

Expanded urea material. Brit Plastics 31:263 Je '58

Extractive crystallization with urea, flow diags Pet Refiner 36:296 N '57

Formation of biuret from urea: C. E. Redemann and others, bibliog Ind & Eng Chem 50:633-6 Ap '58

Fractionation of sesame and safflower oil fatty acids with urea. T. N. Mehta and S. E. Dabhadre, bibliog Am Oil Chem Soc J 35:501-3 O '58

Isomerization equilibrium of bovine plasma albumin in the presence of urea. J. F. Foster and K. Aoki, bibliog Am Chem Soc J 80:1117-23 Mr '58

Liquid feed with alcohol; available hydrogen promotes livestock's effective use of urea and low-cost feeds. il J Agri & Food Chem 6:261-3 Ap '58

Occlusion of organosulfites by urea. J. Radell and P. D. Hunt, bibliog Am Chem Soc J 80:2683-5 Je '58

Properties of materials; ureas. Materials in Design Eng 48:163 Mid-O '58

Relation between urea-bisulfite solubility and disulfide exchange in wool. H. Kessler and H. Zahn, bibliog diags Textile Res J 28:357-8 Ap '58

Studies on glyceryl esters; the formation of urea inclusion compounds with 1-monoglycerides. F. Aylward and P. D. S. Wood, bibliog il J Ap Chem 7:583-9 N '57

Studies on glyceryl esters; the use of urea inclusion compounds for the fractionation of technical monoglycerides. F. Aylward and P. D. S. Wood, bibliog J Ap Chem 8:561-5 S '58

Temperature dependence of the carbon isotope effect in the acid hydrolysis of urea. P. E. Yankwich and A. E. Veazie, bibliog Am Chem Soc J 80:1855-8 Ap 20 '58

Urea complexes of technical monoglycerides. T. N. Mehta and S. N. Shah, bibliog Am Oil Chem Soc J 35:482-3 S '58

Urea forges ahead in Japan. Chem & Eng N 36:72-3 Ap 14 '58

Urea formaldehyde concentrate-85, a promising control for potato scab. J. F. Bartz and K. C. Berger, bibliog J Agri & Food Chem 6:675-7 S '58

Urea, the petrochemical to watch. L. F. Hatch, diags Pet Refiner 37:123-6 Ag '58

Why not wood-flour-filled urea? il Mod Plastics 35:115-17 My '58

Wood filled urea plant; Barrett div., Allied chemical corp. il Plastics World 16:5 Je '58

Analysis

Rapid method for determination of urea in nitrogen solutions. J. A. Smith and others, bibliog J Agri & Food Chem 6:587-8 Ag '58

Manufacture

Urea. G. E. Chenoweth, flow sheets Chem Eng Prog 54:55-8 Ap '58

Urea booms anew. il Chem & Eng N 36:25-6 F 17 '58

Urea; Chemical construction corp. flow diags Pet Refiner 36:284 N '57

Urea; Foster Wheeler corp. flow diags Pet Refiner 36:285 N '57

Urea from steel mill by-products; Cyanamid of Canada, Ltd. il plan Can Chem Process 42:51-4+ Ag '58

Urea (Inventa); Vulcan-Cincinnati, Inc. flow diags Pet Refiner 36:287 N '57

Urea; Montecatini. flow diags Pet Refiner 36:286 N '57

Urea's boom. il J Agri & Food Chem 6:87-8 F '58

URETHANS

Application of volatile organic liquids for expanding flexible urethane foam. E. Klesper, Rubber Age 84:84-7 O '58

Castor polyols for urethane coatings. H. M. Metz and others, bibliog diags Paint Oil & Chem R 121:6-12 Ap 17 '58

Compounding polyurethanes. R. J. Ferrari and others, bibliog Ind & Eng Chem 50:1041-4 Ji '58

Condensation of bisurethans and the formation of new polymers. T. M. Laakso and D. Reynolds, Am Chem Soc J 79:5717-20 N '57

Dense urethane foam is fastening edge for sandwich panels; receives citation in Materials in design engineering competition. il diags Materials in Design Eng 47:153-4 Ap '58

Developments in polyurethanes, unsaturated polyesters, polyvinyl chloride, and acrylonitrile copolymer blends, 1957. W. Cummings and R. L. Knapp, Plastics Tech 4:241-4 bibliog (p243-4) Mr '58

URETHANS—Continued

- Economics of flexible urethane and latex rubber foams. P. B. Baker. *Il Rubber World* 138:733-7 Ag '58
- Fragile electronic tubes travel safer when encased in urethane foam. *Il Mod Plastics* 36:89 O '58
- How polyether foams compare. M. J. Sanger and others. *Il Materials In Design Eng* 47:101-3 Mr '58
- Indestructible flip-flop lid; urethane foam filling. *Il Plastics Tech* 4:736 Ag '58
- Isocyanate foams; panel discussion. Rubber World 138:890-2 S '58
- Isocyanates; amazing means to many ends. *Il Mill & Factory* 62:105 Mr '58
- New polyurethanes withstand 300-400 F. Materials In Design Eng 48:150-1 Ag '58
- New uses pop up in urethanes. Chem & Eng N 36:38-9 My 26 '58
- Painter's delight now ready? polyurethane-based paints. *Il Chem & Eng N* 35:52 N 25 '57
- Polyesters of dimer acids as intermediates for urethane foams. R. D. Aylesworth and others. *bibliog Mod Plastics* 35:145-6+ My '58
- Polyurethane coating for electrical circuits. J. Delmonte. *Il Elec Manuf* 62:114-15 Jl '58
- Polyurethane coatings show big promise for chemical industry use. R. Jennings. Chem Eng Prog 54:144-6 S '58
- Polyurethane foams. H. K. Frensdorff. *bibliog Il Rubber Age* 83:812-18 Ag '58
- Potential applications for urethane foam in automobiles total over 24 lb. per car. A. W. Shearer. *Il diag Automotive Ind* 118:28-31 Mr 1 '58
- Radiation absorbers; flexible urethane foam loaded with conductive material. *Il Mod Plastics* 35:200 Ap '58
- Shock-absorbing plastic foam; polyurethane foaming. Franklin Inst J 265:334 My '58
- Urethane coatings under tough corrosion conditions. *Il Plant Eng* 12:92-3 S '58
- Urethane; equipment jobs seen. *Il Chem & Eng N* 36:76-7 Je 30 '58
- Urethane foam with added characteristics. *Il Plastics World* 16:53 Ja '58
- Urethane gets hot. Chem & Eng N 35:57 N 4 '57
- Urethane in clothing; warmth without weight. R. A. Singer. *Il Mod Textiles Mag* 39:54-6 Ja '58
- Urethanes; no return. Chem & Eng N 36: 40-1 S 29 '58
- See also
Rubber, Artificial

Analysis

- Detection of urea, melamine, isocyanate, and urethan resins; rapid group test for nitrogen, silicon, phosphorus, and titanium in coating materials. M. H. Swann and G. G. Esposito. *Anal Chem* 30:107-9 Ja '58
- URIDINE phosphates**
- Biosynthesis of glycogen from uridine diphosphate glucose. L. F. Lelair and C. E. Cardini. *Am Chem Soc J* 79:6340-1 D 5 '57
- Enzymatic conversion of uridine diphosphate D-glucuronic acid to uridine diphosphate galacturonic acid, uridine diphosphate xylose, and uridine diphosphate arabinose. E. F. Neufeld and others. *bibliog Am Chem Soc J* 80:4430-1 Ar 20 '58
- Nucleoside polyphosphates; new and improved syntheses of uridine diphosphate glucose and flavin adenine dinucleotide using nucleoside-5' phosphoramidates. J. G. Moffatt and H. G. Khorana. *bibliog Am Chem Soc J* 80:3756-61 Jl 20 '58
- Synthesis of adenosine-5' and uridine-5' phosphoramidates. R. W. Chambers and J. G. Moffatt. *bibliog Am Chem Soc J* 80: 3752-6 Jl 20 '58
- URIDYLIC acid**
- Infrared spectra and tautomeric structure in D₂O solution of polyadenylic and polyuridylic acids. H. T. Miles. *bibliog Chem & Ind* p591-3 My 17 '58

URINE

- Evidence for the occurrence of a metabolite of aldosterone in urine. S. Ullick and S. Lieberman. *bibliog Am Chem Soc J* 79:6567-8 D 20 '57
- Analysis**
- Analytical studies on lead in human urine. K. W. Nelson and R. E. Hamm. *bibliog Il A M A Archives Ind Health* 17:38-44 Ja '58

- Chromatography of aromatic constituents of urine. P. Smith. *bibliog Chem & Ind* p758-9 Je 21 '58
- Complexometric titration of urinary calcium and magnesium. C. L. Yarbrow and R. L. Golby. *bibliog Anal Chem* 30:504-6 Ap '58
- Critical analysis of methods for measurement of pregnane-3-alpha, 17-alpha, 20-alpha-triol in human urine. A. M. Bongiovanni and W. R. Eberlein. *bibliog Anal Chem* 30: 388-93 Mr '58
- Lean-body mass creatinine-coefficient deficit and urinary steroids. H. Sobel. *bibliog Am J Clinical Nutrition* 6:531-4 S '58
- Nuclear-track technique for low-level Pu in urine. L. C. Schwendiman and J. W. Healy. *Il diag Nuclconics* 16:78+ Je '58
- Organ urine and feces vitamin B₁₂ content of normal and starved rabbits. H. L. Rosenthal and L. Cravitz. *bibliog J Nutrition* 64:281-90 F '58
- Potentiometric measurement of pCl; application to the determination of chloride in sweat, urine, and miscellaneous solutions. M. Stern and others. *bibliog Anal Chem* 30:1506-10 S '58
- Radiochemical analysis of strontium and barium in human urine. L. B. Farabee. *A M A Archives Ind Health* 17:200-3 Mr '58
- Saturation studies with vitamin B₁₂ in human subjects. W. G. Unglaub and others. *bibliog Am J Clinical Nutrition* 6:535-41 S '58

URONIC acid

- Uronic acid fragments from slash pine (pinus elliotii) and their behavior in alkaline solution. R. L. Whistler and G. N. Richards. *bibliog Am Chem Soc J* 80:4888-91 S 20 '58
- Uronic acids of jute fibre hemicellulose. H. C. Srivastava and G. A. Adams. *bibliog Chem & Ind* p920 Jl 19 '58

USED machine tools. See Machine tools, Used

UTAH

- See also subdivision Utah under special subjects, e.g.
Coal mines and mining
Gas, Natural
Geology
Iron mines and mining
Mineral and mineral resources
Petroleum
Petroleum industry and trade

UTERUS**Diseases**

- Detection of uterine cancer in industry. B. McLean and others. *A M A Archives Ind Health* 18:261-7 S '58
- Preliminary findings of the Memphis-Shelby county uterine cancer study and their interpretation. J. E. Dunn, jr. *bibliog Am J Pub Health* 48:861-73 Jl '58

V

V-belts. See Belting

V-NOTCH Charpy Impact testing. See Notched bar testing

VTOL airplanes. See Airplanes, Vertical take-off

VACATION houses

- House in Maryland has living room pool. *Il plan Arch Rec* 12:165-6 Ag '58
- Space extended upward and outward. *Il plans Prog Arch* 39:122-6 My '58

VACATIONS

Rubber manufacturing industry plant vacation schedules. Rubber Age 83:334-5 My '58

VACCINES

- Combination immunization shot; Quadrigen. Franklin Inst J 266:254-5 S '58
- Efficacy of and indications for use of adenovirus vaccine. M. R. Hilleman. *bibliog (37 titles) Am J Pub Health* 48:153-8 F '58
- Painless hypos through electrophoretic chromatography; abstract. A. Karler. *Il Chem & Eng N* 36:52-3 S 22 '58

See also

Influenza—Vaccines
Poliomyelitis—Vaccines

VACUUM

- Air binding in large pipelines flowing under vacuum. R. T. Richards. diags Am Soc C E Proc 83 [HY 6 no 1454] 1:10 D '57; Discussion. R. E. Templeton and T. E. Stelson. 84 [HY 3 no 1690] 3:1-2 Je '58
- Channel-clads plate via vacuum method. Il Iron Age 181:138-9 Mr 6 '58
- Degradation of cellulose in a vacuum with ultraviolet light. J. H. Flynn and others. bibliog diag J Res Nat Bur Stand 60:229-33 Mr '58
- Drying the big ones in a vacuum; General electric co. L. Hutzler. 3d. Il diag Plant Eng 12:114-15 Mr '58
- Electron multiplication processes in high-voltage electrical discharge in vacuum. A. I. Bennett. diag J Ap Phys 28:1251-3 N '57
- High-temperature vacuum brazing of jet-engine materials. E. G. Huschke, Jr. and G. S. Hoppin. 3d. Il Welding J 37:sup233-40 My '58
- Insulation aging in pure oxygen and in a vacuum. L. C. Whitman. Il Power Apparatus & Systems p294-7 Je '58; Abstract. Elec Eng 77:781 S '58; Discussion. Power Apparatus & Systems p297-8 Je '58
- One-step circuit production; vacuum deposition. diags Electronics 31:22 Jl 11 '58
- Optimization of nozzle area ratio for rockets operating in a vacuum. M. Goldsmith. Jet Propulsion 28:170-2 Mr '58
- Optimum pressure for vacuum-plant operation. W. L. Nelson. Oil & Gas J 56:107 Ag 4 '58
- Production of cadmium sulfide crystals by coevaporation in a vacuum. R. J. Miller and C. H. Bachman. bibliog il diags J Ap Phys 29:1277-85 S '58
- Study of the effectiveness of a copper foil trap for mercury vapor in vacuum. R. H. McFarland and D. G. McDonald. R Sci Instr 29:530-1 Je '58
- Uses broaden for vacuum metallizing. Il Iron Age 181:99 Mr 27 '58
- Vacuum coatings go industrial. P. J. Clough. Il Product Eng 28:67-9 D 23 '57
- Vacuum deposition avoids embrittlement. V. Dress. Il Iron Age 180:142-5 D 19 '57; Abstract. S A E J 65:125 N '57
- Vacuum limitations of rubber O-ring joints. J. R. Young. diag R Sci Instr 29:795-6 S '58
- Vacuum techniques in the atomic energy industry. H. Kronberger. diags Engineer 204:702-5 N 15 '57; Discussion. 204:749-50 N 22 '57
- Vacuum treatment of steel in the Soviet Union. A. M. Samarin. il diags J Metals 10:190-2 Mr '58
- See also
- Electric furnaces, Heat treating—Vacuum furnaces
- Electric furnaces, Vacuum melting
- Electric welding, Arc—Electron beam vacuum process
- Furnaces, Brazing—Vacuum furnaces
- Furnaces, Heat treating—Vacuum furnaces
- VACUUM apparatus**
- Demountable vacuum seal for attaching an end-plate to a glass tube. H. R. Moore. diag R Sci Instr 29:737-8 Ag '58
- Effect of mercury on a metal high-vacuum valve. R. H. McFarland and others. R Sci Instr 29:529-30 Je '58
- Electrical lead for vacuum systems. H. Wieder and A. W. Smith. diags R Sci Instr 29:794 S '58
- Electrically insulated thermally conducting vacuum seal for low-temperature use. C. J. Meehan and A. Sosin. diag R Sci Instr 29:323 Ap '58
- Filtration and vacuum distillation unit for the purification of alkali metals. G. W. Horsley. bibliog diags J Ap Chem 8:13-18 Ja '58
- Grating vacuum monochromator for the spectral range 1000-6500 Å. T. J. M. Sluyters and E. de Haas. bibliog il diags R Sci Instr 29:597-600 Jl '58
- Greaseless vacuum seal for rotating shafts. E. A. Billett and J. Bishop. diag J Sci Instr 35:70-1 F '58
- High vacuum valve. L. Blararu. diags J Sci Instr 35:184-5 My '58
- Insulated vacuum lead-in using an O-ring. W. D. Edwards. bibliog diag J Sci Instr 35:111-12 Mr '58
- Means for attaining vacua without the use of pump fluids. I. Ames and others. diag R Sci Instr 29:736-7 Ag '58
- Method for making vacuum feedthrough terminals. W. L. De Villiers. diag R Sci Instr 29:527-3 Je '58
- National Research cold trap cuts vacuum cycle time. Il diag Chem Eng 65:80-4 Ja 27 '58
- Power application vacuum switch. R. W. Sorensen. bibliog il Elec Eng 77:350-4 F '58
- Simple gas inlet for use with vacuum systems. J. Almond. diag J Sci Instr 34:70 F '58
- Simple glass sliding joint for vacuum work. G. W. Gore. diag J Sci Instr 34:459 N '57
- Sliding and rotating mechanical and electrical feed-through seals into a vacuum. N. Fuschillo. diags Am J Phys 26:400 S '58
- Use of oxide cathodes in demountable vacuum systems. G. A. Haas and J. T. Jensen, Jr. bibliog il R Sci Instr 28:1007-10 D '57
- Vacuum casting of steel. J. N. Hornak and M. A. Orzechski. il diags J Metals 10:471-5 Jl '58; Abstract. Metal Prog 74:142-4 Ag '58
- Vacuum depanner solves bakery handling problem. Il Automation 5:91 F '58
- Vacuum drilling jig. Il Steel 141:178-9 N 18 '57
- Vacuum fusion apparatus for gas analysis. P. D. Blake. bibliog diag Iron & Steel Inst J 138:261-4 Mr '58
- Vacuum-metallurgical research gives industry a glimpse into the future. R. C. Bert. bibliog il diag Welding J 36:sup433-9 N '57; Excerpts. Mech Eng 79:1039-41 N '57; Eng J 41:81 Ja '58; Discussion. Mech Eng 80:120-1 Ap '58
- Vacuum or low-pressure seal utilizing modified standard refrigeration-type, flare tube fittings. B. H. Hodder. il diag J Sci Instr 35:132 My '58
- Vacuum pouring of ingots for heavy forgings; abstract. H. Stoll. diag Metal Prog 74:146-7 Ag '58
- Vacuum; regulators, pump governors, breakers, and relief valves. F. D. Marton and C. S. Beard. Il diags Instruments & Automation 31:867-70 My '58
- Vacuum stream degassing is new tool for steel plant engineers. K. C. Taylor. Il Iron & Steel Eng 34:142-4 O '57
- Vacuum stream degassing takes hold. K. C. Taylor. Il diag Steel 141:70-2 D 23 '57
- Vacuum techniques in the atomic energy industry. H. Kronberger. bibliog flow sheet diags Inst Mech Eng Proc 172 no 3:113-24, pl 1-2; Discussion. 125-31; Reply. 131-2 '58
- Valve for the grease-free manipulation of mercury. G. A. Bottomley. diags J Sci Instr 34:369-70 S '57; Discussion. J. A. Frost. 35:268-9 Jl '58
- Vapor pressure apparatus. M. W. Cook. diag R Sci Instr 29:399-400 My '58
- Testing**
- Leak testing of vacuum plant by helium analysis. E. Glueckauf and G. P. Kitt. diags J Sci Instr 35:220-3 Je '58
- VACUUM brakes.** See Brakes, Vacuum
- VACUUM chambers.** See Testing laboratories—Vacuum chambers
- VACUUM cleaners**
- Central vacuum cleaning system. I. D. Singles. Il Power Eng 62:79-80 F '58
- Handle doubles as electrical conductor in battery-powered vacuum cleaner. Il diag Machine Design 30:125 My 15 '58
- Machining dust eliminated with vacuum cleaner. J. McDonald. Il Am Mach 102:124 S 8 '58
- New cleaning unit utilizes aluminum die castings. Il Elec Manuf 62:130 Ag '58
- Smooth-rolling cleaner traveled a rough road to market. J. P. Hunter. Il Gen Elec R 60:28-32 N '57
- Unusual cleaner from usual parts; aircraft runway cleaner; U.S. Hoffman machinery corp. il diag Product Eng 28:92 N 25 '57
- Vacuum cleaner removes slugs. M. Howe and L. F. Dunphy. Il Am Mach 102:79 Ag 25 '58
- Vacuum street cleaner does speedy job. V. Victoria. Il Pub Works 89:115 Je '58
- Manufacture**
- Unusual dies for stamping Constellations; Hoover vacuum cleaners. Il diags Mach 64:117-22 My '58

VACUUM cleaning

Dual role for vacuum cleaning; Boeing airplane co. *il* Safety Maint 115:18+ Mr '58

VACUUM containers

Glass Dewars for optical studies at low temperatures. L. J. Schoen and others. *bibliog* diags R Sci Instr 29:638-8 J1 '58
Pressure-fed liquid hydrogen target; Dewar. R. Littauer. diags R Sci Instr 29:178-9 F '58

See also

Thermos bottles

VACUUM cranes. See Cranes, derricks, etc.

VACUUM dehydration. See Dehydration

VACUUM filters. See Filters and filtration (technical chemistry)—Vacuum filters

VACUUM forming. See Molding

VACUUM gages

Estimation of vacuum in unopened containers. E. G. Davis and A. G. L. Elliott. *bibliog* diags Food Tech 12:473-8 S '58

See also

Ionization gages

VACUUM metallizing. See Metal coating

VACUUM pumps

Barium absorption pumps for high-vacuum systems. R. W. Cloud and others. *diag* R Sci Instr 28:889-92 N '57

Electronic ultra-high vacuum pump. L. D. Hall. *bibliog* *il* diags R Sci Instr 29:367-70 My '58

High vacuum pumps. Z. Dobrowski. *il* diags Chem Eng 63:181-4 S '56; Same cond. *Product Eng* 28:J 10-12 Mid-O '57

Vacuum pump would have prevented costly troubles of heating system. S. R. Lewis. *Heating-Piping* 30:196 Ja '58

VACUUM tube amplifiers. See Amplifiers, Vacuum tube

VACUUM tube voltmeters. See Voltmeters, Vacuum tube

VACUUM tubes

Aluminum foil used in electron tubes; Westinghouse research laboratories. *il* Ind Lab 9:34 Je '58

Amateur scientist; how a gas-discharge tube was made and applied in diverting experiments. J. Armstrong. *il* diags Sci Am 198:112-144 F '58

Analysis and experimental results of a diode configuration of a novel thermoelectron engine. G. N. Haisopoulos and J. Kave. *bibliog* diags Inst Radio Eng Proc 46:1574-9 S '58; Excerpt. J Ap Phys 29:1124-5 J1 '58

Application of gas discharge tubes as noise sources in the 1700-2300 mc/s band. M. Kollanyi. *bibliog* diags Brit Inst Radio Eng J 18:541-8 S '58

Beam-landing errors and signal-output uniformity of vidicons. R. G. Neuhauser and L. D. Miller. *il* diags SMPTE J 67:149-53 Mr '58

Broadband microwave systems employing u.h.f. triodes. G. W. S. Griffith and B. Wilson. *bibliog* *il* diags Electronic Eng 30:297-302 My '58

Built-in ion trap protects cathode. W. R. Aiken and R. E. Heller. *diag* Electronics 31:126 F 14 '58

Considerations affecting the rise and decay of cathode currents in receiving tubes. E. R. Schrader. RCA R 19:109-27 Mr '58

Custom tubes produce unexpected markets. Electronics 30:10+ D 1 '57

Differential triode. *il* *diag* Electronic Ind 17:75 My '58

Diode space and space charge. P. A. Clavier. *Inst Radio Eng Proc* 46:918-19 My '58

Frameok grids, new tube design; Sylvania electric products. Electronic Ind 17:5 Ap '58

Fundamental tube fault corrected. *il* Electronics 31:114+ An 11 '58

Grid current in electron tubes. E. Fairstein. R Sci Instr 29:524-6 Je '58

Helitron tube developed at Stanford. D. A. Watkins. *Elec Eng* 76:1124 D '57

High frequency parameters of transistors and valves. J. Zawels. *bibliog* diags Electronic Eng 30:15-17 Ja '58

International convention on microwave valves; abstracts of papers. Engineering 185:724-5 Je 6 '58

Ion trap for pentode; abstract. W. R. Aiken and R. E. Heller. *diag* Wireless World 64:440 S '58

Isometric recorder for small muscle tensions. S. M. Ross. *diag* R Sci Instr 29:319-20 Ap '58

Magnetic inverter uses tubes or transistors. C. H. R. Campling. *il* diags Electronics 31:158-61 Mr 14 '58

Match-box tube. Westinghouse Eng 18:146 S '58

Microwave valves; abstracts of papers presented at I.E.E. meeting. *bibliog* Wireless World 64:310-11 J1 '58

Microwaves in science and technology. R. Cockburn. *Engineer* 205:802-4 My 30 '58

Millimicrosecond duration light source; hydrogen flash tube. J. H. Malmberg. *diag* R Sci Instr 28:1027-9 D '57

New breed of microwave tubes spurs radar, ECM, scatter designs. J. Holahan. *il* diags Aviation Age 29:22-3+ Ap; 118-23+ My; 140-3 Je '58

New developments in wide-band microwave tubes. D. A. Dunn. *bibliog* *il* diags Electronic Ind 17:72-8 Ag '58

New electron tube for use in defense radars; amplifron. *Elec Eng* 76:1116 D '57

New tv tube does three jobs. F. Hadrick. *il* diags Radio-Electronics 29:102-3 Ap '58

New tubes and semi-conductors, diags Published in monthly numbers of Radio-electronics

New tubes made easy job a dog. J. M. Ford. *diag* Radio-Electronics 29:47 Ag '58

Novel receiving tube envelope design. *il* Elec Manuf 62:134 S '58

Production and sales; transistor sales rise; tubes about steady. Electronics 31:16 Ag 8 '58

Reactance valve at audio frequencies. B. J. Alcock. diags Electronic Eng 30:86-8 F '58

Receiving tubes and general purpose tubes; tables. Electronic Ind 17:58-60 Je '58

Ring counter has increased count capacity. A. V. Carlson. *bibliog* *il* diags Electronics 31:89-91 Ap 11 '58

Series triode stabilizes million-volt generator. G. Dome and H. D. Hoop. *il* diags Electronics 31:776-9 Je 20 '58

Shirt button electron tube. J. E. Beggs. Franklin Inst J 265:384 My '58

Small signal power conservation theorem for irrotational electron beams. J. W. Klüver. J Ap Phys 29:618-22 Ap '58

Strophotron. diags Electronic & Radio Eng 34:424 N '57

Thermal properties of tungsten vs copper for electron tube delay lines. R. A. Paananen. *Inst Radio Eng Proc* 46:500 F '58

Thermionic and cold-cathode valves; review of progress. W. H. Aldous. *bibliog* *il* diags Inst E E Proc 105 pt B:273-81 My '58

Transistor circuits for use with gas-filled multi-cathode counter valves: telephone exchange register. J. B. Warman and D. M. Bibb. *bibliog* *il* diags Electronic Eng 30:136-9 Mr '58; Discussion. 30:508-9 Ag '58

Triodes and tetrodes for u.h.f. s.h.f. operation. C. A. Tremlett and A. D. Williams. *bibliog* *il* Electronic Eng 30:335-40 My '58

Tube outlook good. Electronics 31:19 My 30 '58

12 ways to retain electron tubes. F. W. Wood, jr. diags Product Eng 29:82-3 Ap 14 '58

Unusual tube effects cause circuit troubles. W. E. Babcock. *il* diags Electronics 31:90-3 S 12 '58

See also

Amplifiers, Vacuum tube

Cathode followers

Cathode ray tubes

Klystron

Magnetron

Multivibrators

Radio detectors

Radio rectifiers

Storage tubes

Television receiving apparatus

Thyratron

X ray tubes

Ceramic tubes

Ceramic-glass tube. diags Electronics 31:20 Ag 8 '58

Ceramic receiving tube report. *il* Electronics 31:101-2+ J1 18 '58

Design of the month; ceramic vacuum relay; illustrations with text. Electronics 30:216 D 1 '57

VACUUM tubes—Ceramic tubes—Continued

- General Electric develops high temp miniature electron tube. *Il Ind Lab* 9:54 Ap '58
- Heaterless tubes become smaller. *Il Electronics* 31:88 Mr 28 '58
- Klystron amplifier uses capacitive tuning. R. G. Rockwell. *Il diags Electronics* 31:56+ Ak 29 '58
- Ultra-thin ceramic parts for electronic components. *Il Elec Manuf* 62:128 S '58

Cold cathode tubes

- Dekatrons and electro-mechanical registers operated by transistors. G. B. B. Chaplin and R. Williamson. *diags Inst E E Proc* 105 pt B:231-6; Discussion. 266-70 My '58
- Design and manufacture of a low-cost cold-cathode trigger tube. A. Turner. *Il diags Electronic Eng* 30:166-9 Ap '58
- Designing cold-cathode tube circuits. M. H. Goosey. *diags Electronics* 31:101-2+ Ja 17 '58
- Lateral-current control mechanism for cold-cathode gas discharges. D. J. Belknap and L. R. Crump. *diags J Ap Phys* 29:737-8 Ap '58
- Multi-channel Dekatron scaling unit. F. W. Lovick. *diags Electronic Eng* 30:394-5 Je '58

Control uses

- A-c threshold converts to switch. W. E. Earle. *diags Electronics* 31:96+ Ja 3 '58
- Automatic frequency control for a marginal-oscillator magnetic absorption spectrometer. A. W. Nolle and H. L. Henneke. *diags R Sci Instr* 28:930-2 N '57
- Circuit generates tape stop signal. H. J. Wilhelmy. *diag Electronics* 31:115-16 S 12 '58
- Cosmotron external beam monitor. C. Brand and C. Swartz. *Il diag R Sci Instr* 29:247-8 Mr '58
- Developing touch-control switching. L. H. Cutler. *Il diag Gen Elec R* 61:37-9 My '58
- Diode counter calibrates missile testing camera. S. E. Dorsey. *Il diags Electronics* 31:93-5 F 14 '58
- Electronic coax relay. *Il Q S T* 42:74 My '58
- Electronic control of voltage compensation of signalling battery. *diag Engineer* 206:385 S 6 '58
- Electronic control times high-speed welding cycle. S. C. Rockefeller. *Il diags Electronics* 31:70-2 Ag 15 '58
- Electronic flasher. D. Ripani. *diag Radio-Electronics* 29:141 O '58
- Firing circuits trigger airborne machine guns. M. Hallio. *Il diags Electronics* 31:86-9 Ag 1 '58
- Frequency-converter welding control using counting tubes. L. R. Broniak and W. A. Chaisson. *Il diags Welding J* 37:336-41 Ap '58
- Heat program timer controls weld energy. A. V. Ranis. *Il diags Electronics* 31:76-8 Je 6 '58
- Johnson 250-39 transmit-receive switch. B. Goodman. *Il diag Q S T* 42:46-7 S '58
- Low-voltage trigger controls high currents. E. H. Cullington and others. *bibliog Il diags Electronics* 31:86-8 Ap 11 '58
- Neon triode gives low-speed gate. R. L. Ives. *diags Electronics* 31:170+ Mr 14 '58
- New neon bulb acts like a thyatron. T. N. Tyler. *Il diags Radio-Electronics* 29:102-4 O '58
- Power failure alarm. G. P. Pearce. *Il diags Radio-Electronics* 29:116-17 Ja '58
- Rapid change-over switch for use with low-resistance circuits. W. Mehl and others. *Il diag R Sci Instr* 29:180-1 F '58
- Simple electronic switch for magnetic sound system. F. Cremaschi. *diags Audio* 42:26+ F '58
- Simple three-channel c.r.o. beam switch. W. F. Lovering and M. P. Hearn. *Il diags Electronic Eng* 30:134-5 Mr '58
- Simplified control unit. R. G. Chaplick. *Il diags Audio* 42:17-21+ S '58
- Squelch circuit mutes magnetic tape echoes. D. Cronin. *Il diags Electronics* 31:66-7 My 9 '58
- Stabilizer for large sub-standard lamps. A. W. S. Tarrant. *diag J Sci Instr* 35:31 Ja '58

- Timer shutters crt for single frame photos. A. A. Tarnowski and K. G. Lisk. *Il diags Electronics* 31:83-5 Ap 11 '58
- Transmit receive switches. C. E. Quick; C. Winspeare. *diags Q S T* 42:51 S '58
- Variable-speed d-c motor drive employing the Xatron, a grid-controlled mercury arc rectifier. A. J. Humphrey and K. L. Shrider. *bibliog Il diags Power Apparatus & Systems* p 1245-51 F '58
- Welding control designed for work on small parts. A. V. Ranis. *diags Elec Manuf* 61:160+ Je '58

Cooling

- Special tube fins offset calefaction. C. Beurthelet and H. G. Towlson. *diags Electronics* 31:104+ Ak 15 '58

Design

- Design of valves for submerged telephone cable repeaters. F. H. Reynolds. *bibliog Il Research* 11:310-14 Ag '58

Electric grounding

- New ground strip for electron tubes. A. W. Krueger. *Il Bell Lab Rec* 36:13 Ja '58

History

- Review of twenty years of valve development; abstract. C. H. Foulkes. *Inst E E Proc* 105 pt B:230 My '58

Industrial applications

- Production and sales; industrial tube. *Electronics* 30:18 D 10 '57
- Transistors vs tubes for industrial applications. *Il diags Product Eng* 28:52-6 O 28 '57
- Tubes troubleshoot engines; Ford motor co.'s Cleveland engine plant. *Il Electronics* 30:22-3 D 20 '57
- Very high speed precision tachometer. J. K. Goodwin. *Il diags Electronic Eng* 30:18-24 Ja '58

See also

- Electric heating, Industrial—High frequency heating

Manufacture

- Background, foreground and horizon, the radio valve industry in prospect and retrospect; inaugural address. T. E. Goldup. *Il Inst E E Proc* 105 pt B:1-10 Ja '58; Excerpts. *Engineer* 204:516-18 O 11 '57
- Factory in the country; Standard telephones and cables, ltd. *Il Engineering* 186:348-9 Mr 14 '58
- Flame jets replace slow annealing in oven; magnetron tubes. W. H. Small. *Il Electronics* 31:106+ J1 18 '58
- Glass to metal seal for high-frequency electronic tubes; patent. *Glass Ind* 39:387 J1 '58
- Heat program timer controls weld energy; Manufacture of special-purpose electron tubes. A. V. Ranis. *Il diags Electronics* 31:76-8 Je 6 '58
- Reliability invades commercial tubes. *Il Electronic Ind* 17:72+ S '58
- Self-mixed forming-gas; sealing miniature vacuum tubes. *Il diag Electronic Ind* 17:97 Am '58
- Simple shop practices for short runs; Tube div. Radio corporation of America; illustrations with text. H. J. Ackerman and others. *Am Mach* 102:97-100 Ja 13 '58
- Standard telephones & cables ltd.; valve factory. *Il Chem & Ind* p807-8 Je 28 '58

Measurement uses

- A-c zero locator. L. Costrell. *diag Electronics* 31:98+ Ja 17 '58
- Apparatus for the determination of dynamic elastic modul at low strains. E. V. Vernon. *bibliog diags J Sci Instr* 35:28-9 Ja '58
- Dynamic conductance meter. M. R. Barber and A. G. Boyle. *diags Electronic & Radio Eng* 35:392-4 O '58
- Electronic ac mutual inductance bridge for measuring small susceptibilities at low temperatures. W. L. Piffinger and others. *bibliog diags R Sci Instr* 29:169-62 F '58
- For the shop, an amplified Wheatstone bridge. R. L. Ives. *Il diags Radio-Electronics* 29:51-3 Mr '58
- How to measure midfrequency phase shift. A. Nirenburg. *Il diags Electronics* 31:46-7 Ak 29 '58

VACUUM tubes—Measurement uses—Cont.

- Integrated audio monitor for home and studio use. R. L. Ives. *il diags Audio* 42:24-5, 72-4 Ap '58
- Measurement of spark time lags. J. K. Woods. *diags Electronic Eng* 30:170-6 Ap '58
- Tube tells time for reliability studies. Machine Design 30:38-9 Ag 7 '58
- Water-wave measuring apparatus. A. Brehner. *diags J Sci Instr* 34:506-7 D '57
- See also
- Voltmeters, Vacuum tube

Mechanical analogies

- Tracing electron paths; mechanical analog of an electron tube. *il Gen Elec R* 61:39 Jl '58

Miniature tubes

- General Electric develops high temp miniature electron tube. *il Ind Lab* 9:54 Ap '58
- Heaterless tubes become smaller. *il Electronics* 31:88 Mr 23 '58
- Self-mixed forming-gas; sealing miniature vacuum tubes. *il diags Electronic Ind* 17:97 Ag '58
- Tiny tube steals transistor's thunder. *il Radio-Electronics* 29:32 Ag '58

Noise

- Beam noise in crossed electric and magnetic fields. R. P. Little and others. *diags J Ap Phys* 29:1376-7 S '58
- Noise in mixer tubes. A. van der Ziel and R. L. Watters. *Inst Radio Eng Proc* 46:1426-7 Jl '58
- Notes on the getter. N. V. Becker. *Radio-Electronics* 29:42 F '58
- Space charge as a source of flicker effect. C. S. Bull. *bibliog diags Inst E E Proc* 105 pt B:190-4 Mr '58
- Tube noise factor chart; reference sheet. L. P. A. DeBacker. *Electronics* 31:84 Jl 18 '58
- Uncorrelated grid noise. D. A. Bell. *bibliog Electronic & Radio Eng* 34:36-7 Ja '57; Discussion. 34:193, 432-3; 35:75 My, N '57, F '58

See also

- Magnetron—Noise

Protection

- Box-shaped tube envelope. *il Electronics* 31:93 Jl 18 '58
- New liner for tube shields. *il diags Electronic Ind* 17:78-9 Mr '58
- Rate-of-rise control for filaments. J. T. Keefe. *il diags Electronics* 31:94+ S 26 '58
- Screen-grid protection with a surplus relay. I. S. Simpson. *diag Q S T* 42:64 Jl '58
- Surge limiter saves tubes. *il diags Elec Manuf* 61:156 My '58
- Transfer molding encapsulates tube leads. *il Electronics* 31:68+ Ja 31 '58

Rating

- Making sense of the three tube rating systems. A. J. Heitner. *Electronics* 31:104+ Je 6 '58
- R. f. and audio ratings for the surplus 701A. S. Rockafellow. *diag Q S T* 42:63 Jl '58
- Rating of thermionic valves for use under abnormal ambient conditions. B. D. Mills and W. W. Wright. *il diags Elec Com* 34:322-31 D '57

Scientific applications

- Camera tube pictures details in almost complete darkness; intensifier orthicon. G. A. Morton and J. E. Rudy. *il Machine Design* 30:12 Jl 24 '58
- Forty-megacycle scaler. M. Nakamura. *bibliog diags R Sci Instr* 28:1015-20 D '57
- Mass spectrometer mass marker. J. H. Beynon and S. Clough. *diag J Sci Instr* 35:289-91 Ag '58
- Sensitive single channel pulse-height analyzer. M. Simhi and M. Birk. *diag R Sci Instr* 29:766-8 S '58

Testing

- Automatic selection of voltages with punched plastic cards; illustrations with text. Machine Design 30:132-3 Ja 23 '58
- Automatically recording tube-life data. A. T. Ross. *il diags Bell Lab Rec* 36:176-8 My '58
- Circular nomogram for percent change. G. L. Schwendiman. *diag Electronics* 31:102-3 Ja 3 '58

- Differential method of lag compensation in photoconductive devices. H. Borkan and P. K. Welmer. *il diags RCA R* 19:62-76 Mr '58

- Electron tube evaluation for guided missile applications. H. G. Chandler. *il Elec Eng* 77:690-2 Ag '58
- Electron tube works after explosion. V. E. Learned. *il Elec Eng* 77:369 Ap '58
- Elimination of cold-junction error in thermocouple measurements in electron tubes. I. S. Solet. *diag R Sci Instr* 29:73-4 Ja '58
- High-speed tester checks tubes in groups; indication of opens and shorts with direct-reading localization by neon lamps. E. S. Gordon. *il diags Electronics* 31:76-8 My 9 '58
- New portable electron tube tester. A. A. Heberlein. *il Bell Lab Rec* 36:179-81 My '58
- Oscillator measures tube capacitance. H. L. Morgan. *Electronics* 31:126+ F 14 '58
- Technique finds tube resonances; accelerometer as sensing device. R. B. Tatge. *diag Electronics* 31:80+ My 9 '58
- Tester checks 1600 tubes per hour. *il diags I S A J* 6:18 Je '58
- Tube thumper ups reliability. *Electronics* 31:114+ Ag 1 '58

Traveling wave tubes

- All travelling-wave tube systems; projected London to Norwich television radio relay. S. Fedida. *bibliog diags Electronic Eng* 30:283-90 My '58
- Analysis of traveling-wave tubes with tapered velocity parameter. D. V. Geppert. *Inst Radio Eng Proc* 46:1658 S '58
- Antiklystron causes stir. Z. Tchernov. *diags Electronics* 31:8 Ap 25 '58
- Backward wave oscillators. A. G. Stainsby. *bibliog il diags Electronic Eng* 30:329-34 My '58
- Cite advances in high-frequency power tubes. *Electronics* 31:16 Ap 11 '58
- Description and operating characteristics of the platinotron, a new microwave tube device. W. G. Brown. *il diags Inst Radio Eng Proc* 45:1209-22 S '57
- Distribution of leakage flux around a twt-focusing magnet; a graphic analysis. M. S. Glass. *diags Inst Radio Eng Proc* 46:1751-6 O '58
- Effect of collector potential on the efficiency of traveling-wave tubes. H. J. Wolkstein. *diags RCA R* 19:259-82 Je '58
- Electrostatically focused traveling-wave-tube amplifier. K. K. N. Chang. *bibliog il diags RCA R* 19:86-97 Mr '58
- G.P.O. orders first all-travelling-wave-tube radio links. *Electronic Eng* 30:261 My '58
- Helitron oscillator. D. A. Watkins and G. Wada. *il diags Inst Radio Eng Proc* 46:1700-5 O '58
- High-power periodically focused traveling-wave tube. O. T. Purl and others. *bibliog il diags Inst Radio Eng Proc* 46:441-8 F '58
- Low-noise nonlinear reactance traveling-wave amplifier. R. S. Engelbrecht. *Inst Radio Eng Proc* 46:1655 S '58
- Low noise tunable preamplifiers for microwave receivers. M. R. Currie and D. C. Forster. *bibliog il diags Inst Radio Eng Proc* 46:570-9 Mr '58
- New microwave repeater system using a single traveling-wave tube as both amplifier and local oscillator. H. Kurokawa and others. *bibliog il diags Inst Radio Eng Proc* 45:1604-11 D '57
- New type of low-noise electron gun for microwave tubes. M. R. Currie. *Inst Radio Eng Proc* 46:911 My '58
- Propagation of slow waves; applied to particle accelerators and microwave electron tubes. J. Dain. *bibliog diags Electronic Eng* 30:388-93 Je '58
- Pumping to extend traveling-wave-tube frequency range. L. D. Buchmiller and G. Wade. *Inst Radio Eng Proc* 46:1420-1 Jl '58
- Radiometer studies atmosphere. *Electronics* 31:92 Ar 15 '58
- S-band travelling-wave tube with noise figure below 4 db. M. Caplan and G. E. St John. *Inst Radio Eng Proc* 46:911-12 My '58
- Stability of an electron beam on a slalom orbit. J. S. Cook and others. *diags J Ap Phys* 29:583-7 Mr '58

- VACUUM tubes**—Traveling wave tubes—*Cont.*
Shf frequency sweeper uses backward wave tube. D. E. Wheeler and P. D. Lacy. *Il diags Electronics* 31:76-8 Ja '58
- S.h.f. radio links using travelling-wave output amplifiers. G. Dawson and T. K. M. Korytko. bibliog *il maps diags Electronic Eng* 30:276-82 My '58
- Travelling-wave tube amplifiers. D. H. O. Allen. bibliog *il diags Electronic Eng* 30:305-9 My '58
- Travelling-wave tubes for 4 000 mc/s. P. F. C. Burke. bibliog *il diags Electronic Eng* 30:310-14 My '58
- Travelling-wave tubes in communications. R. B. Coulson. *il Electronic Eng* 30:302-4 My '58
- Understanding the backward wave oscillator. D. A. Dunn. bibliog *diags Electronic Ind* 17:72-6 Ja '58
- Understanding the traveling wave amplifier. D. A. Dunn. *il diags Electronic Ind & Tele-Tech* 16:67-9+ N '57
- Very low-noise travelling-wave amplifier. E. W. Kinaman and M. Magid. bibliog *il diags Inst Radio Eng Proc* 46:861-7 My '58
- VALENCE**
Ionic valences in manganese-iron spinels. A. H. Eschenfelder. bibliog *J Ap Phys* 29:378-80 Mr '58
- Uncommon valency ions and the difference effect. M. E. Straumanis. bibliog *diags Electrochem Soc J* 105:284-6 My '58
- See also
Chemical bonds
- VALINE**
Availability to man of amino acids from foods: valine from corn. H. Linkswiler and others. *J Nutrition* 65:455-68 bibliog(p466-8) Jl '58
- α -Chymotrypsin-catalyzed hydrolysis of acetyl-, chloroacetyl- and benzoyl-L-valine methyl ester. T. H. Applewhite and others. bibliog *Am Chem Soc J* 80:1465-9 Mr 20 '58
- Dissociation of copper pyridoxylidenevaline. H. N. Christensen. bibliog *Am Chem Soc J* 80:2305-8 My 5 '58
- Enzyme studies on the biosynthesis of valine in yeast. M. Strassman and others. bibliog *Am Chem Soc J* 80:1771-2 Ap 5 '58
- Incorporation of valine-1-C¹⁴ into cytochrome c by rat liver mitochondria. H. M. Bates and others. bibliog *Am Chem Soc J* 80:1000 F 20 '58
- Studies in valine biosynthesis: α -acetolactate formation in microorganisms. K. F. Lewis and S. Weinhouse. bibliog *Am Chem Soc J* 80:4913-15 S 20 '58
- Synthesis of the optically active tripeptides of valine. S. Shankman and Y. Schvo. bibliog *Am Chem Soc J* 80:1164-8 Mr 5 '58
- VALLIN, F.**
Drawn sheet glass process of 1871; tr. by S. R. Scholes. *E. Borel. Glass Ind* 39:482-3+ S '58
- VALPARAISO, Indiana**
Water supply
Taste and odor problems. R. Coote. *Water & Sewage Works* 105:232-4 Je '58
- VALUATION**
See also
Assessment
Depletion
Inventories—Accounting
Land values
Mine valuation
Real property—Valuation
Water companies—Valuation
- VALUE analysis**
Catalyst for a better product; GS's value-analysis seminars. R. E. Abbott. *il Product Eng* 28:30-1 D 2 '57
- Value engineering in the Bureau of ships. R. C. Johnson. *Am Soc Naval Eng J* 70:77-85 F '58
- VALVES**
Automatic shut-off valves for gas and oil transmission lines. C. S. Beard. *il diags Instruments & Automation* 31:1373-6 Ag '58
- Bonding of cermet-valve components to metals. G. M. Slaughter and others. bibliog *il Welding J* 37:sup249-54 Je '58
- Characteristics of steam control valves. L. Walter. *il diags Paper Ind* 39:772-5+ D '57
- Choosing valve materials. J. F. Driear. *il diags Steel* 141:161-2 D 9 '57
- Clutch-brake control valving. A. B. Huntington. *diags Automation* 5:146-50+ Mr '58
- Compression-spring valve. *il diags Machine Design* 30:139 Mr 20 '58
- Control valves for homogeneous reactors. A. M. Billings. *diags I S A J* 5:54-7 Je '58
- Detection and location of underground leaks, pipelines, and valves. N. E. Ireland. *Am Water Works Assn J* 50:1311-14 O '58
- Diaphragm-type stop valves. *diag Automobile Eng* 48:107 Mr '58
- Digital control valve. T. Glizeski. *diags Instruments & Automation* 31:1045 Je '58
- Ductile iron as a valve material. F. C. Monkman. *il Gas Age* 122:25-6+ J1 24 '58
- Effect of mercury on a metal high-vacuum valve. E. J. McFarland and others. *R Sci Instr* 29:529-30 Je '58
- Fine positioning with modified valves. H. Isaacs. *il Ap Hydraulics* 11:92-3 Je '58
- First composite tree is installed on Texas producer in the field. E. McGhee. *il Oil & Gas J* 56:96 Je 2 '58
- Flapper valve design counters hydraulic servo failures. K. G. Hart. *diags Aviation* 28:60-3 F '58
- Gate, globe, and check valves; data sheet. B. Krueger and E. N. Morris. *Air Cond Heat & Ven* 54:63-4 D '57; 55:49-50 Ja '58
- Hard surfacing eliminates unnecessary replacement costs. *il Welding J* 37:362 Ap '58
- Harmonic drive principle demonstrated. *Elec Eng* 77:200 F '58
- High-pressure electro-pneumatic valves. *Engineering* 186:397 S 26 '58
- High pressure valves for high temperature duty. R. A. Handschumacher. *il diags Combustion* 29:49-53 F '58
- High vacuum valve. L. Blararu. *diags J Sci Instr* 35:184-5 My '58
- How to calculate adequate spring-loaded relief valves. J. E. Binkham. *diag Chem Eng* 65:133-6 F 10 '58; Discussion. 65:152-4 Je 2 '58
- How to motorize valves. *il power* 102:128 S '58
- Industrial know-how handbook: valves and traps. *il Mill & Factory* 62:B 14-15 My '58
- Inventory of new equipment and accessories; pipe, fittings and valves. *il Chem Eng* 64:369-72+ Mid-N '57
- Jig speeds valve dismantling. W. R. Hayes. *il Elec World* 148:110+ N 25 '57
- Motorized relief valve for remote control. Z. Frederick and J. Hulman. *il diags Ap Hydraulics* 11:79-80+ Je '58
- Multi-point control valves. *il Metallurgia* 57:151 Mr '58
- Nelco Processes regulating valve. *il diag Engineering* 186:7 J1 4 '58
- New material for valves, regulators and meters? Reliant, a ductile iron. *il Gas* 34:64-7 Je '58
- New tree to be used by Shell in Maracaibo. *il Oil & Gas J* 56:113 Ak 18 '58
- New valve guards against pressure. *il Oil & Gas J* 56:151 Je 2 '58
- Paper studies pay off for float valves. F. W. Cowdrey. *diags Aviation* 29:34-8 My '58
- Power engineers' valve manual. P. A. Manor and others. *il diags Power Eng* 62:63-6 Mr; 85-7 Je; 75-7 J1; 71-4 S '58
- Pressure drops for steam through valves and fittings; nomograph. D. S. Davis. *Power Ind* 74:29 O '58
- Pressure reducing valve hookups; detail sheet. *diags Air Cond Heat & Ven* 55:64 J1 '58
- Pressure relief device has resale feature. M. Aronson. *il Elec World* 150:92 Ak 4 '58
- Prope selection and use of lubricants for lubricated plug valves. R. F. Klein. *il Plant Eng* 12:94-5 Ag '58
- Reliable arrangement of piping and valves for water supply systems. K. J. Carl. *diags Water Works Eng* 111:52-4, 138+ Ja-F '58
- Resistance coefficients for laminar and turbulent flow through one-half-inch valves and fittings. C. P. Kittredge and D. S. Rowley. bibliog plan *diags A S M E Trans* 79:1759-64; Discussion. 1764-6 N '57

VALVES—Continued

- Simple greaseless valves. E. Raats and others. *diags J Sci Instr* 34:510-11 D '57
- Sizing of conventional relief and safety valves. L. P. Stollman. *Instruments & Automation* 31:1531-5 S '58
- Steady-state axial flow forces on pneumatic spool-type control valves. T. Y. Feng. *diags Product Eng* 29:J9-11 Mid-S '58
- Updating the K-factor formula for pressure drops in air valves. B. Dahle and C. Miller. *diags Product Eng* 29:74-8 Ap 14 '58
- Use of pipe fittings, valves and pumps in the pulp and paper industry. R. L. Allen, jr. *Paper Ind* 40:24-6+, 86-8+, 161-2+, 232-4, 292-3+, 360-1 Ap-S '58
- Valve and piping hookups: key to tight seating steam shutoff valves. M. Stein. *diags Power* 102:106-8 S '58
- Valve design prevents creep: Ingersoll milling machine. M. H. Benston. *il diag Ap Hydraulics* 11:91 Jl '58
- Valve for the grease-free manipulation of mercury. G. A. Bottomley. *diags J Sci Instr* 34:369-70 S '57; Discussion. J. A. Frost. 35: 268-9 Jl '58
- Valve gating of injection molds. A. Spaak and G. Kelly. *il diags Mod Plastics* 36:117-20+ S '58
- Valves meet power demand. *il Iron Age* 182: 90 Jl 24 '58
- What's the best way to install globe valves? answers. *il diags Power* 102:122-3 S '58
- Why fight valve ΔP in pump discharge? design it! J. Conison. *Instruments & Automation* 31:483-5 Mr '58

See also

- Automobile engines—Valves
Diesel engines—Valves
Safety valves
Tire valves

Control

- Automatic emergency valves. C. S. Beard and F. D. Marton. *il diags Instruments & Automation* 31:1053-8 Je '58
- Electronics operates valves 2.5 miles away. *il I S A J* 5:76 My '58
- New control-valve actuator. *il diag Oil & Gas J* 56:59 S 29 '58
- Over-riding manual control for a solenoid-operated fluid power control valve. *il Engineering* 186:4 Jl 4 '58
- Response of combination valve actuators. *il diags Instruments & Automation* 31:1518-23, 1670-4 S-O '58
- Valve operator control systems for compressor stations. H. L. Ledeen. *il diags Gas* 34: 140-2+ My '58
- Valve operator for unattended locations. G. R. Mitchell. *bibliog il diags I S A J* 5:48-51 Mr '58
- Very fast flow control techniques. R. W. Ellison. *il diags Ind & Eng Chem* 49:1996-8 D '57

Electric control

- Electric control-valve operators. G. F. Brockett. *il diags Instruments & Automation* 31:111-16 Ja '58
- Simple controls can eliminate product damage of medical sutures. *il Control Eng* 5:109 Ag '58
- Solenoid valves for nuclear power. A. W. Churchill. *il Power Eng* 62:47-8 F '58

Magnetic control

- Magnetically operated needle valve. J. O. Cope. *diags R Sci Instr* 29:232-4 Mr '58

Maintenance and repair

- Spring compressor removes poppet valve. W. F. Fry and W. D. Winebrenner. *il Elec World* 149:70 Ap 14 '58
- Valves stay put under severe service conditions. *il Plant* 18:39 Jl '58

Manufacture

- Cast stainless valve body replaces weldment in missile. *il Foundry* 86:128+ F '58
- Induction hardening boosts valve output. *Iron Age* 180:153 N 7 '57
- System ups valve quality: Cooper alloy corp. *il Steel* 143:114-15 Ag 18 '58

Standards

- Development of standards in the valve and fittings industry. W. P. Kliment. *il diag Mag of Stand* 29:134-7 My '58

- Now a 4500-psi standard for valves. W. F. Crawford. *il Power* 101:103-6 D '57; Discussion. 102:86-8+ F '58; Reply. 102:88+ F; 110+ Mr '58

Testing

- Complex controls can pay in production-testing. *il Control Eng* 5:109 Ag '58
- Testing electro-hydraulic servo valves. K. S. Knapton, jr. *il diag Ap Hydraulics* 11:106+ Je '58

VALVES, Hydraulic

- Automatic transfer valve in hydraulic gear pump provides unidirectional flow. *il diags Machine Design* 30:116 Mr 6 '58
- Bigger piping and valves for faster press speeds. R. S. Paulson and C. C. Verlo. *il Ap Hydraulics* 11:68-9 My '58
- Butterfly valve controls condenser siphon: power plant of the St Joseph lead co. T. H. Seitz. *flow diag il Power Eng* 62:82-4 Mr '58
- Butterfly valve flow characteristics. M. B. McPherson and others. *bibliog flow diag il diags Am Soc C E Proc* 83 [HY 1 no 1167]: 1-28 F '57; Discussion. 83 [HY 4 no 1348]: 31-55 Ag '57; Reply. 84 [HY 1 no 1558]:9-16 F '58
- Cam-actuated servo valves control wind tunnel area. J. McComber. *il diag Ap Hydraulics* 11:120-3 Mr '58
- Chlorine valve, hydraulically operated. J. R. Rossum. *diag Water & Sewage Works* 105:342 Ag '58
- Compensation of steady-state flow forces in spool-type hydraulic valves. R. N. Clark. *diags A S M E Trans* 79:1784-8 N '57
- Components for water hydraulics. A. E. Morris. *il diags Ap Hydraulics* 11:73-5 F '58
- Direction of torque-converter drive output controlled with hydraulically locked discs: illustrations and drawings with text. *Machine Design* 30:136 Ja 23 '58
- Effect of conduit dynamics on control-valve stability. F. D. Ezekiel. *bibliog diags A S M E Trans* 80:904-8; Discussion. 908 My '58
- Electric and manual bypass valves give variable output from constant-speed pump: mobile plastering machine. *il diag Machine Design* 30:124 Ap 17 '58
- Make an easy-to-build butterfly valve. C. A. Lee. *diags Chem Eng* 65:156+ Mr 10 '58
- Modified valves smooth a big indexing job. M. H. Benston and A. M. Lane. *il diags Ap Hydraulics* 11:72-3+ Mr '58
- Modifying valve characteristics. G. L. Roth. *diags Product Eng* 29:J6-8 Mid-S '58
- Multi-port lubricated plug valves cut heating costs 10-20 per cent. *il Mill & Factory* 62:121 Je '58
- 1000-psi valve manifold uses bolted aluminum plates. *il diags Ap Hydraulics* 11:114 Mr '58
- Outlet structures for fixed-dispersion cone valves. M. L. Dickinson and others. *il diags Am Soc C E Proc* 84 [HY 4 no 1725]:1-20 Ag '58
- Pilot operated float valve; connections from tank to valve; detail sheet. *diags Air Cond Heat & Ven* 55:78 Je '58
- Pressure drops for water through valves; nomograph. D. S. Davis. *Power Ind* 74:31 O '58
- Products for fluid maintenance; air bleeder valves. *il diags Ap Hydraulics* 11:74+ Ag '58
- Rubber-seated butterfly valves. A. E. Hatch, jr. and W. H. Chamberlain. *diag Water & Sewage Works* 104:412-15; 105:67-9 S '57, F '58
- Servo valves and auxiliary hydraulic equipment. R. Hadekel. *diags Automation* 5:63-8 F '58
- Using the acceleration-switching valve. W. I. Harris. *il diag Control Eng* 5:123+ Ap '58; Discussion. 5:10-12 Jl '58
- Valve operating linkage reduces fluid line length. *il diag Ap Hydraulics* 11:80 Mr '58

Control

- Digital remote control and telemetering system used by Metropolitan water district of southern California. J. R. Burgard and D. E. Wassall. *il Water & Sewage Works* 104:506-7 N '57

VALVES, Hydraulic—Control—Continued

Sequencing hydraulic circuits, H. L. Stewart and J. M. Moritz, *diags Machine Design* 30:149-52 Ap '58
 Steel mill self-operating valves, G. A. Colton, *diags Instruments & Automation* 31:284-5 F '58

Electric control

Central simulation council meeting on electrohydraulic control valves, Kansas City, Nov. 13, 1957, *Instruments & Automation* 31:297-9 F '58
 Describing function for the multiple nonlinearities present in two-stage electrohydraulic control valves, J. Zaborsky and H. J. Harrington, *bibliog diags Applications & Ind* p894-401, Discussion, 408-9 Ja '58
 Generalized charts of the effects of nonlinearities in two-stage electrohydraulic control valves, J. Zaborsky and H. J. Harrington, *bibliog diags Applications & Ind* p401-8; Discussion, 408-9 Ja '58
 Motorized actuators in hydraulic systems, J. Kuhlman, *diags Elec Manuf* 61:74-7 Ja '58
 Unity-coupled shear orifice yields reliable servovalves, T. J. Thomas, *diags Control Eng* 5:90-3 Ag '58

Manufacture

New manufacturing techniques for hydraulic servo valves, E. M. Hakanson, *diags Tool Eng* 40:95-6 Je '58

VALVES, Plastic

Acrylic model valve solves filling problem, *diags Mod Plastics* 36:182 O '58

VANADATES

Santafelita, a new hydrated vanadate from New Mexico, M. Sun and R. H. Weber, *bibliog diags Am Mineralogist* 43:677-87 Jl '58
 Sherwoodite, a mixed vanadium(IV)-vanadium(V) mineral from the Colorado plateau, M. E. Thompson and others, *diags Am Mineralogist* 43:749-55 Jl '58

See also

Rare earth vanadates

VANADIUM

Carbide precipitation in several steels containing chromium and vanadium, A. K. Seal and R. W. K. Honeycombe, *bibliog 3pls Iron & Steel Inst J* 188:9-15 Ja '58

Ductile vanadium, a new engineering material, T. W. Merrill, *diags J Metals* 10:618-21 S '58

Elimination of dimpling in certain colored glazes, K. C. McCart and A. L. Johnson, *bibliog diags Am Cer Soc Bul* 37:207-9 My 15 '58

Influence of copper and vanadium on the sintering of magnesium-type ferrites, L. C. F. Blackman, *J Ap Phys* 28:1511-12 D '57

New engineering metals, J. P. Denny and L. F. Kendall, Jr., *Mech Eng* 80:67-71 Ag '58

Properties of materials; hafnium, thorium, uranium, vanadium and zirconium. *Materials in Design Eng* 48:103 Mid-O '58

Tempering of low-alloy creep-resistant steels containing chromium, molybdenum, and vanadium, E. Smith and J. Nutting, *bibliog diags Iron & Steel Inst J* 187:314-29 D '57

Vanadium, nickel, and porphyrins in thermal geochemistry of petroleum, G. W. Hodgson and B. L. Baker, *bibliog Am Assn Pet Geologists Bul* 41:2413-26 N '57

Vanadium, 1957, G. E. Drake, *Eng & Min J* 159:154-5 F '58

See also

Carnotite

Analysis

Absorptiometric determination of traces of chromium in nickel and vanadium, of vanadium in chromium, and of nickel in chromium and vanadium, J. T. McAloren and G. F. Reynolds, *bibliog Metallurgia* 57:62-6 Ja '58

Analytical solvent extraction of vanadium using acetylacetone, J. P. McKaveney and H. Freiser, *Anal Chem* 30:526-9 Ap '58

Photometric determination of vanadium and chromium, C. E. Bricker and S. S. Schonberg, *bibliog diags Anal Chem* 30:922-3 My '58

Isotopes

Preparation of carrier-free vanadium, scandium, and arsenic activities from cyclotron targets by ion exchange, U. Schindewolf and J. W. Irvine, Jr., *bibliog Anal Chem* 30:906-8 My '58

VANADIUM compounds

Ion-deficient phases in titanium and vanadium compounds of the perovskite type, M. Kestigian and others, *bibliog Am Chem Soc J* 79:5598-601 N '57

Spectrophotometric investigation of vanadium(V) species in alkaline solutions, L. Newman and others, *bibliog Am Chem Soc J* 80:4481-5 S '58

VANADIUM oxides

Accelerated high temperature oxidation due to vanadium pentoxide, K. Sachs, *bibliog diags Metallurgia* 57:128-37, 167-73 Mr-Apr '58

Oxidation catalysts reduce hydrocarbons in automobile exhaust gas, E. F. Hill and others, *S A E J* 66:36-7 Ja '58

VANADIUM pentoxide. See Vanadium oxides**VANADIUM steel**

Effect of tantalum and niobium on the tempering of certain vanadium and molybdenum steels, A. K. Seal and R. W. K. Honeycombe, *bibliog 4pls Iron & Steel Inst J* 188:343-50 Ap '58

VANCOUVER, British Columbia**Bridges**

Heavy post-tensioned concrete girders for second Narrows bridge, C. Stanwick, *diags Roads & Sts* 101:95-6+ My '58

VANCOUVER, Washington**Sewerage**

Electrical supervisory controls, M. H. Schroeder, *diags Water & Sewage Works* 104:512-13 N '57; Same cond. *Am Water Works Assn J* 49:1387-8 N '57

Interpreting laboratory operating data; sewage treatment, R. E. Leaver, *Sewage & Ind Wastes* 30:1183-5 S '58

Water supply

Electrical supervisory controls, M. H. Schroeder, *diags Water & Sewage Works* 104:512-13 N '57; Same cond. *Am Water Works Assn J* 49:1387-8 N '57; Same cond. *Pub Works* 89:109 F '58

Fire rating change saves city \$90,000 per year, B. G. Smith, *diags Pub Works* 89:118 Je '58

VAN DE GRAAFF accelerator. See Accelerators (particles)**VAN DER WAALS forces**

Physical interpretation of the relativistic corrections to the Van der Waals force found by Penfield and Zatskis, E. A. Power and S. Zienau, *bibliog diags Franklin Inst J* 264:403-7 N '57

VAN DE VELDE, Henry

Founder of the modern movement; illustrations with text, *Arch Rec* 123:16 My '58

VANGUARD satellite. See Satellites, Artificial**VANILLA**

Evaluation of vanilla extracts: tentative procedures by paper chromatography, H. P. Burchfield and others, *bibliog diags Perfumery & Aromatics* 71:49-50+ Ap '58

Pure vanilla extract, D. Jorysch, *Food Eng* 30:117 S '58

VAN LAAR constants

Graph for Van Laar constants, B. C. Y. Lu and B. A. Lavergne, *Chem Eng* 65:132 Ag '58

VANTAINERS. See Motor trucks—Bodies**VAPOR lock. See Automobile engines—Fuel feeding****VAPOR phase chromatography. See Chromatographic analysis****VAPOR pressure**

Effect of solvent change on the standard chemical potential of electrolytes; comparison of vapor pressure and e.m.f. data for HCl, NaOH and Kw in the system dioxane-water, G. Baughman and E. Grunwald, *bibliog Am Chem Soc J* 80:3844-6 Ag '58

Heat content and vapor pressure of H₂O₂, D. J. Simkin and C. O. Hurd, *Chem Eng* 65:155-6 Ja 13 '58

Helium vapor-pressure scale of temperatures, F. G. Brickwedde, *bibliog Phys Today* 11:23-5 Ad '58

Perchloryl fluoride; vapor pressure, heat capacity, heats of fusion and vaporization failure of the crystal to distinguish O and F, J. K. Koehler and W. F. Glauque, *Am Chem Soc J* 80:2659-62 Je '58

VAPOR pressure—Continued

- Vapor pressure and heat of vaporization of some simple molten electrolytes. H. Bloom and others. *bibliog* Am Chem Soc J 80: 2044-6 My 5 '58
- Vapor pressure apparatus. M. W. Cook. *diag* R Sci Instr 29:399-400 My '58
- Vapor pressure equilibrium of stearic acid in triglyceride and in high paraffin solutions. D. S. Sarkadi. *bibliog* Am Oil Chem Soc J 35:479-81 S '58
- Vapor pressure of liquid tellurium. R. E. Machol and E. F. Westrum, jr. *bibliog* Am Chem Soc J 80:2950-2 Je 20 '58
- Vapor pressure of titanium tetrabromide. E. H. Hall and others. *bibliog* Electrochem Soc J 105:271-5 My '58
- Vapor pressure of titanium tetrafluoride. E. H. Hall and others. *bibliog* Electrochem Soc J 105:275-8 My '58
- Vapor pressure relations of gasolines; Reid vapor pressure test. S A E J 65:39-40 D '57
- Vapor pressure trending upward. T. W. Legatski and others. *Oil & Gas* J 56:93+ F 3 '58
- Vapor pressures of aluminum chloride, aluminum bromide and the mixed halide phase $Al_2Br_2Cl_4$. T. G. Dunne and N. W. Gregory. *bibliog* Am Chem Soc J 80:1526-30 Ap 5 '58

VAPORIZATION

- Equilibrium data now available for cyclohexane. D. S. Hoffman and J. H. Weber. *Pet Refiner* 37:143-5 F '58
- Laboratory deodorizer with a vaporization efficiency of unity. D. S. Sarkadi. *diags* Am Oil Chem Soc J 35:472-5 S '58
- Vaporization into a hypersonic laminar boundary layer. S. M. Scales. *diag* J Aero/Space Sci 25:655-6 O '58
- Vaporization of iron(II) chloride in bromine. L. E. Wilson and N. W. Gregory. *bibliog* Am Chem Soc J 80:2067-9 My 5 '58
- Vaporization of liquefied CO_2 refrigerates test chambers; Associated testing laboratories. *il Refrig Eng* 66:71+ F '58

See also

Evaporation

Sublimation

VAPORIZATION, Heat of

- Determine heat of vaporization. W. R. Gambill. *bibliog* Chem Eng 64:261-6 D '57; 65: 159-62 Ja 13; 137-40 F 10 '58
- Heat capacity, heat of fusion, heat of transition and heat of vaporization of chlorodifluoromethane between 16°K. and the boiling point. E. F. Neilson and D. White. *bibliog* Am Chem Soc J 79:5618-21 N 5 '57
- Perchloryl fluoride; vapor pressure, heat capacity, heat of fusion and vaporization failure of the crystal to distinguish O and F. J. K. Koehler and W. F. Glaueque. *Am Chem Soc J* 80:2659-62 Je 5 '58
- Vapor pressure and heat of vaporization of some simple molten electrolytes. H. Bloom and others. *bibliog* Am Chem Soc J 80: 2044-6 My 5 '58

VAPORIZERS

- Liquid nitrogen pump and vaporizer. G. A. Blevie, jr. and others. *il diags* Ind & Eng Chem 49:1955-8 D '57
- Vaporizer in high-density polyethylene. *il Mod Plastics* 36:100-1 O '58

VAPORS

- Acute toxicity of red fuming nitric acid-hydrofluoric acid vapor mixture. E. A. Pfitzer and others. *bibliog* A M A Archives Ind Health 18:218-21 S '58
- Concentration of gases and vapors; nomograph; data sheet. M. H. Green. *Power* 102:109 Ag '58
- Control solvent vapors and put them to work. P. C. Bardin. *il Ind Finishing* 34:48-50+ J1 '58
- Field tests for toxic substances in industrial atmospheres; abstract. B. E. Dixon. *J Sci Instr* 34:430-1 N '57
- Kinetics of the exchange of chlorine between hydrogen chloride and acetyl chloride in the vapor phase. W. J. Neill and M. Kahn. *bibliog* Am Chem Soc J 80:2111-12 My 5 '58
- Kinetics of the vapor phase photochlorination of trifluorochloroethylene. D. L. Bunbury and others. *bibliog* Am Chem Soc J 80:5104-7 O 5 '58
- Laminar film condensation of pure saturated vapors on inclined circular cylinders. K. E. Hassan and M. Jakob. *bibliog* diags A S M E Trans 80:887-94 My '58

Organic vapor and relay contacts. L. H. Germer and J. L. Smith. *il Bell Lab Res* 36:122-5 Ap '53

Steel beads run at 1,900° F. without oil; surrounded with certain hydrocarbon vapors. A. G. Cattaneo. *Oil & Gas J* 56:138 F 24 '58

Vapor phase method for preparation of polyacrylonitrile coated cotton yarn and physical properties of the product. C. H. Haydel and others. *bibliog* *il diag* Textile Res J 27:975-82 D '57

Vapor-phase photochemistry of *trans*-methyl propenyl ketone. R. S. Tolberg and J. N. Pitts, jr. *bibliog* Am Chem Soc J 80:1304-9 Mr 20 '58

Vapor phase photolysis of (+)-2-methylbutanal-iodine mixtures at wave length 3130 Å. J. T. Gruver and J. G. Calvert. *bibliog* Am Chem Soc J 80:3524-7 J1 20 '58

Vapor transfer through barriers. K. Kammermeyer. *bibliog* (31 ref) *Ind & Eng Chem* 50: 697-702 Ap '58

See also

Condensation

Equation of state

Evaporation

Fumigants

Vapor pressure

Water vapor

VARIABLES (mathematics)

- Correlation structure of morphometric properties of drainage systems and their controlling agents. M. A. Melton. *bibliog* diags J Geol 66:442-60 J1 '58
- Generalization of the calculus of finite differences to nonuniformly spaced variables. G. Kron. *bibliog* diags *Com & Electronics* 3:530-5 S '58
- Mechanical variables sampler. J. A. Greenwood. *il Ind Quality Control* 14:44-7 My '58

VARIANCE analysis

- Application of variance component analysis in the transistor industry. R. W. Anderson and A. W. Wortham. *diag* *Ind Quality Control* 14:11-15 Mr '58
- Certain uses of the analysis of variance with standard product specifications. H. Smith, jr. and T. F. Waters. *Am Oil Chem Soc J* 35:246-9 My '58
- Effect of loading rate on adhesive strength. F. Moser and S. S. Knoell. *A S T M Bul* 30:3 Ja '58
- Identification and estimation of variation in process measurements. F. H. Tingey. *bibliog* *Ind & Eng Chem* 50:1017-20 J1 '58
- Paired comparison test of typewriter carbon papers. M. Fleckenstein and others. *Tappi* 41:128-30 Mr '58
- Variance analysis; new help in cutting mill costs; producing better fabrics. N. L. Enrick. *Mod Textiles Mag* 39:43-4+ F '58
- Variations in roving weight introduced by the slubber. N. L. Enrick and W. D. Hicks. *Textile Res J* 28:564-9 J1 '58
- Viscosity as a process variable. R. A. Minard. *diag* *Instruments & Automation* 31:1212-13 J1 '58

VARIATIONS, Calculus of. See Calculus of variations

VARICAP. See Semiconductors

VARICOSE veins

Current concepts in the treatment of peripheral venous disorders. N. Rosenberg. *Ind Med* 27:226-8 My '58

VARISTOR. See Semiconductors

VARNISH, Insulating

- Improved varnishes for class F uses. Materials in Design Eng 47:176+ F '58
- Modified silicone varnish coating for printed wiring boards. D. M. Hudson. *Elec Manuf* 61:145-6 Ap '58
- Water-thinned insulating varnish cuts fire hazard. *Elec World* 150:65 Ag 11 '58

Drying

Renewing a primary system by drying varnished cable in conduit; using silica gel. H. D. Jefferson. *il Elec Constr & Maint* 57:112 Ja '58

VARNISH and varnishing

- Maleic modification of acid-refined tall oil varnishes. E. E. McSwain and others. *bibliog* *Ind & Eng Chem* 50:327-8 Mr '58
- Tung in coatings. *il Ind & Eng Chem* 50: sup38A+ S '58

Testing

Effect of dust particles on the electrical resistance and anti-corrosive properties of varnish and paint films. C. Graff-Baker. *bibliog* *il diag* J Ap Chem 8:590-8 S '58

VASCULAR system

Diseases

Effect of lipotropic factors upon serum lipids and vascular disease. in man. T. D. Labecki. bibliog Am J Clinical Nutrition 6:325-30; Discussion. 331 My '58

Vascular disease associated with choline deficiency in the rat. G. F. Wilgram. bibliog J Am J Clinical Nutrition 6:274-8; Discussion. 278-9 My '58

VASICINE

New synthesis of di-vasicine and a methoxy analog. P. L. Southwick and J. Casanova, jr. bibliog Am Chem Soc J 80:1168-73 Mr 5 '58

VASOPRESSIN

Synthesis of the pressor-antidiuretic hormone, arginine-vasopressin. V. du Vigneaud and others. bibliog Am Chem Soc J 80:3355-8 J1 5 '58

Synthesis of two protected hexapeptides containing the N-terminal and C-terminal sequences of arginine-vasopressin. P. G. Katsoyannis and others. bibliog Am Chem Soc J 80:2558-62 My 20 '58

VATS

Dipping vat for parts cuts cleaning man-hours. B. W. Cooper. diag Pet Refiner 37: 248 My '58

VAULTS (electric installation)

How to apply 5-kvar capacitors underground successfully. N. M. Neagle and H. M. Graham. il diags Elec World 148:74-6 N 4 '57

How to improve your network load metering; measuring loads in ac network vaults. J. P. Galassini and H. Pensky. il diags Elec World 149:70-1 F 3 '58

Look to aerial cable and vaults for serving small business areas. R. H. Stevens. diags Elec World 148:96-9 N 25 '57

VAZQUEZ, Siro

Top Venezuelan moves to the U.S. P. Swain. ports Oil & Gas J 56:72-4 Je 23 '58

VECTOR analysis

Cascading resolvers without booster amplifiers; ac bombing and navigation computers. J. Gilbert. diags Control Eng 5:85-90 Mr 5 '58

Eigenvector direction of turboblasting with lashing wire. M. M. Stanisic. diags J Aeronautical Sci 25:139-41 F '58

Electrical vectro-loci display apparatus. P. Strange. bibliog il diags Engineering 186: 354-6 S 12 '58

Vectorial representation of aerodynamic forces acting on a thin rectangular wing oscillating harmonically in supersonic potential flow. J. P. Chawla. J Aeronautical Sci 25:323-30 My '58

Velocity and acceleration analysis of plane and space mechanisms by means of independent-position equations. F. H. Raven. bibliog diags J Ap Mech 25:1-6 Mr '58

Wave vector technique for the analysis of direct interactions. G. E. Owen and L. Madansky. bibliog diags Am J Phys 26: 260-6 Ap '58

See also

Linear programming

Tensors

VEGETABLE oils. See Oils and fats

VEGETABLES

Application of peroxidase test paper in food processing. H. J. Morris. bibliog Food Tech 12:265-7 Je '58

Isolation of chlorogenic acid from several vegetables, fruits and medicinal plants; abstract. K. Herrmann. Chem & Ind p215 F 22 '58

Relationship of chemical composition to quality in fruit and vegetables for canning; abstract. D. Dickinson. Chem & Ind p482-3; Discussion. 483-4 Ap 26 '58

See also

Cooling of fruits and vegetables

Corn

Lettuce

Peas

Potatoes

Sweet potatoes

Tomatoes

Preservation

Post-harvest spoilage; chemicals and antibiotics hold much promise for control of produce decay. il J Agri & Food Chem 6: 16+ Ja '58

VEGETABLES, Dried

See also

Carrots, Dried

VEGETABLES, Frozen

Determination of the conversion of chlorophyll to pheophytin. Food Tech 12:428 Ag '58

See also

Beans, Frozen

VEGETABLES, Ripening of

Maturation and germination of peas; symposium. Chem & Ind p486-8 Ap 26 '58

VEGETARIANISM

Nutritional studies of vegetarians; dietary levels of fiber. M. G. Hardinge and others. bibliog Am J Clinical Nutrition 6:523-5 S '58

VEGETATION

Alaska

Glaciers and vegetation in southeastern Alaska. D. B. Lawrence. il maps diags Am Scientist 46:88-122 bibliog(p 120-2) Je '58

VEHICLES

See also

Automobiles

Electric vehicles

Motor buses

Motor trucks

Motor vehicles

Wheels

Which should turn, wheel or axle? J. T. Emmerton. bibliog il diags Engineering 185: 474-7 Ap 11 '58

VEHICULAR tunnels. See Tunnels and tunneling—Vehicular tunnels

VELOCITY

Deceleration probe for measuring stagnation pressure and velocity of a particle-laden gas stream. J. Dussourd and A. H. Shapiro. bibliog il diags Jet Propulsion 28:24-34 Ja '58

Experimental and theoretical pressures and velocity fields for various lead extrusions. E. G. Thomsen and J. Frisch. bibliog il diags A S M E Trans 80:117-22; Discussion. 122-3 Ja '58

Experimental velocity and temperature profiles for air in turbulent pipe flow. C. A. Schleicher, jr. bibliog(52 titles) flow diag il diags A S M E Trans 80:693-702; Discussion. 702-4 Ap '58

Heat transfer to flow in a round tube with arbitrary velocity distribution. I. R. Whitman and W. B. Drake. A S M E Trans 80: 728-32 Ap '58

Nomograph gives settling velocity. M. Rhoden. Chem Eng 65:160 Mr 10 '58

Rhodium-plated katala thermometer for measuring true air velocity. W. Koch and D. Kaplan. bibliog J Sci Instr 35:8-11 Ja '58

Velocity filter for nuclear spectroscopy; crossed magnetic and electric fields. L. H. T. Rietjens and others. diags R Sci Instr 29:768-9 S '58

Velocity servo integrator. L. J. N. Mother-sill. il I S A J 5:60 Ap '58

See also

Electrons—Velocity

Rotation

VELOCITY of light. See Light—Velocity

VENDING machines

Bill character for vending machines. W. A. Patzer. Elec Eng 77:199 F '58

Implications of new developments in food and milk processing; packaging, storing, and vending. W. D. Tiedeman. Am J Pub Health 48:854-60 J1 '58

Machine sells at four prices; cigaret vending machine made by the Rowe manufacturing co. il diags Product Eng 28:90-1 N 25 '57

Metalworking takes to vending. G. G. Carr. il Iron Age 181:81 Je 19 '58

Painting and finishing

Painting formed steel parts for Glasco premix vendors. W. G. Sanders. il Ind Finish-ing 34:46-8+ N '57

VENDOR rating system. See Purchasing—Supplier relations

VENEERS and veneering

Flush-veneered wood doors. H. J. Rosen. Prog Arch 39:142 My '58

VENEZUELA

Venezuela, land of the big boom! E. Adams.
 il map Pet Eng 29:A21-6 N '57

See also

Investments, Foreign (in Venezuela)
 also subdivision Venezuela under special
 subjects, e.g.
 Chemical industries
 Geology
 Hydroelectric plants
 Iron mines and mining
 Petroleum
 Petroleum equipment industries
 Petroleum industry and trade
 Petroleum laws and regulations
 Petroleum pipe lines
 Petroleum workers
 Roads
 Steel works

VENOM

Ophidiiasis, an unusual occupational hazard.
 H. M. Parrish, bibliog Ind Med 27:63-6 F
 '58

Radioactive reptiles; combination of radio-
 active iodine and the cottonmouth moccasin
 may give scientists a new insight into
 poisonous snake venoms. il Ind & Eng
 Chem 50:sup34A+ Ag '58

Stepwise degradation of thymidine oligonu-
 cleotides by snake venom and spleen phos-
 phodiesterases. W. E. Razzell and H. G.
 Khorana, bibliog Am Chem Soc J 80:1770-1
 A p 5 '58

See also

Toad poisons

VENTILATION

Architectural research; light and air. M. A.
 Nowak, il Prog Arch 39:122-3 J1 '58

Evaluation of air cleaners for air condition-
 ing and ventilation. K. T. Whitby and
 others. il diags Heating-Piping 30:171-8
 My '58

Mechanical engineering critique; reducing the
 cost of ventilation. W. J. McGuinness, il
 diag Prog Arch 39:11+ Ag '58

New way to figure ventilation. J. D. Con-
 stance, Power Eng 62:86 My '58

Ventilating roof insulation. H. J. Rosen.
 diags Prog Arch 39:167 Ap '58

See also

Air conditioning
 Air filters
 Air pollution
 American society of heating and air condi-
 tioning engineers
 Cooling
 Dust removal
 Electric fans, Ventilating
 Exhaust systems
 Fans, Mechanical
 Mine ventilation
 Tunnel ventilation
 also subdivision Heating and ventilation
 under special subjects, e.g.
 Airplane factories
 Airplanes
 Automobiles
 Chemical laboratories
 Churches
 Factories
 Foundries
 Garages
 Hospitals
 Laboratories
 Military buildings
 Office buildings
 Packing houses
 School buildings
 Ships

Laws and regulations

Approve Chicago's new ventilation code.
 Heating-Piping 29:97-110 D '57

VENTILATION research

Englishmen and Europeans cooperate on heat-
 ing and ventilation research; Informal study
 group on heating and ventilation. Air Cond
 Heat & Ven 55:93 Ap '58

VENTILATORS

Fire control formula for emergency roof
 ventilation of industrial plants. J. J. Cro-
 min, Safety Maint 115:55-6 Mr '58

Industrial ventilation; how is its equipment
 selected? J. H. Clarke, diags Heating-
 Piping 30:91-6 J1 '58

Method for prevention of plugged nitrogen
 vents on liquid-helium storage vessels. C. R.
 Smallman, il R Sci Instr 28:962 N '57

See also

Electric fans, Ventilating

VENTILATORS, Plastic

Plastic compound roof ventilator; Research
 laboratory for Monsanto chemical company's
 inorganic chemicals div, il diag Air Cond
 Heat & Ven 54:80-2 D '57

VENTURI flumes

Design of Venturi flumes in circular con-
 ducts. E. A. Wells and H. B. Gotaas, bib-
 liog diag Am Soc C E Proc 82 [SA 2 no
 928]:1-34 Ap '56; Correction, il 83 [SA
 3 no 1227]:19-20 Ap '57; Discussion, K.
 Fraschina, diags 83 [SA 5 no 1421]:3-7
 O '57; Reply, 84 [SA 2 no 1611]:3-4 Ap '57

VENTURI scrubbers

Experiments on an industrial Venturi scrub-
 ber. J. A. Brink, jr. and C. E. Contant,
 bibliog diag Ind & Eng Chem 50:1167-60
 Ag '58

Scrubber ends coker's naphthalene woes;
 U.S. steel corp, diags Chem Eng 65:68+
 My 19 '58

VENUS (planet)

Radio signals to Venus; editorial. H. Gerns-
 back, Radio-Electronics 29:27 Je '58

VERDON-ROE, Sir Aliott

Obituary. J. L. Pritchard, pers. Roy Aero-
 nautical Soc J 62:231-8 Ap '58

VEREIN deutscher eisenhüttenleute

Annual meeting, Düsseldorf, Oct. 24-25; with
 abstracts of papers. Engineer 204:725-6 N
 15 '57

VEREIN deutscher ingenieure

Annual report for 1956. Engineer 205:262
 F 14 '58

VERMICULITE

Direct-to-steel fireproofing for Portland
 building; spraying vermiculite acoustical
 plastic. R. S. Rosé, il Civil Eng 28:256-7
 Ap '58

Effects and geologic significance of potas-
 sium fixation by expandable clay minerals
 derived from muscovite, biotite, chlorite,
 and volcanic material. C. E. Weaver, Am
 Mineralogist 43:839-61 bibliog(p859-61) S '58

Effects of the exchangeable ion on the de-
 hydration properties of vermiculite. W. S.
 Ernst, jr. and others, bibliog Am Cer Soc J
 41:233-41 J1 '58

Lightweight structural clay products made
 with vermiculite. G. C. Robinson, bibliog il
 Am Cer Soc J 41:74-80 F 1 '58

Mg-vermiculite; a refinement and re-exami-
 nation of the crystal structure of the 14.36
 A phase. A. M. Mathieson, bibliog diags
 Am Mineralogist 43:216-27 Mr '58

Vermiculite, 1957. W. S. Steele, Eng & Min J
 159:157 F '58

VERMICULITE institute of Chicago

Annual meeting, 17th, Chandler, Ariz. March
 22-27. Pit & Quarry 50:77+ Je '58

VERMILYE medal

Presentation of the Vermilye medal. Frank-
 lin Inst J 266:129-32 Ag '58

VERMONT

See also
 Cities and towns—Vermont
 Electricity supply—Vermont
 Geology—Vermont

VERNIER resolver. See Electromechanical
 transducers

VERSEDATE. See Ethylenediamine tetraacetic
 acid

VERTIPLANE. See Airplanes, Vertical take-
 off

VETERANS of safety

Elect officers. Safety Maint 115:17 F '58

VETERINARY medicine

Animal creakers; butazolidin (3,5-dioxo-1,2-
 diphenyl-4-n-butyl pyrazolidine) a veteri-
 nary pharmaceutical, Ind & Eng Chem 49:
 sup30A+ D '57

Animal tranquilizers. il J Agri & Food Chem
 6:178+ Mr '58

VETIVER oil

Other vetiver oils. S. Aretander, il Drug &
 Cosmetic Ind 82:168-70+ F '58

VIBRASCOPE. See Vibroscope

VIBRATING reed indicators. See Reed indi-
 cators

VIBRATION

Acoustic behavior of a rubber string. I. M.
 Freeman, Am J Phys 26:369-71 S '58

Bending and vibration of elastically re-
 strained circular plates. C. L. Kantham,
 bibliog diags Franklin Inst J 265:483-91 Je
 '58

Calculation of optimum concentrated damp-
 ing for continuous systems. R. Plunkett,
 bibliog diags J Ap Mech 25:219-24 Je '58

VIBRATION—Continued

- Controlled vibration in blasting at close quarters; modernization of power plant of New York city transit system. R. Samuels. *il plans Civil Eng* 28:3-5 Ja '58
- Co-ordinates which uncouple the equations of motion of damped linear dynamic systems. K. A. Foss. *J Ap Mech* 25:361-4 S '58
- Designing for vibration and shock resistance. T. M. Billings. *il diags Product Eng* 28: F31-3 Mid-O '57
- Effect of suspension position on apparent values of internal friction determined by Forster's method. J. B. Wachtman, jr. and W. E. Tefft. *bibliog diag R Sci Instr* 29:517-20 Je '58
- Elastic and damping properties of oil-film journal bearings for application to unbalance vibration calculations. A. C. Hogg and G. O. Sankey. *J Ap Mech* 25:141-3 Mr '58
- Finishing surfaces by vibration. R. C. Hitchcock and J. P. Moran. *il diags Tool Eng* 40: 127-30 Ap '58
- Free undamped non-linear vibrations of imperfect circular disks. S. A. Tobias. *bibliog il diags Inst Mech Eng Proc* 171 no 22:691-701; Discussion. 702-10; Reply. 711-15 '57
- Free vibration of a variable mass; discussion of paper by C. C. Miesse. *Jet Propulsion* 28: 197-9 Mr '58
- High-speed motion pictures examine vibrations. J. Hughes. *il Ind Phot* 7:22-3+ Ag '58
- Influence of dynamical imperfection on the vibration of rotating disks. S. A. Tobias and R. N. Arnold. *bibliog il diags Inst Mech Eng Proc* 171 no 22:669-90, pl 1-8; Discussion. 702-10; Reply. 711-15 '57
- Natural frequencies of beams and design for shock and vibration; nomograph. J. J. Kersey, jr. *Product Eng* 28:F34-5 Mid-O '57
- Newest well stimulation technique; vibration fracturing. H. H. Mohaupt and H. A. Metzger. *il diags Pet Eng* 80:E30-4 Ag '58
- Non-linear forced vibrations of circular discs. S. A. Tobias. *bibliog diags Engineering* 186:51-6 Jl 11 '58
- Self-excited vibrations of an air-lubricated thrust bearing. L. Licht and others. *il diags A S M E Trans* 80:411-14 F '58
- Sewage sludge thickening by mechanical vibration. G. Spohr and W. W. Eckenfelder, jr. *il Pub Works* 89:111-12 Mr '58
- Smaller Harings-type vibration isolating table. J. A. Macinante. *il diag J Sci Instr* 35:224-5 Je '58
- Transverse vibrations of rectangular orthotropic plates. N. J. Huffington, jr. and W. H. Hoppmann. *2d. bibliog diags J Ap Mech* 25:389-95 S '58
- Vibration; a survey of industrial applications. J. P. den Hartog. *il diags Engineer* 204: 739-45 N 22 '57
- Vibration aids tumbling. *il Steel* 142:109 Mr 24 '58
- Vibration can improve casting quality. A. H. Freedman and others. *bibliog il Foundry* 85:98-101 N '57
- Vibration of a string having a uniform motion along its length. F. R. Archibald and A. G. Emslie. *diags J Ap Mech* 25:347-8 S '58
- Vibration of rods induced by water in parallel flow. D. Burgreen and others. *il diags A S M E Trans* 80:991-1001; Discussion. 1001-2; Reply. 1002-3 Jl '58
- Vibration of sand cuts foundation costs 20 per cent. E. H. Wells. *il Eng N* 161: 30-2 Ag 28 '58
- Wind induced vibration of cylindrical structures. J. Penzien. *bibliog il Ap Soc C E Proc* 83 [EM 1 no 1141]:1-17 Ja '57; Discussion. 83 [EM 3 no 1311]:9-10 Jl; [EM 4 no 1415]:5 O '57; Reply. 84 [EM 2 no 1619]:3-4 Ap '58
- See also
Balancing of machinery
Oscillations
also subdivision Vibration under special subjects, e.g.
Automobiles
Beams and girders
Boilers
Brakes, Automobile
Bridges
Buildings
Compressors

Electric lines
Electronic apparatus and appliances
Gas turbines, Aircraft
Grinding wheels
Machine tools
Machinery
Pumps, Centrifugal
Ships
Steam turbines

Electric analogies

Simulation; spring-mass-damping problem. *diags Instruments & Automation* 31:1043 Je '58

Measurement

- Detecting resonant frequencies in complex structures. R. F. Thielman. *diags Machine Design* 29:149-52 N 14 '54
- High-frequency vibration of steam-turbine buckets. F. L. Weaver and M. A. Prohl. *bibliog il diags A S M E Trans* 80:181-9; Discussion. 189-94 Ja '58
- Method for analyzing vibration at a surface point. J. S. Arnold and J. G. Martner. *il diags R Sci Instr* 29:779-83 S '58
- Method for calculating vibration frequency and stress of a banded group of turbine buckets. M. A. Prohl. *bibliog diags A S M E Trans* 80:169-79; Discussion. 179-80 Ja '58
- Optical transducer for displacement measurements. B. G. Leary. *bibliog diag R Sci Instr* 29:246-7 Mr '58
- Trouble-shooting impending mechanical failures; an analyzer detects and measures vibration. G. L. Bourdages. *il Plant* 18: 45-7 Ag '58
- Vibration analysis proves worth in production. D. L. Bernhard. *il Iron Age* 181:86-8 My 1 '58
- Vibration instruments push back design frontiers. *il diag Ind Lab* 9:92-4 S '58
- Vibration pick-up which does not load the system being examined. S. K. Rushforth and A. Selwood. *diags J Sci Instr* 35:340-3 S '58
- See also
Vibroscope

Physiological effect

Man's new environment; vehicle vibration. A. O. Radke. *bibliog diags Mech Eng* 80:38-41 Jl '58

VIBRATION absorbers

- Blade-vibration-damping device; its testing and a preliminary theory of its operation. R. A. Di Taranto. *il diags J Ap Mech* 25: 21-7 Mr '58
- Machine tool chatter; effect of flexibility in machine and foundation. W. Fishwick and S. A. Tobias. *diags Engineering* 185: 568-72 My 2 '58
- Variable-speed torsional-vibration absorber. C. U. Ip and I. E. Morse. *diags Machine Design* 30:93-5 Ag 7 '58
- Vibration isolators for missiles and aircraft. S. Rubin. *diag S A E J* 66:67-8 F '58
- Vibration isolators with zero stiffness; drawings with text. *Product Eng* 29:52-3 S 29 '58

VIBRATION of molecules. See Molecules—Vibration

VIBRATORS

- High-frequency vibrations slash barrel finishing time. Vibraslide machine. *il Iron Age* 181:86-7 F 20 '58
- Methods of measurement of the parameters of piezoelectric vibrators. E. A. Gerber and L. F. Koerner. *diags Inst Radio Eng Proc* 46:1731-7 O '58
- Progress report on standardization of the vibratory-cavitation test. L. E. Robinson and others. *diags A S M E Trans* 80:103-7 Ja '58
- Soldered joints are shake-tested. *il Plant Eng* 12:114 Jl '58
- Some practical aspects of vibratory compaction. G. O. Garls. *il Roads & Sts* 101:82-4+ Ap '58
- Sonic vibrating filter requires less power. *diag Product Eng* 29:22-3 S 22 '58
- Vibrating conveyors. R. G. Zilly. *il diags Mod Materials Handling* 13:101-8 N '58
- Vibration speeds finishing; Lorco vibrator. *il Steel* 142:110 Je 9 '58
- Vibrator aids testing. *il Steel* 143:102 Ag 4 '58

VIBROSCOPE

- Automatic vibroscope. B. H. Mackay and J. G. Downes. bibliog diags Textile Res J 28:467-72 Je '58
Findings and recommendations on the use of the vibroscope. D. H. Patt. il diag Textile Res J 28:691-700 Ag '58
Modified vibroscope technique. G. F. Bush. Textile Res J 28:89-90 Ja '58
Self-resonating vibroscope. J. P. Parker. il Textile Res J 28:531 Je '58

VICTOR chemical works

- Career opportunities. il map Chem & Eng N 36:64-5 pt 2 Ja 27 '58

VICTORIA plums. See Plums**VIDENE. See Plastic films****VIDEO tape recording. See Television broadcasting—Program recording****VIDICON. See Television cameras****VIEWERS. See Slide films—Viewers****VINEGAR**

- They save by using common carrier; Alton vinegar co. and Consolidated products. il Food Eng 30:115 S '58

VINYL acetate

- Current applications for polyvinyl acetate. il Brit Plastics 31:348-50 Ag '58
Internal treatment of paper with polyvinyl acetate (cont). R. P. Barber and others. Tappi 41:116-18 Mr '58
New process for vinyl acetate. Rubber Age 82:501 D '57
Reaction of titanium tetrachloride with vinyl acetate. L. J. Carboneau and R. W. Rees. Chem & Ind p656 My 31 '58

Manufacture

- Vinyl acetate. flow diag Pet Refiner 36:288 N '57

VINYL alcohol

- Anomalous behavior of the extinction angle of moderately concentrated polyvinylalcohol-water solutions. S. Fujishige. J Colloid Sci 13:193-6 Ap '58
New quenchant for steel; solution of polyvinyl alcohol in water. P. E. Cary and others. il Metal Prog 73:79-81 Mr '58
Properties of materials; polyvinyl alcohol, butyral and formal. Materials in Design Eng 48:165 Mid-O '58
Water-soluble resins from polyvinyl alcohols; Lemols. Plastics World 16:27 Ap '58

VINYLAMINE

- Cyanocarbon chemistry; tricyanovinylamines. B. C. McKusick and others. bibliog Am Chem Soc J 80:2806-15 Je 5 '58
Nitrogen analogs of ketenes; formation of hydroperoxides and vinylamines by reaction with lithium aluminum hydride and organometallic reagents. C. L. Stevens and R. J. Gasser. bibliog Am Chem Soc J 79:6057-62 N 20 '57

VINYL chloride

- Adhesion using molecular models; adhesion of polyethylene and poly(vinyl chloride) to metals. D. Taylor, Jr. and J. E. Rutzler, Jr. bibliog il diags Ind & Eng Chem 50:928-34 Je '58
Coating, printing, embossing; coordinated equipment produces vinyl coated fabric with any desired surface finish. il diags Mod Plastics 35:116-17+ Ap '58
Creep and stress-rupture behavior of rigid PVC pipe. J. H. Faupel. il Mod Plastics 35:120+ Ji; 132+ Ag '58
Derivatives of cyclohexene oxide as plasticizers and stabilizers for vinyl chloride resins. R. Van Cleve and D. H. Mullins. bibliog Ind & Eng Chem 50:873-6 Je '58
Developments in polyurethanes, unsaturated polyesters, polyvinyl chloride, and acrylonitrile copolymer blends. 1957. W. Cummings and R. L. Knapp. Plastics Tech 4:241-4 bibliog(p243-4) Mr '58
Dustless PVC eases processing. R. S. Holdsworth and others. il Mod Plastics 35:181-3+ Je '58
Effect of small quantities of plasticizers in PVC compounds. P. Ghersa. bibliog Mod Plastics 36:135-6+ O '58
Effects of plasticizers on the fusion of vinyl plastisols. L. A. McKenna. bibliog diags Mod Plastics 35:142-5+ Je '58
Epoxidized esters of glycols and pentaerythritol; application as plasticizers for poly(vinyl chloride). E. J. Hensch and A. G. Wilbur. Ind & Eng Chem 50:871-2 Je '58

- Epoxidized jojoba oil as a stabilizer for vinyl chloride containing plastics. S. P. Fore and others. bibliog Am Oil Chem Soc J 35:469-72 S '58
Erratic performance of type 1 unplasticized polyvinyl chloride in 93 percent sulfuric acid pipelines. H. E. Atkinson, Jr. and T. F. Degman. il Corrosion 14:19-20 Je '58
Expanded vinyls in special purpose garments; U.S. Ensolite Interlinings. T. G. Tompkins. Mod Textiles Mag 39:53+ Ja '58
Formulation of polyvinyl chloride compositions for resistance to intense gamma radiation. H. Wells and I. Williamson. il Brit Plastics 31:310-11 Ji '58
Heat and ultraviolet aging of poly(vinyl chloride). C. F. Bersch and others. bibliog J Res Nat Bur Stand 60:481-8 My '58
Low temperature cracking test for plasticized polyvinyl chloride. D. Wormald. il diags Brit Plastics 31:392-5+ S '58
Measurement of P.V.C. brittle point. H. O. Williams. bibliog il diag Brit Plastics 31:17-11 Mr '58
Moulded tote boxes formed from P.V.C. sheet. il Brit Plastics 31:98-9 Mr '58
Nature of the particle surface in hevea latex and pastes of rubber hydrochloride and polyvinyl chloride. G. Schuur. bibliog Rubber Chem & Tech 31:436-45 Ji '58
New and modified epoxy stabilizers for chlorine-containing compounds. D. E. Winkler. Ind & Eng Chem 50:363-4 Je '58
One plastic solves two problems; Western Electric finds polyvinyl chloride the answer to problems of corrosion and abrasion. D. Hartley. il Power Ind 74:22-3 F '58
Plasticizers for P.V.C. plastisols. D. S. Newton and J. A. Cronin. Brit Plastics 31:426-31+ O '58
Polyvinyl chloride. new high-level dosimeter. C. Artandi and A. A. Stonehill. bibliog il Nuclonics 16:118+ My '58
PVC piping proves maintenance-free in pickle plant operation. L. J. Turney. il Heating-Piping 30:88-90 Ji '58
Polyvinyl chloride sediment strainer; Walworth co. il Mod Plastics 35:197 F '58
P.V.C. sheet for silo covers. P. P. Birnbaum and A. D. Clarke. il Brit Plastics 31:241 Je '58
PVC used to rebuild peroxide-bleaching bowls; Bollman carbonizing co. il Textile World 108:100 Je '58
Properties of materials; polyvinyl chloride and copolymers. Materials in Design Eng 48:164 Mid-O '58
Simplified method for lining concrete surfaces. W. W. Clarke. il Plating 45:255-6 Mr '58
Some aspects of the stabilization of vinyl insulation. J. G. Henricks and N. L. Cooperman. Plastics Tech 4:127-31 F '58
Testing of polyvinylchloride electrical formulations. G. W. Ashwood and others. diags Wire & Wire Prod 33:407-11+ Ap '58
Transparent vinyl wall encloses U.S. pavilion at Brussels world's fair. il Mod Plastics 35:88 Ji '58
U.S. developments in vinyl sheeting; symposium, New York. Dec. 10-11. diags Brit Plastics 31:73-6+ F '58
Vinyl epoxy plasticizers; epoxyhexahydrophthalates. F. P. Greenspan and R. J. Gall. bibliog Ind & Eng Chem 50:865-7 Je '58

Analysis

- Determination of lead in polyvinyl chloride compositions containing lead stabilizers. S. Grossman and J. Haslam. bibliog J Ap Chem 7:639-44 N '57

Manufacture

- Vinyl chloride from acetylene; Naugatuck Chemical. flow diag Pet Refiner 36:289 N '57
Vinyl chloride from ethylene. flow diag Pet Refiner 36:290 N '57

Spectra

- Infrared spectra of polyvinyl chloride samples prepared at temperatures between -80° and +45°C. R. J. Grisenthwaite and R. F. Hunter. bibliog Chem & Ind p719-20 Je 14 '58
Infrared spectra of reduction products from polyvinyl chloride. M. H. George and others. Chem & Ind p 1114 Ag 23 '58
Infrared spectra of thermally degraded poly(vinyl chloride). R. R. Stromberg and others. bibliog J Res Nat Bur Stand 60:147-52 F '58

VINYL compounds

- Advances in ionic polymerization of vinyl-type monomers. C. E. Schildknecht. *Ind & Eng Chem* 50:107-14 bibliog (129 ref, p 113-14) Ja '58
- Aeration of natural rubber latex; graft polymerization of vinyl monomers with aerated latex rubber. B. C. Sekhar. *bibliog Rubber Chem & Tech* 31:430-5 J1 '58
- Butadiene-vinyl acetylene analysis by gas chromatography. H. R. Kaufman and A. Zlatkis. *Chem & Ind* p 1001 Ag 9 '58
- Configurational stabilities of stereoisomeric vinylthium compounds. D. Y. Curtin and J. W. Crump. *bibliog Am Chem Soc J* 80:1922-6 Ap 20 '58
- Decomposition of peroxycarbamates and their efficiency as initiators in vinyl polymerization. E. L. O'Brien and others. *bibliog Am Chem Soc J* 79:6238-42 D 5 '57
- Epoxy esters; relationship of structure to plasticizer performance. R. M. Brice and W. M. Budde. *Ind & Eng Chem* 50:868-70 Je '58
- Hot subject; heat sealing; electronic welding of vinyl film and sheet; dielectric heat-sealing. *II diag* *Mod Plastics* 35:85-90+ Ap '58
- Polyvinyl acetal bids for many jobs; Delrin. *II Chem Eng* 65:88+ F 10 '58
- Preparation and properties of regenerated cellulose containing vinyl polymers; moisture relations. G. Landells and others. *Soc Dyers & Col J* 73:496-500 N '57
- Properties of materials: polyvinyl alcohol, butyral and formal. *Materials in Design Eng* 48:165 Mid-O '58
- Some *N*-disubstituted amides of long-chain fatty acids as vinyl plasticizers. F. C. Magne and others. *Ind & Eng Chem* 50:617-18 Ap '58
- Stereospecific vinyl polymerization by asymmetric induction. N. Beredjick and C. Schuerch. *bibliog Am Chem Soc J* 80:1933-8 Ap 20 '58
- Substituted styrenes; the syntheses and some chemical properties of the vinylphenols. W. J. Dale and H. E. Hennis. *bibliog Am Chem Soc J* 80:3645-9 J1 20 '58
- Sulfonation of poly(vinyl aromatics). H. H. Roth. *bibliog Ind & Eng Chem* 49:1820-2 N '57
- Vinyl derivatives of the metals; preparation, properties and some reactions of trivinyl compounds of group V elements. L. Maier and others. *bibliog Am Chem Soc J* 79:5884-9 N 20 '57
- Vinyl-metal laminates up 1800 per cent in two years. V. Bartelmo. *II Mod Plastics* 35:102-5+ Ap '58
- See also*
Vinyl ethers
- VINYL ethers
Grignard reagents and unsaturated ethers; the synthesis, properties and reaction of β -substituted vinyl ethers with aliphatic and aromatic Grignard reagents. C. M. Hill and others. *Am Chem Soc J* 80:4602-4 S 5 '58
- Preparation and properties of some vinyl and glycidyl fluoroethers. M. L. Brey and P. Tarrant. *bibliog Am Chem Soc J* 79:6533-6 D 20 '57
- Reactions of unsaturated fatty alcohols; preparation and properties of some copolymers of unsaturated fatty vinyl ethers with lower alkyl vinyl ethers. L. E. Gast and others. *bibliog Am Oil Chem Soc J* 35:347-50 J1 '58
- VINYL fluoride
Vinyl fluoride film is weather resistant. *Materials in Design Eng* 48:136+ J1 '58
- VINYL pyrimidine
Preparation of polymers and copolymers from vinylpyrimidines and triazines. C. G. Overberger and F. W. Michelotti. *Am Chem Soc J* 80:988-91 F 20 '58
- VINYL pyrrolidone
For beverage clarity. *PVP*. *Food Eng* 30:104-5 Je '58
- Is PVP in hair sprays a potential hazard? M. V. Shelanski. *II Soap & Chem Spec* 34:64-6+ J1 '58
- X-ray contrast medium containing PVP; patent. *Drug & Cosmetic Ind* 83:67+ J1 '58
- VINYL toluene
Vinyltoluene for polyester premix putties. R. F. Helmreich. *II Mod Plastics* 35:168+ Je '58

Manufacture

- Vinyl toluene. flow diag *Pet Refiner* 36:291 N '57
- VINYLDIENE cyanide. *See* Methylene malononitrile
- VINYLON. *See* Textile fibers, Synthetic
- VIOFORM
Vioform-hydrocortisone cream in selected dermatoses with emphasis on industrial cases. B. M. James and J. A. Hunt. *bibliog Ind Med* 27:199-201 Ap '58
- VIRGINIA
See also
Gas. Natural—Virginia
Manganese mines and mining—Virginia
Mines and mineral resources—Virginia
- VIRIAL coefficients
Calculation of virial and Joule-Thomson coefficients at extremely high temperatures. E. A. Mason and J. T. Vanderslice. *bibliog Ind & Eng Chem* 50:1033-5 J1 '58
- VIRTUAL work, Theory of
This method simplifies input-output analysis of mechanisms; principle of virtual work. J. O. Predale. *diag* *Product Eng* 29:90-4 Mr 17 '58
- VIRUSES
Effect of chlorine in water on enteric viruses. S. Kelly and W. W. Sanderson. *bibliog Am J Pub Health* 48:1333-34 O '58
- BCHO viruses from Idaho and Montana. R. A. Ormsbee and E. J. Bell. *bibliog (30 titles)* *Am J Pub Health* 47:1405-13 N '57
- Enteroviruses. *Am J Pub Health* 47:1556-66 D '57
- Epidemiological studies of aseptic meningitis caused by Coxsackie virus B5. T. D. Y. Chin and others. *bibliog Am J Pub Health* 48:1193-200 S '58
- Isolation of enteric viruses and salmonellae from sewage. W. N. Mack and others. *bibliog Sewage & Ind Wastes* 30:957-62 Ag '58. *Abstract*. *Am J Pub Health* 48:793-4 Je '58
- Pandora's box; new viruses and respiratory tract disease. E. D. Kilbourne. *Ind Med* 27:500-1 O '58
- Removal of Coxsackie and bacterial viruses in water by flocculation. S. L. Chang and others. *bibliog Am J Pub Health* 48:51-61, 159-69 Ja-F '58
- Transduction in bacteria. N. D. Zinder. *II diag* *Sci Am* 199:38-43 N '58
- Viruses as a cause of cancer. J. W. Beard. *II diag* *Am Scientist* 46:226-54 bibliog (p250-4) S '58
- VIRUSES, Plant
See also
Tobacco mosaic virus
- VISCOELASTICITY. *See* Elasticity
- VISCOSIMETERS. *See* Viscosimeters
- VISCOSE
Analysis
Determination of xanthate sulfur in viscose. J. P. Dux and L. H. Phifer. *bibliog diag* *Anal Chem* 29:1842-5 D '57
- VISCOSE rayon. *See* Rayon
- VISCOSIMETERS
Apparatus for the viscometry of organic liquids at high temperature. W. G. Burns and others. *bibliog diag* *J Sci Instr* 35:291-3 Ag '58
- Comparison of methods for determining intrinsic viscosities from non-Newtonian viscosities. K. H. Cram and J. C. Whitwell. *bibliog II diag* *Textile Res J* 28:849-60 O '58
- Compensated moving cylinder viscometer. G. M. Sreekantath and C. A. Verghese. *diag J Sci Instr* 35:160-1 My '58
- Controlling fluid processes with continuous viscometers. A. Beerbower. *diag* *Control Eng* 5:107-12 Je '58
- Couette viscometer for structural viscosity studies. J. Baarli and K. Gussgard. *diag* *R Sci Instr* 29:642-5 J1 '58
- Determination of grease consistency using an automatic worker viscometer. H. J. Connors. *bibliog diag* *Lub Eng* 14:22-6+ Ja '58
- NBS develops direct-reading viscometer. *II Product Eng* 29:22 Ag 18 '58
- Rotation viscometer directly measuring the ratio of the shearing stress to the rate of shear. H. Elger. *bibliog diag* *R Sci Instr* 28:927-9 N '57
- Viscosity measurements for thick slurries. D. J. Kenny and P. A. Rutt. *II diag* *Foundry* 86:233+ My '58

VISCOSITY

- Anomalous behavior of polymer solutions; viscosity behavior of rubber solutions at high dilutions. S. L. Kapur and S. Gundiah. *bibliog J Colloid Sci* 13:170-8 Ap '58
- Automatic compensation for viscosity changes in a constant-pressure pump by nylon spacer. *diags Machine Design* 30:117 Mr 6 '58
- Bulk viscosity of liquids. N. Hirai and H. Eyring. *bibliog diags J Ap Phys* 29:310-16 My '58
- Calculated viscosity of a solid propellant rocket exhaust gas mixture. W. Gin. *bibliog Jet Propulsion* 28:127-8 F '58
- Chart for viscosity-gravity constant. *Pet Eng* 30:E 1g My '58
- Diffusion measurements in aqueous solutions of different viscosities. A. Biancheria and G. Kegeles. *bibliog Am Chem Soc J* 79:5908-12 N 20 '57
- Effect of fluid-flow rate and viscosity on laboratory determinations of oil-water relative permeabilities. C. R. Sandberg and others. *bibliog diag J Pet Tech* 10:Trans 36-43 F '58
- Electroviscous effect in sols of silver iodide. A. J. Rutgers and P. Nagels. *J Colloid Sci* 13:148-50 Ap '58
- Estimate low-pressure gas viscosity. W. R. Gambill. *bibliog Chem Eng* 65:169-72 S 22 '58
- High viscosity of cell wall suspensions prepared from tomato juice. R. T. Whittenberger and G. C. Nutting. *bibliog il diag Food Tech* 12:420-4 Ag '58
- How T and P change gas viscosity. W. R. Gambill. *bibliog Chem Eng* 65:157-62 O 20 '58
- Influence of high oxygen pressures on the viscosity of solutions of sodium desoxyribonucleic acid and of sodium alginate. D. L. Gilbert and others. *bibliog Am Chem Soc J* 79:5677-80 N 5 '57
- Influence of particle size on the viscosity of synthetic latex. P. H. Johnson and R. H. Kelsey. *Rubber World* 138:877-82; 139:227-31 S N '58
- Influence of pressure and temperature on oil viscosity in trust bearings. B. Sternlicht. *diags A S M E Trans* 80:1108-12 J1 '58
- Intrinsic bulk viscosity in monatomic and diatomic gases. R. E. Nettleton. *bibliog (34 ref) J Ap Phys* 29:204-12 F '58
- Mastication of rubber; viscosity and molecular weight relationships for natural rubber after cold mastication. D. J. Angier and others. *bibliog Rubber Chem & Tech* 31:73-81 Ja '58
- Microwave absorption and molecular structure in liquids; relaxation times, viscosities and molecular shapes of substituted pyridines, quinolines and naphthalenes. R. W. Rampolla and C. P. Smyth. *bibliog Am Chem Soc J* 80:1057-61 Mr 5 '58
- Modern machines and methods reduce slashing problems. *Textile World* 107:115-+ D '57
- Molecular transport properties of fluids; annual review. E. F. Johnson. *bibliog (78 ref) Ind & Eng Chem* 50:488-91 pt 2 Mr '58
- Mutual solubility of polymers; the viscosity of mixed rubbers and the behavior of solutions of these. G. L. Slonimskii and N. P. Komska. *Rubber Chem & Tech* 31:244-9 Ap '58
- Non-Newtonian viscosity of poly- γ -benzyl-L-glutamate solutions. J. T. Yang. *bibliog Am Chem Soc J* 80:1783-8 Ap 20 '58
- Particle motions in sheared suspensions. W. Bartok and S. G. Mason. *bibliog diags J Colloid Sci* 13:293-307 Ag '58
- Pressure-viscosity effect; background. H. A. Hartung. *bibliog A S M E Trans* 80:1097-8 J1 '58
- Relationship between viscosity and molecular weight of ethyl cellulose. W. R. Moore and A. M. Brown. *bibliog J Ap Chem* 8:363-7 Je '58
- Sentfleben method for the determination of the heat conductivity, the specific heat, and the viscosity of gases. S. Arajs and S. Legvold. *J Ap Phys* 29:1001 Je '58
- Shear rate dependence of the viscosity and elastic compliance of polymer melts; correspondence with a hydrodynamic theory of viscoelastic flow. R. H. Boyd. *diag J Ap Phys* 29:953-6 Je '58
- Simple derivation of an electroviscous equation. N. Street. *J Colloid Sci* 13:288-90 Je '58

- This equation gives viscosity of normal paraffins. L. F. Albright and K. K. Innes. *bibliog Pet Refiner* 36:155-8 D '57
- Viscosities of various spent liquors (Ostwald capillary viscometer); data sheet. *Tappi* 41:sup 137A-8A Mr '58
- Viscosity as a process variable. R. A. Minard. *diag Instruments & Automation* 31:1212-13 J1 '58
- Viscosity behavior; periodate, and hypochlorite-oxidized starches. R. L. Mellies and others. *bibliog Ind & Eng Chem* 50:1311-14 S '58
- Viscosity, density, and electrical resistivity of molten alkaline-earth borate glasses with three mole per cent of potassium oxide. L. W. Coughanour and others. *bibliog Am Cer Soc J* 41:324-9 Ag 1 '58
- Viscosity is still the key to good lubrication of i-c engines. W. M. Kauffmann. *il diags Power* 102:110-12-+ J1 '58
- Viscosity-molecular weight relationships for cellulose acetate. W. R. Moore and B. M. Tiswell. *bibliog J Ap Chem* 8:232-7 Ap '58
- Viscosity of five gases; a re-evaluation. J. Kestin and H. E. Wang. *bibliog A S M E Trans* 80:11-17 Ja '58
- Viscosity of suspensions of uniform spheres. J. Happel. *bibliog J Ap Phys* 28:1288-92 N '57
- Viscosity-pressure effect on friction and temperature in a journal bearing. S. J. Needs. *A S M E Trans* 80:1099-102; Discussion. H. A. Hartung. 1102-3 J1 '58
- Viscosity-reduced state correlation for diatomic gases. W. J. Brebach and G. Thodos. *bibliog Ind & Eng Chem* 50:1095-100 J1 '58
- Viscous behavior of polymerized vegetable oils. R. F. A. Sims. *Am Oil Chem Soc J* 35:257-61 Je '58
- See also
Fluidity
Plasticity
Prandtl number
Rheology
Surface tension

Measurement

- Chart for finding kinematic viscosity and Reynolds number; data sheet. K. A. Merz. *diags Machine Design* 29:173-4 D 12 '57
- Comparison of methods for determining intrinsic viscosities from non-Newtonian viscosities. K. H. Cram and J. C. Whitwell. *bibliog il diags Textile Res J* 28:849-60 O '58
- Determining viscosity of liquefied gaseous hydrocarbons at low temperatures and high pressures. G. W. Swift and others. *il diags Chem Eng Prog* 54:47-50 Je '58
- Instrument for the measurement of the viscosity of steam and compressed water. J. Kestin and J. R. Moszynski. *bibliog diags A S M E Trans* 80:1009-14 J1 '58
- Instrumentation for aerosols. W. B. Leighton. *il Soap & Chem Spec* 34:79-81-+ Ag '58
- Modified method for measuring surface viscosity. R. Bulas and C. A. Kumins. *bibliog diag J Colloid Sci* 13:429-40 O '58
- Mooney viscosity as related to molded electrical products. A. A. Kessel. *il diag Rubber World* 137:695-700-+ F '58
- Rapid determination of the intrinsic viscosity of cellulose nitrate. F. F. Davison. *bibliog Tappi* 40:975-7 D '57
- Surface viscosities of mixed unimolecular films. G. E. Boyd and F. Vaslow. *bibliog J Colloid Sci* 13:275-85 Je '58
- Viscosities of gases at high pressures. J. F. Ross and G. M. Brown. *bibliog il diag Ind & Eng Chem* 49:2026-33 D '57
- Viscosity of steam; nomograph. D. S. Davis. *Power Ind* 74:29 S '58
- See also
Viscosimeters
- VISCOSITY INDEX.** See Lubricating greases—Viscosity index; Lubricating oils—Viscosity index
- VISES**
Simple apparatus for the direct determination of the charge output of piezoelectric materials at high forces. D. S. Schwartz. *diags R Sci Instr* 29:321-3 Ap '58
- Use that drill press vise! J. J. O'Brien. *diags Power Eng* 62:98 Je '58

VICES—Continued

- Vise jaws self-adjusting for multiple parts. C. Andrews, diags Mach 65:149-50 O '58
- Vise stand gets mechanic away from crowded bench. J. O. Evans, diags Pet Refiner 37:248+ My '58

VISIBILITY

- Computation of relative comfort and relative visibility factor ratings for roadway lighting; abstract. C. H. Rex, Illum Eng 53: 464-5 S '58
- Effects of air pollution on airport visibility; New York metropolitan area. W. T. Ingram and L. C. McCabe, bibliog Am Soc C E Proc 84 [SA 1 no 1543] 1-18 F '58
- Highway visibility in fog. C. Marsh, II Illum Eng 52:621-7; Discussion. 627-8 D '57
- Visibility; detection and recording of objects against a sky background. E. P. Martz, Jr, diags SMPTE J 67:228-31 Ap '58

VISION. See Sight**VISITORS**

- New design for a welcome mat; Caterpillar tractor co. R. Newcomb and M. Sammons, II Mill & Factory 61:107-8 N '57

VISUAL instruction

- Classification system for lantern slides and other visual aids in occupational health. C. P. McCord and W. A. Cook, Ind Med 27: 46-9 Ja '58

- Let them see what you're talking about. L. P. Murphy, II Chem & Eng N 36:67-70 Ja 20 '58

See also

- Lantern slides
Moving pictures in education
Moving pictures in industry
Slide films

VITAL statistics**See also**

- Infant mortality—Statistics
Mortality—Statistics
Public health departments—Records

VITAMINS

- Activity of certain water-soluble vitamins after exposure to gamma radiations in dry mixtures and in solutions. L. R. Richardson and others, J Nutrition 65:409-18 JI '58
- Chemical interactions of the water-soluble vitamins; a review. S. Scheindlin, bibliog II Drug & Cosmetic Ind 83:46-8+ JI '58
- Nutritional adaptation to low dietary intakes of calories, proteins, vitamins, and minerals in the tropics. G. L. Pathak, Am J Clinical Nutrition 6:151-8 bibliog(38 titles, p 157-8) Mr '58

See also

- Food, Enriched

Vitamin A

- Carotene balances on boys in Ruanda where vitamin A deficiency is prevalent. O. A. Roels and others, bibliog J Nutrition 65: 115-27 My '58
- Effects of exercise on blood (plasma) concentrations of vitamin A, carotene and tocopherols. R. W. Hillman and others, bibliog J Nutrition 64:605-13 Ap '58
- Hypervitaminosis A: its broadening spectrum; editorial. H. Jeghers and H. Marzaro, bibliog Am J Clinical Nutrition 6:335-9 JI '58
- Nutritional status of selected adolescent children; vitamin A nutrition assessed by dietary intake and serum levels; bioluminescent and gross observations. E. A. Donald and others, Am J Clinical Nutrition 6:126-35 bibliog(41 titles, p 133-5) Mr '58
- Seasonal variations in the vitamin A content of hens' eggs. S. L. Bandemer and others, bibliog J Agril & Food Chem 6:543-62 JI '58

Analysis

- Assay of vitamin A oils. E. Bruntus, bibliog Am Oil Chem Soc J 35:sup 13-14 Ap '58

Vitamin B complex

- Activated citrus sludge; vitamin content and animal feed potential. M. H. Dougherty and R. R. McNary, bibliog Sewage & Ind Wastes 30:1151-5 S '58
- Interactions of B vitamins on growth of rats. E. M. Scott and I. V. Griffith, bibliog J Nutrition 65:419-23 JI '58

See also

- Pantothenic acid

Vitamin B₁

- Effect of zinc and potassium in the nutrition of tenebrio molitor, with observations on the expression of a carnitine deficiency. G. S. Fraenkel, bibliog J Nutrition 65:361-95 JI '58

Vitamin B₁

- Action of borohydrides on thiamin in aqueous medium. G. E. Donvico and D. J. Hennessy, bibliog Am Chem Soc J 79:6325-8 D 5 '57
- Effect of penicillin on the intestinal synthesis of thiamine in the rat. M. S. Mameesh and B. C. Johnson, bibliog J Nutrition 65: 151-7 My '58
- Effect of thyroprotein and penicillin on the thiamine requirement and growth of normal and hyperthyroid rats. G. R. Vogel and others, bibliog J Nutrition 65:525-33 Ag '58

- Mechanism of thiamine action; evidence from studies on model systems. R. Bresslow, bibliog Am Chem Soc J 80:3719-26 JI 20 '58

- Presence in wheat gluten of a substance resembling thiamine (vitamin B₁). E. N. Riddyard, bibliog II Chem & Ind p 1197-8 S 13 '58

- Thiamine metabolism; the metabolism of thiazole-2-C¹⁴-thiamine in rat. J. M. Iacono and B. C. Johnson, II diags Am Chem Soc J 79: 6321-4 D 5 '57

Vitamin B₂

- Isolation and structure proof of 3,4-dimethyl-6-carboxy- α -pyrone as a bacterial degradation product of riboflavin. P. Z. Smyrniotis and others, bibliog Am Chem Soc J 80:2541-5 My 20 '58

- Liberation and determination of riboflavin in natural feedstuffs. V. R. Murthy and others, bibliog J Agril & Food Chem 6:129-30 F '58

- Riboflavin economy of the rat. O. A. Bessey and others, bibliog J Nutrition 64:185-202 F '58

Vitamin B₃

- Antioxidative activity of derivatives of vitamin B₃ and structurally related compounds. T. Sakurai and F. A. Kummerow, bibliog Am Oil Chem Soc J 35:401-4 Ag '58
- Effect of isonicotinic acid hydrazide and vitamin B₃ on glutamic-oxalacetic transaminase levels in whole blood. M. Sass and G. T. Murphy, bibliog Am J Clinical Nutrition 6:424-9 JI '58

- Influence of diet upon tissue concentration of vitamin B₃. K. E. Cheslock, bibliog J Nutrition 65:53-61 My '58

- Study of the effect of deoxypyridoxine or isoniazid upon mineral retention and liver enzyme activities of pyridoxine-deficient male rats. E. W. Hartsook and others, bibliog J Nutrition 65:547-59 Ag '58

Vitamin B₁₂

- Absorption of vitamin B₁₂ enhanced by D-sorbitol. B. F. Chow and others, bibliog Am J Clinical Nutrition 6:30-3 Ja '58; Discussion. R. D. Barnard, 6:333-4 My '58
- Benzimidazoles as specific inhibitors of vitamin B₁₂ or thymine in bacterial mutants. D. B. M. Scott and others, bibliog Am Chem Soc J 80:2165-9 My 5 '58

- Carotene utilization and cholesterol metabolism as influenced by added choline and vitamin B₁₂ to diets containing yeast or a synthetic vitamin mixture. H. L. Mayfield and R. R. Roehm, J Nutrition 64:571-86 bibliog(p585-6) Ap '58

- Chemistry of vitamin B₁₂; abstract. A. W. Johnson, Chem & Ind p 1434 N 2 '57

- Chromatographic recovery of vitamin B₁₂; patent. Drug & Cosmetic Ind 82:764+ Je '58

- Development of vitamin B₁₂ deficiency by untreated patients with pernicious anemia. W. J. Darby and others, bibliog Am J Clinical Nutrition 6:513-22 S '58

- Effect of intrinsic factor on absorption of vitamin B₁₂ in healthy individuals. L. Ellenbogen and others, bibliog Am J Clinical Nutrition 6:26-9 Ja '58

- Effect of vitamin B₁₂ on growth-retarded children; a review. E. E. Howe, bibliog (37 titles) Am J Clinical Nutrition 6:18-25 Ja '58

VITAMINS—Vitamin B₁₂—Continued

Effects of the prevention of coprophagy in the rat; vitamin B₁₂ requirement. R. H. Barnes and G. Fiala. *bibliog J Nutrition* 65:103-14 My '58

Factors affecting the absorption of vitamin B₁₂. B. F. Chow and others. *bibliog Am J Clinical Nutrition* 6:386-93 Jl '58

Low serum vitamin B₁₂ concentrations in alcoholics; improvement with liver therapy. H. Gounelle and J. Richard. *bibliog Am J Clinical Nutrition* 6:422-3 Jl '58

Reversible uptake of oxygen by vitamin B₁₂. B. Jaselskis and H. Diehl. *bibliog Am Chem Soc J* 80:2147-52 My 5 '58

Saturation studies with vitamin B₁₂ in human subjects. W. G. Unglaub and others. *bibliog Am J Clinical Nutrition* 6:535-41 S '58

Studies on the mechanism of action of vitamin B₁₂ in animal nutrition. B. C. Johnson. *il Am J Clinical Nutrition* 6:34-49 *bibliog* (56 titles, p45-9) Ja '58

Vitamin B₁₂ absorption; editorial. R. F. Schilling. *Am J Clinical Nutrition* 6:332-3 My '58; Discussion. V. Herbert. 6:547 S '58

Vitamin B₁₂ content of azotobacter vine-landii. L. Almon. *bibliog J Nutrition* 65: 643-8 Ag '58

Analysis

Organ, urine and feces vitamin B₁₂ content of normal and starved rabbits. H. L. Rosenthal and L. Cravitz. *bibliog J Nutrition* 64:281-90 F '58

Vitamin B₁₃

Studies related to vitamin B₁₃. W. H. Ott and others. *bibliog J Nutrition* 64:525-31 Ap '58

Vitamin C

Ascorbic acid requirement of the guinea pig using growth and tissue ascorbic acid concentrations as criteria. M. Collins and C. A. Elvehjem. *bibliog J Nutrition* 64:503-11 Ap '58

Ascorbic acid requirements of adults; 30 mg or 75 mg? E. Uhl. *bibliog Am J Clinical Nutrition* 6:146-50 Mr '58

Critical evaluation of myo-inositol as an ascorbic acid-sparing agent. L. Anderson and others. *bibliog J Nutrition* 64:167-76 F '58

Effect of ascorbic acid on the inactivation of tyrosinase. W. Scharf and C. R. Dawson. *bibliog diag Am Chem Soc J* 80:4627-31 S 5 '58

Effect of the ingestion of ascorbic acid and dehydroascorbic acid upon the blood levels of these two components in human subjects. H. Linkswiler. *bibliog J Nutrition* 64:43-54 Ja '58

Effects of sodium sorbate and ascorbic acid on attempted gamma radiation pasteurization of apple juice. E. A. Assebergs and others. *Food Tech* 12:156-8 Mr '58

Human utilization of dehydroascorbic acid. J. H. Sabry and others. *bibliog J Nutrition* 64:457-66 Mr '58

Hydrogen peroxide-induced oxidation of ascorbic acid in passion fruit juice. E. Ross and A. T. Chang. *bibliog J Agri & Food Chem* 6:610-15 Ag '58

Mechanism of browning of ascorbic acid-citric acid-glycine systems. T. Lailakainen and others. *bibliog diag J Agri & Food Chem* 6:135-9 F '58

Nutritional status of selected adolescent children; ascorbic acid nutriture assessed by serum level and subclinical symptoms in relation to daily intake. M. M. Hard and others. *bibliog Am J Clinical Nutrition* 6: 401-8 Jl '58

Analysis

Comparative measurements of ascorbic acid and total ascorbic acid of blood plasma. J. H. Sabry and M. L. Dodds. *bibliog J Nutrition* 64:467-73 Mr '58

Modified indophenol-xylene extraction method for the determination of ascorbic acid in soybeans. P. E. Weakley and L. L. McKinney. *bibliog Am Oil Chem Soc J* 35: 281-4 Je '58

Vitamin D

Skin vitamin D; abstract. V. R. Wheatley and R. P. Reinertson. *Drug & Cosmetic Ind* 83:365 S '58

Studies in the synthesis of the antirachitic vitamins; the synthesis of 2-cholestanylidene-ethan-1-al. N. A. Milas and C. P. Priesing. *bibliog Am Chem Soc J* 80:2189-94 My 5 '58

Studies in the synthesis of the antirachitic vitamins; the synthesis of 1-cyclohexylidene-2-(5-methoxy-2'-methylene-1'-cyclohexylidene)ethane. N. A. Milas and C. P. Priesing. *bibliog Am Chem Soc J* 79:6295-9 D 5 '57

Vitamin E

Acceleration of vitamin E deficiency in the chick by torula yeast. J. G. Bieri and others. *bibliog J Nutrition* 64:113-26 Ja '58

Effect of certain necrosis-preventing factors on hemolysis in vitamin E-deficient rats and chicks. C. Gitler and others. *bibliog J Nutrition* 65:397-407 Jl '58

Effect of storage on tissue tocopherols. M. Y. Dju and others. *Am J Clinical Nutrition* 6:61-4 Ja '58

Effects of exercise on blood (plasma) concentrations of vitamin A, carotene and tocopherols. R. W. Hillman and others. *bibliog J Nutrition* 64:605-13 Ap '58

Exudative diathesis in chicks. B. G. Creech and others. *bibliog J Nutrition* 64:55-65 Ja '58

Kidney changes in vitamin E-deficient rats. T. Moore and others. *bibliog il J Nutrition* 65:183-98 Je '58

Production and study of vitamin E deficiency in the baby pig. R. M. Forbes and H. H. Draper. *il J Nutrition* 65:535-45 *bibliog* (p544-5) Ag '58

Analysis

Bioassay of vitamin E by the dialuric acid hemolysis method. L. Friedman and others. *bibliog J Nutrition* 65:143-60 My '58

Vitamin E (tocopherol) in human tissues from birth to old age. M. Y. Dju and others. *bibliog* (29 titles) *Am J Clinical Nutrition* 6:50-60 Ja '58

Vitamin K₂

2-Methyl-3-difarnesyl-1:4-naphthoquinone. J. Weichert and others. *bibliog Chem & Ind* p227 F 22 '58

VITON. See Rubber, Artificial

VITRIFIED clay pipes. See Pipes, Vitrified clay

VOCATIONAL education

Training tomorrow's personnel today; Pochontas industrial council for education. W. A. Raleigh, Jr. *il Coal Age* 62:54-9 N '57

See also

Apprentices
Engineering education
Textile schools
Trade schools

Cooperative plan

Why management must train employees. F. G. Seifing. *Foundry* 86:155-6 Ja '58

Great Britain

Training of craftsmen. Lady Williams. *Engineer* 205:165-7, 198-9 Ja 31-F 7 '58

VODKA

Vodka from pear wastes; Hood river distillers, inc. H. Y. Yang. *il Food Eng* 30:87-8 Jm '58

VOICE

See also
Singing

VOICE of America (radio program)

Radio crashes iron curtain. *Electronics* 31: 17-18 S 19 '58

VOITH-SCHNEIDER propeller. See Propellers

VOLATILITY

Combustion microanalysis of volatile liquids. J. M. Corliss. *diag Anal Chem* 29:1902 D '57

Formation of volatile compounds by Ph²² recoiling from alpha decay. J. Kay and F. S. Rowland. *bibliog Am Chem Soc J* 80:3165 Je 20 '58

Get relative volatility for binary solutions. R. F. Sweeny. *Chem Eng* 65:143-4 My 5 '58

New relative volatility method for distillation calculations. F. W. Winn. *Pet Refiner* 37: 216-18 My '58

VOLATILITY—Continued

Relative volatility and enthalpy data for the systems C hydrocarbons-acetone-water developed from vapor-liquid equilibria. J. E. Ewanchyna and C. Ambridge. *bibliog* diags *Can J Chem Eng* 36:19-36 F '58

VOLCANIC ash, tuff, etc.

Geology of the Mount Garibaldi map-area, southwestern British Columbia, Canada; geomorphology and quaternary volcanic rocks. W. H. Mathews. *bibliog* maps diags *Geol Soc Bul* 69:179-98, pl 1-6 F '58

Halogen-acid alteration of ash at Fumarole no. 1, Valley of ten thousand smokes, Alaska. T. S. Lovering. *bibliog* map *Geol Soc Bul* 68:1585-603 D '57

Welded tuff from deep-well cores from Clinch county, Ga. C. S. Ross. *il Am Mineralogist* 43:537-45 My '58

VOLCANIC glass. See *Perlite*

VOLTAGE

Automatic selection of voltages with punched plastic cards; illustrations with text. *Machine Design* 30:132-3 Ja 23 '58

Bias systems for resonance transformer million-volt electron beam generators. W. F. Westendorp. *bibliog* *il diags Com & Electronics* p751-5 Ja '58

Breakdown of transformer oil under impulse voltages. R. Hancox and H. Tropper. *bibliog* *il diags Inst E E Proc* 105 pt A:250-8; Discussion. 258-61; Reply. 261-2 Je '58

Calculation of transmission line lightning voltages by field concepts. R. Lundholm and others. *bibliog* diags *Power Apparatus & Systems* p 1271-81; Discussion. 1281-3 F '58

Comparison of resistor capacitor sweep and ideal sawtooth. D. Moffat. *diag Electronic Ind* 17:64-6 S '58

Correct voltage affects operating costs. C. T. Baker. *il Power Ind* 74:16-17 Ap '58

Digital computer program saves in controlling voltage on feeders. H. K. Amchin and others. *diags Elec World* 150:48-52+ S 15 '58

D-c amplifier expands input voltage range. V. D. Schurr. *il diags Electronics* 31:87-9 Je 6 '58

D-c and square wave a.c. resistance and voltage comparator. T. M. Dauphinee and H. Preston-Thomas. *bibliog* *il diags J Sci Instr* 35:21-3 Ja '58

Effect of current cut-off and arc voltage on recovery voltage. C. Concordia. *diags Power Apparatus & Systems* p215-19 Je '58; Excerpts. *Elec Eng* 77:791 S '58; Discussion. R. C. Van Sledright and G. Colclough. *il Power Apparatus & Systems* p219-20 Je '58

Evolution of the theory for the voltage-current characteristic of $p-n$ junctions. J. L. Moll. *bibliog* diags *Inst Radio Eng Proc* 46:1076-82 Je '58

Gassing of liquid dielectrics under electrical stress; influence of voltage and pressure. H. Basseches and M. W. Barnes. *bibliog* diags *Ind & Eng Chem* 50:959-66 Je '58

How good is your welder power supply? electronic voltage-drop counter. A. C. Johnson and F. E. Donathan. *il diags Welding J* 37:692-9 Jl '58

Influence of water resistivity and precipitation rate upon 60-cycle wet flashover voltage. *Com & Electronics* p350-7; Discussion. 357-8 Jl '58

Measurement of voltage ratio at audio frequencies. abstract. W. C. Sze. *diags Elec Eng* 76:1079 D '57

Measurement of voltage resulting from single-phase switching of a high-voltage three-phase transformer. W. F. Dunkle and W. F. Mackenzie. *il diags Com & Electronics* p292-4; Discussion. 294-5 Jl '58

New voltage-tunable magnetrons; how they work and where. *diags Gen Elec R* 61:34-6 Jl '58

Selection, design, and operation of 13.2/23 kv as a distribution voltage. N. H. Briland. *Power Apparatus & Systems* p775-80; Discussion. 780-1 O '58

Service voltage needs research. A. S. Anderson. *Elec World* 149:46+ Je 30 '58

Surge measurement errors introduced by coaxial cables. J. H. Park. *il diags Com & Electronics* p343-7 Jl '58; Abstract. *Elec Eng* 77:288 Ap '58; Discussion. *Com & Electronics* p347-50 Jl '58

Transient recovery voltages on power systems. P. L. Dandeno and others. *bibliog* plan diags *Power Apparatus & Systems* p581-90, 592-604; Discussion. 590-2, 604-6 Ar '58

Transmission-system voltages under single and double line-to-ground fault conditions. R. W. Johnston. *bibliog* diags *Power Apparatus & Systems* p99-103 Ap '58

Voltage drop tables. *Elec Constr & Maint* 57:21 Mid-S '58

Voltage feedback and thermal resistance in junction transistors. J. J. Sparkes. *Inst Radio Eng Proc* 46:1305-6 Je '58

Voltage-sensitive switch. K. O. Otley and others. *bibliog* *il diags Inst Radio Eng Proc* 46:1723-30 O '58

Voltage standing-wave ratio measurement. E. W. Collins. *diags Electronic & Radio Eng* 35:287-90 Ag '58

Voltage-tunable magnetron; lightweight low power generator. K. E. Anspach. *il diags Aviation Age* 30:168-71 S '58

Voltage variable capacitor; Varicap. G. F. Sturube. *bibliog* *il diags Electronic Ind* 17:69-73 My; 77-80 Jl '58

See also *High voltage*

VOLTAGE dividers

Potential divider design chart. J. Willis. *diags Wireless World* 64:452-3 S '58

Transient response of impulse voltage dividers. F. A. Fisher. *bibliog* diags *Com & Electronics* p411-19; Discussion. 419-20 S '58

VOLTAGE regulation

Direct-coupled amplifiers; improved balancing factors by matching effects of heater-supply variations. D. J. R. Martin. *bibliog* *diag Electronic & Radio Eng* 34:438-41 D '57

How to specify parallel operation of unregulated transformer-rectifiers. J. E. Topper. *il diags Aviation Age* 28:54-9 F '58

Impulse voltage wave chopping circuit for use with a recurrent surge oscilloscope. J. W. Armitage. *il diags Electronic Eng* 30:186-8 Ap '58

Industrial supply poses problems. B. L. Lloyd. *diags Elec World* 148:63-5 N 11 '57

One transformer, many voltages. W. P. Carpenter. *il diags Product Eng* 28:89-91 D 9 '57

Regulated supply offsets line changes. L. Costrell. *diags Electronics* 31:100-2 Ja 3 '58

Voltage performance of series capacitors in transmission and distribution lines. J. M. Magowan. *il maps diags Inst E E Proc* 104 pt A:505-16; Discussion. 516-19; Reply. 519-20 D '57

VOLTAGE regulators

A-c zero locator. L. Costrell. *diag Electronics* 31:98+ Ja 17 '58

Design of transistor regulated power supplies. R. D. Middlebrook. *bibliog* diags *Inst Radio Eng Proc* 45:1502-9 N '57

Distribution system primary-feeder voltage control; digital computer. H. E. Lokay and others. *bibliog* flow-diags diags *Power Apparatus & Systems* p346-76; Discussion. 376-8; Reply. 378-9 O '58

Effect of a voltage regulator in the steady-state and transient stability of a synchronous generator. A. S. Aldred and G. Shuckshaft. *bibliog* diags *Inst E E Proc* 105 pt A:420-7 Ag '58

Electronic control of voltage compensation of signalling battery. *diag Engineer* 206: 385 S 5 '58

Electronic high-voltage regulator. R. L. Clark. *diag Q S T* 42:30-1 My '58

High voltage transistor regulated power supplies. M. Mamon. *diags Elec Manuf* 62: 106-9+ S '58

How can synchronizing voltage-regulator accidents be avoided on engine-generator sets? question and answers. *il diags Power* 102:136-7 Je '58

How much overload can your regulators take? H. C. Brem and R. A. Studer. *Elec World* 150:64-5 Ag 25 '58

Maintains constant voltage at point of use. *il diags Power Ind* 74:15 Ar '58

Stabilizer for large sub-standard lamps. A. W. S. Tarrant. *diag J Sci Instr* 35:31 Ja '58

VOLTAGE regulators—Continued

- Three ways to limit circulating current in paralleled regulators. H. C. George. *diags Elec World* 150:62-3 Ag '58
- Transformers, regulators and reactors; a review of progress. E. T. Norris. *bibliog il diags Inst E E Proc* 105 pt A:241-9 Je '58
- Use new regulator loading guide. L. M. Limpus. *Elec World* 150:56-7 S 15 '58
- Voltage regulator stabilizes automated plant operations. F. X. Doran. *Elec World* 149:56-7 F 10 '58
- Voltage stabilizer principle; discussion. *diags Electronic Eng* 30:210-12, 509 Ap. Ag '58
- Voltage stabilizers. *il Automobile Eng* 48: 302 Ag '58
- Zener diode voltage stabilizer; application to small battery motors. S. Welldon. *diags Wireless World* 64:381-3 Ag '58

Maintenance and repair

- Mobile unit aids regulator service. H. Steuer. *il diags Elec World* 150:65 J 28 '58

Testing

- Computer analyzes voltage-regulator performance. H. L. Prescott. *il diags Westinghouse Eng* 18:76-9 My '58; *Abstract, Elec World* 149:56-7 My '58
- Dynamic test for regulators. C. L. Benson. *diag Electronics* 31:90-4 Je 20 '58

VOLTAIC cell. See Electric batteries**VOLTMETERS**

- Apparatus for automatic controlled potential electrolysis using an electronic coulometer. L. L. Merritt, Jr. and others. *bibliog diags Anal Chem* 30:487-92 Ap '58

VOLTTAMMETRY

- Anodic stripping voltammetry using the hanging mercury drop electrode. R. D. DeMars and L. Shain. *bibliog Anal Chem* 29:1825-7 D '57
- Chronopotentiometric studies at solid electrodes. R. N. Adams and others. *bibliog Anal Chem* 30:471-5 Ap '58
- Hydrodynamic voltammetry at solid indicator electrodes. J. Jordan and others. *bibliog diags Am Chem Soc J* 80:3846-52 Ag '58
- Studies on the chemistry of halogen and of polyhalides; voltammetry of iodine species in acetonitrile. A. E. Popov and D. H. Geske. *bibliog Am Chem Soc J* 80:1340-52 Mr 20 '58
- Voltammetric membrane electrodes; basic theory and characteristics of thallous and cadmium reduction. R. C. Bowers and A. M. Wilson. *Am Chem Soc J* 80:2968-72 Je 20 '58
- Voltammetry at solid electrodes; anodic polarography of sulfa drugs. J. D. Voorhies and R. N. Adams. *bibliog diag Anal Chem* 30:346-50 Mr '58

VOLTMETERS

- Digital voltmeter. *Electronic Eng* 30:613 O '58
- Diode bridge protects meters. R. L. Ives. *diag Electronics* 31:78 Mr 28 '58
- Electrical testing. S. Kalifon. *diags Wire & Wire Prod* 33:538-4 My '58
- Expanded-scale a.c. voltmeter. D. Kohl. *il diag Q S T* 42:36-8 Mr '58
- Good appearance, accessibility, and readability are meter design keywords. *il diag Machine Design* 30:148 Ap 3 '58
- Measurement of small phase shifts with a phase sensitive voltmeter. D. J. Collins and J. E. Smith. *diags Electronic Eng* 30:146-7 Mr '58
- Tips on connecting ammeters and voltmeters. N. Peach. *diags Power* 102:124-5 Je '58
- Transistor d.c. voltmeter. *il Wireless World* 64:248 My '58
- Transistors in measuring instruments; millivoltmeter features hybrid augmented cathode follower. E. J. Peterman. *il diags Elec Manuf* 61:140-2 F '58
- Utility voltmeter. A. Stratmoen. *il diag Radio-Electronics* 29:67-8 Ap '58
- VOLTMETERS, Vacuum tube**
- Automatic range selector for electronic voltmeter. M. Hoberman. *il diags Electronics* 31:84-5 Ag 1 '58
- Build an audio vtvm. F. H. Frantz. *il diags Radio-Electronics* 29:57-4 J 1 '58
- High-impedance radio frequency probe. F. H. Tooker. *il diags Radio-Electronics* 29: 78-4 J 1 '58

- Marconi voltmeter for 1500 mc/s. *il Engineer* 206:502 S 26 '58
- Measure millivolts with your vtvm. R. Rieudeau. *il diags Radio-Electronics* 29:62-3 O '58
- New vacuum tube voltmeters. *il Anal Chem* 30:sup79A-80A S '58
- Panel mounted vtvm. *il Electronics* 31:102-4 Je 6 '58
- Signal takeoff for your audio vtvm. F. Woods, Jr. *il diags Radio-Electronics* 29:69 Ap '58
- Vacuum tube voltmeter; TF 1300. *il Engineering* 186:4 J 1 '58

Testing

- Vacuum tube voltmeter calibrator. J. H. Sutton. *il diags Radio-Electronics* 29:116-4 My '58

VOLUME

- Carbon-black loaded rubber vulcanizates; volume changes in stretching. L. Mullins and N. R. Tobin. *bibliog diags Rubber Chem & Tech* 31:505-12 J 1 '58
- Pressure-volume relations in solids. G. E. Duval. *Am J Phys* 26:235-8 Ap '58
- Pressure-volume-temperature properties of fluorobenzene. D. R. Douslin and others. *bibliog diags Am Chem Soc J* 80:2031-8 My '58
- Volumetric and thermodynamic properties of fluids; two component solutions. K. S. Pitzer and G. O. Hultgren. *bibliog Am Chem Soc J* 80:4793-6 S 20 '58

VOLUME, Molecular. See Molecular volume**VOLUME, Specific. See Specific volume****VOLUMETRIC analysis**

- Acid-base equilibria in glacial acetic acid; the effect of water on potentiometric and indicator end-points in acid-base titrations in acetic acid. S. Bruckenstein and I. M. Kolthoff. *bibliog Am Chem Soc J* 79:5915-21 N 20 '57
- Amperometric titration of fluoride with thorium using a rotating palladium electrode. W. E. Harris. *bibliog diag Anal Chem* 30:1000-3 My '58
- Analysis control of tin bronze and gun metals; ethylenediaminetetraacetate (EDTA) titration method. J. Kinnunen and B. Wennestrand. *bibliog Foundry* 86:97 J 1 '58
- Analysis of explosives by nonaqueous titration. R. D. Sarson. *diags Anal Chem* 30: 932-7 My '58
- Analysis of mixtures of isomers of demeton. K. Groves. *bibliog J Agri & Food Chem* 6:30-1 Ja '58
- Analysis of phenol-containing volatile oils. M. L. Blake. *bibliog Anal Chem* 30:400-2 Mr '58
- Automatic titration of micro amounts of chloride by convection amperometry. A. L. Jullard. *bibliog diag Anal Chem* 30: 136-40 Ja '58
- Chelometric titrations of metal ions with potentiometric end point detection; (ethylenedinitrilo)tetraacetic acid. C. N. Reilly and others. *bibliog diags Anal Chem* 30:953-7 My '58
- Chelometric titrations using an azoarsonic acid indicator. J. S. Fritz and others. *bibliog Anal Chem* 30:1111-14 Je '58
- Chelometric titrations with potentiometric end point detection; mercury as pm indicator electrode. C. N. Reilly and W. Schmid. *bibliog Anal Chem* 30:947-53 My '58
- Complexometric determination of sulfate. K. F. Sporek. *Anal Chem* 30:1032-5 Je '58
- Complexometric titration of calcium in the presence of magnesium. A. D. Kenny and V. H. Cohn. *Anal Chem* 30:1366-8 Ag '58
- Complexometric titration of copper and other metals in mixture; 1-(2-pyridylazo)-2-naphthol (dye) as indicator. K. L. Cheng. *Anal Chem* 30:245-5 F '58
- Complexometric titration of urinary calcium and magnesium. C. L. Farbro and R. L. Golby. *bibliog Anal Chem* 30:504-6 Ap '58
- Conductometric determination of small amounts of oxygen in titanium. M. Codell and G. Norwitz. *diag Anal Chem* 30:524-6 Ap '58
- Controlled potential coulometric determination of uranium and copper in homogeneous reactor fuels. L. G. Farrar and others. *bibliog Anal Chem* 30:1511-14 S '58

VOLUMETRIC analysis—Continued

- Coulometric titrations with mercury(I) and (II). E. P. Przybylowicz and L. B. Rogers. *bibliog Anal Chem* 30:65-9, 1064-9 *Ja, Je* '58
- Derivative thermometric titrations. S. T. Zenchelsky and P. R. Segatto. *diags Anal Chem* 29:1856-8 *D* '57
- Determination of carbon in titanium, zirconium and their alloys by gravimetric and conductimetric methods. D. F. Wood and M. Williams. *bibliog diags Metallurgia* 58:47-52 *JI* '58
- Determination of cysteine with ferricyanide by amperometric titration with two polarized electrodes. H. G. Waddill and G. Gorin. *bibliog diag Anal Chem* 30:1069-71 *Je* '58
- Determination of fluoride ion by turbidimetric titration. W. W. Brandt and A. A. Duswalt, Jr. *bibliog diag Anal Chem* 30:1120-2 *Je* '58
- Determination of small amounts of iodide in the presence of chloride by potentiometric titration. R. H. Stokes and L. A. Woolf. *Anal Chem* 29:1883-5 *D* '57
- Determination of traces of water in hydrocarbons in gasoline boiling range; sample handling and interferences. J. W. Loveland and others. *bibliog diags Anal Chem* 30:1316-21 *Ag* '58
- Direct titration method for determining chlorine in organic compounds after Carius combustion. S. Makineni and others. *bibliog J Ap Chem* 8:310-13 *My* '58
- Improved conductometric titration of weak bases. W. H. McCurdy, Jr. and J. Galt. *bibliog Anal Chem* 30:940-6 *My* '58
- Indicators for volumetric analyses; proposed revision of TAPPI standard T 609. *Tappi 41:sup 174A* *Je* '58
- Indirect complexometric analysis with aid of liquid amalgams. W. G. Scribner and C. N. Reilley. *bibliog diags Anal Chem* 30:1452-62 *S* '58
- New titrimetric analysis for ethylene oxide condensates. L. E. Weeks and others. *bibliog Am Oil Chem Soc J* 35:149-52 *Ap* '58
- New titrimetric determinations of magnesium and aluminum oxinates. R. M. Powers and others. *bibliog Anal Chem* 30:254-6 *F* '58
- Nonaqueous titration of 2,4-dinitrophenylhydrazones. A. J. Sensabaugh and others. *bibliog Anal Chem* 30:1445-7 *S* '58
- Nonaqueous titration of malonic esters. H. E. Zaugg and F. C. Garven. *bibliog Anal Chem* 30:1444-5 *S* '58
- Nonaqueous titration of zinc; rapid method for zinc in lubricating oils. T. L. Marple and others. *Anal Chem* 30:937-40 *My* '58
- Permselective membrane electrodes; analytical applications. J. S. Parsons. *bibliog diag Anal Chem* 30:1262-5 *JI* '58
- Photometric determination of vanadium and chromium. C. E. Bricker and S. S. Schonberger. *bibliog diags Anal Chem* 30:922-8 *My* '58
- Potentiometric determination of amides in acetic anhydride. D. C. Wimer. *bibliog (43 ref)* *Anal Chem* 30:77-80 *Ja* '58
- Potentiometric measurement of pCl; application to the determination of chloride in sweat, urine, and miscellaneous solutions. M. Stern and others. *bibliog Anal Chem* 30:1506-10 *S* '58
- Potentiometric titration of free amine and amine carbonate in carbonated monoethanolamine solutions. Y. C. Chang. *bibliog Anal Chem* 30:1095-7 *Je* '58
- Potentiometric titration of halide mixtures. A. J. Martin. *bibliog Anal Chem* 30:233-7 *F* '58
- Potentiometric titration of some organic and inorganic bases with sodium tetraphenylborate. W. J. Klrsten and others. *Anal Chem* 30:237-40 *F* '58
- Potentiometric titration of very weak acids; influence of titrant solvent. G. A. Harlow and G. E. A. Wyld. *Anal Chem* 30:73 *Ja* '58
- Potentiometric titration with controlled current; application to coulometric titrations. J. K. Lee and R. N. Adams. *Anal Chem* 30:240-3 *F* '58
- Potentiometric titrations with (ethylenedinitrilo)tetraacetate; use of masking agents to improve selectivity. J. S. Fritz and others. *Anal Chem* 30:1347-50 *Ag* '58
- Rapid determination of water-soluble phosphorus pentoxide in superphosphate and total phosphorus pentoxide in dicalcium phosphate. S. Harel and others. *bibliog J Agri & Food Chem* 6:589-91 *Ag* '58
- Rapid titrimetric analysis of white metals. L. J. Ottendorfer. *Metallurgia* 57:105-6 *F* '58
- Resolution of acid mixtures in nonaqueous solvents; potentiometric titration of dibasic acids with quaternary ammonium titrants. G. A. Harlow and G. E. A. Wyld. *bibliog Anal Chem* 30:69-72 *Ja* '58
- Review of fundamental developments in analysis; amperometric titrations. H. A. Laitinen. *bibliog Anal Chem* 30:657-61 *pt 2* *Ap* '58
- Review of fundamental developments in analysis; electroanalysis and coulometric analysis. D. D. DeFord and R. C. Bowers. *Anal Chem* 30:613-19 *bibliog (p618-19)* *pt 2* *Ap* '58
- Review of fundamental developments in analysis; inorganic gravimetric and volumetric analysis. F. E. Beamish and A. D. Westland. *Anal Chem* 30:805-22 *bibliog (p820-2)* *pt 2* *Ap* '58
- Review of fundamental developments in analysis; potentiometric titrations. C. N. Reilley. *Anal Chem* 30:765-73 *bibliog (p776-8)* *pt 2* *Ap* '58
- Review of fundamental developments in analysis; volumetric and gravimetric analytical methods for organic compounds. W. T. Smith, Jr. and others. *Anal Chem* 30:822-9 *bibliog (p827-9)* *pt 2* *Ap* '58
- Simple microtitrimetric constant-pH method for accurate enzyme assays. M. Schwartz and T. C. Myers. *bibliog il Anal Chem* 30:1150-1 *Je* '58
- Simplified control analyses of solutions used in partial acetylation of cotton. E. M. Eura and others. *bibliog diag Anal Chem* 30:104-7 *Ja* '58
- Titration of acids in nonaqueous solutions; an improved quaternary ammonium hydroxide titrant for strong acids. R. H. Cundiff and P. C. Markunas. *Anal Chem* 30:1450-2 *S* '58
- Titration of acids in nonaqueous solutions with tetrabutylammonium hydroxide; reaction of solvents with strong acids. R. H. Cundiff and P. C. Markunas. *Anal Chem* 30:1447-9 *S* '58
- Titration of weak bases in strong salt solutions. F. E. Critchfield and J. B. Johnson. *Anal Chem* 30:1247-9 *JI* '58
- Titrimetric determination of fluorine particularly in aluminum fluoride. L. V. Haff and others. *bibliog diags Anal Chem* 30:984-9 *My* '58
- Volumetric determination of aluminum in presence of iron, titanium, calcium, silicon, and other impurities. H. L. Watts. *Anal Chem* 30:967-70 *My* '58
- Volumetric determination of magnesium in titanium. M. J. Miles and others. *bibliog Anal Chem* 30:361-3 *Mr* '58
- Volumetric determination of nitrate ion; simultaneous determination of nitrite. O. R. Gottlieb and M. T. Magalhães. *bibliog Anal Chem* 30:995-7 *My* '58

See also

Acidimetry
Alkalimetry
Colorimetric analysis
Fluorimetric analysis

Apparatus

- Automatic stopcock twister. H. V. Malmstadt. *il diags Anal Chem* 29:1901 *D* '57
- Automatic titrator based on constant current potentiometric titrations. I. Shain and C. O. Huber. *bibliog diag Anal Chem* 30:1286-8 *JI* '58
- Calibration of volumetric glassware and analytical weights; tentatively revised standard T 608 m. *diag Tappi 41:sup 177A-9A* *Je* '58
- Modifications of Beckman aquameter to improve precision and flexibility of operation. E. H. Unger and A. G. Herzog. *diags Anal Chem* 30:157-8 *Ja* '58
- Performance of wide-range high-frequency titration apparatus. A. H. Johnson and A. Timnick. *bibliog il diag Anal Chem* 30:1324-7 *Ag* '58

VOLWILER, Ernest H.

E. H. Volwiler received Priestley medal. *por*(p 37) *Chem & Eng N* 36:99 Ap 28 '58
 Priestley medalist, *por Chem & Eng N* 36:122 Ja 6 '58

VON WELSBEACH, Carl Auer

Two pioneers in rare earth chemistry. M. Schofield. *Ind Chem* 34:420-2 Ag '58

VORTAC. See Radio aids to aviation**VORTEX motion**

Effect of air pressure on vortex-shedding frequency of cylinders. R. F. Rimoldi and others. *J Aero/Space Sci* 25:532 Ag '58

Effect of external sound on the vortex shedding from cylinders. D. I. Garber. *diag J Aeronautical Sci* 25:275-6 Ap '58

Effect of externally generated vorticity on laminar heat transfer. R. M. Mark. *J Aeronautical Sci* 24:923-4 D '57

Finite vortex method for slender wing-body combinations. G. S. Campbell. *diag J Aeronautical Sci* 25:60-2 Ja '58

Vibration: a survey of industrial applications. J. P. den Hartog. *il Engineer* 204:742-3 N 22 '57

Vortex flow through horizontal orifices. J. C. Stevens and R. C. Kolb. *bibliog il diags Am Soc C E Proc* 53 [SA 6 no 1461]:1-22 D '57; Discussion. 84 [SA 2 no 1614]:13-14 Ap; [SA 3 no 1688]:9-12 Je '58

VORTEX tube

Amateur scientist, simple device to attain low temperatures; Hilsch tube. C. L. Stong. *diags Sci Am* 199:145-8 N '58

Producing cold air; simplicity of the vortex tube method. E. H. Otten. *il diags Engineering* 136:154-6 Ag 1 '58

VULCANIZATION

Changes in the electrical properties of natural rubber/carbon black compounds during vulcanization. H. Desanges and others. *bibliog il Rubber Chem & Tech* 31:631-49 JI '58

Continuous curing of neoprene extrusions. M. A. Schoenbeck. *il diag Rubber Age* 83:88-92 Ap '58

Continuous vulcanizer cures extrusions fast. *diag Chem Eng* 65:60+ My 5 '58

Du Pont lcn continuous curing of neoprene extrusions. *il diag Rubber World* 138:81-4 Ap '58

DuPont reveals details on liquid curing medium neoprene cure. *Rubber Age* 83:125 Ap '58

Effects of silica fillers, vulcanizing agents and other additives on compression set of silicone rubber. C. W. Roush and S. A. Braley, jr. *bibliog Rubber Age* 84:75-83 O '58

Efficiency of TMTD vulcanization. E. M. Bevilacqua. *bibliog Rubber Chem & Tech* 31:559-61 JI '58

Equivalent cures in specimens of various shapes. F. S. Conant and others. *bibliog Rubber Age* 82:1031-3 Mr '58; Same. *Rubber World* 137:856-9 Mr '58; Same. *Rubber Chem & Tech* 31:562-8 JI '58

General effects of ionizing radiation on rubbers, plastics, fibers and resins; abstract. R. B. Mesrobian. *Rubber Age* 83:327 My '58

Influence of molecular shape on the tensile strength of vulcanizates. A. S. Novikov and others. *Rubber Chem & Tech* 31:27-9 Ja '58

Influence of structure on the chemical activity and vulcanizability of butadiene polymers. B. A. Dogadkin and others. *bibliog Rubber Chem & Tech* 31:569-80 JI '58

Infrared study of some structural changes in natural rubber during vulcanization. F. J. Linnig and J. E. Stewart. *bibliog*(38 ref) *J Res Nat Bur Stand* 60:9-21 Ja '58

Molecular sieves find use in vulcanization. *il Rubber Age* 83:124 Ap '58

New method for determining the vulcanization characteristics of rubber compounds. J. Peter and W. Heidemann. *il diags Rubber Chem & Tech* 31:105-16 Ja '58

Quick cure with hot liquid; new continuous vulcanization process. M. A. Schoenbeck. *il Chem & Eng N* 36:36 Mr 24 '58

Radiation cures look good, but; abstract. D. J. Harmon. *Chem & Eng N* 36:62 S 22 '58

Radiation curing of silicone rubber. L. M. Epstein and N. S. Marans. *bibliog Rubber Age* 82:825-30 F '58

Recent developments in compounding Kel-F elastomers. L. E. Robb and others. *il diag Rubber Age* 82:286-90 N '57

Role of hydrogen disulfide in vulcanization. E. I. Tinyakova and others. *bibliog Rubber Chem & Tech* 31:353-5 Ap '58

Rubber, plastics parts cured faster with aids called Chemical-loaded molecular sieves. *Materials in Design Eng* 48:136+ S '58

Thermal diffusivity of butyl rubber and its compounds. D. R. MacRae and R. L. Zapp. *bibliog Rubber Age* 82:831-7, 1024-9 F-Mr '58

Thermal vulcanization of synthetic rubber. H. Luttrupp. *Rubber Chem & Tech* 31:132-46 Ja '58

Vulcanization of elastomers. W. Scheele and others. *bibliog Rubber Chem & Tech* 31:285-326, 539-47 Ap-JI '58

Vulcanization of elastomers; the vulcanization of natural rubber with sulfur in the presence of mercaptobenzothiazole. O. Lorenz and E. Echte. *bibliog Rubber Chem & Tech* 31:117-31, 548-58 Ja, JI '58

Vulcanization of silicone rubber. J. R. Harper and others. *Rubber World* 137:711-16+ F '58

Accelerators

Action of vulcanization activators. B. A. Dogadkin and I. Beniska. *bibliog Rubber Chem & Tech* 31:329-42 Ap '58

Caged accelerators; chemical-loaded molecular sieves inactivate curing agents during processing, storage, aging. *il Chem & Eng N* 36:62+ My 26 '58

Mechanism of accelerator action; reaction of mercaptobenzothiazole with sulfur. B. A. Dogadkin and I. Tutorskii. *bibliog Rubber Chem & Tech* 31:343-7 Ap '58

Mechanism of mill breakdown and vulcanization in the presence of 2-mercaptobenzothiazole. B. A. Dogadkin and others. *bibliog Rubber Chem & Tech* 31:348-52 Ap '58

Pre-dispersed accelerators in rubber compounds. J. Ware. *Rubber Age* 83:296-305 My '58

Quantitative determination of dithiocarbamates and thiuram sulfides; a spectrophotometric method. C. L. Hilton and J. E. Newell. *bibliog Rubber Age* 83:981-4 S '58

Role of metal oxides as activators of vulcanization. M. Feldstein and others. *bibliog Rubber Chem & Tech* 31:526-38 JI '58

VULKOLLAN. See Plastics**W**

WHO. See World health organization

WADDINGTON, Guy

Sketch. *por Chem & Eng N* 35:59 D 23 '57

WAGE payment plans

Effect of fixed work on incentive rates. D. A. Sloan. *Can Min & Met Bul* 51:210-14 Ap '58

Multiple factor wage incentives. H. B. Brandt. *bibliog il Soap & Chem Spec* 34:43-6+ JI '58

Principles guide pay plan: Standard oil of California. *Chem & Eng N* 36:40-1 F 24 '58

Shell molding incentive plan increases production 35 per cent; Production pattern & foundry co. E. W. Jahn. *il Foundry* 86:160-2+ Mr '58

See also

Overtime**WAGES**

Highway estimating methods; prevailing wage rate. G. E. Deatherage. *Roads & Sits* 101:104-5 Ja '58

Industry wages, up or down? Mill & Factory survey. *Mill & Factory* 63:67-70 Ag '58

Record pay helps explain low-pressure talks in '58. *Oil & Gas J* 56:106-7 JI 28 '58

See also

Minimum wage**Profit sharing****Dismissal wage**

Severance-pay plan aimed at layoffs. *Oil & Gas J* 56:63 Ap 14 '58

Law and regulations

See also

Minimum wage**Overtime**

WAGES—Continued**Statistics**

Average wages, electric utility employees; all manufacturing employees, 1950-1957; tables. Elec World 149:108 Ja 27 '58
 Founders set stage for pay talks. K. W. Bennett. Iron Age 181:92 Ap 24 '58

Great Britain

Wages and production. Engineering 185:210 R 14 '58

WAGNER, Carl

C. Wagner to become head of Max Planck Institute at Goettingen. por Elektrochem Soc J 105:sup7C Ja '58

WAIRAKITE. See Zeolites**WAITING time. See Queuing theory****WALES**

See also

Electric plants (central stations)—Wales
 Paper and pulp mills—Wales

WALKER, Stanton

Sketch. por(sup4) Am Concrete Inst J 29:sup5 Mr '58

WALL board

Automatic control in board-lath plant. use latest techniques; gypsum products plant of Fibreboard paper products corp. II Pit & Quarry 50:84-6+ My '58
 Nature and cause of spots on coated insulating boards. D. W. French and C. M. Christensen. II Tappi 41:309-12 Je '58

WALL coverings. Plastic

Continuously formed wall coverings. II Brit Plastics 31:306 J1 '58
 Frisch uses trademark in laminated plastics to gain representative design for walls of restaurants. II Plastics World 16:8 S '58

WALL tiles. See Tiles**WALLBOARD. See Wall board****WALLS**

Automatic setting of the flexible walls of a large wind tunnel. T. Barnes and C. R. Dunham. II diags Inst E E Proc 105 pt A:218-22; Discussion. 229-32 Je '58
 Behind today's walls; abstract. E. Raskin. Arch Forum 108:155-6 Mr '58
 Cavity walls at a refined stage. G. Herwig. plans diags Arch Rec 124:242-4 S '58
 Codes ease up on curtain walls; survey of 100 major cities. Arch Rec 124:202-4+ Ag '58

Cracking of masonry walls; time-saver standards. E. E. Seelye. diags Arch Rec 123:189-+ Ja '58

Curtain wall esthetics; abstract. A. L. Huxtable. Arch Forum 108:161 Je '58

Design of masonry walls for blast loading. K. E. McKee and E. Sevin. bibliog diags Am Soc C E Proc 84 [ST 1 no 1512]:1-18 Ja '58

Joint seals for curtain walls; time-saver standards. diags Arch Rec 123:235-+ F '58

Joints for curtain walls. W. F. Koppes and others. diags Arch Rec 123:235-8+ F '58

Plaster-backed curtain wall adds fireproofing, cuts building costs. diags Arch Rec 124:225 Ag '58

Sealing curtain-wall joints. G. J. Schulte. II diags Prog Arch 39:128-31 J1 '58

Slated, the curtain wall. II plan Arch Rec 123:122-7 Mid-May '58
 Thermal behavior of metal curtain walls. II diags Air Cond Heat & Ven 55:35-8 F '58
 Walls of art. gallery of photographs. Arch Forum 109:94-3 Ag '58

Failure

Philadelphia grand jury probes hospital cracks; Philadelphia's General hospital. Arch Forum 108:12 F '58

WALLS, Aluminum

Field-assembled aluminum sandwiches cut industrial wall costs. II Arch Rec 123:204 Ja '58

WALLS, Brick

Behavior of one-story brick shear walls. J. R. Benjamin and H. A. Williams. bibliog II diags Am Soc C E Proc 84 [ST 4 no 1723]:1-30 J1 '58

WALLS, Concrete

Bank building with precast face; Wachovia bank building, Charlotte, N.C. II plans diags Arch Rec 124:189-96 S '58

Behavior of one-story reinforced concrete shear walls. J. R. Benjamin and H. A. Williams. bibliog II diags Am Soc C E Proc 83 [ST 3 no 1254]:1-49 My '57; Discussion. D. A. Matteson, Jr. 53 [ST 6 no 1442]:27-9 N '57; Reply. 84 [ST 3 no 1556]:17-21 My '58

Floodwall holds new ideas for foundations. forms. G. E. Skinner. II diags Eng N 161:42-4 J1 '58

New use of prestressed concrete para wall costs; St Vitus school auditorium in Cleveland. II Arch Rec 122:234 N '57

Precast panels to rise 61 ft for switching and transformer station. II Eng N 160:25 Je 26 '58

Precast walls slide into place on greased track; laboratory for Goodyear research and development center at Akron, Ohio. II diags Eng N 160:36-7 Ap 10 '58

They produce precast concrete wall panels. O. B. Smart. II diags Concrete 65:30-2 D '57

Transverse strength of concrete block walls. F. W. Cox and J. L. Ennenga. II Am Concrete Inst J 29:951-60 My '58; Discussion. 30:1403-9 pt 2 D '58

See also

Sea walls, Concrete

Costs

Some comparative wall costs. Concrete 66:31-+ Ja '58

WALLS, Glass

Glass-curtain wall system is screwdriver-assembled. II Plant Eng 12:112 J1 '58

Gray glass. C. C. Persun. II Prog Arch 39:156-8 Ap '58

What you should know about thin-wall buildings. M. Stern. II Eng N 161:38-42 Ag 14 '58

Wood trusses, glass walls enclose Portland's new exposition-recreation center. II diags Arch Rec 123:489-489 Ja '58

WALLS, Interior

Prefab walls cut health unit costs. II Arch Rec 123:231 Mr '58

See also

Paneling

Partitions

Plaster and plastering

WALLS, Metal

Weatherstripping for metal walls, diags Arch Rec 123:210-11+ Je '58

What you should know about thin-wall buildings. M. Stern. II Eng N 161:38-42 Ag 14 '58

WALLS, Plastic

Wall of plastic; corrugated panels and new touch to turbine room, St Joseph lead co. 100,000-kw power plant, J. R. Kester. II Plant Eng 12:102-3 S '58

WALLS, Steel

Chicago architects turn the spotlight on contemporary steel curtain wall design; panel discussion. II Eng N 159:40-2 N 21 '57

Metal wall research; Princeton university's School of architecture. II Iron Age 180:99 D 5 '57

New joint system for metal walls. II diags Prog Arch 39:153-5 Ap '58

Wall without sealants. II diags Arch Forum 108:122 F '58

WALLS, Stone

Projects of Florida builder baffle engineers. C. Lake. II Civil Eng 28:290 Ap '58

WALNUTS

Plant polyphenols; the isolation of a new ellagitannin from the pellicle of the walnut. L. Jurd. Am Chem Soc J 80:2249-52 My 5 '58

WAPAKONETA, Ohio**Water supply**

New iron removal-softening plant modernizes inadequate well system. J. D. Pavia. flow diag II Water Works Eng 111:220-2+ Mr '58

WAR

Paths to peace. V. H. Wallace, ed. Review, by J. R. Newman. Sci Am 198:145-6+ Mr '58

WAR memorials

Engineering of a monument; Milwaukee war memorial. II diags Arch Forum 107:144 D '57

Hiroshima Peace Hall project. II Arch Rec 124:129-31 J1 '58

Milwaukee's living memorial; War memorial building. II plans diags Arch Forum 107:90-5 D '57

WARD-LEONARD control. See Electric control

WAREHOUSES

- Clark opens seven-acre central parts warehouse, *il Mod Materials Handling* 13:66-7 O '58
- Design of concrete floors on ground for warehouse loadings, P. F. Rice, plans diags *Am Concrete Inst J* 29:105-13 Ag '57; Discussion, H. S. Heaps, 29:799-801; Reply, 801-2 Mr '58
- Floor slab problems in factories and warehouses, J. L. Staunton, *Arch Rec* 123:179-82 Je '58
- Fully automatic reserve storage, diags *Mech Eng* 80:58 JI '58
- Granite wharf, warehouse, office buildings, c. 1823-1872, Boston, A. L. Huxtable, *il Prog Arch* 39:117-18 Je '58
- New pole-type building, S. M. Sutton, *il Bell Lab Rec* 36:329 S '58
- Owens-Illinois warehouse assures product protection, *il Glass Ind* 39:540+ O '58
- Storage building entirely precast, J. H. Skillman, *il Eng N* 160:55-6 Je 5 '58

See also

Cold storage warehouses

Air conditioning

- Publishing warehouse, Englewood Cliffs, N.J. *il plan Prog Arch* 39:130-3 Mr '58

Equipment

- Automated warehouse doubles storage volume, *il diags Plant* 18:48-9 S '58
- Clamp trucks double warehouse capacity, *il Iron Age* 182:90 JI 17 '58
- Keeping warehouse costs down, *il Food Eng* 30:86-7 O '58
- Mechanized warehouse rushes bearing shipments, *il Tool Eng* 40:181 Ja '58
- Palletized storage, automated warehouse are one-man job, diags *Machine Design* 30:12 My 15 '58
- Punch-card system speeds case handling, cuts costs; Pillsbury Mills' warehouse, *il Food Eng* 30:67-8 F '58
- Punched cards run warehouse; Brunswick drug co., Los Angeles, *il plan Control Eng* 5:20-2+ Mr '58
- Put wheels on your shipments; GE Bloomington plant chain conveyor tows carts through warehouse, *il Mill & Factory* 62:95 Ap '58
- Thanks to integrated data processing, paperwork can't smother warehouse, R. G. Zilly, *il Mod Materials Handling* 13:126-30 Mr '58
- Versatile warehousing, O. S. Hagerman, jr., *il Mod Plastics* 35:114-16 D '57
- Warehouse capacity doubled; Pesco products div., Borg-Warner corp., diags *Steel* 142:55 My 12 '58
- Warehouse order processing; integrated data processing system, *il plan Automation* 5: 66-70 My '58

Heating and ventilation

- Design for flexibility to serve plant's heating, cooling needs; warehouse and office of the Dana corp., E. H. Roper, *il Heating-Piping* 30:83-4 JI '58
- Electric space heaters solve warehouse heating problem, *il Elec World* 150:94 S 15 '58

Lighting

- Good lighting converts storeroom to production space, E. Switzer, *il Elec World* 149: 128 My 19 '58

Location

- Warehouse-location problem, W. J. Baumol and P. Wolfe, diags *Op Res* 6:252-63 Mr '58

WAREHOUSING

- Planning your distribution, F. H. Magee, *Mod Materials Handling* 13:110-13 Ap '58

WARM air heating, *See Heating, Warm air*

WARNER, Edward P.

- Obituary, por *Aero/Space Eng* 17:21 S '58

- Obituary, por *S A E J* 66:68-9 Ag '58

WARPING machines

- Mills go for new warping and rawing in, *Textile World* 108:58-60 O '58

- Over-end creel cut warper stops; Dan River mills, *il Textile Ind* 122:133 F '58

WARREN, William Kelly

- Sketch, por *Pet Eng* 30:A8 Mr '58

WARSHIPS

- Hull cracks on destroyers, W. M. M. Fowden, jr. and H. Q. Mar., bibliog *il diags Am Soc Naval Eng J* 70:349-53 My '58

- Missile-age cruiser is best antiaircraft arsenal anywhere, *il Elec Eng* 77:763-4 Ag '58
- Naval construction in 1957, R. V. B. Blackman, *il Engineer* 205:28-30, 62-3 Ja 3-10 '58

- Some of the engineering aspects of air blast, R. S. Burpo, Jr., diags *Am Soc Naval Eng J* 70:515-17 Ag '58

- Some problems in the construction of warships today; discussion, P. Gisserot, *Engineer* 205:161-2, 137 JI 13-25 '58

- Swedish engineers to attempt salvage of 300-year-old man-of-war, *Comp Air Mag* 63:36 Jm '58

- Value engineering in the Bureau of ships, R. G. Johnson, *Am Soc Naval Eng J* 70:77-85 F '58

See also

- Airplane carriers
Submarine boats

Great Britain

- Recent developments in British naval main propulsion steam turbines, F. J. Cowlin and A. F. Veitch, *Engineer* 204:556-8, 595-7 O 18-25 '57

- Royal navy, 1957, *il Engineer* 205:12-16, 47-50 Ja 3-10 '58

United States

- Navy shipbuilding continues strong, *il diag Marine Eng/Log (Yearbook no)* 63:185+ My 31 '58

WASH and wear fabrics. *See Textile fabrics—Washability*

WASH primers. *See Paint materials*

WASHERS (machinery)

- Basic design facts about Belleville spring washers, W. M. Hanneman, *il diags Machine Design* 29:107-10 O 31 '57

- Mechanical fasteners for military electronic equipment; washers and rings, G. H. Lines, diags *Elec Manuf* 61:113-15 Je '58

- Production man's guide to fastening devices; washers, retaining rings, J. J. Dwyer, jr., diags *Am Mach* 102:109 S 8 '58

WASHING

See also

Laundry

WASHING machines

- Home washer doubles as pilot extractor, S. Seltzer and R. Paxton, *il Chem Eng* 65:158 Ap 7 '58

- Immersed motor stays dry, *il Product Eng* 29:66 Ap 14 '58

- Plastics make portable washer possible, *il Mod Plastics* 35:105-7+ My '58

See also

Bottle washing machines

Manufacture

- Handling devices speed washer cabinet production, E. Damschroder, *il diags Automation* 5:41-3 JI '58

- How press and weld steps form sheet metal units; Hotpoint co. H. Chase, *il Iron Age* 180:140-1 D 19 '57

- Permanent mold casting of aluminum at the Maytag co., C. B. Curtis, *il Foundry* 86: 93-102 Ja '58

WASHING machines, Portable

- Design simplicity achieved in portable washer, *il Elec Manuf* 61:154+ My '58

WASHINGTON, D.C.

- Washington zoning gets tougher, *Arch Forum* 108:11+ Je '58

See also

Airports—Washington, D.C.

Capitol

See United States—Capitol

Sewerage

- Annual report of the District of Columbia sewage treatment plant for the fiscal years 1956-1957, H. A. Schreiber, *Sewage & Ind Wastes* 30:1304-8 O '58

- Nation's capital enlarges its sewerage system, C. F. Johnson, *il maps plan Civil Eng* 28:428-31, 502-5 Je-JI '58

Water supply

- Planning water supply expansion for anticipated population increase, B. Bird, map *Am Water Works Assn J* 50:889-98 JI '58

- US capital joins C-I century club, *Gas Age* 122:41 Ap 21 '58

WASHINGTON (state)

See also subdivision Washington (state)
under special subjects, e.g.

Architecture, Domestic
Coal mines and mining
Hydroelectric plants
Mines and mineral resources
Petroleum
Roads

WASHINGTON monument**Lighting**

Night-time illumination sheds new light on
Washington monument, *il Arch Rec* 124:260
S '58

Relighting the Washington monument, J. S.
Haney, *il Illum Eng* 53:433-6 Ag '58

WASSERSTEIN, Benno

Memorial, M. Fleischer, *bibliog por Am
Mineralogist* 43:331-3 Mr '58

WASTE

See also

Dairy waste
Metal waste
Paper and pulp mills—Waste
Petroleum refineries—Waste
Salvage (waste, etc)
Scrap material
Scrap metal
Trade waste
Waste fuel
Waste paper
Water waste
Wood waste

WASTE, Utilization of

Acetic acid recovery methods, D. F. Othmer,
*bibliog flow sheet diag*s *Chem Eng Prog* 54:
48-52 J1 '58

Emergency use of reclaimed water for potable
supply at Chanute, Kan, D. F. Metzler and
others, *bibliog flow diag il map Am Water
Works Assn J* 50:1021-57; Discussion, C. H.
Connell, 1057-60 Ag '58

Need some sugar? spent sulfite liquor's
sugars, *diag Chem & Eng N* 36:40-1 J1
14 '58

Plant to make coal dust from waste water
sludge, *Eng N* 160:106 My 15 '58

Popular new product from former waste;
canned oyster stew; DeJean packing co.
L. Hall and W. Fornea, *il diag Food Eng*
30:74-5 Je '58

Reuse of water in a specialty mill, C. F.
Hill, *flow sheet Tappi* 41:sup 163A-6A J1 '58
Slag production plant at Teesport, *il diag*s
Engineer 205:577-82 Ap 18 '58

Urea from steel mill by-products; Cyanamid
of Canada, Ltd, *il plan Can Chem Process*
42:51-4+ Ag '58

Vodka from pear wastes; Hood river dis-
tillers, inc, H. Y. Yang, *il Food Eng* 30:
87-8 Ja '58

See also

Sewage, Utilization of
Sewage sludge as fertilizer
Sulfite liquor

WASTE disposal. See Radioactive waste dis-
posal; Refuse disposal; Trade waste disposal

WASTE fuel

New process power from organic wastes;
Zimmermann process, *Chem Eng Prog* 54:
130+ Mr '58

United saves by burning marginal fuels, E. J.
Miller, *flow diag il Power Eng* 61:81-2 N '57

WASTE heat

Atomic recovery for space-heating at Han-
ford, S. L. Nelson, *il diag Heating-Piping*
30:161-3 Je '58

New look at continuous blowdown, *il diag*
Power Eng 62:72-3 My '58

Vapor phase cooling systems turn waste heat
to useful steam, *diag*s *Power Eng* 62:62-3
My '58

Waste heat harnessed to cool compressor
units, *flow diag il Pet Eng* 30:D32-3 J1 '58

See also

Boilers, Waste heat
Furnaces, Recuperative and regenerative
Heat exchangers

WASTE paper

Apparatus for the defibering of wastepaper,
M. P. Chaplin, *il diag Tappi* 41:sup203A-4A
Mr '58

Behavior of various dyestuffs toward de-
inking chemicals, R. W. Kumer, *Tappi*
41:sup 173A-4A Mr '58; Same cond. *Paper*
Ind 39:916-17 F '58

Reclaimed paper fibers, wastepaper, some
problems and observations, C. N. Carrano,
Tappi 41:sup 182A-4A Ap '58

Significance of deinking, P. S. Bolton, *Tappi*
41:sup 185A-6A Ap '58

Wastepaper and the paperboard industry, M.
M. Scher, *Tappi* 41:sup 184A-5A Ap '58

Waste paper, plus incinerator, plus refrigera-
tion unit carry 1/2 of store's air conditioning
load, *il Power Ind* 74:13-19 Ag '58

Waste paper salvage in England; abstract,
N. G. Wilson, *Pub Works* 89:182+ S '58

WASTE products

Acid recovery from spent pickle liquor; Blaw-
Knox co, T. E. Barnhart, *flow diag diag*
Sewage & Ind Wastes 30:296-300 Mr '58

Combating corrosion and using waste prod-
ucts; studies in progress at the National
chemical laboratory, *Engineering* 186:178-9
Ag 8 '58

Dollars and sense of pickle-liquor treatment,
J. S. Joseph and R. T. Culver, *bibliog il*
diag Iron & Steel Eng 35:112-20; Dis-
cussion, 120-2 Mr '58

There's profit in preventing pollution; Ansul
chemical co, reclaiming sodium bisulfate, *il*
Safety Maint 115:45 Ap '58

See also

Bagasse
Coke manufacture—By-products
Flue dust
Nylon waste
Packing houses—By-products
Paper making—By-products
Poultry processing plants—Waste
Refuse as fertilizer
Sawdust
Scrap material
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Sulfite liquor
Tailings
Waste, Utilization of
Waste paper
Whey

WATCHES

See also

Stop watches

Manufacture

Gold-dyed aluminum used in Russian watch-
es, A. J. Steiger, *Metal Finishing* 56:54+
F '58

WATCHES, Electric

Electric wristwatch, *il diag Radio-Electron-
ics* 29:42 F '58

WATER

Absorbance of liquid water and deuterium
oxide between 0.6 and 1.8 microns; com-
parison of absorbance and effect of tempera-
ture, W. G. Waggener, *bibliog Anal Chem*
30:1569-70 S '58

Acidity function, H_0 , and ion-pair associa-
tion constants in acetic acid-water mix-
tures, K. B. Wiberg and R. J. Evans, *Am*
Chem Soc J 80:3019-22 Je 20 '58

Anomalous behavior of the extinction angle
of moderately concentrated polyvinyl-alco-
hol-water solutions, S. Fujishige, *J Colloid*
Sci 13:193-6 Ap '58

Apparatus for the experimental study of the
thermodynamic properties of water, H. H.
Reamer and others, *bibliog flow diag diag*
A S M E Trans 80:1004-8 J1 '58

Behavior of distilled monoglycerides in the
presence of water, G. Y. Brokaw and W. C.
Lyman, *il Am Oil Chem Soc J* 35:49-52
Ja '58; Excerpts, *Drug & Cosmetic Ind*
82:372 Mr '58

Coalescence of liquid drops at oil-water in-
terfaces, L. E. Nielsen and others, *bibliog*
J Colloid Sci 13:441-58 O '58

Correlation of equilibrium data for the system
SO₂-H₂O-CaO, W. A. Dickens and A. W.
Plummer, *bibliog Tappi* 40:895-9 N '57

Determination of naphthalene in gas; the
solubility of picric acid in water and the
dissociation of naphthalene picrate, A. B.
Densham and L. A. Ravald, *bibliog J Ap*
Chem 8:267-70 Ap '58

Determination of the apparent density of
hydraulic cement in water using a vacuum
pycnometer, C. L. Ford, *bibliog diag*
A S T M Bul p81-4 J1 '58

Dinickel phosphide as a heterogeneous cata-
lyst for the vapor phase reduction of nitro-
benzene with hydrogen to aniline and wa-
ter, N. P. Sweeny and others, *bibliog Am*
Chem Soc J 80:799-800 F 20 '58

WATER—Continued

- Effect of chemical reagents on the motion of single air bubbles in water. D. W. Fuerstenau and C. H. Wayman. *bibliog il diag Min Eng* 10:Trans 694-9 Je '58
- Effect of fluid-flow rate and viscosity on laboratory determinations of oil-water relative permeabilities. C. R. Sandberg and others. *bibliog diag J Pet Tech* 10:Trans 36-43 F '58
- Effect of soaps and detergents on the critical solution temperature of triethylamine and water. R. J. Kline and A. J. Inde. *bibliog J Colloid Sci* 13:163-9 Ap '58
- Effect of solvent change on the standard chemical potential of electrolytes; comparison of vapor pressure and e.m.f. data for HCl, NaOH and K₂ in the system dioxane-water. G. Baughman and E. Grunwald. *bibliog Am Chem Soc J* 80:3844-6 Ag '58
- Effect of solvent change on the standard chemical potential of electrolytes, from precision measurement of the activities of the solvent components; the system NaCl-dioxane-water. E. Grunwald and A. L. Bacarella. *Am Chem Soc J* 80:3840-4 Ag '58
- Exchange of oxygen between phosphoric acid and water. E. Kisch and others. *bibliog Am Chem Soc J* 80:4778-82 S 20 '58
- Factors involved in plasticity of kaolin-water system. W. G. Lawrence. *bibliog Am Cer Soc J* 41:147-50 My 1 '58
- Formulations for the thermodynamic properties of steam and water. H. C. Schnackel. *A S M E Trans* 80:959-66 My '58
- Gamma-ray attenuation with buildup in water; nomogram; data sheet. D. G. Chappell. *Nucleonics* 16:30 Ji '58
- Heat transfer to supercritical water. N. L. Dickinson and C. P. Welch. *bibliog il diags A S M E Trans* 80:746-52 Ap '58
- How to design ball bearings for water lubrication. P. R. Eklund. *diags Product Eng* 28:72-3 O 28 '57
- Interferometer used to study transient heating of water. E. A. McLean and others. *bibliog il diag R Sci Instr* 29:225-3 Mr '58
- Ionic polymerization; the effect of water in the cationic polymerization of styrene catalyzed by stannic chloride. C. G. Overberger and others. *bibliog Am Chem Soc J* 80:2456-63 My 20 '58
- Kinetics of hydrogen exchange between hydrogen peroxide and water studied by proton magnetic resonance. M. Anbar and others. *bibliog Am Chem Soc J* 80:2630-4 Je 5 '58
- Kinetics of the hydrolysis of trimethylene oxide in water, deuterium oxide and 40 per cent aqueous dioxane. J. G. Fritchard and P. A. Long. *bibliog Am Chem Soc J* 80:4162-5 Ag 20 '58
- Melting of calcite in the presence of water and carbon dioxide. M. S. Paterson. *il Am Mineralogist* 43:603-6 My '58
- Miscibility of liquid sulphur dioxide and water. K. L. Butcher and C. Hanson. *bibliog Chem & Ind p* 1509-10 N 16 '57
- Oxygen demand of leaves in water. E. S. Chase and A. F. Ferullo. *Water & Sewage Works* 105:204-5 My '58
- Oxygen dissolved in water. D. S. Davis. *Water & Sewage Works* 105:287 Ji '58
- Racemization and exchange of sodium mandelate in alkaline H₂O and D₂O. Y. Pocker. *bibliog Chem & Ind p* 1117-18 Ag 23 '58
- Reaction between iron and water in the absence of oxygen. V. J. Linnenboom. *bibliog Electrochem Soc J* 105:322-4 Je '58
- Relative volatility and enthalpy data for the systems C₃ hydrocarbons-acetone-water developed from vapor-liquid equilibria. J. E. Ewanchyna and C. Ambridge. *bibliog diags Can J Chem Eng* 36:19-36 F '58
- Role of water in extrusion and its modification by a surface-active chemical. G. C. Robinson and J. J. Kellen. *bibliog Am Cer Soc Bul* 36:422-30 N 15 '57
- Simplified method of preparing solutions of glycerol and water for humidity control. J. V. Braun and J. D. Braun. *Corrosion* 14:17-18 Mr '58
- Sodium, terphenyl, water, vie for role as reactor coolant; process flowsheet. C. H. Chilton. *il Chem Eng* 65:90-3 Je 30 '58
- Studies in the system CaO-Al₂O₃-SiO₂-H₂O; new data on the polymorphism of Ca₂SiO₄ and its stability in the system CaO-SiO₂-H₂O. D. M. Roy. *bibliog Am Cer Soc J* 41:293-9 Ag 1 '58
- Studies of the system iron oxide-silica-water at low oxygen partial pressures. S. S. Flaschen and E. F. Osborn. *bibliog diags Econ Geol* 52:923-43 D '57
- System amyl alcohol (from fusel oil)-acetic acid-water at 20° P. Piha and others. *bibliog diag J Ap Chem* 8:576-80 S '58
- Theory of ion exchange and development of charge in kaolinite-water systems. W. G. Lawrence. *bibliog diags Am Cer Soc J* 41:136-40 Ap 1 '58
- Upward vertical flow of air-water mixtures. G. W. Govier and W. L. Short. *flow diag Can J Chem Eng* 36:195-202 O '58
- Water lubricated bearings. S. Abramovitz. *bibliog il diags Product Eng* 28:F38-40 Mid-O '57
- Water transfer between aqueous systems by a partially miscible solvent. A. Baniel. *diags J Ap Chem* 8:611-16 S '58
- Waters of the earth provide clues to geological processes in the formation of hydrocarbons. B. Nagy. *Oil & Gas J* 56:265-6+ Ji 28 '58

See also

Air conditioning equipment—Water requirements

Cooling water

Drops

Feed water

Floods

Hot springs

Hydration

Hydraulic engineering

Moisture

Ocean

Photography of water

Sea water

Water supply

Waves

Aeration

- Concepts of surface reaeration; a critical review. M. C. Rand. *bibliog diags Sewage & Ind Wastes* 29:1282-300 N '57
- Effect of contaminants on the rate of aeration of water. A. L. Downing and others. *bibliog J Ap Chem* 7:590-6 N '57
- Highlights of research in sanitary engineering; Rutgers university; surface reaeration of water as affected by domestic sewage. M. C. Rand. *il Pub Works* 33:92-3 D '57
- Mechanism of reaeration in natural streams. D. J. O'Connor and W. E. Dobbins. *Am Soc C E Proc* 82 [SA 6 no 1151]:1-30 bibliog (37 ref, p24-5) D '56; Discussion. 83 [SA 2 no 1227]:9-14 Ap; [SA 3 no 1283]:13-13 Je '57; Reply. 84 [SA 1 no 1567]:3-7 F '58
- Relationship between depth of U-tubes and their aeration process. J. Brulijn and H. Tindzaad. *il diags Am Water Works Assn J* 50:379-83 Ji '58
- Sulfite pulp mills try whipping air into water to jack up the dissolved oxygen content. *Ind & Eng Chem* 48:sup34A+ N '57
- Turbine aeration; Marathon corp. *Tappl* 40:sup 147A D '57

Alkalinity

- Correlation of the two principal methods of calculating the three kinds of alkalinity. J. F. Dye. *bibliog Am Water Works Assn J* 50:800-20 Je '58
- How to make alkalinity measurements in water. G. Dong and others. *Water & Sewage Works* 104:509-11 N '57
- pH-alkalinity. D. W. Graham. *Water & Sewage Works* 105:R386 S 15 '58

Analysis

- Analysis for industry; determination of water. J. H. Thompson. *bibliog Ind Chem* 34:451-3 Ag '58
- Analysis of radioactivity in surface waters; practical laboratory methods. L. R. Setter and others. *bibliog il diag A S T M Bul* p35-40 Ja '58
- Analytical development work for detergent ABS determination in waste waters. R. House. *bibliog Sewage & Ind Wastes* 29:1225-7 N '57
- Application of vacuum ultra-violet techniques to the continuous monitoring of trace concentrations of water in several gases. W. R. S. Garton and others. *bibliog il diag J Sci Instr* 34:496-500 D '57

WATER—Analysis—Continued

- Chromatographic identification and determination of organic acids in water. H. F. Mueller and others. *bibliog Anal Chem* 30:41-4 Ja '58
- Determination of catalyst water by exchange with deuterium gas. J. K. Lee and S. W. Weller. *bibliog Anal Chem* 30:1057-8 Je '58
- Determination of oil in refinery effluent waters. *Anal Chem* 30:36-40 Ja '58
- Determination of synthetic detergent content of raw-water supplies. *bibliog diag Am Water Works Assn J* 50:1343-52 O '58
- Determination of traces of water in hydrocarbons in gasoline boiling range; sample handling and interferences. J. W. Loveland and others. *bibliog diags Anal Chem* 30:1316-21 Ag '58
- Direct spectrophotometric determination of chloride ion in water. P. W. West and H. Coll. *Am Water Works Assn J* 49:1485-92 N '57
- Heavy metal concentration in streams in North Angola. D. J. Atkinson. *bibliog maps Econ Geol* 52:652-67 S '57
- Highlights of research in sanitary engineering; University of Florida; advancements in bacteriology and analytical methods. J. E. Kiker, Jr. *Pub Works* 88:89-90 D '57
- How to make alkalinity measurements in water. G. Dong and others. *Water & Sewage Works* 104:509-11 N '57
- Identification of mixtures of waters from chemical water analyses. J. C. McKinnell. *bibliog diags J Pet Tech* 10:79-82 S '58
- Indigo-carmin method for the colorimetric determination of low concentrations of dissolved oxygen in water. G. P. Alcock and K. B. Coates. *diag Chem & Ind* p554-5 My '58
- New mass spectrometric method for determining alcohols and water in complex mixtures. S. H. Langer and others. *bibliog Anal Chem* 30:1353-6 Ag '58
- Proposed standard method for total-chromium determination. *Am Water Works Assn J* 50:832-4 Je '58
- Proposed standard methods for boron determination. *Am Water Works Assn J* 50:827-31 Je '58
- Purposes and policies of the joint committee on uniformity of methods of water examination. *Am Water Works Assn J* 50:835-8 Je '58
- Quantitative determination of strontium-89 and strontium-90 in water. J. Kool. *Anal Chem* 30:532-6 Ap '58
- Representative sampling and analytical methods in stream studies. P. D. Haney and J. Schmidt. *bibliog Sewage & Ind Wastes* 30:817-20 Je '58
- Strontium content of Wisconsin municipal water. M. S. Nichols and D. R. McNall. *map Am Water Works Assn J* 49:1493-3 N '57
- Study of methods for the determination of nitrates. A. E. Greenberg and others. *bibliog Am Water Works Assn J* 50:821-6 Je '58
- Use of the control chart in checking anion-cation balances in water. A. E. Greenberg and R. Navone. *bibliog Am Water Works Assn J* 50:1365-70 O '58

See also

Water—Bacteriology**Bacteriology**

- Acceptance of membrane filter procedure. *bibliog Am Water Works Assn J* 50:72-4 Ja '58
- Comparison of standard dilution and membrane filter methods. R. B. Adams. *Am Water Works Assn J* 49:1452-8 N '57
- Cultivation, morphology, and classification of the iron bacteria. R. S. Wolfe. *bibliog li diags Am Water Works Assn J* 50:1241-9 S '58
- Effect of biological imbalance in streams: spherotholus natans infestation. W. A. Cawley. *bibliog li Sewage & Ind Wastes* 30:1174-82 S '58
- Effect of chlorine in water on enteric viruses. S. Kelly and W. W. Sanderson. *bibliog Am J Pub Health* 48:1323-34 O '58
- Factors influencing the reliability of coliform indexes; abstract. R. E. Noble. *Am J Pub Health* 48:786-7 Je '58
- Improved membrane filter medium for the detection of coliform organisms. C. W. Fifield and C. P. Schaufus. *Am Water Works Assn J* 50:193-6 F '58

- Membrane filter media studies. J. A. McCarthy and J. E. Delaney. *bibliog Water & Sewage Works* 105:232-6 J1 '58
- MFN coliform index. E. J. Laubusch. *bibliog Water & Sewage Works* 105:334-8 Ag '58
- Movement of coliform bacteria through porous media. R. B. Krone and others. *bibliog Sewage & Ind Wastes* 30:1-13 Ja '58
- Removal of Coxsackie and bacterial viruses in water by flocculation. S. L. Chang and others. *bibliog Am J Pub Health* 48:51-61, 159-69 Ja-F '58
- What you should know about the membrane filter. E. J. Laubusch. *bibliog li Pub Works* 89:106-13+ Ap '58

Bibliography

- Slime infestation, literature review; spherotholus; leptomitum. M. E. Harrison and H. Heukelekian. *Sewage & Ind Wastes* 30:1278-302, 1363 *bibliog li* 1299-302, 1363) O-N '58

Bound water

- Ultrasonic interferometer measurements of the amount of bound water; saccharides. H. Shilo. *Am Chem Soc J* 80:70-3 Ja '58

Color

- Color measurement with the stream colorimeter. J. C. Coss and N. L. Nemerow. *li diags Sewage & Ind Wastes* 30:804-11 Je '58

Deactivation and deaeration

- Deaeration for the small plant. R. F. Schaub. *li Power* 102:118-19 Ap '58
- Deaeration panel; American power conference; abstracts of papers. *Combustion* 29:52-4 Ap '58
- Deaeration; which way is best? symposium abstracts. *Power Eng* 62:100-1 Ag '58
- Evaluate your deaerator performance. A. E. Kittredge. *diags Power* 102:88-90+ Ap '58

Demineralization

See Water purification—Demineralization

Hardness

- Automatic analysis for silica and hardness. G. Schneider. *li diag Water & Sewage Works* 105:270-2 J1 '58

See also

Water softening**Heavy water**

- Absorbance of liquid water and deuterium oxide between 0.6 and 1.8 microns; comparison of absorbance and effect of temperature. W. C. Waggner. *bibliog Anal Chem* 30:1569-70 S '58
- Beam-scanned rotating heavy-ice target for high loads. J. H. Spaa. *bibliog diag J Sci Instr* 35:175-8 My '58
- Catalysis of the H₂-D₂O exchange by aqueous buffer solutions. S. L. Miller and D. Eittenberg. *Am Chem Soc J* 80:64-5 Ja '58
- Conditioning of D₂O in heavy water power reactors. G. M. Allison. *li Can J Chem Eng* 36:217-20 O '58
- Deuterium exchange of decaborane with deuterium oxide and deuterium chloride. M. F. Hawthorne and J. J. Miller. *Am Chem Soc J* 80:754 F '58
- Dielectric constant of deuterium oxide. C. G. Malmberg. *li J Res Nat Bur Stand* 60:609-12 Je '58
- Heavy water as ammonia plant by-product. flow sheet *Chem Eng Prog* 54:130+ S '58
- Heavy-water production and use. *Nucleonics* 16:109-10+ S '58
- Infrared spectra and tautomeric structure in D₂O solution of polyadenylic and polypyridylic acids. H. T. Miles. *bibliog Chem & Ind* p591-3 My 17 '58
- Kinetics of the hydrolysis of trimethylene oxide in water, deuterium oxide and 40 per cent aqueous dioxane. J. G. Pritchard and F. A. Long. *bibliog Am Chem Soc J* 80:4162-5 Ag 20 '58
- Platinum-catalyzed exchange of aromatic compounds with deuterium oxide. W. G. Brown and J. L. Garnett. *bibliog Am Chem Soc J* 80:5272-4 O '58
- Power reactor control; spectral shift control. M. C. Edlund and G. K. Rhode. *Nucleonics* 16:80-1 My '58
- Primary cobalt-60 radiolysis yields in heavy water. H. A. Mahman and J. W. Boyle. *bibliog Am Chem Soc J* 80:773-4 F 20 '58

WATER—Heavy water—Continued

Racemization and exchange of sodium mandelate in alkaline H_2O and D_2O . Y. Pocker. *bibliog Chem & Ind p 1117-18 Ag 23 '58*
 Radioassay of low specific activity tritiated water by improved liquid scintillation techniques. C. A. Ziegler and others. *bibliog Anal Chem 29:1774-6 D '57*

Laws and regulations

See Water laws and regulations

Oxygen removal

Continuous removal of dissolved oxygen by established ion-exchangers. E. C. Potter and G. Whitehead. *bibliog diags J Ap Chem 7:629-39 N '57*
 Dams affect water properties; reduced oxygen concentration in turbine discharge. D. W. Pritchard. *Elec World 150:49+- Ag 11 '58*

Spectra

Power reactor control; spectral shift control. M. C. Edlund and G. K. Rhode. *Nucleonics 16:80-1 My '58*

Temperature

Thermal pollution of streams. E. W. Moore. *bibliog Ind & Eng Chem 50:sup87A-8A Ap '58*

Testing

Improved jar test procedure. J. M. Cohen. *il Am Water Works Assn J 49:1425-31 N '57*
 Photometric determination of color and turbidity of water. A. T. Palm. *bibliog diag Water & Sewage Works 104:492-5 N '57*
 Review of the jar test. A. P. Black and others. *bibliog il Am Water Works Assn J 49:1414-24 N '57*
 Use of coordinated daily laboratory tests. E. S. Hopkins. *Am Water Works Assn J 50:975-8 J1 '58*

WATER, Compressed

Instrument for the measurement of the viscosity of steam and compressed water. J. Kestin and J. K. Mieszynski. *bibliog diags A S M E Trans 80:1009-14 J1 '58*

WATER, Distilled

See also

Sea water—Desalting

WATER, Mine. See Mine water

WATER, Underground

Artesian aquifer is held down in spillway cut. *il plan diags Eng N 160:42-4 F 27 '58*
 Artificial recharging of water-bearing formations. O. J. Muegge. *bibliog Am Water Works Assn J 50:168-74 F '58*
 Aspects of the sinking of Mexico city and proposed countermeasures. A. Loehnerberg. *bibliog il diags Am Water Works Assn J 50:432-40 Mr '58*

Can we identify non-hydrologic water? H. E. Thomas and D. E. White. *Eng N 160:55 Je 12 '58*

Developments in artificial ground water recharge. *bibliog Am Water Works Assn J 50:865-71 J1 '58*

Flood control system nurses runoff and groundwater recharger. San Bernardino, Calif. *il map Eng N 160:47-8 Mr 6 '58*

Land subsidence due to ground-water development. J. F. Poland. *bibliog map Am Soc C E Proc 84 [IR 3 no 1774]:1-11 S '58*

Magmatic, connate, and metamorphic waters. D. E. White. *diag Geol Soc Bul 68:1659-82 bibliog(p 1679-82) D '57*

Pressure relief system tames Florida boll: grit structure of Northeast sewage treatment plant for St Petersburg. B. J. Prugh. *il diag Civil Eng 28:582-4 Ag '58*

Recharge of ground water at Peoria, Ill. T. E. Larson and others. *il Water & Sewage Works 104:488-91 N '57*

Recharge operations can conserve water resources. *diag Pub Works 88:171 D '57*

Relation of phosphorites to ground water in Beaufort county, N.C. F. M. Brown. *bibliog il maps diags Econ Geol 53:85-101 Ja '58*

Use and conservation of underground water. F. G. H. Blyth. *bibliog Chem & Ind p 1182-4 S 13 '58*

Where does groundwater come from? M. H. Salzman. *Eng N 159:32+- N 28 '57*

See also

Hot springs

Ranney water collectors

Wells

Prospecting

Geohydrology. D. Linehan. *Water & Sewage Works 104:535 D '57*

Geophysical methods

Geophysical techniques in the location of new sources of water. R. F. Spanski. *Am Water Works Assn J 50:175-8 F '58*
 Seismic-refraction method in ground-water exploration; East Orange water reserve. W. E. Bonini and E. A. Hickok. *maps diag Min Eng 10:Trans 485-8 Ap '58*

California

Salt balance in ground water reservoir operation. D. B. Willets and C. A. McCullough. *bibliog Am Soc C E Proc 83 [IR 2 no 1359]:1-10 S '57; Discussion. R. O. Thomas. 84 [IR 2 no 1615]:9-12 Ap '58*

Florida

Dewatering Miami's Biscayne aquifer. B. J. Prugh. *il plan diag Am Soc C E Proc 83 [SM 3 no 1299]:1-15 J1 '57; Discussion. W. W. Pagon. 83 [SM 4 no 1430]:33 N '57*

Honolulu

Honolulu water supply. E. J. Morgan. *il map diags Am Water Works Assn J 49:1403-13 N '57*

Maryland

Limestone aquifers of Maryland. E. G. Otton and C. A. Richardson. *bibliog map diag Econ Geol 53:722-36 S '58*

New Mexico

Ruling has teeth; freeze on groundwater use in New Mexico to be tested. *Eng N 159:26 N 21 '57*

North Carolina

Chemical character of water in the igneous and metamorphic rocks of North Carolina. H. E. LeGrand. *map diag Econ Geol 53:178-89 Mr '58*

WATER and sewage works (periodical)

New staff members and contributing editors. *Water & Sewage Works 105:264-5 Je '58*

WATER closets

How Case makes the one-piece water closet. *il Cer Ind 70:144-8 Ap '58*

WATER collectors, Ranney. See Ranney water collectors

WATER companies

Additional water supply for the New Haven area; New Haven water co. E. W. Whitlock and R. D. Mitchell. *il map Pub Works 89:97-101 O '58*

Court supports Health dept. in water permit dispute. *Water Works Eng 111:867 S '58*

New dam and tunnel project completes nine-phase system; New Haven water co. J. A. Novaro. *il map Water Works Eng 111:840-1+- cover S '58*

Pennichuck water works. Nashua, N.H. D. C. Calderwood. *il map Water & Sewage Works 105:355-60 S '58*

Customer relations

Consumer complaints; water companies in Illinois. R. E. Hollander and others. *Water & Sewage Works 105:95-9 Mr '58*

Customer relations; Indianapolis water co. T. W. Moses. *Water & Sewage Works 105:201-2 My '58*

Laws and regulations

Regulatory problems of privately owned water utilities. J. D. Reader. *Am Water Works Assn J 50:385-91 Mr '58*

Service

Two-way radio communication boosts service 50 percent; Shenango Valley water co. W. Rudolph. *il Pub Works 89:111+- F '58*

Valuation

Establishing fair value in water rate determination. H. H. Hunter. *Am Water Works Assn J 50:912-16 J1 '58*

WATER conduits

Conduit within conduit solves crossing problem, saves siphon. H. J. Chaption. *il diag Water & Sewage Works 105:308-9 J1 '58*

Design of large pressure conduits in rock. F. W. Peterson and others. *il map plans diags Am Soc C E Proc 83 [PO 3 no 1457]:1-30 D '57; Discussion. 84 [PO 3 no 1689]:3-7 Je '58*

WATER conduits—Continued

Divided flow through a divergent inlet conduit. S. Tsakonas. bibliog plan diags. Am Soc C E Proc 83 [HY 6 no 1492]:1-26 D '57
Expressway contractor battles floods to build conduit roadbed; Baltimore's Jones Falls expressway. W. F. Hallstead. II plan diags Roads & Sts 101:92-3-4 Ap '58
Liner rings of concrete wedges; London's water tunnel. II diag Eng N 160:62-4-+ My 8 '58; Discussion. 161:8-+ Ag 28 '58

See also

Flumes

Testing

Field investigations of spillways and outlet works. B. Guyton. bibliog II diags Am Soc C E Proc 84 [HY 1 no 1532]:1-21 F '58

WATER conduits, Concrete

Alignment chart for loads on ditch conduits. L. E. Living. Jr. diags Water & Sewage Works 105:114-15 Mr '58

WATER conservation

Can evaporation losses be reduced? G. E. Harbeck, Jr. bibliog Am Soc C E Proc 84 [IR 1 no 1499]:1-8 Ja '58; Discussion. R. O. Thomas. 84 [IR 2 no 1615]:31-3 Ap '58
Conserving our water resources. G. E. Symons. Water & Sewage Works 105:266, 310 Je-Jl '58

Continuous solute removal from aqueous solutions. J. M. Iwasyk and G. Thodos. bibliog flow sheet diag Chem Eng Prog 54:69-75 Ap '58

Developments in artificial ground water recharge. bibliog Am Water Works Assn J 50:865-71 Jl '58

Engineer and worldwide conservation of soil and water. O. W. Israelsen. bibliog II diag Am Soc C E Proc 84 [IR 3 no 1776]:1-22 S '58

How Denver fought the drought! J. Burgess. II Water Works Eng 111:562-5-+ Je '58

Intelligence needed to prepare for future water demands; abstract. H. E. Jordan. Water & Sewage Works 104:511 N '57

Needed, an extra 250 billion gallons of water a day by 1975. II Chem & Eng N 36:50-3-+, cover Mr 24 '58

Recharge operations can conserve water resources. diag Pub Works 88:171 D '57

Revenue-producing versus unaccounted-for water; committee report. Am Water Works Assn J 49:1587-92 D '57

Some recent developments in the economic utilization and purification of water. E. L. Streetfield. bibliog flow diags II diags Chem & Ind p841-6 Jl '58; Excerpts. Manuf Chem 29:273-4-4 Jl '58

Texas eyes waste water. II map Ind & Eng Chem 50:sup37A-8A Je '58

Use and conservation of underground water. F. G. H. Blyth. bibliog Chem & Ind p 1182-4 S 13 '58

Waste and water systems out cost at Atlantic refining co. R. G. Merman and E. R. Roth. bibliog flow diag II Power Eng 62:80-1 O '58

Water is to save; ideas that conserve dollars too. at GE. K. S. Watson and V. D. Lukas. II diag Plant Eng 12:90-3 F '58

Water reservoir evaporation control. R. G. Dressler and A. G. Johanson. bibliog II map Chem Eng Prog 54:66-9 Ja '58

Water, water everywhere? what's being done to conserve resources. Steel 143:58-9 S 29 '58

Water works management, water conservation, and public relations. F. C. Amsbury, Jr. Water & Sewage Works 104:527-9 D '57

WATER consumption

Control of water use through fire hydrants. J. L. McBride. Am Water Works Assn J 50:707-8 My '58

Digital computers and three municipal water problems. D. A. Brock. Pub Works 89:196-+ O '58

Methods of computing consumptive use of water. W. D. Criddle. map Am Soc C E Proc 84 [IR 1 no 1507]:1-27 Ja '58; Discussion. 84 [IR 2 no 1615]:35-7 Ap; [IR 3 no 1784]:33-6 S '58

Multiple regression analysis of maximum-day water consumption at Dallas, Tex. D. A. Brock. Am Water Works Assn J 50:1391-4 O '58

Southern municipal and industrial waste conference; abstracts of papers on responsible water use policies. Water & Sewage Works 105:332-3 Ag '58

Successful control of an extensive lawn-sprinkling load. R. M. Grieve. Am Water Works Assn J 50:703-6 My '58
Water supply problems. W. F. Welsch. Water & Sewage Works 105:199-200 My '58; Same cond. Pub Works 89:142-+ Ja '58
When consumer demands mount, how much water is enough? Philadelphia suburban water co. G. H. Damm. II map diag Water Works Eng 111:124-7-+ F '58

See also

Air conditioning equipment—Water requirements

WATER cooling towers. See Cooling towers

WATER departments

Beware of inadequate rates. J. H. Murdoch, Jr. Water Works Eng 111:940 O '58
Drive-in service for water bill payment. M. Holland. II Pub Works 88:90 N '57

Accounting

Automatic accounting slashes water billing time. C. Emans. II Pub Works 88:91-2 N '57
How a city cut water billing costs. P. Hirsch. II Pub Works 89:105-4 D '57

Records

How metered water accounts are kept under inventory and control; North Miami, Fla. water department. D. W. Jones. II Water Works Eng 111:216-17 Mr '58

Safety measures

Developing a safety program for the first-level supervisor; Dept. of water and power, Los Angeles. A. C. Renner. II Am Water Works Assn J 50:281-6 F '58

WATER distribution

Advantages of additional storage facilities for improving distribution systems. D. E. Stearns. Am Water Works Assn J 50:661-4 My '58

Chain of interlocked reservoirs bolsters borough's water supply. M. H. Diven. II map Water Works Eng 111:36-9 Ja '58

Digital remote control and telemetering system used by Metropolitan water district of southern California. J. R. Burgard and D. E. Wassall. II Water & Sewage Works 104:506-7 N '57

Distribution losses and meter repair practices; joint discussion. H. H. Graesser; W. R. Hardy. plan Am Water Works Assn J 50:925-37 Jl '58

Distribution system leakage. E. E. Bolis, Jr. Water & Sewage Works 105:104-6 Mr '58

Grand Rapids modernizes water treatment, pumping and distribution. E. A. Schewe. II Pub Works 89:120-4 My '58

New field for contractors; water pipelines. R. L. Anderson. Pet Eng 30:D49 J 15 '58

Persistence of combined available chlorine residual in Gary-Hobart distribution system. H. L. Plowman, Jr. and J. M. Rademacher. diag Am Water Works Assn J 50:1250-8 S '58

Planning for distribution system emergencies; panel discussion. Am Water Works Assn J 50:1285-96 O '58

Simplicity in control systems pays dividends. C. S. Beard. II diags Water & Sewage Works 104:536-9 D '57

Suction tanks. L. Blendemann, plan diags Air Cond Heat & Ven 55:36-9 Ap; 105-7 My '58

Telemetering and remote control system; San Gabriel valley water co. El Monte, Calif. K. L. Wilkerson and M. E. Mosely. II diag Water & Sewage Works 105:363-6 S '58

See also

Hydrants

Pumping stations

Water hammer

Waterworks

Costs

Dam and reservoir, Texas; unit prices. Eng N 160:89 Ap 24 '58

Financing and cost allocation in regional water supply systems. R. Hazen. maps Am Water Works Assn J 50:1136-56 S '58

Financing main extensions by betterment assessments. K. W. Robie. diag Water Works Eng 111:577-+ Je '58

Lake Brandt dam raised, North Carolina; unit prices. Eng N 161:85 Jl 17 '58

Tank, well and water mains for water supply in Iowa; unit prices. Eng N 160:72 F 6 '58

WATER distribution—Costs—Continued

Water and sewer main job for Wisconsin subdivision; unit prices. Eng N 160:63 Ja 2 '58
 Water project bids 6.1 per cent below estimate; Wayne county, Mich.; unit prices. Eng N 160:30 Ja 9 '58
 Water supply expansion in Montana; unit prices. Eng N 159:58 D 19 '57

Cross connections

Epidemic of enteritis blamed on cross-connection. F. M. Miller and B. Freedman. Pub Works 89:150+ O '58
 Prevention and control of cross connections at Oak Ridge, Tenn. nuclear plant. G. J. Angele. diags Am Water Works Assn J 50: 628-38 My '58

Electric analogies

Digital computers for pipeline network analysis. Q. B. Graves and D. Erancome. flow diag. diags Am Soc C E Proc 84 [SA 2 no 16083:1-18 bibliog (p 17-18) Ap '58; Discussion. 84 [SA 5 no 17861:13-15 S; [SA 6 no 18551:11-16 N '58; Reply. 84 [SA 6 no 18551:16-17 N '58

Digital computers take witchcraft out of pipeline network analysis. R. L. McIntire. diags Water Works Eng 111:48-9 Ja '58

Use of the McIlroy analyzer on water distribution systems. C. L. Barker. diags Am Water Works Assn J 50:15-20 Ja '58

Water distribution design and the McIlroy network analyzer. M. B. McPherson and J. V. Radziul. bibliog Am Soc C E Proc 84 [HY 2 no 15881:1-15 Ap '58; Excerpts. Water Works Eng 111:48-9 Ja '58; Discussion. Am Soc C E Proc 84 [HY 6 no 18561:55-8 N '58

Water distribution problems solved by network calculators. J. M. Haupt. bibliog diags Am Soc C E Proc 84 [PL 1 no 15771:1-6 Mr '58

WATER districts

Financing and cost allocation in regional water supply systems. R. Hazen. maps Am Water Works Assn J 50:1136-56 S '58

Future developments in the Greater Winnipeg water district. S. Eubbia. diags Am Water Works Assn J 49:1389-402 N '57

Leakage and tuberculation troubles overcome in new main extensions; Massapequa water district. R. Montgomery. diags Water Works Eng 111:134+ F '58

Regional water supplies; are they feasible? Water Works Eng 111:580-1 Je '58

WATER flow

Divided flow through a divergent inlet conduit. S. Tsakonas. bibliog plan diags Am Soc C E Proc 83 [HY 6 no 14921:1-26 D '57

Flow characteristics of a multiple-cell pump basin. W. L. Dornaus. bibliog diags A S M E Trans 80:1129-36; Discussion. 1136-7 JI '58

Flow measurement by square-edged orifice plates; pipe roughness effects. W. J. Clark and R. C. Stephens. diags Inst Mech Eng Proc 171 no 33:895-904; Discussion. 905-8; Reply. 908-10 '57

Flow-rate device; determines depth of water zones encountered while drilling with air. diags Oil & Gas J 56:106 My 5 '58

How to estimate flow of water through open-ended pipes. J. D. Constance. diags Power Eng 62:108 Ag '58

How to figure odds on a river project. W. B. Langbein and G. N. Alexander. diags Eng N 161:35-6 Ag 28 '58

Ohio River water quality and flow. E. J. Cleary and D. A. Robertson. jr. diags Am Water Works Assn J 50:399-409 Mr '58; Correction. 50:620 My '58

Prediction of flashing water flow through fine annular clearances. A. Agostinelli and V. Salemann. bibliog diags A S M E Trans 80: 1138-42 JI '58

Pressure drops for water through valves; nomograph. D. S. Davis. Power Ind 74:31 O '58

Recording of pressure distributions in porous media during fluid flow experiments. T. O'Donnell and others. diags J Sci Instr 35:63-4 F '58

Sensitive and quickly made water flow switch. G. W. Green. diags J Sci Instr 35:147 Ap '58
 Simple hydrant flow tests. Water Works Eng 111:230 Mr '58

Six keys to good flow control in hot-water coils for air conditioning. W. G. Young. diags Air Cond Heat & Ven 55:78-82 F '58

Speed chart for water and sewage works. W. F. Schapchorst. Water & Sewage Works 105:R393 S 15 '58

Submerged sluice control of stratified flow. D. R. F. Harleman and others. bibliog diags Am Soc C E Proc 84 [HY 2 no 15841:1-15 Ap '58

Thermal density underflow diversion, Kingston steam plant. R. A. Elder and G. B. Dougherty. diags Am Soc C E Proc 84 [HY 2 no 15831:1-20 Ap '58

Time exposures record water current movements; Waterways experiment station hydraulic models. F. B. Gauthier. diags Ind Phot 7:20-1 Mr '58

Vibration of rods induced by water in parallel flow. D. Burgreen and others. diags A S M E Trans 80:991-1001; Discussion. 1001-2; Reply. 1002-3 JI '58

See also

Hydraulic jump

Intakes

Stream flow

Surge tanks

Water meters

Weirs (measuring)

WATER fronts

Know-how spurs Brooklyn waterfront project. diags Eng N 160:42-6 Mr 13 '58

Waterfront structure design for varying conditions. W. C. Stevens and J. S. Wilson. diags Am Soc C E Proc 84 [WW 3 no 16391:1-31 My '58

WATER hammer

Surges in pipe lines. D. R. F. Harleman. diags Water & Sewage Works 105:112-13 Mr '58

Water hammer allowances in pipe design; AWWA committee report. bibliog Am Water Works Assn J 50:340-54 Mr '58

Water hammer arrestors. L. Blendemann. diags Air Cond Heat & Ven 54:77-80 N '57

Water-hammer design criteria. J. Parmakian. Am Soc C E Proc 83 [PO 2 no 12161: 1-3 Ap '57; Discussion. 83 [PO 4 no 13461: 13-14 Ag '57; 84 [PO 1 no 15331:3-6 F '58

WATER heaters

Copper and copper silicon. diags Air Cond Heat & Ven 55:118 Ag '58

Glass heat exchangers give fast write-off; American thread co. diags Plant Eng 12:124-5 S '58

Hot water booster heaters; what every user should know; data sheet. E. Spencer. diags Heating-Piping 29:159-61 N '57

Let's hook up your indirect water heaters right. S. Elonka. diags Power 102:130-1 Je '58

27 years later; no sign of wear with copper-lined water heater; Bronx county courthouse. diags Power Ind 74:17 S '58

See also

Electric water heaters

Feed water heaters

Gas water heaters

Hot water supply

Manufacture

Tube-in-strip for solar energy water heaters. Engineer 205:746 My 16 '58

Painting and finishing

Multiple facilities speed appliance painting; Carrier corp. T. A. Bottiggi. diags Ind Finishing 34:20-2+ F '58

WATER heaters, Gas. See Gas water heaters

WATER heating

See also

Hot water supply

WATER hyacinths

Removing water hyacinths from settling tank by pumping. diags Pub Works 88:134 N '57

WATER in the body

Body water. A. V. Wolf. diags Sci Am 199:125-6+ N '58

Thirst is a key factor in fatigue of workers. L. Brouha. diags Foundry 86:249-50+ Mr '58

WATER laws and regulations

Federal water law is supreme. Eng N 161:26 JI '58

Fresh approach to water law. A. Wolman. Am Water Works Assn J 50:1279-84 O '58

Legal aspects of municipal fluoridation. B. J. Conway. bibliog Am Water Works Assn J 50:1330-6 O '58

Legal aspects of stream pollution. C. E. Geuther. Sewage & Ind Wastes 30:1050-6 Ag '58

WATER laws and regulations—Continued

Recent legislation affecting industrial waste disposal. N. L. Nemerow and W. L. Wilson. *Il Ind & Eng Chem* 50:sup95A-6A F '58

Role of state sanitary commissions in waste control. F. B. Milligan. *Food Tech* 12:137-43 Mr '58

Role of the attorney in multipurpose developments. P. A. Towner. *bibliog*. *Am Water Works Assn J* 50:357-62 Mr '58

See also

Water companies—Laws and regulations
Water rights
Waterworks—Laws and regulations

Eastern states

Proposed changes in eastern water use policies. M. Stein. *Am Soc C E Proc* 84 [SA 5 no 1777]:1-6 S '58

Maine

Maine court asked, can a water system be negligent? can water be classed as a food? is water warranted under sales act? *Water Works Eng* 111:852+ S '58

Mississippi

Mississippi water rights law. J. W. Pepper. *Am Water Works Assn J* 50:997-1001 Ag '58

Nebraska

Nebraska law affecting water resources. R. Perry. *Am Water Works Assn J* 50:278-80 F '58

New Mexico

Ruling has teeth; freeze on groundwater use in New Mexico to be tested. *Eng N* 159:26 N 21 '57

Ohio

Ohio's underground water laws; common law vs. riparian rights. *Water Works Eng* 111:137+ F '58

Ontario

Ontario water resources act. A. E. Berry. *Am Water Works Assn J* 50:1127-31; Discussion. C. G. R. Armstrong. *map* 1131-5 S '58

Texas

Control, preservation, and allocation of Texas water resources; joint discussion. *map* *Am Water Works Assn J* 50:1157-65 S '58

Pollution control in southwestern reservoirs and watersheds; legislation and practice in Texas. H. L. Dabney. *Am Water Works Assn J* 50:794-7 Je '58

Pollution control in southwestern reservoirs and watersheds; penalties and enforcement in Texas. W. H. Bell. *Am Water Works Assn J* 50:798-9 Je '58

Western states

State versus federal control of western waters. L. A. Stanley. *Am Soc C E Proc* 84 [IR 3 no 1753]:1-7 S '58

WATER mains. See **Water pipes**

WATER measurement

Common errors in measurement of irrigation water. C. W. Thomas. *bibliog* *Il diag* *Am Soc C E Proc* 83 [IR 2 no 1362]:1-24 S '57; Discussion. 84 [IR 2 no 1615]:23-30 Ap '58; Reply. 84 [IR 3 no 1784]:7-10 S '58

Water-flood project is fully automatic. N. S. Morrisey. *Il diag* *Oil & Gas J* 56:135-6+ J1 7 '58

See also

Stream measurement
Water meters
Weirs (measuring)

WATER meters

AWWA and the importance of water metering. F. C. Amsbury, Jr. *Water & Sewage Works* 104:529-30 D '57

Can we install a water meter in our boiler-feed line? answers. *diag* *Power* 102:134-5 F '58

Giant meter, atop shot tower surge tank, guards 78-inch main. *Il Water Works Eng* 111:663 J1 '58

How to size services and meters. D. R. Taylor. *Il Pub Works* 89:74-6 J1 '58

Kent industrial water meters. *Il Engineer* 204:720-1 N 15 '57

New water meter boxes developed by Columbia. *Il Concrete* 66:36-7 Ag '58

Pressure losses in water meters; nomograph. D. S. Davis. *Water & Sewage Works* 105:286 J1 '58

Selection of meters and services; panel discussion. *Am Water Works Assn J* 50:245-51 F '58

Water meter record cards aid system operation and planning. *Il Water Works Eng* 111:664-5 J1 '58

Winning public acceptance of water metering. C. Rusch. *Il Pub Works* 89:109-10 Je '58

Installation

Recent meter-setting developments; panel discussion. *Il diag* *Am Water Works Assn J* 49:1459-77 N '57

Maintenance and repair

Converting small meter maintenance from a 7-year to 15-year schedule. C. J. Alfke. *Water Works Eng* 111:748-9+ Ag '58

Distribution losses and meter repair practices; joint discussion. H. H. Graesser; W. E. Hardy. *plan* *Am Water Works Assn J* 50:925-37 J1 '58

Economics of meter maintenance programs. P. M. Robinson, Jr. *Am Water Works Assn J* 50:511-14 Ap '58

Good meter maintenance helps city bill for 87.3 per cent of water. E. R. Waldo. *Il Water Works Eng* 111:470-3+ My '58

Manufacture

Brand new meter factory of Hersey mfg. co. *Il Water & Sewage Works* 105:25-7 Ja '58

WATER pipes

Air binding in large pipelines flowing under vacuum. R. T. Richards. *diag* *Am Soc C E Proc* 83 [HY 6 no 1454]:1-10 D '57; Discussion. R. E. Templeton and T. E. Stelson. 84 [HY 3 no 1690]:31-2 Je '58

Cooling towers, cold water piping serve process cooling applications. J. C. Bishop. *diag* *Heating-Piping* 30:99-103 Ap '58

Hydro-pneumatic tank piping; detail sheet. *diag* *Air Cond Heat & Ven* 54:76 N '57

Meeting greater demands with larger pipe. A. M. Friend. *Il Am Water Works Assn J* 50:252-6 F '58

Noise transmission in piping systems. L. Blendernann. *Air Cond Heat & Ven* 55:98-9+ Mr '58

Reliable arrangement of piping and valves for water supply systems. K. J. Carl. *diag* *Water Works Eng* 111:52+, 138+ Ja-F '58

Utility tunnels beneath St Paul, Minn. L. N. Thompson. *Il Am Water Works Assn J* 50:714-16 Je '58

See also

Aqueducts
Hot water heating
Penstocks
Pipe fittings
Pipes
Valves, Hydraulic
Water conduits
Water distribution
Water hammer
Waterworks

Chlorination

See **Water pipes—Sterilization**

Cleaning

Cleaning restores main capacity. *Water Works Eng* 111:851 S '58

Corrosion

Highlights of research in sanitary engineering; Harvard university corrosion studies. W. Stumm. *Pub Works* 88:78-80 D '57

Influence of bicarbonate ion on inhibition of corrosion by sodium silicate in a zinc-iron system. H. L. Shuldener and L. Lehman. *bibliog* *Il diag* *Am Water Works Assn J* 49:1432-40 N '57

Stray-current problems created by modernizing direct-current traction lines. H. L. Hamilton. *plans* *diag* *Am Water Works Assn J* 50:1231-40 S '58

Failure

Are you ready for main breaks? abstract. F. E. Dolson. *Water Works Eng* 111:756+ Ag '58

Closed valve hides big main break. *Il Eng N* 160:25 F 20 '58

Planning for distribution system emergencies; panel discussion. *Am Water Works Assn J* 50:1285-96 O '58

Freezing

Freeze repair of water pipes. *Il Manuf Chem* 29:255 Je '58

WATER pipes—Freezing—Continued

How the Canadians successfully stop townsite water pipe freeze-up. Eng & Min J 159:88 My '58

How to prevent freezing in bare steel pipe. J. D. Constance. diag Power Eng 62:90 J1 '58

Water for our Far North outposts. J. L. Staunton and S. Rosanoff. il diags Eng N 160:39-40 Mr 27 '58

Water line in deep freeze preserved for dry season. map Eng N 160:64 Je 12 '58

Leakage

Detection and location of underground leaks, pipelines, and valves. N. E. Ireland. Am Water Works Assn J 50:1311-14 O '58

Location

Detection and location of underground leaks, pipelines, and valves. N. E. Ireland. Am Water Works Assn J 50:1311-14 O '58

Economic pipe routes. W. E. Howland. diags Water & Sewage Works 105:R379 S 15 '58

Responsibility for utility relocation during improvements and expansions of highway systems. R. P. Heywood. Water & Sewage Works 105:371-3 S '58

Solving a difficult construction problem. B. E. Payne. Am Water Works Assn J 50:60 Ja '58

Water main takes subway cross-tunnel in Cincinnati. il Eng N 160:30+ My 29 '58

Maintenance and repair

Distribution system operation and maintenance. W. T. Miller. il diag Water & Sewage Works 105:R 135+ S 15 '58

Electronic devices help water line maintenance. il Eng N 160:74 Je 12 '58

Freeze repair of water pipes. il Manuf Chem 29:255 Je '58

Reducing traffic interference during main repairs; abstract. B. E. Payne. Am Water Works Assn J 50:302 F '58

Repairing or replacing service laterals. W. H. Eppinger. Am Water Works Assn J 50:331-4 Mr '58

Models

Model tests welded bifurcate concrete-backed steel pipes. il Eng N 160:96+ My 15 '58

Protection

Nitrogen keeps emergency water line in cold storage. map Water Works Eng 111:793 Ag '58

See also

Water pipes—Freezing

Service pipes

How to size services and meters. D. R. Taylor. il Pub Works 89:74-6 J1 '58

Repairing or replacing service laterals. W. H. Eppinger. Am Water Works Assn J 50:331-4 Mr '58

Selection of meters and services; panel discussion. Am Water Works Assn J 50:245-51 F '58

Sterilization

Checking high chlorine residuals. Water Works Eng 11:382 Ap '58

Main sterilization simplified; Lawrence, Mass. uses gaseous chlorine. il Pub Works 89:137 Ja '58

Tables, calculations, etc.

Pipe chart for water friction; to get pipe size, chart the rate of flow and friction loss. W. W. Gaylord. Plant Eng 12:89 F '58

WATER pipes, Asbestos cement**Standards**

Applications and standards for asbestos-cement pipe. P. H. Perkins. Am Water Works Assn J 50:257-62 F '58

WATER pipes, Cast iron

Laboratory studies relating mineral quality of water to corrosion of steel and cast iron. T. E. Larson and R. V. Skold. bibliog il Corrosion 14:43-6 Je '58

Single-rubber-gasket joints for cast-iron pressure pipe. T. F. Wolfe. il diag Am Water Works Assn J 50:1227-30 S '58

Slip-on joint pipe; Tyton. F. C. Amsbury. il Water & Sewage Works 105:153-6 Ap '58

US capital joins C-I century club. Gas Age 122:41 Ag 21 '58

Failure

Study of breaks in water mains at Louisville, Ky. B. E. Payne. Am Water Works Assn J 50:355-6 Mr '58

WATER pipes, Concrete

Abandoned 36 inch line would house new 18 inch water main; Belmont County water district, Calif. map Eng N 160:43 Je 5 '58

Concrete wins round one of big pipe job for Baltimore. Eng N 161:25 J1 31 '58

Expanded coated shale aggregate used in lightweight concrete for Pacific pipelines. il Am Concrete Inst J 29:sup 10-11 My '58

14-ft. diameter pipes carry sea water to steam station. il Pub Works 88:156 N '57

New water supply requires 30-mile pipe line. T. B. Jenson. il map Pub Works 89:82-3 F '58

Prestressed pressure pipelines for Athens aqueduct. P. J. Doanides. il map plan diags Civil Eng 28:653-7 S '58

Study of concrete pipe in service. W. J. McCoy and others. bibliog il Am Concrete Inst J 29:647-55 F '58; Discussion. B. Tremper. 30:1251-2 pt 2 S '58

Testing

Further study of solution effects on concrete and cement in pipe. M. E. Flentje and R. J. Sweitzer. il Am Water Works Assn J 49:1441-51 N '57

WATER pipes, Plastic

Plastic pressure pipe; Cleveland approves use for water service, but AWWA is not sure yet. Eng N 161:32 J1 10 '58

WATER pipes, Steel

Laboratory studies relating mineral quality of water to corrosion of steel and cast iron. T. E. Larson and R. V. Skold. bibliog il Corrosion 14:43-6 Je '58

Plastic linings and coatings for steel water pipe. G. E. Burnett and C. E. Selander. bibliog Am Water Works Assn J 50:1065-75 Ar '58

WATER pipes, Wood

Scrubbers and pipelines of timber; Sante Fe equipment available in U.K. il Engineering 186:127 J1 25 '58

World's largest wooden penstock. E. T. Nesbitt. il Power Eng 62:34 F '58

WATER pollution

Acid drainage controls coming; Ohio Valley stream pollution. W. A. Raleigh. jr. il Coal Age 63:72-7 Je '58

Air and water pollution in the iron and steel industry. A. Parker. Iron & Steel Inst J 189:297-302 Ar '58

Algae and other organisms in waters of the Chesapeake area. C. M. Palmer. Am Water Works Assn J 50:938-50 bibliog(p949-50) J1 '58

Algae and their effects on dissolved oxygen and b.o.d. T. F. Wlaniewski. Water & Sewage Works 105:235-41, 300-5 Je-J1 '58; Discussion. A. F. Bartsch. 105:339-41 Ag '58

Basic data for water supply and water pollution control. R. S. Green. Sewage & Ind Wastes 30:215-19 F '58

Behavior of cyanates in polluted water. J. D. Resnick and others. Ind & Eng Chem 50:71-2 Ja '58

Biochemical degradation products; a new dimension in stream pollution. R. H. Bogan. bibliog Sewage & Ind Wastes 30:208-14 F '58

Biological balance in streams. D. C. Scott. Sewage & Ind Wastes 30:1169-73 S '58

Biological effects of various fractions of kraft mill effluents; abstract. R. Berthier and others. Paper Ind 40:252 J1 '58

Bottom deposits in a river and their potential effects on dissolved oxygen concentrations; SED research report no. 20. bibliog map Am Soc C E Proc 84 (SA 5 no 17791):1-7 S '58

Chemical aspects of river pollution. L. Klein. bibliog Research 11:214-20 Je '58

Chemical-type coke plant solves waste problems by cooperative efforts; Donner-Union coke corp. P. S. Savage. il Sewage & Ind Wastes 29:1363-9 D '57

Clean streams compromise indicated; control salt discharge to the Ohio. Eng N 160:28-9 My 15 '58

Combating industrial pollution. il Can Chem Process 42:56-8+ F '58

WATER pollution—Continued

- Computation of pollution in the Yaquina River estuary. W. V. Burt and L. D. Marriage. map Sewage & Ind Wastes 29:1385-9 D '57
- Deadly mix; major fish kill hints that salt water pollutants have synergistic or additive effects at low pH; abstract. G. Chanin and R. P. Dempster. *il Chem & Eng N* 36:170 Ap 21 '58
- Detergents foul wells, halt homebuilding. *Eng N* 161:25 S '58
- Directory of state and interstate water pollution control agencies. Water & Sewage Works 105:R8 S 15 '58
- Dispersion of pollution by tidal movements. T. M. Niles. *diags Am Soc C E Proc* 83 [SA 6 no 1408]:1-18 O '57; Discussion. 84 [SA 2 no 1614]:5-6 Ap; [SA 3 no 1688]:5-7 Je '58
- Economics of pollution control. E. F. Renshaw. *bibliog Sewage & Ind Wastes* 30:680-8 My '58
- Effect of biological imbalance in streams; sphaerotilus natans infestation. W. A. Cawley. *bibliog il Sewage & Ind Wastes* 30:1174-82 S '58
- Epidemic of enteritis blamed on cross-connection. F. M. Miller and B. Freedman. *Pub Works* 89:150+ O '58
- Graphical solution of the oxygen-sag equation. T. A. Wastler and N. D. Wastler. *bibliog Sewage & Ind Wastes* 30:1166-8 S '58
- Highlights of research in sanitary engineering; Mellon institute of industrial research; origin of tastes and odors in drinking water. R. D. Hoak. *Pub Works* 88:83-5 D '57
- Highlights of research in sanitary engineering; Monsanto chemical co.; toxicity investigations on aquatic and marine life. J. T. Garrett. *Pub Works* 88:95-6 D '57
- Highlights of research in sanitary engineering; Rutgers university; surface recreation of water as affected by domestic sewage. M. C. Rand. *il Pub Works* 88:92-3 D '57
- Improvement of water quality in Kansas. D. F. Metzler. *Am Water Works Assn J* 50:1180-4 S '58
- Industrial public relations in pollution abatement. W. F. Bixby. *Sewage & Ind Wastes* 30:921-7 J1 '58
- Industry and municipalities cooperate to solve stream pollution problem; Somerset-Raritan Valley sewerage authority and the American cyanamid co. Water & Sewage Works 104:505 N '57
- Jersey City pollution abatement facilities. D. L. Gallagher. flow diags il map diags Water & Sewage Works 105:179-83 My '58
- Keeping ahead of waste water disposal problems. *Pet Eng* 30:C32+ Mr '58
- Legal aspects of stream pollution. C. E. Geuther. *Sewage & Ind Wastes* 30:1050-6 A '58
- Monitoring of stream water quality; panel discussion. map *Am Water Works Assn J* 50:121-26 S '58
- National water quality basic data program. R. C. Palange and S. Megregian. *Am Soc C E Proc* 84 [SA 2 no 1606]:1-6 Ap '58
- Nation's capital enlarges its sewerage system; abating pollution of Potomac river. C. F. Johnson. *il maps Civil Eng* 38:428-31 Je '58
- 1957 industrial wastes forum. *Sewage & Ind Wastes* 30:539-54 Ap '58
- Observation and measurement on refinery wastes. F. J. Ludzack and others. *bibliog Sewage & Ind Wastes* 30:662-8 My '58
- Observations on vital data for streams. E. J. Cleary. *Sewage & Ind Wastes* 30:800-3 Je '58
- Pollution control in New England. W. S. Wise. *bibliog Sewage & Ind Wastes* 30:86-92 Ja '58; Abstract. Water & Sewage Works 104:556-7 D '57
- Pollution control in southwestern reservoirs and watersheds; panel discussion. *Am Water Works Assn J* 50:789-99 Je '58
- Preventing stream pollution; methods being used in surface mining operations in Ohio. L. Cook. *il Min Cong J* 44:62-4 Ja '58
- Review of the Soap association's research activities pertaining to water supply and sewage treatment. F. J. Coughlin. *bibliog Am Oil Chem Soc J* 35:567-71 O '58
- Smackover's problem; how to stop pollution without going broke? map *Oil & Gas J* 56:43-9 Aa 26 '58

- Stream pollution reflects operating practices. J. E. Kinney. *Iron & Steel Eng* 35:97-100 Ap '58
- Thermal pollution of streams. E. W. Moore. *bibliog Ind & Eng Chem* 50:sup8(A-8A) Ap '58
- Toxicologic methods for establishing drinking water standards. H. E. Stokinger and R. L. Woodward. *bibliog Am Water Works Assn J* 50:515-29 Ap '58
- Two years of the Federal water pollution control act. map *Pub Works* 89:188+ O '58
- Water pollution. D. G. Davies. *Engineering* 184:379 D 13 '57
- Water pollution abatement research in the steel industry. C. A. Bishop. *Sewage & Ind Wastes* 29:1273-7 N '57
- Water pollution research 1957. *Chem & Ind* p608 My 24 '58
- Water quality in the Missouri river. G. J. Hopkins and J. K. Neel. *bibliog Am Soc C E Proc* 84 [SA 1 no 1542]:1-10 F '58
- Where we stand on pollution control. *Eng N* 161:41-4 J10 '58

See also

- Coal mines and mining—Waste disposal
Sewage disposal
Water—Bacteriology
Water distribution—Cross connections
Water laws and regulations
Water purification
Water purification, Natural
Water supply—Salt water intrusion
Watersheds—Protection

Bibliography

- Review of the literature of 1957 on sewage, waste treatment, and water pollution. *Sewage & Ind Wastes* 30:839-73 *bibliog*(p855-73) J1 '58

Radioactive pollution

- Analysis of radioactivity in surface waters; practical laboratory methods. L. R. Setter and others. *bibliog il diag A S T M Bul* p85-40 Ja '58
- Determination of radionuclides in low concentrations in water. B. Kahn and S. A. Reynolds. *bibliog Am Water Works Assn J* 50:613-20 My '58
- Effects of radioactive materials on anaerobic digestion. W. N. Grune and others. *Sewage & Ind Wastes* 30:1123-50 *bibliog*(p 1148-50), 1394-410 S N '58
- Effects of uranium ore refinery wastes on receiving waters. E. C. Tzivoglou and others. *bibliog maps Sewage & Ind Wastes* 30:1012-27 Aa '58
- Factors affecting the transport of radioactivity by water. F. B. Barker. *bibliog Am Water Works Assn J* 50:603-12 My '58
- Illinois state water survey program in radioactivity measurement; abstract. L. M. Henley. *Water & Sewage Works* 105:243 Je '58
- Nuclear engineering and science congress; abstracts of papers on radioactive contamination of water. *Water & Sewage Works* 105:331-2 Aa '58
- Radio-active rains on surface water supplies. R. L. Morris. *Water & Sewage Works* 105:92-4 Mr '58
- Radioactive waste discharge from nuclear reactors. J. G. Terrill, jr. *bibliog Sewage & Ind Wastes* 30:270-82 Mr '58
- State agency programs for monitoring radioactivity in Illinois; joint discussion. *il map Am Water Works Assn J* 50:589-64 J1 '58
- Studies of radioactivity in the Chicago water supply. J. C. Vaughn and others. *il Am Water Works Assn J* 50:581-9 My '58
- Use of the gamma spectrometer in the identification of radionuclides in water. G. R. Harge and others. *il diags Am Water Works Assn J* 50:621-7 My '58

See also

- Water purification—Radioactive waste removal
WATER power
See also
Hydraulic engineering
Hydroelectric plants
Hydroelectric power
Niagara river—Power utilization
Tidal power
Turbines
Water wheels

Maine

- Passamaquoddy tidal power project

Water prospecting. See Water, Underground—Prospecting

Water purification

- AWWA Illinois section 49th annual meeting, Chicago; abstracts of papers. *Water & Sewage Works* 105:242-4 Je '58
- Army package power reactor water treatment and waste disposal. A. L. Medin. *il diag Ind & Eng Chem* 50:989-90 JI '58
- Commentary on water and sewage treatment; an introduction to some controversial topics. R. S. Rankin. *Pub Works* 89:84+S '58
- Compressor and engine jacket systems require proper water conditioning. O. H. Preis. *flow diag Pet Eng* 29:D58-60+ N '57
- Evaluation of "miracle" water conditioners; abstract. R. Eliassen and R. T. Skrinde. *Water & Sewage Works* 104:534 D '57
- Forced circulation of large bodies of water; Ossining, N.Y. Municipal water collecting reservoir. T. M. Riddick. *il plan diags Am Soc C E Proc* 84 [SA 4 no 1708]:1-21 JI '58
- Sodium metaphosphate glass in water treatment. D. H. Howells. *diag Am Soc C E Proc* 83 [SA 6 no 1464]:1-16 bibliog [57 titles, p 13-16] D '57
- Some recent developments in the economic utilization and purification of water. E. L. Streetfield. *bibliog flow diags il diags Chem & Ind* p841-6 JI '58; Excerpts. *Manuf Chem* 29:273-4+ JI '58
- Survey of water purification practice in Canada. D. H. Matheson and A. V. Porde. *bibliog Am Water Works Assn J* 49:1522-30 D '57
- Tentative AWWA standard for copper sulfate. *Am Water Works Assn J* 50:151-8 Ja '58
- Treatment plant innovations in St Louis county, Mo. H. E. Hartung. *il diags Am Water Works Assn J* 50:965-74 JI '58
- Using bulk chemicals in water treatment. D. B. Ward; C. R. Harvill. *Pub Works* 89:143-4 JI '58
- Water; its use in the plating shop. L. F. Spencer. *bibliog flow diags diag Metal Finishing* 56:44-51 JI '58
- Water treatment plant and services. *il diags Manuf Chem* 29:283-6+ JI '58
- See also
Feed water purification
Resinous products—Water treatment
Water—Deactivation and deaeration
Water softening
Water supply for factories

Bibliography

- Books and reference manuals; suggested library material for water and sewage works. G. E. Symons. *Water & Sewage Works* 105:R9-11 S 15 '58

Chlorination

- Chlorination of drinking water; applying American techniques to German water works; tr. by C. E. Keefer. K. Imhoff. *Water & Sewage Works* 105:197-8 My '58
- Chlorination with hypochlorites. V. W. Langworthy. *il Water & Sewage Works* 105:R211+S 15 '58
- Comparing chlorine compounds. *Water Works Eng* 111:766+ Ar '58
- Dechlorination after deficient detention. *Water Works Eng* 111:487 My '58
- Development of instrumentation in chlorination. R. J. Baker and A. E. Griffin. *bibliog Am Water Works Assn J* 50:489-94 Ap '58
- Disinfection of public swimming pools. E. J. Laubusch. *il Pub Works* 89:85-8+ Je '58
- Effect of chlorine in water on enteric viruses. S. Kelly and W. W. Sanderson. *bibliog Am J Pub Health* 48:1323-34 O '58
- Highlights of research in sanitary engineering; University of North Carolina; rates and mechanisms of reactions involving oxy-chloro compounds. M. L. Granstrom and G. F. Lee. *il Pub Works* 88:90-2 D '57
- How chlorination helps water conditioning at Alaska bases. E. W. Linrel. *Pub Works* 89:119-20 Ar '58
- Persistence of combined available chlorine residual in Gary-Hobart distribution system. H. L. Floyman, Jr. and J. M. Rademacher. *diag Am Water Works Assn J* 50:1250-8 S '58

Tentative AWWA standard for liquid chlorine. *diag Am Water Works Assn J* 50:297-302 F '58

Use of chlorine for control of odors caused by algae. R. Harlock and R. Dowlin. *Am Water Works Assn J* 50:29-32 Ja '58

Coagulation

- Are coagulant aids helpful? *Water Works Eng* 11:668 JI '58
- Calcite in water treatment; Oneonta, N.Y. T. M. Riddick and others. *il diag Water & Sewage Works* 105:15-24; Discussion. 24 Ja '58
- Chemical coagulation studies on removal of radioactivity in waters. L. R. Setter and H. H. Russell. *Am Water Works Assn J* 50:590-602 My '58
- Chemistry of water coagulation. A. P. Black. *Water Works Eng* 11:673+ JI '58
- Conductometric control of coagulant dosage in treatment plants. M. L. Granstrom and S. D. Shearer. *il Am Water Works Assn J* 50:410-16 Mr '58
- Continuous turbidity monitoring controls chemical coagulation; Dalecarlia filter plant. N. E. Jackson and others. *il plan diag Water Works Eng* 111:744-7 Ar '58
- Conversion from dry to liquid alum saves \$12,000 per year at Richmond. W. W. Anders. *il diags Water Works Eng* 111:46-7+ Ja '58
- Improved jar test procedure. J. M. Cohen. *il Am Water Works Assn J* 49:1425-31 N '57
- Liquid alum as a coagulant. R. W. Ockerhausen. *il map diags Water & Sewage Works* 105:61-6 F '58
- Method for automatic control of coagulant dosage. A. M. Buswell. *Am Water Works Assn J* 50:479-80 Ap '58
- Natural and synthetic polyelectrolytes as coagulant aids. J. M. Cohen and others. *bibliog Am Water Works Assn J* 50:463-78 Ap '58
- New method of preparing activated silica sols. C. R. Henry. *bibliog flow diag Am Water Works Assn J* 50:61-71 Ja '58
- Organic polymer boosts water throughput. S. R. McCurdy. *il Power Ind* 74:9-10 Je '58
- Removal of Coxsackie and bacterial viruses in water by flocculation. L. C. Chang and others. *bibliog Am J Pub Health* 48:51-61, 159-69 Ja-F '58
- Review of the jar test. A. P. Black and others. *bibliog il Am Water Works Assn J* 49:1414-24 N '57
- Split flow treatment. L. V. Owens. *il plans diag Water & Sewage Works* 105:311-16 Ar '58
- Use of alum-activated silica as a coagulant aid. V. W. Langworthy. *bibliog Am Water Works Assn J* 50:56-60 Ja '58
- Use of chemicals to maintain clear water for drilling. L. E. Gallus and others. *bibliog diags J Pet Tech* 10:70-5 Ap '58

Color removal

- Colored water; red, black or blue. J. J. Hamilton and M. E. Flentje. *Water & Sewage Works* 105:188-91 My '58

Corrosion control

- Controlled pH halts fouling, corrosion. B. Fader and E. S. Kennedy. *il diag Power Ind* 74:11+ Ar '58
- Controlling scale formation in water treatment. M. R. Beychok. *Power Ind* 74:25+ Ar '58
- Corrosive water survey leads to liquid caustic soda treatment. H. Brown. *il plan Water Works Eng* 111:846-8 S '58
- Evaluation of the use of polyphosphates in the water industry. T. E. Larson. *Am Water Works Assn J* 49:1581-6 D '57
- How 31 refineries condition cooling-water systems. J. D. Helwig and H. F. McConomy. *Oil & Gas J* 55:101+ D 2 '57
- Treat cooling water for compressor and engine jackets. O. H. Preis. *il Plant* 18:36-8 JI '58
- Trouble-shooting an unusual water problem; Schick, Inc. S. Sussman. *il Power Ind* 74:17 Ja '58

See also

Water supply—Corrosiveness

Demineralization

- A B C's of demineralizing. F. N. Kemmer. *diags Combustion* 29:41-4 Ap '58

WATER purification—Demineralization—Cont.

Comparing costs of mixed-bed and four-bed demineralizers. Power Eng 62:66 Ag '58
 Complete four years successful operation of world's largest demineralization plant, flow diax il Plant 18:35-6 Ag '58
 Condensate demineralizers combat deposits for potential one per cent heat-rate gain. S. B. Applebaum. il diags Power 102:94-6+ My '58

Counterflow regeneration improves deionizer effluent; boiler-feed water. P. H. Caskey and T. P. Harding. diags Textile World 108:82+ Je '58

Devise system to demineralize water at points of use; Western electric co. il Ind Lab 9: 76-7 Ja '58

Evaporator or demineralizer; which is best? E. P. Partridge and S. R. Osborne. bibliog Power Eng 62:84-6 Ja; 66-7 F '58

First demineralization plant for a U.S. municipal supply. R. O. Phelps. il Water Works Eng 111:752 Ag '58

Graver monitoring system for automatic demineralizers. il Metal Finishing 56:114-15 My '58

How to get pure water. il MHI & Factory 62:106 Mr '58

Osmionic demineralization. G. W. Murphy. bibliog il diags Ind & Eng Chem 50:1181-8 Ag '58

Scaling problems in electrodialysis using permselective membranes. B. A. Cooke. bibliog Chem & Ind p555-6 My 10 '58

Source of very pure water; laboratory scale deionizing column. il diag Metallurgia 58: 160 S '58

Desalting

Californians pioneer in switch to desalted water. Product Eng 29:20 Je 16 '58

City orders saline water plant; Coalinga, Calif. Eng N 160:23 Je 5 '58

Desalting of water by electrodialysis. C. H. de Whalley. flow sheet il diags Chem & Ind p5-13 Ja 4 '58

For poor water areas, private water supplies; Hickman-Badger centrifugal compression still. il Ind & Eng Chem 50:sup28A F '58

Let algae do it; converting salt water to fresh water. G. V. Levin. Chem & Eng N 35:142 D 9 '57

Orange Free State mines defeat salt water problem. W. H. Moyers. il diags Eng & Min J 159:84-7 Ja '58

Osmionic demineralization. G. W. Murphy. bibliog il diags Ind & Eng Chem 50:1181-8 Ag '58

South Africa shows how; electrodialysis for desalting of water. Ind & Eng Chem 49:sup 38A D '57

See also

Sea water—Desalting

Electric membrane process

Osmionic demineralization. G. W. Murphy. bibliog il diags Ind & Eng Chem 50:1181-8 Ag '58

Filtration

See Filters and filtration; Filtration plants

Fluoride removal

Defluoridation of water with activated alumina. E. A. Savinelli and A. P. Black. diag Am Water Works Assn J 50:33-44 bibliog(56 ref. p42-4) Ja '58

Fluoride reduction at La Crosse, Kan. R. L. Culp and H. A. Stoltenberg. bibliog Am Water Works Assn J 50:423-31 Mr '58

History

Background of municipal water treatment. R. Porges. bibliog Pub Works 89:172+ F '58

Hydrogen sulfide removal

Instrumenting the combustion process for removing H₂S from water. diag I S A J 5:37 My '58

Removal of hydrogen sulfide in high concentrations from water. J. E. Foxworthy and H. K. Gray. bibliog plan Am Water Works Assn J 50:872-8 Jl '58

Iron removal

Iron and manganese removal. E. Nordell. flow diag il Water & Sewage Works 105:R222-5+ S 15 '58

Removal of iron and manganese. E. J. Connelley, Jr. il Am Water Works Assn J 50: 697-702 My '58

Manganese removal

Iron and manganese removal. E. Nordell. flow diag il Water & Sewage Works 105:R222-5+ S 15 '58

Removal of iron and manganese. E. J. Connelley, Jr. il Am Water Works Assn J 50: 697-702 My '58

Odor removal

See Water purification—Taste and odor removal

Radioactive waste removal

Chemical coagulation studies on removal of radioactivity in waters. L. R. Setter and H. H. Russell. Am Water Works Assn J 50:590-602 My '58

Decontaminating radioactive water. W. J. Lacy and W. de LaSuna. bibliog Ind & Eng Chem 50:1193 Ag '58

Decontamination reactions of synthesized fallout debris for nuclear detonations; nuclear detonation in sea water. C. F. Miller and others. bibliog J Colloid Sci 13:337-47 Ag '58

Radioactive water poses new problems. C. T. Dickert and others. il Power 102:88-90 S '58

Self purification

See Water purification, Natural

Swimming pool water

Disinfection of public swimming pools. E. J. Laubusch. il Pub Works 89:85-8+ Je '58

Taste and odor removal

Control of earthy, musty odors in water by treatment with residual copper. E. A. Bartholomew. bibliog Am Water Works Assn J 50:481-6; Discussion. J. K. G. Silvey. 486-8 Ap '58

Control of odor and taste in water supplies. E. A. Sigworth. bibliog Am Water Works Assn J 49:1507-21 D '57

Highlights of research in sanitary engineering; Mellon institute of industrial research; origin of tastes and odors in drinking water. E. D. Hoak. Pub Works 88:83-5 D '57

Taste and odor problems at Valparaiso, Ind. R. Coote. Water & Sewage Works 105:232-4 Je '58

Taste and odor research tools for water utilities. F. M. Middleton and others. bibliog Am Water Works Assn J 50:21-8 Ja '58

Use of chlorine for control of odors caused by algae. R. Harlock and R. Dowlin. Am Water Works Assn J 50:29-32 Ja '58

See also

Water purification—Chlorination

WATER purification, Natural

Capacity of estuaries to purify sewage and industrial wastes; abstract. B. A. Southgate. Chem & Ind p 1638-9; Discussion. 1639 D 21 '57

Concepts of surface re-aeration; a critical review. M. C. Rand. bibliog diags Sewage & Ind Wastes 29:1282-300 N '57

Graphical solution of the oxygen-sag equation. T. A. Wastler and N. D. Wastler. bibliog Sewage & Ind Wastes 30:1166-8 S '58

How a stream purifies itself; Public health service panel discussion. Eng N 159:60 N 21 '57

Mechanism of reaeration in natural streams. D. J. O'Connor and W. E. Dobbins. Am Soc C E Proc 82 [SA 6 no 1115]:1-30 bibliog(37 ref. p24-5) D '56; Discussion. 83 [SA 2 no 1227]:3-14 Ap; [SA 3 no 1283]: 3-13 Je '57; Reply. 84 [SA 1 no 1557]:3-7 F '58

WATER rates

Adequate rates and revenues, key to water works financing. M. M. Cohn. Water Works Eng 111:323-7-4 Ap '58

Beware of inadequate rates. J. H. Murdoch, Jr. Water Works Eng 111:940 O '58

Determination and preparation of rate increases and bond issues; joint discussion. G. G. Skelton; C. E. Williams. Am Water Works Assn J 50:919-24 Jl '58

Establishing fair value in water rate determination. H. H. Hunter. Am Water Works Assn J 50:912-16 Jl '58

WATER rates—Continued

- High rates of water use. G. R. Scott. Am Water Works Assn J 50:369-74 Mr '58
- Master water plan sets pattern for multi-stage financing and construction. A. W. Conser and A. H. Lewis. Il Water Works Eng 111:332-54 Ap '58
- Metering to establish distance-demand water service rates. M. P. Hatcher. Il map Pub Works 89:100-2 Ap '58
- Preparing the public to accept needed water rate increases and bond issues. L. N. Thompson. Il Water Works Eng 111:341-2 Ap '58
- Rates go up; consumption goes down. A. W. Jorgensen. Il Water Works Eng 111:569-4 Je '58
- Rates should be reviewed every five years to assure effectiveness. W. R. LaDue. Water Works Eng 111:367-4 Ap '58
- Setting a fair rate pattern and meeting it with bit-by-bit action. N. Brantley. Il Water Works Eng 111:467 My '58
- 60 per cent rise in water rates is offset by inflationary trend. W. V. Weir. Water Works Eng 111:349 Ap '58
- Survey on Iowa water rates, main extensions, and job classifications; AWWA Iowa section committee report. Am Water Works Assn J 50:375-84 Mr '58
- Trends in air-conditioning use and regulation. Am Water Works Assn J 50:83-96 Ja '58
- Water rate structure should be realistic, fair and adequate. F. Merryfield. Water Works Eng 111:363 Ap '58
- Water rates should rise to match construction and operation costs. W. G. Turney. Water Works Eng 111:754-5 Ag '58
- When consumer demands mount, how much water is enough? Philadelphia suburban water co. G. H. Dann. Il map diag Water Works Eng 111:124-7 F '58

WATER repellents

See also

Waterproofing of textiles

WATER requirements of plants. See Plants—Water requirements**WATER resources.** See Water supply**WATER resources commission.** See Ontario—Water resources commission**WATER rights**

Mississippi water rights law. J. W. Pepper. Am Water Works Assn J 50:997-1001 Ag '58

1957 legislative activity on water rights, by states. Water & Sewage Works 105:381 S '58

Trends in water rights legislation, by states; panel discussion. Am Water Works Assn J 50:1267-78 O '58

See also

Riparian rights

WATER sampling

Ohio River water quality and flow. E. J. Cleary and D. A. Robertson, Jr. diags Am Water Works Assn J 50:399-409 Mr '58; Correction. 50:620 My '58

Representative sampling and analytical methods in stream studies. P. D. Haney and J. Schmidt. bibliog Sewage & Ind Wastes 30:812-17 Je '58

WATER softeners, Domestic

Experimental performance of miracle water conditioners. R. Eliassen and others. bibliog Il diags Am Water Works Assn J 50:1371-85 O '58

WATER softening

Chemistry of water softening by the lime-soda process. A. P. Black. Water Works Eng 111:231, 484, 582-4 Mr, My-Je '58

Hollywood automates its water softening system; use of sea-water intrusion wells for regeneration of zeolite filters. W. W. Gillespie and A. J. Birchall. diags Water Works Eng 111:566-8, cover Je '58

Is soap outdated? A. K. Prince and W. R. Merriman. Il Soap & Chem Spec 34:39-42-4 J1 '58

Modern municipal water softening practices. E. Nordell. bibliog Pub Works 89:101-5-4 Mr '58

New iron removal-softening plant modernizes inadequate well system. J. D. Pavia. flow diag Il Water Works Eng 111:220-2 Mr '58

Nomographic charts aid in design of zeolite water softening units. R. Eliassen and E. A. Cassell. Water Works Eng 111:40-4 Ja '58

Operating experience with Hinsdale's sludge blanket water softening plant; abstract. L. M. Carلمان. Water & Sewage Works 105:242-3 Je '58

Salty water complaints. Water Works Eng 111:766 Ag '58

Synthetic detergents as a factor in water softening economics. W. W. Aultman. bibliog Am Water Works Assn J 50:1353-62; Discussion. T. E. Larson. 1363-4 O '58

Water softening. G. E. Symons. Il maps diags Water & Sewage Works 104:397-400, 496-502 S '57

See also

Feed water purification

Water—Hardness

WATER storage

Advantages of additional storage facilities for improving distribution systems. D. E. Stearns. Am Water Works Assn J 50:661-4 My '58

Cooling tower for shopping center served by stored run-off water. F. H. Kluckhohn. flow diag Il Air Cond Heat & Ven 54:51-4 N '57

Digital computers and three municipal water problems. D. A. Brock. Pub Works 89:196-4 O '58

Use of on-line storage. F. Reid. diag Water Works Eng 111:753-4, 854-4, 950-4 Ag-O '58

Water stored off-peak can heat and cool space. J. M. Turnbull and G. C. Jamison. Il diag Elec World 148:66-7 N 11 '57

Water supply for industrial plants. J. Nachbar. Il plans diags Air Cond Heat & Ven 54:53-9 D '57

See also

Dams

Reservoirs

Water tanks

WATER supply

Digital computers and three municipal water problems. D. A. Brock. Pub Works 89:196-4 O '58

Effects of Missouri River Basin control on water quality; panel discussion. map Am Water Works Assn J 50:1185-7 S '58

Importance of phreatophytes in water supply. C. B. Thompson. Il maps Am Soc C E Proc 84 [IR 1 no 1502]:1-17 bibliog(p 15-17) Ja '58

Major water supply and sanitation projects. Il map Eng N 160:236-4 F 13 '58

Multiple-use projects in development of water resources. W. A. Dexheimer. Am Soc C E Proc 84 [IR 3 no 1752]:1-6 S '58

Pluses and minuses in precipitation, runoff and storage mark past year; U.S. Geological survey annual water resources review. Water Works Eng 111:50-4 Ja '58

Resolving conflicting demands for water. S. B. Morris. Am Soc C E Proc 84 [IR 1 no 1501]:1-8 Ja '58; Discussion. J. E. Plack. bibliog 84 [IR 3 no 1784]:27-31 S '58

Urges water planning. E. C. Itschner. Eng N 161:30 S 4 '58

Utility problems resulting from municipal annexations; panel discussion. Am Water Works Assn J 50:899-911 J1 '58

Water and other natural resources. E. Boyce. bibliog Water & Sewage Works 105:193-5 My '58

Water reclamation and refuse disposal; California sewage and industrial waste association 30th annual conference. Water & Sewage Works 105:306-7 J1 '58

Water resources and industrial expansion. R. E. Fuhrman. Tappi 41:sup214A-16A Ap '58

Water supply for municipal service. J. H. Murdoch, Jr. Water & Sewage Works 105:150-2 Ap '58

Water supply progress in 1957. L. S. Finch. Il Water & Sewage Works 105:1-14 Ja '58

Water supply versus irrigation in humid areas. M. C. Boyer. map Am Soc C E Proc 84 [IR 1 no 1500]:1-13 Ja '58

See also

Filters and filtration

Filtration plants

Fire service (water supply)

Hot water supply

Pumping stations

Reservoirs

Water, Underground

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Water distribution

WATER supply—See also—*Continued*

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 Water purification
 Water storage
 Water supply engineering
 Water tanks
 Watersheds
 Waterworks
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 also subdivision Water supply under
 names of places, e.g.
 Ames, Iowa
 Athens, Greece
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 Cheyenne, Wyoming
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 East Orange, New Jersey
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 Fairbanks, Alaska
 Fort Wayne, Indiana
 Gary, Indiana
 Grand Rapids, Michigan
 Greensboro, North Carolina
 Greenville, South Carolina
 Highland Park, Michigan
 Holland, Michigan
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 Honolulu
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 Massapequa, New York
 Michigan City, Indiana
 Mount Union, Pennsylvania
 Nashua, New Hampshire
 New Haven, Connecticut
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 Oneonta, New York
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 Richmond, Virginia
 St Cloud, Minnesota
 St Louis
 St Paul
 San Diego
 Seattle
 Tacoma, Washington
 Tonawanda, New York
 Valparaiso, Indiana
 Vancouver, Washington
 Wapakoneta, Ohio
 Washington, D.C.
 Wichita, Kansas
 Winnipeg, Manitoba

Bibliography

Water supply library, Am Water Works Assn
 J 49:115-25 pt 2 N '57

Cadmium content

Rapid screening test for cadmium in potable
 water, M. Lieber, Water & Sewage Works
 105:374 S '58

Conservation

See Water conservation

Corrosiveness

Concentration of impurities in water; nomo-
 graph, D. S. Davis, Water & Sewage Works
 105:R384 S 15 '58

Corrosion problems in water flooding, R. W.
 Amstutz, Il Corrosion 14:65-9 My '58

Corrosive water survey leads to liquid
 caustic soda treatment, H. Brown, Il plan
 Water Works Eng 111:846-8 S '58

Effects of mechanics of flow on corrosion, A.
 J. Romeo and others, flow diag Il diags
 Am Soc C E Proc 84 [SA 4 no 1702]:1-30
 bibliog(p21-3) J1 '58

Highlights of research in sanitary engineer-
 ing; Harvard university corrosion studies.
 W. Stumm, Pub Works 88:78-80 D '57

Laboratory studies relating mineral quality
 of water to corrosion of steel and cast
 iron, T. E. Larson and R. V. Skold, bibliog
 Il Corrosion 14:43-6 Je '58
 New dynamic test facility for aqueous cor-
 rosion studies, S. Greenberg and others,
 flow diag diags Corrosion 14:45-6 Ap '58

Finance

Appeal for federal aid for state-sponsored
 multi-purpose water jobs, S. B. Morris,
 Water Works Eng 111:363+ Ap '58
 City-industry cooperation makes adequate
 water supply possible; Everett, Wash., H.
 Hathaway, Il map Pub Works 89:100-1+
 S '58
 Resources funds may hit \$850 million, Eng N
 161:28 J1 17 '58

Fluorine content

AMA reaffirms safety of fluoridation, Am
 Water Works Assn J 50:25 Ja '58
 American medical association study confirms
 1951 fluoridation approval, Water Works
 Eng 111:135 F '58
 Availability of fluoridation chemicals; joint
 discussion, M. C. Metzger, O. Gullans, Am
 Water Works Assn J 50:1083-9 Az '58
 Criteria to consider when supplementing
 fluoride-bearing water, D. F. Striffler, bib-
 liog Am J Pub Health 48:29-37 Ja '58
 Fluoridation, pro and con, Water Works Eng
 111:45, 142, 350, 552+ Ja-F, Ap, Je '58
 Legal aspects of municipal fluoridation, B. J.
 Conway, bibliog Am Water Works Assn J
 50:1330-6 O '58
 Simplified fluoride distillation method, E.
 Bellack, bibliog diags Am Water Works
 Assn J 50:530-6 Ap '58
 Status of controlled fluoridation in the United
 States, 1945-57; report by Public health
 service, Pub Works 89:194+ S '58
 Status of fluoridation in the United States
 and Canada, 1956, Am Water Works Assn J
 49:1478-84 N '57
 System for fluoridating individual water sup-
 plies, F. J. Maier, Il diags Am J Pub Health
 48:717-23 Je '58
 What is the present status of fluoridation?
 Water Works Eng 111:946-7 O '58
 WHO for water fluoridation; editorial, Am J
 Pub Health 48:81-2 Ja '58

See also

Water purification—Fluoride removal

Iron content

Iron and manganese in water supplies, T. M.
 Riddick and others, Il Am Water Works
 Assn J 50:688-96 My '58

Manganese content

Determining fundamental chemicality of man-
 ganese in water systems, F. I. Brownley, Jr,
 bibliog Am Water Works Assn J 50:1389-90
 O '58

Iron and manganese in water supplies, T. M.
 Riddick and others, Il Am Water Works
 Assn J 50:688-96 My '58

Problems caused by manganese in water
 supplies, A. E. Griffin, bibliog Am Water
 Works Assn J 50:1386-8 O '58

Mineral content

Use of the control chart in checking anion-
 cation balances in water, A. E. Greenberg
 and R. Navone, bibliog Am Water Works
 Assn J 50:1365-70 O '58

Water quality studies in the Arkansas and
 Red River basins, K. S. Krause, bibliog Am
 Water Works Assn J 50:1166-70; Discus-
 sion, D. F. Metzler, 1170-4 S '58

Salt water intrusion

Salt balance in ground water reservoir oper-
 ation, D. B. Willets and C. A. McCul-
 lough, bibliog Am Soc C E Proc 83 [IR 2
 no 1359]:1-10 S '57; Discussion, R. O.
 Thomas, 84 [IR 2 no 1615]:9-12 Ap '58

Standards

Toxicologic methods for establishing drink-
 ing water standards, H. E. Stockinger and
 R. L. Woodward, bibliog Am Water Works
 Assn J 50:515-29 Ap '58

Strontium content

Strontium content of Wisconsin municipal
 waters, M. S. Nichols and D. R. McNeill,
 map Am Water Works Assn J 49:1493-8 N
 '57

WATER supply—Continued

Alabama

Water resources and water developments in Alabama. M. R. Williams. Am Soc C E Proc 83 [PO 6 no 1459]:1-3 D '57

Arctic regions

Water for our Far North outposts. J. L. Staunton and S. Rosanoff. Il diags Eng N 160:39-40 Mr 27 '58

Arkansas

Pollution control in southwestern reservoirs and watersheds; control and protection in Arkansas. G. T. Kellogg. Am Water Works Assn J 50:793-4 Je '58

Aruba (island)

Water paints expansion picture; world's largest sea water converting unit. Il map Chem & Eng N 36:80-2 Je 30 '58

World's largest single desalting plant starts operation at Aruba. Water Works Eng 111:866 S '58

Beaufort county, North Carolina

Relation of phosphorites to ground water in Beaufort county, N.C. P. M. Brown. bibliog Il maps diags Econ Geol 53:85-101 Ja '58

Belmont county, California

Abandoned 36 inch line would house new 18 inch water main. map Eng N 160:43 Je 5 '58

Bermuda

Power facilities at U.S. air force base on island of Bermuda. R. F. McCaw. Il diag Power Eng 62:68-71 O '58

California

Colorado River aqueduct system of southern California. R. B. Diemer. map Am Water Works Assn J 50:1121-6 S '58

Recharging ground water with reclaimed sewage effluent; Hyperion sewage treatment plant of Los Angeles. F. B. Laverty. Il map diags Civil Eng 28:585-7 Ag '58

Service rules and standards for California water utilities. W. C. Welmon. Am Water Works Assn J 50:129-50 Ja '58

Teamwork in the solution of water problems; California water plan. H. O. Banks. Am Soc C E Proc 84 [IR 1 no 1497]:1-7 Ja '58; Discussion. A. R. Golze. 84 [IR 3 no 1784]:25-6 S '58

Canada

How the Canadians successfully stop town-site water pipe freeze-up. Eng & Min J 159:88 My '58

Survey of water purification practice in Canada. D. H. Matheson and A. V. Pordie. bibliog Am Water Works Assn J 49:1522-30 D '57

England

Water supply in south Essex. Engineering 184:509 O 18 '57

Germany

Chlorination of drinking water; applying American techniques to German water works; tr. by C. E. Keefer. K. Imhoff. Water & Sewage Works 105:197-8 My '58

Illinois

Development and use of the potential water resources of Illinois. W. C. Ackermann. Am Water Works Assn J 50:991-6 Ag '58

State agency programs for monitoring radioactivity in Illinois; joint discussion. Il map Am Water Works Assn J 50:859-64 Jl '58

India

Bhakra dam will start storing water. Civil Eng 28:626 Ag '58

Iowa

Effect of 1952-56 drought on Iowa impounded water supplies. E. R. Baumann and J. L. Cleasby. Il Am Water Works Assn J 50:233-44 P '58

Italy

Water supply in Italy presents many problems, no solutions. R. S. Ingols. Water Works Eng 111:502-3 My '58

Kansas

Improvement of water quality in Kansas. D. F. Metzler. Am Water Works Assn J 50:1180-4 S '58

Long Island, New York

Telemetering and remote control by the Long Island water corp. S. C. McLendon and M. Zihl. diag Am Water Works Assn J 49:1371-7 N '57

Nassau county, New York

Water supply problems. W. F. Welsch. Water & Sewage Works 105:199-200 My '58; Same cond. Pub Works 89:142-4 Ja '58

New England

Clean waters for New England: New England compact commission can report good progress. J. C. Knox. maps Water & Sewage Works 105:375-9 S '58

Seven-state natural resources survey showed New England area has 50-year water supply. Water Works Eng 111:842-5-4 S '58

New Jersey

Planning a water supply for the Passaic valley. Pub Works 89:156-7 F '58

New Mexico

See also
Water laws and regulations—New Mexico

Northeastern states

Municipal watersheds in the Northeast. H. W. Lull. Am Water Works Assn J 50:979-82 Jl '58

Oklahoma

Pollution control in southwestern reservoirs and watersheds; recreational use in Oklahoma. L. F. Pummill. Am Water Works Assn J 50:789-93 Je '58

Russia

Vast Soviet water effort evaluated. E. C. Itchner. Eng N 160:24 F 27 '58

St Louis county, Missouri

Treatment plant innovations in St Louis county, Mo. H. O. Hartung. Il diags Am Water Works Assn J 50:965-74 Jl '58
Water quality at St Louis county. H. O. Hartung. Am Water Works Assn J 50:1198-200 S '58

San Francisco Bay region

Supplemental water for the San Francisco area. W. L. Berry and H. A. Howlett. Il map Am Water Works Assn J 50:679-87 My '58

San Gabriel valley, California

Telemetering and remote control system; San Gabriel valley water co. El Monte, Calif. K. L. Wilkinson and M. E. Mosely. Il diag Water & Sewage Works 105:363-6 S '58

Skagit county, Washington

Use of radial collector well in Skagit county. Wash. R. A. Yale. Am Water Works Assn J 50:125-8 Ja '58

South Africa

South Africa shows how; electro dialysis for desalting of water. Ind & Eng Chem 49:sup 38A D '57

South Dakota

Water supply developments in South Dakota. C. E. Carl. Am Water Works Assn J 50:211-14 F '58

Texas

Control, preservation, and allocation of Texas water resources; joint discussion. map Am Water Works Assn J 50:1157-65 S '58
Development plans for the Sabine River watershed. J. W. Simmons. maps Am Water Works Assn J 50:983-90 Ag '58

Local group maps long-range river use; Trinity River basin. maps Eng N 161:26 S 4 '58

Pollution control in southwestern reservoirs and watersheds; legislation and practice in Texas. H. L. Dabney. Am Water Works Assn J 50:794-7 Je '58

Pollution control in southwestern reservoirs and watersheds; penalties and enforcement in Texas. W. H. Bell. Am Water Works Assn J 50:798-9 Je '58

WATER supply—Continued

United States

Basic data for water supply and water pollution control. R. S. Green. Sewage & Ind Wastes 30:215-19 F '58

Federal interagency activities concerning water supply. M. LeBosquet, jr. bibliog Am Water Works Assn J 50:734-40 Je '58

Inventory of 1956 water supply facilities in communities of 25,000 and over. J. R. Thomas and K. H. Jenkins. Am Water Works Assn J 50:1076-82 Ag '58

National water quality basic data program. R. C. Palange and S. Mesegrian. Am Soc C E Proc 84 [SA 2 no 1606]1:6 Ap '58

Needed an extra 250 billion gallons of water a day by 1975. H. Chem & Eng N 36:50-3+, cover Mr 24 '58

Resources funds may hit \$350 million. Eng N 161:28 JI 17 '58

There is enough water if we conserve it! map Water Works Assn J 111:474-5 My '58

Value of an acre-foot of water. E. F. Renshaw. bibliog Am Water Works Assn J 50:303-9 Mr '58

Water, a limiting resource? R. O. Thomas. bibliog Am Soc C E Proc 84 [IR 3 no 1754]:1-13 S '58

Wayne county, Michigan

Better water supply for Wayne county. G. R. Bingham; E. P. Coughlan, jr. il maps Am Water Works Assn J 50:665-78 My '58

Water intakes in the Detroit river. E. A. Hardin. il maps plans diags Am Soc C E Proc 84 [SA 2 no 1592]1:1-24 Ap '58

Western states

Water forecast. Eng N 160:62+ My 15 '58

Wisconsin

Strontium content of Wisconsin municipal waters. M. S. Nichols and D. R. McNall. map Am Water Works Assn J 49:1493-8 N '57

WATER supply, Rural

Dual plants treat water and sewage for a subdivision. C. E. Wright. il Pub Works 88:106-7 N '57

System for fluoridating individual water supplies. F. J. Maier. il diags Am J Pub Health 48:717-23 Je '58

WATER supply districts

Future developments in the Greater Winnipeg water district. N. S. Bubbis. Am Water Works Assn J 49:1389-402 N '57

WATER supply engineering

Battling permafrost, sub-arctic weather and tough soil to give Fairbanks water. H. C. Westfall. il map Water Works Eng 111:128-31+ F '58

Design of water supply structures. H. J. Carlock. Am Soc C E Proc 84 [SA 3 no 1682]:1-6 Je '58

Designing a water system for the future; Columbia, S.C. G. B. Arthur. il Pub Works 89:87-94 Mr '58

Designing for future water demands. A. H. Gent. Pub Works 89:210-13 S '58

Development of master plans to meet future water needs. H. A. Kerby; H. J. Draves. plan Am Water Works Assn J 50:203-10 F '58

Economic aspects of public water utility construction. J. W. Millman. bibliog Am Water Works Assn J 50:839-45 JI '58

Engineering design of municipal water supply reservoirs. V. H. Rosebraugh. Pub Works 89:184+ My '58

Honolulu water supply. E. J. Morgan. il map diags Am Water Works Assn J 49:1403-13 N '57

Plan ahead for water supplies! L. R. Howson. Water Works Eng 111:227+ Mr '58

Planning pays dividends. if followed by action; Dallas city water works. H. J. Graesser. il maps Water & Sewage Works 105:127-35 Ap '58

Planning water supply expansion for anticipated population increase in Washington metropolitan area. B. Bird. map Am Water Works Assn J 50:889-98 JI '58

Pre-planning and fast action win water for annexed areas. T. Z. Osborne. il map Water Works Eng 111:656-7 JI '58

Responsibility of the consulting engineer in water plant construction. M. A. Wilson. Am Water Works Assn J 50:179-84 F '58

Toward unity among developers; comprehensive planning of water resources. il Eng N 160:205-8+ F 13 '58

Water scheme assures city's growth; Dallas, map plan diags Eng N 160:33-4+ Ap 17 '58

Water supply expansion program will provide for dry spells. G. H. Sparks. plan Pub Works 89:103 Ag '58

What a city can do to foretell a water shortage. K. F. Hoefle. Pub Works 89:81-3 Ja '58

See also

Aqueducts
Hydraulic engineering
Intakes
Irrigation
Irrigation water
Pipe laying
Pumping stations
Rainy water collectors
Reservoirs
Water distribution
Water hammer
Water storage
Waterworks
Wells

Bibliography

AWWA publications. Am Water Works Assn J 49:107-14 pt 2 N '57

Tables, calculations, etc.

Applications of the digital computer to reservoir yield studies. R. S. Gooch. Pub Works 89:91-2+ Ag '58

Yield of impounding reservoirs. E. L. MacLeman. bibliog Water & Sewage Works 105:144-9 Ap '58

WATER supply engineers

Directories

AWWA directory, membership list, etc. Am Water Works Assn J 49:1-186 pt 2 N '57

AWWA directory; 1958 membership list. Am Water Works Assn J 50:1-236 pt 2 O '58

WATER supply for armies

How chlorination helps water conditioning at Alaska bases. E. W. Lingel. Pub Works 89:119-20 Ag '58

WATER supply for atomic power plants

Nuclear desalting to be studied. Eng N 161:25 JI 24 '58

Nuclear reactor needs purest of water. il Eng N 160:31-2 My 1 '58

Prevention and control of cross connection at Oak Ridge, Tenn. nuclear plant. G. J. Angele. diags Am Water Works Assn J 50:628-38 Mr '58

Ultra-pure water, prime requisite for nuclear plants. W. A. Homer. flow diags il diags Power Eng 62:42-4 Ag '58

Water technology at the Shippingport atomic power station. S. F. Whirl and J. A. Tash. diags Ind & Eng Chem 50:987-8 JI '58

WATER supply for chemical plants

Flying signals control remote pumps; microwave radio system; Olin Mathieson chemical corp. il Plant Eng 12:123-3 Mr '58

How to cope with a water shortage; panel discussion. maps Chem Eng 64:237-52 D '57 (reprints 50c)

Microwave controls supply of plant water; Olin Mathieson chemical co. il diag Chem Eng 65:68+ Ap 7 '58

Pond surface cooling for chemical plant cooling water; Union carbide chemicals co. R. L. Wright and D. E. Kirsopp. il plan Chem Eng Prog 54:99-102 F '58

Sewage effluent used for industrial water; Odessa Texas butadiene plant. T. F. Sullivan. Am Soc C E Proc 84 [SA 3 no 1679]:1-15 Je '58

Texas eyes waste water. il map Ind & Eng Chem 50:sup87A-8A Je '58

Water treatment. il diags Manuf Chem 29:273-86+ JI '58

WATER supply for contractors

Water and aggregate supply; reconstruction problems and procedures of one of Wyoming's largest road contractors. H. K. Glidden. il plans Roads & Sts 101:55-62 Ap '58

WATER supply for dyehouses. See Water supply for textile mills

WATER supply for factories

Chelating agents in water treatment. il Plant 17:42 Je '58

WATER supply for factories—Continued

- Clean plant water at low cost; Jones & Laughlin steel corp. flow sheet Iron Age 180:146-7 D 19 '57
- Cooling towers, cold water piping serve process cooling applications. J. C. Bishop, diags Heating-Piping 30:99-103 Ap '58
- Here's how cooling towers solved plant's water problems; Philip Morris, Inc. B. H. Griesbach, il diag Plant Eng 12:90-3 O '58
- How to cool water in your plant. S. D. George, il Mill & Factory 63:85-8 J1; 97-100 Ag '58
- Industry's water problems and their solution. H. I. Riegl, il plan Iron & Steel Eng 34: 73-8; Discussion, 78-9 N '57
- Instrumenting the combustion process for removing H₂S from water, diag I S A J 5:37 My '58
- Large manufacturing plant depends upon lagooned rain water; Flick-Reedy corp. Water & Sewage Works 104:491 N '57
- Photographic diagnosis, or what's wrong inside the wall casing? il Plant Eng 12:108-10 S '58
- Pressure tank system control. R. G. Schletty, diags Power 101:118-20 N '57
- Resin purifies water for washing crystals. il Electronics 31:128+ Ap 11 '58
- Some recent developments in the economic utilization and purification of water. E. L. Streetfield, bibliog flow diags il diags Chem & Ind p841-6 J1 5 '58
- Water is to save; ideas that conserve dollars too, at GE. K. S. Watson and V. D. Lukas, il diag Plant Eng 12:90-3 F '58
- Water-purity problems in manufacturing process solved. il Elec Eng 77:367-8 Ap '58
- Water supply for industrial plants. J. Nachbar, il plans diags Air Cond Heat & Ven 54:53-9 D '57
- Water use in industry. R. L. Derby, bibliog Am Soc C E Proc 83 [R 2 no 1364]: 1-9 S '57; Discussion, F. L. Hotes, 84 [R 3 no 1784]:17-20; Reply, 21 S '58
- Water, water everywhere? what's being done to conserve resources. Steel 143:58-9 S 29 '58
- What to do about the growing water problem. il Iron Age 181:103-5 F 27 '58
- Who says we're running out of water? A. C. Embshoff, il Power Ind 74:9-10 F '58
- See also*
Cooling water
Drinking fountains
Drinking water systems
Water supply for plating shops
- WATER supply for hospitals**
How I would hook up emergency water supply. J. Jenkins, diags Power 102:123 Ap '58
- WATER supply for mines**
Influence of circulating water quality on coal preparation plant performance. T. M. Larimer, Min Eng 9:135 D '57
- Selecting water clarifying equipment for a coal preparation plant. J. M. Vonfeld, Min Eng 9:133-5 D '57
- WATER supply for paper and pulp mills**
Development of improved process water at Oxford paper co. S. R. Cooper and A. H. Tiff, flow diag map diag Tappi 40:965-72 D '57
- Reuse of water in a specialty mill. C. F. Hill, flow sheet Tappi 41:sup 163A-6A J1 '58
- Turbine aeration; Marathon corp. Tappi 40: sup 147A D '57
- Water and an example of the economics of handling paper machine effluent. F. C. Holmes, Tappi 41:sup 206A-8A Je '58
- Water as related to the pulp and paper industry of southern Ohio. R. C. Smith, Tappi 41:sup 183A-5A Je '58
- Water plant design; current practices and paper mill applications. R. Hazen, Tappi 41:sup 210A-12A Ap '58
- WATER supply for petroleum industry**
ABC's of treating and handling injection water. L. L. Laurence and W. E. Leuzler, il diags Pet Eng 30:B72+ Ag; B52+ S '58
- Are we making water systems too complex? H. L. Bilhartz, J Pet Tech 10:13-16 S '58
- Corrosion problems in water flooding. R. W. Amstutz, il Corrosion 14:65-9 Mr '58
- How 31 refineries condition cooling-water systems. J. D. Helwig and H. F. McConomy, Oil & Gas J 55:101+ D 2 '57

- Organization and equipment in cooling-tower water treatment. W. J. Gossom and J. O. Johnson, il diags Oil & Gas J 55:91-5 D 9 '57
- Predicting water supply. R. L. McIntire, diag Oil & Gas J 56:125 Ja 6 '58
- Process costimating; cost of cooling-tower water. W. L. Nelson, Oil & Gas J 56:139 Je 2 '58
- Process costimating; water costs; makeup, feed, process, and treated. W. L. Nelson, bibliog Oil & Gas J 56:125 Je 16 '58
- Sun, Fluor offer new process; treating waste water, and reusing it. il Oil & Gas J 56:62 F 3 '58
- Use of chemicals to maintain clear water for drilling. J. P. Gallus and others, bibliog diags J Pet Tech 10:70-5 Ap '58
- Waste and water systems cut cost at Atlantic refining co. R. G. Merman and E. R. Roth, bibliog flow diag il Power Eng 62:80-1 O '58
- WATER supply for plating shops**
Water; its use in the plating shop. L. F. Spencer, bibliog flow diags diag Metal Finishing 56:44-51 J1 '58
- WATER supply for power plants**
Circulating water systems of steam power plants. R. T. Richards, plan diag Am Soc C E Proc 83 IPO 6 no 14881:1-11 D '57; Same, Combustion 29:45-9 J1 '58; Discussion Am Soc C E Proc 84 IPO 2 no 16181: 13-15 Ap; IPO 3 no 16891:9-10 Je '58
- Complete four years successful operation of world's largest demineralization plant. flow diag il Plant 18:35-6 Ag '58
- Cooling towers. E. E. Goitein, bibliog il diags Mech Eng 80:74-8 My '58
- Engineers society of western Pennsylvania 18th annual water conference, Pittsburgh, Oct. 21-23; abstracts of papers. Combustion 29:55-8 N '57
- 14-ft. diameter pipes carry sea water to steam station. il Pub Works 88:156 N '57
- How to organize your new power plant; starting and running your condenser's circulating-water system. D. Swift, Power 102: 84-5+ Ja '58
- Lamps supervise water treatment. J. W. Ruff and R. Marshall, il diag Elec World 150:46 J1 '58
- Organic polymer boosts water throughput. S. R. McCurdy, il Power Ind 74:9-10 Je '58
- Thermal and osmotic countermeasures against some typical marine fouling organisms. D. L. Fox and E. F. Corcoran, Corrosion 14: 31-2 Mr '58
- Tower supplements river cooling. H. J. Nickel, il diag Elec World 149:73-5 F 17 '58
- Two-mile cooling-water circuit avoids recirculation at Memphis. D. H. Kregg and S. J. Weston, il diag Power 102:100-1 Mr '58
- Water quality problems in hydroelectric reservoirs; Virginia electric and power co. B. J. Peters, jr, Power Apparatus & Systems p713-15 O '58
- Which salt for industrial water treatment? D. Heath, il maps Power Eng 62:100-2 Ap '58
- See also*
Feed water purification
Water supply for atomic power plants
- WATER supply for ships**
How Luckenbach added 195 tons to ships' f. w. systems. R. C. Owen, il diag Marine Eng/Log 63:112+ My '58
- WATER supply for textile mills**
How American & Efrid licks processing-water problems. il Textile World 108:108-9+ Ja '58
- How to cut water costs. Mod Textiles Mag 39:42 My '58
- WATER tanks**
Collapsible water tanks boon to wildcaters. N. S. Morrissy, il Oil & Gas J 56:170 Ap 21 '58
- Earthquake response of elevated tanks and vessels. D. F. Moran and J. A. Cheney, bibliog map diags Am Soc C E Proc 84 [ST 2 no 1563]:1-14 Mr '58; Discussion, A. A. Eremin, 84 [ST 5 no 1787]:63-4 S '58
- Hydro-pneumatic tank piping; detail sheet, diags Air Cond Heat & Ven 54:76 N '57
- Pressure tank system control. R. G. Schletty, diags Power 101:118-20 N '57

WATER tanks—Continued

Suction tanks. L. Blendemann. plan diag
Air Cond Heat & Ven 55:96-9 Ap; 105-7
My '58

Installation

Roof and zone tanks for multi-story build-
ings. G. R. Jerus. plan diag Air Cond
Heat & Ven 55:68-82 Mr '58

Maintenance and repair

Water tank maintenance. K. W. Altizer. il
Water & Sewage Works 105:184-7 My '58

Water tank maintenance. D. W. Christoffer-
son. il Water & Sewage Works 105:227-9
Je '58

WATER tanks, Aluminum

Large aluminum water tanks. Engineering
185:645 My 23 '58

Light alloy water tanks for tankers. il Metal-
lurgia 57:311 Je '58

WATER tanks, Concrete

Big prestressed tank rises in Texas. il diag
Eng N 160:39 My 1 '58

Texas town builds giant water tank of pre-
stressed concrete. R. E. Pix. il diag Water
Works Eng 111:937-9 O '58

WATER tanks, Steel

Elevated water tank defies tornado. C. D.
Miller. il Civil Eng 27:874-5 D '57

WATER towers

English castle houses 1-mg water storage
tower. C. E. Tiffen. Water Works Eng 111:
782 Ag '58

Three-in-one structure for city services;
Caen, France combines water tower, gov-
ernment offices and municipal market. il
diag Eng N 160:93-4 My 15 '58

Maintenance and repair

Water tower maintenance; recommendations
for inspecting, painting, heating and ca-
thodic protection. il Plant Eng 12:112-13 F
'58

WATER tube boilers. See Boilers. Water tube

WATER usage in air conditioning. See Air
conditioning equipment—Water require-
ments

WATER vapor

Determination of water vapor from the
change in electrical resistance of a hydro-
scopic film. E. R. Weaver and others. bib-
liog diag J Res Nat Bur Stand 60:489-508
My '58

Determination of water vapor in nitrogen;
thermal conductivity measurement of hy-
drogen liberated from calcium hydride.
H. W. Linde and L. B. Rogers. bibliog Anal
Chem 30:1250-2 Jl '58

Interaction of water vapor with silica sur-
faces. G. J. Young. bibliog J Colloid Sci
13:67-85 F '58

Metal-water reactions; kinetics of the reac-
tions of water vapor with strontium and
barium. H. J. Svec and H. G. Staley.
Electrochem Soc J 105:121-5 Mr '58

Procedure for measuring the water vapor
permeability of insulation board. R. D.
Ziegler. il diag Tappi 40:881-4 N '57

Radiation chemistry of water vapor; the in-
direct effect on deuterium and the exchange
of D-atoms with water molecules. R. F.
Firestone. bibliog diag Am Chem Soc J
79:5593-8 N 5 '57

Reactions of the high voltage discharge prod-
ucts of water vapor. P. J. Friel and K. A.
Krieger. bibliog diag Am Chem Soc J 80:
4210-15 Ag 20 '58

Relationship of wax crystal structure to the
water vapor transmission rate of wax films.
R. C. Fox. bibliog il diag Tappi 41:283-9
Je '58

Solubility of quartz in supercritical water as
a function of pressure. G. J. Wasserburg.
bibliog J Geol 66:559-78 S '58

Some factors affecting the surface area of
hydrated portland cement as determined
by water-vapor and nitrogen adsorption.
L. A. Tomes and others. bibliog (37 ref)
diag J Res Nat Bur Stand 59:357-64 D
'57

Vapor problems in thermal insulation. N. B.
Hutcheon. Heating-Piping 30:150-2 Ag '58

Water vapor, third dimension in atmosphere
control. E. R. Queer and E. R. McLaughlin.
flow diag diag Power Eng 62:75-6 My '58

What vapor transmission rules apply when
planning for dehumidification? answers.
Heating-Piping 30:144+ Ja; 70+ F '58

See also

Humidity

Steam

WATER wash spray booths

Rust trouble in water wash spray booths;
question and answers. Ind Finishing 34:
96+ N '57

WATER waste

Leak abatement techniques at St Louis. C. F.
Buettner. Am Water Works Assn J 50:507-9;
Discussion. T. J. Skinner. 509-10 Ap '58

See also

Water conservation

WATER wheels

Water-wheels, horses and steam engines.
A. K. Bruce. Engineer 204:781-2 N 29 '57

See also

Electric generators, Water wheel

WATER works association. American. See
American water works association

WATERFALLS

Water and architecture. E. B. Kassler. il
diag Arch Rec 123:137-52 Je '58

WATERLOO college

First year of co-operative engineering studies
completed. Eng J 41:108-9 S '58

WATERPROOFING

Effect of a waterproof coating on concrete
durability. W. G. Mitchell. il Am Concrete
Inst J 29:51-7 Jl '57; Discussion. 29:797-8
Mr '58

Heavy waterproofing versus breathe-through
films. Ind Finishing 34:100-2 Jl '58

Metallic waterproofing makes good moisture
barrier; finely powdered iron particles in
cement mixture. L. Libberthson. il Plant
17:29-30 Je '58

Waterproofing for concrete and masonry;
time-saver standards. E. E. Seelye. diag
Arch Rec 123:235+ Mr '58

Testing

Methods for rating concrete waterproofing
materials. F. Kocataskin and E. G. Swen-
son. bibliog diag A S T M Bul p67-72 Ap
'58

WATERPROOFING of textiles

Hydrophobing of textiles; organosilicones
plus zirconium compounds; patent. Am
Dyestuff Rep 47:61 Ja 27 '58

Impregnation for water repellency and its
logical use with synthetic-resin finishing.
H. Ruile. il diag Am Dyestuff Rep 46:947-
52+ D 16 '57

Oil and water repellent treatments for cotton
with fluorochemicals. L. Segal and others.
bibliog il Textile Res J 28:233-41 Mr '58;
Abstract. Textile World 107:121+ D '57

Water-repellent fabric; dispersions of oxydi-
methylene-bis-acrylamides; patent. Am Dye-
stuff Rep 47:61 Ja 27 '58

Water-repellent treatment of textiles with
silicones; abstract. J. A. C. Watt. Am
Dyestuff Rep 46:792 N 4 '57

See also

Rubberized fabrics

WATERSHEDS

Development plans for the Sabine River
watershed. J. W. Simmons. maps. Am
Water Works Assn J 50:983-90 Ag '58

How a watershed program can be developed
for a community; federal government pro-
gram. il Pub Works 89:123-4 S '58

Municipal watersheds in the Northeast. H. W.
Lull. Am Water Works Assn J 50:979-82 Jl
'58

Pollution control in southwestern reservoirs
and watersheds; panel discussion. Am
Water Works Assn J 50:789-99 Je '58

Water yields as influenced by watershed man-
agement. R. H. Burgy. Am Soc C E Proc 84
[IR 2 no 1590]:1-10 Ap '58

Watershed research in Portland, Ore. N.
Bethlahmy and H. K. Anderson. il Am
Water Works Assn J 50:110-14 Ja '58

Protection

Engineering in the soil conservation service;
watershed protection and flood prevention
program. C. J. Francis. Am Soc C E Proc
84 [IR 1 no 1498]:1-13 Ja '58

Sewage treatment on public water supply
watersheds. B. C. Nesin; J. P. Sewage &
Ind Wastes 29:1207-14 N '57

WATERSHEDS—Protection—Continued

Watershed protection, reservoir management and pollution abatement. W. R. LaDue, bibliog Water & Sewage Works 104:503-5 N '57

WATERWAYS

New York-Montreal seaway is a must. W. L. Rich, map Marine Eng/Log 63:78 Mr '58

See also

Calumet-Sag project
Mississippi valley association
River traffic
Rivers
St Lawrence waterway and power project
Welland ship canal

Burma

Irrawaddy River system of Burma. H. R. Norman and J. B. Alexander, il maps Am Soc C E Proc 84 [WW 4 no 1766]:1-19 S '58

Canada

Water transport, il Eng J 41:84-5 Ap '58

Germany

Opening of the port of Stuttgart, il plan Engineer 205:826-7 My 30 '58

United States

America's waterways come of age. E. C. Itchner, il Marine Eng/Log (Yearbook no) 63:201+ My 31 '58

See also

Columbia river

WATERWHEEL generators. See Electric generators, Water wheel

WATERWORKS

Blended well-river waters end ice problem in plant. M. E. Rev, il diag Water Works Eng 111:934-6 O '58

For that tired feeling, get out your stethoscope; your system needs a check-up! Water Works Eng 111:573 Je '58

Growing population demands a modern water system. P. Hirsch, il Pub Works 88:118-19+ N '57

New England water works association 75th annual meeting, Boston; with abstracts of papers. Water & Sewage Works 104:531-5 D '57

New water treatment plant for Billerica, Mass.; abstract. T. R. Camp, Water & Sewage Works 104:533-4 D '57

Round table discussion of current problems. Published in monthly numbers of Water works engineering

Ten commandments of water works design, construction and operation. J. A. Fulkman, il Pub Works 89:109-10+ Ag '58

Treatment plant innovations in St Louis county, Mo. H. C. Hartung, il diag Am Water Works Assn J 50:966-74 Jl '58

Water and sewage for a new residential development. C. E. Wright, il Pub Works 89:87-9 Ja '58

Water supply in south Essex. Engineering 184:509 O 18 '57

Water supply progress in 1957. L. S. Finch, il Water & Sewage Works 105:1-14 Ja '58

Water works practices (cont). G. E. Symons, il diag Water & Sewage Works 104:496-502 N '57

Water works progress; off the beaten path. Water Works Eng 111:757 Ag '58

Water works school. K. J. Carl, diag Published in monthly numbers of Water works engineering

See also

American water works association
Filters and filtration
Filtration plants
Intakes
Pumping stations
Pumps, Centrifugal
Sanitary districts
Water departments
Water distribution
Water purification
Water supply engineering

Accounting

Advantages of monthly billing for water utilities. A. V. Arnew, Am Water Works Assn J 49:1103-6 Ag '57; Same, Water & Sewage Works 105:R20-1 S 15 '58

Converting to electronic billing at Hamilton, Ohio. C. T. Rupert, Am Water Works Assn J 50:449-52 Mr '58

Preparation, control and accounting methods of the Akron, Ohio, water utility budget. W. R. LaDue, Am Water Works Assn J 50:1002-8 Ag '58; Same, Water & Sewage Works 105:367-70 S '58

Water works billing department. F. G. Ince, il Water & Sewage Works 105:273 Jl '58

Bibliography

Book reviews. Water Works Eng 111:405, 508-9, 691, 962 Ap, My, Jl, O '58

Bulletins and catalogs. Water & Sewage Works 105:R395-412 S 15 '58

Condensation; abstracts of articles. Published in monthly numbers of the Journal of the American water works association

Water works digest. A. R. Johnson, Published in monthly numbers of Public works

Costs

Cost of water treatment in California. G. T. Orlow and M. R. Lindorf, bibliog Am Water Works Assn J 50:45-55 Ja '58

Factors limiting financing of new water works construction. A. LeFeber, Am Water Works Assn J 49:1593-4 D '57

How to calculate chlorine cost. Water & Sewage Works 105:R208 S 15 '58

Water construction expenditures have doubled in past ten years. Water Works Eng 111:350-4 Ap '58

Customer relations

Dallas finds a foolproof way to collect water connection deposits. H. Graesser, il Water Works Eng 111:336-7+ Ap '58

Electric equipment

Robotry in water and sewage works operation. D. B. Dickson and C. H. Billings, il diag Pub Works 89:104-12 O '58

Emergency problems

Alternative sources of power for water utility pumping stations. E. Farmer, Am Water Works Assn J 50:1297-305 O '58

How water utilities handle emergency work. Water Works Eng 111:630, 770, 858, 952 Jl-O '58; Discussion, 111:680+, 770+, 858+, 952+ Jl-O '58

Planning for distribution system emergencies; panel discussion. Am Water Works Assn J 50:1285-96 O '58

Employees

Attracting and retaining competent personnel for water utilities. W. T. Ingram, Am Water Works Assn J 50:165-7 F '58

Oregon water and sewage plant operators short school program. F. C. Burgess and C. V. Wright, Water & Sewage Works 105:382-4 S '58

Principles of personnel management for water utilities. R. S. Millar, Am Water Works Assn J 50:159-64 F '58

Equipment

Automation and remote control of chemical feeders. P. A. Coffman, Jr, diag Am Water Works Assn J 49:1375-86 N '57

Automation developments in Philadelphia. V. A. Appleyard, map Am Water Works Assn J 50:7-14 Ja '58

Big Walnut plant in Columbus, Ohio, il plan Water & Sewage Works 105:87-91 Mr '58

Buyers' guide; directory of water works equipment and supplies. Water Works Eng 111:369-76 Ap '58

Chlorine valve, hydraulically operated. J. R. Rossum, diag Water & Sewage Works 105:342 Ag '58

City of Hammond, in step with waterworks progress and prepared for the future. D. L. Gallagher, il diag Pub Works 89:83-5 Jl '58

Compressed air applications in sewage and water works. J. L. Hyton, il diag Water & Sewage Works 104:514-18 N '57

Development of instrumentation in chlorination. R. J. Baker and A. E. Griffin, bibliog Am Water Works Assn J 50:439-94 Ap '58

Dubuque automates new plant with all-pneumatic controls; softening-filtration plant. J. A. Hall and M. W. Williams, il Water Works Eng 111:654-5+ Jl '58

WATERWORKS—Equipment—Continued

- Equipment news. Published in monthly numbers of Water and sewage works
- Expandable push-button water plant. plan Water Works Eng 111:228-9 Mr '58
- Grand Rapids modernizes water treatment, pumping and distribution. E. A. Schewe. *il* Pub Works 89:120-4 My '58
- Improvements in lime handling, feeding, and slaking at Lansing, Mich. J. F. Dye. *il* diag Am Water Works Assn J 50:263-70 F '58
- Low-cost automation for water treatment and pumping plants. W. E. Hooper. *il* Am Water Works Assn J 50:645-9 My '58
- Michigan's largest high-rate water treatment plant; Highland Park. V. L. Hindbrook and J. L. Scheid. flow diag *il* Pub Works 89:128-30 O '58
- New British reservoir, a joint venture. W. A. Heath. *il* Water & Sewage Works 105:223-6 Je '58
- New England's contribution of water works equipment; abstract. R. S. Rankin. Water & Sewage Works 104:533 D '57
- Pittsford treatment works of the Mid-Northamptonshire water board. J. W. Milne. flow diag diag Engineer 204:863-4 D 13 '57
- Probable accuracy in proportional pacing systems. F. Russo. diags Am Water Works Assn J 50:884-8 Jl '58
- Review of the jar test. A. P. Black and others. bibliog *il* Am Water Works Assn J 49:1414-24 N '57
- Rubber-seated butterfly valves. A. E. Hatch, Jr. and W. H. Chamberlain. diag Water & Sewage Works 104:412-15; 105:67-9 S '57; F '58
- Steep terrain prompts use of double deck sedimentation basin. *il* Pub Works 89:101 Jl '58
- Use of liquid alum at Richmond, Va. H. E. Lordley. *il* Am Water Works Assn J 50:1259-60 S '58
- Use of tank chlorine. R. M. Harwood and R. Haw. *il* diag Water & Sewage Works 105:267-9 Jl '58
- Water works buyers' guide. Am Water Works Assn J 49:127-78+ pt 2 N '57
- What's new among the manufacturers. *il* Published in monthly numbers of Water works engineering
- Who specifies and buys water works material? answers. Water Works Eng 111:232+, 384+, 488+, 588+ Mr-Je '58
- See also*
- Pumping stations

Experimental plants

- Pilot plants ready to go at Taft center. *il* Eng N 159:47-8+ N 28 '57

Extension rules

- Distribution system extension; New York state. R. Murray. Water & Sewage Works 105:100-3 Mr '58
- Leakage and tuberculation troubles overcome in new main extensions; Massapequa water district. R. Montgomery. *il* Water Works Eng 111:134+ F '58
- Service extensions to fringe areas. T. J. Eaton. Am Water Works Assn J 50:729-33 Je '58
- Survey on Iowa water rates, main extensions, and job classifications; AWWA Iowa section committee report. Am Water Works Assn J 50:375-84 Mr '58
- Utility problems resulting from municipal annexations; panel discussion. Am Water Works Assn J 50:899-911 Jl '58

Finance

- Accumulating a water utility surplus at Rockford, Ill. H. S. Merz. Am Water Works Assn J 50:917-18 Jl '58; Abstract. Water & Sewage Works 105:243-4 Je '58
- Adequate rates and revenues key to water works financing. M. M. Cohn. Water Works Eng 111:323-7+ Ap '58
- Atlanta grows where water goes; capital expenditures improve water service and reduce insurance rates. P. Weir. *il* Water Works Eng 111:368+ Ap '58
- Budgeting water revenues; how much? what for? where from? C. K. Mathews. *il* Water Works Eng 111:468-9+ My '58
- Economic aspects of public water utility construction. J. W. Milliman. bibliog. Am Water Works Assn J 50:839-45 Jl '58

- Financial problems of municipally owned water utilities. A. P. Learned. Am Water Works Assn J 50:1009-14 Ag '58
- Financing small water utilities in California. A. D. Harper. Am Water Works Assn J 50:221-5 F '58
- Financing water utilities in 1958. C. H. Chat-terers. Am Water Works Assn J 50:709-13 Je '58
- \$41,825,000 bond issue sold to buy private utility and improve system. A. P. Learned. *il* map Water Works Eng 111:364-6+ Ap '58
- Fundamental principles of water works operation and financing. J. H. Murdoch, Jr. *il* Water Works Eng 111:338-40+ Ap '58
- How to balance water bond costs with adequate rates and revenues. L. R. Howson. Water Works Eng 111:355+ Ap '58
- How to estimate depreciation of your water works utilities. Water Works Eng 111:578-9 Je '58
- How to keep your credit rating high and assure low bond interest rates. D. M. Ellinwood and R. C. Riehle. *il* Water Works Eng 111:328-31+ Ap '58
- How to raise water works funds. Water Works Eng 111:570-1 Je '58
- Preparing the public to accept needed water rate increases and bond issues. L. N. Thompson. *il* Water Works Eng 111:341-2 Ap '58
- Six keys to successful financing of municipal and private water utilities. F. Amsbary. Water Works Eng 111:346+ Ap '58
- When selling water works bonds put your best foot forward. J. H. Mitchell. *il* Water Works Eng 111:356-8+ Ap '58
- See also*
- Water rates

Laws and regulations

- Current events in water works law. J. H. Murdoch, Jr. Water & Sewage Works 105:283-91 Jl '58 (to be cont)
- Recent developments in water works law and litigation. E. F. Taylor. Am Water Works Assn J 50:741-68 bibliog(p766-8) Je '58
- Service rules and standards for California water utilities. W. C. Welmon. Am Water Works Assn J 50:129-50 Ja '58
- Some water and sewage works legal problems. J. H. Murdoch, Jr. Water & Sewage Works 104:523-6 D '57
- Wisconsin regulations on management of municipally owned utilities. A. P. Kuran. Am Water Works Assn J 50:1015-20 Ag '58

Management

- Development of management skills; necessity or fad? R. H. McCleery. Am Water Works Assn J 50:717-24 Je '58
- Modernizing our approach to water utility problems. F. Merryfield. Am Water Works Assn J 50:1-6 Ja '58
- Report of the committee on water works administration. Am Water Works Assn J 50:544-52 Ap '58
- Responsibilities, authority, and prerogatives of the water utility manager. W. R. LaDue. Am Water Works Assn J 50:363-8 Mr '58
- Six keys to successful financing of municipal and private water utilities. F. Amsbary. Water Works Eng 111:346+ Ap '58
- Water works management, water conservation, and public relations. F. C. Amsbary, Jr. Water & Sewage Works 104:527-9 D '57

Peak load

- Multiple regression analysis of maximum-day water consumption at Dallas, Tex. D. A. Brock. Am Water Works Assn J 50:1391-4 O '58

Power

- Preventive Diesel maintenance; water purification plant at Miami. M. Greitzer. *il* Power 101:112-13 N '57

Public relations

- AWWA public information program; Ad hoc committee report. Am Water Works Assn J 50:453-62 Ap '58
- AWWA water works advancement program. J. H. Murdoch, Jr. Am Water Works Assn J 50:1263-6 O '58
- Courtesy pays off in many ways. E. W. Fair. Water & Sewage Works 105:203 My '58

WATERWORKS—Public relations—Continued

How's your water works psychology working these days? M. P. Robinson. *Water & Sewage Works* 105:230-1 Je '58

Public acceptance of inconveniences during utility construction in streets. E. S. Grant. *Am Water Works Assn J* 50:1306-10 O '58

Water works management, water conservation, and public relations. F. C. Amsbary, Jr. *Water & Sewage Works* 104:527-9 D '57

Winning public acceptance of water metering. C. Rusch. *il Pub Works* 89:109-10 Je '58

Purchasing

Proper methods for purchasing materials. R. W. Jones. *Am Water Works Assn J* 50:725-8 Je '58

Who specifies and buys water works material? answers. *Water Works Eng* 111:232-4, 334-4, 488-9, 588-9 Mr-Je '58

Records

Dallas finds a foolproof way to collect water connection deposits. H. Graesser. *il Water Works Eng* 111:336-7-4 Ap '58

Use of coordinated daily laboratory tests. E. S. Hopkins. *Am Water Works Assn J* 50:975-8 Jl '58

Water meter record cards aid system operation and planning. *il Water Works Eng* 111:664-5 Jl '58

Safety measures

Development and maintenance of a safety program; Department of water and sewers of the city of Miami. *Pub Works* 89:124-4 Je '58

Fifty basic safety rules. *Water & Sewage Works* 105:R35-6 S 15 '58

Safe practices in chlorine handling; from a report by the joint committee on chlorine supply. *Water & Sewage Works* 105:R209 S 15 '58

Value, organization, and implementation of water utility safety programs; panel discussion. *Am Water Works Assn J* 50:1093-110 Ag '58

Securities

Factors in evaluating water utility securities. G. A. Martell. *Am Water Works Assn J* 50:215-20 F '58

Statistics

1957 water construction awards amounted to \$456.6 million. *Water Works Eng* 111:350-1 S '58

Sewage treatment, sewerage and water works contracts in 1957. *Pub Works* 89:172-4 O '58

Statistical analysis of water works data for 1955. H. F. Seidel and E. R. Baumann. *bibliog Am Water Works Assn J* 49:1531-66 D '57

Summary of 1955 USPHS survey of treatment facilities in communities of 25,000 and over. R. Porges. *bibliog Am Water Works Assn J* 49:1567-80 D '57

Waste

Recovery and re-use of alum sludge. *Water Works Eng* 111:783-4 Ag '58

WATSON, Kenneth S.

Sketch, por Sewage & Ind Wastes 30:117-18 Ja '58

WATT hour meters

Read tie-line power with totalizing meters. H. F. Crotty. *Elec World* 150:69 Jl 21 '58

Watt-hour meter for two phases of a four-wire Y three-phase system. A. M. McQuarrie. *il diags Com & Electronics* p 152-5; Discussion. 155-6 My '58

Watt-hour meter registers thirst for power. T. F. Schofield. *il Gen Elec* R 61:15-17 S '58

Testing

Electronics speed kw-hr meter test. C. A. Antonelli. *il diag Elec World* 150:51-2 S 1 '58

New meter testing unit weighs less. F. R. Keller. *il diag Elec World* 148:62 D 23 '57

WATTMETERS

Direct-reading iron-loss testing equipment for single sheets, single strips and test squares. J. McFarlane and others. *bibliog diags Inst E E Proc* 105 pt A:385-94; Discussion. 402-5 Ag '58

Microwave wattmeter does not absorb power. *il diags Electronics* 31:108 Ag 1 '58

Precision thermo-electric wattmeter for power and audio frequencies. J. J. Hill. *bibliog diags Inst E E Proc* 105 pt B:61-8 Ja '58

U.h.f. power meter for operation in the 2 000 mc/s communication band. J. K. Murray. *il diags Electronic Eng* 30:345-8 My '58

Wattmeter monitors and controls power. *il Product Eng* 29:85 Je 9 '58

WAVE functions

Suggestion concerning the role of wave-function symmetry in transition metals and their alloys. J. B. Goodenough. *bibliog diags J Ap Phys* 29:513-15 Mr '58

See also**Atomic orbitals****WAVE guides**

Aluminum waveguide, weld or braze? L. Virgile and J. Difazio. *il Electronic Ind* 17:90-4 Ap '58

Behavior of the TE modes in ferrite loaded rectangular wave guide in the region of ferromagnetic resonance. W. J. Crowe. *J Ap Phys* 29:397-8 Mr '58

Characteristics of some ferrous and non-ferrous waveguides at 27 Gc/s. J. Allison and others. *bibliog diags Inst E E Proc* 104 pt B:599-602 N '57

Circular waveguide taper of improved design. H.-G. Unger. *bibliog diags Bell System Tech J* 37:899-912 Jl '58

Design of a conical taper in circular waveguide system supporting H₁₀ mode. L. Solyman. *Inst Radio Eng Proc* 46:618-19 Mr '58

Determination of higher order propagating modes in wave-guide systems. M. P. Forrer and K. Tomiyasu. *bibliog il diags J Ap Phys* 29:1040-5 Jl '58

Effects of mode filters on the transmission characteristics of circular electric waves in a circular waveguide. W. D. Warters. *diags Bell System Tech J* 37:657-77 My '58

Energy distribution in partially ferrite-filled wave guides. J. E. Tompkins. *J Ap Phys* 29:399-400 Mr '58

Fields in gap-excited rectangular ducts. J. Van Bladel. *diags J Ap Phys* 28:1479-83 D '57

Fourier series representation of the dispersion curves for circular iris-loaded waveguides. P. N. Robson. *bibliog diags Inst E E Proc* 105 pt B:69-72 Ja '58

Ghost modes in imperfect waveguides. E. T. Jaynes. *diags Inst Radio Eng Proc* 46:416-18 F '58

Group and phase velocity. *diags Wireless World* 64:445-9 S '58

Guided wave propagation in submillimetric region. A. E. Karbowiak. *diags Inst Radio Eng Proc* 46:1706-11 O '58

Helical waveguides; closed, open and coaxial. G. M. Clarke. *diags Brit Inst Radio Eng J* 18:359-61 Je '58

Improvement of impedance for microwave reflector feed. M. W. Scheldorf. *il diag Inst Radio Eng Proc* 45:1548-9 N '57

Influence of wall losses on pulse propagation in wave guides. R. Gajewski. *J Ap Phys* 29:22-4 Ja '58

Junction of smooth flared wave guides. D. J. Leonard and J. L. Yen. *bibliog J Ap Phys* 28:1441-8 D '57

Microwave antenna and waveguide techniques before 1900. J. F. Ramsay. *bibliog (27 titles) diags Inst Radio Eng Proc* 46:405-15 F '58

Microwave-spectroscopy waveguide Stark cell with high performance capabilities. M. W. P. Strandberg. *diags R Sci Instr* 29:656-7 Jl '58

Neutron gaging for waveguide plating. *Nuclear News* 16:134 Ag '58

New technique in ferrite phase shifting for beam scanning of microwave antennas. F. Reggia and E. G. Spencer. *bibliog il diags Inst Radio Eng Proc* 45:1510-17 N '57

Orthogonality properties for modes in passive and active uniform wave guides. A. D. Bresler and others. *J Ap Phys* 29:794-9 My '58

Phase-shift at microwave frequencies; measurements on waveguide components. M. H. N. Potok. *bibliog diags Electronic & Radio Eng* 35:382-6 O '58

Propagation of waves in helical wave guides. C. M. Chu. *bibliog diags J Ap Phys* 29:88-99 Ja '58

WAVE guides—Continued

- Properties of ion filled waveguides. L. D. Smullin and P. Chorney. *diags Inst Radio Eng Proc* 46:360-1 Ja '58
- Research models of helix waveguides. C. F. P. Rose. *bibliog il diag Bell System Tech J* 37:679-88 My '58
- Transverse film bolometers for the measurement of power in rectangular waveguides. J. A. Lane. *diags Inst E E Proc* 105 pt B:77-80 Ja '58; Discussion. 105 pt B:395 JI '58
- Waveguide design for die-casting allowing for wall taper. P. Humphreys. *il diags Electronic & Radio Eng* 34:441-7 D '57
- Waveguides form ship-radar lens. *Electronics* 31:16 Ag '58
- Wide-band waveguide filters with short linear tapers. G. Craven. *diags Inst E E Proc* 105 pt B:210-12 Mr '58

Manufacture

- Dip brazing magnesium. W. J. Graves. *Light Metal Age* 15:23 D '57; Same cond. *il Electronics* 31:118+ Ja '58
- Improved precision castings for waveguides. *Wireless World* 64:439 S '58
- Realizing the impossible in precision bending. F. J. Fuchs. *il diags Mach* 64:159-72 F '58
- Vertical X-rays give internal dimensions. *il Electronics* 31:196+ Mr '58

WAVE mechanics

- Bounds of eigenvalues of a clamped plate in tension. R. K. Kaul and S. G. Tewari. *bibliog J Ap Mech* 25:52-6 Mr '58
- Conservation of parity law tested on free neutrons. V. L. Telegdi and others. *Franklin Inst J* 264:442 D '57
- Hidden variables in quantum mechanics. I. I. Zinnes. *bibliog Am J Phys* 26:1-4 Ja '58
- Maser oscillator with one beam through two cavities; geometrical representation of the Schrödinger equation. W. H. Wells. *diags J Ap Phys* 29:714-17 Ap '58
- Perturbation theory techniques help in predicting reactivity at high burnup. B. Wolfe. *Nucleonics* 16:116-21 Mr '58
- Radioactive neutron decay flouts parity conservation law. *Elec Eng* 77:110 Ja '58
- Recent advances in physics; the parity question. D. Park. *bibliog diags Am J Phys* 26:215-34 Ap '58
- Simplified approach to spin in Dirac theory. H. Mendlowitz. *bibliog Am J Phys* 26:17-24 Ja '58
- Wave mechanics. *Wireless World* 64:115-18 Mr '58

See also

- Field theories (physics)
Uncertainty principle
- WAVE meters.** See *Wavemeters*

WAVE motion, Theory of

- Reflections from multiple transition layers. L. H. Berryman and others. *diags Geophysics* 23:223-52 Ap '58
- Stress-strain relationships in yarns subjected to rapid impact loading; wave propagation in long textile yarns impacted transversely. J. C. Smith and others. *bibliog diags Textile Res J* 28:288-302 Ap '58; Same. *J Res Nat Bur Stand* 60:517-34 My '58
- Transmission and reflection of Rayleigh waves at corners. J. C. de Bremaecker. *diags Geophysics* 23:253-66 Ap '58

WAVEMETERS

- Measuring decimetric wavelengths; use of resonant lines for calibrating an absorption wavemeter covering 450 to 75mc/s. H. B. Dent. *il diags Wireless World* 64:319-23 JI '58
- Novice band checker. L. G. McCoy. *il diags Q S T* 42:19-21 JI '58
- Wide-range indicating wave meters. G. Grammer. *il Q S T* 42:17 Mr '58

WAVES

- Attenuation of solitary waves on a smooth bed. Y. Iwasa. *bibliog Am Soc C E Proc* 83 [HY 3 no 12621:1-15 Je '57; Correction. 84 [HY 1 no 15581:41-2 F '58
- Breaking wave force prediction using a model beach. R. L. Wiegel and R. E. Skjel. *diags Am Soc C E Proc* 84 [WW 2 no 15781:1-14 Mr '58
- Dispersion curves for longitudinal and flexural waves in solid circular cylinders. E. A. Flinn. *J Ap Phys* 29:1261-2 Ag '58

- Forces induced on a large vessel by surge. J. T. O'Brien and D. L. Kuchenreuther. *bibliog diags Am Soc C E Proc* 84 [WW 2 no 15711:1-29 Mr '58; Discussion. E. W. Wilson. 84 [WW 5 no 18841:9-15 D '58
- Laboratory study of wind waves in shallow water. J. C. Huff. *bibliog il diags Am Soc C E Proc* 84 [WW 4 no 17651:1-20 S '58
- Model relating dynamics and sediment pattern in equilibrium in the region of shoaling waves, breaker zone, and foreshore. R. L. Miller and J. M. Zeigler. *bibliog map diags J Geol* 66:417-41 JI '58
- Selection of design wave for offshore structures. C. L. Bretschneider. *Am Soc C E Proc* 84 [WW 2 no 15681:1-37 bibliog (27 ref, p 14-16) Mr '58; Correction. 84 [WW 5 no 18841:5-6; Discussion. 6-8 D '58
- Water-wave measuring apparatus. A. Brebner. *diags J Sci Instr* 34:506-7 D '57
- Wave run-up on roughened and permeable slopes. R. P. Savage. *diag Am Soc C E Proc* 84 [WW 3 no 16401:1-38 My '58
- Wavelength of plane waves in a dissipative medium, and of spherical waves in a non-dissipative and in a dissipative medium. J. W. Ellis. *Am J Phys* 26:398-9 S '58

See also

- Photography of water
Radiation
Radio waves
Vibration

WAVES, Radio. See *Radio waves***WAXED paper.** See *Paper, Waxed***WAXES**

- Composition versus properties of micro-crystalline waxes. W. P. Ridenour and others. *bibliog diags Tappi* 41:257-67 Je '58
- Cotton mill overwaxes carded warp yarns and gets clear looms, fewer stops. R. Bayles. *il Textile Ind* 122:56-7 Je '58
- Engineering properties of pattern waxes. C. J. Marsel and others. *il Tool Eng* 39:95-8 N '57
- Infrared absorption method for measuring phase transitions of waxes. J. M. Martin, Jr. and others. *bibliog diags Anal Chem* 30:1005-6 My '58
- Physical properties of common waxes. T. C. Patton. *Soap & Chem Spec* 33:140-1+ D '57
- Relationship of wax crystal structure to the water vapor transmission rate of wax films. R. C. Fox. *bibliog il diags Tappi* 41:283-9 Je '58
- Sealing strength of wax-polyethylene blends. D. S. Brown and others. *bibliog diags Tappi* 41:295-300 Je '58
- Solid petroleum hydrocarbons and their effect on wax properties. R. T. Edwards. *bibliog il diags Tappi* 41:267-74 Je '58
- Studies of high-velocity impact in wax. W. S. Partridge and W. G. Clay. *bibliog il diag J Ap Phys* 29:339-42 Je '58
- Survey of some plant waxes of southern Arizona. E. B. Kurtz, Jr. *bibliog Am Oil Chem Soc J* 35:465-7 S '58
- Vegetable oils, fats and waxes; fifty years of progress. F. G. Dollear. *il Ind & Eng Chem* 50:sup4A-51A Je '58

See also

- Carnauba wax
Floor wax
Paraffin
Petroleum—Wax content
Petroleum waxes

Manufacture

- Computer analysis of wax manufacture and storage. J. E. Borner. *diags Ind & Eng Chem* 50:721-4 My '58
- Small change nets wax process dividends; Esso standard oil co. process flowsheet. *il diags Chem Eng* 65:116-19 F 10 '58

Staining

- Factors influencing the staining tendency of waxes. J. Phillips. *Tappi* 41:290-5 Je '58

Testing

- Instrument for measuring the hardness of fats and waxes. N. V. Lovegren and others. *diag Am Oil Chem Soc J* 35:327-31 JI '58
- Mechanism of the fracture of wax seals. R. M. Butler and others. *il diags Tappi* 41:362-5 JI '58

WAXES—Continued**Transportation**

How to bind package loads together, at low cost. E. L. Kullman. *il* *diags* *Pet Eng* 23: C38+ N '57

WAXING machines

Laboratory waxing machine. F. Walter and others. *il* A S T M Bul p58-9 Ja '58

WAYNE county, Michigan

See also

Water supply—Wayne county, Michigan

WEAPONS

Exorbitant costs will limit navy weapons. *Machine Design* 30:32+ Mr 6 '58

WEAPONS systems

Application of operations research to development decisions. B. Klein and W. Meckling. *Op Res* 6:352-63 My '58
Crisis in science and technology and its effect on military development. E. A. Johnson. *Op Res* 6:11-34 Ja '58

Design testability into weapon systems! J. M. Pomykata. S A E J 66:48-50 Mr '58
Electronics' role in ground support equipment. J. Holahan. *il* *diags* *Aviation Age* 30:36-9+ S '58

Ground support equipment: billion dollar backstop for modern weapon systems. V. DeBiasi. *Aviation Age* 30:18-19+ S '58

Ground support equipment engineering outlook. V. DeBiasi. *il* *diags* *Aviation Age* 30:20-2+ S '58

Ground support equipment: five rules for designing missile handling equipment. M. Mastracci. *il* *diags* *Aviation Age* 30:44-50 S '58

How ground support equipment stacks up in the field. R. M. Loebelson. *il* *Aviation Age* 30:28-31+ S '58

Integration of navigational flight information for jet interceptor aircraft: abstract. M. V. Flore. *Aircraft Eng* 30:241-2 Ag '58

Reliability evaluation of the human component in man-machine systems. H. L. Williams. *bibliog* *Elec Manuf* 61:78-82 Ap '58

Reveals USAF's weapons plans. C. S. Irvine. *Electronics* 31:3+ My 23 '58

Spares for weapons systems. L. P. Stannard. *Aero/Space Eng* 17:53-6 Ag '58

Thor points the way: ground support equipment for the big birds. I. Stambler. *il* *diags* *Aviation Age* 30:52-4+ S '58

Weapon system requirements for air data computers. A. K. Hammell. *Aeronautical Eng R* 17:32-5 Ja '58

Weapons system approach to air data computing. H. F. Creel. *diags* *Aeronautical Eng R* 17:41-4+ F '58

WEAR of metals. See Metals—Wear**WEAR of plastics. See Plastics—Wear****WEATHER**

Local climatic weather data. W. L. Holladay. *bibliog* *Heating-Piping* 30:201-6 Ja '58
Weather and coal-mine safety. C. B. McIntosh. *map* *Coal Age* 63:164+ F '58

See also

Droughts

Meteorology

Meteorology, Aeronautic

Rain and rainfall

Thunderstorms

Winds

Winter

Business aspects

Doing something about the weather: symposium. *Gas Age* 121:32-41+ F 6 '58

Hop on weather wagon for savings: National conference on applied meteorology, Oct. 28-29. *Elec World* 148:52 N 11 '57

Watch the weather when building. W. R. Chalker and A. E. Boyer. *il* *Pet Refiner* 37:133-6 Ap '58

Weather trends and their effect on the gas utility. D. Parson. *map* *Gas Age* 120:18-21 N 14 '57

WEATHER and aviation. See Meteorology, Aeronautic**WEATHER control**

Can we design world weather? *Product Eng* 29:23-4 Mr 24 '58

See also

Meteorological research

WEATHER forecasting

Applied meteorology at Pacific gas & electric co. F. J. Parsons, jr. *Gas Age* 121:32-4 F 6 '58

Future space vehicles promise long-range weather forecasts. *Machine Design* 30:26 Mr 6 '58

Weather probe begins: USAF weather reconnaissance system. *Electronics* 31:28 S 19 '58

See also

Radio meteorographs

WEATHER forecasts

Weather eye guides plant layout and design: Dow chemical co. *il* *Chem Eng* 65:64+ Ap 7 '58

See also

Radio broadcasting—Weather forecasts

WEATHER rooms. See Testing laboratories—Weather rooms**WEATHERING**

Deterioration of neoprene-coated nylon fabrics: minimum neoprene thickness necessary to protect nylon from weather sunlight. C. M. Brown. *Rubber Age* 84:91-8 O '58

Early detection of weathering damage in polyethylene. J. W. Tamblin and others. *bibliog* *Plastics Tech* 4:427-32+ My '58

Evaluation of carbon black dispersions in polyethylene to predict weatherability. R. M. Schuiken, jr. and others. *bibliog* *diags* *Mod Plastics* 35:125-8+ Ag '58

Influence of weathering prior to harvest on certain properties of cotton fibers. P. B. Marsh and others. *bibliog* (31 titles) *Textile Res J* 28:95-111 F '58

Phototenderization by anthraquinone 2,6-disulfonic acid of cotton duck before and after weathering. A. D. Baskin and A. M. Kaplan. *bibliog* *Textile Res J* 28:554-9 JI '58

WEATHERING (rocks)

Alteration of clay minerals in Illinoian till by weathering. J. B. Daboe and J. C. Tharlin. *bibliog* *Geol Soc Bul* 69:61-7 Ja '58

Argillation and direct bauxitization in terms of concentrations of hydrogen and metal cations at surface of hydrolyzing aluminum silicates. W. D. Keller. *bibliog* (26 titles) *il* *Am Assn Pet Geologists* Bul 42:233-45 F '58

Discussion. C. P. Gravenor and G. J. Govett. 42:2523-5; Reply. 2525-6 O '58

Mineralogical changes in weathered sedimentary ironstones. R. F. Youell. *Am Mineralogist* 43:774-6 JI '58

Reflectance of oxidized coals. D. Chandra. *bibliog* *il* *Econ Geol* 53:102-3 Ja '58

Slide rule for near-surface refraction problems. W. A. Knox. *diags* *Geophysics* 23:154-63 Ja '58

Weathering of granite and associated erosional features in Hong Kong. B. P. Ruxton and L. Berry. *bibliog* *maps* *diags* *Geol Soc Bul* 68:1263-91, pl 1 O '57

Weathering studies: a note on the conversion of phlogopite to septechlorite. R. Roy and F. A. Mumpton. *J Geol* 66:324-6, pl 1 My '58

WEATHERING of textiles. See Textile fabrics—Weathering**WEATHERSTRIPPING**

Weatherstripping for metal walls. *diags* *Arch Rec* 123:210-11+ Je '58

WEAVER, Robert Augustus

P.E.I. founders honored at 26th annual meeting. *Am Cer Soc Bul* 37:106 F 15 '58

WEAVERS knot. See Knots and splices**WEAVING**

How to prevent patterning in fancy fabrics. *Textile Ind* 122:129+ Mr '58

Ornamentation of apparel fabrics (cont). V. Lobl. *il* *Mod Textiles Mag* 39:38+ Ap '58

Preventing sloughed and kinky filling. *Textile Ind* 122:37-8 JI '58

Secondhands will find the trouble spots: conference on weaving defects. *Textile Ind* 122:109-11 S '58

Tests to improve weaving and cloth quality. N. L. Enrick. *diags* *Mod Textiles Mag* 38:40+ D '57

Weaving in 3-D. A. R. Campman and E. Koppelman. *il* *diags* *Textile Ind* 122:64-7 JI '58

You can transfer pick-and-pick fabrics to automatic box looms. *diags* *Textile Ind* 122:135 Mr '58

See also

Bobbins

Cotton weaving

Looms

Woolen and worsted weaving

WEDDING rings. See Rings (jewelry)**WEDGE welding. See Welding**

WEDGES

- Compressible elastic, perfectly plastic wedge. D. R. Bland and P. M. Naghdi. *diag J Ap Mech* 25:239-42 *Je '58*
 Plane stress solution of an elastic, perfectly plastic wedge. P. M. Naghdi. *diags J Ap Mech* 25:407-10 *S '58*
 17 wedge-action assemblies for temporary or semi-permanent assembly. F. Strasser. *diags Product Eng* 29:96-7 *Mr 17 '58*

WEEDS

- See also*
 Helium
 Water hyacinths

Control

- Australians stop plant growth in flumes. *il Eng N* 160:61 *Ap 10 '58*
 Chemical weed control in forest firelanes and pulpwood storage yards. *Tappl* 41:sup 130A-1A *Ag '58*
 Custom weed control gets the job done better and cheaper. D. Evans. *il Oil & Gas J* 56:144-5 *Ja 20 '58*
 Effect of certain herbicides on rate of nitrification and carbon dioxide evolution in soil. R. W. Teater and others. *bibliog J Agri & Food Chem* 6:214-16 *Mr '58*
 Herbicides and plant growth. *il J Agri & Food Chem* 6:336-74 *My '58*
 Herbicides and the soil. A. S. Newman and C. R. Downing. *J Agri & Food Chem* 6:352-3 *My '58*
 Planting and control of road verges; discussion. *Chem & Ind* p611-12 *My 24 '58*
 Weed control for roadside drainage. W. I. Boyd. *il Pub Works* 88:139 *D '57*

See also

- Chlorophenyl dimethylurea

WEIGHING

- Air circuitry powers automatic weighing. A. A. Fischer and R. Springer. *il diag Ap Hydraulics* 11:104-4 *My '58*
 Automatic weighing techniques for processing bulk materials. J. C. Williams, jr. *diags Automation* 5:34-40 *Jl '58*
 Handling; improved automatic weighing ups ferrochrome quality. *Iron Age* 182:201 *S 11 '58*
 Method for weighing pure alkali metals accurately. F. A. Lewis. *diag Chem & Ind* p 1504-5 *N 16 '57*
 Pneumatic weigh cells improve automatic weighing and blending. W. E. Milligan. *diags Automation* 5:94-5 *Mr '58*
 Portable dynamometers handle many weighing jobs. E. L. Lapp. *il Foundry* 85:242 *N '57*
 Surface tension correction for hydrostatic weighing. W. Primak. *R Sci Instr* 29:177-8 *F '58*
 System perfects batching by remote control; Remoco controlled batching system. *il Food Eng* 30:153 *Ap '58*
 Weighing method for measuring the induction period of marine and other oils. H. S. Olcott and E. Elms. *bibliog Am Oil Chem Soc J* 35:161-2 *Ap '58*

See also

- Balances
 Coal weighing
 Scales
 Steel ingots—Weighing
 Track scales

WEIGHING machines*See also*

- Scales

WEIGHT (physiology)

- Caloric equivalents of gained or lost weight. M. Wisniewsky. *bibliog Am J Clinical Nutrition* 6:542-6 *S '58*
 Group approach to weight control. H. J. Keneally, jr. *Am J Pub Health* 48:208-18 *F '58*
 Relation of saturated, medium- and long-chain triglycerides to growth, appetite, thirst and weight maintenance requirements. H. Kaunitz and others. *bibliog J Nutrition* 64:613-24 *Ap '58*

WEIGHTLESSNESS. See Gravitation**WEIGHTS and measures**

- Weight per gallon of finishing materials. I. Norman. *il Finishing* 34:52+ *Mr '58*

See also

- Conversion tables
 Metric system
 Scales
 Specific gravity
 Standards of length
 Weighing

WEIRS (dams)

- Discharge characteristics of rectangular thin-plate weirs. C. E. Kindsvater and R. W. Carter. *diags Am Soc C E Proc* 83 [HY 6 no 1453]:1-36 *bibliog(p34-6)* *D '57*; Discussion. 84 [HY 2 no 1616]:93-100 *Ap*; [HY 3 no 1690]:121-30 *Je*; [HY 6 no 1856]:39-41 *N '58*

WEIRS (measuring)

- Characteristics of flow over terminal weirs and sills. P. K. Kandaswamy and H. Rouse. *bibliog Am Soc C E Proc* 83 [HY 4 no 1345]:1-13 *Ag '57*; Discussion. 84 [HY 1 no 1558]:59-60 *F*; [HY 5 no 1832]:51-3 *O '58*; Reply. 84 [HY 5 no 1832]:53-4 *O '58*
 Flow through circular weirs. J. C. Stevens. *bibliog diag Am Soc C E Proc* 83 [HY 6 no 1455]:1-24 *D '57*; Discussion. 84 [HY 3 no 1690]:33-53 *Je '58*

- WEISSENBERG** photography. *See Radiography*
WEISSENBERG X ray goniometer. *See Goniometers*

WELDERS

- Who is a certified welder? W. R. Stevens. *il Welding Eng* 43:70+ *Je '58*

See also

- Women as welders

Salaries

- Wages for various craftsmen. N. L. Nelson. *Oil & Gas J* 55:86 *D 23 '57*

Testing

- Test booth qualifies weldors. *il Plant Eng* 12:118-19 *Jl '58*

WELDERS helmets. See Helmets, Welders**WELDING**

- Continuous-seam ultrasonic unit joins thin metal. *il Iron Age* 183:128 *Mr 6 '58*
 Cooling rates and peak temperatures in fusion welding. C. M. Adams, jr. *bibliog il Welding J* 37:sup210-15 *My '58*
 Development of welding for engineering fabrication. J. E. Humberstone. *il Welding J* 37:9-15 *Ja '58*
 Differential expansion diffusion couple welding device. D. K. Das. *il R Sci Instr* 29:70-1 *Ja '58*
 Elements of joint design for welding. K. H. Koopman. *bibliog diags Welding J* 37:579-88 *Je '58*
 Europe paces unit-body race; unitized welded construction. *il Welding Eng* 43:51 *Mr '58*
 Fundamentals of welding engineering. T. B. Jefferson. *il Welding Eng* 43:39-41 *Ag*; 44-6 *S '58* (to be cont)
 High-frequency vibrations weld metals in few seconds. J. B. Jones and F. R. Meyer. *Eng N* 160:70+ *My 15 '58*
 Joining problems aired; Western welding, brazing and heat treating conference, 1st. *Metal Prog* 74:83-6 *Jl '58*
 Metalworking. 1952. J. J. Chyle. *Am Mach* 101:144-5 *N 18 '57*
 New forge welding of aluminum and magnesium alloys. L. A. Cook and D. G. Shafer. *bibliog(44 titles)* *il Welding J* 37:348-58 *Ap '58*
 New frontier in the welding industry; western Europe. P. C. Hobart. *il Welding Eng* 43:64 *Ja '58*
 New ultrasonic welder takes on production job. *il Iron Age* 180:86-7 *N 28 '57*
 Now, infrared lamps preheat for welding. L. C. McWilliams. *il Power* 102:134 *Je '58*
 On the job; illustrations with text. Published in monthly numbers of *Welding engineer*
 Production man's guide to joining welded steel tubing; illustrated instructions. *Am Mach* 101:149-64 *S 9 '57*; Excerpts. *Product Eng* 29:G 12-15 *Mid-S '58*
 Successful welding for maintenance. R. M. Kolb. *diags Pet Refiner* 37:207-10 *My '58*
 Technique and application of wedge welding; abstract. W. Hoffmann. *Metal Prog* 73:152-4 *F '58*
 Ultrasonic soldering, brazing and welding. J. B. Jones and W. C. Potthoff. *il diag Product Eng* 28:G 14-16 *Mid-O '57*
 Ultrasonic welding. T. W. Black. *il diag Tool Eng* 39:111-13 *D '57*
 Ultrasonic welding; a new technique grows. J. B. Jones. *il diags Metal Prog* 73:68-72 *Ap '58*; Abstract. *Elec Eng* 77:279 *Mr '58*
 Ultrasonic welding makes rapid advances. *il diag Steel* 142:80-1 *Mr 31 '58*
 Welded spiral cases from the consulting engineers' and users' viewpoint; symposium. *il diags A S M E Trans* 80:1143-56; Discussion. 1156-9 *Jl '58*

WELDING—Continued

Welding clinic. Published in monthly numbers of Welding engineer
Welding conference, 8th, Czechoslovakia, Sept. 17-18. Welding J 37:72 Ja '58

See also

Airplanes—Welding operations
American welding society
Bridges—Welding operations
Electric welding
Electric welding, Arc
Hard facing
Oxyacetylene welding
Shipbuilding—Welding operations
Solder and soldering
also subdivision Welding under special subjects, e.g.
Aluminum
Cast iron
Copper
Magnesium
Metal foils
Molybdenum
Piping
Piping (power plants)
Rail joints
Steel
Steel, Stainless
Steel, Structural
Steel construction
Titanium

Bibliography

Current welding literature. Published in monthly numbers of Welding Journal

Cold welding

Eliminate the heat but obtain the weld; Coldweld process. R. H. Spiotta. il diags Mach 64:142-50 My '58

Failure

Brittle fracture in welded ships, an empirical approach from recent experience; discussion. Engineer 205:503-5 Ap 4 '58

Charpy brittle-fracture transitions by the lateral expansion-energy relationship. G. M. Orner. il Welding J 37:sup201-5 My '58

Cracking associated with porosity in titanium welds over 0.125 in. thick. R. P. Olsen and J. Gates. il Welding J 37:478-83 My '58

Dynamic measurement of stress associated with weld cracking. S. S. White and others. bibliog il diags Welding J 37:sup 185-92 Ap '58

Fabrication and service factors involved in failure of welded steam receivers. A. J. Babecki and P. P. Puzak. il diags Welding J 37:sup320-5 Jl '58

Fatigue failures in fatigue machines. W. H. Munse. il diag Welding J 37:sup54-6 F '58

Hull cracks on destroyers. W. M. M. Fowden, Jr. and H. Q. Mar. bibliog il diags Am Soc Naval Engr J 70:349-53 My '58

Lloyd's survey of brittle fracture. Engineering 185:497-8 Ap 18 '58

Stress corrosion cracking in copper alloy weldments. R. T. Phebus. bibliog il diags Am Soc Naval Engr J 70:543-9 Ag '58

Welding and cracking. diags Engineering 185:241 F 21 '58

Welding defects in high-strength steel won't slow Carquinez. il Eng N 161:42-4+ S 4 '58

Inspection

Magnetographic control of pipeline butt welds. A. S. Falkevich. il diags Gas 34: 121+ Ag '58

Patents

Abstracts of current patents. V. L. Oldham. comp. Published in monthly numbers of Welding Journal

Safety measures

Safety practices with Freon; repairing a refrigeration unit containing Freon-22. Welding Engr 43:50 Ag '58

See also

Helmets, Welders

Stresses

Coll stress relieves weld. il Steel 143:66 S 1 '58

Dynamic measurement of stress associated with weld cracking. S. S. White and others. bibliog il diags Welding J 37:sup 185-92 Ap '58

How to stress relieve pipe welds. il diags Power 101:142 N '57

On-the-spot stress relief; tank stress relieved on the welding fixture. W. C. O'Brien. il Am Mach 102:141 My 19 '58

Preheating; residual stresses, stress relieving. W. Spraragen. Welding J 37:sup21 Ja '58

Quantitative evaluation of residual-stress relief in pipe weldments. J. E. Cook and R. B. McCauley. Welding J 37:sup 179-84 Ap '58

Secondary stresses in welded offshore drilling structures. E. W. McMillin and L. B. Parker. diags Oil & Gas J 56:86-8+ Ja 13 '58

Stress relieving of stainless steels and the associated metallurgy. R. A. Huseby. bibliog il Welding J 37:sup304-15 Jl '58

Stresses in a pressure vessel with circumferential ring stiffeners. F. W. Catudal and R. W. Schneider. diags Welding J 36:sup550-2 D '57

Welding and stress relieving facilities. il Engineering 186:254 Ag 22 '58

Why's and how's of stress relieving. G. Scott. il Welding Engr 43:47-50 Ap '58

X-ray diffraction for residual stress measurements of restrained weldments. E. H. Kinelski and J. A. Berger. bibliog il diags Welding J 36:sup513-17 D '57

Study and teaching

Hobart opens new school; Hobart brothers technical school. il Welding Engr 43:68 Ag '58

Introduction to welding; a course for cadets; New York military academy. P. G. Poetto. il Welding Engr 43:48-9 Ag '58

Report on welding education in Europe. C. E. Jackson. Welding J 37:317 Ag '58

Solution to A. O. Smith's problem is a welding school. il Welding Engr 43:45-6 Ap '58

Technical institute in welding education. R. McCauley. Welding J 37:384-5 Ap '58

Tables, calculations, etc.

Selection of welding-rod chemical composition through mathematics. G. H. Bohn. Welding J 36:sup541-9 D '57

Testing

Charpy brittle-fracture transitions by the lateral expansion-energy relationship. G. M. Orner. il Welding J 37:sup201-5 My '58

Evaluation of the Kinzel test from its fracture characteristics. R. D. Stout and others. diags Welding J 37:sup 107-13 Mr '58

Fabricating a vacuum-test chamber; how to check welded seams for leaks. diag Welding Engr 43:62 My '58

Gamma radiographic control of welded transmission lines. C. C. Bates. bibliog il map diags Welding J 34:1081-96 N '56; Discussion. F. C. Parker. 36:1096-7 N '57

Immersed ultrasonic inspection of continuous welds. il Mach 64:142 Ja '58

Leak prevention through in-process leak detection; fluorescent penetrants and fluorescent additives. R. P. Turner. il Welding J 36:1167-71 D '57

What is a good weld? il Plant 17:49 Ja '58

X ray inspection

New pressure tank series features flued manways with welds X-rayed. R. Furrer. il Gas Age 121:19 Je 26 '58

100 percent weld X-ray possible on manways; railroad tank cars. il Welding Engr 43:56-7 Je '58

X-ray diffraction for residual stress measurements of restrained weldments. E. H. Kinelski and J. A. Berger. bibliog il diags Welding J 36:sup513-17 D '57

WELDING, Oxyacetylene. See Oxyacetylene welding

WELDING equipment

Automotive industries machine tool and production equipment; welding equipment section. il Automotive Ind 119:119-22 S 1 '58

WELDING equipment industry

\$950 million sales total for 1957 sets a new record. T. B. Jefferson. Welding Engr 43: 21-3 Mid-Je '58

WELDING machines

Gulton introduces automated, continuous seam, ultrasonic welder. il Am Mach 102: 166 Mr 10 '58

How an oil-hydraulic welder was changed to use water. H. H. Hansen. il diags Ap Hydraulics 11:76-8 F '58

WELDING machines—Continued

Industrial know-how handbook; welding. 11 Mill & Factory 62:MW30-1 My '58
Metals joined with ultrasonic welder. 11 Elec Eng 77:474 My '58
Production ultrasonic welder. 11 Electronic Ind 17:584+ S '58

Exhibitions

Is the trend toward smaller, localized welding shows? Santa Clara valley AWS show, '24, San Jose. 11 Welding Eng 43:50 Je '58

WELDING of glass. See Glass—Joining

WELDING of plastics. See Plastics—Joining

WELDING positioners. See Positioners, Welding

WELDING research

Aspects of welding; research work at Abington Hall. 11 diag Engineering 186:49-50 JI 11 '58

Behavior of welded corner connections; welded continuous frames and their components progress report no. 23. J. W. Fisher and others. bibliog 11 diags Welding J 37:sup216-32 My '58

Control of melting rate and metal transfer in gas-shielded metal-arc welding. A. Lesne-wich. bibliog diags Welding J 37:sup343-53 Ag '58

Current welding research problems. Welding J 37:sup379-84 Ag '58

Diffusion phenomena in a pressure welding. A. G. Guy and A. L. Eiss. bibliog 11 diag Welding J 36:sup473-80 N '57

Effect of specimen geometry on Charpy low-blow transition temperature. G. M. Orner and C. E. Hartbower. bibliog 11 Welding J 36:sup521-7 D '57

Energy absorption studies of welds in tempered martensitic metal. W. H. Bruckner and C. A. Robertson. 11 diags Welding J 37:sup97-100 Mr '58

High-speed dilatometer designed for welding research. E. C. Nelson. diags Welding J 37:sup57-61 F '58

Improving the fatigue life of spot welds. diags Welding J 37:sup315+ JI '58

Manufacture and metallurgy of flash-welded line pipe. M. A. Scheil and others. bibliog flow chart 11 diags Eng J 41:60-71 F; 59-71 Mr '58

Study of factors affecting the strength and ductility of weld metal. C. H. Wayman and E. D. Stout. bibliog 11 Welding J 37:sup 193-200 My '58

Theory for preheating of plain, low-carbon steels. E. P. Degarmo. bibliog 11 Welding J 37:sup93-6 Mr '58

Weldability of notch-ductile steels. L. Reeve. bibliog 11 diags Welding J 37:sup74-80 F '58

WELDING research association. British. See British welding research association

WELDING rods

Filler metal comparison charts; AWS A5.0-57; with list of manufacturers' names and addresses. Welding J 37:128-35 F '58

Filler metals for joining. O. T. Barnett. 11 Welding Eng 43:56+ Ja; 66-8 Mr; 40-5 My '58

Joining and fastening of materials; welding electrodes and rods. diags Materials in Design Eng 48:378-85 Mid-O '58

Selection of welding-rod chemical composition through mathematics. G. H. Bohn. Welding J 36:sup541-9 D '57

Welding rod drying equipment. 11 Engineer 204:609-10 O 25 '57

Welding rod trends. R. K. Lee. 11 Steel 141: 180+ D 9 '57

WELDING shops

Lady and the job shop. A. C. Miller. 11 Welding Eng 43:60-1 F '58

Equipment

Classified product section. Welding Eng 43: 29-32+ Mid-Je '58

WELDING society. American. See American welding society

WELL casing. See Petroleum—Well casing

WELL casing. Water. See Wells

WELL liners. See Petroleum—Well liners

WELL packers. See Petroleum—Well packers

WELL spacing. See Gas, Natural—Well spacing; Natural—Well spacing

WELL tubing. See Petroleum—Well tubing

WELLAND ship canal

Deepening the Welland canal. J. P. Smallwood. 11 Comp Air Mag 62:328-34 N '57

Welland canal. W. A. O'Neill. 11 maps Am Soc C E E Proc 84 IWW 2 no 15701:1-20 Mr '58

WELLPOINT system

Approach excavations protected by well-points and deepwells. Eng N 160:40 My 22 '58

Dewatering excavation, low sill structure, Old River, La. C. I. Mansur and R. L. Kaufman. plans diag Am Soc C E Proc 84 ISM 1 no 15581:1-32 F '58

Dewatering Miami's Biscayne aquifer. B. J. Prugh. 11 plan diag Am Soc C E Proc 83 ISM 3 no 12991:1-15 JI '57; Discussion. W. W. Pagon. 83 ISM 4 no 14301:33 N '57

Fire protection without water mains. Pub Works 89:132 Mr '58

WELLS, Edward C.

Elected president of the Institute of the aeronautical sciences for 1958. por Aeronautical Eng R 17:13 Ja '58

WELLS

At Hughes tool company, a 35mm camera surveys well casing. R. Sandall. 11 Ind Phot 7:18-19 Mr '58

Blended well-river waters end ice problem in plant. M. E. Rew. 11 diag Water Works Eng 111:934-6 O '58

Developments in the design and drilling of water wells. S. T. Guardino. diags Am Water Works Assn J 50:769-76 Je '58

Filtered mountain water augmented by battery of untreated upland wells. J. M. Hunter, jr. 11 Water Works Eng 111:750-1 Ag '58

How can we revive our sick wells? question with answers. diag Power 102:132-3 Ag '58

Hydraulic properties of perforated well casings. Y. Yaadia and V. H. Scott. bibliog 11 diags Am Soc C E Proc 84 IIR 1 no 15051:1-26 Ja '58

Modern well driller. O. C. Lewis. 11 map Water & Sewage Works 105:136-43 Ap '58

Photographic diagnosis, or what's wrong inside the well casing? 11 Plant Eng 12:108-10 S '58

Recharging ground water with reclaimed sewage effluent; Hyperion sewage treatment plant of Los Angeles. F. B. Laverty. 11 map diags Civil Eng 28:585-7 Ag '58; Abstract. Water & Sewage Works 104:560 D '57

Replacing dwindling well supply with water from Lake Michigan. R. A. Taylor. 11 plan Water Works Eng 111:218-19+ Mr '58

Spacing wells to control water temperatures and drawdown. W. P. Richards and E. B. Watts. 11 map Water Works Eng 111:464-6, cover My '58

Telemeter controls operate 23-well system. 11 Pub Works 88:111-12 N '57

Telestopped well supply for the clay city of the world; Brazil, Ind. G. P. Huntington. 11 diag Water Works Eng 111:928-32 O '58

Use of radial collector well in Skagit county, Wash. R. A. Yale. Am Water Works Assn J 50:125-8 Ja '58

Water and aggregate supply; reconstruction problems and procedures of one of Wyoming's largest road contracts. H. K. Glidden. 11 plans Roads & Sts 101:55-62 Ap '58

Water and sewage facilities for the Kansas turnpike. P. K. Sharp. 11 Am Water Works Assn J 50:19-24 Ja '58

Water well construction in formations characteristic of the Southwest. R. Moss, jr. 11 diags Am Water Works Assn J 50:777-88 Je '58

Water well runs wild; Onida, S.D. Eng N 160:33 Je 12 '58

Way to see into the earth; geophysical logging of water wells and test holes. J. W. Foster. 11 diags Pub Works 89:121-3+ Ap '58

What water shortage? Kinston, N.C. R. R. Robinson. 11 Pub Works 89:76-7 JI '58

See also

Gas, Natural—Well drilling

Petroleum—Well drilling

Water—Underground

WELSBACH, Carl Auer, baron von

Carl G. Mosander, Auer von Welsbach and the rare earth elements. J. H. S. Green. bibliog por Research 11:376-80 O '58

Sketch. E. S. Barr. por Am J Phys 26:115-16 F '58

WENHAM, Francis Herbert

F. H. Wenham, honorary member, 1924-1908, an appreciation of the first lecturer to the Aeronautical society; including a reprint of the first lecture, J. L. Pritchard, bibliog diags Roy Aeronautical Soc J 62:571-96 Ag '58

WEST

See also subdivision Western states under special subjects, e.g.
Chemical industries
Electric utilities
Electronics industry
Geology
Metal working industries
Mineral industries
Mines and mineral resources
Petroleum
Petroleum industry and trade
Steel industry and trade
Water laws and regulations
Water supply

WEST VIRGINIA

See also

Coal mines and mining—West Virginia
Gas, Natural—West Virginia
Petroleum industry and trade—West Virginia

WESTCHESTER county, New York

See also

Sewerage—Westchester county, New York

WESTERN association of state highway engineers

Annual meeting, Salt Lake City, June 3-5; abstracts of papers, Roads & Sts 101:84-5 Ag '58

WESTERN association of state highway officials

Annual meeting, 37th, Salt Lake City, Eng N 160:30 Je 12 '58

WESTERN electric company

Annual report shows 1957 progress, Bell Lab Rec 36:147 Ap '58
Graduate-study program for engineers, Mech Eng 79:1189 D '57

WESTERN petroleum refiners association

Annual meeting, 46th, San Antonio, March 24-26; abstracts of papers, Pet Eng 30:C49 My '58

WESTERN red cedar. See Cedar**WESTERN reserve university**

Forecast of an information center; A.S.M.'s research project, M. R. Hyslop, Metal Prog 74:108-10 Jl '58

WESTINGHOUSE electric corporation

You can count on growth; interview with Mark Winfield Cresap, jr., Elec World 149:46-7+ Ja 20 '58

WESTON, Edward

Obituary, N. Newhall, por Mod Phot 22:94 Ap '58

WET-back boiler chamber. See Boilers—Water chambers**WETTING**

Capillarmetric method for measurement of crude oil wetting tendencies, H. N. Dunning and R. T. Johansen, bibliog diag Pet Eng 30:B26-7 Jl '58

Porosity balance verifies water saturation determined from logs, M. P. Tixier, diags J Pet Tech 10:Trans 161-9 Jl '58

Reservoir rock wettability; its significance and evaluation, J. E. Bobek and others, bibliog diag J Pet Tech 10:Trans 155-60 Jl '58

Study of the oxidation of steel plate as related to wettability and adherence of porcelain enamel, H. P. Still, jr., bibliog il Am Cer Soc Bul 37:22-6 Ja 15 '58

Wetting angle determinations; a tool for evaluation of coating adhesion, S. Orchon, bibliog il diag Tappi 41:33-7 Ja '58

Wetting of Al₂O₃ by aluminum, R. D. Carnahan and others, il diags Am Cer Soc J 41:343-7 S 1 '58

WETTING agents

How does your desizing measure up? F. J. Di Carlo and others, bibliog il Textile Ind 122:98-100 My '58

Some of the more recent uses of chemicals in the manufacture of wood pulp; wetting agents used in pulp bleaching, W. Beazley, Paper Ind 39:777 D '57

Wetting agents for agricultural sprays, J. S. Stanley, bibliog Manuf Chem 29:334-6+, 385-8 Ag-S '58

See also

Surface active substances

WHALES

Whales, plankton and man, W. E. Pequegnat, diags Sci Am 198:84-6+ Ja '58

WHARVES

Granite wharf, warehouse, office buildings, c. 1823-1872, Boston, A. L. Huxtable, il Prog Arch 39:117-18 Je '58

See also

Docks

Costs

Marginal type wharf for Canada; unit prices, Eng N 161:70 Jl 24 '58

WHARVES, Concrete

New Belfast wharf, Engineering 185:625 My 16 '58

Use of concrete in marine environments, C. M. Wakeman and others, il Am Concrete Inst J 29:841-56 Bibliog (1984-6) Ap '58; Discussion, bibliog 30:1309-39; Reply, 1339-46 pt 2 D '58

WHEAT

Colorimetric determination of residual perchloroethylene in fumigated wheat, J. H. Brumbaugh and D. E. Stallard, bibliog J Agri & Food Chem 6:465-8 Je '58

Storage

Effect of wheat age on storage properties of flour, J. A. Shellenberger and others, bibliog il Food Tech 12:213-21 My '58

Testing

Cooking properties of some new durum wheat varieties, R. H. Harris and L. D. Sibbitt, bibliog il Food Tech 12:91-3 F '58

Objective tests of quality in wheat and wheat products, M. A. Barmore, bibliog flow diag diags Food Tech 12:291-6 Je '58

WHEATSTONE bridge

For the shop, an amplified Wheatstone bridge, R. L. Ives, il diags Radio-Electronics 29:51-3 Mr '58

Go no-go meter speeds resistance check; Wheatstone bridge circuit, D. S. Randall, il diags Electronics 31:66-7 F 28 '58

Precision, guarded resistance measuring facility, F. H. Wyeth and others, bibliog il diags Com & Electronics p471-5; Discussion, 475-6 S '58

Safety ohmmeter; Wheatstone bridge energized by selenium photocell, il Electronic & Radio Eng 35:33 Ja '58

WHEELABRATOR foundation

Wheelabrator's \$100,000 grant to Foundry educational foundation will promote graduate study, Foundry 86:142+ Ap '58

WHEELS

Choose the right contact wheel for better belt grinding, il Iron Age 182:64-6 Jl 3 '58

See also

Flywheels
Locomotives—Wheels
Sheaves
Vehicles—Wheels
Water wheels

WHEELS, Steel

Manufacture

Torch saves time in removing riser stubs; Griffin wheel co. il Foundry 86:164+ S '58

WHEY

Aeration of whey wastes; nitrogen supplementation and sludge oxidation, L. Jasevic and N. Porges, bibliog Sewage & Ind Wastes 30:555-61 Ap '58

Whey utilization, growth conditions for saccharomyces fragilis, A. E. Wasserman and others, bibliog Sewage & Ind Wastes 30:913-20 Jl '58

WHIRLING of shafts. See Shafts**WHISTLERS. See Radio signals****WHITE Alice. See Radio relay systems****WHITE liquor. See Paper and pulp mills—Waste****WHITE metals**

Rapid titrimetric analysis of white metals, L. J. Ottendorfer, Metallurgia 57:105-6 F '58

WHITEWARE. See Pottery**WHITNEY, Willis Rodney**

Obituary, por Elec Eng 77:270 Mr '58
Obituary, G. Suits, por Gen Elec R 61:6 Mr '58

WICHITA, Kansas

Water supply

\$41,825,000 bond issue sold to buy private utility and improve system, A. P. Learned, il map Water Works Eng 111:364-6+ Ap '58

WIEN bridge

Wide range sine wave generator: Wien bridge oscillator. L. H. Dülberger and H. T. Sterling. *Il diags Electronic Eng* 30:424-8 J1 '58
Wien-bridge analyzer. L. B. Hedge. *Il diags Radio-Electronics* 29:46-8 Ja '58

WIENER, Samuel G., Jr.

Work of S. G. Wiener, jr. *por Prog Arch* 39:116-19 F '58

WIGNER force

Final Fleck report on Windscale; problems of Wigner energy. *Engineer* 206:47-50 J1 11 '58

Wigner effect; factors in the design of graphite moderators for nuclear reactors. P. J. Grant. *Engineering* 135:120-1 Ja 24 '58

Wigner energy release for BEPC. *Nucleonics* 16:99 J1 '58

WILDLIFE management

Place of aging in wildlife management. M. M. Alexander. *bibliog diags Am Scientist* 46:123-37 Je '58

WILDLIFE sanctuaries

Lease ban is delayed; hearing on oil and gas leasing on wildlife lands. *Oil & Gas J* 55:74-5 D 16 '57

New wildlife rules get final approval despite strong oil-industry protest. *Oil & Gas J* 56:63 Ja 13 '58

WILEY, Harvey W. award

Jacob gets award. *Chem & Eng N* 36:107 O 27 '58

WILKINSON, Isaac

Wilkinson bi-centenary. *Engineer* 206:250 Ag 15 '58

WILKINSON, John

J. Wilkinson, ironmaster. J. H. S. Green. *bibliog por Research* 11:250-3 J1 '58

WILLIAMSBURG, Virginia

Approach to Williamsburg. *Il plans diag Arch Forum* 108:112-15 F '58

WILLIAMSON, John Thoburn

Obituary. *Can Min & Met Bul* 51:120 F '58

WILLISTON basin.

See Petroleum—North America

WILSON, George Robert Stewart

Obituary. *por Engineer* 205:467 Mr 28 '58

WILSON cloud chamber.

See Cloud chambers

WINCHES

Western Gear shows off new hydraulic winch. *Il Marine Eng/Log* 63:121 Ap '58

WIND erosion.

See Erosion

WIND power

Diesel standby makes wind-driven generator practical, cuts costs. *Il Diesel Power* 36:33 Je '58

Electrical energy from the wind; discussion. *Inst E E Proc* 104 pt A:399-400 O '57

Soviets to wind up their industry. *Product Eng* 29:24 Je 16 '58

Wind power: British machine in Algeria. *Eng J* 41:36 My '58

Wind power: British machine in Algeria. *Il Engineering* 185:297-8 Mr 7 '58

See also

Windmills**WIND pressure**

Design of multi-level guyed towers; wind loading. E. Cohen and H. Perrin. *bibliog il diags Am Soc C E Proc* 83 (ST 5 no 1355): 1-29 S '57; Discussion. H. S. Saffir. 84 (ST 2 no 1576):31-2 Mr '58; Reply. 84 (ST 7 no 1857):31-9 N '58

How do wind loads affect stability of pipe supports? answers. *Heating-Piping* 30:110+ My; 92+ Je '58

Wind forces on structures; symposium. *bibliog il map diags Am Soc C E Proc* 84 (ST 4 nos 1707-1712) J1 '58

Wind induced vibration of cylindrical structures. J. Penzien. *bibliog il Am Soc C E Proc* 83 (EM 1 no 1141):1-17 Ja '57; Discussion. 83 (EM 3 no 1311):9-40 J1; (EM 4 no 1415):5 O '57; Reply. 84 (EM 2 no 1619):3-4 Ap '58

Wind loading on roofs. J. D. Haddon. *Il diags Engineering* 184:559-61 N 1 '57

Wind loading tests on aluminum sign supports. J. F. O'Keefe and E. D. Gardner. *Il Civil Eng* 28:437-8 Je '58

See also

Anemometers**WIND tunnels**

Assessment of results obtained in transonic wind tunnels. F. O'Hara. *bibliog il diags Roy Aeronautical Soc J* 62:21-6; Discussion. 26-31 Ja '58

Asymmetric starting for hypersonic wind tunnels. R. H. Johnson. *Il diags J Aeronautical Soc* 55:341-2 My '58

Automatic setting of the flexible walls of a large wind tunnel. T. Barnes and C. R. Dhanam. *Il diags Inst E E Proc* 105 pt A: 218-23; Discussion. 229-32 Je '58

Avro's blow-down wind tunnel; high Reynold's number at Mach 3.5. *Il diags Engineering* 186:82-3 J1 18 '58

Blocking in the supersonic wind tunnel. B. Dayman, jr. *Il J Aeronautical Soc* 55:264-5 Ap '58

Blow-down tunnel; Woodford aerodrome of A. V. Roe and co. *Il Engineer* 206:64-5 J1 11 '58

Cam-actuated servo valves control wind tunnel area. J. McComber. *Il diag Ap Hydraulics* 11:120-3 Mr '58

Careful selection of diffuser materials improves wind tunnel performance; receives citation in Materials in design engineering competition. *Il Materials in Design Eng* 47:150-2 Ap '58

Conair builds wind tunnel. *Steel* 142:89 Ap 7 '58

Design and operational problems of the electrically-driven transonic wind tunnel. R. Hills. *diags Roy Aeronautical Soc J* 62:12-16; Discussion. 26-31 Ja '58

Design and operational problems of the transonic jet-driven wind tunnel. J. A. Kirk. *Il diags Roy Aeronautical Soc J* 62:6-11; Discussion. 26-31 Ja '58

Diffusion bonding below 1000° F; techniques and systems used to obtain joints between beryllium copper and Monel; fabrication of throat blocks for hypersonic wind tunnels. J. T. Niemann and others. *bibliog il diags Welding J* 37:sup337-42 Ag '58

Digitizing system for directly collecting digital test data. *diag Aviation Age* 29:80 My '58

Escape velocity exceeded in wind tunnel. *Il Elec Eng* 77:570 Je '58

G.E. builds Mach 28 wind tunnel. *Il Ind Lab* 9:73-4 O '58

Helium in wind tunnel. *Aviation Age* 29:71 Je '58

Helium tunnel tests high-speed models. *flow chart il Gen Elec* R 61:16-17 J1 '58

Helium wind tunnel. G. Suits and R. H. Johnson. *Franklin Inst J* 266:78-9 J1 '58

Hotshot tunnel for re-entry problems. *Franklin Inst J* 265:92-3 Ja '58

Jet engine test flight in ARDC propulsion wind tunnel. *Elec Eng* 77:467-8 My '58

Linkage measures bending stress. *Il diags Product Eng* 29:65 Je 9 '58

Mach-28 speeds produced in new helium wind tunnel. *Machine Design* 30:15 My 15 '58

New gear for wind tunnels. *Il diag Electronics* 31:15-16 Ag 8 '58

New pressure pickup saves wind tunnel test time; abstract. J. F. L. Aldrich and S. Tripoli. *diags S A E J* 66:107 Ag '58

Punched-tape positioning controls Britain's newest wind tunnel. D. Barlow. *Il diags Control Eng* 5:81-5 Ap '58

Some aspects of transonic tunnel operation in industry. F. E. Roe. *Il Roy Aeronautical Soc J* 62:16-20; Discussion. 26-31 Ja '58

Some experiments with a resonance tube in a supersonic wind tunnel. M. Sibulkin and T. Vrebalovich. *Il J Aero/Space Sci* 25:465-6 J1 '58

Speed control of large wind tunnels. L. S. Drake and others. *plan diags Inst E E Proc* 105 pt A:204-17; Discussion. 228-32 Je '58

Supersonic aerodynamic experiments using very high temperature air wind tunnels. D. E. Blossom, jr. *bibliog il diag Jet Propulsion* 28:603-9 S '58

Temperature transients in a supersonic blow-down wind tunnel. L. E. Leavy. *Roy Aeronautical Soc J* 62:598-9 Ag '58

Testing tomorrow's aircraft. R. K. Collins and W. J. Walker. *Il diags Westinghouse Eng* 17:189-93 N '57

Transonic wind tunnel testing techniques. H. F. Vessey. *bibliog il diags Roy Aeronautical Soc J* 62:1-6; Discussion. 26-31 Ja '58

Wind tunnel for aerodynamic testing of section models of suspension bridges. *Il diag Pub Roads* 30:61-2 Je '58

Wind tunnel for dynamic testing. *Mech Eng* 80:90-1 F '58

Wind-tunnel interference due to model supports. R. C. Fankhurst. *Aircraft Eng* 30:55 F '58

WIND tunnels—Continued

- Wind-tunnel photography aids aircraft design; James Forrestal research center. S. Hight. *J Ind Phot* 7:20-1+ Ap '58
- Wind tunnel without pumps or fans. *Product Eng* 29:19-20 Ag 25 '58
- Wind tunnels bolster America's new sky defense. M. D. Horton. *J Gen Elec R* 60:33-8 N '57

Power supply

- Analog computer study of wind-tunnel drive. K. G. Black and R. J. Noorda. *bibliog* *Jl diags Com & Electronics* 7:45-50 Ja '58
- Development of variable-speed high-power drives for large wind tunnels. P. McKearney and others. *bibliog* *Jl diags Inst E E Proc* 105 pt A:185-94; Discussion. 228-32 Je '58
- Project hotshot; inductance coil for wind tunnel. *il* (back cover) *diag Westinghouse Eng* 18:96 My '58
- Variable-frequency power installation for large wind-tunnel drives. P. McKearney and others. *flow diag* *il plan diags Inst E E Proc* 105 pt A:195-203; Discussion. 228-32 Je '58

WIND tunnels, Portable

- Mobile wind tunnels check air data sensors. L. Stambler. *il diags Space/Aeronautics* 30: 86-8+ O '58

WINDING

- What size package should we make? discussion. *Textile Ind* 122:137 Mr; 167 Je; 145 Ag '58

WINDING machines

- Constant care in winding reduces broken yarn ends; Carolina mills, inc. *il Textile World* 108:142-3 Mr '58
- D.C. winder drives using mercury-arc rectifier inverters. L. Abram and others. *bibliog* *il diags Inst E E Proc* 105 pt A:77-89; Discussion. 89-94; Reply. 94-6 Ap '58
- Gears compute coil-winding data. *il diag* *Product Eng* 29:68 Ap 14 '58
- Latest preparatory machines make better yarn packages. spooling, winding, and twisting. *il Textile World* 108:57-8 O '58
- Machine automatically winds synchro stator. *il Electronics* 31:90+ Mr 28 '58
- Merry-go-round feeds bobbins to coil winder. *il Electronics* 31:124+ Ap 11 '58
- Needles wind Russian cores. *diags Electronics* 31:14+ Jl '58
- New technique for winding subminiature coils for transformers. W. F. Kallensee. *il diags Electronic Ind* 17:70-1 Ja '58
- Phenolic resin, core, and bushing winding machines. W. R. Penrod and J. W. Couture. *il diags Tappi* 41:sup200A-3A Je '58
- Pinhole coil winder. *il Electronic Ind* 17:83 F '58
- Planning winder production; method used in a braiding plant. M. Havinoviski. *Textile Ind* 122:178-9+ O '58
- Seek patent on new pinhole coil winder. *il Ind Lab* 9:66 My '58
- Spartan mills likes its filling winders. *il Textile World* 108:58-9 S '58
- Troubled with bulging yarn packages? *Textile Ind* 122:147 My '58

See also

- Spooling machines

Tension control

- Coil winding machine has tension compensator. *il diag Elec Constr & Maint* 57:103-4 F '58
- Drive torque controlled by hydraulic speed-metering motor. *il diag Machine Design* 30: 155 Jl 24 '58
- Improved yarn tension control; Electrotense. *il Mod Textiles Mag* 39:44+ My '58
- Wider installation of high flexibility scores 20 per cent production increase; Garlock package co. *il Mill & Factory* 63:120 Jl '58

WINDMILLS

- Old-fashioned windmill generates electricity. E. Wailes. *il Engineering* 186:138 Ag 1 '58
- Windmill to-day. G. Gimpel. *il Engineering* 185:686-90 My 30 '58

WINDOW cleaning

- Mechanized window-washing platforms. W. Veit. *il Prog Arch* 39:159-61 Ap '58

WINDOW frames, Aluminum

- Aluminum window research report. *Light Metal Age* 16:35 Ap '58
- Surface treating and protectively coating aluminum windows. R. J. Anen. *il Ind Finishing* 34:28-30+ Ja '58
- Tungsten-arc welding raises output of aluminum window frames. *il Welding J* 37: 596 Je '58

WINDOW frames, Concrete

- Building faced with 4,000 precast window frames. T. Sparks. *il Concrete* 66:22-3 Ag '58

WINDOW sashes

- Flock, a sound deadener for window balance springs. T. P. Koebel. *il Ind Finishing* 34: 42-4+ Mr '58

WINDOWLESS construction

- Windowless buildings. *Safety Maint* 114:60-1 O '57
- Windowless courtyard house. *il plans diag Arch Rec* 123:116-21 Mid-My '58

WINDOWS

- Easily mounted aluminum oxide foils for windows and backings. U. Hauser and W. Kerler. *bibliog* *il diags R Sci Instr* 29: 380-2 My '58
- Explosion resisting window; patent. *diag* *Glass Ind* 38:563 O '57
- Heat gain through windows shaded by canvas awnings. N. Ozisik and L. F. Schutrum. *il diags Heating-Piping* 30:159-66 My '58
- Heat gain through windows shaded by metal awnings. N. Ozisik and L. F. Schutrum. *il diags Heating-Piping* 30:121-5 Jl '58
- Heat loss through wood windows; data sheet. *il Cond Heat & Ven* 55:81-2 My; 71-2 Je '58
- Industrial know-how handbook; doors, windows, partitions. *il diags Mill & Factory* 62:B 12-13 My '58
- Lets in light, shuts out sun's heat. *il Plant Eng* 12:118 Ag '58
- Make stained glass in two-step process; painting-lamination operation. *il Cer Ind* 71:78-9 Ag '58
- Mica window assembly for use at elevated bake-out temperatures. A. R. Strnad. *diags R Sci Instr* 29:533 Je '58
- Modern "stained glass" windows. *il Mod Plastics* 35:162 Jl '58
- Sealing a calcium fluoride window to glass. M. H. Greenblatt. *diag R Sci Instr* 29:738 Ag '58

See also

- Automobiles—Windows

- Skylights

- Windowless construction

Cleaning**See Window cleaning****WINDS**

- Confetti dropped by rocket gages high-altitude winds. *il Machine Design* 30:10+ Ap 17 '58
- Laboratory study of wind waves in shallow water. J. C. Hufft. *bibliog* *il diags Am Soc C E Proc* 84 [WW 4 no 1765]:1-20 S '58
- Lake Michigan dune development; wind-velocity profiles. J. S. Olson. *bibliog* *diags J Geol* 66:254-63. pl 1 My '58
- Some effects of wind and temperature gradients on the design of missile flight control systems. M. W. Lifson. *Aero/Space Eng* 17:49-52 S '58
- Wind forces on structures; nature of the wind. R. H. Sherlock. *bibliog* *map Am Soc C E Proc* 84 [ST 4 no 1708]:1-16 Jl '58

See also

- Hurricanes

- Wind pressure

- WINDSHIELDS.** See Airplanes—Windshields; Automobiles—Windshields

WINE

- Keys wines to U.S. tastes; Mogen David wine corp. J. V. Ziemba. *il Food Eng* 29: 89-91 N '57
- Resins make wines faster; used in both U.S. and Italy. *diag Food Eng* 30:98 Ag '58
- Sampling method for household surveys; panel recruitment for testing wines. F. Filippello and others. *Food Tech* 12:387-90 Ag '58
- Tape labels cut inventory costs; Mogen David wine corp. *il Food Eng* 30:81 Mr '58
- Winerles ok ion exchange. *Chem & Eng N* 36:42-3 My 5 '58

Transportation

- Wine tanker, railroad's new competitor. *il Food Eng* 29:51 N '57

WINERIES**Equipment**

- Whiteways cyder co. *il Chem & Ind* p799-800 Je 28 '58

WINKLER, Carl A.

- C. A. Winkler, CIC medalist for 1958. *por Chem & Eng N* 36:100 Je 16 '58

- Professor C. Winkler; Chemical Institute of Canada gold medalist. *por Can Chem Process* 42:47-8+ My '58

WINNIPEG, Manitoba

Water supply

Future developments in the Greater Winnipeg water district. N. S. Bubbis. Am Water Works Assn J 49:138-402 N '57

WINSTON-SALEM, North Carolina

Sanitary affairs

Refuse collection operations. R. W. Neilson. Pub Works 89:148 Je '58

WINTER, Thelma Frazier

T. Winter turns to enamels; development of an artist. Il Cer Ind 70:124-5 Ap '58

WINTER

Big big freeze sends output up, sets new peaks. Il Elec World 149:62-3 F 24 '58

Logistics of maintenance in the Far North; Westcoast transmission co. Il Plant Eng 12: 128-30+ My; 100-2 Je '58

Operation of Westcoast stations. J. Joseph. flow sheets Il map diag Gas 34:97-101 Je; 99-100+ Ji; 91-3 S '58

Weather trends and their effect on the gas utility. D. Parson. map Gas Age 120:18-21 N 14 '57

WINTER construction

Aeration permits water work at -30 F. Il Eng N 160:52 Ap 3 '58

Building below zero, Thule air base. Il diags Arch Forum 108:116-21 F '58

Novel anti-icing scheme kept bridge job going; aeration pipe prevents ice from forming. Il Roads & Sts 101:106 Ap '58

Winter construction. C. R. Crocker. bibliog Il Eng J 41:43-9 F '58

See also

Concrete construction in winter

WIPING paper

Maintenance tip for industrial machines. Il Safety Maint 114:9 J '58

Paper wipers are working on the railroad. Il Safety Maint 114:25+ N '57

Sanitary cleaners always at hand; Chicago, Milwaukee, St Paul and Pacific railroad. Il Safety Maint 115:33 Ap '58

WIRE

Government wire production information; proposals on renewal of the Trade agreements act. Wire & Wire Prod 33:187-9 F '58

Jigs for making crystallographic wire models. W. Hughes and C. A. Taylor. diags J Sci Instr 35:261-4 Ji '58

Merits of large coils. R. W. Davis. Wire & Wire Prod 33:370-4 Ag '58

New instrument for precise measurement of fine wire diameters. L. Walter. Il diags Wire & Wire Prod 33:543+ My '58

Rod packaging. J. S. Laver. Il diags Wire & Wire Prod 33:373-80 Ag '58

Steady-state longitudinal and radial temperature distributions in internally heated finite wires. G. W. Preckshot and J. W. Gorman. bibliog diags Ind & Eng Chem 50:837-48 My '58

Use of a constant current hot wire for the measurement of extreme temperatures. S. A. Hoenig. bibliog R Sci Instr 29:704-5 Ag '58

Wire lists simplify assembling. J. D. Wingfield. Il diags Electronics 31:112+ Je 6 '58

Manufacture

Chromates as applied to hot dip zinc coated wire. M. S. Siddall. Wire & Wire Prod 33:768-9+ Ji '58

Kingfield wire and rod works. Sheffield. Il Engineering 185:330 Je 27 '58

Large scale continuous annealing of coils with carbon restoration. J. D. Armour. Il diags Wire & Wire Prod 33:655-7+ Je '58

New development in wire welding. A. L. Morrill. Il Wire & Wire Prod 33:420+ Ap '58

New radiant tube furnaces for processing in galvanizing and patenting lines. W. D. Bawden. Il diags Wire & Wire Prod 33: 885-7+ Ag '58

New rod mill in Germany embodies many novel features. Il diags Wire & Wire Prod 33:644-7+ Je '58

See also

Wire drawing

Patents

Review of recent wire patents. Published in monthly numbers of Wire and wire products

Testing

Recording torsion testing machine for wire. H. C. Burnett. Il A S T M Bul 668-9 Ja '58

Torque values of spring wire. Il Mech Eng 80:101 Mr '58

WIRE, Aluminum

Anodized aluminum wire. F. Smits. Il Mod Metals 14:30+ Ar '58

Testing

Fatigue of EC aluminum wire. C. E. Burley. Wire & Wire Prod 33:185-6+ F '58

WIRE, Copper

Method of analyzing wire coatings on copper using standard metallographic practices. D. Myers, jr. Il Wire & Wire Prod 33:641-2+ Je '58

Manufacture

Development of aluminum-clad copper wire. C. L. Carlson. diags Wire & Wire Prod 33: 770-1+ Ji '58

Drawing and insulating wire in one tandem operation. J. E. Stoltz. Il diags Wire & Wire Prod 33:763-6+ Ji '58

Gage tightens control of wire coating process. Il Iron Age 180:132-3 N 21 '57

Heavy tinned copper wire for electrical conductors. L. A. Kent and J. F. Mahon. Wire & Wire Prod 33:775+ Ji '58

WIRE, Steel

Cast stainless stands up to pickle liquor. Il Steel 142:141 Ap 14 '58

Function of the American iron and steel institute product manuals. W. C. Clements. Wire & Wire Prod 33:877-8+ Ag '58

Nondestructive memory employing a domain oriented steel wire. U. F. Gianola. bibliog diags J Ap Phys 29:849-53 My '58

Manufacture

Effect of 475°C heat treatment on cold worked 18/8 stainless steel wire. S. Storchheim. Wire & Wire Prod 33:172-3+ F '58

Heat treatment and cleaning in wire production. E. Hague. Il Metallurgia 58:30-3 Ag '58

Patenting change makes wire better; John A. Roebling's sons corp. E. H. Hertzog. Steel 143:120 Ji 14 '58

Some problems of the manufacturers of low carbon steel wire products. G. L. Kilian. Wire & Wire Prod 33:871-2+ Ar '58

Steel wire production; Darwins' new Kingfield works. Il Metallurgia 58:37-8 Ji '58

WIRE, Tungsten

Preparation of fine wires for metallographic examination. G. L. Davis. diags J Sci Instr 35:149 Ap '58

Production of a square temperature wave in filaments operating at low temperatures. R. Klein and J. A. Simpson. bibliog diags R Sci Instr 29:770-3 S '58

Testing

Simple tensile testing machine for very fine wires. A. E. Widdowson. diags J Sci Instr 35:100-1 Mr '58

WIRE, Zirconium

Testing

Detecting invisible flaws in wire; eddy-current instrument. R. G. Myers and C. J. Renken. Il diags Electronics 31:72-3, cover S 26 '58

WIRE association

About the Wire association. R. E. Brown. Wire & Wire Prod 33:53+ Ja '58

Annual meeting, Chicago, Oct. 14-17; with abstracts of papers. Wire & Wire Prod 33: 60-64A+ Ja '58

Association's 1957 award selections made. Wire & Wire Prod 33:782 Ji '58

WIRE baskets

Wire baskets speed meter handling for Southern counties gas co. Il Gas 34:58-9 O '58

WIRE cloth

Fabrication; metal tank netting cuts maintenance. Il Iron Age 182:200-1 S 11 '58

How to select woven wire cloth. J. L. Everhart. Il Materials in Design Eng 47:110-13 Mr '58

Keeping out the insects; new loom for production of insect screening. Il Mill & Factory 61:246+ D '57

Reinforcement wire outlook. F. B. Brown. Wire & Wire Prod 33:81-2 Ja '58

Special machines weave, trim, treat, and paint fireplace screen fabric. Il Am Mach 102:124 F 24 '58

Wire fabric heats parts. Il Steel 143:85 S 22 '58

Woven wire conveyor belts as a processing tool. J. F. Reid. Chem Eng Prog 54:114+ Je '58

See also

Screens

WIRE cloth—Continued

Manufacture

- Application aspects of wire mesh welding. S. Fisher. *Il diags Wire & Wire Prod* 33: 757-62+ J1 '58
 Making welded wire fabrics. H. C. Cogan. *Il Wire & Wire Prod* 33:417+ Ap '58
 Metallurgical problems in the production of woven wire cloth; abstract. J. Waring. *Metal Prog* 74:154+ S '58

WIRE cutting machines

- Bench tools speed wire preparations; wire cutter and stripper. *Il Electronics* 31:106+ Je 20 '58

- Micrometers change cut and strip setup; Beckman instruments. *Il Electronics* 31:113-14 Ar 15 '58

WIRE drawing

- Calculation of drawing force and die pressure in wire drawing. P. W. Whitton. *bibliog Inst Metals J* 85:417-21 My '58
 Crystallography of cold drawn music wire. H. C. Burnett and C. J. Newton. *Il Wire & Wire Prod* 33:66+ Ja '58
 Cutting stock preparation costs; Cleveland cap screw co. *Il Steel* 141:192-3 D 9 '57
 Drawing and insulating wire in one tandem operation. J. F. Stoltz. *Il diags Wire & Wire Prod* 33:763-4 J1 '58
 Greater flexibility for wire drawing. M. A. Nye and R. C. Suttle. *Il diags Iron & Steel Eng* 34:98-106; Discussion. 106-9 D '57

WIRE drawing machines

Control

- Development of drives for wire drawing machines. M. A. Nye and R. C. Suttle. *Il diags Elec Manuf* 61:93-6+ Mr '58

Tables, calculations, etc.

- Graphical computations for wire drawing machine characteristics; nomograms. W. J. Owens, Jr. and C. C. Smith, Jr. *diags Wire & Wire Prod* 33:525-32 My '58

WIRE forming machines

- Combination cam controls stock feed of wire-forming machine. K. W. Nittel. *diags Mach* 64:114-15 Ar '58
 One-half revolution, one-half pause mechanism; clutch designed to operate two machine heads used for simultaneously twisting eyelets on wires. R. T. Stewart. *diags Mach* 64:147-8 Mr '58
 Wire rolling and forming toll applications. K. P. Lovdahl. *diags Wire & Wire Prod* 33:534-5 My '58

WIRE inserts. See Screw threads

WIRE products

- Aggressive product development for leadership. L. M. Elijah. *Wire & Wire Prod* 33:776-9+ J1 '58
 Forming and painting wire garment hangers. C. R. Brown. *Il Ind Finishing* 34:40-2+ J1 '58
 Line of wire products results from parent's exasperation; A. E. Peterson manufacturing co. *Il Wire & Wire Prod* 33:547+ My '58
 Manufacture of can keys. *Il Wire & Wire Prod* 33:666+ Je '58
 Preformed wire products. H. F. Stirn. *Il Wire & Wire Prod* 33:176-8+ F '58
 Some problems of the manufacturers of low carbon steel wire products. G. L. Killian. *Wire & Wire Prod* 33:871-2+ Ar '58

WIRE rope

- Design of belt and wire rope drives. G. H. Ryder. *Product Eng* 29:E 10-13 Mid-S '58
 High strength eyes in wire ropes. *Il Engineering* 185:327 Mr 14 '58
 Industrial know-how handbook; wire and fibre ropes. *Il diags Mill & Factory* 62:MH24 My '58
 It pays to know the ropes. G. I. Pine. *Il diags Power* 102:120-3 Je '58
 When do you change wire rope cables? J. E. Grimwood. *diags Iron & Steel Eng* 35:94-7 Je '58
 Wire rope mechanical splice. *Il Engineer* 205:296 F 21 '58
 Wire rope, with intercommunication and de-rail signal feature; SignalKore wire rope. J. Kerttu. *Il Min Cong J* 44:88 Ap '58

Lubrication

- What you should know about lubricating elevator ropes. P. C. Ziemke. *diags Power Eng* 61:98+ O; 88 N '57

Testing

- New British wire rope testing machine. L. Walter. *Il diags Wire & Wire Prod* 33:427-8+ Ap '58

WIRE stripping machines

- Bench tools speed wire preparations; wire cutter and stripper. *Il Electronics* 31:106+ Je 20 '58
 Micrometers change cut and strip setup; Beckman instruments. *Il Electronics* 31: 113-14 Ar 15 '58

WISCONSIN

See also

- Gas industry—Wisconsin
 Geology—Wisconsin
 Roads—Wisconsin
 Water supply—Wisconsin
 WISCONSIN stage. See Geology, Stratigraphic Pleistocene

WISE owl club. See Eye—Protection

WITNESSES

See also

- Expert evidence
 Physicians as witnesses

WITTIG reaction

- Diastereomer from the Wittig reaction. P. C. Wailes. *Chem & Ind* p 1086 Ag 16 '58
 Further aspects of the Wittig reaction in the steroid series; 20-dehydrocholesterol and 20-isocholesterol. F. Sondheimer and R. Mechnoulam. *bibliog Am Chem Soc J* 80:3087-90 Je 20 '58
 Marine sterols; 24-dehydrocholesterol; isolation from a barnacle and synthesis by the Wittig reaction. U. H. M. Fagerlund and D. R. Idler. *bibliog Am Chem Soc J* 79:6473-5 D 20 '57

- Wittig reaction with fluorenone; formation of cyclopropane derivatives. R. Mechnoulam and F. Sondheimer. *Am Chem Soc J* 80: 4386-8 Ag 20 '58

WOLF, Arthur

- Man in the news. *por Rubber Age* 82:871 F '58

WOLFF-KISHNER reaction

- Wolff-Kishner reduction of 2-acyl-1,3-indandiones. R. A. Braun and W. A. Mosher. *Am Chem Soc J* 80:4919-21 S 20 '58

WOLFF rearrangement. See Molecular rearrangements

WOLFRAMITE

- Comparison of some wolframite deposits in Egypt and France. S. Tosson. *Econ Geol* 52:972-4 D '57

Analysis

- Determination of calcium in wolframite ore. J. E. Mathers and others. *Anal Chem* 30: 1412-13 Ar '58

WOOLASTONITE

- Woolastonite spun into rock wool; Woolstone inc. V. C. Doctorman. *Il Rock Prod* 61:80-1 Ar '58

WOMAN

Occupations

- Women parking officers help public relations. *Il Pub Works* 89:121-2 Mr '58

WOMEN as chemists

- Do women use technical training? *Chem & Eng N* 36:70+ Je 23 '58
 Women in the chemical industry. E. M. Ullman. *Ind & Eng Chem* 50:sup 111A-12A+ U '58

WOMEN as engineers

- Reservoir of women engineers in US virtually untapped. *Product Eng* 29:19-20 S 8 '58
 Women engineers carve successful careers in scientific research. *Il Ind Lab* 9:16-17 J1 '58

WOMEN as mathematicians

- See rise of feminine mathematician. *Product Eng* 29:20 Ja 13 '58

WOMEN as scientists

- She's in a he industry. *I S A J* 5:172-3 S '58

WOMEN as welders

- Lady and the job shop. A. C. Miller. *Il Welding Eng* 43:60-1 F '58

WOMEN in the electronics industry

- Women spark plant shifts. L. C. Yaseen. *Electronics* 31:20 Ja 24 '58

WOOD, P. J.

- P. J. Wood to be awarded 14th Olney medal. *por Am Dyestuff Rep* 46:841-4 N 4 '57

WOOD, Robert L.

- Sketch. *por Pet Eng* 30:A8 Ja '58

WOOD

- Materials of construction for chemical engineering. A. J. Stamm and R. H. Baechler. *bibliog Ind & Eng Chem* 50:1496-8 pt 2 S '58

- Problem of refining wood quality objectives for tree improvement programs. M. N. May. *Tappi* 41:147-8 Ap '58
 Properties of materials; woods and composition board. *Materials in Design Eng* 48: 241 Mid-O '68

WOOD—Continued

Wood products of the future. Mech Eng 80: 91-2 Je '58

See also

Aspen
Avicennia marina
Birch
Brugulera parviflora
Cellulose
Douglas fir
Eucalyptus
Fir
Forests and forestry
Hard woods
Locust
Maple
Pine
Spruce
Timber
Wood pulp

Analysis

Ash in wood; proposed revision of TAPPI standard T15 m-54. Tappi 41:sup 127A JI '58
Chemical characterization of wood samples for the forest geneticist. B. L. Browning. Tappi 41:156-8 Ap '58
Wet combustion of organic materials. L. C. Pinion and R. H. Farmer, bibliog Chem & Ind p919-20 JI '58

Chemistry

Aqueous prehydrolysis of reeds in Romania; abstract. C. Simionescu and D. Feldman. Paper Ind 40:56 Ap '58
Cellulose breakdown in wood by fungi; abstract and discussion. J. G. Savory. Chem & Ind p433-4 Ap 12 '58
Chemical nature of the extractives from the bark of red fir. E. S. Becker and E. F. Kurth, bibliog Tappi 41:380-4 JI '58
Chemical studies on a glucomanan isolated from unbleached Mitscherlich pulp. E. Merler and L. E. Wise, bibliog(27 ref) diags Tappi 41:80-6 F '58
Chemistry of rosewood; isolation and identification of cotoin and pinocembrin. O. R. Gottlieb and W. B. Mors, bibliog Am Chem Soc J 80:2263-5 My '58
FAO technical panel on wood chemistry. Tappi 41:sup 136A-7A Ap '58
Nitration of wood and related substances with gaseous dinitrogen pentoxide. W. E. Elias and L. D. Hayward, bibliog Tappi 41:246-50 My '58
Silvichemicals finding markets; abstract. M. A. Brown. Il Chem & Eng N 36:31 Ap 21 '58
Studies on the nitration of eucalyptus rostrata and pinus halepensis. M. Lewin and J. A. Epstein, bibliog Tappi 41:240-5 My '58
Study of the developing tissues of aspenwood. R. F. Sultze, Jr. bibliog(34 ref) il diag Tappi 40:985-94 D '57
Study of tropical woods; chemical and fiber characteristics of some tropical woods. K. Lauer. Tappi 41:334-5 JI '58

See also

Terpenes

Decay

Causes of deterioration and protective methods for timber; progress report of a subcommittee of the committee on timber structures of the Structural div. Am Soc C E Proc 84 [ST 5 no 1760]:1-10 bibliog(p8-10) S '58
Cooling towers rotting? here's how to find out; microbiological examination. M. M. Peikovich. Il Plant Eng 12:102-4 F '58
Same. Air Cond Heat & Ven 55:94-5 Ap '58
Protection against decay and termites. H. J. Rosen. Prog Arch 39:127 Ja '58

Preservation

See Wood preservation

Staining

See Stains and staining (wood)

Storage

See Wood storage

WOOD, Compressed

Wood chip drying plant; Alrscrew co. and Jicwood, Ltd. il diag Engineer 205:252-3 F 14 '58

WOOD, Heat treatment of

Adding muscles to wood; heat treatment of wood. Il Mill & Factory 62:109 Je '58

WOOD, Laminated

Factory-grown timbers. R. J. Nemmers. Il Comp Air Mag 63:14-19 F '58

See also

Veneers and veneering
WOOD, Poisonous. See Poisonous wood
WOOD cams. See Cams, Wood

WOOD construction

Arches and catenaries carry rink roof; Yale's hockey rink, New Haven. il diags Eng N 160:30-1+ Ap 10 '58
Cable-suspended roof for Yale hockey rink. F. N. Severud. il plan diags Civil Eng 28: 666-9 S '58
Timber structures; symposium. il Eng N 161: 23 JI '58
Warped wood shell roofs quarter acre; Royal Wilton carpet co.'s rug factory. il Eng N 160:53 Mr 27 '58
Wood diaphragms; progress report of a subcommittee of the committee on timber structures of the Structural division Am Soc C E Proc 83 [ST 6 no 1433]:1-10 bibliog(p8-10) N '57; Discussion, 84 [ST 1 no 1522]:99-100 Ja; [ST 3 no 1656]:39-41 My '58
Wood giant; delta-shaped beam. il diag Arch Forum 109:114 JI '58

See also

Plywood
Termites
Wood—Decay

WOOD finishing

Kimball piano finish. W. J. Soto. il Ind Finishing 34:94-8 JI '58
Many things can cause finishing troubles. Ind Finishing 34:101-2 Ag '58
Packard Bell's high grade finish on tv cabinets. F. G. Simmons. il Ind Finishing 34: 66-8+ Mr '58
Putting the finish on tv and hi fi cabinets. C. S. Hudson. il Ind Finishing 34:62-4+ D '57
Table compares the principal finishes for wood. A. J. Kirsch. Il Materials in Design Eng 46:114-19 D '57
Wood filler line; keep it clean, safe. Ind Finishing 34:116+ Je '58

See also

Chairs—Painting and finishing
Furniture—Painting and finishing
Stains and staining (wood)

WOOD floors. See Floors, Wood**WOOD flour**

Woodflour-filled urea may compete with phenolic. Il Materials in Design Eng 47: 142-3 Je '58

WOOD grinders

Production of groundwood by high temperature grinding. F. T. Davis, bibliog diag Tappi 40:sup203A-5A D '57

WOOD handling

Gigantic log- and chip-handling system serves Abitibi's new Alpena mill. R. E. Place. il Paper Ind 40:362-3, 365 S '58

WOOD oil

See also

Tall oil

WOOD pipes. See Water pipes, Wood**WOOD preservation**

Causes of deterioration and protective methods for timber; progress report of a subcommittee of the committee on timber structures of the Structural div. Am Soc C E Proc 84 [ST 5 no 1760]:1-10 bibliog(p8-10) S '58
How to stop roof decay; Rock Hill printing and finishing co. J. A. Aycock. Il Textile Ind 122:134 Ap '58
More wood treated. Chem & Eng N 36:34+ S 8 '58
Organic coatings for pest control. J. Starr. il Metal Finishing 56:64-5 Je '58
Pentachlorophenol for wood preservation, 1939. Ind & Eng Chem 50:sup28A My '58
Plastic-coated wood won't rot. Il Arch Rec 124:232+ Ag '58
Protection against decay and termites. H. J. Rosen. Prog Arch 39:127 Ja '58
Specification for preservative treatment of timber; progress report of a subcommittee of the committee on timber structures of the Structural division. Am Soc C E Proc 84 [ST 3 no 1637]:1-7 My '58
Wood decay prevention with reinforced plastics. R. Mark. Il Plastics World 16:18-19 F '58

WOOD preservatives

Testing

Coal tar creosote studies. T. R. Sweeney and others. bibliog Corrosion 14:53-9 Je; 62-4 JI '58.

WOOD products

Chemicals from wood. C. Placek and others. bibliog flow sheets il Ind & Eng Chem 50: 570-6 Ap '58

Silvichemicals finding markets; abstract. M. A. Brown. Il Chem & Eng N 36:31 Ap 21 '58

WOOD products—Continued

Thermal insulation materials. R. J. Fabian. *Jl Materials in Design Eng* 47:131-3 Mr '58

See also

Cellulose
Terpenes

WOOD pulp

Acetylation of inclusion celluloses. C. A. Julander and I. Julander. bibliog (13 ref) Tappi 40:926-30 N '57

Charring chips with superheated steam; Brunswick pulp and paper co. T. L. Gilles and H. O. Hunter. diag Tappi 41:sup 161A-2A F '58

Chemigroundwood from small sized timber; abstract. W. Jensen and others. *Jl Paper Ind* 39:874 Ja '58

Chemical-mechanical (Bauerite) pulping process. L. Bauer. diags Paper Ind 40:94-6+ My '58

Differentiation between semi-chemical and chemigroundwood pulps; abstract. F. Neumann and K. Herb. *Jl Paper Ind* 39:802 D '57

Eastern corporation enters bleached kraft field. R. M. Ludwig. *Jl Paper Ind* 40:286-91+, cover A8 '58

Fiber length indices for mixed pulps. D. S. Davis. Paper Ind 40:301 Ag '58

Hardwood utilization by the chemigroundwood process; Great northern paper co. C. H. Reed. Paper Ind 40:168+ Je '58

High-yield, soluble-base sulphite pulping developments at the Pulp and paper research institute of Canada. J. S. Hart. bibliog Tappi 41:sup 218A-24A My '58

International mechanical pulping conference. 3d. Quebec, Sept. 10; program. Tappi 41:sup 124A+ Ap '58

Inventory of new processes and technology; pulp and paper. Chem Eng 65:134 My 6 '58

Neutral sulphite semichemical studies; fibration of pulps. W. J. Nolan. Tappi 41:41-8 Ja '58

Optimistic future for paper in the next decade; pulp, paper and board. A. K. Beggs. Paper Ind 40:89-90+ My '58

Production of groundwood by high temperature grinding. P. T. Davis. bibliog diag Tappi 40:sup 203A-5A D '57

Production of high purity cellulose. G. Machell. bibliog *Jl Ind Chem* 34:128-34 My '58

Pulp, paper and board in the United States. W. L. Neubrech and W. H. Pederson. Tappi 40:sup 12A+ N '57

Qualitative tree improvement for dissolving pulp production. F. E. Pollock. Tappi 41:148-50 Ap '58

Relationship between pulp quality and alkali concentration. C. B. Christiansen and G. W. Legg. bibliog diag Tappi 41:216-23 My '58

Semichemical pulps obtained by the use of ACL salt. P. Marpillero. diag Tappi 41:sup 224A-3A My '58

Some aspects of alkali refining of pulps. W. M. Corbett and J. Kidd. bibliog (38 ref) Tappi 41:137-44 Mr '58

Some of the more recent uses of chemicals in the manufacture of wood pulp. W. Beazley. Paper Ind 39:310+, 402, 492, 590, 777 J-O, D '57

Specific external surface of fines in groundwood; abstract. W. Brecht and D. Schanz. *Jl Paper Ind* 40:192 Je '58

Study of tropical woods; comparison of sulphate pulps from mixed tropical woods with industrial kraft pulps from southern hardwoods. K. Lauer. Tappi 41:339-42 JI '58

Study of tropical woods; high-yield pulps from tropical hardwoods. K. Lauer. Tappi 41:342-4 JI '58

Today's overcapacity and competition in the pulp and paper industry. D. L. Luke. Paper Ind 39:673-80 N '57

Trends in the pulp, paper and board industry; an economic review. W. L. Neubrech. Paper Ind 39:840+ Ja '58

See also

Paper
Paper and pulp mills

Analysis

Alpha, beta, and gamma-cellulose in pulp; revised tentative standard T 203 m-58. Tappi 41:sup 170A-1A Ap '58

Ash in pulp; proposed revision of TAPPI standard T211 m-54. Tappi 41:sup 126A-7A JI '58

Birchwood and birch pulp extractives; abstract. S. K. Kahila and A. Y. E. Rinne. Paper Ind 40:122 My '58

Chromatographic analysis of pulps utilizing direct densitometry. D. F. Dursio and J. C. Paulson. *Jl diag Anal Chem* 30:919-22 Mr '58

Pentosans in pulp; proposed revision of TAPPI standard T 223 m-48. diag Tappi 41:sup 172A-4A Ap '58

Moisture content

Swelling value test. W. A. Wier, jr. diags Tappi 41:sup 163A-4A My '58

Statistics

Pulp, paper, and board in the United States; economic review for 1957. W. H. Pederson. Tappi 41:sup 14A+ Je '58

Testing

Approach to uniform strength testing with a Valley beater. J. M. McEwen and E. G. Guetlin. Tappi 41:sup 134A-5A JI '58

Characterization of dissolving pulps by their solubility in alkaline sodium-zincate solutions. T. N. Kleinert. bibliog Tappi 41:134-6 Mr '58

Coarseness of pulp fibers by projection; new suggested method T 234 sm. Tappi 41:sup 175A-7A Je '58

Determining suitability of pulps for acetylation; abstract. G. L. Borgen. diags Paper Ind 40:251 JI '58

Diploid versus triploid aspen as pulpwood sources with reference to growth, chemical, physical, and pulping differences. J. P. van Buitenen and others. bibliog Tappi 41:170-5 Ap '58

Equilibrium weight of fibers immersed in water as a method for quick consistency determinations. D. A. Feigley, jr. bibliog *Jl Tappi* 41:sup 194A-5A Mr '58

Fiber length of pulp by projection; revision of suggested method T-232 sm-63. diags Tappi 41:sup 179A-81A Je '58

TAPPI reference pulp. Tappi 40:sup 178A-80A D '57; 41:sup 120A-4A JI '58

Zero-span breaking length of pulp; revision of suggested method of T 231 sm-53. diags Tappi 41:sup 171A-4A Je '58

Transportation

From Elk Falls to Antioch; a unique Crown-Zellerbach operation. A. W. J. Dyck. *Jl Paper Ind* 39:584-9+, 684-8+ O-N '57

California

Wood pulp and pulp mill potentialities in California. T. F. Arvola. Tappi 40:sup 158A-60A N '57

United States

Basic economic trends; wood pulp economy. J. L. Ritchie. Tappi 41:sup 44A Mr '58

WOOD research

Alkaline hydrolysis of representative hardwoods. L. A. Pearl and others. Tappi 41:255-6 My '58

Cooling towers rotting? here's how to find out; microbiological examination. M. M. Fetkovich. *Jl Plant Eng* 12:102+ F '58; Same. *Air Cond Heat & Ven* 55:94-5 Ap '58

WOOD sampling

Chemical characterization of wood samples for the forest geneticist. B. L. Browning. Tappi 41:156-8 Ap '58

Wood quality evaluation from increment cores. H. L. Mitchell. bibliog Tappi 41:150-6 Ap '58

WOOD storage

Nekooosa-Edwards; control program of insect loss in stored pulpwood. Tappi 41:sup 142A Ap '58

Storage and its effect on bark stain in sprucewood; abstract. J. Alhojarvi and A. A. Alm. Paper Ind 39:726 N '57

WOOD waste

Incinerator doubles as dutch oven to solve waste-wood disposal and air-pollution problems. F. W. Reiter. *Jl Power* 102:114-15 Ja '58

International paper co. volume determination method for sawmill waste and chips. G. A. Pesez. Tappi 40:sup 186A D '57

Purchased chip handling. S. A. Hartin. Tappi 41:sup 151A Mr '58

Wood chip drying plant; Airscrew co. and Jicwood, Ltd. *Jl diag Engineer* 205:262-3 F 14 '58

See also

Sawdust

WOODEN bridges. See Bridges, Wooden

WOODEN columns. See Columns, Wooden

WOODEN templates. See Templates

WOODLOTS

Scott-Skagit tree farm. *Tappi* 41:sup94A Ja '58
Tree farming. *Il J Agri & Food Chem* 6:650-1 S '58

WOODS, Kenneth B.

ASTM taps educator's talents. *pers Eng N* 161:62-3 Jl 3 '58

WOODWORKING machinery

Right-angle transfer device links woodworking machines. *Il Automation* 5:88 My '58
Robinson automatic production machine for railway sleepers. *Il Engineer* 205:628-9 Ap 25 '58
To make railway sleepers automatically. *Il Engineering* 185:678 My 30 '58
Turning large wooden spiral columns. *Il Engineer* 205:841-2 Je 6 '58
Wooden cams save money. *J. E. Hyler. Il Tool Eng* 40:117-18 Ja '58

Safety measures

Cause and cure of cracks in woodworking machine cutters. *Il Safety Maint* 114:17-18+ O '57

WOODWORKING shops**Equipment**

Wood chip drying plant; Aircscrew co. and Jicwood, Ltd. *Il diag Engineer* 205:252-3 F 14 '58

WOOL

Action of selenium dioxide on wool. *J. R. Holker and J. B. Speakman. J Ap Chem* 8:1-3 Ja '58
Bilateral structure and the swelling of mild pretreated wools (disulfide exchange). *G. Satlow and H. Kessler. Textile Res J* 28:359 Ap '58
Defective wool produced by sheep-dips. *C. Earland. Soc Dyers & Col J* 74:545 Jl '58
Melange or Vigoureux printing of wool: a method for increasing the rate of dye fixation. *J. Delmenico. bibliog (20 ref) Il Textile Res J* 27:899-912 N '57
Neutralisation of acid-treated wool by solutions of sodium carbonate. *R. P. Harker. bibliog Soc Dyers & Col J* 73:554-60 D '57

See also

Dyes and dyeing—Wool

Analysis

Amino acid composition of fractionated cortical cells from wool. *D. H. Simmonds and J. J. Bartolovich. bibliog Textile Res J* 28:378-81 My '58
Method for determining the sulfur content of wool. *M. V. Glynn. bibliog Textile Res J* 28:744-6 S '58
Polarographic estimation of sulphydryl and disulfide groups in wool. *J. P. E. Human. bibliog diags Textile Res J* 28:647-54 Ag '58
Quantitative analysis of wool-terylene blends. *E. V. Truter. Soc Dyers & Col J* 74:303-4 Ap '58

Quick way to determine vegetable content of wool. *H. R. Keller. Textile Ind* 122:71 Jl '58

Bleaching

See Bleaching—Wool

Blending

Mothproofing for blends of wool and man-made fibers; abstract. *D. J. Ott. Textile Ind* 122:74 Ja '58

Chemistry

Amino acid composition of keratins; comparison of the chemical composition of merino wools of differing crimp with that of other animal fibers. *D. H. Simmonds. bibliog Textile Res J* 28:314-17 Ap '58
Carbonizing investigations. *W. G. Crewther and T. A. Pressley. bibliog Textile Res J* 28:67-77 Ja '58
Carbonizing wool stock. an improved sulfuric acid method; abstract. *Am Dyestuff Rep* 47:59 Ja 27 '58
Chemical damage in wool. *W. H. Houff and others. bibliog Textile Res J* 27:961-5 D '57
Chemical modification of natural fibers. *E. M. Buras. jr. bibliog (23 ref) Am Dyestuff Rep* 46:929-30+ D 2 '57
Effect of sulphuric acid on wool. *R. L. Elliott and others. bibliog 2pls Soc Dyers & Col J* 74:173-80 Mr '58
Maximum alkali-combining capacity of wool. *J. R. McPhee. bibliog Textile Res J* 28:714-16 Ag '58

Molecular organization in keratins; the densities of physically and chemically modified wools. *R. D. B. Fraser and T. P. MacRae. bibliog diag Textile Res J* 27:867-72 N '57

Reaction of formaldehyde with wool and its effect on digestion by insects. *J. R. McPhee. bibliog Textile Res J* 28:303-14 Ap '58

Reaction of the cystine of wool with formaldehyde. *S. Blackburn. bibliog Soc Dyers & Col J* 73:506-7 N '57

Reactivity of the disulfide bonds of stretched wool fibers. *J. P. E. Human and H. Lindley. bibliog Textile Res J* 27:917 N '57

Relation between urea-bisulfite solubility and disulfide exchange in wool. *H. Kessler and H. Zahn. bibliog diags Textile Res J* 28:357-8 Ap '58

Color

Economic evaluation of color in domestic wool; abstract. *Textile Ind* 122:156 Je '58

Dacron mixtures

Quantitative analysis of wool-terylene blends. *E. V. Truter. Soc Dyers & Col J* 74:303-4 Ap '58

Damage

Carbonizing investigations; effect of water content on the action of sulfuric acid on wool; the significance of tests for damage. *W. G. Crewther and T. A. Pressley. bibliog Textile Res J* 28:73-7 Ja '58
Measurement of damage in wool materials; a modification of the Krais-Markert-Viertel (K.M.V.) test; the supercontraction of keratin fibres in solutions of caustic potash. *J. W. Bell and others. Soc Dyers & Col J* 74:85-8 F '58

Felting

Cause of wool felting. *O. K. Dobozy. Il diags Textile Res J* 28:717-19 Ag '58

Jute mixtures

Here's a new carpet yarn system; combined jute and worsted system. *P. Abbenheim. Il Textile Ind* 122:181-2+ O '58

Measurement

Cortical differentiation in Burmese wool. *W. R. Lang. Textile Res J* 28:90-1 Ja '58
Dynamometric measurements on wool fibers in tops; mean value of specific strength, work of stretching, and rate of loading. *J. Grignat and F. Monfort. Textile Res J* 28:719-20 Ag '58
Some historical evidence relative to the assessment of wool fiber diameter. *F. Bryant. bibliog Textile Res J* 28:88-9 Ja '58

Mothproofing

See Mothproofing preparations

Nylon mixtures

Evaluation of test methods for fulled fabrics. *Am Dyestuff Rep* 47:149-54 Mr 10 '58
Testing fulled fabrics; wool-nylon shirting; abstract. *Textile World* 108:117 Ja '58

Shrinkproofing

Polyamide-epoxide resin prevents wool shrinkage; abstract. *C. E. Fardo and R. A. O'Connell. Textile World* 108:123 Ja '58
Washable woolen goods; abstract. *G. Laxer. Franklin Inst J* 264:526 D '57

Testing

Carbonizing investigations. *W. G. Crewther and T. A. Pressley. bibliog Textile Res J* 28:67-77 Ja '58
Estimation of cortical components in various wools. *W. J. Thorsen. bibliog Il Textile Res J* 28:185-97 Mr '58
Ultraviolet irradiation and the wool fiber epicuticle. *A. R. Haly. Textile Res J* 28:182-3 F '58
Value-determining physical properties and characteristics of domestic wools; abstract. *Textile Ind* 122:156 Je '58

See also

Wool—Damage

WOOL carding

Operating card feeders; Bramwell automatic feeder. *W. J. Crofts. Il diags Textile Ind* 122:85-91 S '58
Tape condenser. *W. J. Crofts. Il diags Textile Ind* 122:86-9 Mr; 105-7 Ap; 101-6 My '58

WOOL fat

- Effects of feeding wool-fat sterols on the serum content of serum and liver of the rat. C. H. Duncan and others. *J Nutrition* 64:425-31 Mr '58
- Emulsifying properties of lanolin derivatives. L. I. Conrad. bibliog. *il Am Perfumer & Aromatics* 71:70-1+ Je '58
- Lanolin derivatives. I. Colbert. *Drug & Cosmetic Ind* 82:221-2 F '58
- Lanolin derivatives and modifications; supplementary review. G. Barnett. bibliog. *diag Drug & Cosmetic Ind* 83:292-5+ S '58
- New lanolin fraction for wax dispersions. D. Schoenholz and G. D. Burns. *Soap & Chem Spec* 34:92-3+ Ja '58
- Newer formulations containing lanolin specialties. M. G. deNavarre. *il Am Perfumer & Aromatics* 71:78+ Je '58
- Solubilization by means of lanolin derivatives. L. I. Conrad and others. *il Drug & Cosmetic Ind* 83:160-1+ Ag '58

WOOL research

- Microscopic studies on the structure and composition of keratin fibers. J. Menkart and A. B. Coe. bibliog. (31 ref) *il pl Textile Res J* 28:218-26 Mr '58
- Nature of permanent set in keratin fibers. M. Feughelman and others. bibliog. *Textile Res J* 28:655-9 Ag '58
- Penetration and supercontraction of keratin fibers by lithium bromide solutions. A. R. Haly and J. Griffith. bibliog. *il diag Textile Res J* 28:32-40 Ja '58
- Reactivity of keratin. R. C. Ghosh and others. bibliog. (26 titles) *Textile Res J* 28:112-19 F '58
- Variability of set in keratin fibers. T. Mitchell and M. Feughelman. bibliog. *diag Textile Res J* 28:453-6 Je '58
- Wool research projects sponsored by the Wool bureau; abstract. G. Laxer. *Am Dyestuff Rep* 47:194 Mr '58

WOOL scouring

- Scouring grease wools neutral. E. C. Hansen. *Am Dyestuff Rep* 47:155-6+ Mr '58; Abstracts. *Textile World* 108:130-1 F '58; *Textile Ind* 122:224 Ap '58
- Surface-active agents improve wool carbonizing. *Textile World* 108:91 S '58

WOOLEN and worsted fabrics

- See also*
- Felt**
- Creasing**
- Fate of thioglycollic acid in wool durably creased with thioglycollate. P. H. Springell. bibliog. *Textile Res J* 28:874-8 O '58
- Permanent pleats and knife-edge creases in wool garments. *Franklin Inst J* 265:80-1 Ja '58
- Defects**
- Fabric defects in wool finishing. R. G. Stoehr. *il Textile Ind* 122:71-4 Ja; 122-5 F '58
- Fulling**
- Evaluation of test methods for fulled fabrics. *Am Dyestuff Rep* 47:149-54 Mr '58
- Laboratory fulling mill flexible and accurate; LaFleur machine. *il Textile Ind* 122:98 Je '58
- Mixtures**
- Scouring of blended worsteds containing polyester fibre. F. F. Elsworth and R. S. Hartley. *Soc Dyers & Col J* 73:507-8 N '57

Protection

- See also*
- Mothproofing preparations

Shrinkage*See Wool—Shrinkproofing***Testing**

- Evaluation of test methods for fulled fabrics. *Am Dyestuff Rep* 47:149-54 Mr '58
- Structural compactness of woven wool fabrics and their behavior in modern washing machines. H. Bogaty and others. bibliog. *Textile Res J* 28:733-7 S '58
- Testing fulled fabrics; wool-nylon shirting; abstract. *Textile World* 108:117 Ja '58

WOOLEN and worsted finishing

- Dyeing and finishing wool-synthetic blends; wool/terylene (Dacron) Dominion dyeing & finishing co. *il Textile Ind* 122:174-6+ O '58
- Fabric defects in wool finishing. R. G. Stoehr. *il Textile Ind* 122:71-4 Ja; 122-5 F '58

- How Lebanon finishes worsted outerwear. *il Textile World* 108:74-5 J1 '58
- How Springfield Woolen Mills finishes its fabrics. *il Textile World* 108:104-5 Ja '58
- Si-Ro-Set process; wool garments. *Am Dyestuff Rep* 47:169 Mr '58

*See also***Mothproofing preparations**

- WOOLEN and worsted machinery**
- Laboratory fulling mill flexible and accurate; LaFleur machine. *il Textile Ind* 122:98 Je '58
- New mill combines worsted and cotton machinery; Rhyne-Houser mfg. co. *il Textile World* 108:78-9 Je '58
- WOOLEN and worsted manufacture**
- Fact file; wool. *Textile World* 108:23-8 Mid-J1 '58

See also

- Blankets—Manufacture
- Wool carding
- Wool scouring

WOOLEN and worsted mills

- Hard, rewarding climb of Ovidas Joseph Caron; founder of Caron spinning co. J. Campbell. *Mod Textiles Mag* 39:27-8+ Ag '58

See also

- Amerotron corporation
- Carpet factories

Equipment

- Glass fiber carbonizing tank; Hayward-Schuster woolen mills. *il diag Textile Ind* 122:127+ My '58
- Woolen and worsted mills improve processes. *il Textile World* 108:95-6 F '58
- See also*
- Woolen and worsted machinery

Maintenance and repair

- National spinning co. keeps worsted spinning up to date. *il Textile World* 108:64-5+ S '58

Management

- Photographic work sampling, a new cost-control technique; Appleton woolen mills. R. L. Barlament. *il Textile World* 108:52-3 S '58

Quality control

- How binomial probability solved five wool problems; Argonne worsted co. A. J. Gagnon, jr. *Textile World* 108:72-3+ Ap '58

WOOLEN and worsted spinning

- Fancy reduces off-weight woolen roving. *Textile Ind* 122:131+ Mr '58
- How Woonsocket spinning co. spins luxury fibers. *il Textile World* 108:56-7 Ag '58
- Modernization drastically changes woolen and worsted spinning. *il Textile World* 108:67-9 O '58
- National spinning co. keeps worsted spinning up to date. *il Textile World* 108:64-5+ S '58
- Portland Woolen Mills switches to centralized lubrication; wool spinning frames. C. F. Wagner. *il Textile World* 108:95+ My '58
- Quickly spot ends-down. *il diag Textile Ind* 122:75-6 J1 '58
- Standard drafts for wool mills; panel discussion. *Textile Ind* 122:93-4 Ja '58
- What is good roving. Mr Wool Carder? *Textile Ind* 122:78 Ja '58

WOOLEN and worsted weaving

- Follow these pointers to weave woolen tweeds. E. P. Schremp. *il Textile World* 108:96+ Mr '58
- Special care is needed to weave tropical worsteds. E. P. Schremp. *il Textile World* 108:90-1+ Ja '58
- WOOLEN and worsted yarn**
- Are we using the wrong knot? W. Wegener and J. Schneider. *diag Textile Ind* 122:127-8 Ap '58
- Between-bobbin variations cause most yarn-number variations; abstract. G. M. Bornet. *Textile World* 108:50-1+ Ap '58
- Here's a new carpet yarn system; combined jute and worsted system. P. Abbenheim. *il Textile Ind* 122:181-2+ O '58

Testing

- Mill test procedures for better woolen system yarns. N. L. Enrick. *Mod Textiles Mag* 39:34+ F '58

WOOLLARD, Frank George

- Obituary. *por Engineer* 205:4 Ja '58

WORK

Measuring human effort. L. Brouha. bibliog il
Mech Eng 80:81-3 Je '58

WORK clothes

Color-coded work shirts. il Safety Maint 116:
18 J1 '58

WORK function

Gibbs potentials as work functions. A. J.
deBethune. bibliog Ind & Eng Chem 50:
123-30 Ja '58

Work function and sorption properties of
silicon crystals. J. A. Dillon, Jr. and H. E.
Farnsworth. bibliog il diags J Ap Phys
29:1195-202 Ag '58

WORK hardening. See Hardening**WORK measurement. See Time study****WORK sampling**

Photographic work sampling, a new cost-
control technique; Appleton woolen mills.
R. L. Barlament. il Textile World 108:52-3
S '58

Work sampling, an aid to cost control; ab-
stract. W. L. Breese. S A E J 66:107 My '58

WORK simplification. See Efficiency, Industrial**WORK study. See Operations research****WORK tables**

Lazy-susan worktables cut assembly costs.
B. C. Brosheer. il Am Mach 102:96 J1 14 '58

WORKMEN'S compensation

Functions of industrial relations departments
pertaining to workmen's compensation;
panel discussion. A M A Archives Ind Health
17:457-84 My '58

Heart disease and workmen's compensation.
S. S. Pinto; J. D. Edwards. bibliog A M A
Archives Ind Health 17:437-45 My '58

Legal aspects of employment of impaired
workers. W. J. Lawrence. bibliog (28 ref)
Ind Med 26:511-15 N '57

Review of legislative developments in work-
men's compensation in 1957. A. Kalmykow.
A M A Archives Ind Health 17:430-6 My '58

Role of interim legislative study commissions.
T. C. Waters. A M A Archives Ind Health
17:453-6 My '58

What's the law? H. M. Grosman, ed. Pub-
lished in monthly numbers of Safety main-
tenance

WORKMENS compensation insurance. See Insurance, Workmens compensation**WORLD bank. See International bank for re-construction and development****WORLD health organization**

Manpower problem in health work; ten years
of WHO training activities. M. G. Candau.
Am J Pub Health 48:555-60 My '58

Ten years of international health progress;
editorial. Am J Pub Health 48:827-3 My '58

WHO for water fluoridation; editorial. Am
J Pub Health 48:81-2 Ja '58

WORLD metallurgical congress

Congress, 2d, and National metal congress,
39th, Chicago, Nov. 2-8. Automotive Ind
117:65+ N 15 '57

Congress, 2d, and National metal congress,
39th, Chicago, Nov. 2-8; program. Iron
Age 180:252-3+ O 24 '57; Metal Prog 72:
66-90 O '57; Steel 141:195+ O 28 '57

Congress, 2d; Chicago, Nov. 2-8. Research
11:36-7 Ja '58

WORLD power conference

Conference, Montreal, Sept. 7-11; abstracts of
papers. Elec World 150:54-7 S 29 '58; Engi-
neer 206:486-7 S 26 '58; Eng N 161:21-2 S
18 '58; Combustion 30:57-62 O '58

WORLD war, 1939-1945**Campaigns and battles**

Use of geology in planning the Normandy in-
vasion. C. T. Snyder. Geol Soc Bul 68:1565
N '57

WORM gearing. See Gearing, Worm**WORMS**

See also
Nematodes

WORMS, Intestinal and parasitic

Filariasis. F. Hawking. il Sci Am 199:94-101
bibliog (p 126) J1 '58

See also
Tapeworms

WOUNDS

See also
Burns and scalds

WRAPPING machines

High-speed metal crimping with plastic rol-
lers. il Machine Design 29:117 N 28 '57

WRAPPING materials

See also

Aluminum foil
Paper board, Corrugated
Plastic films

WRAPPING paper

Kraft use permits gas welding in field. diags
Gas Age 122:18 J1 24 '58

WRECKING

Demolition by dynamite. il Arch Forum 108:
136-7 Ad '58

Safety measures

Steel scaffolds demolish accidents in demoli-
tion work. il Safety Maint 116:21+ Mr '58

WRENCHES

Closure of high pressure vessels; a hydraulic
high-torque torque wrench. E. Whalley and
others. diags J Sci Instr 35:113-14 Mr '58

Make these wrenches for the twister fixer.
diags Textile Ind 122:131 Mr '58

Time-saving chuck wrench. B. Sullivan. diags
Mach 64:200 D '57

WRIGHT, Frank Lloyd

Carver on the upgrade. pers Eng N 159:108+,
cover D 5 '57

F. L. Wright designs for Baghdad; Grand
opera and civic auditorium. Arch Forum
108:89-101 My '58

F. L. Wright, master of architectural space.
F. Blake. il plan diags Arch Forum 109:
120-5+ S '58

Selection of current work. por Arch Rec 123:
167-90 My '58

A testament. F. L. Wright. review, by C. W.
Moore. Arch Rec 123:55+ F '58

Wright designs an elementary school teach-
ing laboratory for Wichita university. il
Arch Forum 109:9 J1 '58

WRIGHT, Leslie Austin

Tribute. C. M. Anson. por Eng J 41:88-9 Je
'58

WRIGHT brothers

Wright brothers accomplishments to be com-
memorated in New York university Hall of
fame. Mech Eng 80:124 Ag '58

WROUGHT iron

Corrosion rate of wrought iron. Product Eng
29:35 Mid-S '58

Iron-silicate slag network helps wrought iron
resist corrosion; abstract. E. P. Best. bib-
liog il Corrosion 14:118+ F '58

New wrought iron developed by A. M.
Byers co. il Iron & Steel Eng 35:157 Mr '58

Properties of materials; ingot and wrought
irons. Materials in Design Eng 48:37-41 Mid-
O '58

Wrought iron more resistant to corrosion.
il Eng N 160:59 Mr 27 '58

WURTZ reaction

Base-catalyzed hydrocarbon cleavage reac-
tions; a novel Wurtz-type reaction. H.
Pines and L. Schaap. bibliog Am Chem Soc
J 80:4378-81 Ag 20 '58

Studies on the mechanism of the Wurtz
reaction; the configurations of 2-bromo-
octane, 3-methylnonane and 7,8-dimethyl-
tetradecane. E. Ledgoff and others. bibliog
Am Chem Soc J 80:822-5 F 5 '58

WYOMING

See also subdivision Wyoming under spe-
cial subjects, e.g.

Coal mines and mining
Gas, Natural

Geology

Paleontology

Petroleum

Petroleum industry and trade

Petroleum pipe lines

Roads

Uranium mines and mining

WYOMING mining association

Annual meeting, Casper, April 17-19. Eng &
Min J 159:128 My '58

X

X RAY apparatus

Bias systems for resonance transformer mil-
liam-volt electron beam generators. W. F.
Westendorp. bibliog il diags Com & Elec-
tronics 7:51-5 Ja '58

Portable X-ray equipment; Marconi instru-
ments Ltd. il Engineering 185:422 Ap 4 '58

PDQ with a PXQ; Applied research labs '58
unit makes X-ray fluorescence com-
petitive with emission spectroscopy. il Chem
& Eng N 36:45 Mr 24 '58

X RAY apparatus—Continued

- Simple hot-stage for the General Electric XRD-5 X-ray unit. M. M. Markowitz and others. *R Sci Instr* 29:248 Mr '58
- Solid-state panel amplifiers X-rays; contains photoconductive and electroluminescent phosphor materials. B. Kazan. *il diags Electronics* 31:84-7 S 12 '58
- Spring-loaded segment gear provides pause in gear train. R. T. Stewart. *diags Mach* 64:115 Ag '58
- Thin-screen X-ray amplifier for medical use. B. Kazan. *Franklin Inst J* 264:524-5 D '57
- X-ray absorption microanalysis with fine-focus tubes. J. V. P. Long. *bibliog diags J Sci Instr* 35:323-9 S '58
- X-ray collimator for single-crystal goniometers. E. N. Maslen. *il diag J Sci Instr* 35:110-11 Mr '58
- X-ray control boosts foil-mill yield. *Control Eng* 5:48 Ja '58
- X-ray viewer demonstrated at medical meeting; EXICON. J. Gershon-Cohen. *Franklin Inst J* 265:96 F '58; Same cond. *Elec Eng* 77:371 Ap '58
- X RAY cameras**
- Double reflection X-ray camera. B. S. Fraenkel. *il R Sci Instr* 29:726-7 Ag '58
- Identification of sodium phosphates with an X-ray focusing camera. D. E. C. Corbridge and F. R. Tromans. *bibliog il diags Anal Chem* 30:1101-10 Je '58
- X RAY microscope**
- Study of thorium and uranium minerals by X-ray microscopy. S. Yamaguchi. *il Min Eng* 10:Trans 689-90 Je '58
- X RAY photography.** See Radiography
- X RAY spectrometers.** See Spectrometers, X ray
- X RAY spectrum.** See Spectrum, X ray
- X RAY studies.** See Crystallography—X ray studies
- X RAY tubes**
- Roof-top-target tubes pulse X-rays. E. F. Weller. *diags Electronics* 31:138-9 Mr 14 '58
- X RAYS**
- Beta-excited X-ray sources for scintillation-spectrometry calibration. J. G. Kereiakes and others. *bibliog Nucleonics* 16:80-2 Ja '58
- Cavity ionization as a function of wall material. F. H. Attix and others. *bibliog diags J Res Nat Bur Stand* 60:235-43 Mr '58
- Effect of X-ray and β -irradiation on $\alpha, \beta, \gamma, \delta$ -tetraphenylporphine; sirupy phosphoric acid, concentrated sulfuric acid and 49 per cent sulfuric acid as solvents. A. Szutka and others. *bibliog Am Chem Soc J* 80:3016-19 Je 20 '58
- Response of a large sodium-iodide detector to high-energy X-rays. J. H. Hubbell. *bibliog diag R Sci Instr* 29:65-8 Ja '58
- See also
Crystallography—X ray studies
Radiography

Absorption

- Apparatus for precision flash radiography of shock and detonation waves in gases. H. T. Knight and D. Venable. *bibliog il diags R Sci Instr* 29:92-8 F '58
- Determination of X-ray absorption coefficients of inhomogeneous materials. S. Ergun and V. H. Tiensuu. *diags J Ap Phys* 29:946-9 Je '58
- New approach to the measurement of coating thickness by fluorescent X-ray absorption. F. A. Achey and E. J. Serfass. *bibliog Electrochem Soc J* 105:204-5 Ap '58
- Review of fundamental developments in analysis. X-ray absorption and emission. H. A. Liebhafsky and E. H. Winslow. *Anal Chem* 30:580-9 *bibliog*(586-9) pt 2 Ap '58
- Temperature determination in flames by X-ray absorption using a radioactive source. G. J. Mullaney. *bibliog il diags R Sci Instr* 29:87-91 F '58
- X-ray absorption microanalysis with fine-focus tubes. J. V. P. Long. *bibliog diags J Sci Instr* 35:323-9 S '58

Diffraction

- Curing process in phenolic resin; X-ray diffraction analysis. R. A. Spurr and others. *Ind & Eng Chem* 49:1833-9 N '57
- Determination of residual stresses in titanium carbide base cermets by high-temperature X-ray diffraction. H. W. Newkirk, jr. and H. H. Sisler. *bibliog diags Am Cer Soc J* 41:93-103 Mr 1 '58
- Film thickness determination from substrate X-ray reflections. D. T. Keating and O. F. Kammerer. *il R Sci Instr* 29:34-6 Ja '58

- Further magnetic and X-ray diffraction studies on iron-rich iron-aluminum alloys. A. Taylor and R. M. Jones. *bibliog J Ap Phys* 29:322-3 Mr '58
- High-temperature measurements at the National bureau of standards; measuring, generating high temperatures and determining high temperature properties of materials. *Glass Ind* 39:509 S '58
- Identification of minerals associated with asbestos by X-ray diffraction patterns. M. S. Badollet and J. P. McGourty. *il Can Min & Met Bul* 51:335-40 Je '58
- Improved X-ray method for determining cation distribution in ferrites. L. P. Skolnick and others. *bibliog J Ap Phys* 29:198-203 F '58
- Integrating sample rotator for X-ray diffraction. B. R. Banerjee. *il R Sci Instr* 29:438 Mr '58
- Lattice parameter determination from broad diffraction lines. F. R. Brotzen and E. L. Harmon, jr. *bibliog J Sci Instr* 34:247-8 Je '57; Discussion. E. R. Pike. 35:34-5 Ja '58
- Low-temperature camera for X-ray diffractometer. L. K. Jetter and others. *bibliog diags R Sci Instr* 28:1087-8 D '57
- Method of preparing and filling plastic tubes for specimens for X-ray powder photographs. W. E. Armstrong and R. J. Davis. *bibliog J Sci Instr* 35:36-7 Ja '58
- Point-focusing two-crystal X-ray monochromator for X-ray diffraction. T. C. Furnas, jr. *bibliog il diags R Sci Instr* 28:1042-3 D '57
- Preparation of powder specimens from active and toxic metals for use in conventional X-ray diffraction studies. A. Moore and others. *diags J Sci Instr* 35:301-3 Ag '58
- Quantitative method for the determination of fiber texture. B. D. Cullity and A. Freda. *bibliog diags J Ap Phys* 29:25-30 Ja '58
- Quantitative X-ray analysis of silica minerals. S. B. Holmquist and others. *bibliog Am Cer Soc Bul* 37:317-21 JI 15 '58
- Quantitative X-ray diffraction analysis. L. E. Copeland and R. H. Bragg. *bibliog Anal Chem* 30:196-201 F '58
- Rapid X-ray determination of a complete pole figure. J. B. Newkirk and L. Bruce. *il diags J Ap Phys* 29:151-7 F '58
- Review of fundamental developments in analysis. X-ray diffraction. I. Fankuchen. *bibliog Anal Chem* 30:593-6 pt 2 Ap '58
- Simple X-ray capillary manipulative aid. E. M. Larsen and J. J. Leddy. *diags R Sci Instr* 29:736 Ag '58
- Solid metallic Debye-Scherrer powder specimens. D. G. Eeles. *diag R Sci Instr* 28:1096-7 D '57
- Transparency factor for weakly absorbing samples in X-ray diffractometry. M. E. Milberg. *bibliog diags J Ap Phys* 29:64-5 Ja '58
- Union Carbide lab solves problems with X-rays. V. W. Palen. *il Ind Lab* 9:40-2 Ja '58
- X-ray diffraction powder data of some normal alkyl dithiol esters of sebacic acid. D. A. Lutz and others. *bibliog Anal Chem* 29:1780-2 D '57
- X-ray diffraction study of *n*-alkyl malonic acids. B. D. Sharma and A. B. Biswas. *bibliog Anal Chem* 30:1356-61 Ag '58
- X-ray powder diffraction data of several cobalt ammine azides. T. B. Joyner and others. *bibliog Anal Chem* 30:194-6 F '58
- X-ray powder diffraction patterns of phosphorus compounds with nitrogen. A. H. Harzog and M. L. Nielsen. *bibliog Anal Chem* 30:1490-6 S '58
- X-ray study of cold work in molybdenum. J. Despujols and B. E. Warren. *J Ap Phys* 29:195-7 F '58
- X-ray survey of certain transition-metal systems for sigma phases. A. G. Knapton. *bibliog diag Inst Metals J* 87:28-32 '58-59
- X-ray techniques for analyzing product streams; fluorescence and diffraction. P. S. Goodwin. *il diags Control Eng* 5:94-9 Ag '58

See also

Crystallography—X ray studies
Diffractometers

Industrial applications

- Coin thickness gauged; unique X-ray gauge. *Elec Eng* 77:768-9 Ag '58
- Develop X-ray inspection for solid fuel. *Product Eng* 29:25 Mr 10 '58
- Metallographic application of X-ray scanning microanalysis. D. A. Melford and P. Duncumb. *il Metallurgia* 57:159-61 Mr '58

X RAYS—Industrial applications.—*Continued*

- Modern industrial X-ray instrumentation. G. L. Clark. *II* *diags* I S A J 5:40-5 F '58
- Radiation controls foil thickness. Iron Age 180:155-6 N 7 '57
- See inside gear parts. *II* *Electronics* 30:43 D 10 '57
- Tool for quality control; TVX X-ray image intensification system. *II* *Steel* 143:42 S 22 '58
- Use of penetrating radiation in the process industries. J. E. Jacobs. *II* *Tool Eng* 41:155-8 J1 '58
- Use of X-ray methods for investigations of glass structures. K. Grjethelm. *bibliog* *diags* *Glass Ind* 39:201-9 Ap '58
- X-ray is key tool in Pacific Coast Borax laboratory. V. W. Palen. *II* *Eng & Min J* 153:124 N '57
- X-ray techniques for analyzing product streams; fluorescence and diffraction. F. S. Goodwin. *II* *diags* *Control Eng* 5:94-9 Ag '58
- X-rays control strip mill. *Electronics* 31:84 F 28 '58
- X-rays measure fruit freezing. *Electronics* 31:8 Ap 11 '58
- X-rays, new aid for cement process control; spectrograph. Riverstone cement co. W. B. Lenhart. *II* *diags* *Rock Prod* 61:90-3 Mr '58

See also

Radiography

Welding—X ray inspection

Measurement uses

- Film thickness determination from substrate X-ray reflections. D. T. Keating and O. F. Kammerer. *II* *R Sci Instr* 29:34-6 Ja '58
- Size of the intermolecular spaces and capillaries in jute fibers as revealed by X-ray analysis. S. K. Chowdhury. *bibliog* *II* *Textile Res J* 27:935-9 D '57
- Vertical X-rays give internal dimensions. *II* *Electronics* 31:196+ Mr 14 '58

Protection

- Gonadal doses in Roentgen examinations. H. Blatz. *A M A Archives Ind Health* 17:161-3 F '58
- New film badge enables cheaper X-ray monitoring. L. H. M. van Stekelenburg. *II* *Nucleonics* 16:83-6 Je '58
- Program planning for radiological health. H. E. Hilleboe and A. Rihm, jr. *Am J Pub Health* 48:965-70 Ag '58
- Shielding device to protect gonads during routine chest roentgenography. M. Gasque. *II* *diags* *Ind Med* 27:79 F '58
- Some factors to be considered in a protection program for use of radiation sources. H. W. Speicher. *A M A Archives Ind Health* 17:546-55 My '58
- Specially designed building shields against X-rays. *Elec Eng* 76:1112 D '57

Scattering

- Calculation of the transmission factor in X-ray scattering. M. Sawada and C. H. Shaw. *bibliog* *diags* *J Ap Phys* 29:1344-7 S '58
- Scattered X-rays as internal standards in X-ray emission spectroscopy. G. Andermann and J. W. Kemp. *bibliog* *Anal Chem* 30:1306-9 Ag '58
- Size and shape of bovine serum albumin as a function of pH, determined by small angle scattering of X-rays. M. Champagne, and others. *Am Chem Soc J* 80:1002-3 F 20 '58
- Transparency factors for weakly absorbing samples in X-ray diffractometry. M. E. Milberg. *bibliog* *diags* *J Ap Phys* 29:64-6 Ja '58

Therapeutic use

- Pulsed X-ray may aid cancer fight. R. W. Treharne and others. *II* *Electronics* 31:58+ Ja 31 '58

XANTHATES

- Behaviour of xanthates in flotation. C. H. G. Bushell. *bibliog* *diag* *Can Min & Met Bul* 61:137-49 Mr '58
- Decomposition of xanthate in acid solution. I. Iwasaki and S. R. B. Cooke. *bibliog* *Am Chem Soc J* 80:285-8 Ja 20 '58
- Elimination reactions: a *trans* Chugaev elimination. F. G. Eordwell and P. S. Landis. *bibliog* *Am Chem Soc J* 80:2450-3 My 20 '58

XATRON. See Vacuum tubes**XENON**

- Xenon spatial oscillations. D. Randall and D. S. St John. *Nucleonics* 16:82-6+ Mr '58

Isotopes

- Preparation of xenon-133 radiography sources from spent fuel. E. J. Wilson and others. *bibliog* *II* *diags* *Nucleonics* 16:110+ Ap '58

- Xenon-poisoning computer. J. J. Paul and J. R. G. Cox. *II* *diag* *Nucleonics* 16:97-101 My '58

Nuclear reactions

- Measurement of the Xe^{135} cross section and U^{235} fission yield of P^{132} . G. R. Hopkins and C. P. Jamieson. *J Ap Phys* 28:1362-3 N '57
- Thermal neutron absorption cross section of xenon-124. J. M. Tobin and J. H. Sako. *bibliog* *J Ap Phys* 29:1373 S '58

- XENON** electric lamps. See Electric lamps, Xenon

XEROGRAPHY

- Big savings; mechanizing paperwork; xerographic photocopy; New York state Department of public works. *II* *Eng N* 161:99-100 S 11 '58
- Electron gun operates high-speed printer. J. P. McNaney. *II* *diags* *Electronics* 31:74-7 S 26 '58
- Extremely fast print-out equipment. *II* *Elec Eng* 77:193-4 F '58
- Fastest electronic printer. *diags* *Radio-Electronics* 29:6 F '58
- Microfilming at work; productive bedfellows; microfilming and xerography solve navy's problem of storing engineering drawings. *II* *Ind Phot* 7:99 J1 '58
- Printer narrows speed gap; Stromberg-Carlson Character tube. *Electronics* 31:34 Ja 24 '58
- Visual engineering changes through xerography. H. E. Carlson. *II* *Ind Phot* 7:22-3 Ap '58

XYLAN

- Graded acid hydrolysis studies of a xylan polyuronide associated with wood cellulose from western hemlock. J. K. Hamilton and N. S. Thompson. *bibliog* *diags* *Am Chem Soc J* 79:6464-9 D 20 '57
- Xylan adsorption on cellulose in the kraft cook; abstract. S. Yliner and B. Enstrom. *Paper Ind* 39:874-5 Ja '58

XYLENE

- Aromatic hydrocarbons. J. J. O'Connell. *Pet Refiner* 36:199-200 N '57
- Chlorine plus xylene. *Chem & Eng N* 36:53 F 10 '58
- Compare these routes for terephthalic acid from xylenes. P. W. Sherwood. *bibliog* *flow sheet* *II* *Pet Refiner* 37:155-62 F '58
- Disproportionation of alkylbenzenes; ethylbenzene interaction with xylenes. D. A. McCaulay and others. *Am Chem Soc J* 79:5808-9 N 5 '57
- Fractionation and fractional crystallization of xylenes. *flow diag* *Pet Refiner* 36:300 N '57
- Gas-liquid chromatographic resolution of *m*- and *p*-xylene; tetrahalophthalate liquid phases. S. H. Anger and others. *bibliog* *Chem & Ind p* 1145-7 Ag 30 '58
- Modified indophenol-xylene extraction method for the determination of ascorbic acid in soybeans. F. B. Weakley and L. L. McKinley. *bibliog* *Am Oil Chem Soc J* 35:281-4 Je '58

- Separation of xylenes, cumenes, methyl-naphthalenes and other isomers by clathration with inorganic complexes. W. D. Schaeffer and others. *Am Chem Soc J* 79:5870-6 N 20 '57

XYLOPYRANOSE

- Polysaccharides of white birch (*Betula papyrifera*): determination of composition and identification of 2-O-(4-O-methyl- β -glucopyranosyluronic acid)- β -xylopyranose. C. P. J. Glaudemans and T. E. Timell. *bibliog* *Am Chem Soc J* 80:941-3 F 20 '58

XYLOSE

- Direct estimation of xylose in hemicelluloses. E. Bennett. *bibliog* *J Agri & Food Chem* 6:618-19 Ag '58

XYLYLENE

- Chemistry of *p*-xylylene; the reaction of *p*-xylylene with oxygen. L. A. Errede and S. L. Hopwood, jr. *Am Chem Soc J* 79:6507-10 D 20 '57

Y

YACHTS and yachting

- Laminated frames for private craft. *II* *Brit Plastics* 31:32 Ja '58
- Modern developments in yacht design; abstract. G. G. Wyland. *Marine Eng/Log* 63:74 Mr '58

YACHTS and yachting—Continued

Motion of a yacht through air and water. W. A. Crago. *il* *diags Engineering* 185:6-9 Ja 3 '58

Welded yawl cops cups. F. W. Foerste. *il* *Welding Eng* 43:42-4 Ap '58

YALE university**School of architecture and design**

Style of education. H. McLaughlin. *in* *Prog Arch* 39:11+ *JI* '58

YAMASAKI, Minoru

American architect Yamasaki, R. Bourne. *por Arch Forum* 109:84-5+ Ag '58
Yamasaki's serene campus center; Detroit's Wayne university. *Arch Forum* 109:78-83 Ag '58

YANG, Chen Ning

Nobel prizes. *Sci Am* 197:59-60 D '57
Nobel prizes to Todd, Lee, and Yang. *por Chem & Eng N* 35:114 N 11 '57

YARN

Better yarn preparation comes from new handling. *Textile World* 108:90-1 F '58

Easy does it! how metallic yarns are put into a Georgia mill's drapery fabrics. *il* *Textile Ind* 122:79-80 Mr '58

Facet file; suppliers' information section: fibers and yarns. *il* *Textile World* 108:55-60 Mid-Jl '58

Filament yarns are becoming textured. *il* *Textile World* 108:96-7 F '58

How Claussner makes Taslan yarns. *il* *Textile World* 108:108-9+ F '58

How to knit Saaba yarns. C. J. Dudzik. *il* *Mod Textiles Mag* 39:53-4 O '58; Same cond. *Textile Ind* 122:126-8 *JI* '58

How to use metallic yarns in tufted fabrics. *diags Textile Ind* 122:145-+ F '58

Improved yarn tension control; Electrotense. *il* *Mod Textiles Mag* 39:44+ My '58

Make twisted novelty yarn on surplus spinning frames. G. B. Peeler. *diags Textile World* 108:76-8+ Ap '58

Metallic yarns from plastics film. W. B. Davis. *Plastics World* 16:5 Ja '58

New yarns widen fabric horizons; texturizing. F. W. Noeche. *il* *Mod Textiles Mag* 38:63-8 D '57

Ornamentation of apparel fabrics; how to use extra yarn in designing. V. Lobl. *il* *Mod Textiles Mag* 39:38+ Ap '58

Plowing theory of yarn surface friction. E. J. Kaliski. *bibliog diags Textile Res J* 28:325-9 Ap '58

Rotating torque switch operable by light yarns. R. L. Pocock. *il* *J Sci Instr* 34:459-60 N '57

Some practical aspects of the high-temperature dyeing of continuous-filament yarns of man-made fibers. J. Fowler and K. Walsh. *Soc Dyers & Col J* 74:390-2 My '58

Stretch and bulk yarns; what they are, how they differ, their uses in the future. M. H. Gurley, jr. *Mod Textiles Mag* 39:31+ F '58

Textured yarns; one of the fastest-growing textiles. J. H. Blore. *il* *Textile World* 108:60-2 My '58

Throwsters modernize with textured-yarn machines. *il* *Textile World* 108:69-71 O '58

Tips for using Lurex metallic yarn in warp, circular, and flat-bed knitting. *il* *diags Textile Ind* 122:203+ O '58

What's new in textured yarns. E. Stowell. *il* *Textile Ind* 122:111-14 Ag '58

See also

Cellulose acetate yarn

Cotton yarn

Nylon yarn

Rayon yarn

Woolen and worsted yarn

Tables, calculations, etc.

Determine yarn tensions with these nomograms. F. Fourné. *il* *Textile World* 107:104-5+ D '57

Mechanics of elastic performance of textile materials; torque development in yarn systems. M. M. Platt and others. *bibliog diags Textile Res J* 28:1-14 Ja '58

Quick way to determine how much yarn is on a package; nomogram. *Textile Ind* 122:136-7 S '58

Tables of denier numbers and filament counts of U.S. man-made yarns and fibers. H. G. Janner, comp. *Mod Textiles Mag* 39:69-78 S '58

Tex: universal yarn numbering system. A. G. Scroggie. *bibliog Textile Res J* 28:330-7 Ap '58

Tex: universal yarn numbering system. L. Szponder. *Textile Ind* 122:149+ Ap '58

Testing

Comparison of the tensile strengths of yarns using different gauge lengths and rates of loading. H. A. Mereness. *il* *Textile Res J* 28:351-6 Ap '58

Constant care in winding reduces broken yarn ends; Carolina mills, inc. *il* *Textile World* 108:142-3 Mr '58

Dyer gives yarns a knitting test; Budged yarns, inc. *il* *Textile Ind* 122:109-10 My '58

How many cones shall we test? O. P. Beckwith. *il* *Textile Ind* 122:104-6 F '58

Organized testing did a job; how Pharr yarn mills minimized customer complaints. *il* *Textile Ind* 122:100-1 Mr '58

Slide rule for correcting Uster evenness calculations. P. W. Mullen. *Textile Res J* 28:272-3 Mr '58

Sources of errors in the measurement of yarn tensile forces with a combination of mechanical and electronic components. L. Waesterberg. *il* *diags Textile Res J* 27:925-35 D '57

Stress-strain relationship in yarns subjected to rapid impact loading; wave propagation in long textile yarns impacted transversely. J. C. Smith and others. *bibliog diags Textile Res J* 28:238-40 Ap '58; Same. *J Res Nat Bur Stand* 60:517-34 My '58

Try yarns before buying. C. G. Cook. *il* *Textile Ind* 122:102-3 F '58

Yarn irregularity tester using the vibrating string principle. J. G. Downes and B. G. Leary. *bibliog diags Textile Res J* 28:497-502 Je '58

YEASTS

Acceleration of vitamin E deficiency in the chick by torula yeast. J. G. Bieri and others. *bibliog J Nutrition* 64:113-26 Ja '58

Carotene utilization and cholesterol metabolism as influenced by added choline and vitamin B₁₂ to diets containing yeast or a synthetic vitamin mixture. H. L. Mayfield and R. R. Roehm. *J Nutrition* 64:571-86

bibliog(p585-6) Ap '58

Enzyme studies on the biosynthesis of valine in yeast. M. Strassman and others. *bibliog Am Chem Soc J* 80:1771-2 Ap 5 '58

Factors affecting loss of nitrogen and fermenting power of rehydrated active dry yeast. R. K. Sant and W. H. Peterson. *bibliog Food Tech* 12:359-62 *JI* '58

Incorporation of the C¹⁴ of adenine into a pteridine derivative by *eremothecium ashbyi*. W. S. McNutt and H. S. Forrest. *bibliog Am Chem Soc J* 80:951-2 F 20 '58

New antioxidant from yeast; isolation and chemical studies. M. Forbes and others. *bibliog Am Chem Soc J* 80:385-9 Ja 20 '58

New gum from yeast; abstract. A. Jeanes. *il* *Chem & Eng N* 36:71 S 22 '58

See also

Fermentation

Ribonucleic acid

YELLOW meal worms

Effect of zinc and potassium in the nutrition of tenebrio molitor, with observations on the expression of a carnitine deficiency. G. S. Fraenkel. *bibliog J Nutrition* 65:361-95 *JI* '58

YOGURT

Switch to paper cups gives yogurt big boost. J. D. Sanderson. *il* *Food Eng* 29:80-2 N '57

YOHIMBINE

Stereochemical interrelationship of the yohimbine-type alkaloids. E. Wenkert and others. *bibliog Am Chem Soc J* 79:6570-1 D 20 '57

Total synthesis of yohimbine. E. E. van Tamelen and others. *Am Chem Soc J* 80:5006-7 S 20 '58

Yohimbic acid lactone; conversion of yohimbine to B-yohimbine. P. A. Diassi and C. M. Dyllon. *bibliog Am Chem Soc J* 80:3746-8 *JI* 20 '58

Yohimbine hydrochloride; crystallographic data. G. Burley and G. M. Brown. *Anal Chem* 30:154 Ja '58

YOUNG, G. MacDonald

Biographical appreciation. *por Metal Prog* 73:7-9 Ap '58

YOUNGS modulus. See Elasticity**YOUTH**

Obesity in the adolescent. G. H. Lowrey. *bibliog Am J Pub Health* 48:1354-8 O '58

Psychological aspects of obesity in adolescence. H. Bruch. *Am J Pub Health* 48:1349-53 O '58

Teenage attitudes. H. H. Remmers and D. H. Radler. *Sci Am* 198:25-9 Je '58

See also

Junior achievement movement

YTTRIUM

Mineralogy of an yttrium-bearing pegmatite body near Lake George, Park county, Colo. J. J. Glass and others. *Am Mineralogist* 43:191-4 S '58

Analysis

X-ray fluorescent spectrometric determination of yttrium in rare earth mixtures. R. H. Heidel and V. A. Fassel. *bibliog Anal Chem* 30:176-9 F '58

YTTRIUM garnet. See Garnet**YUGOSLAVIA**

See also

Iron ores—Yugoslavia

Petroleum—Yugoslavia

Television broadcasting—Yugoslavia

YUKON

See also

Geology—Yukon

Mines and mineral resources—Yukon

Z**ZEEMAN effect**

Description and analysis of the second spectrum of molybdenum, Mo II; Zeeman patterns. C. C. Kiess. *bibliog J Res Nat Bur Stand* 60:375-422 Ap '58

Term analysis of the first spectrum of rhenium (Re I); with table of energy levels of the Re atom and table of classified lines of Re I. P. F. A. Klinkenberg and others. *bibliog il J Res Nat Bur Stand* 59:319-48 N '57

ZEFRAN. See Textile fibers, Synthetic**ZEIN**

Dispersible zein. *Soap & Chem Spec* 34:145-4 Ag '58

ZEISES salt. See Platinum compounds**ZEOLITES**

Hydrothermal synthesis of wairakite and calcium-mordenite. L. L. Ames and L. B. Sand. *bibliog Am Mineralogist* 43:476-80 My '58

Molecular sieves; these versatile zeolites are now chemical loaded, flow sheet il *Can Chem Process* 42:55-8+ J1 '58

Nomographic charts aid in design of zeolite water softening units. R. Ellissen and E. A. Cassell. *Water Works Eng* 111:40-4 Ja '58

ZERO. Absolute. See Absolute zero**ZETA potential.** See Potential, Electric**ZINC**

Abundances of copper, zinc, and lead in some sulfide deposits. R. L. Stanton. *bibliog diags J Geol* 66:484-502 S '58

Anodic oxidation of zinc and zinc-tin alloys at very low current density. S. E. S. El Wakkad and others. *bibliog Electrochem Soc J* 105:47-51 Ja '58

Coordination complexes and catalytic properties of proteins and related substances; effect of cupric and zinc ions on the hydrolysis of p-nitrophenyl acetate by imidazole. W. L. Koltun and others. *bibliog Am Chem Soc J* 80:4188-94 Ag '58

Corrosion of metals in buildings; performance of zinc and zinc coatings. R. W. Bailey and H. G. Ridge. *bibliog Chem & Ind p* 1222-7 S 14 '57; Discussion. p 1437-9 N 2 '57

Corrosion of the zinc electrode in the silver-zinc-alkali cell. T. P. Dirkse and F. De Haan. *bibliog Electrochem Soc J* 105:311-15 Je '58

Corrosion of zinc by differential aeration. G. Bianchi. *il diags Corrosion* 14:55-8 My '58

Creep in zinc single crystals. H. P. Stüwe. *bibliog il J Ap Phys* 29:566-9 Mr '58

Determining disulfides in petroleum naphtha; modification of the acetic acid-zinc reflux method. J. H. Karchmer and M. T. Walker. *bibliog diags Anal Chem* 30:85-90 Ja '58

Die cast zinc rotor lengthens life of washer-drier pump; award of merit in Materials in design engineering competition. *il Materials in Design Eng* 47:139 Ap '58

Effect of zinc and potassium in the nutrition of tenebrio molitor, with observations on the expression of a carnitine deficiency. G. S. Fraenkel. *bibliog J Nutrition* 65:361-95 J1 '58

Fluoride complexes of zinc, copper and lead ions in aqueous solution. R. E. Connick and A. D. Paul. *bibliog Am Chem Soc J* 80:2069-71 My 5 '58

Four door Hdsel models use 93 lb of zinc. *il Automotive Ind* 118:66-7 Ja 15 '58

Metal protein interactions in buffer solutions; a polarographic study of the interaction of Zn^{II} and Cd^{II} with bovine serum albumin. M. S. N. Rao and H. Lal. *bibliog Am Chem Soc J* 80:3222-6 J1 5 '58

Occurrence of zinc in soil. M. L. White. *bibliog Econ Geol* 53:645-51 S '57

Orientation dependence of ultrasonic attenuation in zinc. P. C. Waterman. *bibliog diags J Ap Phys* 29:1190-5 Ag '58

Release of zinc from carboxypeptidase and its replacement. B. L. Vallee and others. *Am Chem Soc J* 80:4750-1 S 5 '58

Significance of dietary zinc for the growing chicken. B. L. O'Dell and others. *bibliog J Nutrition* 65:503-23, pl 1-2 Ag '58

Silver peroxide, zinc alkaline cells; polymeric membrane separators. H. H. Bieber and others. *bibliog il Ind & Eng Chem* 50:1273-8 S '58

Slip of zinc and cadmium whiskers. R. V. Coleman and others. *diag J Ap Phys* 28:1360-1 N '57

Vacuum dezincking of Parkes' process zinc crusts. V. F. Leferrer. *il diag J Metals* 9:Trans 1459-60 N '57

Vacuum die castings of zinc. J. L. Everhart. *il diags Materials in Design Eng* 47:110-12 Je '58

Zinc and cadmium whiskers. R. V. Coleman and N. Cabrera. *il J Ap Phys* 28:1360 N '57

Zinc as a cathodic inhibitor. H. B. Jonassen. *bibliog Corrosion* 14:39-40 Ag '58

Analysis

Analysis for zinc, cadmium and copper in electroplating waste effluents. F. Stevens and L. E. Lancy. *bibliog Plating* 45:832-4 Ag '58

Analyze for Ba, Ca, and Zn this way; lube additives and oils. R. J. Bertolacini. *bibliog Pet Refiner* 37:147-9 F '58

Determination of zinc and separation from ashed biological material. J. A. Stewart and J. C. Bartlet. *bibliog Anal Chem* 30:404-9 Mr '58

Nonaqueous titration of zinc; rapid method for zinc in lubricating oils. T. L. Marple and others. *Anal Chem* 30:937-40 My '58

Separation by paper chromatography and spectrophotometric determination of trace amounts of cobalt, nickel, copper, and zinc. W. F. Frierson and others. *bibliog il Anal Chem* 30:468-71 Ap '58

Spectrophotometric determination of copper and zinc in animal tissues. J. T. McCall and others. *Anal Chem* 30:1345-7 Ag '58

Time savers in analysis of spelter. C. Goldberg. *Foundry* 86:213-4 O '58

Finishing

Which finish for zinc die castings. R. Stricklen. *Product Eng* 29:59-61 Mr 3 '58

Metallography

Initiation of cleavage fracture at the intersection of deformation twins in zinc single crystals. R. L. Bell and R. W. Cahn. *bibliog il diags Inst Metals J* 86:433-8 Je '58

Protection

Antimony plating on steel and zinc. G. R. Schaefer and others. *bibliog il Plating* 45:139-43 F '58

Testing

Fatigue properties of zinc. D. M. Fegredo and others. *bibliog il diags Inst Metals J* 87:1-9 '58-59

ZINC alloys

Anodic oxidation of zinc and zinc-tin alloys at very low current density. S. E. S. El Wakkad and others. *bibliog Electrochem Soc J* 105:47-51 Ja '58

Metal selector; zinc diecasting alloys; properties and applications. *Steel* 141:169-70 O 28 '57

New Kirksite ups die life. *il Steel* 143:68 J1 28 '58

Properties of materials. Materials in Design Eng 48:122-3 Mid-O '58

Structure and mechanical properties of high-purity aluminum-zinc-magnesium alloys. P. C. Varley and others. *bibliog il Inst Metals J* 86:337-51 Ap '58

ZINC alloys—Continued

- Structure of nickel-zinc plated alloys; abstract. E. Raub and F. Elser. *Metal Finishing* 56:110-11 May '58
- Upper temperature limit of stability of G.P. zones in ternary aluminum-zinc-magnesium alloys. I. J. Polmear. *bibliog diags Inst Metals J* 87:24-5 '58-59
- Zinc alloy anodes. J. T. Crennell and W. C. G. Wheeler. *J Ap Chem* 8:571-6 S '58

See also

Brass**ZINC arsenide**

- Zn₃As₂, a semiconducting intermetallic compound. G. A. Silvey. *bibliog J Ap Phys* 29:226-7 F '58

ZINC coating

- Anti-fouling properties of zinc coatings. R. Juchniewicz. *Il Chem & Ind* p83 J 11 '58
- Comparison between hot-dip zinc and zinc plating; abstract. *Metal Finishing* 56:82-3 Mr '58
- Corrosion of metals in buildings; performance of zinc and zinc coatings. R. W. Bailey and H. G. Ridge. *bibliog Chem & Ind p* 1222-7 S 14 '57; Discussion. *p* 1437-9 N 2 '57

ZINC compounds

- Electroluminescence of zinc sulfoselenide phosphors with copper activator and halide coactivators. I. J. Hegyi and others. *bibliog Electrochem Soc J* 104:717-21 D '57
- Ferromagnetism without ferromagnetic elements; zincium zinc compound. *Il Bell Lab Rec* 35:303 Ag '58
- Ion-exchange and solvent-extraction studies on Co(II) and Zn(II) complexes of some organic acids. J. Schubert and others. *bibliog Am Chem Soc J* 80:4799-802 S 20 '58
- ZrZn₂, it's magnetic; intermetallic compound. E. T. Matthias. *Chem & Eng N* 36:49 Je 16 '58

ZINC ferrates

- Effect of thermal history on the antiferromagnetic transition in zinc ferrite. D. M. Grimes and E. F. Westrum, jr. *bibliog J Ap Phys* 29:384-5 Mr '58

ZINC founding

- Zinc die castings about in 1958 cars. *Il diags Automotive Ind* 118:62-4 My 15 '58

ZINC in the body

- Studies on zinc deficiency in the chick. A. B. Morrison and H. P. Sarett. *bibliog J Nutrition* 65:287-80 Je '58

ZINC industry and trade

- Import problem can be solved. A. Fletcher. *Eng & Min J* 158:86-8 N '57
- Lead-zinc quotas blasted. *Chem & Eng N* 36:19-21 O 13 '58
- Pb-Zn imports cut back. *Chem & Eng N* 36:54 O 6 '58
- Trying year for lead and zinc. 1957. C. E. Schwab. *Il Min Cong J* 44:80+ F '58
- Zinc makers planning major research and development program. *Product Eng* 29:35 Ja 6 '58
- Zinc, 1957. C. R. Ince. *Eng & Min J* 159:135-6+ F '58
- Zinc production high in '57; consumption down slightly. J. L. Kimberley. *Materials in Design Eng* 47:238-4 Ap '58

Statistics

- One hundred years of zinc. W. P. Shea. *Eng & Min J* 158:75-8 N '57

Australia

- Australian zinc industry. *Engineer* 204:906-7 D 20 '57

ZINC metallurgy

- Blast furnace zinc, a dream come true. S. W. K. Morgan. *Eng & Min J* 159:169 F '58
- Electrolytic zinc's calcine leaching; Electrolytic zinc co. of Australasia ltd. plan. *Eng & Min J* 159:169-9 Mr '58
- Re-grind practice at Canadian exploration limited. H. A. Steane. *flow sheets Can Min & Met Bul* 51:215-18 Ap '58

ZINC mines and mining**Sardinia**

- How Montevocchio cut haulage costs. *Il Eng & Min J* 158:105-6 D '57

ZINC ores

- Factors controlling the localization of ore deposits in the Shullsburg area, Wisconsin-Illinois zinc-lead district. R. B. Reynolds. *bibliog maps diags Econ Geol* 53:141-63 Mr '58

ZINC oxides

- Phase equilibria and fluorescence in a portion of the system ZnO-MnO-P₂O₅. F. A. Hummel and F. L. Katnack. *bibliog diags Electrochem Soc J* 105:528-33 S '58

- Phase equilibria in the system ZnO-P₂O₅. F. L. Katnack and F. A. Hummel. *diags Electrochem Soc J* 105:125-33 Mr '58

Analysis

- Photometric determination of zinc oxide in rubber products; absorptometric and turbidimetric methods using sodium diethyl dithiocarbamate. K. E. Kress. *bibliog Anal Chem* 30:432-40 Mr '58

ZINC plating

- Comparison between hot-dip zinc and zinc plating; abstract. *Metal Finishing* 56:82-3 Mr '58
- Corrosion of zinc plated steel. R. H. Wolff. *Il Metal Finishing* 56:46-52 Je '58
- Properties of materials; zinc and cadmium electroplates. *Materials in Design Eng* 48:264 Mid-O '58

See also

Galvanizing**ZINC sulfide**

- Luminescence of self-coactivated ZnS:Cu. M. H. Aven and R. M. Potter. *bibliog Electrochem Soc J* 105:134-40 Mr '58
- Particle size and efficiency of electroluminescent zinc sulfide phosphors. W. Lehmann. *bibliog Electrochem Soc J* 105:585-8 O '58

ZIRCALOY. See Zirconium alloys**ZIRCON**

- Bonded mullite and zircon refractories for the glass industry. R. W. Knauff and others. *Il Am Cer Soc Bul* 36:412-15 N 15 '57; Same cond. *Glass Ind* 39:161-2 Mr '58
- Casting iron patterns in zircon sand; Cadillac motor car div. of General Motors corp. C. W. Yaw. *Il Foundry* 86:74-5 O '58
- Reheat discolor of selected zircon bodies. W. J. Smothers and P. G. Herold. *Am Cer Soc J* 40:442 D 1 '57

- Zircon refractories for the glass industry; abstract. E. A. Thomas. *Glass Ind* 38:690 D '57

- Zircons from the Animas stock and associated rocks, New Mexico. A. M. Alper and A. Poldervaart. *bibliog maps diags Econ Geol* 52:952-71 D '57

ZIRCONIA. See Zirconium oxides**ZIRCONIUM**

- Aqueous corrosion of uranium fuel-element cores containing 0 to 20 weight percent zirconium. D. E. Grieser and E. M. Simons. *Il diags Corrosion* 14:27-32 J1 '58
- Diffusion of oxygen in zirconium and its relation to oxidation and corrosion. J. P. Pemsler. *bibliog diags Electrochem Soc J* 105:315-22 Je '58
- Improvement in high-temperature alloys by boron and zirconium. W. J. Pennington. *Metal Prog* 73:82-6 Mr '58

- NH₄F, versatile reagent for zirconium fuels. A. T. McCord and D. R. Spink. *Il Nucleonics* 16:94+ F '58

- New engineering metals. J. P. Denny and F. Kendall. *Il Mech Eng* 80:67-71 Ag '58
- Properties of materials; hafnium, thorium, uranium, vanadium and zirconium. *Materials in Design Eng* 48:103 Mid-O '58

- Surface tension of titanium, zirconium, and hafnium. A. W. Peterson and others. *bibliog diags J Ap Phys* 29:213-16 F '58

- Theoretical surface tension of Ti, Zr, and Hf. D. McLachlan. *Il J Ap Phys* 29:1134 J1 '58

- Where will zirconium go? *Il Chem & Eng N* 36:57-8 F 10 '58

- Zirconium allergy; abstract. W. B. Shelley and H. J. Hurley. *Drug & Cosmetic Ind* 82:670 My '58

- Zirconium fills new flashbulb. *Il Chem & Eng N* 35:88+ N 11 '57

- Zirconium; hydriding attack. *Nucleonics* 16:112-14 S '58

- Zirconium, 1957. F. W. Wessel. *Eng & Min J* 159:142-3 F '58

- Zirconium seeks markets. *Chem & Eng N* 35:50-1 D 16 '57

- Zirconium still expanding. *Il Steel* 143:60 S 29 '58

Analysis

- Determination of carbon in titanium, zirconium and their alloys by gravimetric and conductimetric methods. D. F. Wood and M. Williams. *bibliog diags Metallurgia* 58:47-52 J1 '58

- Determination of low concentrations of hafnium in reactor-grade zirconium metal and zirconium alloys by neutron activation analysis. W. D. Mackintosh and R. E. Jervis. *bibliog Anal Chem* 30:1180-2 J1 '58

- Determination of zirconium in titanium alloys using *p*-bromo- or *p*-chloromandellic acid. R. A. Papucci and J. J. Klingenberg. *Anal Chem* 30:1062-4 Je '58

ZIRCONIUM—Analysis—Continued

- Differential spectrophotometric determination of zirconium in presence of hafnium. H. Freund and W. F. Holbrook. *Anal Chem* 30:462-5 Ap '58
- Microdetermination of zirconium in sulfuric acid solutions with pyrocatechol violet. J. P. Young and others. *bibliog Anal Chem* 30:422-5 Mr '58

Corrosion

- Reaction rate study of the corrosion of low-hafnium zirconium in aqueous hydrofluoric acid solutions. T. Smith and G. R. Hill. *bibliog diag Electrochem Soc J* 105: 17-21 Mr '58
- Role of hydrogen in the high-temperature corrosion of zirconium and its alloys; the effect of cathodic polarization on corrosion in water at 325°. J. N. Wanklyn and B. E. Hopkinson. *bibliog il J Ap Chem* 8:496-504 Ag '58

Hydrogen effect

- Role of hydrogen in the high-temperature corrosion of zirconium and its alloys; the effect of cathodic polarization on corrosion in water at 325°. J. N. Wanklyn and B. E. Hopkinson. *bibliog il J Ap Chem* 8:496-504 Ag '58

ZIRCONIUM alloys

- Alloys of titanium and zirconium containing tin. R. F. Smart. *bibliog diags Metallurgia* 57:181-8 Ap '58
- Breakaway oxidation of zirconium-tin alloys. E. A. Gulbransen and K. F. Andrew. *bibliog Corrosion* 14:50 Ja '58
- Diffusion of oxygen in zirconium and its relation to oxidation and corrosion. J. P. Pemsler. *bibliog diags Electrochem Soc J* 105:315-22 Je '58
- Electron micrographs of Zircaloy-2. T. K. Bierlein and B. Mastel. *il Metal Prog* 72:71 D '57
- Hot-hardness survey of the zirconium-uranium system; abstract. W. Chubb and others. *Metal Prog* 72:202+ N '57
- Inert-gas tungsten-arc butt welding of Zircaloy-2 tubes. J. W. Linrafelter. *il diag Welding J* 36:230-5 Mr '57; Discussion. 37:34-5 Ja '58
- Lesson in fabricating nuclear parts. *il diag Metal Prog* 74:68-74 Ag '58
- New commutator alloy takes the heat; zirconium-copper alloy. W. Hodge. *Iron Age* 182:102-3 JI 10 '58
- Permanent mold casting of zirconium-thorium alloys; Gaines co. F. Gaines. *il Foundry* 86: 136+ S '58
- Reaction of hydrogen with preoxidized Zircaloy-2 at 300° to 400°C. E. A. Gulbransen and K. F. Andrew. *bibliog il Electrochem Soc J* 104:709-12 D '57
- Role of hydrogen in the high-temperature corrosion of zirconium and its alloys; the effect of cathodic polarization on corrosion in water at 325°. J. N. Wanklyn and B. E. Hopkinson. *bibliog il J Ap Chem* 8:496-504 Ag '58
- Study of metallurgical effects in the multipass welding of Zircaloy. R. E. Johnson and E. W. Schaaf. *bibliog il diags Welding J* 37:sup 1-9 Ja '58
- Thorium-zirconium and thorium-hafnium alloy systems; abstract. E. D. Gibson and others. *Metal Prog* 73:142+ Ja '58
- Wrought and cast magnesium-thorium and magnesium-zirconium alloys; composition, properties, etc. tabulated; file facts. *Materials in Design Eng* 48:121+ JI '58
- Zircaloy vs stainless; a cost comparison. M. Benedict. *Nucleonics* 16:104 Ap '58

Analysis

- Determination of low concentrations of hafnium in reactor-grade zirconium metal and zirconium alloys by neutron activation analysis. W. D. Mackintosh and R. E. Jervis. *bibliog Anal Chem* 30:1180-2 JI '58
- Polarographic determination of tin in zirconium alloys. J. T. Porter, 2d. *Anal Chem* 30:484-5 Ap '58

ZIRCONIUM carbonates

- New trend in poison ivy treatment. M. Halperin. *Safety Maint* 116:37 JI '58

ZIRCONIUM chlorides

- Bis(cyclopentadienyl)zirconium dichloride; crystallographic data. H. G. Bradley and L. G. Dowell. *il Anal Chem* 30:548 Ap '58

ZIRCONIUM coating

- Metal spraying in inert atmospheres. R. E. Monroe and others. *il diag Welding J* 37: 14-19 P '58

ZIRCONIUM compounds

- Ferromagnetism without ferromagnetic elements; zirconium zinc compound. *il Bell Lab Rec* 36:303 Ag '58
- Organic compounds of zirconium; studies of zirconium mandelates. R. N. Kapoor and R. C. Mehrotra. *bibliog Am Chem Soc J* 80:3569-73 JI 20 '58
- Zirconium soaps. R. N. Kapoor and R. C. Mehrotra. *bibliog Chem & Ind* p68 Ja 18 '58

- Zn, it's magnetic; intermetallic compound. E. T. Matthias. *Chem & Eng N* 36:49 Je 16 '58

ZIRCONIUM fluorides

- Preparation of zirconium and hafnium metals by bomb reduction of their fluorides. O. N. Carlson and others. *bibliog il diags Electrochem Soc J* 104:51-6 Ja '57; Abstract. *Metal Prog* 74:194+ S '58

ZIRCONIUM hydrides

- Zirconium-hydrogen system; some thermodynamic properties from a heat content study. T. B. Douglas. *bibliog Am Chem Soc J* 80:5040-6 O 5 '58

ZIRCONIUM metallurgy

- Separating hafnium from zirconium; solvent extraction with tributyl phosphate. R. P. Cox and others. *bibliog flow sheet diags Ind & Eng Chem* 50:141-3 F '58
- Zirconium now sweeps into the big time; Wah Chang corp.; process flowsheet. *il Chem Eng* 65:128-31 Ja 13 '58

Electrometallurgy

- Vacuum melted metals; steel, titanium and zirconium in production. *il Metallurgia* 57: 139-42 Mr '58

ZIRCONIUM oxides

- Ceramic crucible for melting titanium. B. C. Weber and others. *bibliog il diag Am Cer Soc J* 40:363-73 N 1 '57
- Characteristics of refractory oxide coatings produced by flame-spraying. N. N. Ault. *bibliog il Am Cer Soc J* 40:69-74 Mr 1 '57; Abstract. *Metal Prog* 73:141-2+ Mr '58
- New trend in poison ivy treatment. M. Halperin. *Safety Maint* 116:37 JI '58
- Solid phase transitions in the UO_2 - ZrO_2 system. G. M. Wolten. *bibliog Am Chem Soc J* 80:4772-5 S 20 '58
- Ternary systems EaO - TiO_2 - SnO_2 and BaO - TiO_2 - ZrO_2 . G. H. Jonker and W. Kwestroo. *bibliog Am Cer Soc J* 41:390-4 O 1 '58
- Zirconia and alumina coatings give short-time 3000 F steel protection; abstract. J. V. Long. *il S A E J* 56:74-5 Ag '58

ZONE melting. See Metallurgy—Zone refining**ZONE refining. See Metallurgy—Zone refining****ZONING**

- Exurbia's last best hope. R. A. Miller. *il map plans Arch Forum* 108:94-7+ Ap '58
- State pioneers flood plain zoning. *il map Eng N* 160:45-6+, cover My 22 '58; Discussion. F. B. Marsh. 161:10+ JI 10 '58
- Washington, D.C. zoning gets tougher. *Arch Forum* 108:11+ Je '58

See also

- City planning—Zoning system

ZONING laws

- It's the law; esthetic provisions of zoning ordinances. B. Tomson. *Prog Arch* 59:7 Ag '58

See also

- Building laws and regulations

ZOONOSES. See Infectious diseases in animals**ZYTEL. See Nylon, Powdered**



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